

Identified Risk Stand Evaluation Tool

Form 2450-197 (1/22) (Adapted for MFL in 2021, based on Appendix A, 2019)

This checklist/decision tool is for evaluating lowland stands that will potentially be impacted by emerald ash borer (EAB) and/or hydrological risk (swamping).

MFL STAND INFORMATION:	
Order Number:	Stand:
Landowner Name	
Date	
Completed by:	

SITE QUALITY AND WETLAND FOREST HABITAT TYPE
Low
☐ Wetland FHT very poor to poor (Habitat Type:)
☐ SI <45 ft.* (SI Species/Site Index: /)
☐ Drainage Class ☒ - very poorly drained
☐ Soil ☒ - deep organic/sphagnum bog
☐ Vigor - poor tree and stand vigor
Medium to High
☐ Wetland FHT - poor to rich (Habitat Type:)
☐ SI >45 ft.* (SI Species/Site Index: /)
☐ Drainage Class ☒ - poorly drained or better
☐ Soil ☒ - non-sphagnum organic or organic over mineral
☐ Vigor - moderate to good tree and stand vigor
☐ Growing Stock Quality - acceptable (evaluate AGS)
* It may be difficult to obtain an accurate SI in lowland ash stands. It is not recommended to rely on SI alone for site quality evaluations.
☒ Use the web soil survey map to find information on these items. Available as an app or online. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

EAB PRESENCE
EAB Observed
☐ Beetles and larvae signs visible
EAB Not Observed
☐ No visible signs of beetles or larvae
POTENTIAL EAB IMPACT TO STAND CONDITION:
Low Ash Dominance
☐ ≥40 non-ash AGS (Acceptable Growing Stock) trees per acre or >45% relative density of non-ash AGS
☐ ≥40 sq. ft. basal area (BA) / acre non-ash tree species
High Ash Dominance
☐ <40 non-ash AGS trees per acre or <45% relative density of non-ash AGS
☐ <40 sq. ft. basal area (BA) / acre non-ash tree species

REGENERATION POTENTIAL
NON-ASH ADVANCE REGENERATION DENSITY AND STOCKING
Adequate
☐ Non-ash, desirable species
☐ 2,000+ stems/acre (advance + projected coppice)
☐ 2-4 ft. tall
☐ Distribution >50% stocking
Present but Borderline Inadequate
☐ Non-ash, desirable species
☐ 800-2,000 stems/acre (advance + projected coppice)
☐ 2-4 ft. tall
☐ Distribution <50% stocking, grouped
Inadequate
☐ Mostly ash or undesirable species
☐ <800 stems per acre (advance + projected coppice)
☐ <2 ft. tall (e.g., 1 st year germinants)
☐ Distribution - limited

PLANTING POTENTIAL: ☒
Poor
☐ Soils Poorly suited for Hand planting
Good
☐ Soils well-suited for Hand planting

ALTERNATE SEED SOURCES:
Good
☐ 5-10+ non-ash AGS/seed trees per acre
☐ Dominant or codominant crown class
☐ Reproductively mature
☐ Dispersed
Poor
☐ <5 non-ash AGS/seed trees per acre
☐ Intermediate and suppressed crown classes
☐ Reproductively immature
☐ Poorly distributed

HERBIVORY PRESSURE:
Low
☐ < 50% stems browsed
High
☐ > 50% stems browsed

INTERFERING VEGETATION:
Low
☐ <25% coverage Reed canary grass, buckthorn, alder, other spp.:
High
☐ ≥25% coverage Reed canary grass, buckthorn, alder, other spp.

HYDROLOGICAL RISK: ☒
Low
☐ Seasonal inundation of limited duration (<60 days)
☐ Depth to water table >12 in. during majority of growing season
☐ Ponding infrequent
☐ Drainage Class - poorly drained or better, convex surfaces
☐ Shallow organic or mineral soils
☐ Limited impediments to drainage
High
☐ Seasonal inundation common, well into growing season (>60 days)
☐ Depth to water table <12 in. during majority of growing season
☐ Ponding frequent
☐ Drainage Class - very poorly drained, concave surfaces, limited water flow
☐ Deep organic soils/sphagnum bog
☐ Impeded drainage due to roads, culverts, other impounding factors

ID Risk? ☐ Yes ☐ No
COMMENTS / SPECIAL CHARACTERISTICS

INSTRUCTIONS:

Tax Law staff will use the checklist when evaluating CPW descriptions of stands and decisions to categorize stands as identified risk. CPW's are highly encouraged to use the checklist when evaluating lowland stands and communicating with landowners and Tax Law. Measure as many criteria below as possible to make the best-informed site assessment. Use the comments box to capture additional risk factors, special characteristics, notes for the landowner, key points to include in the Stand Conditions/Special Characteristics section. Upload completed checklists to WisFIRS "Other" tab (one checklist per stand).

