



## Important Prescribed Fire Facts and Background Information

For more info: <http://www.thetrustees.org/prescribedburns.cfm>

### The Fire Partnership at Weir and Boston Hill

- In 2008 The Trustees of Reservations, in partnership with the Town of North Andover and its municipal fire department, Massachusetts Department of Conservation and Recreation Region 5 Fire Bureau, the Massachusetts Natural Heritage and Endangered Species Program, and the US Fish and Wildlife Service successfully implemented a Fire Management Program at Weir Hill, North Andover. The goal of the program is three fold: 1) improve public and firefighter safety by reducing the amount of leaves, dead wood and plants that can burn (fuel load), 2) provide training opportunities for North Andover Fire Fighters; and 3) promote biodiversity at Weir Hill by restoring fire-dependent landscapes.
- In its first year, the partnership used prescribed fire (described below) to restore 13 acres of grassland, woodland and shrubland habitats, and provided valuable training for North Andover and Boxford Firefighters. It is noteworthy that this spring was one of the most fire active seasons in Massachusetts history, with firefighters responding to several hundred wildfires across the state. Many of the firefighters that participated in prescribed fire activities and training at Weir Hill, were called upon to use those skills in suppressing wildfires throughout the region during the latter part of the season.
- One of the partnership's hopes is to provide a model for the use of prescribed fire to manage habitat and reduce wildfire threat throughout Essex County. To that end, The Trustees has continued to restore fire-adapted habitats and expand its Fire Management Program to Weir Hill and Ward Reservations in North Andover.
- The program continues, and over the course of the growing season with a priority on spring, this partnership will apply prescribed fire (description below) to 20-30 acres at Weir Hill and Ward Reservation (Boston Hill) to improve public and firefighter safety by reducing fuel load, provide training opportunities for firefighters, and protect and promote rare species and wildlife habitat.

### Fire's Ecological Role and History at Weir and Boston Hill

- Fire is an important process in maintaining habitats for many species of plants and animals. While historically lightning may have caused fires, Native Americans regularly burned areas to improve forage, stimulate berry and acorn production, and ease travel routes. Many plants and animals are dependent on periodic fires for their reproduction, growth, and survival. Throughout Massachusetts, the development of towns, roads, and farmlands, combined with effective fire suppression, has stopped fire from moving across the land as it once did. As a result, habitats dependent on fire are in decline, and approximately 30% of the plants and animals listed under the Massachusetts Endangered Species Act benefit from or depend upon

habitats created and maintained by fire.

- Eighty acres of Weir Hill's dry southwest facing slope are prone to fire, and for centuries, and perhaps millennia given Native American occupancy of the area, the property has burnt on a regular basis. Between 1960 and 1980, the North Andover Fire Department responded to an average of two wildfires a year; the last large blaze occurred in 1995, burning 60 acres over two days. Since the 1995 fire, fuel conditions have grown and are now conducive to a large-scale wildfire. A similar history has occurred on Boston Hill at the Ward Reservation.
- This long, uninterrupted history of frequent fire has created some of Essex County's most significant fire-influenced plant communities supporting several rare and uncommon species dependent on fire. Indeed, the properties have become a refuge for several fire-dependent species that are uncommon throughout Massachusetts. Given the significance of this fire dependent landscape, The Trustees has committed to restoring and managing these habitats using strategies such as prescribed fire.

### **Prescribed Fire and Prescription for Weir and Boston Hill**

- Prescribed fire is a fire intentionally ignited under specific (prescribed) conditions by trained fire professionals to achieve specific management objectives. Prescribed burning restores fires to the landscape in a controlled manner and reduces the threat of wildfire by reducing the buildup of dead wood and other debris (fuel). Prescribed burns are conducted by trained fire professionals who have studied fire behavior and fire control techniques to ensure the safety of the burn crew, nearby residents, and private property.
  - *Prescribed fires at Weir and Boston Hill will be conducted under the leadership of a certified prescribed fire leader and the Massachusetts District Fire Warden utilizing a professionally trained burn crew.*
- Planning is the key to a safe and effective prescribed burn. Before fire is applied to the land, a rigorous planning process is undertaken to determine the acceptable conditions under which the burn will be conducted. The conditions are written up in a document called a "prescription," which includes expected fire behavior, relative humidity, wind speed and direction, air temperature, and dryness of the vegetation, along with a plan describing how fire will be ignited and contained. By following a prescription, fire managers are able to accomplish the objective of the burn and provide for public safety.
  - *Joel Carlson of Northeast Forest and Fire Management, LLC has written the fire prescription for Weir and Boston Hill and will serve as burn boss and coordinate prescribed fire activity at the properties. These fire plans have received rigorous peer-review by fire professionals from across the country.*
- Fire breaks, which surround the area to be burned, prevent the fire from moving onto adjacent land. A fire break may be a road or trail, mowed line, a natural feature such as a stream or pond, or a recently burned area. During the burn, fire breaks are patrolled by burn crew members who use specialized fire tools, backpack water pumps, and water-carrying pump tucks to ensure that the fire does not cross the fire break. Crew members wear special fire resistant clothing to protect themselves during the burn.

