

Welcome to the *Natural Inquirer* Monograph Series: **FIRE!**

The word “fire” brings many images to mind. Images of campfires and s’mores, birthday candles on cakes, and forest fires are all different images associated with fire (**figure 1**). Just like there are different images

associated with fire, there are also different types of fire. When we talk about fire related to forests and other lands, we generally discuss two types of fire: prescribed fire and wildfire.



Figure 1. This family enjoys a campfire and s’mores. Remember to always make sure your campfire is completely out before leaving it!

Glossary words are in **bold** and are defined on page 32.

Prescribed fire is fire that is set on purpose by trained professionals and monitored by them (**figure 2A**). Prescribed fire burns forest fuels such

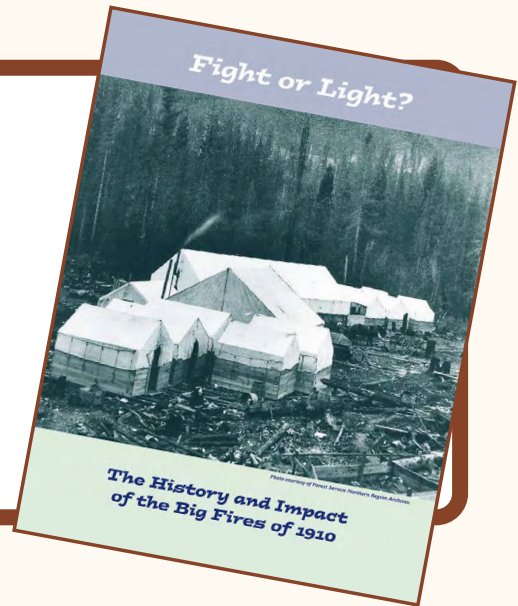
as dead and downed wood and twigs and branches that have fallen to the forest floor. Wildfire is an uncontrolled fire (**figure 2B**).



Figure 2. (A) Prescribed fire operations occurring on Inyo National Forest in California. (B) A wildfire burns on the Lolo National Forest in Montana.

did you know?

The wildfires of 1910 heavily influenced wildfire policy in the United States. Read “Fight or Light?” in the Wildfire 2 *Natural Inquirer* to learn more about the fires of 1910!



In the past, forest managers always put out wildfires. However, scientists and forest managers now know that fire can sometimes be good for an ecosystem. For example, some ecosystems have fire-dependent plants that need fire on a periodic basis to flourish. Additionally, fire burns dead and downed wood providing nutrients for the soil. Fire also can stimulate new growth and improve habitat for wildlife.

Therefore, wildfires are sometimes allowed to burn rather than always being **extinguished**. When a wildfire threatens human communities, however, it is extinguished. Forest managers have several strategies to help communities deal with wildfires.

One strategy is to reduce fuel so that if a wildfire threatens a community, it has nothing to burn. Forest

managers reduce fuels in two main ways. First, they might purposely burn small areas of land with a prescribed fire to remove the fuel. These fires burn cooler than wildfires and only burn near the ground (see **figure 2A**). Forest managers only start these controlled fires if the right weather conditions are in place so that the fire does not spread beyond the area that they want treated.

Another strategy is a process called thinning. Forest thinning means that trees are removed from the forest in a planned way. Thinning helps reduce overcrowding in forests. Overcrowding can lead to unhealthy trees and can provide more fuel for wildfires. Thinning can also help create fuelbreaks. Fuelbreaks are created by the thinning and/or removal of vegetation to reduce the intensity and spread of the fire (**figure 3**). In this

monograph, you will learn about how prescribed fire and thinning affected wildfire behavior and severity.

Other strategies include teaching people about fire and fire safety. There are programs that help communities and individuals identify

wildfire risk in their communities. Smokey Bear is an example of a public service campaign highlighting ways to reduce human-caused wildfires (**figure 4**). Learn more about Smokey Bear on page 12.



Figure 3. A fuelbreak in Flathead National Forest in Montana.



Figure 4. The Smokey Bear public service campaign has been going since 1944.

Photo Credits: Figure 2A: Forest Service photo by Lisa Cox; figure 4: USDA photo by Lance Cheung; Spotlight on Smokey Bear figures 1–4: images from USDA National Agricultural Library.