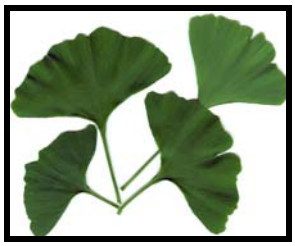
TRAIL GUIDE

KNOWLTON HILL PRESERVE

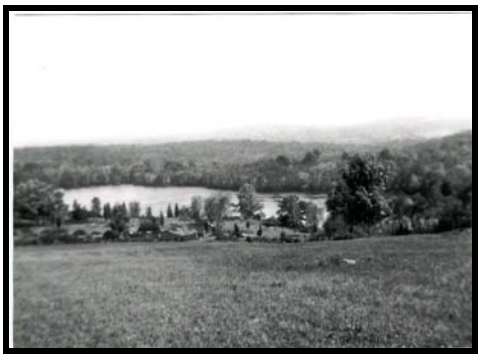
1.

The Knowlton Hill Preserve consists of 127 acres of land, some of it open fields and some woodland in Mansfield and Ashford. It was given to Joshua's Trust by Mildred Hammond-Knowlton and her niece, Evelyn Guymon. The four *chestnut* trees to your right are cultivated varieties from China and Japan. They, like many of the trees around the large house to your left, were planted by C.C. Knowlton, Mildred Hammond-Knowlton's grandfather. He had this house built around the turn of the century as a summer home. He patterned it after the houses he had seen at Watch Hill. The green roof is copper. The tree closest to you on your left is a *ginkgo* tree from China. These trees, often planted as ornamentals, have fan shaped leaves which turn butter yellow in the fall. The Knowltons had an active social life with tennis courts, garden parties, dances, boating parties, skating on the pond below and an amateur theater group in which Miss Hammond Knowlton participated enthusiastically. C.C. Knowlton made his fortune from silk mills in this area and had another home in Brooklyn, New York. **Continue on the path; bear left and up the hill when you come to a T.**(See Trail Map at end)

C.C. Knowlton's house in the 1920's



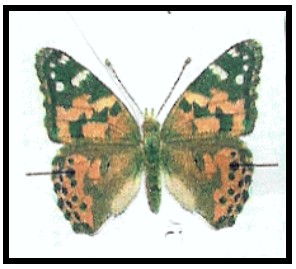
Ginkgo leaves

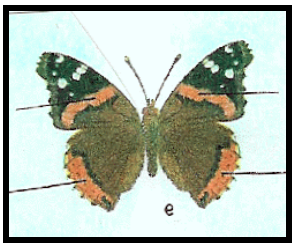


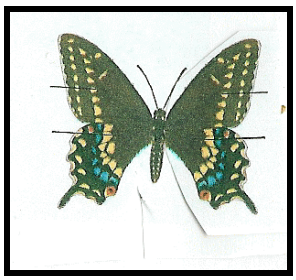
View of Knowlton Pond about 1900

2. Trees like this silver maple would have been left in the hayfields to provide shade for the workers. From this point you have a good view of the Mount Hope River Valley to the East and also Pumpkin Hill, distinguished by the blinking red light of the T.V. transmission tower. During World War II, there was a watch tower on this hill where volunteers spent long hours watching for enemy war planes that fortunately never came.

This hill is probably a glacial drumlin, a long smooth roll of clay accumulated and then passed over by the glacier. The small number of rock outcrops and the inverted spoon shape indicate that this is the geological origin. This field is kept mowed according to the conditions set by Miss Hammond-Knowlton. It provides important habitat for many animals which prefer open areas and edges of fields, such as woodchucks, or wild turkeys. There are bluebird houses along the edges because bluebirds prefer this habitat. You will often see tree swallows flying low hunting insects and higher up red tailed hawks floating on the air currents watching for mice, voles, rabbits and other small animals. Turkey vultures can also be seen gliding high above the field. This field is also a fine place to see many insects; darners the most robust of the dragonflies will spend several days feeding on insects in the field before they return to the pond to hold territories and mate. Black swallowtail butterflies patrol hill tops such as this one and can be seen especially at midday. Later, in the evening, painted ladies and red emperors take to the hill top defending the summit while waiting to be joined by a willing partner. Crickets and grasshoppers are also abundant here. Wild turkeys enjoy this field and in the winter you can often see their tracks on the trail. There are wild irises, both blue and white, growing in the grass near by. Queen Anne's lace, black eyed Susans, daisies, daisy fleabane, goat's beard, alfalfa, clover and Timothy grass are plants that thrive in this open habitat. **Take the path down the hill and into the woods to get to Post 4 or turn right on the path before you enter the woods to get to Post 3. This loop goes through the woods to get to Post 4 and involves a moderately steep path for a short distance.**


