

Wisconsin Ash & Elm Management Update

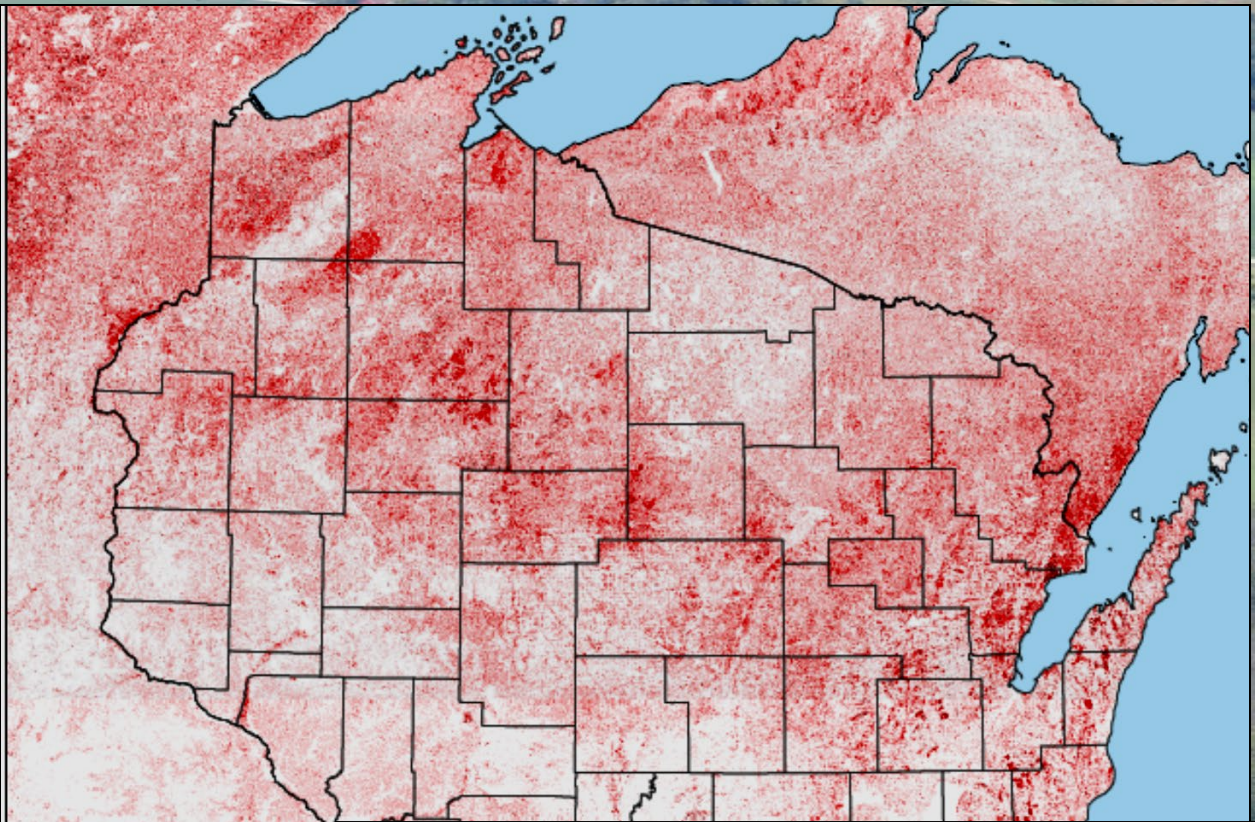
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***Strategies and Tools for Managing Ash and Elm
Species Workshop***

