

*Field Guide  
to the  
University of New Hampshire  
Kingman Farm Nature Trail*

*Madbury  
New Hampshire*

by

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# **Introduction to the Trail**

## **Background and Purpose**

The Kingman Farm Nature Trail was established by the Kingman Farm Outdoor Education Initiative, the result of a grant by the University of New Hampshire (UNH) Sustainability Fund and support from the Kingman Farm. The proposal for the project was submitted by Garrett Crow, Professor; John McLean, Coordinator of Plant Biology Field & Greenhouse Facilities; and Stephen Bunker, Kingman Farm Manager. The purpose of the trail and corresponding trail guide is to provide the opportunity for area elementary school students to learn about a local woodland ecosystem. In 2007, the guide was updated and re-printed by the Madbury Conservation Commission as part of a NH State Conservation Commission Moose Plate Grant.

## **Location**

The Kingman Farm Nature Trail encompasses land owned by the Town of Madbury and by the UNH Kingman Farm. The trail begins behind the Madbury Town Hall, crosses a shoulder of Hick's Hill, enters the western portion of the Kingman Farm, and proceeds past a composting area which serves as the start and finish of a loop trail which extends to the north and east. The entire trail is blazed with white paint and has a series of numbered stops (marked by posts) which correspond to the trail guide. This booklet allows for self-guided study of the natural area. The compost area is less than a 15 minute walk from the Town Hall, and the loop leaving from the compost area is just over 20 minutes walking time.

## **Getting to the Trail**

The nature trail begins behind the Madbury Town Hall just beyond the rear of the Town Hall parking lot; a kiosk marks the trailhead. To get to the Town Hall from Route 155 in Madbury, take Town Hall Road, which branches off on the north side of Route 155 just west of the intersection of Madbury Road and Route 155. The Town Hall is a large white building on the right side of Town Hall Rd., about 1/4 mile from the intersection with Route 155.

Students coming from the nearby Moharimet Elementary School can simply take the path from the school to the church parking lot, carefully cross Town Hall Road, and walk behind the Town Hall. Other groups using the trail will find plenty of parking at the Town Hall.

## **Guidelines for Use & Safety Concerns**

Trail walkers will share the area with mountain bikers and the occasional horseback rider (winter users include cross-country skiers and snowmobilers). General trail etiquette says that walkers yield to horseback riders, and mountain bikers yield to both walkers and horseback riders. The only motorized wheeled vehicles the walker may meet are those driven for

farm use, and these are used almost exclusively along the dirt road leading from the open composting rows to the main Kingman Farm buildings. Please enjoy the trail with all your senses, but please do not pick or take living things from this area - leave them unmarred for others to enjoy!

School groups are welcome to use the trail any time of year. However, weather conditions are most favorable from early May to the end of October. In addition, schools may choose not to send groups along the trail during September through December because of deer hunting on public lands. Although danger to people from hunting in the area of the trail is low, many choose not to take this risk.

Hunting is permitted on land owned by the Town of Madbury and by UNH at the Kingman Farm during hunting season. Information on hunting seasons can be found at the NH Fish and Game website at: [www.wildlife.state.nh.us](http://www.wildlife.state.nh.us). Anyone using the trails during hunting seasons is advised to wear bright blaze orange clothing for added visibility.

Insect carrying diseases are prominent in the news, lately. Always use common sense and take personal precautions against biting insects, like ticks and mosquitoes.

## **Seasons of the Trail**

Spring is a time when many delicate-looking wildflowers appear along the forest floor and woods' edge before tree leaves begin to block the sunlight from their habitat. Appropriate footwear for muddy trails and bug-repellent for blackflies and mosquitoes are useful, but the beauty of the flowers is worth it! Many trees flower at the end of April just before they leaf out.

During summer the shade of the forest trees is very welcome. Some wildflowers bloom, and berries begin to ripen. This can be a pleasant time of year to walk, especially during morning, evening, or cooler days--even rainy ones!

Fall is one of the best times to study trees in the forest. Not only do leaves begin to change color, but they can be picked from the tree or the ground in order to make leaf rubbings without worry of hurting the tree, since the leaves will soon be lost naturally. In addition, nuts, seeds, and other fruits ripen and can be readily found on the ground. Fall temperatures are comfortable, and showy fall wildflowers can be enjoyed.

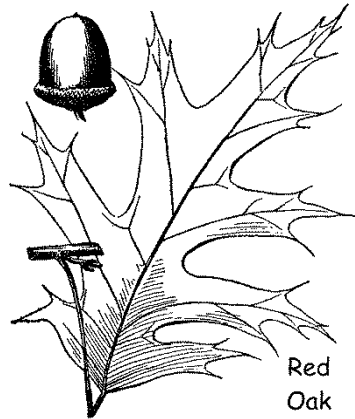
The end of the year, offers a different kind of beauty in the forest. If one is dressed warmly and can negotiate the snow, the shadows, icicles, and patterns in the snow can be intriguing. Wintertime also provides an opportunity to learn to recognize trees by shape, bark, and twigs, rather than by their leaves. In addition, it is an excellent time for observing animal tracks - and homes, like the squirrels' nests often seen in tall oak trees.

## Trail Description

### SECTION ONE: Town Hall to Composting Area

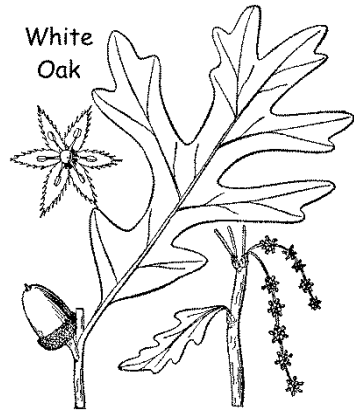
To the left of the start of the trail you will notice a post numbered “1”; this is the first of 30 posts along the trail marking tree species and other sites of interest.

