

Plant Enhancement Activity – PLT05 - Multi-story cropping, sustainable management of nontimber forest plants



Enhancement Description

This activity involves the manipulation of forest species composition, structure, and canopy cover to achieve or maintain a desired native plant community to facilitate the sustainable management of native non-timber forest plant(s) (e.g., goldenseal, ramps, mushrooms, ginseng, ferns, “sugarbush”, etc.).

Land Use Applicability

Cropland, Forestland

Conditions Where Enhancement Applies

This enhancement applies to forestland and cropland (sugar bush) where the forest is managed for harvestable non-timber plants in addition or instead of timber.

Benefits

Implementation of this enhancement activity can result in increased plant health and vigor, decreased intensity of pest outbreaks, decreased spread of diseases, decreased use of pesticides and improved water quality.

Criteria

Multi-Story Cropping can cover a wide variety and types of plants and products. Multi-Story Cropping requires the development and implementation of a plan for the manipulation of forest growth through management of the competition for light, nutrients, moisture and control of allelopathic (toxic) effects to promote the production of a nontimber forest plant complex while maintaining a healthy forest ecosystem. The plan will include the following components as a minimum:

1. The objectives of the multi-story cropping enhancement.
2. Maps, images and/or descriptions of the proposed multi-story area.
3. An inventory appropriate to the targeted species of the area to identify trees and understory species necessary to achieve the desired purposes.
4. Listing of management activities that will be used to complete the multi-story cropping such as, but are not limited to, pruning, selective thinning and the introduction of new species to achieve plant diversity or to re-establish native plants.
5. Identification of specific canopy and plant densities in the overstory and understory to achieve the intended purpose(s)



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6. The plant community will be diverse to avoid species-specific pests and to enhance wildlife food and habitat.

Adoption Criteria

This enhancement is considered adopted when the developed plan for forest growth manipulation has been implemented according to plan's criteria.

Documentation Requirements

1. Brief written description of the actions taken to enhance the multi-story cropping,
2. Delineations on a map or aerial photo of the areas being treated with multi-story cropping, and
3. Representative digital pictures of the overstory and understory plant community following multi-story cropping management activities.

References

Association for Temperate Agroforestry. 2012. Forest Farming Creates Profit Niches, Conserves Endangered Plants. University of Missouri. Columbia, MO. http://www.aftaweb.org/forest_farming.php

USDA National Agroforestry Center. 1997. Forest Farming: An Agroforestry Practice. Lincoln, NE. <http://nac.unl.edu/agroforestrynotes/an07ff01.pdf>

USDA National Agroforestry Center. 2012. Working Trees Info-What is Forest Farming. Lincoln, NE. <http://nac.unl.edu/Working%20Trees%20Info%20Sheets/WT%20Info%20forest%20farming.pdf>

Virginia Polytechnic Institute and State University. 2009. Non-Timber Forest Products. Blacksburg, VA. <http://www.sfp.forprod.vt.edu/>

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References:

- **612 – Tree/Shrub Establishment**
- **379 – Multi-Story Cropping**

Examples of Alternative* Tree/Shrub Products

Scientific Name	Common Name	Wood Product	Plant Part Used
Abies balsamea	Balsam fir	Aromatic oil, florals	Young branches, needles
Betula spp.	Birches	Aromatic oil, medicinals, bark products	Bark, leaves, wood
Pinus	Pines	Pet bedding, Christmas swags, furniture, lumber, mulch, firestarters, wreaths	Wood wastes, branches, cones, logs, bark
Juniperous virginiana	Eastern red cedar	Aromatic oil, lumber, animal bedding, litter products, potpourri, wreaths	Sawdust, waste shavings, old stumps, chipped logs, cones
Pices spp.	Black and White spruce	Aromatic oil, florals, sound boards for music instruments, wood, potpourri , gum	Young branches and leaves, cones, sap
Thuja occidentalis	Eastern White Cedar	Aromatic oil, florals	Ends of branches, leaves,
Photina melanocarpa	Chokeberry	Jams, preserves, butters, juice, syrup, candy, wine, cider, beer	Fruit
Malus spp.	Crabapples, apples	Jams, preserves, butters, juice, syrup, candy, wine, cider, beer	Fruit
Sambucus nigra spp. Canadensis	Elderberry	Jams, preserves, butters, juice, syrup, candy, wine, cider, beer	Fruit

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Scientific Name	Common Name	Wood Product	Plant Part Used
Amelanchier spp.	Juneberry, Saskatoon, serviceberries	Jams, preserves, butters, juice, syrup, candy, wine, cider, beer, pemmican	Fruit
Prunus americana	American plum	Edibles, wine	Fruit
Rhus tomentosa	Staghorn sumac	Pink lemonade, sore throat medicine	Fruit
Quercus spp.	Oaks	Charcoal, baskets	Wood wastes such as sawmill residue and edging strips, logs
Acer spp.	Maples	Syrup, charcoal, candy, lumber, baskets	Sap, wood, wood wastes
Salix spp.	Willows	Baskets, furniture, florals	Branches, catkins, logs
Juglans nigra	Black walnut	Walnuts, lumber, hulls	Seeds, logs, tannins
Fraxinus	Ashes	Baskets, handles	Young branches, logs

* Does not include saw timber, lumber, pulp or chips.