

Red Pine

Project Subject/Title: Willow Flowage Prescribed Burn

Contact Person: Tom Shockley (715) 356-5211 WDNR Forester

Abstract: A 33 acre prescribed burn was conducted on the Willow Flowage on May 2002. Burn objectives were to reduce the shrub and hardwood competition and to reduce the duff layer to prepare seedbed for pine regeneration. Seven permanent fifth-acre plots were established in August 2002. Measurements included basal area, DBH, scorch height, percent mortality of vegetation, percent duff removed and percent sprouting. The BEHAVE program was implemented before the burn in order to assess the adequacy of the burning conditions.

Trial Location:

County: Oneida

Township: 37N **Range:** 05E **Section:** 08

GPS Coordinates: Lat: 45°42'13" **Long:** -89°53'22"

Property Name: Willow Flowage Scenic Waters Area.

Baseline Stand Data

- *Cover Type:* White Pine
- *Acres:* 33 acres
- *Habitat Type:* PArVAa
- *Soil Type:* Vilas loamy sand
- *Year of Origin:* 1908
- *Total Height:* 88
- *Site Index Species and Site Index:* 55
- *Mean Stand Diameter:*
- *Total Basal Area per Acre:* 130
- *Other stand Condition:* Study area not well defined.

Prescription and Methods:

- *Type of Prescription:* Prescribed burn
- *Year Initiated:* 2002
- *Establishment Methods:*

In May of 2002 there were 6 different burn units that were set up to be prescribed burned. One of these units was to be monitored in the future for pine regeneration. The unit was lit in the northeast corner and was continued to be lit to the west until the flowage was reached.

- *Data Collection Methods:*

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In August 2002, there were 7 permanent plots set up throughout the site. Each plot had a fixed radius of 52.7 feet. Within each plot, basal area, average DBH, average scorch height, percentage of vegetation killed, percentage of duff removed, and percentage of sprouting were measured. In 2014, basal area, regeneration surveys and an ocular assessment of the stand was recorded.

Results: In 2002 the study showed that there was 90% mortality of hazel and 20% mortality of hardwood. Less than 15% of the duff layer was removed and there was some mortality in existing pine regeneration. In 2014 there was little to no regeneration of any kind and a lot of hazel present. The average basal area was about 70 square feet per acre.

Discussion/Recommendations: Although the six different burn units were thoroughly mapped out, the study area is not well defined. Assuming the same area was revisited in 2014, the burn objectives were not very successful as it appeared in the first report. The abundant hazel was a severe competitor and had a negative impact on the amount of pine regeneration. Pine regeneration may have been more successful had there been a higher number of red and white pine present throughout the stand. The western part of the stand did contain more pine than the eastern side.