

Designing a Prescribed Fire Demonstration Area¹

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Demonstration areas are important implements in the extension agent's toolbox. "Result demonstrations" are typically used to showcase the advantages of a particular practice (Seevers et al. 1997). They offer evidence that the practice works under local conditions and provide examples of what potential users can expect. Rather than relying on faith, the extension agent demonstrates results, in plain view. Demonstrations also help people learn. Concepts that may be difficult to comprehend through abstract explanations become easier to grasp when something is touched, witnessed, or experienced. Although demonstrations are most common in agriculture, they are also used in home landscaping, forestry, soil and water conservation, rural development, and other areas of extension expertise.

A prescribed fire demonstration area makes it much easier for local citizens to understand why natural areas are burned, how prescribed fires are managed, and how quickly the vegetation in a burned area regenerates (Figure 1). These demonstration areas also attract attention, generate community discussion, make information memorable, offer tour

possibilities, and build community cohesiveness. In short, they are effective extension tools.



Figure 1.

This fact sheet outlines how to establish a prescribed burn demonstration area. In addition to describing how to select an appropriate demonstration site to achieve your objectives, this publication summarizes a case study that assessed the educational benefits of a prescribed burn.

1. This document is FOR 64, one of a series of the School of Forest Resources and Conservation, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. First published November 1999. Reviewed August 2006. Please visit the EDIS Web site at <http://edis.ifas.ufl.edu>.

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Why a Demonstration Area for Prescribed Fire?

Prescribed, or controlled, fire is an important tool for land managers in Florida. Regularly burning natural areas under prescribed conditions, with trained and qualified personnel, reduces the likelihood of large-scale wildfires in Florida. In addition to reducing fuel loads, periodic controlled burns can improve wildlife habitat, enhance recreational resources, reduce pest insect populations, and help restore the native fire-dependent ecosystems.

Many of the people who live in the urban-rural interface of Florida's expanding metropolitan areas, however, may be uncomfortable with the concept of regularly burning the woods. They might have spent their childhood in a different ecosystem where they wisely learned that fire can be dangerous. If people have not experienced a nearby controlled burn, they may not realize that it can be a safe tool for land managers.

A well-planned prescribed burn demonstration area can help educate citizens about the advantages and disadvantages of prescribed burning by:

- preparing the neighbors for a prescribed burn,
- alerting the media to the event so it can be recorded and publicized, and
- reminding the public that the landscape has been burned.

Converting a previously burned area to a demonstration area by adding an informational sign can also remind the public that the landscape recovers quickly from a burn.

Considerations for Siting a Prescribed Fire Demonstration Area

For a demonstration area to have a lasting educational impact, it should be visible to a large number of people. If private property, the area could border a well-traveled road; if publicly owned, trails might cross the land. In any location, make sure you will be able to erect signs, as they will be the primary

form of communication with the public. By reminding visitors that the land was burned in a controlled fire, you will make them aware of how plants and animals respond to and recover from low intensity fires over time.

Work with the local Division of Forestry (DOF) office and the local fire department to select a site. The DOF office will have a record of the prescribed burns they have authorized, if you wish to use a previously burned site. The fire department may have a list of priority areas for fuel reduction, if you can help organize a burn. The DOF staff can help you select and contact landowners and erect educational signs on the land. As you identify potential properties, consider traffic patterns, speed limits, and where passing cars could safely park off the road to read the sign.

Other Factors to Consider in Choosing a Site:

- Does the area represent a fire-dependent ecosystem?
- Is the ecosystem found on the site typical of the landscape in your county?
- Is this area likely to provide an example of a successful prescribed burn?
- If you will be burning the area, does the site require more resources than you have (e.g., pre-burn fuel removal, burn equipment and staff.)?
- If the area is used by the public, would burning it generate a negative reaction from those who prefer the landscape in its overgrown state?
- If the land is privately owned, will the landowner allow the media to visit the site during or after the burn?
- What is the future land use for that site? Will the property be cleared for construction, thereby eliminating any educational impact?

