

Accepted Management Practices For Projects within Minnesota Wild and Scenic River Ways

Note - when applying herbicides, always use personal protective gear as specified on the label and follow all labeled mixing rates and treatment instructions. Mix your tank at least 50' from any water body or wetland and in an area where any potential spills can be contained. If a spill occurs, report it to both the Minnesota Public Safety Duty Officer at 651-649-5451 and your project representative for this grant. If spill occurs on land, shovel the contaminated soil into a bucket or on a waterproof tarp, to decrease chance of groundwater contamination. Minimize overspray by using the lowest effective amount of herbicide, clean nozzle before spraying, and aim away from water bodies and wetlands.

I Treatments of woody invasive species >1m tall

Basal bark treatments

- Use triclopyr ester (such as Garlon 4 or PathfinderII) mixed with Bark Oil Blue
- Spray lower 10" of tree with mix. Avoid spraying beyond stem.
- Do not use this method when temperatures are above 70°, below 10°, or when snow is present.
- Use only in areas where standing dead trees will not pose a threat to public safety.

Cut stump treatments

- Do not use on slopes >15% (6:1) to avoid erosion and personal injury.
- Get prior approval for any trees >6" in diameter. If the site is within Wild and Scenic River Way District, tree replacement may be required to meet screening objectives. See guidelines for revegetation.
- Use triclopyr amine (such as Garlon 3a) mixed with water, or triclopyr ester (such as Garlon 4 or PathfinderII) mixed with Bark Oil Blue.
- Cut tree/shrub as low to ground as practical.
- Apply herbicide using sponge or brush applicator, within ½ hour of cutting.
- If berries are present on the brush, haul to designated burn/chip pile, minimizing scattering of berries.
- If berries aren't present, brush can be cut in small pieces and left in place.
- See practices for brush piles (below).

Frill/hack and squirt treatments

- Use triclopyr amine (Garlon 3a) mixed with water, or triclopyr ester (Garlon 4 or PathfinderII) mixed with Bark Oil Blue.
- Girdle or frill a band completely around stem, as close to ground as practical, and paint exposed surface with herbicide. Cuts can be made with a chisel or small hatchet. Inject or squirt herbicide on each cut surface.
- Do not use this method when temperatures are above 70°, below 10°, or when snow is present.
- Follow manufacturer's safety directions for mixing and application.
- Use only in areas where standing dead trees will not pose a threat to public safety.

Brush hogging (includes biomass operations)

- Do not use on slopes greater than 5%, to avoid erosion and personal injury.
- Utilize spring and early summer operations to stress plants' starch reserves. Multiple cuttings will be needed to achieve control.
- Leave cuttings in place as surface mulch.
- Clean equipment prior to arrival on site, to avoid introducing new weed seeds.

- Review habitat needs (including nesting and denning periods, and forest structure needs) for animal species of concern, and follow all guidelines provided by state and federal agencies to protect those species.

II Treatments of herbaceous plant material <1m tall (includes woody invasive plant seedlings)

Foliar applications

- Use glyphosate for spot treatment or broadcast applications.
- Do not apply when wind speeds exceed 5 mph. In wetlands or near water bodies, use only the aquatic formulations of glyphosate.
- Apply to green leaves for effective absorption.
- Treat woody invasive seedlings in early spring or late fall when the surrounding vegetation is dormant to minimize damage to non-target species.
- Spot spray garlic mustard during the rosette stage, the first year of growth.
- Review habitat needs for plant species of concern, and follow all guidelines provided by state and federal agencies to protect those species.

Mowing

- Limit mowing to plants less than ¼” diameter
- Do not mow on slopes greater than 5% to avoid erosion and personal injury.
- Clean equipment prior to arrival on site, to avoid introducing new weed seeds.
- Utilize spring and early summer mowing to stress plants’ starch reserves. Multiple cuttings will be needed to achieve control.
- Leave cuttings in place as surface mulch
- Mow garlic mustard when flower stalk has elongated, but before flowering starts
- If flowers have started to open or seedpods are present, bag the cut plants for disposal.

Hand-pulling

- Pull small seedlings <1/2” by hand
- Pull larger plants (up to 2” diameter) using a leverage tool such as a Weed Wrench®. Avoid pulling plants larger than 1” diameter on slopes greater than 25%.
- Place small uprooted plants on ground with roots exposed to air, not touching mineral soil.
- Haul larger uprooted woody plants to a brush pile (see BMPs for brush pile, below).
- Tamp disturbed soil back in place. Reseed area with temporary cover of oats (spring, early summer) or winter wheat (fall), or with native plant community approved by the project representative.
- Excavation to pull stumps or bury brush will not be covered by this grant. A separate permit may be required for those activities.

Be aware of cultural artifacts that may be present on site and follow all guidelines provided by state and federal agencies to protect those features.

