Economic Benefits of Wildfire Prevention Education *

L. Annie Hermansen-Báez, Jeffrey P. Prestemon, David T. Butry, Karen L. Abt, and Ronda Sutphen

From mid-2002 to mid-2007, the State of Florida spent an average of $500,000 annually on fire prevention education to reduce four main types of fires ignited by humans:

1. debris-burning escapes,
2. campfire escapes,
3. children playing with fire, and
4. wildfires associated with smoking materials.

Cost Savings From Fire Prevention

During that period of time, these four types of fire represented 36 percent of all wildfires and 9 percent of all acres burned in Florida (fig. 1). Prestemon and others (2010) found that by reducing accidentally ignited wildfires, Florida and its residents avoided the associated costs of firefighting and economic losses, such as property damage, timber loss, large-scale evacuations, and medical expenditures (for example, from issues associated with smoke inhalation).

Any additional dollar spent on fire prevention education in Florida would have a benefit-to-cost ratio of 35 to 1.

The study indicated that additional increases in fire prevention education would be beneficial. Specifically, if it had been possible to increase spending on fire prevention education from 2002 to 2007, then any additional dollar spent on fire prevention education in Florida would have reduced fire-related losses and suppression costs by $35, for a benefit-to-cost ratio of 35:1. (This ratio might not be applicable to other States and prevention programs because of differences in fire regimes, values at risk, and suppression costs.)

What Activities Work Best?

Activities for fire prevention education come in many forms, such as media efforts, homeowner visits, informational brochures and flyers, and presentations. The study found that media efforts, such as television and radio public service announcements, were the most successful fire prevention activities, followed by presentations to schools and homeowner associations. In addition, some of the costs of public service announcements through local broadcast and print media were paid for by media organizations, reducing overall costs for land managers.

Timing and Location Matter

Conducting fire prevention activities just before and during the most active parts of the fire season might improve their effectiveness. If fire prevention education in Florida were emphasized during winter (such as in January and February), before the peak of fire season, and continued through the main fire season in spring (March through May), then the economic benefits of fire prevention and awareness would significantly rise (Butry and others 2010a). Specifically, if prevention activities could have been increased during the winter months in Florida from 2002 to 2007, then $3.9 million would have been saved from economic losses and avoided firefighting expenditures.

Annie Hermansen-Báez is the science delivery/Kids in the Woods coordinator for the Southern Research Station, Gainesville, FL; Jeff Prestemon is a research forester and project leader for forest economics and policy, Forest Service, Southern Research Station, Forestry Sciences Laboratory, Research Triangle Park, NC; David Butry is with the Applied Economics Office, National Institute of Standards and Technology, Gaithersburg, MD; Karen Abt is a research economist for forest economics and policy, Forest Service, Southern Research Station, Forestry Sciences Laboratory, Research Triangle Park, NC; and Ronda Sutphen is the wildfire mitigation coordinator for the Florida Forest Service, Tallahassee, FL.

* Adapted from L.A. Hermansen-Báez, J.P. Prestemon, D.T. Butry, K.L. Abt, and S. Ronda, *Economic Benefits From Wildfire Prevention Education: Fact Sheet* (Asheville, NC: Southern Research Station, 2011).

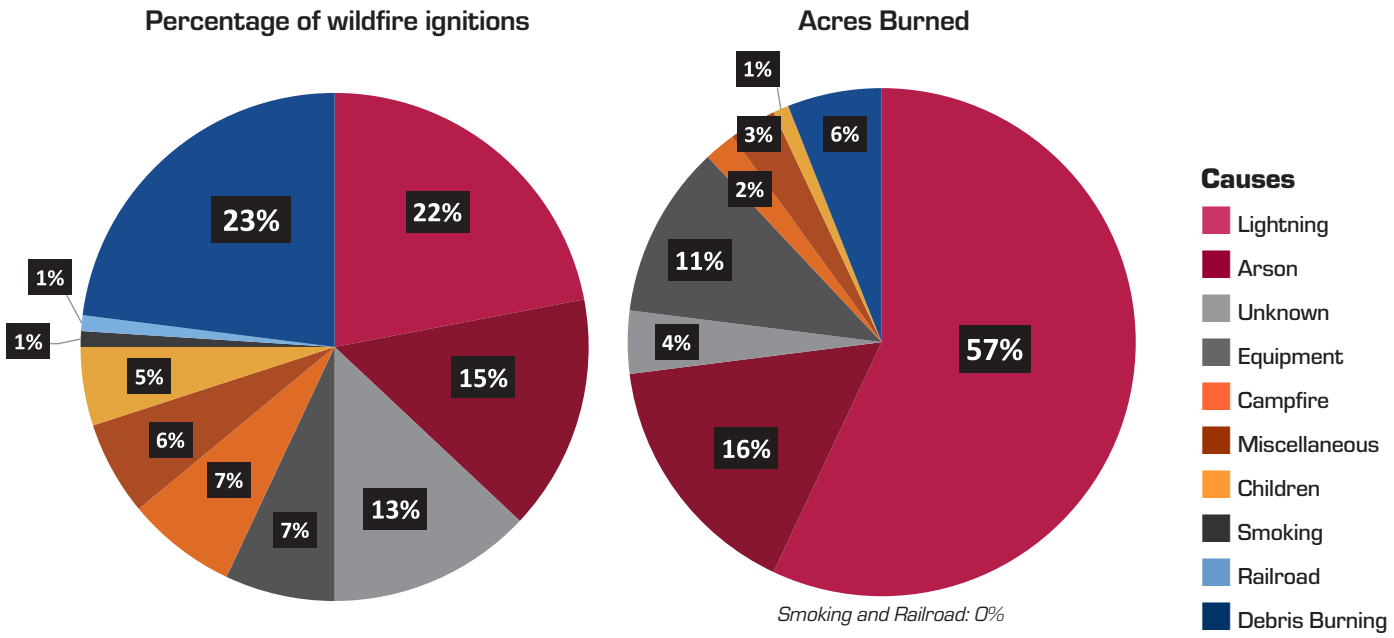

Figure 1—*Percentage of wildfire ignitions (left) and acres burned (right) from 2002 to 2007.*

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Many fires are accidentally ignited by humans where large numbers of people live, work, and play—in the wildland–urban interface. The research found that focusing educational efforts on the wildland–urban interface could magnify the benefits of prevention spending.

Prescribed Fire Gives an Added Boost

Where prescribed fire can be conducted safely and inexpensively, coordinating fuels reduction with fire prevention education can limit the damages from wildfire even more and at lower cost:

- By decreasing fuel loads, prescribed fire helps to reduce damage from all types of wildfires. However, prescribed fire cannot be used in all weather conditions and is more difficult to use in certain landownership situations. Although Florida has an extensive prescribed-burning program for both public and private lands, many lands are owned by people who choose not to burn. This limits how much prescribed burning that Federal, State, and local agencies can do.
- Fire prevention education programs provide flexibility because they can be increased during times of high fire danger and high fire activity. However, prescribed fire offers a longer term solution to the problem of fuels buildups and consequent wildfire damage (Butry and others 2010b).

Note: Care should be given in applying the results of this study to other locations, either across the United States or abroad, because they may differ in terms of weather, climate, recent wildfire activity, fuels management, and community profiles.

Literature Cited

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