The Crane Swamp Conservation Area provides a wealth of habitat diversity important to wildlife of the New England region. The Massachusetts State Wildlife Action Plan emphasizes the importance of early successional habitats to maintain biodiversity. Early successional habitats are any non-mature forest habitat. In this case we are referring only to upland habitats and not wetlands. Due to historic changes in land use (from agriculture and silviculture to residential and commercial), we have lost large areas of successional habitat. The former agricultural and silvicultural landscape provided a mosaic of old fields, shrublands and young forest. As you walk the trails of the Crane Swamp Conservation Area, you will have the opportunity to view early successional habitats - wet meadow and upland field, shrubland and young forest, as well as mature red maple swamp and oak-pine forests. As you pass from one habitat to the next, notice the changes in habitat structure and types of vegetation. Be sure to listen and look for signs of birds and other wildlife.

The Crane Swamp trail system is cooperatively maintained by:
Westborough Community Land Trust
Northborough Trails Committee
Sudbury Valley Trustees

RULES AND REGULATIONS

We welcome you to enjoy the trails for walking, skiing, snowshoeing, nature study, photography, and other quiet activities. Please carry out everything you carry in.

In order to protect this natural area, the following are prohibited:
- Motorized Vehicles
- Hunting or Trapping*
- Camping
- Bicycling**
- Fires
- Disposing of Trash or Yard Waste
- Cutting or Removing Plants

* Hunting is allowed on state Fish & Game land
** Bicycling is allowed on state Fish & Game land

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. Please consider joining SVT as a member. For more information see www.svtweb.org.
1 You are standing in the middle of a field that includes wet meadow and dry field habitat. The diversity of grasses, herbs and wildflowers in this meadow provides excellent habitat for insects, butterflies, small mammals and birds.

Notice the abundance of milkweed which is the host plant for most of the monarch butterfly's life cycle. Monarch butterflies are famous for their annual winter migration to Mexico. Eggs are deposited and hatch on the underside of leaves of the milkweed plant. Upon hatching, the larva will feed on the leaves of this plant throughout its five molting stages. After the final molt, the larva will leave the milkweed and construct its chrysalis somewhere else. However, once an adult monarch emerges from the chrysalis, it will soon head back to a milkweed plant for foraging and shelter.

2 This large sugar maple provides a great home for wildlife, such as flying squirrels, because it is hollow inside. This grove of sugar maples and hop hornbeam trees indicate that the soils are relatively “rich,” that is, they are more alkaline than the acidic soils found in much of the eastern Massachusetts coastal plain. You can identify a hop hornbeam tree by its light brown bark that has vertical strips.

You may also notice that the understory, below the tree canopy, is more open right here. SVT has been removing Japanese barberry, an invasive shrub. Japanese barberry invades forested areas with wet soils. The soils at Cedar Hill have poor drainage due to the extensive bedrock close to the surface. Over time, we hope to continue removal in this area around the sugar maple trees and restore native vegetation.

3 Young deciduous forest with small trees, like you see here, are important habitat for ruffed grouse and woodcock. MassWildlife has put urines, feces or by rubbing their body on old stumps and other objects. Fisher often use natural cavities in large trees for denning.

4 This large sugar maple provides a great home for wildlife, such as flying squirrels, because it is hollow inside. This grove of sugar maples and hop hornbeam trees indicate that the soils are relatively “rich,” that is, they are more alkaline than the acidic soils found in much of the eastern Massachusetts coastal plain. You can identify a hop hornbeam tree by its light brown bark that has vertical strips.

You may also notice that the understory, below the tree canopy, is more open right here. SVT has been removing Japanese barberry, an invasive shrub. Japanese barberry invades forested areas with wet soils. The soils at Cedar Hill have poor drainage due to the extensive bedrock close to the surface. Over time, we hope to continue removal in this area around the sugar maple trees and restore native vegetation.

5 Towering pines are impressive to behold. These white pines were likely planted in the 1930s by the state to protect the water supply. Over time, the native forest will replace most of these pines. Look in the understory at smaller trees to see what type of forest the future holds. If you look to the east, beyond the stone wall, you will see a very different natural community. What are the differences in vegetation and structure that you notice? Will this pine forest look like the other side of the wall 50-75 years from now?

6 The new Metropolitan Water Resources Authority (MWRA) Carroll Water Treatment Plant, completed in 2005, supplies drinking water to Metrowest and Boston residents. This slope was created around the new water tank to restore habitat and prevent erosion. The steps and vegetation prevent rain water from eroding the slopes. MWRA engineers used native plants that are good for wildlife; the berry producing shrubs are great food for birds and mammals. Fisher, fox and coyote are known to indulge in wild berries of all types. Some of the plants here include elderberry, willow, silky dogwood, and chokeberry.