**Post 1.** This spot marks a red oak tree. A common tree along this trail, the red oak is a deciduous hardwood tree with pointy lobed leaves and a well-known fruit: the acorn. Also note the vertical red colored grooves in the bark.



As you enter the mixed deciduous forest at the start of the trail, immediately to your right lie several stumps, two of which are large and whose growth rings are still easily counted - this is a fun task for students. They may be surprised to count at least 116 growth rings in the older stump, meaning that the tree was at least 116 years old when cut.

**Post 2.** Just beyond the first post, Post 2 on the right marks a large white oak. It is one of just two large, mature white oaks along this trail. This tree was once prized for shipbuilding. Notice the rough, light colored bark with peeling plates, as well as the round-lobed leaves which are easily distinguished from the pointy-lobed leaves of the red oak.



Resume walking and pass large red oaks. In the spring, pink lady's slipper can be seen growing on the right. Although this orchid is delicate looking and extremely difficult to transplant successfully, the pink lady's slipper is not a rare or endangered plant. Concerns over people digging up these orchids to sell were, however, important in initiating the establishment of a New Hampshire law protecting rare and endangered plants.

Lining the left side of the trail are seven large rocks; the first two and the last have the holes remaining from the process of removing them from a quarry. The trail soon crosses another line of nearly buried stones. Here, a shagbark hickory grows on the trail's right edge, and a large red oak stands

to the left. Note the white crystalline rocks nestled at the oak's base. Also observe the distinctive bark of the nearby shagbark hickory: curved, vertical, peeling strips. Keep a lookout for more such bark along the remainder of the trail. Before moving on from this site, notice the variety of trees to be found within a fifteen foot radius: red oak, shagbark hickory, white pine, hemlock, beech, sweet birch, and (small) red maple.

Moving on, you will walk past white pines on either side. Looking down, you will notice wild sarsaparilla, fan clubmoss, Canada mayflowers, starflower, and partridgeberry under the trees. In addition, more pink lady's slipper can be found to the left under a canopy of red oak trees. A bit further on to the right, notice the vegetation growing on a moss covered rock, and the low, spiny-leaved common juniper to the right of the rock. Looking ahead on the trail and slightly to the right, you will notice the abrupt beginning of Hicks Hill's slopes. In a few feet a trail forks. The right branch follows the base of the hill and leads to the Madbury Public Library and to an old trash-dumping site (mostly glass bottles). This reminds us of the need to exercise stewardship of the environment and to thoughtfully, dispose of waste.

Just back from this trail junction, on the opposite side of the trail, maple-leaved viburnum shrubs and several young sugar maple trees may be found. A short distance ahead, the main path crosses a stone wall and veers left to parallel it and avoid the hill. Keep an eye out for shaggy bark here. Note the white bark of several white birch trees, all of which are host to fungi and are dying, if not already dead. Also notice the redness of the grooves of the bark of nearby red oak. Hemlocks are visible up on the right, as are ground pine and small, shiny-leaved wintergreen plants. To the left Indian cucumber makes a companion to wild sarsaparilla. The starchy roots of the Indian cucumber are sweet and rather tasty, but please do not dig up these plants, since plants that are taken may never grow back, and the number of people using this trail could severely diminish the plant population of this area.

Ahead on the right you will notice a number of white birch trees, located at a fork in the trail. Please never peel bark off of trees, as bark is their "skin," their protection against insects and disease. The left fork of the trail, after passing through a marshy area, leads to the Madbury Woods housing development; looking down this trail you will notice the ferns of the marsh to the left. This trail is not suitable in wet seasons, but is fine for dry season and winter passage. It is fairly level. The path forking up and to the right is the one you will take.

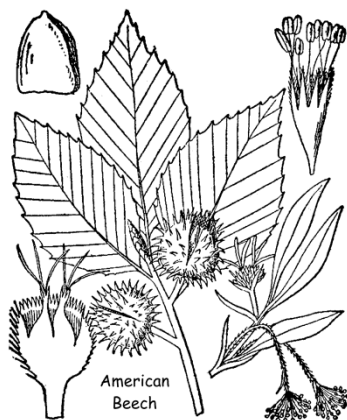
Take a minute to examine the stone wall which continues to follow the left edge of the trail. Consider the work it took for farmers to move so many stones, some of them quite large, in constructing such walls. Then imagine a landscape of crisscrossing stone walls, dominated not by forests but by fields. This was New Hampshire only a century ago, when eighty percent of the forests were cleared for agriculture and pasture. Today, though, about eighty-five percent of New Hampshire is covered by forests and woods, and the forest is not losing ground overall: more trees continue to grow than are

cut each year. (In southern New Hampshire, though, development of housing does diminish our forests.)

When you begin walking again, watch your step so as not to trip on the small stumps, roots, and stones which lie on this slope. Walk only a few steps up this trail and you will notice that the forest has changed character - hemlock has become an important part of the forest, resulting in less light reaching the forest floor to encourage undergrowth. The path begins to wind uphill to the right; notice here the large rocks strewn across the valley on your left. This is the steepest portion of the climb, but before long, you will reach the crest of the hill, seeing a moist, fern-filled drainage area to your left.

When the trail stops climbing, it curves left through hemlock, red oak, and white birch, presently intersecting with another trail in a perpendicular fashion. Taking a right would bring you to the summit of Hick's Hill. Continue straight ahead and the trail will bring you downhill to the Kingman Farm. This part of the trail was recently re-routed to avoid a large wet area. Now the trail takes a less steep path and puncheons (boardwalks) have been installed over the wettest areas.

**Post 3.** The terrain levels and the hemlock is left behind for a forest composed almost entirely of beech. A distinctive feature of beech trees is their smooth, gray bark, present even in the oldest specimens. While young red maples have similar smooth, gray bark, mature red maple bark becomes ridged and platy. The small number of smooth-trunked red maples scattered throughout this beech forest may elude you, though, unless you look up at the leaves. Red oak and white birch are the other tree species found in small numbers in this area.



