For more information about habitat restoration and controlled burning in the Desert Natural Area go to our website:
www.svtweb.org/DesertNaturalArea

If you have other questions or comments contact:

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Massachusetts Department of Conservation and Recreation Forestry Program

MassWildlife Landowner Incentives Program (LIP)

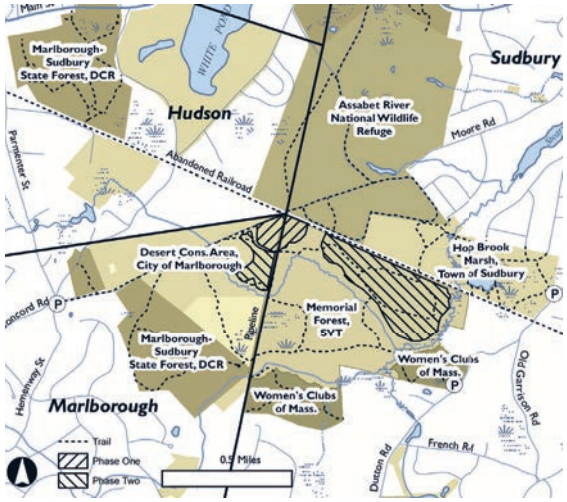
American Woodcock

City of Marlborough Conservation Commission Mission

To work to protect the natural resources of Marlborough both its wetland and open space.
The Commission:

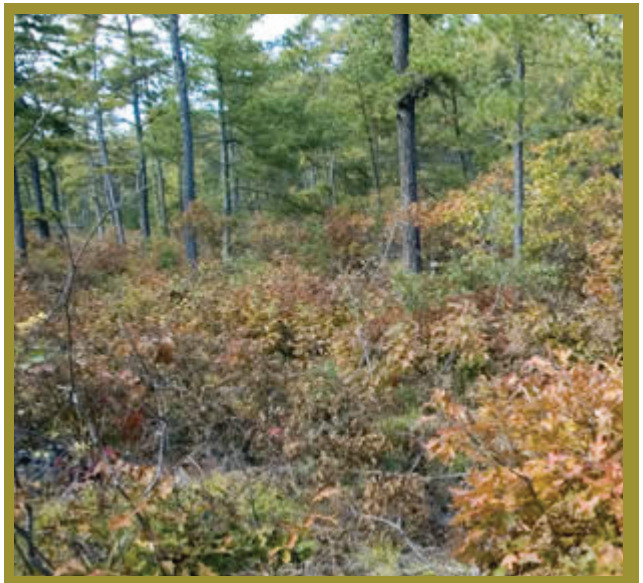
- Administers the Massachusetts Wetlands Protection Act
- Undertakes land acquisition
- Manages conservation land management
- Undertakes public education and participation on environmental issues

The reason for the Commission's existence: Protection of wetlands and natural open spaces!



Sudbury Valley Trustees Mission

Sudbury Valley Trustees (SVT) is a regional land trust dedicated to the protection of the natural resources and wildlife habitat of the Sudbury, Assabet and Concord river basin. SVT carries out its work through land acquisition and stewardship, advocacy, and education throughout a 36-town region. SVT protects and cares for over 100 properties of conservation land that include wetlands, sensitive habitats, trails and other open spaces. SVT reservations are open to the public free of charge.



PRESCRIBED FIRE F.A.Q.S

FREQUENTLY ASKED QUESTIONS ABOUT THE USE OF PRESCRIBED FIRE IN THE DESERT NATURAL AREA

Sudbury Valley Trustees

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A nationally important fire dependent natural community can be found in the Desert Natural Area

The Desert Natural Area (the Desert) is a 900 acre ecosystem complex within a larger area of over 4,000 acres of protected conservation lands. The sandy, nutrient poor soils found in parts of the Desert Natural Area support a pitch pine scrub oak (PPSO) community which is unusual for this region and among the most endangered ecosystems in the country. Many of the plant and animal species in this community are adapted to fire and dependent on occasional fire for their survival. This unique habitat has declined both regionally and nationally over the last 50–100 years due in part to the suppression of the natural forest fires which serve to maintain the health of this fire dependent community. Given the significance of this PPSO community, Sudbury Valley Trustees and the City of Marlborough have been awarded several grants from state and federal sources to restore PPSO habitat in the Desert. The restoration of the pitch pine scrub oak barrens is part of a larger plan for active stewardship of this property to conserve and enhance biological diversity and environmental health.

What is prescribed fire?

Prescribed fire is a controlled burn used in habitat management that is planned, ignited and managed by professional fire managers. It is one of the most effective tools for restoring healthy ecosystems while avoiding the environmental damage that can be caused by unplanned wildfire. The first step in any prescribed burn is the development of a burn plan, also called a prescription, which describes not only site preparation and the exact conditions for the burn, but also includes a contingency plan for responding to an escape. A prescribed fire is only allowed under very specific conditions including availability of resources, personnel and equipment, time of year and weather on the day of the burn.

Why do we need to use fire?

Historically fire is a natural occurrence in Pine Barrens, and the community is fire adapted. Pitch pine, for example, has several adaptations due to its close association with areas experiencing frequent fire. Its thick bark protects the living tissue and buds from being damaged by fire. Fire actually stimulates the resurgence of young healthy vegetation. Scrub oak and huckleberry, for example, sprout readily from their root crowns. Certain plants will not germinate without being scorched by fire. The cones of some evergreen trees, like pitch pine, must be exposed to high temperatures to release their seeds. After years of lying dormant under layers of accumulated pine needles and forest debris, fire dependent native plant species are able to return after the fire. Thinning of the overstory also allows more sun to reach the seeds of these plants. In addition, fire creates ash which provides nutrients for plants.

