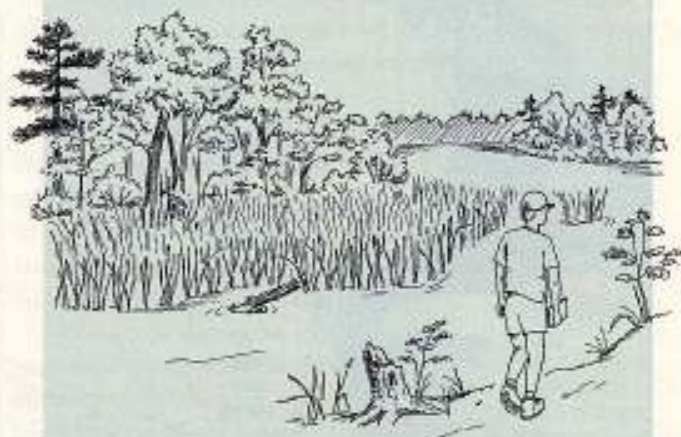


*You may keep this brochure
or return it to the box for others to use.*

LaPlatte River Marsh Natural Area

TRAIL GUIDE



Welcome to the LaPlatte River Marsh Natural Area!

This 211-acre preserve is owned by The Nature Conservancy. Because of people like you, who appreciate and support natural area protection, this marsh and surrounding forest will continue to thrive for many generations to come.

The purpose of this self-guided walk is to provide information about the various forces that have shaped the land, and to familiarize you with the site's diverse flora and fauna. Each of the ten stations along the trail will help you explore the patterns and processes that define this landscape. Please respect the animal and plant life as you proceed. We hope you enjoy your walk through this beautiful natural area.

*The
Nature
Conservancy*
Saving the Last Great Places

SHELBURNE, VERMONT

Preserve Guidelines

Please keep these things in mind as you walk through the preserve:

- Use of preserves is limited to such passive recreational activities as hiking, bird watching, photography, nature study, etc.
- Stay on designated paths.
- Remove no plants, animals, artifacts or rocks from preserves.
- No camping is allowed. Build no fires and leave no litter.
- Keep group size small and please leave pets at home.



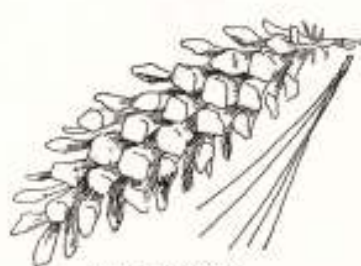
Station 1 The Water's Edge

Look around you, scanning from the water's edge across the trail to the trees at your right. What kinds of patterns do you see in the vegetation? Look for a transition in the plant composition moving from the water's edge to the trail, paying special attention to the tree species. What causes this transition? The answer lies in the amount of water in the soil. The moist soil of the riverbank supports species that thrive in wet sites — black willow, green ash, and silver maple. On the other side of the trail you'll notice one particularly dominant tree species, white pine, which grows well in the drier, well drained soils of the upland areas.

Now look across the marsh. Do you see similar vegetative patterns? First, you might notice the trees growing in and around the water's edge. These are mainly silver maples. In

summer you may notice high water marks on the bark, as high up as six feet from the ground, indicating spring flood levels. Near these silver maples and out into the deep water of the marsh you might see some familiar plants such as burreed and cattail, two of the most common herbaceous wetland species.

Trees are an important part of the LaPlatte landscape. Here are tips to help you identify some of the more common species you will likely encounter. These evergreen species are easily identified because their needles are present year-round:



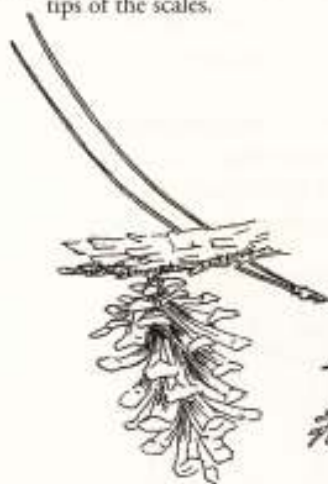
WHITE PINE

has five needles in a bunch and long cylindrical cones with white resin marks at the tips of the scales.



EASTERN HEMLOCK

has short flat needles and small half-inch cones on the tips of the branches, often found in the forest understory.



RED PINE

has two needles in a bunch, and bark which is often flaky and slightly red in color.



