

WILDLIFE TRENDS

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Prescribed Burning: Safely and Legally

By Wes and Leslie Burger



A half dozen billowing white plumes hang above the pine trees on the horizon. The acrid smell of burning pine straw fills the air and a gray haze hangs low over the woods. It's early March and the prescribed fire season is in full swing in the areas around Tallahassee, Thomasville, Albany, and throughout the southeast on properties managed for quail. Fire is the most important ecological process, responsible for the creation and maintenance of the southern pine grassland that once dominated the uplands of the Southeast Coastal plain. Prescribed burning is an essential management tool in southern pine forests, particularly where bobwhite are the focal species. Human use of fire to manipulate plant and animal communities predates European settlement by several thousand years and was readily adopted by those European settlers who first inhabited these southern pine forests. In this century, it was Herbert Stoddard who first fully

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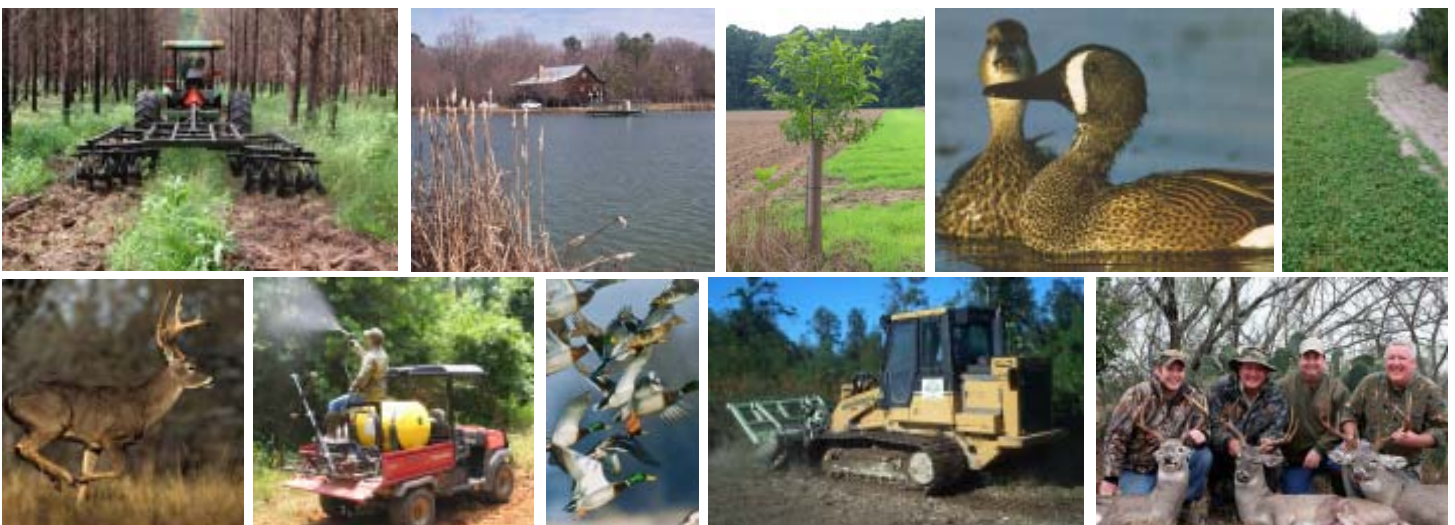


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appreciated the role of fire in perpetuating the habitats upon which the bobwhite was dependent.

However, over the last half of this century, the use of prescribed fire has declined throughout the region as ownership patterns have changed, suburbia has encroached on wildlands, and roads have dissected the pine woods. Perhaps though, it has been the proliferation of litigation that has most contributed to the demise of prescribed fire. These southern pinelands have endured a myriad of changes over the past 2 centuries, however, no change has had as great an ecological effect on the structure and composition of southern pine ecosystems as has fire exclusion. In the absence of this essential natural process, invasive hardwoods capture the under and midstory, shading out and eliminating herbaceous ground cover. Shade-intolerant grasses, forbs, legumes, and trees are replaced by a deep hardwood litter layer less prone to fire and a relatively few shade-tolerant species. If fire is withheld for several decades, this pine grassland will be replaced by a mixed pine/hardwood, and eventually a hardwood-dominated forest, as is evidenced across much of the south. After as little as 5 years of fire exclusion, fire-dependent wildlife species like bobwhite, Bachman's sparrow, red-cockaded woodpecker, brown-headed nuthatch, gopher tortoise, and indigo snake will abandon the stand. This process has been repeated all over the southeast, dramatically diminishing the proportion of the southern landscape that supports these once abundant species.

