Broad Goals & Objectives, Driftless Area ASCC Sites (IA, MN, WI)

Management Goals (property scale)

1) Manage for healthy, sustainable forests with an emphasis on maintaining oak cover types.
    - Diversify age classes.
    - Increase diameter growth and abundance of large trees.
    - Increase the abundance of large downed wood.
    - Control invasive species and limit damage from insects, disease, and wildlife to the extent possible.
    - Consider context and manage such that stands contribute to ecological function at the landscape scale.
    - Plan for historical cover types with consideration toward potential climate change scenarios.
    - Maintain and enhance the largely undeveloped, natural scenic beauty of region.
    - Enhance water quality by protecting watersheds and preventing soil loss through erosion.

2) Contribute to local and regional economies through sustainably produced forest products. This includes producing high-quality oak saw logs efficiently, encouraging other compatible, merchantable species (e.g. walnut) whenever possible and prioritizing veneer production to the extent possible.

3) Demonstrate sustainable forest management and support research.
    - Create and maintain forest management demonstration areas and research areas to increase the public awareness of the value and role of forests in the Driftless Area. This could include: Establishing and maintaining forest research plots, hosting field days and providing outdoor classrooms, and partnering with supporting private organizations, non-profit groups, and educational institutions to promote forestry education and awareness.

4) Maintain or improve habitat for game and non-game wildlife species. Protect known endangered and threatened species as well as species of concern and their habitats. Emphasize importance of habitat for interior forest songbirds, and manage forest edges to promote habitat diversity where appropriate

5) Manage to protect cultural resources and to provide opportunities for high-quality, nature-based open-space recreational uses that are compatible with the properties' capabilities and the ecological and habitat management goals. This could include hunting, trapping, and wildlife viewing, fishing, paddling, picnicking, camping, hiking, equestrian use, and environmental interpretation and education.

Management Objectives (property scale)

- Regenerate mature stands suitable for oak in order to maintain oak (with attention to maintaining age diversity, structural diversity, standing and down dead wood, and an uneven canopy).
- Develop and maintain old forest characteristics, including biologically mature trees, large diameter trees, structural diversity, standing and down coarse woody debris, and an uneven canopy using natural processes and active management that mimics natural disturbance.
- Maintain at least 50% cover in mature forest with closed canopy or near closed canopy conditions to benefit interior forest songbirds.
- Maintain and develop natural transitions between different plant communities, reducing hard edges between different cover types.
- Supplement natural regeneration with planted oak seedlings where needed.
- Monitor and control invasive species and forest pests.

Driftless Area ASCC Inventory Summary

Sites ("blocks") for the Driftless Area ASCC study will be distributed across the region in Minnesota, Iowa, and Wisconsin. Forests are dry-mesic, occurring on silt loam soils, and dominated by northern red and white oak. In the Minnesota native plant community classification system, these forests are identified as MHs37, Southern Dry Mesic Oak Forest. Within the Wisconsin DNR natural community typing system, they are classified as Southern Dry Mesic Forest. They are also more generally classified as North Central Interior Dry Mesic Oak Forest and Woodland using the NatureServe forest types.

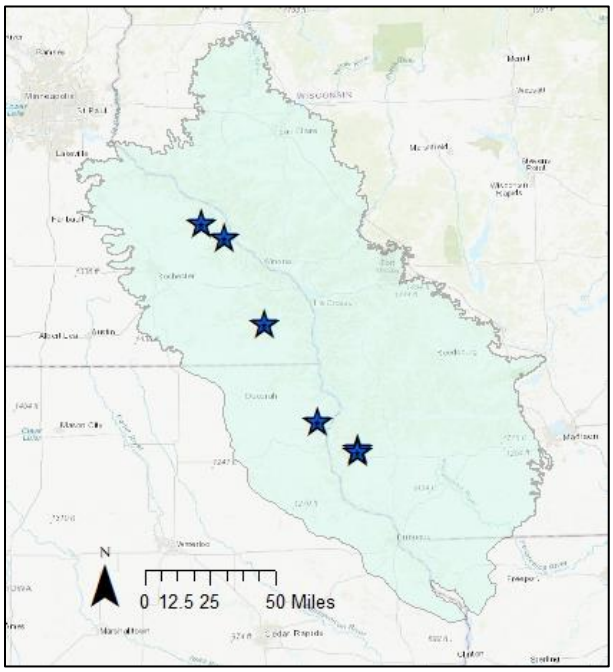

Figure 1 Map of study blocks in MN, IA, and WI. The green shaded area marks the Driftless Area.

