The Economic Benefits of WILDFIRE PREVENTION EDUCATION

While there are many activities that can limit damages from wildfires, such as firefighting efforts and prescribed burning, wildfire prevention education programs can be particularly beneficial. This was confirmed through a study conducted by the Southern Research Station and the National Institute of Standards and Technology that demonstrated that wildfire prevention education pays for itself many times over in the state of Florida. Wildfire prevention education aims to teach the public about the dangers of accidentally igniting fires, with the expectation that these activities will lead to fewer wildfires.

REDUCTION OF WILDFIRES

Between mid-2002 and mid-2007, the state of Florida spent an average of $500,000 annually on wildfire prevention education. Wildfire prevention education activities conducted during this time period reduced four main types of fires ignited by humans: debris-burning escapes, campfire escapes, children playing with fire, and wildfires associated with smoking materials. Combined, these fires represented 36 percent of all wildfires and 9 percent of all acres burned (**Figure 1**) during that time. Because of this reduction in accidentally-ignited wildfires, the study found that Florida and its residents avoided the cost of firefighting efforts and paying for economic losses, such as property damage, timber loss, large-scale evacuations, medical expenditures (e.g., issues associated with smoke inhalation) and more.[1]

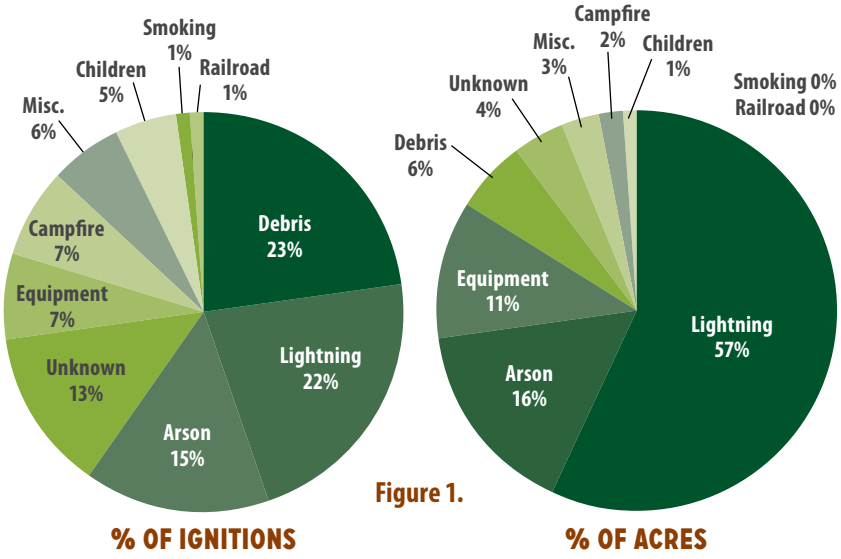

Figure 1.

The study also indicated that additional increases in wildfire prevention education would be beneficial. Specifically, if it had been possible to increase spending on wildfire prevention education between 2002-2007, an additional dollar spent on wildfire prevention education in Florida would have reduced wildfire related losses and suppression costs by $35 – a benefit to cost ratio of 35:1. This ratio may 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?

Wildfire prevention education activities come in many forms, such as media efforts, homeowner visits, informational brochures and flyers, and presentations. This study found that media efforts, such as television and radio public service announcements, were the most successful wildfire 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, further reducing the cost of these efforts.

TIMING AND LOCATION MATTER

Focusing wildfire prevention education efforts just prior to and during the most active parts of the wildfire season may enhance the effectiveness of these efforts. The study found that if wildfire prevention activities in Florida were given more emphasis during the winter months, such as January and February, before the peak of the fire season begins and were continued through the main fire season in the spring (March through May), the economic benefits of fire prevention and awareness would be significantly higher.[2] Specifically, if prevention activities could have been increased during the winter months in Florida between 2002 to 2007, $3.9 million would have been saved because expenditures on firefighting efforts and economic losses, such as damaged property, timber, and human health issues, would have been avoided.

A substantial portion of the fires accidentally ignited by humans are found where large numbers of people live, work, and play, in areas called the wildland-urban interface. The research found that focusing more of the educational efforts to wildland-urban-interface areas could enhance the overall benefits that the state's residents receive from prevention spending.

PRESCRIBED FIRE GIVES AN ADDED BOOST

Where prescribed fire can be done in a safe and inexpensive manner, coordinating fuel reduction techniques with wildfire prevention education can even more effectively and economically limit the damages from wildfire.

- By decreasing fuel loads, prescribed fire helps to reduce the damages created by all types of wildfires (**Figure 1**), not just those started accidentally. Prescribed fire, however, cannot be used in all weather conditions and is more difficult under certain land ownership situations. Although Florida has in place an extensive prescribed burning program for both public and private lands, a large portion of the landscape is controlled by private landowners who choose not to burn. This places a limit on how much more prescribed burning that federal, state and local agencies can do.

- Wildfire prevention education programs provide flexibility because they can be increased during times of high fire danger and in times of fire outbreaks. However, prescribed fire offers a longer-term solution to the problem of fuels build-up and consequent wildfire damage.[3]

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

Figure 2A.

Figure 2B.

Figure 2A, 2B. Florida, with 18.8 million residents, currently has 15 wildfire mitigation specialists on staff, a substantial increase from the early 2000s. As part of their regular job responsibilities, these specialists work with schools, homeowner groups, fire departments, and private landowners to encourage the prevention of accidentally ignited wildfires throughout the state.

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