

Fire Management

PRESCRIBED BURNING

PRESCRIBED FIRE IS AN IMPORTANT AND USEFUL SILVICULTURAL TOOL. It can be used to prepare a site for planting by reducing logging debris or to prepare a seedbed for seed fall. Prescribed fire can also be used in established stands for silvicultural purposes, wildlife habitat improvement, and hazard reduction. A major concern of forest management is the effect of prescribed fire on surface runoff and soil erosion.

Studies have shown that properly planned and conducted prescribed burning has a minimal impact on water quality in the South. Most problems associated with

prescribed burning can be eliminated with proper planning, awareness of changing weather conditions, and compliance with Louisiana's Voluntary Smoke Management Guidelines (*copies can be obtained from the Louisiana Office of Forestry*). For most flat, sandy soils there is little danger of soil erosion; however, in steeper topography there is a greater chance for soil movement. When a prescribed fire becomes too hot, the entire surface layer (humus) can be consumed, exposing the underlying mineral soil to erosion and increasing surface runoff.

BMPs for Prescribed Burning

- Site prep burns on steep slopes or highly erodible soils should only be conducted when they are absolutely necessary and should be of low intensity. Time prescribed fires so that the moisture level of the forest floor prevents the entire humus layer from being burned.
- A significant amount of soil movement can occur when preparing for prescribed burns; for example, along firebreaks. Firebreaks should have water control structures in order to minimize erosion. Locate firebreaks on contours as much as possible. Water bars should be constructed in firebreaks at frequent intervals to slow surface runoff in areas subject to accelerated erosion, such as steep grades or highly erodible sloping firebreaks.
- Site prep burning creates the potential for soil movement. All efforts should be made to keep high intensity site prep burns out of SMZs.
- Use hand tools when necessary to connect firebreak lines into stream channels.

AVOID

- Burning when conditions will cause a fire to burn too hot and expose mineral soil to erosion.
- Allowing high intensity fire to enter filter strips or SMZs.
- Burning on severely eroded forest soils where the average litter duff is less than one-half inch.

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FIRELINE CONSTRUCTION & MAINTENANCE

Fireline construction and maintenance is an essential part of forest management. It deals with site preparation burning, prescribed burning, and wildfire suppression. A number of control practices can be implemented during fireline construction to prevent unnecessary erosion. Periodic inspection and proper maintenance can prevent potential erosion on established firelanes.

BMPs for Firelines

- Firelines should be constructed on the perimeter of the burn area and along the boundary of the smz. The purpose of protecting the smz from fire is to safeguard the filtering effects of the litter and organic matter.
- Firelines should follow the guidelines established for logging trails and skid trails with respect to waterbars and wing ditches, and should be only as wide and as deep as needed to permit safe site preparation burns.
- Firelines that approach a drainage should be turned parallel to the stream or include the construction of a wing ditch or other structure that allows runoff in the line to be dispersed rather than channeled directly into the stream.
- Firelines on highly erodible sites or other problem areas should be inspected periodically to correct erosion problems by installing dips, wing ditches, waterbars, etc. and / or by seeding. See vegetation specifications in Appendix IV , Page 81.

AVOID

- Disturbing existing gullies where possible.
- Disturbing more soil surface than necessary.
- Connecting firelanes directly into stream channels.
- Plowing against the contour where possible.

Fireline construction and maintenance is an essential part of forest management.



Alabama Forestry Commission photo

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WILDFIRE

The first and foremost concern in wildfire control is to prevent damage to people and property. During wildfire suppression, fireline BMPs that slow containment efforts must take a lower priority than fire suppression. Potential problems should be corrected later.

BMPs for Wildfire

- Actively eroding gullies should be stabilized when possible.
- Stabilize and revegetate fire lines on steep grades, areas subject to accelerated erosion, or known sensitive areas.
- Ensure all road surfaces are left stabilized and protected.



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During wildfire suppression, fireline BMPs that slow containment efforts must take a lower priority than the suppression itself.