

Timber Stand Improvement and Brush Management for Forest Regeneration and Wildlife Habitat- Guidance Sheet

Purpose of this document: To describe various NRCS practices used to improve forest timber resources and regenerate desired species.

Timber Stand Improvement Targets

- ✓ For stands with DBH generally less than 10"
- ✓ Focus on stands with site index > 50
- ✓ Provide canopy space for desired crop species.
- ✓ Whole Tree Harvest understory and mid-story shade tolerant species to prepare for regeneration.
- ✓ Increase mast for wildlife.
- ✓ Create several (>10 per 5 acres) canopy gaps 0.1 -0.25 acres in size for interior forest birds
- ✓ Develop a shelter wood with 10-50 crop trees per acre of desired species.

Select 10 crop trees per acre based on soils and biomass or whole tree harvest the rest of the stand to improve seed to soil contact.

A stand that could benefit from crop tree release and a whole tree harvest for beech regeneration > 4 DBH, (heavy thinning) or Brush Management average site mechanical for DHB < 4".



Photo: UNH Cooperative Extension

Above: Light-Moderate Stand Thinning: a mechanized whole tree harvest to remove basal area to establish crop tree spacing and develop desired regeneration.



Resource Concern a typical high graded stand with advanced beech regeneration, and few crop trees.



Above: Heavy Thinning typically done on pole sized stands with a chainsaw to release 100-200 crop trees per acre. This scenario includes marking and releasing crop trees with a chainsaw. The increased labor requires a higher cost than the mechanized treatment described above.



Above: Mast Tree Release, regenerates the next stand and provides mast for wildlife. Release 25 trees per acre, or for apples or just a few trees Upland Wildlife Habitat Management has an “each tree” scenario.



Above Brush Management - (light mechanical): A White Pine stand ready for a commercial thinning with advanced Beech regeneration.

Typically this scenario is used to brush hog old fields, but it can also be added into control beech regeneration by cutting during a commercial thinning or before a shelterwood type harvest. Beech is well controlled by mechanical techniques alone when it is less than 2 inches in diameter. This can be accomplished by commercial logging equipment or by a brush saw. The best time to cut Beech is during the growing season but this is often not the case as it is treated during commercial harvests during the winter.



Above: a beech stump with several root suckers.

Brush Management- Moderate Chemical, this scenario can be used to do a cut stem treatment with herbicide on beech (> 4 inches) or other invasive plants (> 1 inch and over head height which makes foliar application dangerous).

This is a useful technique in landscapes where beech is dominant and will impede desired regeneration. Herbicide needs to be applied immediately to a freshly cut stump. Landowners can apply herbicide on their own property in upland areas and 50 feet from surface waters.

