

## Fall 2014 Michigan SAF Meeting

### *Challenges in Forest Regeneration: Part Two*

October 16-17, Petoskey, Michigan  
Bay Harbor Village Hotel, 4000 Main Street, Petoskey Michigan



#### Field Tour Site Information:

##### **Stop #1: Dr. Mike Walters' Northern Hardwood Research Plots—Goodheart Site**

Dr. Walters project investigates northern hardwood regeneration dynamics, with a focus on stands with a significant ash component. The Goodheart site on MDNR administered land is a 40 acre M9 stand primarily on AFOCa habitat type (high productivity).

Treatments investigated include:

- Gap size (single tree to ½ acre)
- Herbivory (fenced and not fenced)
- Planting vs. natural regeneration
- Competing herbaceous vegetation control
- Seed availability (size-distance of harvested & residual trees)
- Scarification

The project was initiated at this site in 2011 and will be completed in 2016.



A timber sale to install the canopy gap treatments was completed in January through March, 2010. Pretreatment BA was 123 ft<sup>2</sup>/acre. About 40 to 50% of the overstory was ash, and just a few beech. The rest of the stand was sugar maple. The area between the harvest gaps was not thinned.

**Stop #2: TMTT Hardwood Sale**—Northern hardwood, (M9) 42 acres out of a 130 acre stand. This stand was prescribed for traditional selection harvest, then the east half was selected for use as part of a timber measurements study. 42 acres were marked per MDNR's usual policy and practice, with additional focus on removing ash as part of the sale.

- Stand Rx comments:  
“High quality northern hardwood sawtimber/poletimber stand south of Robinson Rd. Many rolling hills throughout stand but most are operable for equipment. Variable BA throughout stand. Snowmobile trail present in southernmost part of this stand. Beech scale present. Many acres of northern hardwood already prescribed for treatment in section adjacent to the south. “
- Marked to leave residual BA 75-80 ft<sup>2</sup>/acre, then sold in 2012 for \$43,505.20. \$1,035.84/acre.
- Contract supplement to salvage additional ash on 5/8/2012. 89 cords and 81 MBF - \$7,000 additional sale value.
- The harvest removed mostly HM 47 MBF and Ash 29 MBF. 391 cords mixed pulpwood.
- Post-harvest average residual BA = 87 ft<sup>2</sup>/acre. Took 14 ft<sup>2</sup>/acre of salvage leaving a final BA of 73 ft<sup>2</sup>/acre.
- Harvest completed in Nov./Dec. 2012.

Stop #2 TMTT Hardwood Sale site



The east side of this stand is an 86 acre sale (Emmet Salvage #18) that has been sold as a beech/ash salvage spec sale—remove all ash and beech except for any marked with green paint or any potentially resistant beech.

- Sold for \$27,436.30 or \$319/acre.
- Originally prescribed as a thinning to residual of 75-80 ft<sup>2</sup>/acre, then changed to a salvage harvest after compartment review. Estimated revised residual BA will be about 47, and it will be very patchy when harvested.
- Sale on contract currently, expires in Sept. 2015.

**Stop #3: Hardwood Salvage Sale**—Emmet Salvage #14. An 80-acre stand that was selected for additional ash and beech pre-salvage harvest. This sale was previously prescribed and harvest completed in November 2004. The residual BA in 2004 was 79 ft<sup>2</sup>/acre.

- Sold as a salvage spec sale—cut all beech and ash, except those marked with green paint and any potentially resistant beech that might be encountered, and any den trees.
- Sold for \$8,252.28 = \$103.15/acre. Ash = 63 MBF and 123 cords. Beech = 31 MBF and 87 cords.
- Cutting completed 11/24/2013. Residual BA = 77 ft<sup>2</sup>/acre.
- Because the sale was set up a spec sale, openings could not be designated ahead of time and gaps were not cleaned up (poor quality stems and suppressed poles & saplings not cut).



