



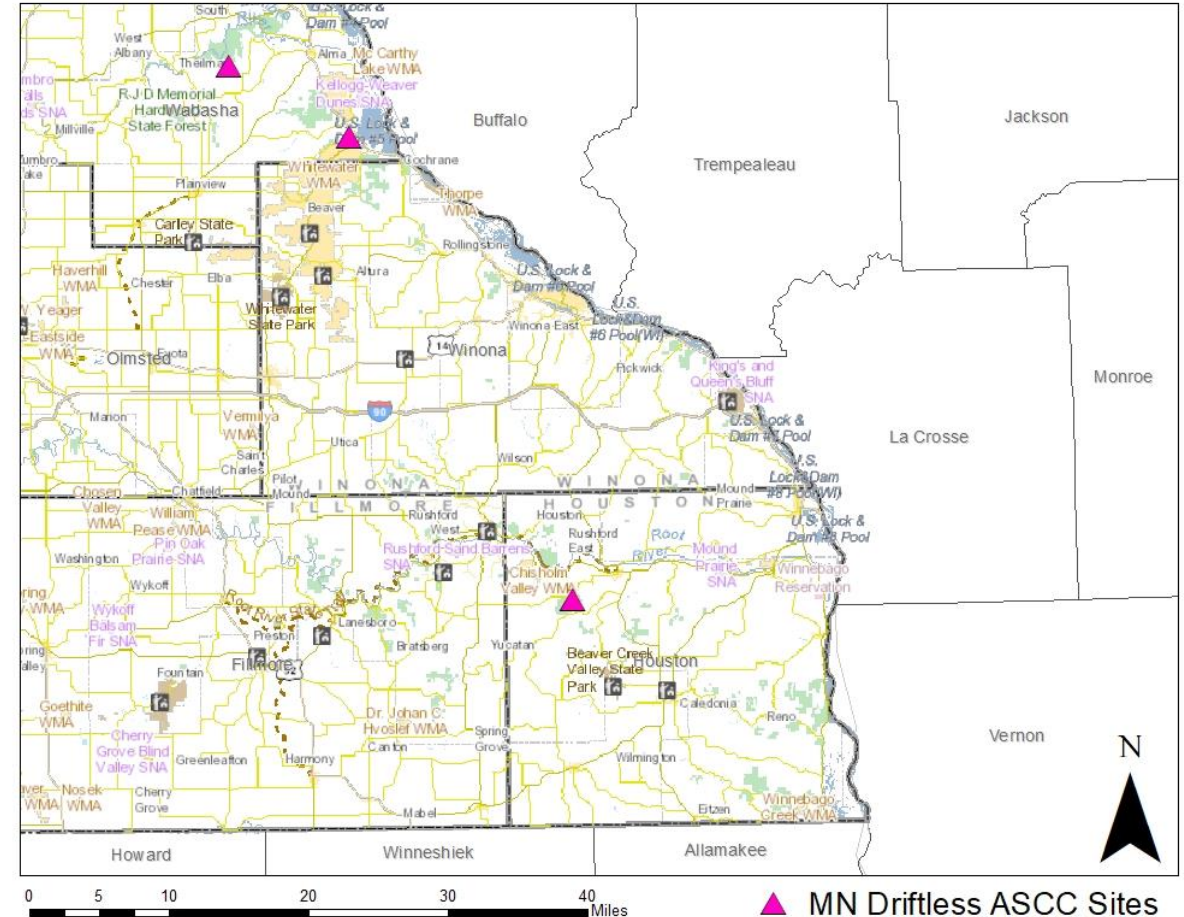
Managing MN's Driftless Dry-Mesic Oak

Paul Dubuque | Silviculturist, MN DNR, St. Paul

Mike Reinikainen | Silviculturist, MN DNR, St. Paul

Overview

- Oak cover-type characteristics
- Typical MN Driftless oak silviculture
- Regional management issues