Prescribed burning

- Eligible only when used with other control measures
- Eligible only when done by professional, experienced with woodland fires. Burn plan must be submitted for review prior to allocation of grant.
- Review habitat needs (including nesting and denning periods, and forest structure needs) for animal species of concern, and follow all guidelines provided by state and federal agencies to protect those species

III Disposal of invasive plant material

Note - Buckthorn is a designated noxious weed and its transport is regulated. For more information on transport regulations, see <http://www.mda.state.mn.us/en/plants/pestmanagement/weedcontrol.aspx>.

Piling Brush for wildlife cover

- Cut brush without berries and pile for wildlife cover in piles no larger than 8' x 8'.

Chipping Brush

- Brush may be chipped for disposal. If berries or seed are present, transport of chips off-site must follow the state requirements for transport of invasive species.
- If no berries are present, chips may be scattered on the parcel (maximum 1" thick layer)
- Chipped brush may be used as mulch in landscape beds or to replenish existing trails. Seedlings that sprout from chipped berries should be hand-pulled.
- Review habitat needs (including nesting and denning periods, and forest structure needs) for animal species of concern, and follow all guidelines provided by state and federal agencies to protect those species

Burning Brush

- Brush piles may be burned following DNR guidelines and seasonal restrictions, (http://webapps1.dnr.state.mn.us/burning_permits/) with approval from local fire marshall.
- Piles should be no larger than 8' x 8', and placed well away from forest canopy or other valuable trees or structures. Large fires can injure surrounding trees, or overly sterilize the ground beneath them.
- Review habitat needs (including nesting and denning periods, and forest structure needs) for animal species of concern, and follow all guidelines provided by state and federal agencies to protect those species

Hauling Material Off-site for biofuel or landscape purposes

- Round wood and/or chips may be hauled off-site for use as biofuel or landscape purposes.
- If berries or seed are present, transport of chips off-site must follow the state requirements for transport of invasive species. For more information on the transport of noxious weeds, see <http://www.mda.state.mn.us/plants/pestmanagement/weedcontrol.aspx>

IV Restoration

Revegetation

- Plants selected for revegetation should replicate local native forest plant communities, including trees, shrubs and ground layer. Revegetation with turf grass is not allowed under this grant program
- Where native ground layer is expected to regenerate naturally, or where multiple years of treatment are anticipated, a long-term plan must be submitted and approved
- Within the Wild and Scenic River Way, all structures must be screened from view from the river for at least leaf-on conditions, using shrubs and trees
- Planting should minimize disturbance of soil surface, such as using smaller stock to avoid tree spades on fragile surfaces
- Species selected should be suitable for conditions, considering sun exposure soil characteristics, depth to bedrock, and soil moisture
- All plantings must be watered and mulched until well established
- Fertilizer is usually not required, and will not qualify as match unless site-specific soil testing reveals a nutrient deficiency. All fertilizers used must be phosphorus free.

- If large expanses of soil on slopes steeper than 3:1 have been disturbed, erosion control blankets should be installed.

V Post-treatment Monitoring

- Funded treatment sites must be reviewed and approved by project representative prior to reimbursement of expenses. Site review will verify that only approved methods were used, and these BMPs were followed. Grant reimbursements will not be made until match activities have been verified.
- Sites treated for buckthorn or other woody species shall be monitored through 2015 for appearance of newly germinated seedlings or those missed during the initial treatment. Such seedlings will be treated as above. Funding for follow-up treatments after 2012 is not available through this grant.

Note - The listing of trade name does not represent a recommendation of a specific brand or product. Read all product documentation thoroughly, to assure you understand the risks of herbicide use. For product information on triclopyr and glyphosate, see the full label information at <http://www.cdms.net/LabelsMsds/LMDefault.aspx?t=>

Tryclopyr products may be available at local agricultural/feed suppliers.

Glyphosate products are available at landscape nurseries and home-improvement stores.

VI References

- MN DNR index of invasive species, <http://www.dnr.state.mn.us/invasives/terrestrialplants/index.html>
- Garlic Mustard, (WI DNR handout), <http://dnr.wi.gov/invasives/publications/pdfs/GarlicMustardHandout.pdf>
- Garlic Mustard (USFS handout), http://www.na.fs.fed.us/fhp/invasive_plants/weeds/garlic_mustard.pdf
- BUCKTHORN: What You Should Know. What You Can Do (MNDNR handout), http://files.dnr.state.mn.us/natural_resources/invasives/terrestrialplants/woodyplants/buckthorn_w hat_you_should_know.pdf
- Common Buckthorn, (USFS handout), http://www.na.fs.fed.us/fhp/invasive_plants/weeds/common-buckthorn.pdf
- Glossy Buckthorn, (USFS handout), http://www.na.fs.fed.us/fhp/invasive_plants/weeds/glossy-buckthorn.pdf
- Native Vegetation Establishment and Enhancement Guidelines (MN BSWR handout), http://www.bwsr.state.mn.us/native_vegetation/seeding_guidelines.pdf