Southern plantations and properties intentionally managed for quail are the last bastion of prescribed fire in the south. And it is no accident that these properties also provide the last refugia for bobwhite and other declining, fire-dependent species. However, even in these areas where fire is an age-old spring ritual, changing landscapes and legal atmospheres have made prescribe burning more challenging. In a survey of state forestry commissions conducted by Tall Timbers Research Station in 2003, potential liability was the most commonly identified deterrent to use of prescribed fire. In the early 1990's, state legislatures in the

South began to formulate legislation that specifically recognized the right of forest landowners to use prescribed fire as a management tool to accomplish ecological, forestry, wildlife management, and fuel reduction objectives. Led by the state of Florida in 1990, these laws explicitly limited the liability of those who use prescribe fire in a safe, legal, and responsible fashion. Between 1990 and 1999, at least 8 southern states (FL, GA, MS, LA, SC, AL, VA, TX) passed legislation generally referred to as "certified burner" laws. These laws do two important things. First, they define prescribed burning as a legal activity with ecological and social benefits that does not constitute a public or private nuisance. Secondly, they provide a measure of limited liability protection for damages and injuries resulting from fire or smoke, given that negligence is not proven.

To benefit from this liability protection and to preserve the right to use fire as a management tool, it is important that landowners and managers understand what it means to burn legally and responsibly. Prescribed burn laws vary from state to state in their specific requirements, but in general these laws establish 3 or 4 conditions for liability protection. First, most state laws require that a trained, certified prescribed burner actually ignites the fire and is on site from the time of ignition until the burn is completely out. The second condition commonly required is development of a written fire prescription, or burn plan. The third condition is to conduct the burn in accordance with state rules, notification, and permitting procedures.



