THE ROLE OF PRESCRIBED BURNING IN MANAGING YOU SOUTHERN PINE FOREST

WHAT IS PRESCRIBED BURNING?

Prescribed burning is the deliberate use of fire under specified and controlled conditions to accomplish one or more of several objectives of forestland management. It is a practice that provides the forest manager with an effective and economical means of performing many necessary management tasks.

DO PRESCRIBED FIRES DAMAGE TIMBER?

All fires in a natural environment do some damage. Prescribed burns are no exception. However, properly planned and executed, prescribed burning can accomplish many objectives at reasonable cost and with minimum damage to the forest.

IS A PERMIT REQUIRED?

Air pollution control regulations must be observed during all burning. A burning permit is required. (Prescribed burning permits, guidelines, advice, and assistance with actual burning are available through the nearest Mississippi Forestry Commission's County and District offices.)

USES FOR PRESCRIBED BURNING

1. Fuel Reduction

Fuels-grass, weeds, pine needles, hardwood leaves- accumulate in pine stands of all ages. This accumulation of fuel threatens destruction by wildfire in young stands and hinders regeneration in older ones. Regular, periodic removal by prescribed burning eliminates this problem in an effective and inexpensive way.

2. Hardwood Control

In areas better suited to growing pine, hardwoods creep in early and, if not treated, grow increasingly bothersome. They arrive and persist because many species can grow under shade. They compete with pines for moisture and nutrients, impede visibility and access through the stands, and interfere with natural regeneration. A well-planned burning program is the most economical way to deal with this problem.

3. Site Preparation

In both natural and artificial regeneration, full overhead light, bare mineral soil, and freedom from hardwood competition are necessary for establishment and growth. For natural seeding, a program of burning to reduce small diameter hardwood and expose mineral soil before harvest cutting is needed. To prepare sites for direct seeding or planting of seedlings, more vigorous measures may be necessary. Hardwood must be destroyed and mineral soil exposed. Timely burning plays a part in this process.

4. Wildlife Habitat Improvement
Many of the burns prescribed for other purposes will benefit wildlife as well. For example, hardwood control burns in immature stands encourages fresh, low sprout growth which is within the reach of browsing deer. Quail and turkey benefit from fuel reduction burns that remove heavy brush and encourage growth of annual plants. But if good games habitat is the primary objective in management, more intensive measures will be required, and careful attention will have to be given to size and time of year of the burn.

5. Disease Control
Brown-spot needle blight usually infects the foliage of longleaf pine seedlings in the "grass" stage. It can delay growth and kill seedlings. When more than one-third of the needles are dead of disease, prescribed burning in the winter will scorch the needles and kill the fungus without harming the seedlings. Subsequent new needle formation increases seedling vigor and helps initiate early height growth. A root rot often attacks and kills stems in recently thinned young loblolly and splash pine plantations, particularly on old field soils poor in organic matter. Burning the litter tends to encourage biological activity that slows the spread of the fungus. Burns made for fuel reduction, done before thinning, may help control the disease.

6. Harvest Cutting Area Improvement
Reduction of low growing brush before harvest cutting increases visibility and makes timber marking and cutting much easier. This in turn lowers sale preparation and logging costs, often substantially.

REPRESENTATIVE STAND CONDITIONS AND PRESCRIBED BURNING OBJECTIVES

1. Mature Pine, well to moderately stocked (more than 50 square feet of pine basal area per acre), hardwood understory present. Objectives: reduce encroaching hardwood, get area ready for harvest cutting, prepare seed bed for natural regeneration.

2. Mixed Pine-Hardwood, (pine basal area less than 50 square feet per acre- mostly sawlog size) ready for conversion to pure pine. Objectives: Reduce hardwood competition, prepare area for planting or direct seeding.

3. Unevenaged, mostly immature pine (age 15 to 40 years), planted or natural, well stocked (more than 70 square feet per acre), hardwood understory light to heavy. Objectives: Reduce hazardous fuel accumulation and control hardwood.

4. Young Pine Plantations (less than 15 years old), densely stocked (600-plus stems per acre) with heavy grass and/ or pine needle ground fuel. Objective: Reduce hazardous fuel accumulation.

5. Grass-stage, Longleaf Pine Seedlings (age 2 to 10 years), afflicted with brown-spot needle

blight. Objective: Scorch needles and kill fungus.

6. Pine Plantations, Pulpwood-size (age 12 to 30 years), growing on old field sandy soils poor in organic matter. Objective: Reduce risk of root rot infection after thinning.