EASTERN RED CEDAR

has sharp, scaly "leaf-like" needles and shreddy "fence-post-like" bark.

(drawings are not all to the same scale)

Along the Way

About 50 feet down the trail, on the left, you'll see a large tree leaning out over the water. Black willow trees like this one are fairly common in wet areas where the soil is always saturated. Black willows are typically short-lived, and regenerate both by seed and by fallen branches that ride the current to root elsewhere.

Station 2 Upland Landscape

From this station you can see an old field with many shrubs and some trees. Can you guess what type of activity occurred prior to the growth of these trees and shrubs? If you guessed farming, you're right! Abandoned fields such as this one are very common in Vermont, where 85% of the landscape was cleared for farming.

The abundant sunlight and moist soils provide suitable habitat for white ash, American elm, and white pine, most of which are able to grow full and outward in the absence of crowding and competition.

The early successional vegetation at this site provides great habitat for wildlife. White-tailed deer often bed down underneath the pines during the winter months and browse on the low-lying vegetation. (Signs of deer beds are easy to spot — look for body imprints melted in the snow underneath the evergreens with deer tracks surrounding them.) The area is also ideal for birds such as woodcock, gray catbird, song sparrow, ruffed grouse, common yellowthroat, and many other seasonal residents and visitors. Look for signs of eastern cottontail rabbits here, as they, like many of the birds, prefer old fields with low, dense ground cover.



Woodcock

Station 3 View of the Marsh

From this point you get a great view of the marsh as its water sources merge. Far across the water, running along the farthest visible bank, is the LaPlatte River which is responsible for most of the water flowing into the marsh. The closer inlet, located to your right, is McCabes Brook. These two water sources, combined with lake water backing up into the marsh, create a dynamic marsh ecosystem.

Station 4 The Exotics

Thus far, have you noticed any particular shrubby species dominating the sides of the path? The shrub layer of both the marsh banks and some of the upland is dominated by two species — common buckthorn and honeysuckle. Common buckthorn (a shrub or small tree) has dark bark, persistent berries that turn from green to dark blue as they ripen, and scattered thorns on its branches. Honeysuckle is a shrub with many tan branches, and bright red berries in the summer.

Both are considered exotic species because they are not native to this area. During the late 19th century these species were introduced to North America from Japan and Europe, and they have spread vigorously. These exotics are considered a nuisance because they invade natural areas, crowd out native plants, and reduce biological diversity.



Common Buckthorn



Honeysuckle

Along the Way

To see just how aggressive and abundant these invaders really are, look for their presence both in the understory of the forest and in the open sunlight. Many exotics like these out-compete the native vegetation due to their ability to survive in shady conditions.

Station 5 Ice Storm of 1998

The second station of this walk pointed out landscapes that have been disturbed by humans. Look around you, especially at the tree tops. What do you notice? Can you tell that this area has been disturbed by looking at the trees? The toppled limbs in the tree tops and litter of branches on the ground suggest a natural disturbance of some kind. Can you guess what might have caused this? In January of 1998 a major ice storm struck New England and Canada, leaving many trees in the region coated with a layer of ice up to two inches thick. The weight of the ice on branches caused limbs to snap off, or in some cases, toppled the tree entirely. White pines were especially susceptible due to the perpendicular orientation of the branches and the bundles of needles which acted like traps, accumulating a heavy layer of ice.

Although the damage to individual trees was intense, the ice storm was a natural process which contributes to the ever-changing face of forests. Other natural disturbances such as fire and disease have occurred throughout history, causing the forest to continually respond and change. The forest you see before you is merely a snapshot in time.



Station 6 Beavers Among Us

One industrious species that lives along the LaPlatte has had a profound impact on this landscape for many years. Can you think of what animal it might be? If you guessed beaver, you're on the right trail. Literally. Look around you — do you see any sign of beavers here? All around are small pointed stumps and many sprouting shoots. Beavers have changed this landscape for years by damming water and felling trees for food and lodges. In the preserve the beavers seem to prefer trees such as green ash, eastern cottonwood, swamp white oak, and silver maple.

Beaver activity is another type of natural disturbance. When beavers remove trees from the forest canopy, sunlight reaches the forest floor, promoting the growth of tree species such as gray birch and white pine, which require abundant sunlight.



Station 7 Nutrient Cycling

As you look down at the ground, what do you notice that is no longer living? You should be able to see quite a bit of dead material in the form of logs, stumps, branches, and leaves. All of this decaying organic material plays a vital role in the life of a forest. Can you think how?

