

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD
WOODY RESIDUE TREATMENT**

(Ac.)

CODE 384

DEFINITION

The treatment of residual woody material that is created due to management activities or natural disturbances.

PURPOSE

- Reduce hazardous fuels
- Protect/maintain air quality by reducing the risk of wildfire
- Reduce the risk of harmful insects and disease
- To improve access for management purposes
- Improve access to forage for livestock and wildlife
- Develop renewable energy systems
- Enhance aesthetics
- Reduce the risk of harm to humans and livestock
- Improve the soil organic matter
- Improve the site for natural or artificial regeneration.

CONDITIONS WHERE PRACTICE APPLIES

On all lands, except active cropland, where woody residue requires treatment.

CRITERIA

General Criteria Applicable to All Purposes

The condition and extent of residual woody material shall determine the treatment method selected based on the landowner's purpose.

Treatment methods (i.e. piling, burning, chipping/masticating, lop and scatter, off-site removal, burying or crushing) will achieve

landowner objectives while adequately protecting land and water resources.

Removal of woody material shall not be detrimental to the site and will adequately protect soil and water resources. Adequate woody material will be left to maintain or improve nutrient and organic matter cycling.

The prescribed treatment will reduce the amount of residue to an acceptable level by controlling height, size, amount and distribution.

Functions and values of the residual plant communities will not be impacted. Protect advanced reproduction or residual crop trees during treatment.

Timing of treatment shall coincide with intended purpose(s) and minimize impact on other resources.

Any residual woody material left on the site after treatment will not present an unacceptable fire, safety, environmental, or pest hazard. Scatter slash away from leave trees.

Do not pile or scatter debris or slash near ladder fuels, buildings, dwellings or other high risk or high value areas. For these areas, debris and slash will be removed.

Burning activities shall comply with the Prescribed Burning practice (338). Burning activities will be consistent with established regulations and guidelines for PM10 and PM2.5 emissions, ozone precursors (NOx and VOCs), as well as smoke and fugitive dust, and state and local permit requirements.

Place slash piles to be burned along logging roads, skid trails or log landings, or other areas already disturbed. Do not place slash piles along public roads.

Reseed and/or replant burned sites with local seed sourced plants and cover with site soil to re-establish mycorrhizal fungi. This will help

recover the site and reduce the impact of the burn scars. Use Conservation Cover (327), Critical Area Planting (342) and/or Tree/Shrub Establishment (612) as appropriate.

The Web Soil Survey will be used for all treatment area. Determine on-site Suitabilities and Limitations Ratings for Haul Roads and Log Landings, Soil Rutting Hazard and Erosion Hazard (Road, Trail and Off-Road, Off-Trail) as appropriate for the site.

Operate on frozen ground if the ratings are severe or very severe; for a medium severity rating, plan on operating when the ground is dry or frozen. Implement soil conserving practices to protect water quality from soil erosion and sedimentation if necessary. Analyses and reports must be documented in the casefile for the site.

<http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

Follow the guidelines in the Sustaining Minnesota Forest Resources: Voluntary Site-Level Forest Management Guidelines Timber Harvesting – Managing Slash, pages 28-29 and Mechanical Site Preparation – Managing Slash and Windrows, pages 11-12, refer to webpage below.

[http://www.frc.state.mn.us/documents/council/site-level/MFRC_Revised%20Forest%20Management%20Guidelines%20\(2012\).pdf](http://www.frc.state.mn.us/documents/council/site-level/MFRC_Revised%20Forest%20Management%20Guidelines%20(2012).pdf)

Additional Criteria to Reduce the Risk of Harmful Insects and Disease

The prescribed residue treatment will be species specific regarding the woody plants infested and the insect/disease diagnosed.

The degree, intensity and timing of treatment shall consider the characteristics of harmful insects or diseases to enhance the effectiveness of control.

If any woody residues are left on-site; reduce to less than 2" in diameter and scatter or burn.

Woody residues created by natural events or slash created during forest stand improvement should be immediately removed if possible. For fall or winter operations any remaining slash should be treated in the spring before insects and diseases become active. Windrowing should be avoided unless burning is planned before insect or disease emergence.

Boles will be removed and woody residue will be treated, removed, or burned to prevent breeding and brooding by bark beetles and borers. Burning will be the preferred method when beetles are present.

Additional Criteria to Improve Access to Forage for Livestock and Wildlife, to Reduce the Risk of Harm to Humans and Livestock and Enhance Aesthetics

Woody material shall be piled, contour windrowed, or removed sufficiently to maximize forage growth and allow access by livestock and wildlife. Further treatment may be necessary to meet client objectives and any state or local requirements for safe use of the area by humans.

A Prescribed Grazing Plan (528) that includes livestock safety and/or wildlife specific management plan (644, 645 or 647) will be developed and followed as per established criteria.

If providing downed woody debris for wildlife habitat in the treatment area, follow the criteria found in the Forest Stand Improvement Standard (666) under the Additional Criteria To Improve Wildlife Habitat section.

Avoid activities that produce slash or dangerous conditions during periods of peak recreational activity. Notify recreational users when activities such as burning or heavy equipment use will occur. Use Access Control (472) as a facilitating practice if necessary.

Woody residue left on site near public trails or roads should be moved a minimum of 50 feet away from the trail and if not scattered the pile height will be less than 4 feet.

Additional Criteria to Improve Soil Organic Matter

When improving soil organic matter is a high priority, keep as much slash on-site as practical including fine woody debris such as needles and twigs.

Retain a minimum of 30% woody debris scattered throughout the site to maintain soil health and productivity.

To accelerate decomposition scatter slash over the site and treat by chipping or masticating the woody residue to 1 cubic inch on average in size and not exceed an average of 3 inches in depth.

Additional Criteria to Improve the Site for Natural or Artificial Regeneration

Woody material will be treated to complement treatments specified in Tree/Shrub Site Preparation (490). Use Prescribed Burning (338) as a supplemental practice if necessary.

CONSIDERATIONS

When feasible, consider chipping, shredding, off-site disposal, bio-fuel composting, or other techniques in lieu of burning near housing developments or where ash, smoke and VOXs will be a concern.

Account for any effects on soil carbon when off-site removal of woody material is to occur.

As per landowner priorities, plan for wildlife habitat needs (e.g. large downed wood, snags, brush piles, pollinators, bats, birds, etc.) when planning the timing and implementation of residue or slash treatments.

Prompt management of woody residue after weather events can prevent further damage from insects and disease.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, technical notes and narrative statements in the conservation plan, or other acceptable documentation.

OPERATION AND MAINTENANCE

Monitor populations and the potential of damage to site resources by harmful pests and take controlling actions as necessary.

Access by vehicles or people will be controlled during treatment for safety. See conservation practice Access Control (472).

Monitor vegetation growth and use Brush Management (314), Herbaceous Weed Control (315), Tree/Shrub Site Preparation (490), or other vegetation establishment or management practices as necessary.

REFERENCES

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<http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/19712/ec1574-e.pdf>

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http://www.fs.fed.us/rm/pubs_int/int_gtr016.html

Freeman, D.R., Loomis, R.M., and Roussopoulos, P.J. 1982. *Handbook for Predicting Slash Weight in the Northeast*. USDA Forest Service General Technical Report NC-75. 23p.

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