7 The new Metropolitan Water Resources Authority (MWRA) Carroll Water Treatment Plant, completed in 2005, supplies drinking water to Metrowest and Boston residents. This slope was created around the new water tank to restore habitat and prevent erosion. The steps and vegetation prevent rain water from eroding the slopes. MWRA engineers used native plants that are good for wildlife; the berry producing shrubs are great food for birds and mammals. Fisher, fox and coyote are known to indulge in wild berries of all types. Some of the plants here include elderberry, willow, silky dogwood, and chokeberry.

8 Young deciduous forest with small trees, like you see here, are important habitat for ruffed grouse and woodcock. MassWildlife has put

9 You are standing in the middle of a field that includes wet meadow and dry field habitat. The diversity of grasses, herbs and wildflowers in this meadow provides excellent habitat for insects, butterflies, small mammals and birds.

Notice the abundance of milkweed which is the host plant for most of the monarch butterfly's life cycle. Monarch butterflies are famous for their annual winter migration to Mexico. Eggs are deposited and hatch on the underside of leaves of the milkweed plant. Upon hatching, the larva will feed on the leaves of this plant throughout its five molting stages. After the final molt, the larva will leave the milkweed and construct its chrysalis somewhere else. However, once an adult monarch emerges from the chrysalis, it will soon head back to a milkweed plant for foraging and shelter.

10 This rock outcrop is part of the roots of a mountain range called the Acadians, which have long ago eroded away. It is composed of igneous or crystalline rock called Gabbro, which forms from magma that slowly cools deep within the earth's crust. The rock in this outcrop is part of a major regional fault zone called the Bloody Bluff fault (named after a locality of the fault near a Revolutionary War site in Concord, MA). This fault extends northeast-southwest through eastern Massachusetts and represents a "suture zone" where the Avalon microcontinent collided with proto-North America during the Acadian mountain building event, about 380 million years ago. At the time of this collision, the rock in this outcrop was buried below the earth's surface and was subject to intense heat and pressure. Many earthquakes occurred along this fault at that time and later, causing the rock to be sheared, stretched and deformed in a process geologists call "mylonitization". Today, geologists consider this area to be very stable and the Bloody Bluff fault has little activity.
What a great view! To the south-south east (your left) you can see the Westborough water tank on Newton's Hill with SVT's Walkup and Robinson Reservation behind it. To the southwest (your right), you can see two church spires in downtown Westborough, with Fay Mountain behind the town.

SVT is in the process of restoring shrubland habitat on the southern slope of the hillside. Shrubland habitat is important for birds such as eastern towhee and blue-winged warbler. Prey animals, such as rabbits and rodents, are very common in early successional habitats like this. Therefore, this habitat also supports predators such as red-tailed hawk, coyote and bobcat. Bobcat tracks and sign have been found at Cedar Hill.

Read more about this project on the kiosk located on the hill top.

If you look around you, you are likely to notice thick infestations of Oriental bittersweet vine. One of the greatest challenges of the habitat restoration project is controlling this invasive vine and invasive shrubs, including honeysuckle and multiflora rose. SVT is using selectively applied herbicide treatments over several years to control the invasive plants. Over time, we expect the native vegetation to become more abundant and the invasive vegetation to decline. Some of the native shrubs that you may find in future years are arrowwood viburnum and highbush blueberry.

Crane Swamp is one of the largest, relatively undisturbed red maple swamps in eastern Massachusetts. The swamp serves as an important protection area for secondary water supplies serving the town.

While walking the trails look for signs that wildlife may have traveled here before. Coyote and fox will typically deposit scat (feces) right in the middle of the trail, especially at intersections and on prominent objects like large rocks. Fisher also mark their travel routes with scat, but usually not directly on the trail. Look for fisher scat on old stumps, fallen logs and at the base of trees. This is one of the ways that animals mark their territory. Fisher make scent posts with the dead and dying eastern red cedar trees are a relic of former pasture land. Red cedar can only grow in full light conditions and dies off when shaded out by taller trees. The farm that used to be here was one of Westborough's primary farms in the late 1700s. The land was maintained as a farm by the Sawin family until the mid 1900s. Red cedar, a member of the juniper family, can be recognized by its reddish brown, shreddy bark and evergreen scale-like leaves. Birds and squirrels like to use the cedar bark for their nests.

You are standing in a grove of sick hemlock trees. These trees have been attacked by the hemlock woolly adelgid, a tiny insect from Asia. While it is difficult to see the insect, you can see the white cottony substance that it creates on the leaves of the hemlock tree. Take a close look at one of the branches to see this and then notice how sections of the hemlocks are dying. Diseases and pests, such as this, can dramatically alter the character of our forests over time, changing the structure and species composition. Some sections of hemlock forests in Connecticut have completely died. Fortunately, we have yet to see such a dramatic of an effect in Massachusetts.

Illustrations copyright 2007:
Red Fox, Monarch Butterfly and Fisher by Gordon Morrison;
Flying Squirrel by Annelies Kamen;
Woods Trail, Rock Outcrop and Hilltop Path by Joyce Dwyer