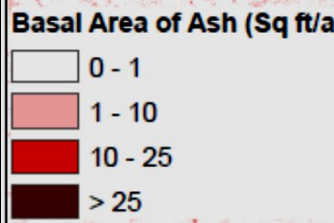
September 19-20, 2023



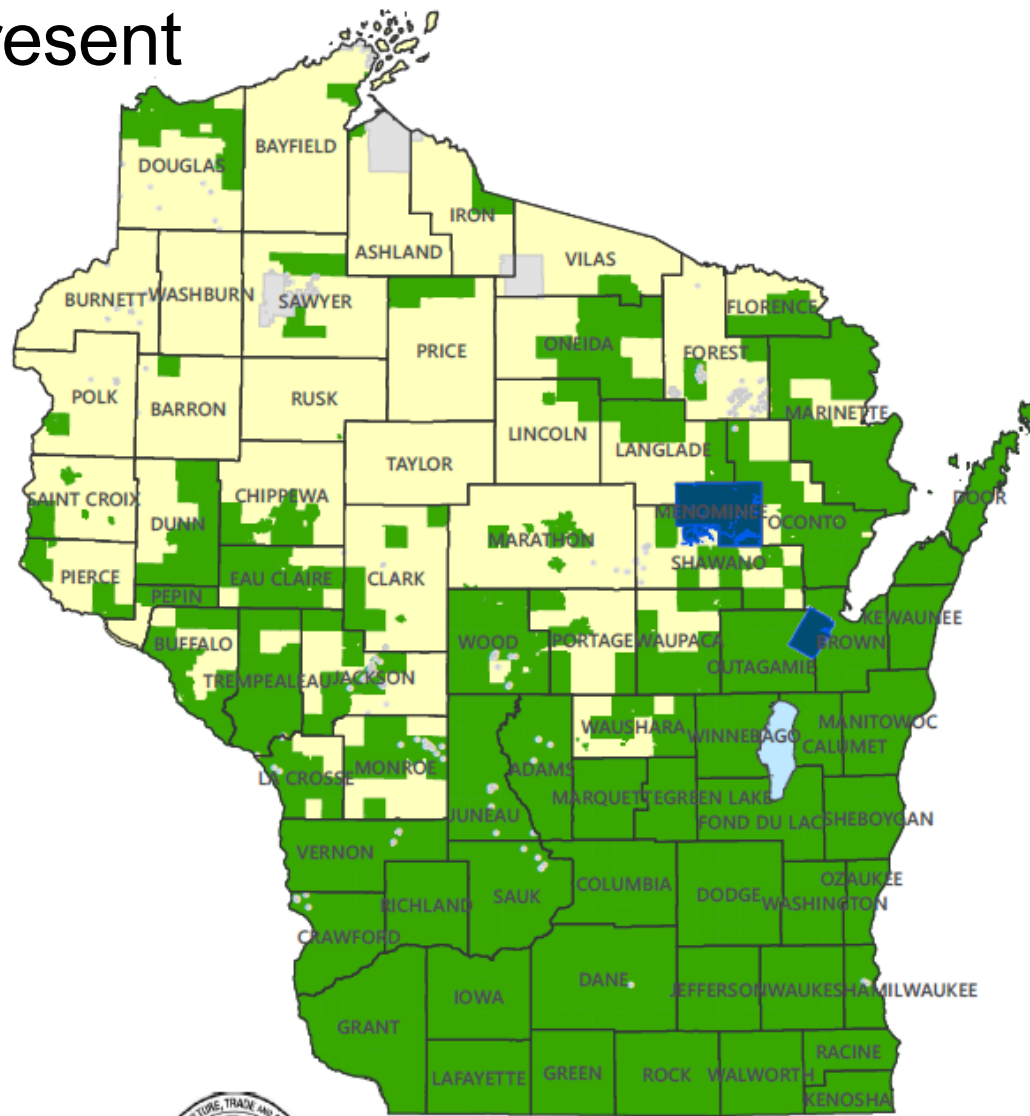


Growing stock volume (million cu. ft.) by species and region of the state.

Species	Central	Northeast	Northwest	Southeast	Southwest	Total	% of Total
Black Ash	84	126	358	32	26	627	43%
Green Ash	51	63	53	183	26	375	26%
White Ash	65	121	97	72	85	441	31%
Total	200	310	508	287	137	1443	100%
% of Total	14%	22%	35%	20%	10%	100%	



2008 to present



Wisconsin Department of Agriculture, Trade and Consumer Protection

Although APHIS removed the federal domestic Emerald Ash Borer (EAB) quarantine regulations as of January 14, 2021, ash wood and firewood movement within and outside Wisconsin may be restricted by other tribal and state regulations. Areas in yellow on the map have never had an EAB detection, making uncertified firewood movement from infested areas discouraged. EAB has been confirmed only within the municipal boundaries colored in green or on tribal lands colored in blue. By avoiding moving uncertified firewood long distances, we can continue to reduce artificial spread of EAB. Please visit www.emeraldashborer.wi.gov for more information.

