

Why Site Prepare After a Clearcut

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An area is site prepared after a clearcut to alter the natural succession of plant life just as nature has been doing for centuries.

How did the forest ever rejuvenate itself without man?

Before man started to intervene with nature in the southeastern U.S., there were periodic droughts, floods, hurricanes, tornados, and insect infestations which would kill huge forest (100,000's of acres at a time). Nature's way of cleansing out the dead timber is a hot summer lightning strike. Today, we consider these events as wildfires and an excellent example is the big fire in Yellowstone National Park. In the park, fire was suppressed from the time the park was initiated. The timber had died from an insect infestation and the fuel build up was finally too huge for man to control the fire.

Without man's intervention, fire has always been an annual event. Areas that burn one year do not burn the following year because of lack of fuel. When the fuel build up is great enough to carry a fire, the woods burn off. From the mountains to the coastal plains, the fire will burn as far down into the wetland areas as the moisture will allow. Today, we mimic this event through the use of prescribed fire burning.

Natural succession: Natural succession is the orderly re-establishment of plant species after a site disturbance. Once fire is a constant part of the ecosystem, natural succession is changed. If an area is constantly burned or flooded from year to year, the plants which encroach and maintain establishment are those species that can adapt to fire or flooding.

An example of a plant community that exist because of fire is the long leaf, wiregrass, runner oak, and bracken fern community. These species depend upon fire to eradicate competition, initiate germination, and prepare the ground for seed fall. Longleaf is susceptible to fire damage between the grass stage and about 6 feet tall. Beyond for this period, longleaf can sustain very high fire temperatures.

In areas where flooding occurs (not all soil types grow all tree species), bald cypress, swamp tupelo, and water tupelo do very well. Their roots grow when completely underwater. The water serves as a natural method of controlling other plant species from competing with these trees.

As long as there are periodic fires, floods, hurricanes, and tornados that keep the area disturbed, natural succession will only go so far before it has to start over. Thus, only the species that can withstand the natural phenomena will inhabit the site until the natural phenomena is removed.

When fire or flooding is eliminated for long periods of time, other species will encroach into the area; thus, altering the natural succession of the area to a different level.

Most forest land has been protected from fire. Even some of the flooded land has been altered through the use of ditches. Therefore, the process of natural succession has been allowed to continue so that many tree species are growing in areas that they did not previously inhabit.

In a forested area that has not been disturbed by man or nature for 30 years or more, it changes. Not only will there be different tree species but numerous different shrubs, vines, grasses, legumes, and broad leaf weeds. After a clearcut, the sun is able to reach almost all plant life. Native and non-native species will sprout. Most of these species already have a well developed root system so that they can grow very fast. Thus, a clearcut area can begin to resemble a jungle in a year or two.

Shade intolerant: Many of the species that we plant, both pines and hardwoods, cannot tolerate shade. This is called shade intolerant. The new seedlings have a small root system which makes the seedlings easier to plant. Generally, once they are planted it takes them a little longer for them to begin the initial height growth. If a clearcut area is planted with pines and/or some of the shade intolerant hardwoods, it will only take one to three years for the existing plant life to shade out the newly planted seedlings. This is why an area needs to be "site prepared" after a clearcut.

Site preparation methods

There are three methods of site preparation: mechanical, chemical, and fire. They can be used separately or in combination.

Mechanical site preparation means the physical manipulation of the plants and soil after a clearcut. It includes drum chopping (a heavy roller with spikes designed to be pulled by a tractor), shearing (equipment with a large blade capable of cutting all debris to ground level), root raking (equipment designed to dig into the soil and pull out root systems), and bedding (pulling the soil up to raise the area where the trees are to be planted).

Chemical site preparation is the use of chemicals (by helicopter, tractor, four wheeler, backpack sprayer, or injection) to control unwanted weed species. There are numerous forest herbicides on the market designed for different soil types, existing weed problems, and time of

year of application. The forest herbicides are designed to control the weed species long enough for the desired plant species to grow beyond the weed competition. Not all forest herbicides are suitable for all sites. Therefore, some of the forest herbicides can be used together to help control different weed problems.

Fire is usually used in conjunction with mechanical or chemical site preparation. It is usually not sufficient when used alone unless it has been a standard use in the woods prior to clearcutting.

No method is the best for all sites. Some people use the same method over and over again because they are use to it or have had success previously. This does not mean it is the best method or only method for you. Talk to different foresters before deciding which method will be the best for the desired outcome.