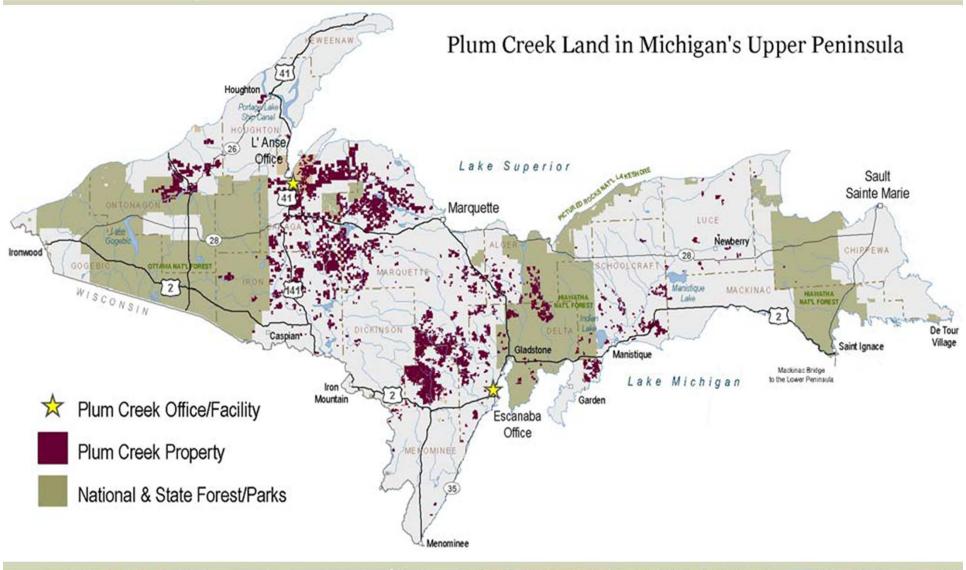




# Plum Creek Ownership in Michigan





### Plum Creek Hardwood Lands

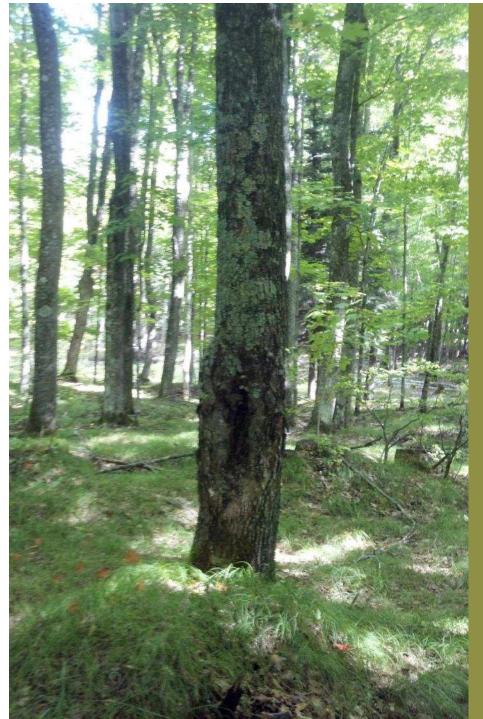
- Own approximately 190,000 acres of hardwoods.
- Majority of hardwood stands are on very productive soils (well-drained sandy loams and better).
- Stands are heavy to sugar maple.
- Most stands have been select cut multiple times and managed for hardwood sawlogs and veneer.



# Typical Management Regime

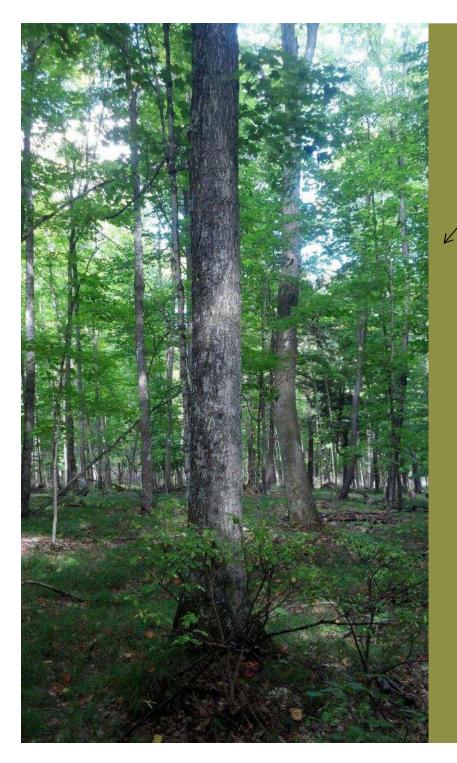
- Select cut on a 15 year re-entry.
- Residual basal area target is 70 90 sq. ft.<sup>2</sup>
- Stands are not marked (logger selected CTL primarily)
- Tree removal focuses on the following (while maintaining spacing):
  - 16+ inch sawtimber
  - Diseased, defective and poor quality trees with minimal future log potential
  - "Lower value" species