Map last updated August 8, 2023

- EAB Found
- EAB Found on Tribal Land
- No EAB Detections
- Tribal Land

Wisconsin EAB Silviculture Guidelines

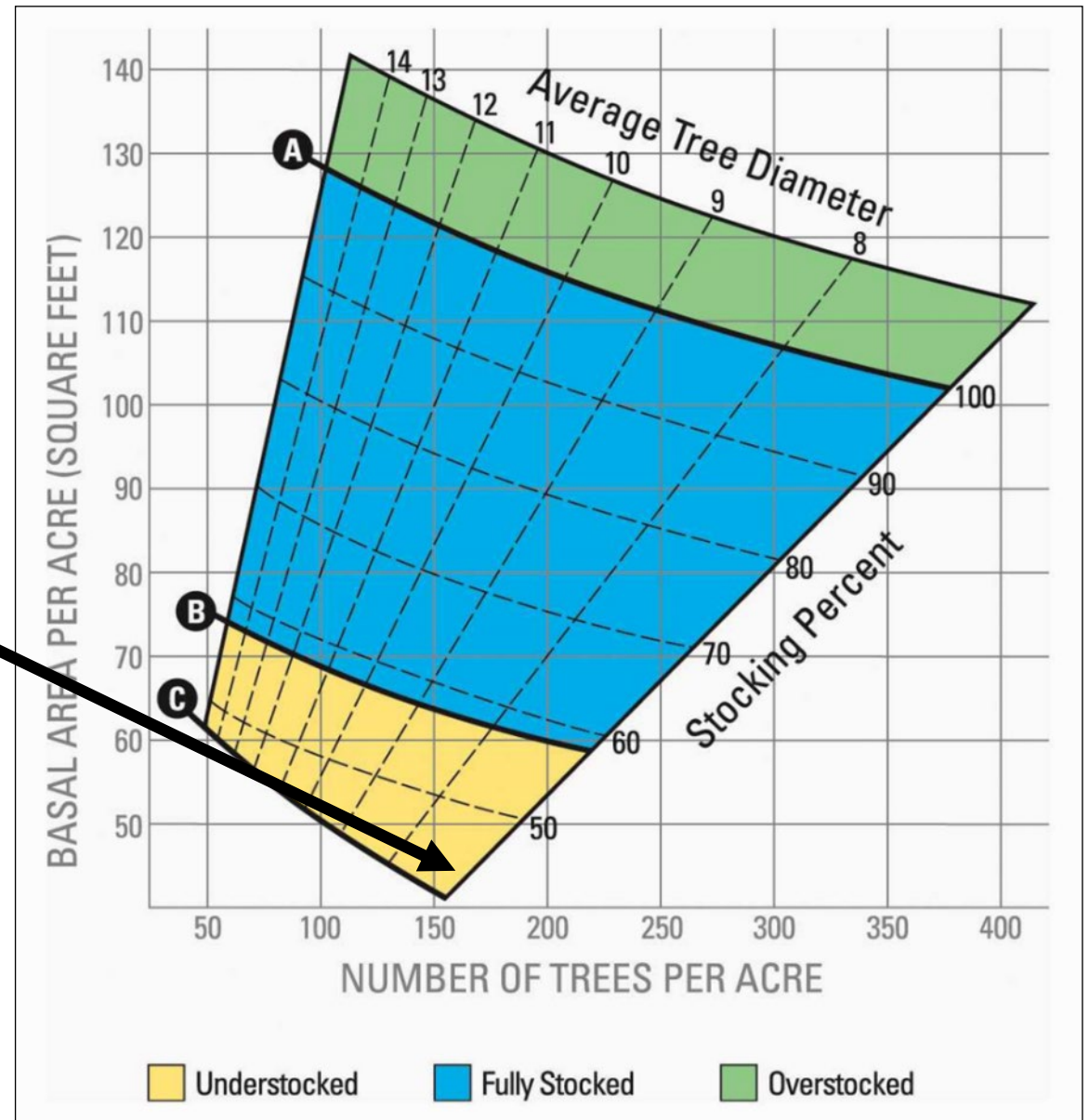


- Stand Assessment Criteria
- Checklist for Evaluating Lowland Ash Stands
- Lowland Reforestation Species Guide

<https://dnr.wisconsin.gov/topic/foresthealth/emeraldashborer>

Defining Degraded:

- C-line or below
- < 40 AGS/acre
- ~ 45% relative density



Appendix A: Checklist for Evaluating Lowland Ash Stands (SLIGHTLY REVISED IN 2019)

This checklist/decision tool is for use in lowland ash stands that will potentially be impacted by emerald ash borer (EAB). The checklist is designed to assist with site and stand evaluation prior to developing a prescription. Due to the complex nature of these sites the checklist results should be considered collectively, along with other stand data, landowner objectives, and professional judgment when evaluating management alternatives.

