

Plant Management and Wildlife Enhancement Activity – PLT07 – Hardwood Crop Tree Release



Crop Tree Release (CTR) in Hardwood Stands

CTR is a silvicultural technique used to enhance the health and productivity of individual trees, while improving other resources such as wildlife habitat, recreation, timber value, and aesthetics.

Benefits

CTR is a practice that shortens the harvest rotation of desirable crop trees by selectively cutting or killing less desirable competing trees in younger, overstocked forests. Additional wildlife benefits include increased mast and forage production, and habitat diversification both at ground and canopy levels.

Land Use Applicability

This enhancement is applicable on forest land

Criteria for Crop Tree Release

The CTR enhancement is applied to young, pre-commercial stands (trees that are too small for market), with diameters ranging from 4 to 8 inches (measured at 4.5 feet above the ground). In older larger diameter forest stands it is a commonly used commercial practice that is not included in this enhancement.

CTR should be applied to the best forest sites, with a suitable number of desirable trees retained. Usually between 25-35 crop trees per acre are needed to merit application of the activity. Suitable species may vary by state or region or according to the landowner's objective. However, species found within the white and red oak groups traditionally have a high market value and wildlife value and should be top priority for retention and release.

Crop tree release is achieved by cutting or killing all trees whose crowns touch the crown of the crop tree on three to four sides. Special note: cut/kill only those trees whose crowns are affecting the crop trees. Trees that are in-between or below and not affecting the crop trees should be retained. These additional trees help to protect crop trees from wind damage, epicormic branching (unwanted branching on the lower bole) and provide diversity for wildlife habitat.

It is important to identify crop trees with good future growth potential. This includes desirable 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. By cutting/killing unwanted trees whose crowns are touching the crown of crop trees, more space is created for crown expansion. Dead trees may be left standing to provide wildlife habitat or cut down to become downed dead wood on the forest floor

which is beneficial to wildlife and for nutrient recycling and improved soil quality. However, the dead trees should not be removed from the forest.

Documentation Requirements for Crop Tree Release (CTR)

- Identify the objectives for the treatment, i.e. what trees will be retained for crop trees.
- Brief written documentation detailing the pre-treatment conditions and the post-treatment conditions.
- Representative digital images/photos of the area showing before and after treatment conditions.

ALABAMA SUPPLEMENT TO ENHANCEMENT PLT07 HARDWOOD CROP TREE RELEASE

TARGET SPECIES FOR CROP TREE RELEASE IN ALABAMA

Name Of Crop Tree	Habitat	Wildlife Crop Tree Value
Black Cherry	Most commonly found on deep, rich, moist soils in mixed stands with oaks, ashes, hickories, and yellowpoplar; less commonly on sandy soils.	Mast Production: Black cherry fruits are an important source of mast for many nongame birds, squirrel, deer, turkey, and other wildlife.
White Oak	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.	Mast Production: White oak acorns are highly preferred though inconsistent source of food for songbirds, squirrel, raccoon, and deer.
Scarlet Oak	On dry, light, sandy soils in association with upland oaks and hickories.	Mast Production: Scarlet oak acorns are choice food for eastern gray squirrels, chipmunks, wild turkey, deer, and several species of birds – especially blue jays and redheaded woodpeckers.
Black Oak	An upland tree on dry slopes and ridges or on moist, rich soil in mixed stands, rarely on rich bottomlands.	Mast Production: In forest stands, black oak begins to bear fruit at age 20 and reaches optimum production at 40 to 75 years. It is a consistent seed producer with good crops of acorns every 2 to 3 years.
Chestnut Oak	A tree of hillsides and mountain slopes. On poor, dry, thin, rocky soils, forming pure open stands; on better sites, usually occurring in admixture with other species, notably numerous oaks and hickories.	Mast Production: Chestnut oak acorns are a preferred though inconsistent source of food for songbirds, turkey, squirrel, raccoon, and deer.

Other species include: Cherrybark oak, Northern Red oak, Willow oak, Water oak, Black Walnut, Shagbark hickory, Mockernut hickory, Pignut hickory, Yellow-Poplar, and Ash.

This list is should serve as a general guide as to the tree species to select. Depending on your specific objective (timber, wildlife, or a combination of the two) some species should be favored over others. The specific site will also determine for you 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