The use of prescribed fire in habitat restoration achieves a higher quality habitat than using mechanical means alone. The use of prescribed fire has the very important advantage of reducing the fuel load in the forest and therefore also reducing the risk of an uncontrolled wildfire. Prescribed fire is used to improve public and firefighter safety by reducing the chance of a wildfire. In addition to improving public and firefighter safety by reducing the chance of a wildfire, a controlled burn provides training opportunities in wildfire control for local fire departments.

How will the fire and smoke be contained and controlled? Safety Comes First!

Every burn plan describes the site preparation necessary to conduct a safe burn including the location of fire breaks, roads and emergency crew access to the site. The conditions under which a burn will proceed are very specific in order to manage both the fire itself and the containment of smoke from the fire. On the day of the burn very specific weather conditions are required; therefore, it is often challenging to fire professionals to complete the prescribed burns each season. It is important to prevent smoke from entering residential areas and creating human respiratory problems.

What are the benefits of doing a prescribed burn in the Desert?

In the Desert Natural Area there is a mixture of pitch pine and scrub oak in a habitat mosaic with red maple swamps, cold water streams and associated wetlands. Some areas are relatively open woodland with tall pitch pine in the canopy and some areas have a dense and shrubby understory of scrub oak, huckleberry and blueberry bushes. This rich habitat mosaic supports fire dependent plant species and several rare animal species. About 30% of the plants and animals listed in the Massachusetts Endangered Species Act benefit from or depend upon these more open habitats created and maintained by fire. By conducting a prescribed burn we are helping to ensure that the pitch pine scrub oak forest community will survive in this location.


Wild Lupine

The wild lupine, for example, which is still found in the Desert, is among these species. The caterpillars of some butterfly species, like the rare frosted elfin, feed on the wild lupine as the primary host plant. Many rare species of moth depend on PPSO habitat to survive especially those that feed almost exclusively on pitch pine and scrub oak. The barrens buckmoth females, for example, lay their eggs on the twigs of scrub oak. The leaves of blueberry bushes are an important food source for the caterpillars of the slender clearwing sphinx. Both the barrens buckmoth and the slender clearwing sphinx are state listed species of special concern.

Several species of birds including prairie warblers, eastern towhees, brown thrashers, American woodcok and eastern whip poor wills depend on the open canopy structure that PPSO habitats provide. Whip poor wills, found mostly in open woodlands and especially in PPSO habitats, were recently listed as species of special concern in Massachusetts.


Whip-poor-will

There are other scrubland dependent species such as the New England cottontail, a candidate for federal listing, which would benefit from the dense scrub-oak thickets. These species have been in decline due to habitat loss. Without disturbance, such as fire, the oak - white pine forest will slowly take over the pitch pine barrens and the community of plants and animals dependent on the more open pine barrens habitat will not survive.


Eastern Towhee


Frosted Elfin

What's the plan?

The prescribed burn planned for the fall of 2013 is just one aspect of Desert Natural Area management plan. Other goals include the control of invasive species throughout the Desert; maintenance of rare turtle habitat and habitats for migratory bird species; and maintenance of high quality cold water streams, vernal pools and upland habitats required by vernal pool breeding amphibians. Another goal of this project is to increase public awareness of biodiversity of this conservation area, as well as habitat restoration and maintenance and forest stewardship in general.

Since 2010, when teams of trained volunteers finished mapping invasive exotic plants throughout the Desert, there have been several invasive plant removal days In certain areas it has been necessary to hire certified herbicide applicators to selectively treat invasive plants. Manual removal of invasive plants will be on-going by volunteers and will continue after the burn.

In the first phase, during the winter of 2012-2013, we will be clearing small trees and brush to prepare a 14.5 acre site located at the boundary between SVT and Marlborough lands on either side of the pipeline near trail intersection "E" for the prescribed burn. The actual burn will be conducted by highly trained burn professionals from multiple agencies including Department of Conservation and Recreation (DCR), MassWildlife, the Nature Conservancy and the US Fish & Wildlife Services. Northeast Forest and Fire Management LLC, an independent company, has been retained to develop the prescribed burn plan for the project.


Prescribed Fire

This plan will then be reviewed by local fire departments, local conservation commissions and burn experts from Massachusetts Natural Heritage and Endangered Species Program (MNHESP). Local fire departments will be kept up to date and may opt to be involved with the burn itself. The burn boss has not yet been identified, but only highly qualified people serve as burn bosses and on the burn crew. These individuals complete extensive coursework and active fire training.

What about after the fire?

Although the landscape may look dramatically different right after the fire, the post-fire recovery is usually very rapid. Within days of the fire, grasses and other herbaceous species will resprout from their roots. Seeds that have been stimulated by the heat will germinate, and all of the plant species will benefit from the ash, which contains recycled nutrients and will act as a fertilizer. After the fire dormant buds of the pitch pine will produce sprouts of needles which grow directly out of the trunk and branches, allowing photosynthesis and cone production to continue. Pitch pine is the only conifer in the eastern U.S. that sprouts in this way.

Prescribed fires have a positive effect on most wildlife. Soon after a fire, turtles, moths and bluebirds are seen scurrying into the area to find food and new habitat. In most cases, because prescribed fires are relatively small and slow moving, many species can easily escape by moving to adjacent areas or burrowing underground. Smaller animals may take refuge in underground burrows or thick cover on the forest floor. Some animals, such as the slow moving turtles or snakes, may be killed during wildfires or prescribed burns, but many turtles like the eastern box turtles survive fires by burrowing underground. Nestlings or young birds are most vulnerable to fire but burns are planned to avoid critical nesting times. However, the overall benefit to wildlife of habitat restoration far outweighs the loss of wildlife during a prescribed burn. Ironically, the absence of fire may well cause greater harm and loss of life in the long term.

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