After passing through the beech forest, the trail curves to the left downhill past a white pine and several hemlocks. Just as the trail reaches an intersection, note the very large holes in a large hemlock to your left. This is the work of a woodpecker, most likely a large pileated woodpecker.

The path to the left is the wet trail, and leads back to the Town Hall. The path to the right leads to Kingman Farm. Take the right trail, turning onto the wide woods road, which leads to the Kingman Farm compost area. This portion of the woods is composed of a mixture of tree species, although the forest on the right is mainly composed of beech and hemlock. On the opposite side of the trail lies a wetland.

**Post 4.** As you walk, notice the papery golden curls in the bark of a yellow birch on the right. Although the shading hemlocks prevent much groundcover, Canada mayflower and partridgeberry can be found growing right along the trail here. The parasitic beechdrops can be seen in the fall. Their roots tap into underground beech tree roots, and because they have no green chlorophyll to make their own food, beechdrops get all their nourishment from the beech tree.

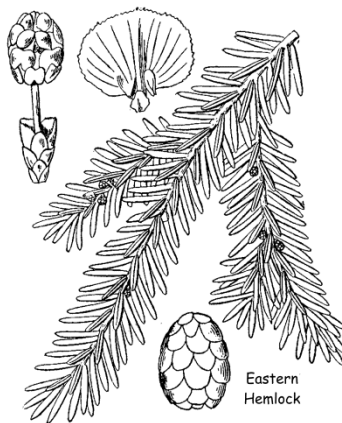
To get a look at the leaves of the yellow birch, look on the opposite side of the trail. Here, as well, are the spring wildflowers wood anemone, mayflower, starflower, partridgeberry, wintergreen, and lowbush blueberry. Fall-flowering asters and rattlesnake roots are also present, as are fan clubmoss, spinulose wood ferns, and young beech and hazelnut trees.

Yellow Birch



**Post 5.** Just ahead on the right is a large hemlock through which pass two strands of barbed wire; several trees in the vicinity have grown around a barbed wire fence, which used to mark a boundary. Despite these wires through the tree and the holes higher up in its trunk into which squirrels scamper, this hemlock tree appears to be perfectly healthy.

Past this hemlock tree is a muddy area which has been filled in with gravel. To the left of this area may be found the white flowers of dwarf ginseng at the end of May and in very early June; just don't walk too far into the wet woods or you will encounter, much poison ivy! Crossing the normally dry overflow stream in the center of the trail's gravel area, you may notice a few flowerless jack-in-the-pulpits as well as a few cinnamon ferns and spinulose wood ferns to the left. Beyond the gravel you will see a bright field ahead; this is the compost field.



The plants which border the compost field differ from those of the forest; those such as gray birch and blackberry (located to the left of the trail exiting the woods) are sun-loving and are among the first plants to grow in an area that has been cleared of forest. The series of stages of forest growth from a clearing to mature forest is called "succession." The plant species characterizing each stage of growth will vary depending on factors including latitude, soil moisture, and elevation, but there are certain species which are

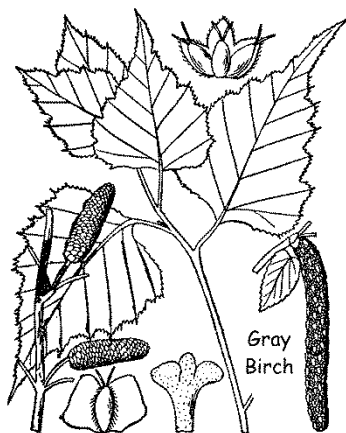
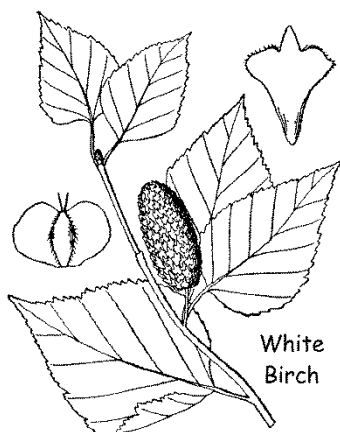
more prevalent in earlier stages of succession and others which are found in later stages. For example, white birch, gray birch and pin cherry are sun-loving pioneer species of trees characteristic of early stages of succession. Hemlock and sweet birch, by contrast, are shade-loving trees which are found in more mature, established forests. Wildflowers found in the field are also sun-loving, differing from those found in the woods. Cinquefoil, bluets, hawkweed, dandelion, and shepherd's purse are among the many species found in the field in the spring.

**Posts 6 and 7.** Staying to the right on the trail, following the edge of the woods, you will find woodland plant species: bluets, starflower, Canada mayflower, wild sarsaparilla, lowbush and highbush blueberry, with their bell-like white flowers, and sheep laurel. Trees include white birch, gray birch, and hemlock. White birch and gray birch both have tan bark when young and white bark when older, although the bark of white birch is more papery and peeling. The easiest way to distinguish between white and gray birch is to look at the shape of the leaves: gray birch has pointy, triangular leaves, while white birch leaves are closer to an oval in shape. However, since the gray birch has an alternate common name of “white birch,” and white birch is sometimes called paper birch, there can be confusion. This is why scientists use scientific names for these trees (see list).

Continue along the path to the right, entering a woods path and ending at a dirt road.

## **SECTION II: Loop from Composting Area**

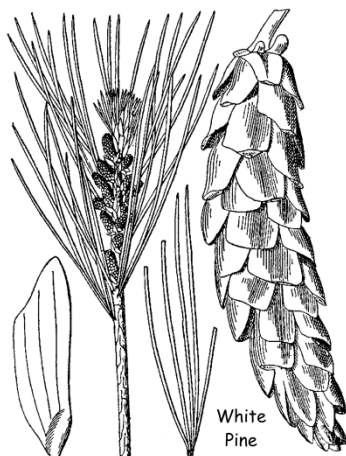
Turn left onto the dirt road, which leads to the large composting area.



**Post 8.** On your right will be Post 8, marking a large white pine with a Virginia creeper vine growing up it towards the sky. A common evergreen tree in southern New Hampshire, white pine was once valuable for making ships' masts. Roads built in to harvest these mighty white pine trunks were often called “Mast Way.” Several roads in this area still bear the name

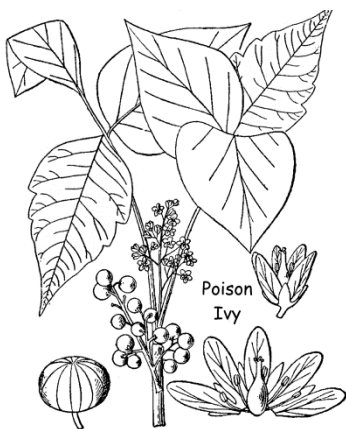


“Mast Road” in reference to their former use. White pine is still an important tree for timber today, but pine wood is no longer used for masts, instead being put to uses such as framing houses. Although evergreen, the pine tree does shed leaves (needles) in the fall. A healthy tree will keep each set of new needles for at least two years, allowing the tree always to have some living needles. To see the needles closely, cross the road and find a young pine tree. White pine can be distinguished from other types of pine by counting the number of needles in a cluster: five needles for five letters in “w-h-i-t-e.”

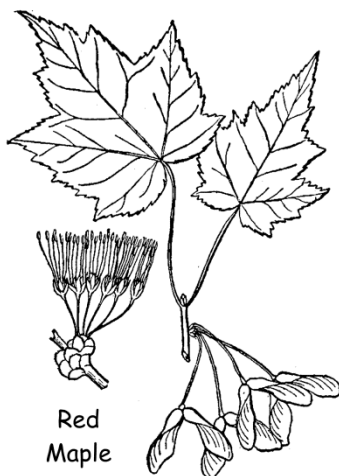


Just ahead the trail forks; take the right fork leading slightly downhill and into the woods.

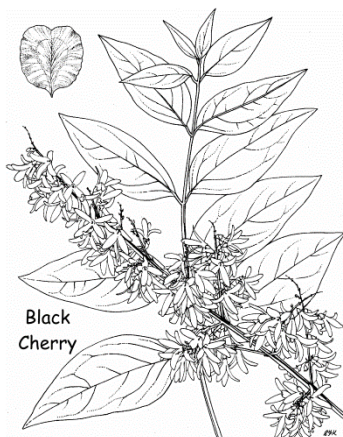
**Post 9.** Poison ivy is found along the trail’s edge by Post 9, so be sure to stay on the trail here. Disturbed areas, forest edges, and wet areas are prime habitats for this viny plant. Oil is present in all parts of the plant during all seasons, so one can get a rash whether or not the leaves (which are not necessarily shiny) are present. If one contacts poison ivy, one should wash the area with soap and cold water, preferably before a half-hour passes. Since several other non-allergy-causing woodland plants also have three leaflets to a stem and resemble poison ivy, it is safest not to touch any “3 leafed” plant unless you can positively identify it. Follow the old adage: “Leaves of three, let it be.”



**Post 10.** Just as you enter the woods again there is a red maple tree on your right. Be careful of the poison ivy at its base. The red maple has V-shaped notches on its leaves.

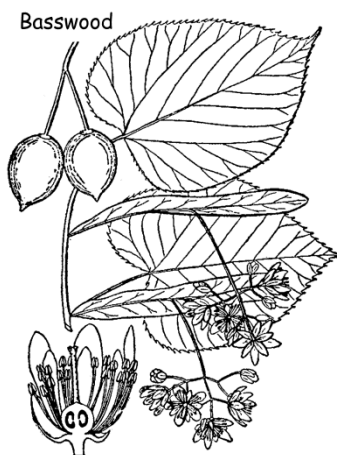


**Post 11.** This spot marks a black cherry tree. While its leaves are difficult to see because the tree's crown is up so high, the platey bark is a classic example of the black cherry's mature bark. Black cherry fruits are an important source of mast for many nongame birds, squirrel, deer, turkey, and moles, and other wildlife.



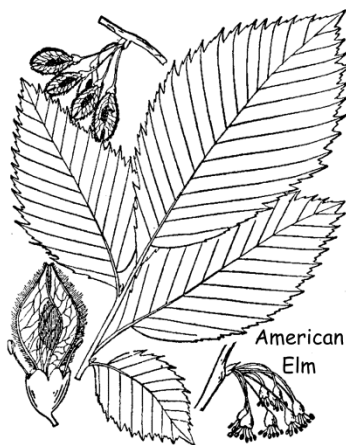
**Post 12.** There is a very small black cherry tree here. Young black cherry trees have horizontal dashes in their bark; these are lenticels--pores through which gas is exchanged. The leaves of black cherry are distinct because of the orange hair along the mid-vein on the underside of each oval leaf.

**Post 13.** Behind the cherry is a small basswood tree. Less common in New Hampshire, the basswood tree has a relatively large heart-shaped leaf, which is slightly asymmetrical at the base. At the base of the tree is found the evergreen trailing ground-cedar and alternate-leaved dogwood. starflower and Canada mayflower also bloom here in spring.



**Post 14.** A fallen hemlock tree lies 40 feet ahead by Post 14. Just past this fallen tree, to the left and right, can be seen a green area, lush in appearance as a result of the growth of multitudes of ferns in a wet area. Ahead, slightly downhill, is the stone-crossing of the water passage which connects these wetland areas.

**Post 15.** Here on the left can be found a somewhat sickly-looking elm tree. This is the largest elm tree in the area, since nearly all American elm trees have been killed by Dutch elm disease. On the live portion of the tree notice the scratchy, sandpaper-like feel of the leaves' upper side, and notice the spongy, cork-like bark.



**Post 16.** Across the trail on the right is a sugar maple. This tree species is the source of maple syrup, one gallon of which is made by boiling down 20 or more gallons of sap from these trees. The sugar maple has a higher sugar content in its sap than its relative, the red maple. In addition, sugar maple leaves have smooth, U-shaped notches between leaf lobes or points, while red maple has jagged, V-shaped notches between “fingers” on leaves. Ahead on the trail are some low sugar maples with accessible leaves; however, don’t confuse them with the maple-leaved viburnum.

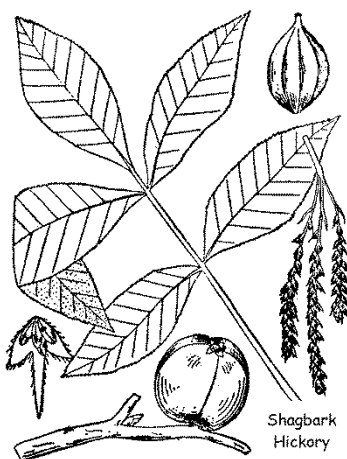
Just past this post on the left is an impressive giant beech tree with branches spreading over a cleared area on the ground.



**Post 17.** This spot marks a young beech tree where the leaves can be examined up close. Not far beyond the post, though, are two large beech trees which offer their bark for examination. It may be surprising to find that even large beech trees retain smooth, light gray bark (which is why they are a favorite for carving initials--but please don’t deface the trees and ruin them for future visitors). The exception to the rule that beech bark remains smooth is when a tree is infected by beech bark disease, which disfigures the bark before killing the tree. You will pass an example of this shortly. In the fall, look under mature beech trees for beech nuts, enclosed by a spiny pod, a favorite food of animals.

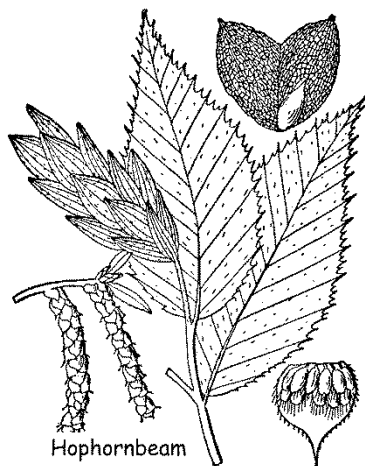
Just ahead you'll encounter a junction in the trail. The loop trail branches off to the left; simply follow the white blazes to continue on this nature trail. (The trail going straight ahead will take you down to the Bellamy River.)

**Post 18.** This area has large specimens of shagbark hickory, beech, and red oak. This is a good place to scout for hickory nuts, beech nuts, and acorns, some of which can be found sprouting in the spring. Also, compare the vastly different textures of these trees’ barks. Other trees in the area include hemlock and basswood. One of the beautiful flowers here is the foamflower. Fall flowers



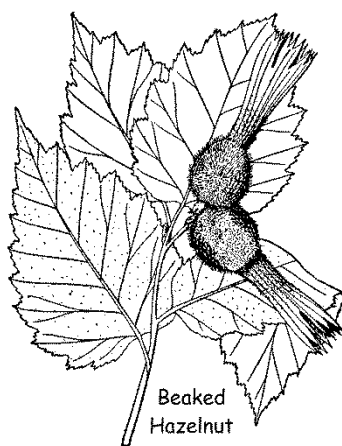
include tall rattlesnake root, with a green flower, and jewelweed, with a bright orange flower and bulging ripe seed pods, which burst upon being touched or shaken.

Back on the trail, the trail continues past a small clearing in the forest canopy; note the prolific growth of brambles and young black cherries. Also note the fungus growing on many of the stumps you pass. These organisms are known as decomposers, since they facilitate the return of elements and other nutrients to the soil, where they are once again usable by other plants. Many Christmas ferns line both sides of the path. Soon you come to an area where runoff is channeled across the path.



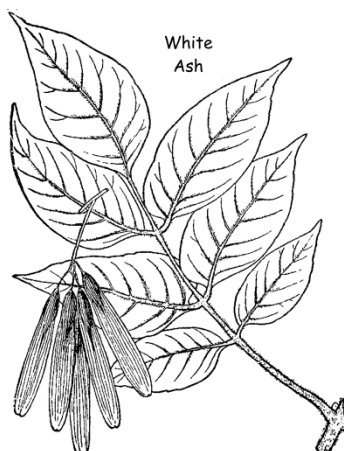
Hophornbeam

**Post 19.** The next tree is a little in from the trail. Hophornbeam is a small tree that inhabits hardwood forests. The wood of this tree is strong and hard. Since it is durable the wood has been used for fence posts. Hophornbeam has loose strips of reddish brown to gray creating a rough, "clawed" bark. Just down the trail you will find a hornbeam or musclewood tree, another small tree with its own characteristic bark.



Beaked  
Hazelnut

**Post 20.** On the right just after a wet crossing there is a beaked hazelnut tree. This small understory tree never will attain the height of canopy trees such as the white ash behind it. Walk around the beaked hazelnut to peer at the bark of the white ash tree. Can you see the diamond-shaped pattern in the bark?



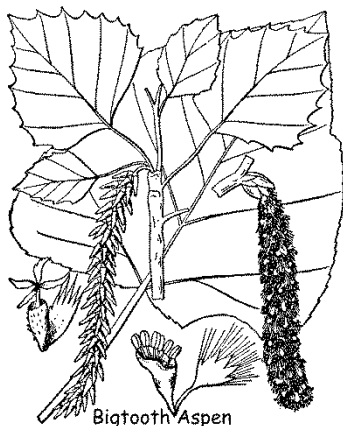
White  
Ash

**Post 21.** To see the compound leaves of the ash, look across the trail to Post 21 on the left, which marks a young white ash. This side of the trail is a good spot to see spring flowering trillium and jack-in-the-

pulpit, plants that thrive in moist soil. Ostrich ferns and fall-flowering jewelweed are also common.

As you continue on, you may notice a brightness through the trees to the left, indicating a clearing. It is now being overgrown by pioneer tree species, shrubs, and brambles.

**Post 22.** One tree which is often found settling a disturbed, open area is the aspen. One species of aspen, the bigtooth aspen, can be found ahead to the right at Post 22. Its close relative, the quaking aspen, with small, fine-toothed leaves, is not found directly on the trail.

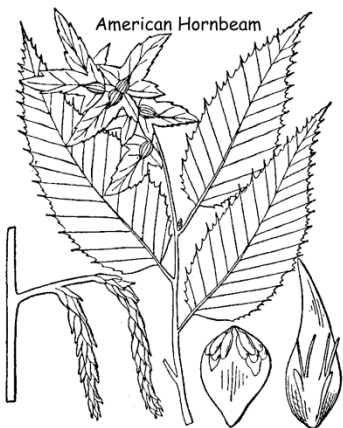


Bigtooth Aspen

**Post 23.** Close to the aspen is the hornbeam tree. This tree's smooth, bulging bark suggests the appearance and feel of muscles, hence its other name, musclewood. Feel it for yourself! This tree grows in moist soil and is a low understory tree. The original hornbeam specimen chosen has fallen down (stump across the trail), and this one may also be terminal in the near future. Post 24. Almost adjacent to the musclewood are three shagbark hickories at Post 24. This tree has fascinating and very distinctive bark: it peels off in wide, vertical strips.

Continue walking the trail which soon curves to the left and leads through a fairly open area where you can enjoy the sunshine. Several large stumps can be seen on the left; fungi here are also helping to decompose them.

As you continue down the trail you will notice many decaying beech in this area. They have succumbed to beech bark disease.



American Hornbeam

**Post 25.** This double trunked beech is a good example of beech bark disease. The disease results when bark, attacked and altered by the beech scale insect is invaded and killed by a fungus.

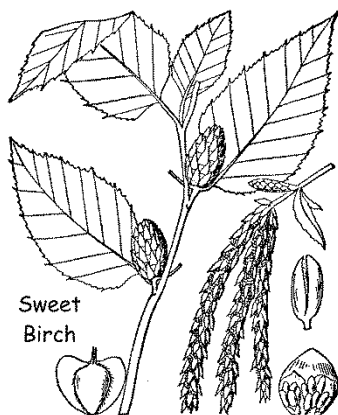
**Post 26.** Witch-hazel is a small understory tree with a unique arching habit, as well as an odd flowering time - fall. Its yellow flowers persist into early winter. The tree then sets fruit in the spring, forming seed pods which explode, sending seeds flying as high as 30 feet! This spot is a bonanza for spring wildflowers: purple trillium, red daneberry, and dwarf ginseng across

the trail. Other plants include fall flowering asters, 3-leaved tick trefoil, Christmas fern, and spinulose woodferns across the trail (along with beech nuts in the fall).

**Post 27.** Once you pass this site and begin to climb a hill, keep an eye out for Post 27 marking one of the large hemlocks shading the trail. This graceful evergreen species has short, flattened evergreen needles with two white stripes on the underside. Not a relative of the hemlock plant that poisoned Socrates, this evergreen tree yields a tasty tea chock-full of vitamin-C from its needles. Hemlock needles were also used in making old-fashioned root beer.

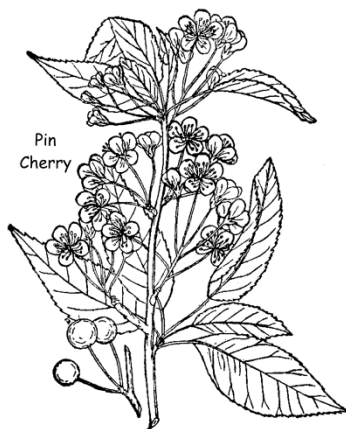
**Post 28.** Past the top of the hill, on the left, lies Post 28. A sweet birch tree is marked; it is next to a hole in the forest canopy which is quickly being refilled by young trees including sweet birch. The sweet birch (also called black birch) has a dark-colored bark with horizontal lenticels. A distinguishing feature of this tree (although shared with the yellow birch, which has yellowish bark) is a wintergreen odor when twigs are scratched with the fingernail.

The trail is nearing the field of compost rows as it reaches a trail intersection in a sometimes muddy depression. Take the left fork. Beyond the stream crossing the trail ascends a small hill, and you emerge into the northeast corner of the composting field. Follow the left edge of the field to Post 29.

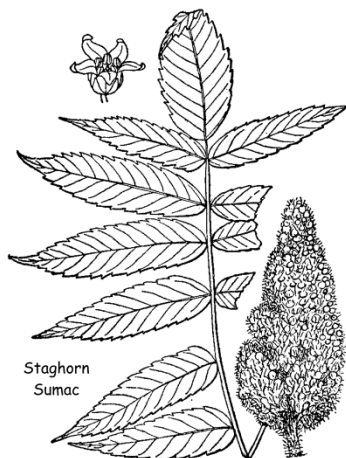


**Post 29.** The pin cherry tree is short-lived and small, occasionally reaching a height of 30 feet. The wood has little commercial value. Many species of wild birds, including the wild grouse, eat the fruits.

This entire field edge is a haven for wildflowers, including summer and fall-blooming species like yarrow, meadowsweet, goldenrods, and asters. Among the thorns of blackberry brambles may also be found spring wildflowers like the parasitic one flowered cancer root.



**Post 30.** The final numbered post marks a staghorn sumac shrub. Staghorn sumac is a tall shrub which invades old fields. Although related to poison sumac, staghorn sumac grows in dry sites, has red fruits, and is safe to touch; poison sumac resides in marshes, has white berry-like fruits, and contains rash-inducing oils. This staghorn sumac is an excellent example of a plant with compound leaves; 11 or many more leaflets can be found on a single leaf.



Continue straight ahead on the trail, following the edge of the composting field, and you will return to the beginning of the Loop Trail. The trail back to the Town Hall is on the opposite (SW) corner of the composting field.

