

**Plant Enhancement Activity – PLT21 – Forest stand improvement pre-treating vegetation and fuels preceding a prescribed fire**



**Enhancement Description**

This enhancement is to manage the vegetation and fuels in a forested area with mechanical or manual methods in advance of a prescribed fire **AND** to complete one or more treatments with prescribed fire during the contract period to restore native forest conditions.

**Land Use Applicability**

Forestland

Credit: John D. Hodges, Mississippi State University, Bugwood.org

**Benefits**

Prescribed burning is a useful tool in the restoration and maintenance of native forest plant communities. However, certain sites preclude the application of prescribed fire due to unsafe conditions caused by excessive amounts and types of fuel present on the site. The implementation of this enhancement will make it possible to safely conduct a controlled burn by mechanically or manually treating this condition prior to a planned burn followed by a prescribed fire to allow regeneration of native forest plants. Other benefits include reduced wildfire risk, improved access, improved wildlife habitat, and enhanced visual quality.

**Conditions Where Enhancement Applies**

This enhancement applies to forest land use acres with conifers or mixed stands that have a forest management plan that recommends a prescribed burn within the next 3 years.

**Criteria**

Develop and implement a prescribed burning plan written and carried out by a certified prescribed burner.

1. The plan must include a thorough assessment of both the existing fuel load and the desired fuel load. See the “References” section for guidance to make these determinations.
2. This enhancement also requires implementation of one or more of the following measures:
  - a. Excessive volatile live vegetation pretreatment –When volatile, live grasses and shrubs are present in the area where this enhancement applies in excess of that needed to safely conduct a prescribed burn, reduction of these fuels may be accomplished by shredding, cutting, chipping, mulching, crushing, scattering, removing from the site or any combination of these methods. If this vegetation represents the primary fuel needed to carry a controlled burn in the area, the timing of this measure will be important. Depending on the vegetation, time the reduction to allow for adequate re-growth to supply the amount and continuity needed. If invasive plants are present, utilize methods and timing that will prevent or control their spread.



- b. Excessive debris and dead fuels –When excessive amounts of debris and dead fuel exist in the area where this enhancement applies, remove the material from the area by chipping, crushing, shredding, scattering or any combination of these methods.
- c. Closed canopy – When the trees within the area where this enhancement applies form a continuous, closed canopy, thin the stand to allow for heat escape and control of prescribed burns. Conduct thinning to space crowns at least 10 – 15 feet apart. Prune flammable limbs to a height of at least 10 feet. Remove slash from the area, scatter or reduce in size by crushing or chipping.
- d. Ladder fuels – When ladder fuels form connections between the ground and the higher levels of the canopy in the area where this enhancement applies that make it possible for a fire to spread into the upper canopy, break the continuity of fuel between the ground and the upper canopy position by cutting or snagging. Complete removal is not required as long as the continuity is broken. If excessive amounts of slash are created, remove it from the area, scatter or reduce in size by crushing or chipping.

### **Adoption Requirements**

The enhancement is considered adopted when at least one prescribed fire has been implemented on the forest land use acre.

### **Documentation Requirements**

1. Brief written documentation detailing the pre-treatment conditions and the post-treatment conditions.
2. Representative digital images of the area showing before and after photos.

### **References**

Barrett, S., D. Havlina, J. Jones, W. Hann, C. Frame, D. Hamilton, K. Schon, T. Demeo, L. Hutter and J. Menakis. 2010. Interagency Fire Regime Condition Class Guidebook. Version 3.0. <http://www.frcc.gov/>

Global Learning and Observations to Benefit the Environment (GLOBE). [www.globe.gov](http://www.globe.gov).

Fire Fuel Protocol: [http://www.globe.gov/documents/355050/355099/land\\_prot\\_firefuel.pdf](http://www.globe.gov/documents/355050/355099/land_prot_firefuel.pdf) ;

Transect Measurements Field Guide: [http://www.globe.gov/documents/355050/355097/lc\\_fg\\_firetransect.pdf](http://www.globe.gov/documents/355050/355097/lc_fg_firetransect.pdf) ;

Transect Measurements Data Sheet: [http://www.globe.gov/documents/355050/355096/lc\\_ds\\_firetransect.pdf](http://www.globe.gov/documents/355050/355096/lc_ds_firetransect.pdf)

Napper, C. 2010. Useful Tools for Identifying Surface Fuels and Biomass. 1019 1802P. San Dimas, CA: U.S. Department of Agriculture, Forest Service, San Dimas Technology and Development Center. pp 28. <http://www.fs.fed.us/t-d/pubs/pdf/10191802.pdf>

Outcalt, K.W., and D.D. Wade. 2004. Fuels Management Reduces Tree Mortality from Wildfires in Southeastern United States. Journal of Applied Forestry 28(1): 28-34. [http://www.srs.fs.usda.gov/pubs/ja/uncaptured/ja\\_outcalt008.pdf](http://www.srs.fs.usda.gov/pubs/ja/uncaptured/ja_outcalt008.pdf)