Landowner:

County:

Town:

Section-Town-Range:

Cruiser:

Date:

Compartment:

Stand:

Acres:

SITE QUALITY AND/OR TIMBER SALE OPERABILITY:

Low

- Wetland FHT - very poor to poor (Habitat Type: _____)
- SI <40 ft.* (SI Species/Site Index: _____ / _____)
- Drainage Class - very poorly drained
- Soil - deep organic/sphagnum bog
- Vigor - poor tree and stand vigor
- Sale Volume - limited (e.g., <100 cords or 10 MBF)
- Sale Access - poor

Medium to High

- Wetland FHT - poor to rich (Habitat Type: _____)
- SI >40 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)
- Sale Volume - acceptable (e.g., >100 cords or 10 MBF)
- Sale Access - fair to good

*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.

ADVANCE REGENERATION (NON-ASH SPECIES):

Adequate

- Non-ash, desirable species
- 2,000+ stems/acre (advance + projected coppice)
- 2-4 ft. tall
- Distribution >50% stocking

Present but Inadequate

- Non-ash, desirable species
- 200-2,000 stems/acre (advance + projected coppice)
- 2-4 ft. tall
- Distribution <50% stocking, grouped

No Potential

- Mostly ash or undesirable species
- <200 stems per acre (advance + projected coppice)
- <2 ft. tall (e.g., 1st year germinants)
- Distribution - limited

POTENTIAL EAB IMPACT TO STAND CONDITION:

Non-Degraded

- ≥40 non-ash AGS (Acceptable Growing Stock) trees per acre or >45% relative density of non-ash AGS

Degraded

- <40 non-ash AGS trees per acre or <45% relative density of non-ash AGS

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:

Low

- Browse severity index 1-3

High

- Browse severity index 4-6

STAND COMMENTS:

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

INTERFERING VEGETATION:

Low

- <25% coverage
Reed canary grass, buckthorn, alder, other _____

High

- ≥25% coverage
Reed canary grass, buckthorn, alder, other _____



Appendix B: Lowland Reforestation Species Guide (SLIGHTLY REVISED IN 2019)

Species	Cover Type Suitability Rating				Climate Change Class		Northern Wetland Forest Habitat Type															Soil		Soil Drainage Class						Insect/Disease Considerations	Planting Considerations							
	SH - North	SH - South	BH - North	BH - South	Northern WI	Southern WI	Driftless Area	PmLLe	PmLLe-An	PmLNe	PArGy	Lark	AlThArAsp	AlFrThOs	AlFrThix	ArFrTh	ThAlFrC	ThAlFrK	FNOh	FrAbI	FrArHx	FrAbArOn	FrIUB	Mineral	Organic	Excessively	Somewhat excessively	Well	Moderately well			Somewhat poorly	Poorly	Very poorly	Seedling Flood Tolerance	Shade Tolerance	Browse Preference	Interfering Vegetation
Acer negundo (boxelder)	●	●	●	●	▲	▲																■	■	■				■	■	■	■	□		▶	▶	▶		
Acer nigrum (black maple)	○	○	○	○	▶	▶																													▼	▲	▶	▶
Acer rubrum (red maple)	●	●	●	●	▶	▶	▼	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■	■	■	■	□		▶	▶	▶	
Acer saccharum (sugar maple)	○	○	○	○	▶	▶							■	■									■	■	■	■			■	■	■	□		▼	▲	▶	▶	
Acer saccharinum (silver maple)	○	●	●	●	▲	▲	▲						■										■	■	■			■	■	■	■	■	▲	▶	▶	▼		
Betula alleghaniensis (yellow birch)	○	○	○	○	▼	▼	▼	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■	■	■	□		▶	▶	▶	▶		
Betula nigra (river birch)	○	○	●	●	▲	▲	▲																	■	■			■	■	■	■	■		▶	▶	▶		
Betula papyrifera (paper birch)	○	○	○	○	▼	▼	▼	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■	□		▶	▶	▶		
Carpinus caroliniana (musclewood)	●	●	●	●	▶	▶										■								■	■		■	■	■	■	■		▶	▼	▼	▼		
Carya cordiformis (bitternut hickory)	○	○	○	○	▲	▲																		■	■			■	■	■	■	□		▶	▶	▶		
Celtis occidentalis (hackberry)	○	○	●	●	▲	▲	▲																				■	■	■	■				▶	▶	▶		
Gleditsia triacanthos (honeylocust)	○	○	○	○	◆	▲	▲																			■	■							▶	▼	▼	▼	