STAND ASSESSMENT CONSIDERATIONS AND REFERENCES:

The checklist based on current research and silvicultural case studies from the Lake States, in both the swamp hardwood and bottomland hardwood cover types, where the primary tree species may include black ash, green ash, red maple, silver maple, swamp white oak and elm. Management information for these cover types can be found in the EAB Silvicultural Guidelines, Swamp Hardwood and Bottomland Hardwood chapters of the Silviculture Handbook. The Natural Resource Conservation Service web soil survey map is a great tool to find information on soils, suitability for planting, and hydrological risk. Available as an app "Soil web" or online at <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.

STAND CHARACTERISTICS

SITE QUALITY/WETLAND FOREST HABITAT TYPE: A careful assessment of site quality will help prioritize which stands will best respond to management treatments in terms of growth, regeneration and hydrology. Low-quality sites, as defined within the checklist, generally have lower productivity and it may not be practical to invest in extensive management treatments. The Forest Habitat Type Classification System has commonly been used in Wisconsin to assess upland site capability based on the floristic composition of plant communities, and now that system has been extended to wetland forests in northern Wisconsin. Site quality of wetland forests may also be reflected in the depth to mineral soil, as well as influenced by the influx of nutrients from adjacent landforms.

EAB PRESENCE AND POTENTIAL EAB IMPACTS TO STAND CONDITION: The checklist provides an assessment of degree of ash dominance based on a minimum level of non-ash AGS (Acceptable Growing Stock, meaning vigorous, commercial species trees with good form). The baseline is set at 40 non-ash AGS per acre or approximately 45% relative density. Stands at or above this baseline should be able to be managed for non-ash species according to the appropriate cover type guidance. Stands below this baseline will be considered degraded after EAB kills the ash component and may require silvicultural treatments to increase non-ash tree regeneration. Foresters may decide to continue to manage understocked stands below this baseline (i.e., <40 non-ash AGS per acre) if regeneration options are limited.

REGENERATION POTENTIAL:

Based on the swamp hardwood trials, habitat types that are slightly richer in nutrients seem most capable of supporting higher proportions of non-ash tree regeneration. Less-rich habitat types were also found to support moderate-to-high proportions of non-ash tree regeneration.

Maintaining the resilience of ash-dominated lowland stands in the face of EAB will require increasing tree diversity, specifically increasing non-ash tree regeneration. The checklist assesses the non-ash regeneration potential of a stand by evaluating several factors: **NON-ASH ADVANCE REGENERATION DENSITY AND STOCKING, ALTERNATE SEED SOURCES, HERBIVORY PRESSURE and INTERFERING VEGETATION**. In the silvicultural trials, all treatments produced abundant ash regeneration due to the ability of ash to easily reproduce from seed and stump sprouts. Ash regeneration as small as 1" DBH, however, is susceptible to EAB infestation and cannot be relied on as a viable species to restock the stand. Evaluating the regeneration potential of alternate species will help in the selection of prescription alternatives geared towards increasing the non-ash tree component. However, the initial abundance of ash and shrub regeneration following all treatments in the silviculture trials suggests follow-up release treatments may be necessary to maintain the non-ash regeneration over time.

HYDROLOGICAL RISK: Hydrological risk refers to the risk of "swamping," where water tables rise post-harvest due to tree removal and/or site damage. The risk is considered greatest for clearcutting and overstory removal treatments where all larger trees (the main sources of evapotranspiration) are removed in a single operation, but swamping can occur with other silvicultural treatments as well if site factors are high risk. Swamping can lead to tree regeneration delays, failures, and shifts in the vegetation to obligate wetland species such as alder and grasses/sedges. Harvest treatments that maintain a tree canopy will generally mitigate the water table impacts. Predicting the risk of swamping is difficult, however, and will vary depending on site hydrology, annual precipitation, and the period of time necessary to re-establish vegetation. The checklist provides a partial list of factors to consider when assessing site hydrology and swamping risk. Also consider the landscape context of the wetland forest being managed. Larger watershed issues, such as major road impoundments or beaver dams, may impact hydrology over extensive areas.