## **Note of acknowledgment**

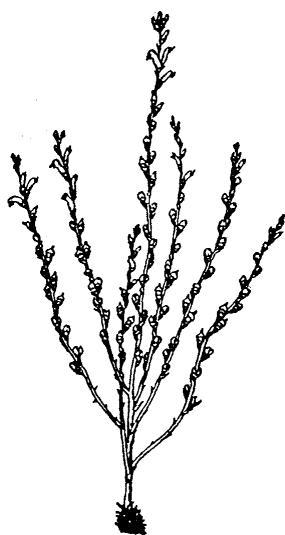
The drawings in the Trail Description section are taken from, Britton, N.L., and A. Brown. 1913. Illustrated flora of the northern states and Canada.

They can be found on the Internet at the PLANTS Database. The PLANTS Database is a collaborative effort of the USDA NRCS (United States Department of Agriculture Natural Resource Conservation Service) and many partners and can be found at: <http://plants.usda.gov>

The following section contains illustrations from the original Nature Trail Guide. It contains drawings of many of the smaller plants discussed within the text of the guide. They are arranged in loose alphabetical order by common name.

Following the illustration section there is a section of lists of plant names, both common and scientific.

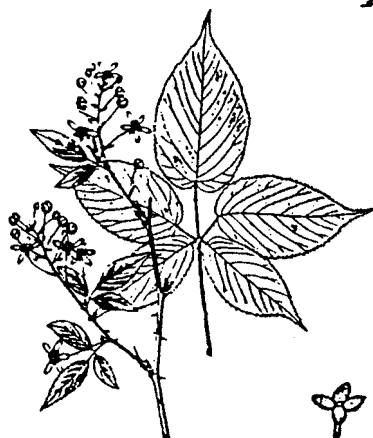




Beechdrops



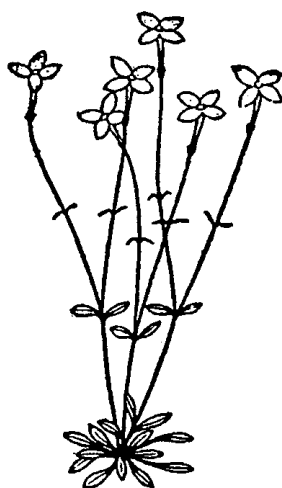
Bird-vetch



Blackberry



Blue-eyed  
grass



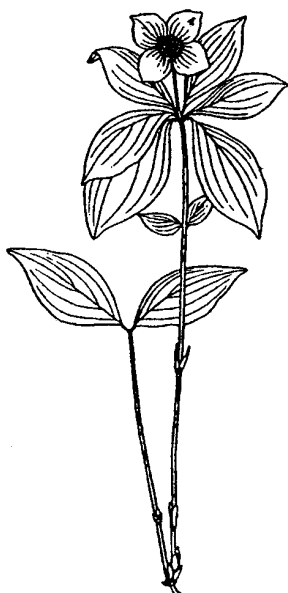
Bluets



Bristly sarsaparilla



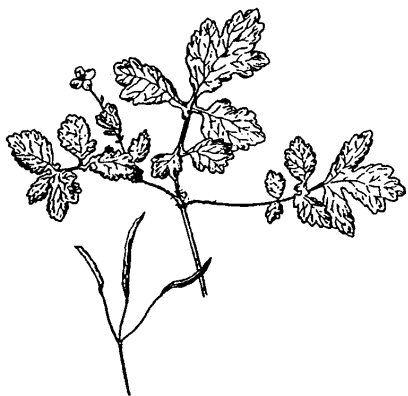
Bulbous buttercup



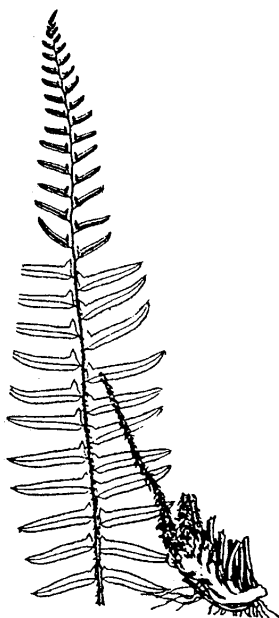