Painted Lady


Red Admiral


Black Swallowtail


Eastern Blue Darner

Alfalfa

Black-eyed Susan

Daisy Fleabane

Timothy

Goat’s Beard

3. The habitat here in the woods is very different, with under story shrubs such as *holly* and *maple leaf viburnum*, several kinds of moss and fungi. As you continue on the path you will walk through an elfen forest of birch and musclewood or blue beech trees. The under story also includes Japanese bittersweet, barberry and winged euonymus, also called burning bush, and multiflora rose. These are all invasive species introduced from other countries. They out-compete the native flora and are thus undesirable. We try to eliminate them, not because they are bad plants (although several of those described have vicious thorns) but because they don't belong here. **Follow the trail down the hill toward Knowlton Pond. Shortly after it turns up the hill again there will be a fork in the path. Take the right fork along the pond to get to Post 4 or the left fork up the hill to get to post 5. A path to the east along the pond has a wooden walkway and will lead to Wormwood Hill Road.**

Leaves of Musclewood

Maple Leaf Viburnum

Barberry

Holly

Winged Euonymus

4. You are looking at a small part of Knowlton Pond. More of the pond, about a mile in length, will come into view as you follow the trail down. The pond itself does not belong to the Trust, so we view it from this distance. Two kinds of water lilies grow on the pond. One species has large, white flowers and large, round leaves, while the other species has bright yellow flowers and oval leaves. You may also see pickerel weed, characterized by arrow shaped leaves and stalks of purple flowers, along the edge of the water and wild azaleas which have light pink or white flowers in July. You are likely to see the once rare but now ubiquitous Canada geese, who may try to chase you away in the spring, to protect their young. This pond is a prime birding spot in the spring and the fall when water fowl and other birds migrate. Wood ducks and mallards may be seen swimming or fishing, and king birds can be seen hunting insects over the water. As you follow the path back up, you may notice that it is carpeted with wild strawberries and cinquefoil. S*potted wintergreen*, which flowers in July, is likely to be found in this area. **If you came from Post 3 continue up the hill**. **If you came from Post 2 go back until you come to the tree with four arrows, turn right and stop under a large oak tree**.

Fragrant Water Lily

Bullhead Lily

Pickerel Weed

Dwarf Cinquefoil

Wild strawberry

Spotted Wintergreen

5. This tree has a special, spreading growth form because it grew up in a field with no other trees to compete for the light. Due to this lack of competition, they could spread out. The trees are often referred to as “Wolf Oaks” because, like the wolf, they stand alone. Many other trees have since crowded in, but the Wolf Oak maintains its magnificent growth form. It is estimated to be about ninety years old. Miss Mildred Hammond-Knowlton told of having picnics under these trees when there was a view of the pond because there were no other trees around. This Wolf Oaks is a white oak, a species of oak that can be distinguished by the rounded look of its leaves, and its whitish bark. The other common kind of oak to be found in the forest is the red oak, which can be distinguished by its sharp, pointed leaves. A useful trick to remembering this distinction, is to think of the sharp, pointed leaves of the RED oak as capable of drawing blood. As you follow the path through the forest, you may notice many other common species of trees such as hemlock, beech, white pine, and red maple. This mixture is typical of most woods in New England, however, this particular forest is missing many of its larger and older trees due to the fact that it was logged in the late 80's. If left undisturbed this would become a mature forest with very little under story. The large trees would block the light so seedlings and shrubs would not grow. Such mature forests are rare in Connecticut because most of it was cleared by the time of the Civil War when 95% of Connecticut was deforested for pastures and fields. Today 70% is wooded with second growth forest. The rock walls cutting through the woods attest to the fact that these were once pastures and fields.
Continue on the path down the hill.


