

Plant Enhancement Activity – PLT11 - 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

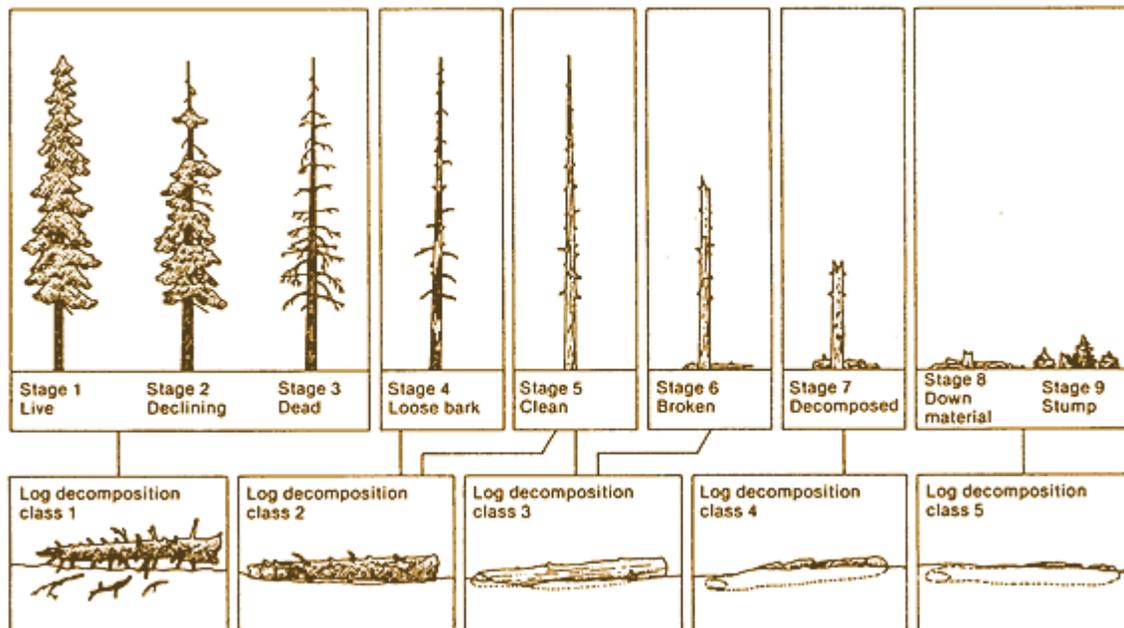
Conifer Crop Tree Release is a practice that releases desirable crop trees by selectively cutting or killing less desirable, unmarketable and/or younger competing trees in overstocked forests.

Additional benefits include an increase in ground cover, forage production, reduced wildfire hazard, improve ecological balance and wildlife habitat diversity at ground and canopy levels. This enhancement focuses on improvements in conifer forest. Identification of crop trees is based on selecting trees with good future growth potential. This includes cropped species, with good form (straightness) and grade (lack of defects). Crop tree crowns should be in the upper level of the forest canopy, and not suppressed by other tree crowns. 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 for harvest or killing unwanted trees whose crowns are touching the crown of crop trees provides space for crown expansion.

Criteria

1. The CCTR enhancement is applied to:
 - 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), stands too distant to markets
 - b. Mature stands of trees with an overstocked understory.
2. Development of a CTR plan that:
 - a. Prioritizes the most productive forest sites (e.g., site classes I-III) first and lower 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 specie.
 - c. If more than one tree species are present, base spacing upon the most abundant tree specie. Suitable species will vary by state or region of the country.
 - d. Incorporates the landowner's objectives for the forest
 - e. Where possible, retain a mixture of tree species to reduce the potential of an epidemic event (e.g. insect outbreak) that may kill some/all trees.

3. Conifer crop tree release is achieved by:
 - a. Identifying and marking 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 in 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, epicormic branching (unwanted branching on the lower bole), provide diversity for wildlife habitat, and are the next generation of commercial trees.
 - d. All dead or almost dead trees (snags) shall be left standing (maximum of 4 per acre) to provide wildlife habitat, except were snags are a safety hazard (within 100 ft of any building, power line, road, etc.)
 - e. Where pockets of dead trees occur most may be removed, except 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.



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

4. Created slash (left over tree tops and/or downed small trees) left on the forest floor shall comply with state forest laws or Best Management Practices (BMP's).