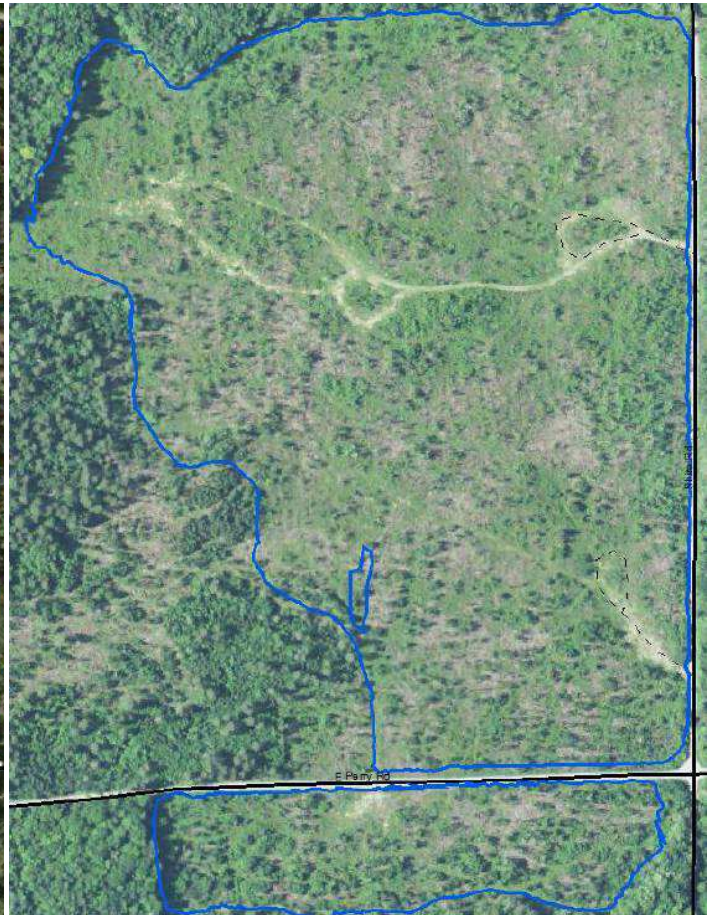
#### Stop#4: Red Pine Planting--

- 100 acre red pine stand (R9) that had been prescribed for clearcut and planting back to red pine.
- History: the stand was thinned in the 80's and 90's, then prescribed for aspen, white pine and hardwood removal in 1999. This cut produced 700 cords of mixed hardwood, 475 cords of white pine, and 140 cords of mixed aspen. Goal to allow the red pine to reach larger diameters before final harvest.
- Final harvest prescribed in 2009, harvest completed in 2010. While setting up the red pine final harvest sale in 2009, it was obvious that the hardwood/aspen regen was very dense and advanced from the removal cut in 2001.
- Reflecting on the advance regeneration, staff recommended a change of MO to accept conversion to hardwood. This was over-ruled, and the original MO of red pine maintained.
- 100 acres sold for \$148,140 = \$1,481.40/acre. 684 MBF RP and 735 cords.
- Sale completed in December 2010.
- RX Burn to eliminate heavy slash in 7/24/2012. Cost for 100 acres - \$140.00/acre.
- Roller chopping done 10/25/2012. Cost for 84 acres @ 54.88/acre.
- Trenching done 12/12/2012 84 acres @ \$25.26/acre.
- Planting done 5/15/2013 84 acres @ \$192/acre. 927/acre. Site planted with containerized seedlings – Pacific Regeneration Technologies, Inc. – 1+0 plugs.
- Regeneration survey 7/18/2014. 803 RP/acre, 1,200 pin cherry/acre, 65 red maple/acre and 867 aspen/acre.
- Herbicide proposed and completed 9/2/2014 – 2 quarts/acre glyphosate, aerial application. \$50.00/acre
- Total cost: \$462.14/acre.

Aerial photo, pre-harvest.



Post harvest, 2012.





Post planting.

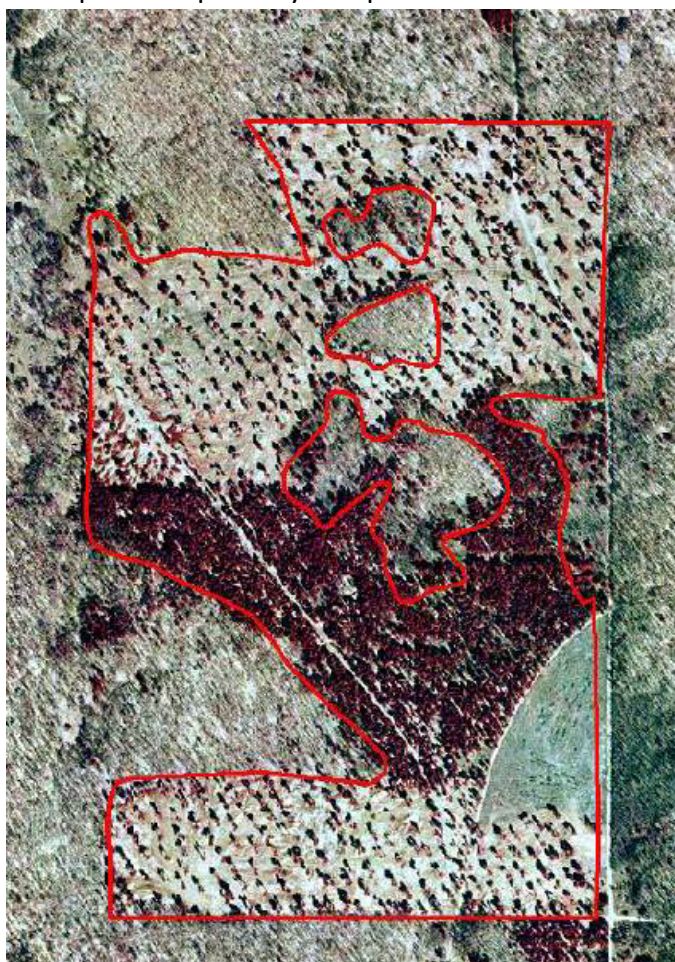




## Stop #5: Red Pine Stand (Sore Feet Red Pine)

- Originally a 156 acre red pine sawtimber stand (R9) prescribed for natural regeneration.
- Rx was a seed tree harvest, marked at 1 – 1.5 tree height spacing in clumps of 3 – 5 trees/clump. Sale prep completed 5/1997.
- Sold for \$471,566.50 = \$3,022.86/acre in winter 1997/1998. 1,380 MBF Red Pine and 1,938 cords. This is about 9 MBF and 12 cords per acre.
- Harvest completed in the summer of 1998.
- No regeneration, and heavy hardwood competition from aspen and other hardwoods.
- We switched to artificial regeneration and followed up with a ground application of herbicide as a site prep spray in August 1999. Tordon/picloram @ 5 qt/acre. \$55.37/acre.
- Trenched 11/1999. \$44.91/acre.
- Planted 4/2000. \$150.15/acre.
- Overstory removed in 2003. 156 acres sold for \$139,724.40 = \$895.67/acre. 680 MBF and 291 cords. This is about 4.4 MBF and 2 cords per acre.
- Total cost: \$250.43/acre.

1998 photo of partially completed seed tree harvest    Current image of site, post overstory removal





Close up of vicinity of the landing area where the bus is parked:

