

Controlled Burning

for Healthy Forest Management in the Appalachians

Why Use Controlled Burns?

In the right place at the right time, fire is a land management tool that can offer numerous benefits to people and wildlife. Many plants and animals rely on the rejuvenating role that fire can play in the environment. Yet fire can also have damaging effects on people, homes and neighborhoods, and cannot be left unmanaged. Teams of skilled fire experts use controlled burns to safely restore this natural process that our forests need to be healthy. By reducing leaf litter and downed limbs that increase wildfire intensity, controlled burns also keep people safer.



The Central Appalachians Fire Learning Network engages federal, state and private land management agencies, academic institutions, and non-profit organizations in a collaborative effort to enhance capacity to implement ecological fire management. Partners in Virginia and West Virginia include: USDA Forest Service, The Nature Conservancy, Virginia Department of Conservation and Recreation, Virginia Department of Forestry, Virginia Department of Game and Inland Fisheries, Virginia Department of Corrections, West Virginia Department of Forestry, West Virginia Department of Natural Resources, National Park Service, US Fish and Wildlife Service, National Weather Service, Arcadia University, West Virginia University, and Virginia Tech. For more information, please visit: www.conservationgateway.org/fln

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How Are Controlled Burns Conducted?

Controlled burns are carefully planned by highly trained fire experts. A plan is first developed which describes the acceptable weather conditions necessary for controlling smoke and fire behavior, the techniques to be used, and the equipment and personnel needed. Preparation for a controlled burn also includes designating firebreaks, which are corridors such as roads, trails or streams around the burn area that are free or cleared of flammable materials and will prevent fire from leaving the burn area. Burns are never lit until all precautions are taken. Safety - of the fire team, neighbors and their property - is always the number one priority.



History of Fire in the Appalachians

Fire has been an essential natural process in Appalachian oak and pine forests for thousands of years. Researchers studying fire-scarred trees have found that fires occurred periodically, often every 3-9 years, dating back to the mid-1600s, and soil charcoal records show that fire has been a part of these mountains for at least 10,000 years. Lightning caused some fires, and Native Americans intentionally set others to help open the forest understory, which increased plant diversity, improved browse for wildlife, and made travelling easier. Early European settlers continued to use fire as a tool to shape their surroundings. They used fire to clear land and saw that occasional fires kept ridgetops open and sunny, which increased wild blueberry crops and also provided benefits for grazing livestock and game.

However, after the turn of the 20th century, the number of people had significantly increased, and fires began to be seen as destructive, so state and federal



agencies were assigned to aggressively fight forest fires. The subsequent absence of fire over the past 80-100 years has transformed our forests. There are fewer grasses and other open habitat plants, and there are more shrubs and tree species in our forests that are not adapted to fire. The total number of trees per acre is unnaturally high and oaks and some species of pines are having trouble regenerating in the now closed canopy conditions.



Controlled Burns Accomplish Specific Management Goals

Fire benefits oak and pine forests by increasing sunlight to the forest floor and promoting seed germination. Periodic surface fires reduce competition by species such as red maple, tulip poplar and white pine. These species, which do not have thick, protective bark, have become more common in the absence of fire. Fire can also promote native grasses and wildflowers, and a series of low intensity fires can thin crowded forests, resulting in less severe disease and insect pest outbreaks. Historical records also describe plants that are difficult to find in the Appalachians today. When fire is reintroduced, plants sometimes reappear where they have not been seen for decades. White-tailed deer, black bear, songbirds and many other wildlife species benefit from the acorns, blueberries and other seeds produced by plants rejuvenated by fire.