Some Considerations That are Not Relevant Include:

- Size. Even the smallest corner of a woodlot could provide an excellent example of a prescribed burn.
- Type of ecosystem. Nearly every ecosystem in Florida is fire-dependent to some degree. It may not be easy to get every plant community to burn, except in the driest weather. You may wish to select an ecosystem that naturally experiences more frequent fires, such as pine flatwoods or pine sandhills.

Preparing Neighbors and the Media

The educational impact of your demonstration area should begin before the first match is struck. The public and neighbors need to understand why prescribed fire is an important tool for land managers in Florida. Send the neighbors a letter informing them of the value of fire to the ecosystem and alert them to the possibility of a prescribed burn in the coming season. Let them know that the exact day of the burn may not be predictable, as authorizations are given with careful consideration to weather conditions. In addition to nearby residents, remember to include businesses, schools, and other neighbors in your mailing, particularly those who may be exposed to smoke.

Invite a local high school science class to conduct an inventory of the area's plant community. This before-and-after experience can be an educational and useful way for them to measure the effects of the burn.

Send informative articles to the local media, stressing the benefits of prescribed burns to the ecosystem and to landowners, and include the credentials of the professionals who will be managing the local burn. If feasible, invite members of the media to observe the burn. Their photographs and articles will help residents who didn't see the burn understand how it differs from a wildfire.

If the burn is in a well-traveled area, consider establishing an information center that day at a nearby park, grocery, or intersection where residents can ask questions and obtain up-to-date information. You might link a staff person to the burn manager by radio for current burn updates.

After the Prescribed Burn

When the ashes have cooled, you have an excellent study site to observe and document new vegetation growth. Invite the media or a local high school science class to return at several intervals to observe and record the demonstration area's recovery. You may also wish to mark several locations and photograph the changes yourself over time.

Erect signs to remind the public that the area was burned to meet land management goals. Be sure to note the year and season of the burn, so visitors will be able to see for themselves how quickly the landscape responds and changes after a prescribed burn.

The Case of Haile Plantation

Like many modern developments in Florida, Haile Plantation skirts the edge of Gainesville with hundreds of family homes along well-spaced cul-de-sacs. Between the streets, along the golf course, and around the homes are natural buffers and green spaces. While these natural areas provide valued distance between neighbors, they also provide habitat for a variety of native plants and animals. Without careful management, these green spaces will become overgrown with fire-intolerant trees and other plants. This not only reduces the habitat for native plants and animals, but also increases the opportunities for wildfires. Prescribed fire may be the best way to maintain the natural system, but active management of fragmented fire-dependent ecosystems in suburban developments can also include mechanical and chemical methods.

Haile Plantation managers decided to test prescribed fire as a supplement to standard management methods in the "out of play" areas around the golf course. In order to assess the local residents' concerns and attitudes about a "backyard burn," a study was conducted in conjunction with the golf course prescribed burns (Heuberger, 1998). The knowledge and attitudes of residents were assessed before and after exposure to educational materials and the demonstration burns. Ten golf course areas, some adjacent to homes, were selected as prescribed burn sites.

The Study

This study examined the effect of direct experience and exposure to relevant educational materials on residents' knowledge and attitudes toward prescribed fire.

Questionnaires

Forty randomly selected residents of the 139 homes bordering the golf course participated in the study. Residents completed questionnaires prior to the burns and again six months later. The surveys, which were mailed to the selected homes, contained nine attitude questions, nine knowledge questions, and seven demographic questions. The post-burn survey included additional questions about the educational materials associated with the prescribed burns.

Educational Materials

Three types of educational materials were produced for the residents at Haile Plantation: a brochure, a color poster, and interpretive signs. The brochure explained the ecology of the longleaf pine ecosystem at the golf course and the important role of fire in this ecosystem. It also alerted neighbors to the prescribed burns that would be occurring around the golf course.

The poster was displayed in the golf clubhouse. It contained 12 color photographs and descriptions of the longleaf pine ecosystem, the role of fire, and the nature vegetation response to a prescribed burn. Interpretive signs were placed next to two large burn sites. They informed readers that prescribed fire was used to manage those natural areas and listed some of the benefits of prescribed burning to Haile Plantation.