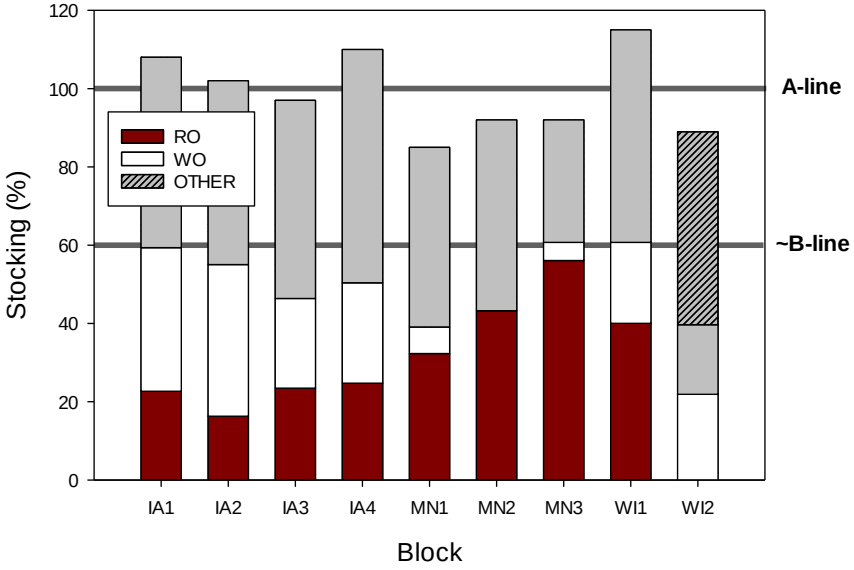

Figure 2 Total bar height indicates stocking (%) estimated from stocking chart for Central Hardwoods (Gingrich 1967) for each block. The proportion of each bar that is red (red oak), white (white oak), or gray (other tree species) indicates the relative importance of each respective species or group based on basal area and density, combined.

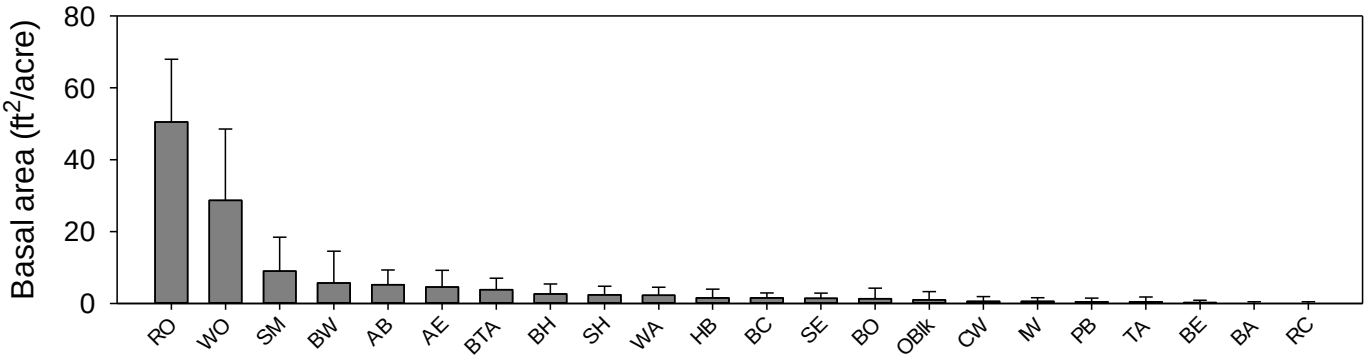

Figure 3 Mean basal area of all species observed across blocks considered for Driftless ASCC study. Bars indicate standard deviation. Species codes on page 2.

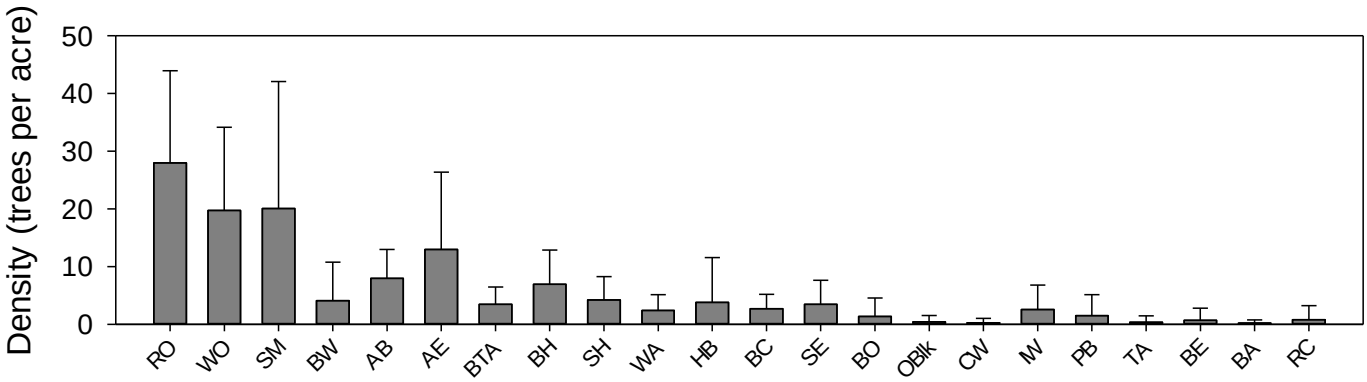

Figure 4 Mean density for all species observed across blocks considered for Driftless ASCC study. Bars indicate standard deviation. Species codes on page 2.

