United States Department of Agriculture
Natural Resources Conservation Service

Prescribed Burning – Wildlife
Georgia Practice Job Sheet-338

Prepared for: _____

Prepared by: _____

Farm: _____ Tract Number: _____ Date: _____

Caution: Prescribed burning should be conducted only by those who are trained and experienced in its use. The landowner is responsible for obtaining all permits and clearances as required by law.

Photo by USDA NRCS State Forester Michael Sampson

Definition

Applying a controlled fire to a predetermined area as a wildlife habitat management tool. It is used to improve wildlife habitat by setting back the successional stage of an area, controlling undesirable vegetation, and reducing wildfire hazards.

Purpose

- Control undesirable vegetation
- Fire-dependent Species
- Control plant disease
- Wildlife habitat Improvement
- Restore and maintain native plant communities.
- Reduce wildfire hazard

NRCS, Georgia
October, 2016

Control Undesirable Vegetation

Low value, poor quality hardwoods and shrubs often invade southern pine forests. This unwanted growth prevents successful pine regeneration and competes with pine for nutrients and moisture. Prescribe fire can be utilized in other habitat types to control undesirable vegetation.

Reduce Wildfire Hazard

Fuels such as pine needles, undergrowth, fallen branches, and other forest litter can build to levels that create a high risk of destructive wildfires. A regular schedule of prescribed burns eliminate the risk by reducing fuel buildup to manageable levels.

Control Plant Disease

Brown spot needle blight is a disease of longleaf pine seedlings in the grass stage. It can weaken or kill the seedlings and prolongs the grass stage. A properly applied late winter burn will scorch the needles and kill the fungus without killing the well-protected bud. Periodic winter burns that reduce the litter in plantations also reduce the incidence of *Fomes annosus* root rot.

Wildlife Habitat Improvement

Burning reduces predator cover, exposes hidden seeds, and increases herbs and legumes. It produces fresh low browse, encouraging increased feeding and travel. The major game species, turkey, deer, and quail, and other wildlife benefit from appropriately applied prescribed burns.

Fire-dependent Species

Some species of animals and plants are dependent on fires. These species include the gopher tortoise, indigo snake, red-cocked woodpecker, wire grass, and pitcher plants. When an area is burned regularly these species may increase in numbers.

Restoring Native Plant Communities

Prescribed fires for wildlife should recognize the fire tolerance of desirable and undesirable plants. Timing of the burn should be correlated with stages of plant growth. Frequency of burning should be adequate to accomplish the desired plant responses.

LANDOWNERS PREPARATION MEASURES

A. Notify the Georgia Forestry Commission for an outlook of weather conditions, and to get a burning permit. Also contact adjacent landowners.
B. Have all necessary firebreaks prepared before the fire is started.
C. Have on hand the help, tools, and equipment needed to keep the fire under control.
D. Inspect fuel (burnable vegetation) conditions thoroughly.

E. Have a prescribed burning plan developed by an experienced, and preferably certified, prescribed burn manager.

WHEN TO BURN

Stand Maturity

Many Loblolly and Slash Plantations can be burned safely when they reach an average height of 30-40 feet height and 9 inches in DBH or so. For longleaf pine, an initial burn can be done within the first two-three years of planting. Burning should only be done at this early stage if the majority of the seedlings are in the grass stage (have not initiated height growth and conditions are very tightly controlled). After height growth has started, burning should be withheld until after the majority of the trees have exceeded three feet in height, but only when there are fully developed needles covering any new flush of growth. **Avoid burning during the candling stage** (straight stem with no lateral branches) of longleaf growth.

Fuel Conditions

The kind, amount, and arrangement of the fuel, along with the desired intensity of the fire and the objectives of the burn will determine the type of fire to use and what weather conditions are favorable. Heavy ground litter (needles) and dense undergrowth require exact weather conditions so that flames or excess heat are not carried into the tree crowns. In such cases, two or more burns should be planned to reduce fuel. The initial burn is made when the humidity is around 50 percent and the ground litter moisture is at a relatively high level (20+ percent).

Weather Conditions

- Temperature – Air temperatures from 20°F to 50°F are recommended for winter burns of young stands. Site preparation burns are best done as summer burns with air temperatures above 80°F.
- Wind – A moderate, steady wind (2 to 7 mph) from a northerly direction is usually best. This occurs more frequently in winter after the passage of a cold front.
- Relative Humidity – 30 to 50%.
- Rainfall – From ½ to 1 inch of rain is usually needed 1 to 2 days before a prescribed burn. For most burns, the upper litter layer should be dry to the touch (10 to 20 percent fuel moisture). The thin organic layer on the top of the mineral soil should be moist, and the soil beneath should be damp.
- Season of the Year and Schedule

Forage Production – For management of native grasses and control of woody vegetation and weeds, burns should be conducted in February or March. Burn as often as needed. To encourage the development of seed in some native warm season grasses, such as wiregrass, a growing season burn between April and June may be necessary. Burn as often as needed as indicated by a habitat evaluation.