Leaf of Red Oak


Leaf of White Oak

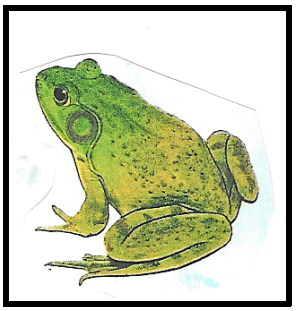
6. This bridge was built by a troop of boy scouts in 1997. They carried all the materials in and camped out in the snow to finish it. The trails have also benefitted from the work of another group of boy scouts in 1998 who improved the trail in several places in order to make it eventually handicapped accessible and put in the sign posts for this guided trail. Each of the Joshua's Trust properties has a steward or caretaker who monitors the property and maintains the trails with the help of occasional work parties. Joshua's Trust is an entirely volunteer organization with many niches for people interested in preserving open space and historical sites. This number will connect you to the Joshua's Trust office where you can leave a message or on Thursday afternoons talk to one of our office volunteers: 860 429-9023.

This bridge crosses a gully which is filled with water only in the spring or during heavy rains. It drains into a vernal pool which you can see by looking down toward the pond. A vernal pool is a depression that is occasionally filled with water, usually in the spring, hence the adjective vernal. These pools are important in the life cycles of many plants and animals. For example they provide a breeding place for many frogs and salamanders. If you come here in the spring and summer in the early morning or evening you may hear the rubber band like notes of green frogs or the deeper droning of bullfrogs. There are also pickerel frogs, wood frogs, and several kinds of tree frogs in this area. In the swampy area below the pool watch for skunk cabbage. The unusual purplish green flowers of this plant emerge very early in the spring. The name refers to the pungent odor. **Continue a short distance to Post 7**


Skunk Cabbage


Grey Tree Frog


Spring Peeper


Bull Frog


Green Frog

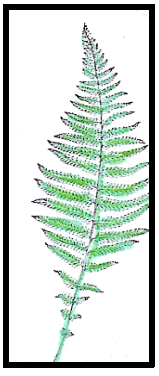
7. From here you can look down the hill and see the major part of Knowlton pond. It is fairly shallow in most places and islands have formed in the middle. Some of these are not stable land but more like floating mats of sphagnum. There are many bog plants around its edges and turtles abound. Unfortunately many of the native plants are being displaced by purple loosestrife, a colorful but pernicious invasive. If left to itself the pond will eventually revert back to the swamp that it was before the stream was dammed. In winter this pond provided ice for the large walk-in ice box that was part of C.C. Knowlton's house but it also provided recreation such as ice skating and swimming. More recently, until the 1980's, Roy Knowlton, who then owned the pond, rented out boats for fishing.

In this area, within a 10 foot circle, five species of fern can be found. The Christmas fern or Boston fern has thick leather like leaves or fronds which stay green all winter. By contrast the Sensitive fern disappears with the first frost. The New York fern responds to the fall by withdrawing the chlorophyl from its fronds so that they turn white. It can be identified by its elongated football shape. The leaflets are very small at the base and the tip. The lady fern looks very similar but the leaflets at the base are not so small. Interrupted fern is much larger than the others, two to three feet. Some fronds are interrupted by brown leaflets with spores. Ferns are common under story plants throughout the woods. **Continue as the path goes slightly uphill and along a rock wall**. **It ends at the road which you cross to a barn and Post 8.**

Interrupted Fern

Boston Fern

Sensitive Fern



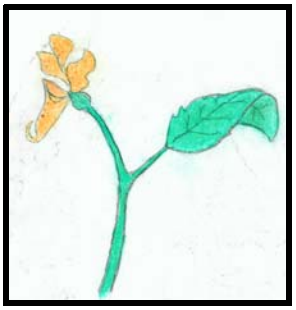
New York Fern

Lady Fern

8. The foundation here is from a barn taken down in 2003. It was only 70 or 80 years old but it was built with 19th century construction techniques. The beams were hand hewn chestnut and in many places pegs were used instead of nails. The remains of rock walls on the west side indicate that there were probably animal pens attached to it at one time. Across the road is the farm house in which C.C. Knowlton was born and a barn very similar to the one that stood here.

