

# Tree/Shrub 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, intensity and timing of site preparation will 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/or 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 your objectives.

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.


**Specifications**

Site-specific requirements are listed on the following pages of this job sheet. Specifications are prepared in accordance with the WV NRCS Field Office Technical Guide. See the WV conservation practice standard Site Preparation, 490, for specific requirements. Information in this job sheet is considered part of the conservation plan.

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<b>Client:</b>	<b>Farm #:</b>
<b>Field(s):</b>	<b>Tract #:</b>
<b>Designed By:</b>	<b>Location:</b>
<b>Date:</b>	<b>Total Acres:</b>

<b>Purpose</b>	<b>Description of Existing Vegetation</b>
Encourage natural regeneration of desirable woody plants <b>NOTE:</b> Natural regeneration requires an adequate seed source, exposing mineral soil and preparing an adequate seed bed.	

<b>Site Preparation Method</b> (Refer to WV Practice Standard Forest Site Preparation, 490 for specific requirements)						
<b>Field</b>	<b>Acres</b>	<b>Seed Source(s)</b>	<b>Expected Seed Dispersal Dates</b>	<b>Method</b>	<b>Planned Date</b>	<b>Remarks</b>
				Expose at least 60% mineral soil just prior to seedfall by disking, tilling, dragging, scraping, shallow plowing, raking or other similar means. <b><u>If herbicides are used as the method or in combination with another method - see pages 4 and 5 of this job sheet.</u></b>		
				Expose at least 60% mineral soil just prior to seedfall by disking, tilling, dragging, scraping, shallow plowing, raking or other similar means. <b><u>If herbicides are used as the method or in combination with another method - see page 4 and 5 of this job sheet.</u></b>		
				Expose at least 60% mineral soil just prior to seedfall by disking, tilling, dragging, scraping, shallow plowing, raking or other similar means. <b><u>If herbicides are used as the method or in combination with another method - see pages 4 and 5 of this job sheet.</u></b>		

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CHEMICAL SITE PREPARATION			
<input type="checkbox"/> Refer to the attached WVU Cooperative Extension Service Information	Field/Stand #	Field/Stand #	Field/Stand #
Current Landuse			
Acres			
Primary Soil Type			
Target specie(s) to be controlled			
Pre-Treatment: Estimated % vegetation / cover makeup is target specie(s)			
Post-treatment: Planned % vegetation / cover makeup is target specie(s)			
Control method <sup>1</sup>			
Herbicide to be used <sup>2</sup>			
Herbicide Application Equipment to be Used (if applicable) <sup>3</sup>			
Application dates			
Target plant growth stage at application			
Second application - dates for follow-up foliar sprays (if applicable)			
Herbicide to be used			
Third application – dates for follow-up foliar sprays (if applicable)			
Herbicide to be used			
WIN/PST risk assessment attached or included (To be completed by NRCS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<sup>1</sup> **Control Method** – List as cut and treat stump, basal bark spray, hack and squirt, foliar spray, ground application or other chemical method (describe in the additional procedures section)

<sup>2</sup> **Herbicide to be Used** – **NOTE: ALL HERBICIDES MUST BE USED ACCORDING TO THE LABEL**

<sup>3</sup> **Herbicide Application Equipment to be Used** – List as backpack sprayer, hand held sprayer, machine mounted, aerial or other (describe in the additional procedures section)

List any special mitigation, timing considerations or other factors that must be considered to ensure the safest, most effective herbicide application; or see the attached references.

**FOLLOW ALL LABEL AND SAFETY REQUIREMENTS WHEN APPLYING HERBICIDES.**

**To reduce the herbicide environmental risk:**

- Delay application when significant rainfall events are forecast that could produce substantial leaching or runoff. This will reduce the potential for herbicide transport to ground and surface water.
- Spot treatment and directed spraying reduces the amount of herbicide applied.
- Combine herbicide treatments with mechanical techniques to reduce the application of a herbicide that poses a hazard to an identified natural resource concern.
- Use a 30 foot setback when runoff is a concern.



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Additional techniques, procedures or references to be followed:

A large, empty rectangular box with a black border, intended for handwritten notes or additional information regarding site preparation techniques, procedures, or references.



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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.

**Operation and Maintenance:** Maintain erosion control measures as necessary. Control locally invasive and noxious plants as necessary. Access by vehicles or equipment during or after site preparation shall be controlled to minimize erosion, compaction and other site impacts. 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. Repair erosion control measures as necessary to ensure proper function.

**Additional Operation and Maintenance Requirements:**

**Protection required for desirable woody plants (if any):**

**Additional Specifications and Notes:**

Questions regarding the planting or maintenance of this practice should be directed to:

\_\_\_\_\_ at \_\_\_\_\_

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