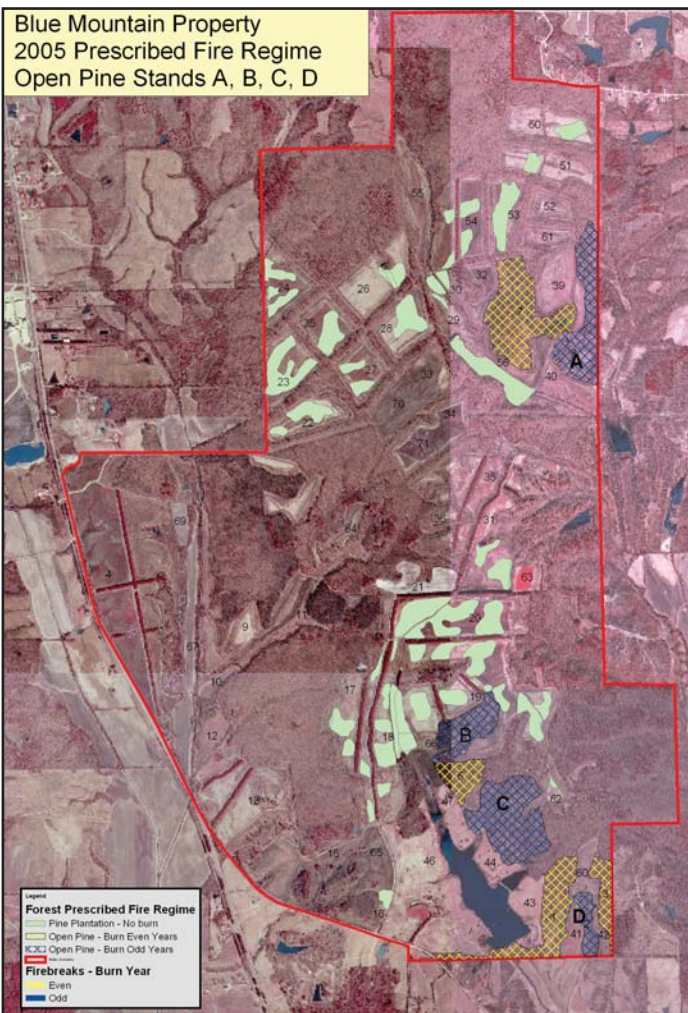
Afterburn



Most states require the certified prescribed burner to secure a verbal or written permit from the state forestry commission on the morning of the burn (see sidebar). Additionally, some states require notification of intent to burn to neighbors, local fire departments, and municipalities. All states prohibit burning during burn bans associated with fire hazard conditions (drought, low humidity, high winds, etc.). The benefit of specifically defining in law the actions that are required to prescribe burn is that it provides clarification regarding what constitutes negligence under the law. That is, failure to comply with these specific required actions would constitute negligence under the law and subject the burner to much greater liability. Before anyone conducts a prescribed burn, they should be familiar with the specific burn laws in their state. To review the burn laws in several southeastern states, see the links referenced in the sidebar.

Certified Prescribed Burn Manager

A Certified Prescribed Burn Manager (CPBM) is one who has received training and has some minimum level of experience in fire behavior and the planning and implementation of a prescribed burn. Certified prescribe burner training includes instruction in fire behavior, burn safety, and smoke management. Individual states administer burner training and certification programs. CPBM training typically involves self-study, in-class, and field components. Trainees will learn how fire behaves under a range of conditions, and how fuel and weather conditions affect fire behavior. They will apply this knowledge in planning one or more prescribed burns. Some states require the trainee to actually plan and manage one or more prescribed burns on their own before they are fully certified. Most states require periodic recertification (for example, every 5 years) and continuing education to maintain certification. Prescribed burner training courses vary from 1-5 days and are commonly offered by State Forestry Commissions and/or Land Grant Universities (see sidebar). Most southeastern states will permit landowners to conduct a prescribed fire without having a CPBM onsite, however, the participation of a CPBM in the



A typical fire plan.

planning, permitting, and implementation (including ignition) of a burn is required to derive the liability protection under burn laws.

Written Burn Plan

A written burn plan or fire prescription specifies the conditions or parameters under which the prescribed burn will be carried out. Burn plans can range from very simple to quite complex. The degree of detail required in a burn plan varies from state to state, but in general, a fire prescription should include the following elements: 1) a description of the stand or site to be burned, including a legal descrip-



Prescribed Burning Resources

Burn Laws

- Alabama - http://www.forestry.state.al.us/Forest_Protection/PB/PB_Burn_Certification_Program.htm
- Florida - http://www.fl-dof.com/wildfire/wf_pdfs/Nov2005_FIAdminCode5l_2.pdf
- Georgia - http://www.legis.state.ga.us/cgi-bin/gl_codes_detail.pl?code=12-6-145
- Mississippi - <http://www.mfc.state.ms.us/pdf/pub2.pdf>
- South Carolina - <http://www.state.sc.us/forest/reflaws.htm#act>

Certification Process

- Alabama - http://www.forestry.state.al.us/Forest_Protection/PB/PB_Burn_Certification_Program.htm
- Florida - http://www.fl-dof.com/wildfire/rx_training.html
- Georgia - <http://www.gfc.state.ga.us/ForestFire/PrescribedBurningCertification.cfm>
- Mississippi - <http://www.ce.msstate.edu/ptd/forest.html>
- South Carolina - <http://www.state.sc.us/forest/fcpfm.htm>

Burn Permits

- Alabama - http://www.forestry.state.al.us/Forest_Protection/PB_Burn_Permit.htm
- Florida - http://www.fl-dof.com/field_operations/index.html
- Georgia - <http://www.gfc.state.ga.us/OnlinePermits/>
- Mississippi - http://www.mfc.state.ms.us/district_office.htm
- South Carolina - <http://www.state.sc.us/forest/fforest.htm>

Example Burn Plans

- Alabama - http://www.forestry.state.al.us/Forest_Protection/PB/PB_Minimum_Standards.htm
- Georgia - <http://www.gfc.state.ga.us/ForestFire/PrescribedBurningMenu.cfm>
- Florida - http://www.fl-dof.com/wildfire/rx_index.html

