

Prescribed Burning: An Efficient and Cost-Effective Tool

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Prescribed burning is one of the most cost effective forest management tools that the forest landowner has at his disposal for pine stand management. It provides multiple benefits for both timber and wildlife.

Prescribed burning controls undesirable vegetation as well as low value woody plants and shrubs. Over time, a regular program of prescribed burning will actually change the species mix of herbaceous weeds to a more palatable and desirable food mix for wildlife. In turn, controlling competing vegetation will make water, sunlight, and soil nutrients and minerals more available to the individual pine trees in the stand.

The definition of *prescribed burning* is fire that is...

- applied in a skillful manner
- under exacting weather conditions
- in a designated place
- to achieve specific results.

Looking at this definition more closely, *fire applied in a skillful manner* implies that it is done by skilled, trained personnel using a variety of techniques or different applications to achieve an assortment of purposes. *Under exacting weather conditions* refers to the fact that weather is a huge factor influencing fire behavior. As weather conditions change, fire behavior changes. *In a designated place* implies that the area to be burned must be planned ahead of time, further implying that firebreaks need to be in place to aid in controlling the spread of the fire. *To achieve specific results* tells us that we can generally expect certain outcomes, depending on the technique used with a given set of conditions.

Now that we have an idea of what prescribed fire is, let's take a look at the reasons for using it and how that is done. Various objectives and benefits of prescribed burning include: controlling undesired vegetation, improving wildlife forage and habitat, reducing potential wildfire hazard, as well as improving access and aesthetics (natural beauty). Let's look specifically at each objective. A good way to accomplish this is to take a look at the life cycle of a typical 40-acre pine stand and see how fire can be applied over the lifetime of that stand with different objectives in mind.

Let's begin on the property of Farmer Brown who had 40 acres of timber cut. We will assume that all timber has been harvested from the area, and the landowner now wishes to plant with loblolly pine seedlings. However, before planting, the area is prepared by spraying herbicide to control competing hardwood vegetation during the summer. After the vegetation browns up in the weeks following the herbicide application, the area can then be control burned in September to improve access for the crew that will plant the seedlings.

After the seedlings are planted, they continue to grow into pulpwood-sized trees. Some 15 or so years later, Mr. Brown thinks that his trees look crowded and may need thinning, so he procures the services of a consulting forester to handle selling his timber. In turn, a local logger does the thinning operation. Approximately one year later, Brown notices sweetgums and other hardwoods sprouting after the cutting operation. With the increased sunlight reaching the forest floor, there is an influx of

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growth of all sorts present. Farmer Brown is advised by his forester to have a prescribed burn done to keep the hardwoods in check. He then has the area burned in February. His purpose for burning is multi-fold. He wants to control the hardwoods sprouting after the thinning operation, but he also wants to clean up some of the debris left after the logging operation. The landowner also has another purpose in mind. He loves to hunt deer and turkey, and has heard that prescribed burning enhances the habitat for both species.

A few weeks after the burn, Brown notices that the underbrush has been top-killed but is sprouting back from the stump. He also notices some species of legumes and forbs that he hasn't seen in his forest before. This succulent new growth is being grazed by deer, turkey, and other foraging mammals and birds. The logging slash left behind after the thinning operation wasn't totally burned up, but there is much less now. The forest is also easier to walk through, with the underbrush kept in check by the fire. With the apparent success of this burn, he agrees to follow his forester's advice and begin a continuous burning program on a three-year cycle. After every burn, Farmer Brown is pleased by the park-like appearance; the underbrush is kept at a low level by the repeated burns. The firebreaks that he had

installed to control the fire are also used as access roads. Mr. Brown planted the firebreaks in bahiagrass, winter grazing, and other food crops for the deer and turkeys, so they serve a dual purpose in preventing the fire from escaping and feeding the wildlife. He simply runs over the firebreaks with his tractor and disk prior to the scheduled prescribed burn.

