

Forest Site Preparation

Natural Regeneration

WV Conservation Practice Job Sheet

Code 490



Definition

Treatment of areas to improve site conditions for establishing trees and/or shrubs.

Purpose

The purpose of this practice is to encourage natural regeneration of desirable woody plants. Many species of trees and/or shrubs in West Virginia regenerate naturally from seed.

Criteria

A precondition for the natural regeneration of trees and/or shrubs is an appropriately prepared site. Site preparation is needed if competition from grass, weeds, and/or woody materials will interfere with plant establishment and growth. Site preparation allows the seed to contact the soil and germinate.

The method used, the intensity and the timing of site preparation should match the limitations of the site,

equipment, and the requirements for establishing the desired woody species.

An appropriate site preparation method must be chosen to achieve the intended purpose and to protect desirable vegetation, site and soil conditions. Other complementary practices and measures must be used as necessary to control erosion, runoff, compaction and displacement to acceptable levels.

Measures, including the use of equipment, must be implemented to control or protect against locally invasive and noxious species that may arise from site preparation activities.

Erosion and runoff must be controlled. Soil compaction and displacement must be minimized.

Comply with applicable federal, state and local laws and regulations during the installation, operation and maintenance of this practice.



The prepared area must be protected from fire and destructive grazing.

For riparian sites, leave a three foot untreated strip at the edge of the bank or shoreline.

Avoid sites that have had recent application of pesticides harmful to woody species to be planted.

Additional Criteria Applicable to Forest Site Preparation for Natural Regeneration

Hand/Mechanical

For natural regeneration, light seed-bearing trees must be located on or next to the area to be regenerated, preferably along the windward side. Some acceptable species for natural regeneration are eastern white pine, pitch pine, shortleaf pine, Virginia pine, yellow-poplar, white ash and maple. See Table 1 for additional information on the above mentioned species.

Heavy seed-bearing trees must be adequately spaced within the treatment area to be regenerated. Some acceptable heavy seed-bearing trees are black cherry and oaks.

Use of other species whose seed is dispersed by wind may be planned, if needed, to meet the objectives.

In sod-bound areas, expose at least 60% mineral soil just prior to seedfall by disking, tilling, dragging, scraping, shallow plowing, raking or other similar means.

Considerations

Impacts on wildlife species, habitat and aesthetics should be considered when selecting site preparation methods.

Particulates, smoke, and other air pollutants generated by site preparation may have on-site and off-site effects on air quality.

The site preparation method should be cost effective and protect cultural resources, wildlife habitat, threatened and endangered species, water resources, and identified unique areas.

Visual quality objectives should be considered when selecting site preparation methods.

Anticipate possible off-site effects and modify the site preparation design accordingly.

Consider personnel safety during site preparation activities.

Table 1. Seed-bearing information by species

SPECIES	SEED BEARING AGE MINIMUM (YEARS)	SEED DISPERSAL DATES	INTERVAL BETWEEN LARGE SEED CROPS (YEARS)
White Pine	5-10	Aug – Sept	3-10
Pitch Pine	3-4	Fall*	4-9
Shortleaf Pine	5-20	Oct-Nov	3-10
Virginia Pine	5	Oct-Nov	1
Yellow Poplar	15-20	Oct-Nov	1
White Ash	20	Sept-Dec	3-5
Sugar Maple	30	Oct-Dec	3-7
Red Maple	4	April-July	1

* Many cones remain closed for several months or years.

Operation and Maintenance

Practice areas should be checked periodically, but especially in the first three to six months after planting to see if additional control of competition is needed to insure the survival of desired vegetation.



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If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Additional Specifications and Notes:

Questions regarding the planting or maintenance of the tree/shrub establishment should be directed to:

_____ at _____

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