Despite the valiant attempts of the caretakers, this area still has a lot of poison ivy, recognized by its three-lobed leaves which turn a lovely red in the fall.

Another notable plant that grows along the road here is jewel weed also called spotted touch-me-not. It has medium orange flowers with spots. It is said to be an antidote to poison ivy when rubbed on the skin. This is given as an interesting bit of ethno-botanical lore not as an endorsement of the practice. **The path continues along the road to the south. It starts into the woods again just before an open field The next post is a short distance into the woods by a small pond.**



Jewel Weed

Poison Ivy

9. This small pond was dammed to provide water for animals and ice for people. It is full of algae and duck weed because of run off from the neighboring dairy farm..To the left of the earthen dam you are standing on the stream goes into an extensive woodland marsh. This acts as a biological filter on the water coming from the pond and results in the clear stream you cross further along the trail. Red winged blackbirds and wood ducks can sometimes be seen here. The trail is carpeted with money wart which has round leaves and yellow flowers in June. The dead tree trunks in the pond attest to the fact that the water level fluctuates. These snags provide habitat for flickers, red bellied woodpeckers, hairy and downy woodpeckers and the spectacular pileated woodpecker, the model for Woody Woodpecker. On your right as you pass by the pond are the remains of a dump, the Old Yankee version of recycling. As you walk through the woods, notice the several species of princess pine, club moss, or lycopodium. Although it is sometimes gathered from the wild to make Christmas wreaths that are sold commercially, it is not so abundant nor so hardy that it can withstand this kind of depletion.

Moneywort

Ground Pine

Tree Club Moss

10. The trail here crosses a small stream which feeds into a large swamp out of sight in the woods. This stream has water all year and is home to frogs, salamanders and newts. If you carefully turn over a rock you may see one. Be sure to put the rock back as you found it. The red spotted newt is common in this area. The adults live in the water but the larvae develop into a juvenile form called a red eft. It lives on land for a year or more and then returns to the water and turns into the green and red spotted adult. These adults remain active even in winter and you may see them moving beneath the ice. A vivid orange fungus often emerges in this spot. If you follow the trail for about 50 yards you will see another large wolf oak to your right. This and the rock wall you crossed before the stream show that this was once a field. If you look to the left of the trail at this spot you will see several small saplings of American chestnut. The leaves are large with scalloped edges. These were the dominant trees in eastern woods before 1904 and because they were very large and strong were the preferred building material for many structures. The chestnut blight introduced in 1904 killed virtually all of the trees but you can still see their fallen trunks in the woods because the wood is so resistant to rot. These small saplings have sprouted from an old trunk. Another sapling of American Chestnut grows between the first and second Asian chestnuts at the trail head. Foreign chestnuts like these were probably the source of the blight. The blight spreads more slowly now because there are few chestnuts left but eventually these saplings too will succumb. If some of them grow large enough to produce fruits there is hope that one with resistance to the blight may emerge. Scientists and foresters are working to develop a resistant American chestnut before it is too late. **Continue on this path as it turns up the hill and leads to the road which you cross to return to the trail head.** Another trail loop leads into the woods to the left of this stream. It leads to a large wetland and returns to the main trail where it turns up toward the road.

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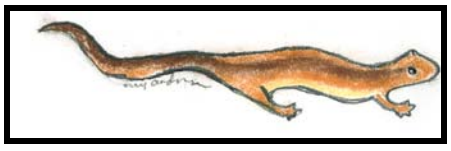
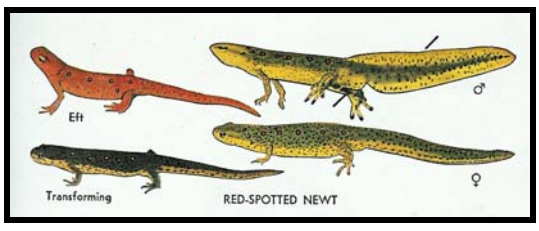


Two Lined Northern Salamander



American Chestnut

#11

The stream you have been following is joined by a stream from the north and continues down to the marsh at the southern end of this property. The stream comes from a part of the property covered with barberry and multiflora roses, making the woods almost impassable. We have tried to eradicate them near the trails but it will be a long time before we can clear the stream banks. This is a typical wood land stream tumbling over rocks and creating pools. In late summer the water is low. Spotted wintergreen, and wintergreen are low plants on the trail. Beside the trail ahead you will see a number of Boston ferns. They keep their leaves all winter.

