

Project Subject/Title: Site Scarification in Northern Hardwood
County: Ashland
TRS: T44N – R2W sec.22

Contact Person: Tom Piikkila, 715-271-6321
Type of Prescription: Scarification/Seed tree & shelterwood
Year Initiated: 1998

Abstract/Prescription:

Four stands in Ashland county were monitored after the following treatments:

- 25 acre control – selectively harvested in 1972
- 5 acre harvested (clearcut) in 1998 and dozer (blade) scarified in 2000
- 6 acre seedtree/shelterwood harvest in 1994/1998 and scarified in 2000
- 2 acre selective harvest in 1999

Monitoring occurred in May – August of 2001 by a Northland College student. Point sampling was conducted along a transect (permanent points were established/marked in 20m apart). Each point was 1m x 1m quadrat. Total percent cover of each species was documented. Various tree measurements were taken such as average DBH, height, basal area and stocking. (16 points in the clearcut, 20 points in the seedtree/shelterwood, 7 points in the thinned and 40 in the control.) Various statistical analysis were conducted.

Results:

- Rubus/exotic spp strongly represented in clearcut treatment and to lesser degree in the seedtree and thinned treatments
- Control stand abundant with herbaceous and fern/fern allies
- Highest yellow birch seedling density in seedtree/shelterwood
- Highest total tree regeneration in selectively thinned stand

Discussion/ Recommendations:

- Continue regeneration surveys (too early to determine total regen)
- Selection of leave tree important i.e. leaving larger, robust yellow birch leave-trees
- Need light scarification to have successful yellow birch and hemlock germination
- Clearcut had lots of competition from species such as raspberry and blackberry

Site conditions:

Habitat Type: ATM

Covertime: Northern Hardwood

Enclosed document

Portion of the Student's Report as follows:

The purpose of this study is to determine plant species abundance, tree seedling density, and richness of vegetation in the control, the clearcut stand, the seedtree/shelterwood stand, and the thinned stand. This information will provide the Ashland County Forest and the Wisconsin Department of Natural Resources forestry department with the knowledge of the effectiveness of their management practices for these four stands within the Ashland County Forest. In addition, a general covertype map will be created of the area of the four research stands. This will provide information about the forest types surrounding the research stands.

Methods

Study Site

Four stands were studied within the Ashland County Forest, located approximately seven miles southeast of Mellen, Wisconsin the SW ½ of section 22 in Ashland County, WI (T44N-R2W). The geology of this region consists of hummocky topography composed of mass-movement till that is several meters thick (Clayton 1985). The original vegetation of this area is reported to have been a mixed coniferous-

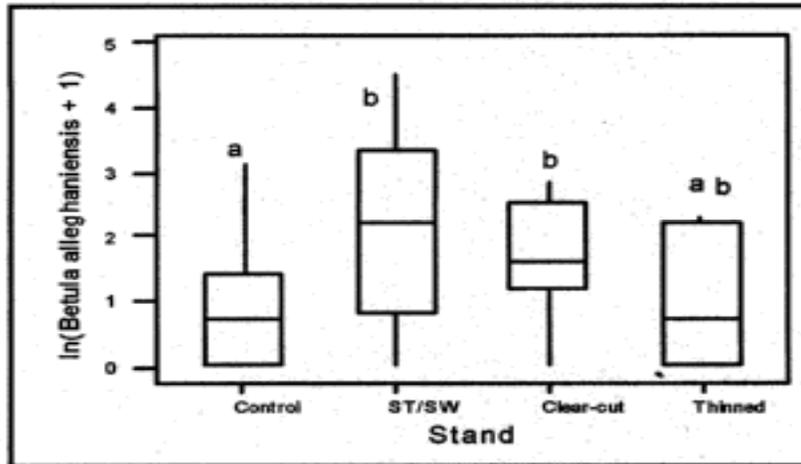


Figure 16. Boxplot showing significant differences of *Acer rubrum* $\ln(\text{stem density}+1)$ among the four stands in the Ashland County Forest.

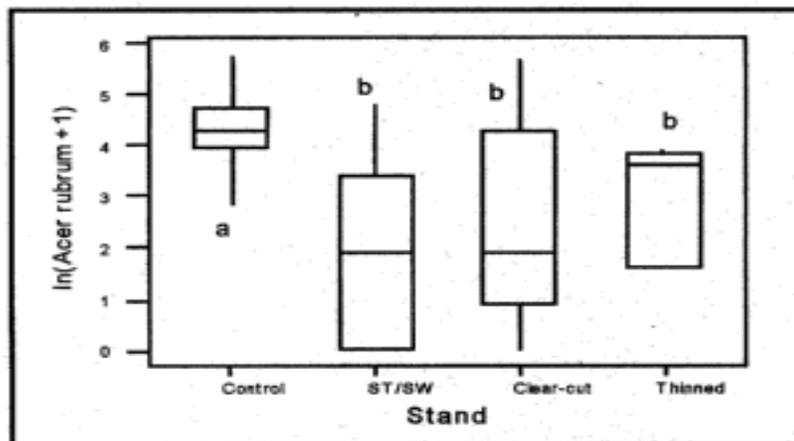


Figure 17. Boxplot showing significant differences of *Betula alleghaniensis* $\ln(\text{stem density}+1)$ among the four stands in the Ashland County Forest.