Smoke Management Guidelines

- Florida Smoke Screening Online Tool - http://flame.fl-of.com/wildfire/tools_sst.html#SST
- South Carolina Smoke Management Guidelines - <http://www.state.sc.us/forest/smg05.pdf>
- Georgia Fire Weather System - <http://weather.gfc.state.ga.us/Maps.aspx>

Information on the Ecological and Social Benefits of Fire

- Tall Timbers Research Station - <http://www.ttrs.org>

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tion of its location and total acreage to be burned; 2) a map of the area to be burned; 3) a statement of the purpose or objective of the burn; 4) a description of the type and quantity of fuels present in the burn unit; 5) a description of the personnel and equipment to be used on the prescribed burn; 6) desired weather factors under which the burn will be conducted (including surface wind speed and direction, transport wind speed and direction, minimum mixing height, minimum relative humidity, maximum temperature, and fine-fuel moisture); 7) firing technique and desired fire behavior (that is., flame length and rate of spread); 8) the time and date the prescription was prepared; 9) the permit number, authorization date, and the time period of the authorization; 10) an evaluation of the potential impact of the proposed burn on pertinent smoke-sensitive areas; and 11) the signature and number of the Certified Prescribed Burn Manager. Some states require that the burn plan be notarized prior to the burn. It is important that the burn be conducted within the parameters specified in the plan

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and any deviations noted. Execution of the burn outside of the parameters specified in the burn plan could constitute negligence and subject the burner to increased liability. It doesn't do much good to have a plan, if you don't stick with it! Example burn plan templates from various states can be downloaded from the URLs listed in the sidebar.

Burn Permit

A burn permit is issued by a state regulatory agency, often the Forestry Commission and permits the holder to conduct a prescribed burn in accordance with the restrictions defined in the permit. When a burn permit is requested, the burner typically must provide the following information: person responsible for the burn, telephone number, location of burn (i.e., Section, Township, Range), purpose of the burn (that is., agricultural, forestry, wildlife habitat, etc.), number of acres to be burned, and type of fuels. This permit commonly defines the window of time (for example, 8:00 AM– 6:45 PM on March 5, 2006) during which the permit is valid. Many states limit burning to daylight hours to reduce the risk associated with nighttime atmospheric that might trap smoke at low altitudes or cause it to settle in low spots. The permit may be canceled by the issuing agency for failure to comply with the terms of the permit, weather condition change which cause erratic and dangerous fire behavior, or if the burn produces smoke which becomes a hazard to others or contributes to a degradation of air quality. All states reserve the right to prohibit all burning (burn bans) during droughts or other environmental conditions that make burning hazardous. Further, some states have established zones (for example, near developed areas) in which burning is restricted or prohibited. The sidebar associated with this article provides information on how to secure a burn permit in several southeastern states.

Summary

Fire is an important ecological process in southern pine forests. Prescribed burning is a valuable management tool that is essential to maintain forest structure that supports fire-dependent pine grassland species such as

bobwhite quail and red-cockaded woodpeckers. However, it is also an inherently risky activity. Fear of liability deters many landowners from using fire. In the past decade, state legislatures in the South have recognized the ecological and social values of prescribed fire. Certified Prescribed Burn Manager laws establish the right of forest landowners to use prescribed fire as a management tool to achieve their forestry, wildlife, and fuel reduction objectives. These laws define what constitutes safe, legal, and responsible use of prescribed fire and provide landowners a substantial measure of liability protection. The requirements of burn laws are not burdensome, and they help to ensure the right to use this valuable tool. Furthermore, they provide the landowner who uses fire in a responsible fashion with a substantial measure of liability protection. As you prepare for the fire season this year, make sure you are familiar with and abide by the requirements in your state.

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***Leslie Burger** has B.S. and M.S. degrees in Biology from Murray State University and University of Missouri, respectively. She has conducted field research from the Galapagos Islands to Hudson Bay and several places in between. She has held professional positions with the Missouri Department of Conservation as an assistant research biologist and Vertebrate Ecologist. She currently works full time home schooling the Burger's 3 sons.*