Wintergreen

Boston Fern

#12

Here you are walking through a small beech forest. Beech trees have distinctive smooth light bark and retain their leaves through most of the winter. Looking through the woods in the winter you can see their tan color. The pale trunks evoke the mythical forests of Tolkien. There are many beech seedlings in this area and you can often see parasitic beech drops at the base of the trees. These are white in the summer but black in this winter photo below. Lacking chlorophyll needed to absorb light energy for photosynthesis, they "steal" nutrients from the roots of the beech trees. At this point in the stream there is an island and on the far side a large old ash tree. The trail turns away from the stream and goes up the hill through very open woodland. Looking back you can see that the invasive barberry follows the stream. The trail comes back to the stream as it enters a marsh.

Beech seedling

Beech trunk

Beech drops in winter

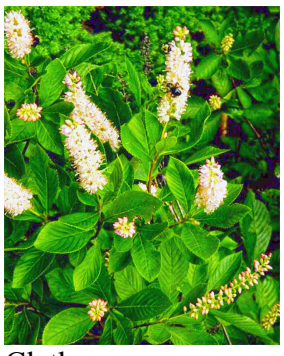
#13

The marsh you can see looking west does not belong to the Knowlton Hill property but to a private individual. You can walk down the short trail to the rock with an orange post to get a closer look. In the past it was a haven for pileated woodpeckers and many other birds and plants. It is now almost completely covered with non native Phragmites. This 15 foot tall feather topped, thick, invasive grass is very aggressive and chokes out the native shrubs and herbaceous species that naturally grow in marshes. It provides an ideal breeding ground for mosquitos. You can see a few remaining native plants such as native holly or winterberry, blueberry, sedges, clethra and alder at this edge. Sedges have triangular stems instead of round This is the end point for the stream following the western boundary of the property. The trail continues east to the eastern edge of the property.