Wildlife Management

Burning should be done on a 1-3 year rotation, leaving unburned areas for cover and nesting. Burning from January to March prevents killing new spring growth, does not interfere with nesting, and encourages the growth of hardwood sprouts and herbaceous plants.

Time of Day

Daytime burning offers the advantages of better weather and working conditions. Prescribed burning should start in the mid- morning when the weather for the day can be determined and the firing stopped so areas will burn out by dark. Due to the normal die-down of wind at night, and the rise in humidity, smoke can remain close to the ground and collect in low places, causing potential visibility and other smoke related problems.

Maintenance

Approximately one-third of the managed area should be burned annually. Strips or blocks may be left unburned within the burned area to increase habitat diversity and to provide for wildlife.

Primary Habitat Consideration

Improve natural food and cover for deer, doves, quail, turkeys, and various songbirds

PRESCRIBED BURNING TECHNIQUES

Backing fire

A backing fire is started along the edge of a road, firebreak, stream or other barrier, and allowed to back into the wind. This technique is the easiest and safest type to use, provided windspeed and direction are steady. It produces minimum scorch and lends itself to use in heavy fuels and young pine stands.

Strip-heading Fire

A series of lines of fire are set progressively upwind of a firebreak in such a manner that no individual line of fire can develop to a high energy level before it reaches either a firebreak or another line of fire. Strips are often set 66 to 200 feet apart, varied to adjust for topography, stand density, weather or the type, amount or distribution of fuel.

Flanking Fire

This technique involves setting fire lines directly into the wind (the line running at right angles with the wind direction. The fire then spreads at right angles to the wind. It is useful on a small area or to facilitate burning a large area in a relatively short time when a strip-heading fire would be too intense.

Circular (Ring) Fire

This technique is useful on cutover areas where a hot fire is needed to reduce or eliminate logging debris prior to seeding or planting. It works best when winds, if any, are light and variable. It should never be used for the purpose of understory and litter removal in standing timber because of the likelihood of severe tree damage as the flame fronts merge. Convection columns created with this type burn can cause spot fires a considerable distance downwind. Ring fires may entrap wildlife and not allow safe escape.

SMOKE MANAGEMENT

Prescribed burning, with all its many desired objectives, nevertheless pollutes the air. Therefore it is imperative that guidelines be followed to avoid smoke-related problems. First, determine if any smoke sensitive areas are nearby. Such things as airports, highways, communities, recreation areas, schools, hospitals, factories, etc, should be considered. Use the following guidelines to reduce the impact from smoke.

- Obtain and use weather and smoke management forecasts
- Don't burn during pollution alerts or stagnant conditions
- Comply with air pollution control regulations
- Burn when conditions are good for rapid dispersion
- Use caution when near or upwind of smoke-sensitive areas
- Use caution when smoke-sensitive areas are down drainage.

Burn Plan

An Rx burn plan is required before practice implementation. The specifications for the burn plan should cover and accommodate the burning for each specific site. The Rx burn plan should be prepared by someone certified in the use of prescribed fire. Have a written prescribed fire plan for each forest, forage, wildlife, and agricultural area to be burned. Moreover, have on site the prescribed fire plan during the burn and adhere to the plan.

References

USDA-NRCS-National Conservation Practice Standard Code 338 – Prescribed Burning, September 2010.

Introduction to Prescribed Fire in Southern Ecosystem, U.S. Department of Agriculture Forest Service, August 2012 slightly revised 2015.

Georgia's Best Management Practices for Forestry, Georgia Forestry Commission, May 2009.

United States Department of Agriculture
Natural Resources Conservation Service

Certification Job Sheet:

Prepared by: _____

Title: _____ Date: _____

Approved by: _____

Title: _____ Date: _____

Installation:

Did landowner provide NRCS a burn plan _____ (Yes or No)?

Did prescribe burning meet landowners objectives for implementation _____ (Yes or No)?

How many acres were treated using prescribed burning practice _____?

What use was prescribed burn utilized for _____?

Select the type of prescribed burning technique applied to implement prescribed fire _____.

This practice was completed and meets NRCS standards and specifications.

Certification by: _____

Date: _____

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