Plant Enhancement Activity – PLT23 – Conifer crop tree release

Enhancement Description
Conifer Crop Tree Release (CCTR) is a silvicultural technique used to enhance the growth, health and productivity of individual trees, while improving other resources such as wildlife habitat, recreation, timber value, and aesthetics.

Land Use Applicability
Forestland

Benefits
CCTR speeds the growth of desirable crop trees by selectively cutting or killing less desirable, unmarketable and/or younger competing trees in overstocked forests. Overstocked forests often become unhealthy due to a lack of air circulation and the stress that crowding produces as trees compete for resources. Availability of sunlight is often the most limiting factor for tree growth. When crowns of adjacent trees touch each other, growth rate is reduced. Cutting or killing unwanted trees whose crowns are touching the crown of crop trees provides space for crop tree crown expansion and increases growth. Additional benefits include an increase in ground cover, forage production, reduced wildfire hazard, and wildlife habitat diversity at ground and canopy levels.

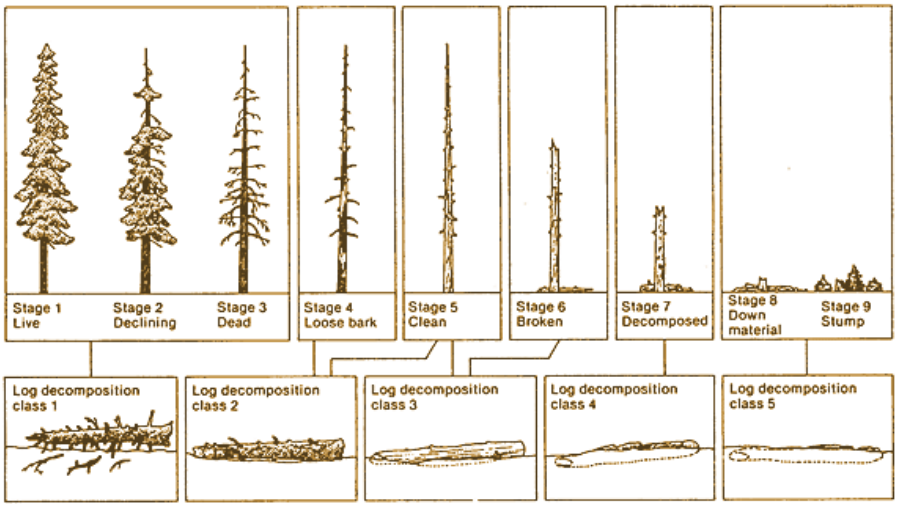
Conditions Where Enhancement Applies
This enhancement applies to conifer forest land use acres with non-merchantable trees that are crowding potential crop trees in an overstocked forest and which has a Forest Management Plan that recommends a thinning within the next 3 years.

Criteria
Implement the following actions:

1. The trees to be removed must not be merchantable, and either:
   a. In a young stands (trees that are too small for market) with average stand size diameters ranging from 4 to 8 inches (measured at 4.5 feet above the ground), or
   b. In a mature stands of trees with an overstocked understory.
2. Develop a CTR plan which includes:
   a. Priority for the most productive forest sites (e.g., site classes I-III) first, and less-productive sites (e.g., site class IV and below) second.
   b. Identifies the number of crop trees to be retained based upon site productivity and the corresponding spacing guide developed within each state for the existing tree species.
   c. Base spacing upon the most abundant tree species, if more than one tree species are present. Suitable species will vary by state or region of the country.

d. Incorporates the landowner's objectives for the forest. This includes desirable species, with desirable growth form (straightness) and grade (lack of defects).
e. Retain a mixture of tree species to reduce the potential of an epidemic event (e.g. insect outbreak) that may kill some/all trees, as applicable.

3. Implement the following CCTR actions:
   a. Identify and mark crop trees from those trees to be removed. Selection is based on the impact of crowns touching the crop tree's crown on three or four sides,
   b. Marked trees will be cut for harvest or killed using approved methods within the state,
   c. Trees that are below the crown of the crop tree or in-between and are not affecting the crown will be left to provide protection from wind damage, reduce epicormic branching (unwanted branching on the lower bole), provide diversity for wildlife habitat, and to become the next generation of commercial trees,
   d. All dead or almost dead trees (snags) shall be left standing to provide wildlife habitat, except were snags are a safety hazard (within 100 ft of any building, power line, road, etc.) or if the snag's present a fire hazard,
   e. Where pockets of dead trees occur, remove all but the 4 largest trees or large trees, >12" dbh and in wood decay classes 2-5 (see below), known as 'hard snags'. Leave large downed dead wood on the forest floor to benefit wildlife and for nutrient recycling and improved soil quality, except where downed wood is a fire hazard.



Snag and down wood decay classification system (Maser et al. 1979)

   f. Comply with state forest laws or Best Management Practices (BMP's) regarding slash (left over tree tops and/or downed small trees) left on the forest floor.

4. As applicable, additional actions include:
   a. Cutting damaging vines away from crop trees
   b. Treatment of invasive plants that may be stressing crop trees
   c. Pruning side branches of crop trees

Adoption Requirements

This enhancement is considered adopted when each criteria has been implemented on the land use acre.

Documentation Requirements

1. Copy the CCTR plan including the pre-treatment conditions and the post-treatment conditions.
2. Representative digital images/photos of the area showing before and after treatment conditions.

References

British Columbia Ministry of Forests. 1999. Guidelines for developing stand density management regimes. Ministry of Forests, Forest Practices Branch, Victoria, BC. http://www.for.gov.bc.ca/hfp/publications/00083/sdm.pdf (accessed 31 Oct. 2014).

Maser, C., R.G. Anderson, K. Cromack Jr., J.T. Williams, and R.E. Martin. 1979. Dead and down woody material. In: J.W. Thomas, tech. editor, Wildlife habitats in managed forests: the Blue Mountains of Oregon and Washington. Agric. Handbk. 553. U.S. Department of Agriculture, Washington, DC. P. 78-95.

Weiskittel, A. R., L. S. Kenefic, R. Li, and J. Brissette. 2011. Stand structure and composition 32 years after precommercial thinning treatments in a mixed northern conifer stand in central Maine. North. J. Appl. For. 28(2):92-96.