As plants die or shed branches and leaves, they fall to the ground and slowly decompose. A host of microorganisms, fungi, and insects break down the materials and release the nutrients required for plant growth back into the soil.

Look for the few old rotting stumps around this station. Did you know that stumps can tell a piece of landscape history? If a stump is leveled evenly, then it was most likely cut by humans. If it is tapered at the top and looks gnawed, then it was felled by beaver. By counting the number of growth rings on a stump, we can estimate how old it was when it fell. We can also look at an old rotting, mossy stump and guess what kind of tree it might have been. Certain hardwood stumps (such as those from oak, locust or American chestnut) rot from the inside outward, the inner core of the tree being the most prone to decay. Softwoods generally decay from the outside in, due to the rot resistant nature of their inner wood. This is especially true of the eastern hemlock, so common in this forest. Try to distinguish for yourself what types of trees these stumps are from!



Station 8 Flooded Silver Maple Forest

As you look out from this point, your eyes are most likely drawn to the large, dead standing trees in the middle of the marsh. What might have killed these trees? The answer is beaver activity during the 1980s.



In 1980, the area in front of you fed by McCabes Brook was a fully functioning floodplain forest with a thick canopy, but by 1985, the area was completely flooded as a result of beaver dams. Since tree roots need oxygen, the flooding caused the silver maples and ashes to die, standing as they were. Also, beaver probably girdled some of the trees causing them to die and fall.



Station 9 The Old Trees

How old would you predict this relatively large white pine to be? We've estimated it to be about 100-125 years old, one of the oldest in the forest. That means the tree began as a tiny seedling way back in the late 1800s! Why would this old tree still be standing here, while the rest of the forest is so much younger? The answer brings us back to the human disturbance and landscape dynamics explored at station two.

During the 19th century, the area was used primarily as a pasture. By the 1930s much of the area was allowed to grow back to woods, which were then logged several times. This large white pine and several others like it survived all of the grazing and logging, either by chance, for shade, or for marking a boundary.

Along the Way

We encourage you to sign in at the ledger box. Please feel free to leave comments for others to read. Your ideas will help The Nature Conservancy manage the preserve. Enclosed in the sign-in box you will find a check list of birds that use the preserve. Please feel free to take a checklist and, as you identify each bird, see if you can observe how it uses the resources of the preserve.

Station 10 Cattail Marsh

You should be able to see evidence of the cattail marsh during any month of the year. Cattails thrive in wet and shallow areas that are saturated year-round, and provide important habitat for a variety of wetland animals.

Red-winged blackbirds are often found singing and nesting in these cattails. They are very territorial, and you can hear the males singing to defend their piece of the marsh.

At this point on the trail, you are as far from the roads and noise as you can be. Try sitting on the bank for a while to experience the many sounds and sights from this vantage point. Don't you find it amazing that such a relatively small marsh, surrounded by busy roads and developments, can still host such a wide array of plant and animal life?

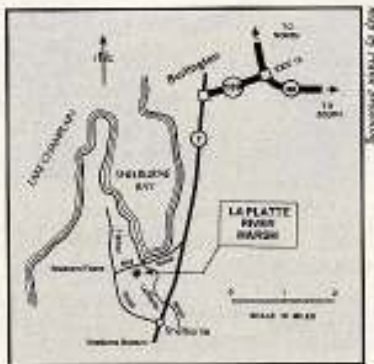


Red-winged
Blackbird

Congratulations!

You have completed the LaPlatte River Marsh Natural Area interpretive trail. We hope you have enjoyed this special place. From here the trail wraps back on itself just up ahead to the right.

Your return trip can be a test — as you walk back to where you started, try to remember what is important about each site and how each site is related to the others. Good luck and thank you for visiting the LaPlatte River Marsh Natural Area.



If you've enjoyed this walk, we encourage you to explore the nature trail at nearby Shelburne Bay Park. For more information on nature walks in this region please contact:



27 State Street • Montpelier, Vermont • 05602
TEL: 802 229-4425 FAX: 802 229-1347 www.tnc.org

*Designed by Christopher Haggerty as part of his senior project in Environmental Studies at the University of Vermont. Illustrated by Holly Brough.
Printed with soy-based inks on recycled paper.*

*Special thanks to the Lintilhac Foundation
for generously supporting this project.*