Alder


Sedge


triangular stem


Clethra

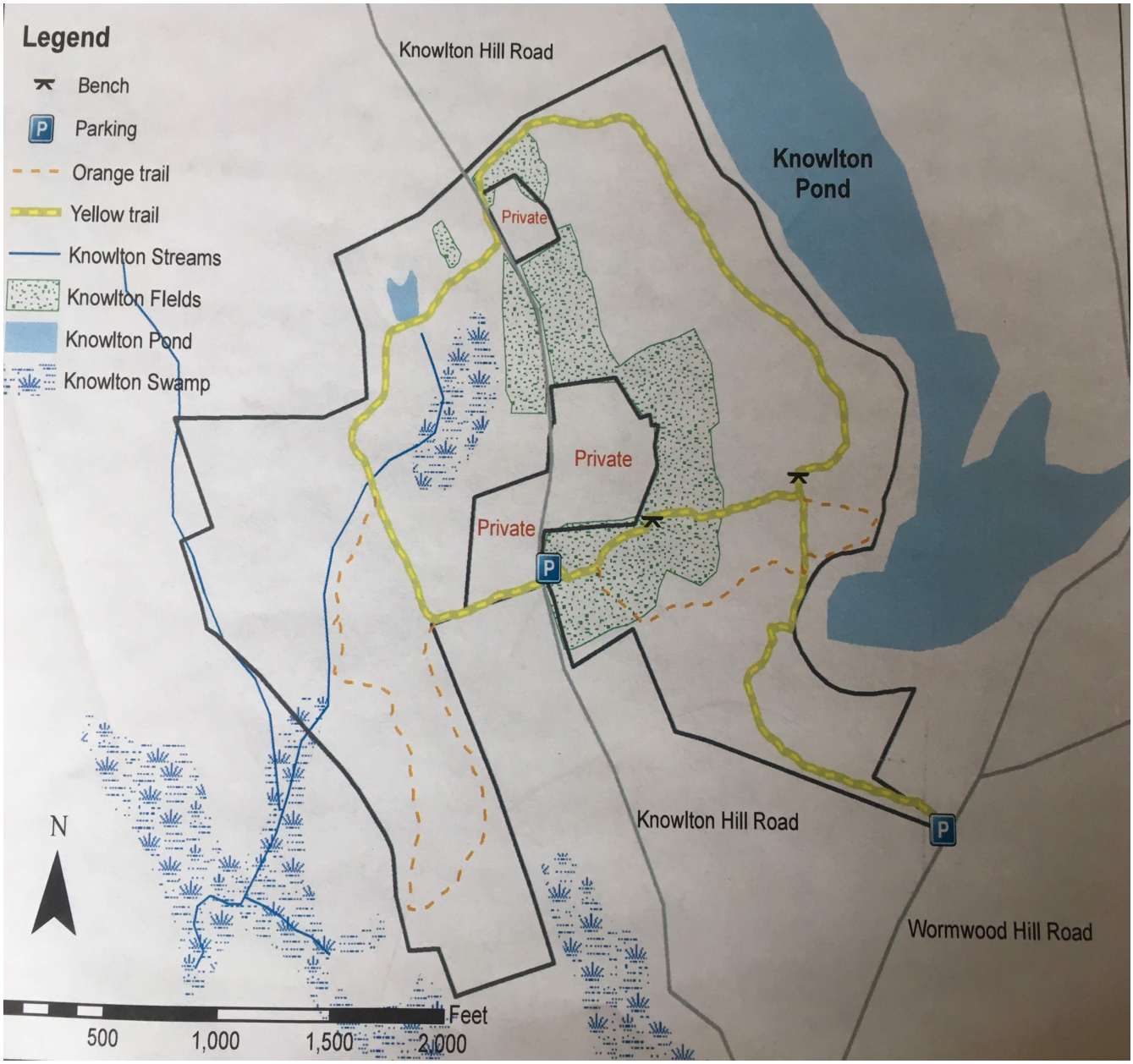
#14

This stone wall running through the woods indicates the boundary of a pasture or crop field from the past. This is an important feature of the woodlands in Connecticut. Starting in the mid 19th century many such fields were abandoned and the trees grew back. Industrialization caused a movement to the cities and many farmers moved west where the land was easy and fertile compared to stony New England. The first step in building a wall is removing the stones from the field and dumping them along the edges. This particular wall was later refined by piling the stones up. You can see double walls and more carefully arranged walls in other places on this property. The ubiquitous walls through the woods make one think about the many work hours they represented for the early farm families trying to make a life here. Information about stone

walls in this area can be found in Robert Thorson's book *Stone by Stone*. The trail turns north here to follow the eastern boundary of the preserve.

#15

Along the trail to your left is a large rock that was split for some purpose by the people who lived here in the 19th century. You can see the shallow holes that were drilled for that purpose. The holes would have had wooden pegs driven into them. When the pegs absorbed water they swelled and split the rock. It doesn't seem that wood should be able to split rock but the power of water is great. This was a slow but effective method of shaping stones for various uses. To the right of the trail ahead is the skeleton of a large chestnut tree, larger than the one mentioned at post 10. This probably died about 1900 and so has lasted over a hundred years as a skeleton. Follow the trail to the north until it joins the main trail which turns east and leads up to the road. This part of the main trail has a nice gentle slope for cross country skiing if you start from the road.



This trail guide was prepared by Mona Anderson in consultation with Greg Anderson, Isabelle Atwood, George Clark and David Wagner. Original art is by Amy Josephine Swanson. Other illustrations are from *An Illustrated Flora of the Northern United States and Canada*, by Nathaniel Lord Britton and Hon. Addison Brown, *A Field Guide to Reptiles and Amphibians*, by Roger Conant, *A Field Guide to Wildflowers*, by Roger Tory Peterson and Margaret McKenny, *A Sierra Club Naturalist's Guide*, by Neil Jorgenson and *A Field Guide to the Butterflies of North America East of the Great Plains* by Alexander Klots