United States Department of Agriculture
Natural Resources Conservation Service

2011 Ranking Period 1

Documentation Requirements

1. Identify the objectives for the treatment, i.e. what trees will be retained for crop trees, how many trees per acre will be left, snags maintained/created.
2. Brief written documentation detailing the pre-treatment conditions and post-treatment conditions.
3. Representative digital images/photos of the area showing before and after treatment conditions, including snag retention.

ALABAMA SUPPLEMENT TO ENHANCEMENT PLT11 CONIFER CROP TREE RELEASE

TARGET SPECIES FOR CROP TREE RELEASE IN ALABAMA

| Name Of Crop Tree | Habitat | Wildlife Crop Tree Value |
|-------------------|--|---|
| Loblolly Pine | Grows well throughout Alabama and thrives on a variety of soils (except the highest, wettest, and driest); its best growth is on soil that holds moisture during the growing season. | Cone and seed Production: are an important source of food for many nongame birds, squirrel, and other wildlife. Wild turkeys inhabit upland pine and pine-hardwood forests and do particularly well on large tracts of mature timber with frequent openings and where prescribed burning is conducted. Pine lands are the chief habitat for some birds such as the pine warbler, brown-headed nuthatch, and Bachman's warbler. Old-growth stands are very important to the existence of the red-cockaded woodpecker. Large loblolly pine trees are favorite roosting places for many birds and provide an important nesting site for ospreys and the bald eagle. |
| Longleaf Pine | Variable, but attaining largest size on moist, rich soil usually in admixture with other species; also found in commercial size and abundance on sandy soils and stony ridges. | The longleaf pine is one of our key native species; providing a home to hundreds of plant and animal species as well as being a tremendous economic resource. Longleaf pine habitat can contain as many as 300 different species of groundcover plants per acre, and approximately 60 percent of the amphibian and reptile species found in the Southeast. Additionally, this forested habitat is home to at least 122 endangered or threatened plants and animal species including the fox squirrel, northern bobwhite, red-cockaded woodpecker and gopher tortoise. |
| Slash Pine | On low moist ground, hummocks in swamps. | (Similar to Loblolly above) |
| Shortleaf Pine | Prefers well drained light sandy or gravelly clay soil. | (Similar to Loblolly above) |
| Virginia Pine | Light sandy soil and rocky mountain slopes and ridges. | Minimal wildlife value |

Other species include: Eastern Red Cedar, Spruce Pine, and White Pine.

This list serves as a general guide for tree species to select from when applying the conifer crop tree release practice. Depending on your specific objective (timber, wildlife, or a combination of the two) some species should be favored over others. The specific site characteristics will also determine which species should be favored.

For additional information refer to the references below.

References:

Guide to Southern Trees, Ellwood S. Harrar and J. George Harrar, 1946.

Crop Tree Field Guide, USDA Forest Service, 2001

100 Forest Trees of Alabama, Harlan H. York, Ph.d., D.Sc.

ALABAMA SUPPLEMENTAL INFORMATION FOR THIS ENHANCEMENT
PLT11 – *Conifer Crop Tree Release*

| PRODUCER NAME: | | | | | DATE: | |
|--|-------------|---------------------|--|---|-----------------------------|---|
| TRACT NUMBER(S): | | | | | COUNTY: | |
| Field Number | Field Acres | Acres to be Treated | Initial Tree Standing Crop (Avg. Number Canopy Trees per acre) | Residual Tree Standing Crop (Avg. Number Crop Trees per acre) | Average Crop Tree DBH (in.) | Common Crop Tree Species (List most common one, e.g. longleaf, loblolly, shortleaf) |
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| 1. Identify the objectives: | | | | | | |
| 2. (a) Describe pre-treatment condition: (b) Describe post-treatment condition: | | | | | | |
| 3. Attach photos of area showing before and after treatment | | | | | | |

* DBH = Diameter at Breast Height, approximately 4.5 feet above the ground.

Guidelines:

1. The optimum wildlife strategy would be to leave some cull trees standing as snags after herbicide injection or a girdling, while laying some trees larger than 6 inches in diameter down to create logs (coarse woody debris).
2. All harvesting must be in accordance with the Alabama’s Best Management Practices for Forestry.

This information accurately represents the implementation of this enhancement.

Signature: _____