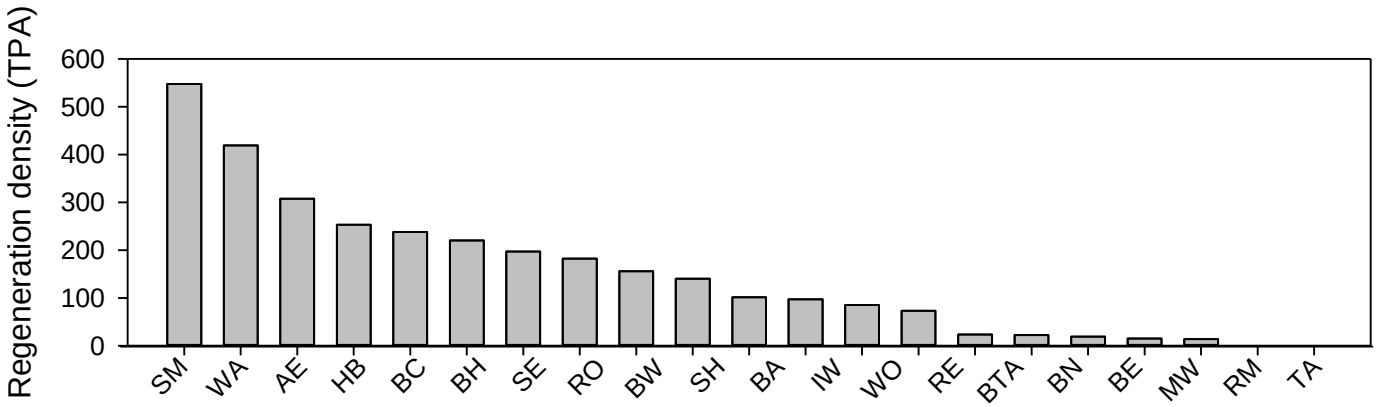

Figure 5 Mean density for all regeneration (DBH < 5") observed across blocks in consideration for Driftless ASCC study. Bars indicate standard deviation.

Table 1. Stocking, composition, and other characteristics of each block.

Block	**Basal area (ft^2/acre)**	**Density (TPA)**	**Species (5 most common by BA, descending order)**	**AGS (% BA)**	**Age**	**Soil texture, series**	**Acres**
IA1	135.0	131	WO,RO,SM,WA,BTA	54	100+	Silt loam	47
IA2	126.2	130	WO,RO,SM,WA,BH	69	100+	Silt loam (Village, Fayette, Paint Creek)	78
IA3	121.8	113	RO,WO,SM,WA,BTA	57	100+	Silt loam (Fayette)	57
IA4	136.5	138	RO,WO,SM,BTA,SH	75	100+	Silt loam	50
MN1	108.2	97	RO,AB,WO,BTA,AE	38	110	Silt loam (Lamoille)	120+
MN2	112.0	129	RO,BH,AE,HB,AB	49	104	Silt loam (Frontenac)	27+
MN3	113.0	120	RO,WO,BO,AE,BTA	64	104	Silt loam (Frontenac)	46.5+
WI1	148.8	142	RO,WO,AB, BO	56	110	Silt loam (Fayette, Sogn, Chaseburg); some Lacrescent Dunbarten complex	43
WI2	108.7	122	WO, RO, BW, AE,WA	55	84	Silt loam (Fayette, Gale, Palsgrove)	41
TOTAL	**124.3**	**123**	**RO, WO, SM, BW, AB**	**58%**	**~105**	**Silt loam**	**>300**

Species Key: AB, American basswood; AE, American elm; BH, bitternut hickory; BA, black ash; BC, black cherry; BE, boxelder; BN, butternut; BO, bur oak; BTA, bigtooth aspen; BW, black walnut; CW, cottonwood; HB, hackberry; IW, ironwood; OBlk, black oak; MW, musclewood (American hornbeam); PB, paper birch; RC, eastern red cedar; RE, rock elm; RO, northern red oak; SE, slippery elm; SM, sugar maple; SH, shagbark hickory; TA, trembling aspen; WO, white oak.

Invasive species and other forest health concerns:

Many of the ash trees present across the study area are dead or dying because of emerald ash borer. Garlic mustard, bush honeysuckle, multi-flora rose and buckthorn occur with varying density across the entire study area, as do limited pockets of oak wilt.