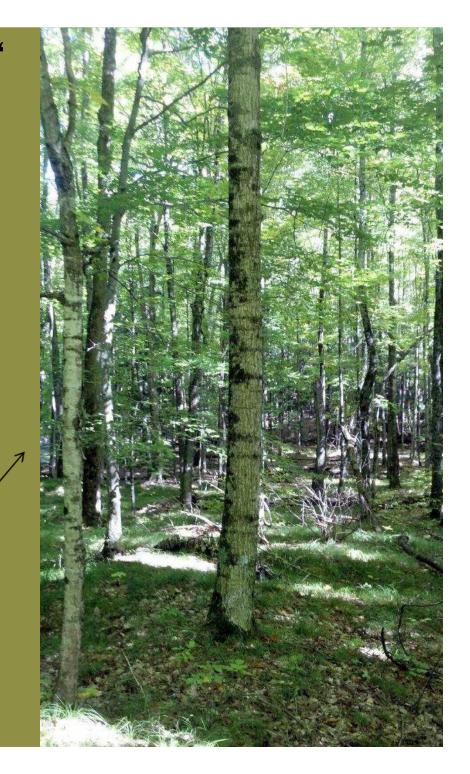
D e f e c t s





18 " Tree Cut

10" Crop Tree Wait





# Which Trees to Cut?





# Why Cut 16" and Up Logs?

#### Sugar Maple Sawtimber Product Specs.

• Bolts: 8" − 10"

Sawlogs: 10" and up

• Rotary Veneer: 11" min. diameter, < 50% heart

• Slicer Veneer: prefer 14"-16" diameter

No surface defects

small hearts





Bigger Logs - Larger Hearts





# Butt Offs to Increase Log Quality





## Regeneration Issues?



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- Normal select cut harvest system produces adequate regeneration where browse has not been an issue.
- Preferred species of regen: Maple

Birch

Cherry

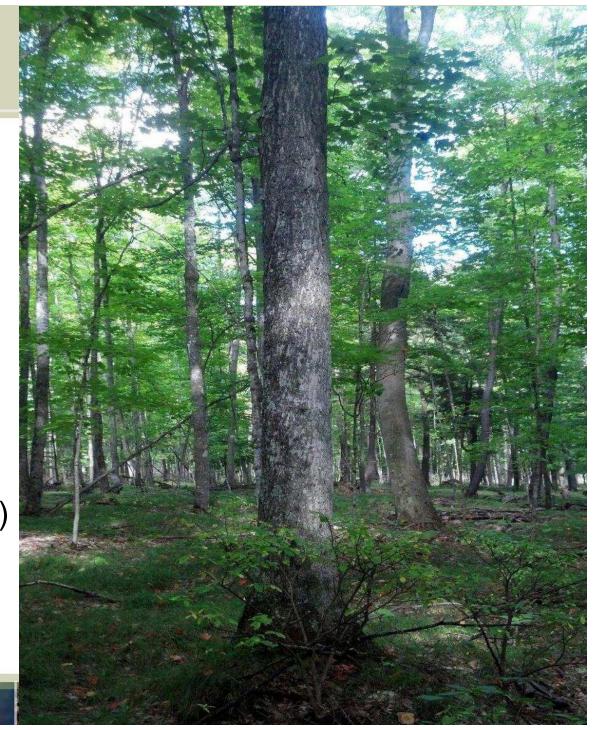
Oak





### Regen Issues

- Browse
- Sedge
- Not preferred species (Ash, ironwood, beech)





# Mitigation Options for Regen Issues

Fencing too expensive



- More scarification whole tree skidding an option
- Alternative harvest / silviculture treatments





### Sunrise or Sunset?

