

Biomass Harvesting Guideline Review

September 4, 2013

DEFINITION OF FINE WOODY MATERIAL

Current:

Woody material, living or dead, less than 4 inches inside bark at the large end; including fine woody debris and portions of standing living and dead shrubs and trees.

BHG AC Recommendation:

Maintain as is.

GENERAL GUIDELINES

1.A.

Current:

Retain and limit disturbance to down coarse woody debris (CWD) already present, except on skid trails and landings. Exception: For complete salvage operations, follow Guidelines 2.B.

BHG AC Recommendation:

Retain down coarse woody debris already present. Minimize disturbance, including crushing, fragmenting, and displacing existing down CWD except on roads, skid trails, and landings.

2.A.

Current:

Retain down fine woody debris (FWD) on site following harvest.

- Retain down FWD already present (before cutting), except on skid trails and landings, to the extent feasible.
- Retain FWD resulting from incidental breakage of tops and limbs in the general harvest area.
- Retain and scatter tops and limbs (<4" diameter) from 10% of trees in the general harvest area (e.g. one average-sized tree out every 10 trees harvested).
- Fine woody debris (FWD) on site following harvest is a combination of pre-existing down FWD, along with wood that was cut or broken during harvest operations and left on the ground.

Considerations:

- Some forests lack woody debris because of past management; consider retaining additional amounts of FWD and/or CWD in these areas.
- If possible, leave most of the FWD well-distributed throughout the site to maintain nutrient cycles. Retaining some small slash piles may benefit some animals and plants.

BHG AC Recommendation:

The goal is to retain at least 5 oven-dry tons per acre of FWD on site following harvest. This can be achieved by:

- Retain down FWD already present (before cutting) except on roads, skid trails, and landings – to the extent feasible.
- Retain FWD resulting from incidental breakage of tops and limbs in the general harvest area – to the extent feasible.

- Retain and scatter additional tops and limbs in the general harvest area, if needed.

Considerations:

- In aspen systems, retaining FWD already present and incidental breakage are usually sufficient to achieve at least 5 oven-dry tons per acre of FWD.
- In non-aspen systems, retain at least an additional 10% FWD in harvested tops and limbs or the equivalent volume in other FWD material, in addition to FWD already present and incidental breakage, to achieve at least 5 oven-dry tons per acre of FWD
- The average stand in Wisconsin has approximately 3 oven-dry tons per acre of FWD already present. Generally, there should be approximately twice as much FWD post-harvest to achieve at least 5 oven-dry tons per acre of down FWD.
- Some forests lack woody debris because of past management; consider retaining additional amounts of FWD and/or CWD in these areas.
- If possible, leave most of the FWD well-distributed throughout the site to maintain nutrient cycles. Retaining some small slash piles may benefit some animals and plants.
- If possible, maintain FWD from a diverse mix of species to enhance soil nutrients and preserve ecosystem functions.

3.A.

Current:

Do not remove the forest litter layer, stumps, and/or root systems.

BHG AC Recommendation:

Maintain as is.

SITE SPECIFIC GUIDELINES

1.B.

Current:

Protect and sustainably manage species of greatest conservation need and sensitive ecosystems.

- Do not harvest fine woody material from sites where Federal or State Endangered or Threatened Species are known to exist or are discovered during operations.

Exception: If harvests of fine woody material have been demonstrated to maintain or improve habitat for the species present, then follow appropriate management guidelines to sustain the occurrence or condition. Limit, to the extent possible, the establishment of landings and roads in these areas.

- Before harvesting fine woody material, determine the presence (and location) of and potential impacts on:

- State Special Concern Species and Species of Greatest Conservation Need (those not listed as Federal or State Endangered or Threatened)
- Element Occurrences (EO) of Wisconsin Natural Heritage Inventory (WNHI) Community Types
- Designated High Conservation Value Forests (HCVF)
- Communities demonstrating exceptional composition or structure, and sensitive sites (those not listed as WNHI EO or HCVF), including: relict forests, old-growth forests, old forests, large bogs, vernal pools, seeps, cliffs, rock outcrops, ravines, and caves

Follow management strategies to protect and conserve species of greatest conservation need and sensitive ecosystems. Limit, to the extent possible, the establishment of landings and roads in these areas.