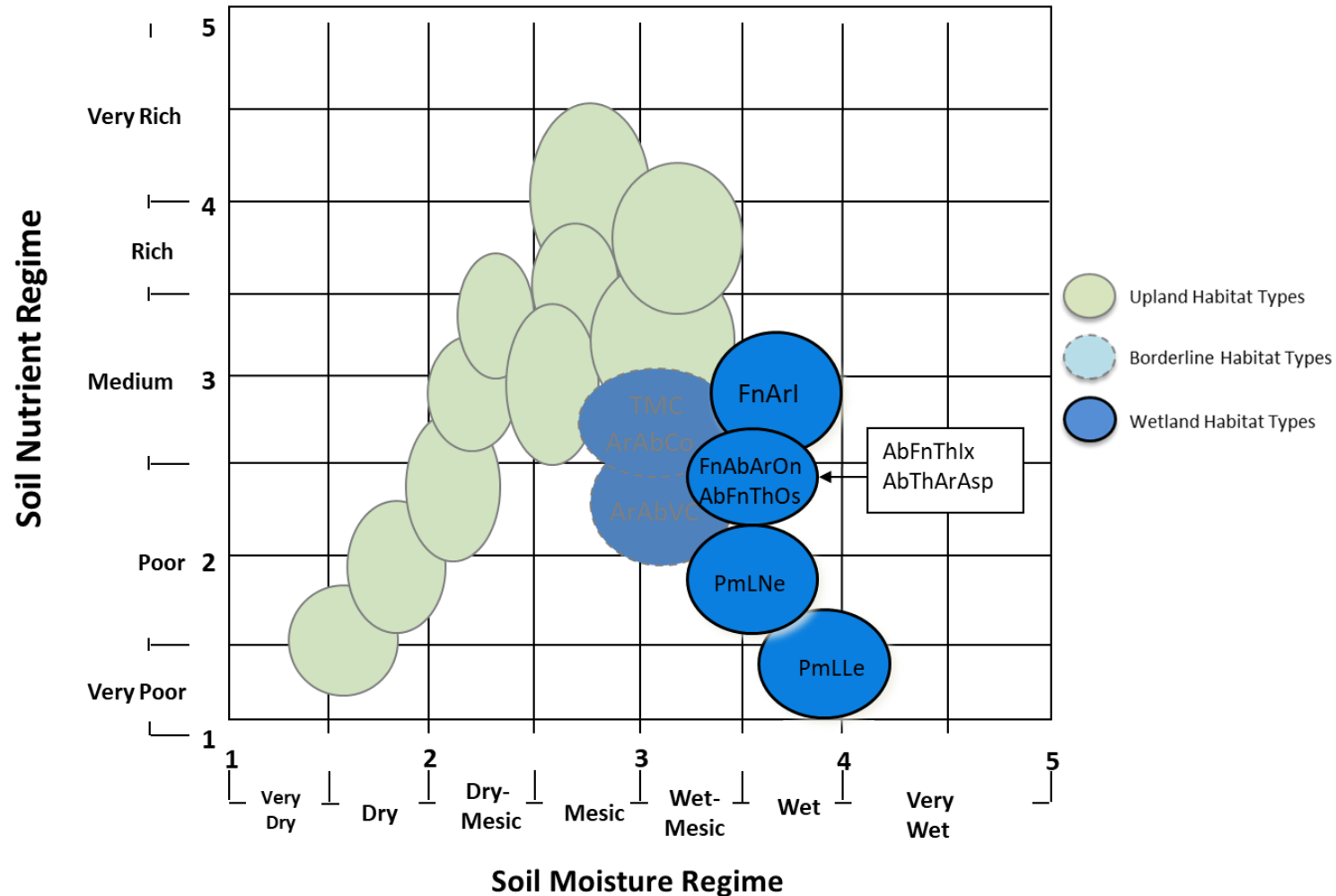
Key:

- Good suitability; primary or common associate species for cover type; silvical characteristics well-suited
- ◐ Fair suitability; less common associate species for cover type; silvical characteristics at least somewhat suited; other evidence of performance
- Poor suitability; not found in cover type; silvical characteristics unsuited; available research suggests it would not perform well
- ? Uncertain suitability; not currently found in cover type; performance untested
- Recommend - species generally well-suited for site condition
- ◐ Conditionally Recommend - species potentially suited for site condition, but may have limitations or is untested
- ▲ Tolerant/climate increaser/browse preferred
- ▶ Moderately tolerant/climate little change/browse moderately preferred
- ▼ Intolerant/climate decreaser/browse not preferred
- ◆ New habitat



Wetland Forest Habitat Type Classification System for Northern Wisconsin

Relationship of Habitat Types to Soil Moisture and Nutrient Regimes in Region 3



Silviculture Trials



- Swamp Hardwood Trials
- Avon Bottom Underplanting Trial
- GLRI Black Ash Trial
- American Elm Reforestation Trial
- Fall Lifting and Planting Trials

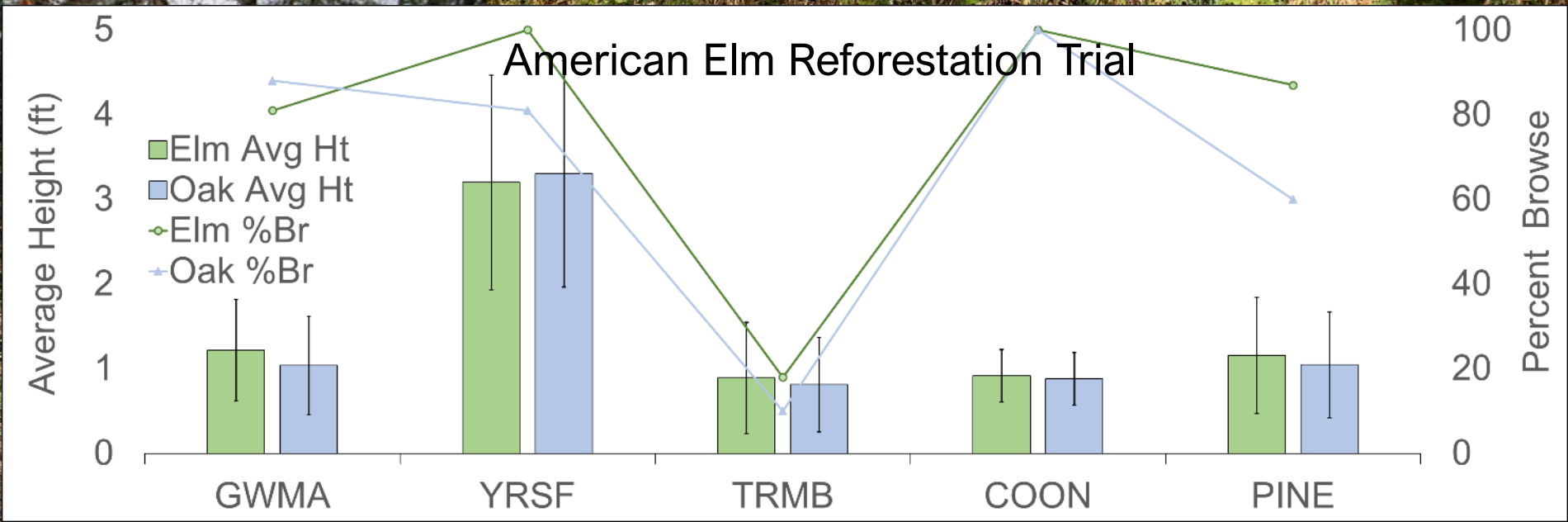
Swamp Hardwood Trials



Avon Bottoms Underplanting Trial



GLRI Black Ash Trial



Challenges remain...

- Markets remain marginal
- Dead ash loses economic value quickly and is hazardous to cut
- Operability issues
- Rapid spread of EAB and management windows
- Interfering vegetation
- Deer browse
- Stock availability (stock type, seed sources, improved)
- Limited management experience with lowland forests



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"WILD WISCONSIN:
OFF THE RECORD"