The Participants

A total of 32 residents completed both the pre- and post-burn surveys. The respondents were a highly educated group (70% had college degrees) of relatively long-term residents (average length of time in Florida was 17.4 years). Eighteen respondents observed the prescribed burns, and 20 of the 32 read at least one type of educational material. Although the sample is small, the results indicate there is a

promising role for demonstration areas accompanied by educational materials.

Attitude and Knowledge Assessments

Of the nine attitudinal statements on the pre- and post-burn surveys, responses to only two changed significantly. These questions were related to the use of prescribed burning in natural areas near homes and the smoke produced by fire. In both cases, the responses became more favorable toward prescribed burning as a management tool in suburban areas.

To directly assess attitudes toward prescribed burns as a management strategy, post-burn survey participants were asked to respond to the statement, "I would be in favor of the use of controlled burns for management of some of the areas around Haile Plantation." Respondents were overwhelmingly in favor of the use of prescribed fire: 84% chose "yes" as their response.

There was a significant increase in respondents' knowledge about prescribed fire and the longleaf pine ecosystem from the pre-survey to the post-survey. Scores on both tests were lower than expected, however, averaging only 27% correct in the pre-test and 39% in the post-test.

Impact of Direct Experience and Educational Materials

The survey results indicate that a demonstration burn accompanied by educational materials can change attitudes and increase knowledge. When the responses of the residents who actually saw the burns and educational materials are examined, however, the effects of the treatments appear to be even stronger.

Direct experience with the prescribed burns apparently helped increase knowledge and enhance attitudes toward the use of prescribed fire. The post-test knowledge scores of those who experienced the burns were significantly higher than their pre-test scores; scores from those who did not see the burns did not improve.

The knowledge scores for the survey respondents who saw any one of the educational materials increased significantly: the poster viewers' scores improved from 32% to 70% correct responses;

sign readers improved by 17%; and brochure readers improved by 33%. The scores for those who did not see the materials showed little or no improvement. Interestingly, the increase in knowledge was highly correlated with the number of exposures to different educational materials. The highest knowledge scores were associated with respondents who had been exposed to all three media (Figure 2).

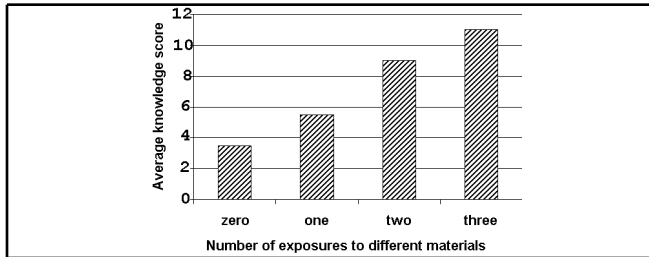


Figure 2.

Summary

The results of this study indicate that a combination of direct experience and relevant educational materials can increase knowledge and lead to positive attitudes about the use of prescribed fire as a management tool. Knowledge levels and support for prescribed fire as a management tool were significantly higher for residents who saw the burns or their effects and for those who were exposed to the educational materials. In addition, there was an impressive cumulative effect for respondents who saw all three educational materials.

Your Demonstration Area Can Change Opinions

There are significant barriers to prescribed burning due to the powerful influence of Bambi, Smokey Bear, and the public's fear of wildfire. The results of this case study show, however, that public acceptance of prescribed fire in the urban-rural interface is substantial and can be enhanced. This study indicates that attitudes and perceptions can shift if a concerted effort is made to notify, educate, and expose residents to prescribed fire.

This is an era of unprecedented development throughout Florida, creating an increasingly fragmented natural landscape. The use of prescribed fire to protect homes against catastrophic wildfires and to manage the rapidly declining biodiversity in

our fire-dependent ecosystems creates a significant opportunity. Demonstration areas provide extension agents with a powerful tool in the campaign to educate Florida's citizens about the benefits of prescribed fire.

Literature Cited

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