Farmer Brown has another older stand of pines nearby containing more sweetgum in the understory. He is concerned that the sweetgum and other hardwoods in this stand may become too large for fire to control. He uses a burning contractor and they begin with another February fire to remove the deep litter layer accumulated through the years. The next fire, two or three years later, is conducted in the late spring for the purpose of attaining better control on the undesired hardwoods. Brown notices that the later he burns in the year (i.e., May instead of February), the better control he gets on the hardwood

underbrush. On another note, it also occurs to him that if he ever has a wildfire burn through his property, it will be much less severe than if he had never burned at all, thus protecting his investment.

Finally, we come to part of Mr. Brown's property located down along the creek bottom, where the lower elevation lends itself to growing hardwoods better than pines. He asks his forester if prescribed fire could be used here, but the forester advises against burning his hardwood stands. He explains that the usual thin bark of hardwoods makes them susceptible to fire damage. It is decided that he'll not burn stands with hardwoods that he wishes to keep.



As Farmer Brown continues his burning program, he has covered all his objectives and is reaping the multiple benefits mentioned earlier. Timber buyers looking at his timber will be much more pleased to walk through the property with ease. Records kept from harvested deer show an increase in body weight. Hunting success, in general, has improved because he has increased the carrying capacity through better wildlife habitat.

Now let's summarize briefly the timeline for conducting prescribed burns. For site prep burns that prepare the ground for tree planting, late summer or early fall is usually best. For understory burning in a pine stand that has not been burned before, winter is usually best, sometimes later. For burns aimed at controlling hardwood problems in pine stands (such as sweetgum), spring or early summer generally works better, if the pine trees are large enough to withstand the heat generated by the fire.

Before a landowner begins a burning program, he/she needs to realize that it needs to be done by trained, professional personnel. Landowners can burn their own property, but that needs to happen only after they have received training and some experience before attempting to do it on their own. The Alabama Forestry Commission (AFC), as well as other contractors, offers this service for a fee. AFC personnel can also visit your property and offer recommendations at no charge. For more information about prescribed burning on your property, contact your county AFC office or visit the website at www.forestry.alabama.gov. Two other websites advocate the use of prescribed burning as a tool to achieve healthy forests and keep them safe; visit www.GoodFIRES.org and www.VisitMyForest.org.

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Alabama Prescribed Fire Council

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Prescribed burning is the controlled application of fire to naturally occurring vegetative fuels under specified environmental conditions and the following of appropriate precautionary measures, which cause the fire to be confined to a predetermined area and accomplish planned land management objectives. In 1995, the Alabama State Legislature declared that the application of prescribed burning is a landowner property right as well as a management tool that benefits the safety of the public, the environment, the natural resources, and the economy of Alabama. The purpose of Alabama's Prescribed Burning Act is to authorize and promote the continued use of prescribed fire for ecological, silvicultural, agricultural, and wildlife management purposes.

The Alabama Prescribed Fire Council (APFC) was formed in October 2007, and its mission is to "protect, conserve, and expand the safe use of prescribed fire on Alabama's fire-adapted landscape." Some of the goals the council strives for include facilitating communication and the exchange of information regarding the benefits of prescribed fire, promoting a public understanding of prescribed burning benefits and the difference between wildfire and prescribed fire, and providing a focus for issues and concerns surrounding prescribed fire in Alabama. Other purposes of the council are to provide a forum where interested parties may participate in meetings and gain information generated by APFC, promote safety, training and research in the science of prescribed fire, and to promote an increase in acreage annually managed by prescribed fire.

The APFC is governed by a steering committee composed of landowners, consultants, representatives from state and federal agencies, professionals from forest industry, and non-profit organizations. There are working groups that deal with certain prescribed burning issues such as policy and legislation, litigation, insurance, smoke management, fire behavior, public relations, education, and website maintenance.

The APFC is a member of the national Coalition of Prescribed Fire Councils. Comprised of 28 states, Canada, and Mexico, this coalition's primary objective is to promote prescribed burning on a national level.

To become a member of the Alabama Prescribed Fire Council, simply send an e-mail to rxburning@aol.com with your name and contact information. General membership meetings are held annually in October. Please visit www.alpfc.org for more information, or contact Frank Allen, Area Wildlife Biologist, Alabama Department of Conservation and Natural Resources, at (256) 587-3114.