- *At Weir Hill, several natural fire breaks have historically contained fire within the 80-acre footprint of Weir Hill's southern slope: the shores of Lake Cochichewick surround the area on three sides, and the cool, moist slope of the drumlin's north face limits the potential for fire to burn down the backside of the hill. In addition, recent clearing associated with habitat restoration has created additional fuel breaks, dividing the area into manageable burn units.*
- *Burn units at Boston Hill are delineated by several trails and natural and manmade fire breaks which have confined fire's influence to the Hill's southwest slope and divide the area into manageable burn units.*
- *Once initial burns are completed and fuel loads reduced, burn units can be maintained with periodic low-intensity fires, sustaining the habitat value of the area while protecting public safety and private property. Once burned, specific areas will not need to be burned for several years, limiting the size and frequency of controlled fire at Weir and Boston Hill.*
- Controlling where smoke will go is an important part of every prescribed burn. Before each burn, fire managers look carefully at smoke sensitive areas, this information is incorporated into the burn prescription so that the burn will only be conducted when winds will move smoke up and away from populated areas. Periodic prescribed burns prevent heavy brush accumulation, which would send a larger amount of smoke into the air if a wildfire were to occur.
  - *Whereas the 1995 wildfire at Weir Hill burned for two days, prescribed fire will reduce fuel loads under conditions conducive to smoke dispersal and in a controlled fashion - an acre at a time, minimizing the threat to public safety and property from smoke and fire hazards.*
- Given the hills' extensive fire histories, it is not a question of *if*, but *when* fire will return. The partners wish to mitigate the risks associated with wildfire by reducing forest fuels in a controlled manner. Applying prescribed fire allows managers to position equipment and firefighters in advance and select the conditions under which a fire will burn; in turn, managers are able to greatly control fire behavior. Instead of scorching 30-60 acres in a single wildfire, the partners will strategically reduce fuel loads an acre at a time, minimizing the threat to public safety and property from a possibly larger, uncontrolled wildfire.

## **About The Trustees**

**The Trustees** preserves and cares for some of Massachusetts' most treasured natural, scenic, and historic sites for public use and enjoyment. Founded in 1891, The Trustees is the first land preservation nonprofit of its kind in the world and the Commonwealth's largest conservation and preservation organization. With a passion for protecting the irreplaceable for everyone, forever, The Trustees is focusing its renewed mission on connecting more people of all ages and interests to outdoor recreation, culture, agriculture, and healthy, active living using its 116 diverse properties, community spaces, and over 5,000 annual programs as a powerful and compelling platform. Located within minutes of every resident and visited by 1.75 million people in 2016, Trustees properties span more than 27,000 acres across the state – from working farms, landscaped and urban gardens, and community parks, to barrier beaches, forests, campgrounds, inns and historic sites, many of which are National Historic Landmarks. The Trustees is also a worldwide model and active leader in land conservation, serving as the largest private holder of conservation restrictions of any entity in the state, overseeing the protection of more than 20,000 acres, and working with community's partners to protect additional land, totaling over 25,000 acres to date. Also a leader in the local, sustainable food movement, The Trustees operates five working farms with CSA programs, holds over 2,000 acres of farmland, and is a founding partner of the Boston Public Market, the first all locally-sourced indoor market of its kind in the nation, where it runs all educational programming at the Market's demonstration KITCHEN and is one of 40 on-site vendors. Funded by our nearly 125,000 members and supported by many generous donors, partners, and volunteers, The Trustees invites all to get out, get inspired, and find magic in the moment through a Trustees program or property: [www.thetrustees.org](http://www.thetrustees.org).