- Consult specialists, management guides, and databases to assess occurrence, habitat requirements, community characteristics, potential impacts of proposed management activities, and management alternatives and recommendations.
- Specialists are those who have in-depth knowledge regarding conservation and management of the species or ecosystem of concern, and may include wildlife biologist, conservation biologist, community ecologist, and forest ecologist.

BHG AC Recommendation:

Guideline will become a reminder with reference to current guidance. Waiting for input from Bureau of Natural Heritage Conservation on reminder language.

2.B.

Current:

For complete salvage operations, following severe disturbance (e.g. crown fire or complete blowdown), implemented on areas >10 acres under one ownership, that include the harvest of fine woody material:

- Retain at least 5% of area in unsalvaged (no harvest) patches at least 0.1 acres in size. These should include large diameter reserve trees, mast trees, cavity trees, snags, and down coarse woody debris if present.

Exceptions:

- Retention is deemed a threat to human health and safety
- Retention would interfere with effective sanitation methods to control pathogen outbreaks

BHG AC Recommendation:

Reminder: For tree and snag retention guidelines and for salvage operation guidelines refer to Wisconsin DNR Silviculture Handbook.

3.B.

Current:

Do not harvest fine woody material on shallow soils where bedrock is within 20 inches of the surface.

- Areas with shallow soils are identified by using soil survey maps produced by the Natural Resources Conservation Service (NRCS). A list of soil map units appears in Appendix 2. See the Web Soil Survey for soil maps: <http://websoilsurvey.nrcs.usda.gov/app/>

BHG AC Recommendation:

Maintain as is.

4.B.

Current:

Do not harvest fine woody material on dry nutrient-poor sandy soils.

- Dry nutrient-poor sandy soils are components of soil map units that meet certain criteria, such as low clay content. See Appendix 2 for a complete list of criteria.
- Areas with dry nutrient-poor sandy soils are identified by using soil survey maps produced by the Natural Resources Conservation Service (NRCS). A list of soil map units appears in Appendix 2. See the Web Soil Survey for soil maps: <http://websoilsurvey.nrcs.usda.gov/app/>

Exception: Jack pine stands may be harvested for woody biomass at rotations of 40 years or longer.

BHG AC Recommendation:

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Exceptions:

- Jack pine stands may be harvested for woody biomass at rotations of 40 years or longer.
- Red pine stands may be harvested for woody biomass.

5.B.**Current:**

Do not harvest fine woody material on soils classified as dysic Histosols. These are wetland soils with at least 16 inches of organic material that are nutrient-poor with a low pH.

- Areas with dysic Histosols are identified by using soil survey maps produced by the Natural Resources Conservation Service (NRCS). A list of soil map units appears in Appendix 2. See the Web Soil Survey for soil maps: <http://websoilsurvey.nrcs.usda.gov/app/>

BHG AC Recommendation:

Maintain as is.

OTHER BHG AC RECOMMENDATIONS

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- Forward CWD issue to SGT to consider for application to any harvest, if not adequately addressed already in Silviculture Handbook.
 - Forward salvage harvest issue to SGT to review the issue ensure that salvage harvests are adequately addressed by Silviculture Handbook.
 - Reconvene soils subcommittee to see if dry nutrient poor soils criteria and list can be further refined.
 - Expand discussion in Chapter 4 regarding jack pine conversion, scrub oak management, ecological considerations, and economic feasibilities, based on landscape context.
 - Recommend monitoring BH sales separate from guideline implementation to evaluate amount of FWD left onsite following harvests on different forest types (add to research objectives from first go-round)

TIMELINE

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- September 10: Presentation of work to date from BHG AC. Request approval for recommendations
 - October: Technical Committee begins work on Field Manual revisions & soils subcommittee reconvened
 - December or January: BHG AC meets again to review results of soil subcommittee & review recommendations for research, monitoring, training & implementation steps
 - February or March: BHG AC Subcommittee reviews field manual & opportunity for public input provided as required for DNR guidance
 - April or May: Final draft of BHG Field Manual presented for approval