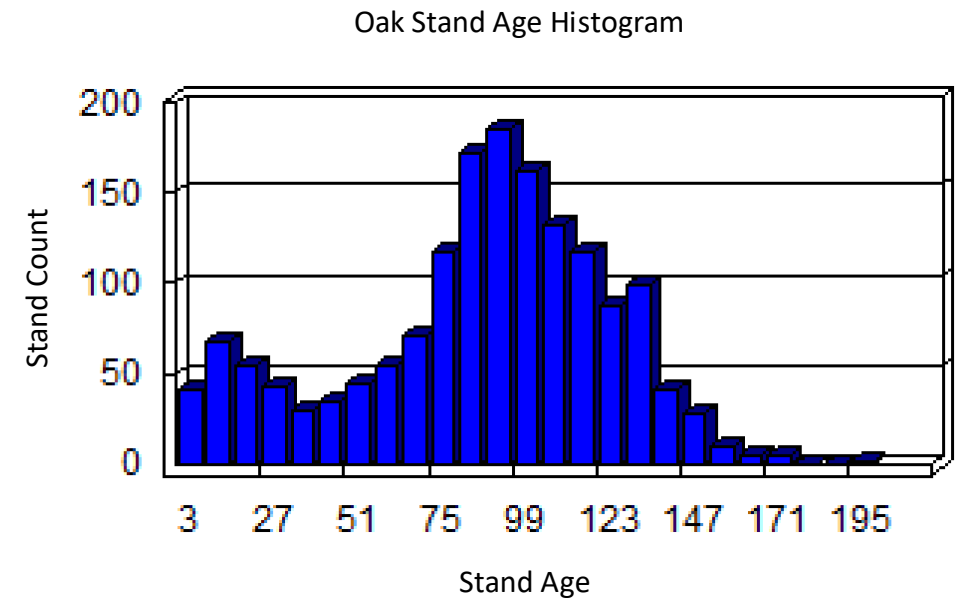
Oak Dominated Native Plant Communities

- Native plant communities (NPC) where oak is a major component in MN
 - Southern Dry-Mesic Oak-Hickory Woodland (FDs38)
 - **Southern Dry-Mesic Oak Forest (MHs37)**
 - Southern Mesic Oak-Basswood Forest (MHs38)



Management Goals and Objectives

- 12,600 acres of oak cover-type acres scheduled for examination in SE MN over 10-years
- Typical rotation ages, 80-90 years
- Mean age of oak cover-type, 89 years old
- Mean age of oak cover-type on stand exams, 112 years old
- Typical regeneration method, even-aged



Silviculture Systems

Even-aged silviculture systems

- Clearcut with reserves
- Coppice with reserves
- Seed tree with reserves
- Two-step shelterwood with reserves



Great Lakes Silviculture Library: Driftless Oak Rx Examples

[Abundant Red and White Oak Regeneration after Clearcut With Reserves on a Southern Dry-Mesic Oak Forest \(MN DNR\)](#)

[Oak Regeneration Success but Recruitment Failure after Clearcut with Reserves on a Southern Dry-Mesic Oak Forest \(MN DNR\)](#)

[Oak Regeneration on a Southern Mesic Oak-Basswood Forest Using Coppice with Reserves Harvest \(MN DNR\)](#)

[Natural Oak Regeneration in a Southern Dry-Mesic Oak Forest Using Mechanical Site Preparation and a Clearcut with Reserves Harvest \(MN DNR\)](#)

12/2/2021



UNIVERSITY OF MINNESOTA
Driven to DiscoverSM

Great Lakes Silviculture Library

Home

Explore Case Studies

Submit a Case Study

About



Typical Silvicultural Rx for Driftless Dry-Mesic Oak

Clearcut/coppice with reserves, bordering on seed tree/coppice with reserves

- Underplant mix of hardwoods
- Winter dry, frozen ground harvest
- Reserves/seed trees uniformly scattered, 6-12 trees per acre
- Weeding of undesirable stems (post-sale)
- Monitoring
- Brushsaw release year 8-10



Typical Silvicultural Rx for Driftless Dry-Mesic Oak

Two-step Shelterwood

- Underplant mix of hardwoods
- Seed cutting, fall, dry with acorns (if possible)
- Reduce basal area to 40-60% crown closure on seed cut
- Overwood marked to reduce damage during seed cut
- Removal cutting after 5-10 years



Management Issues and Constraints

- Predictable establishment, recruitment of oak is a challenge
 - Land use history and altered natural disturbance
 - Mesic competition increases, white oak decreases
 - Site prep limitations
 - Monitoring constraints
 - Deer browse
 - Insect and disease (oak wilt)
 - Invasive plants species
 - Not managing oak stands early enough



Thank You!