Bunchberry



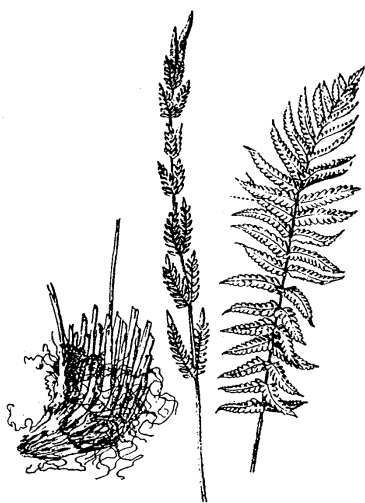
Canada mayflower



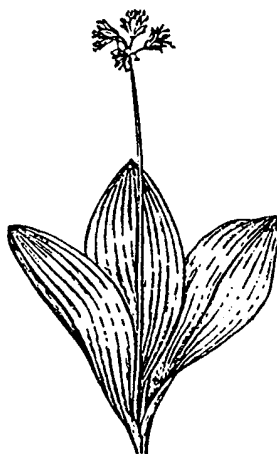
Celandine



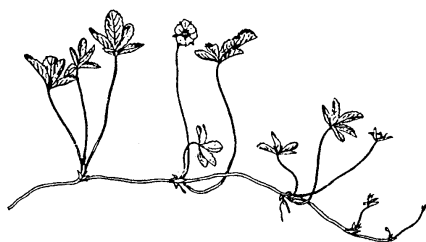
Christmas fern



Cinnamon fern



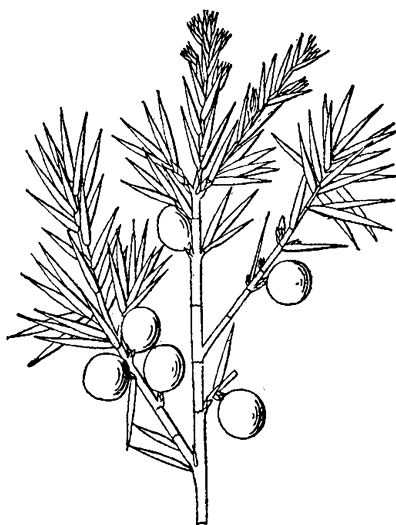
Clintonia, Corn lily



Common cinquefoil



Common dandelion



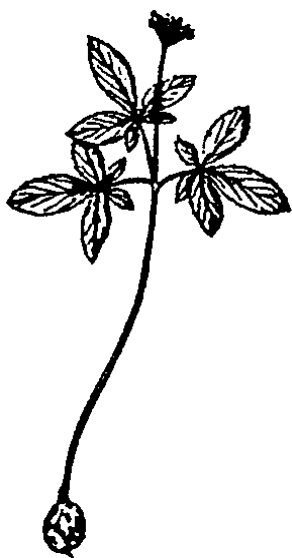
Common juniper



Common speedwell



Dame's rocket



Dwarf ginseng



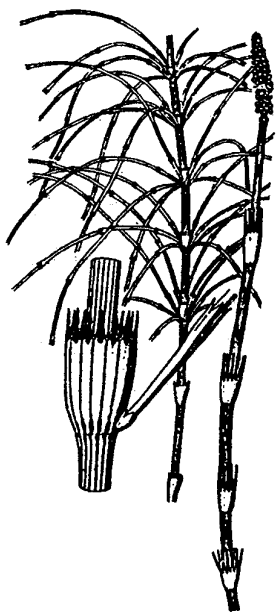
European barberry



Evening lychnis



False Solomon's seal



Field horsetail



Field pussytoes



Foamflower



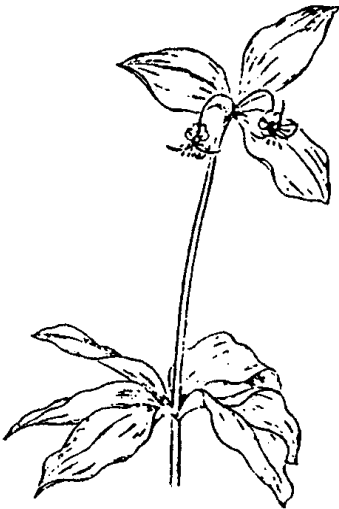
Gill-over-the-ground



Ground pine,  
Princess pine



Hawkweed, Yellow King-devil



Indian cucumber root



Jack-in-the-pulpit



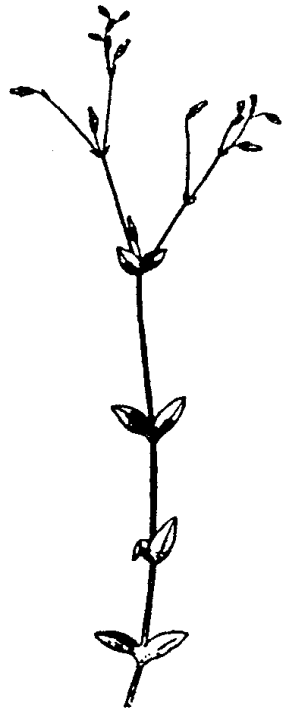
Lowbush blueberry



Mapleleaf viburnum

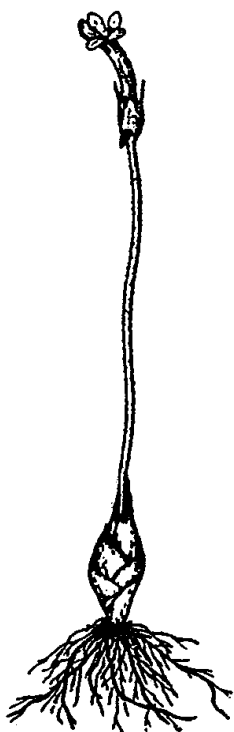


Meadowsweet

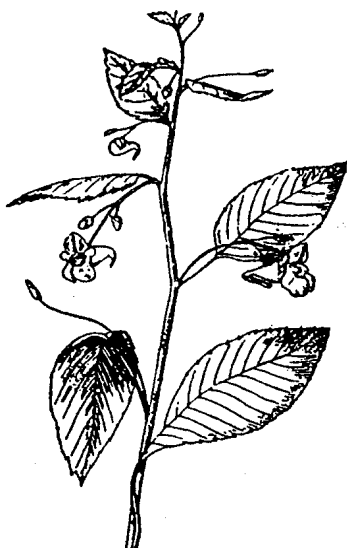


Mouse-ear chickweed

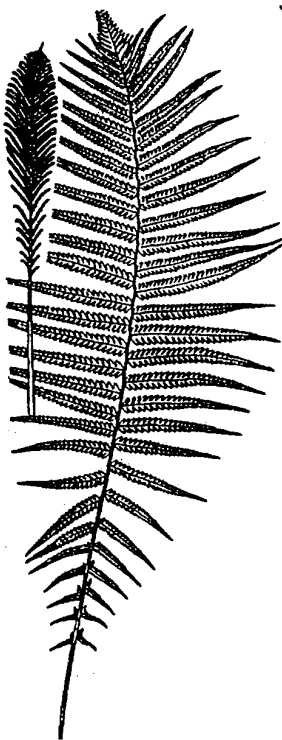




One-flowered  
cancer root



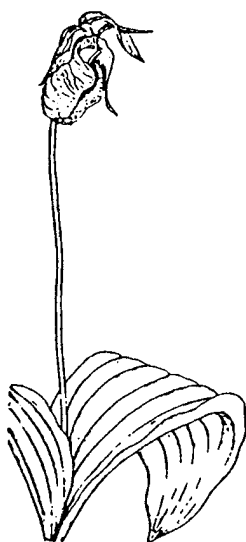
Orange touch-me-not,  
Jewel-weed



Ostrich fern



Partridgeberry



Pink lady's slipper



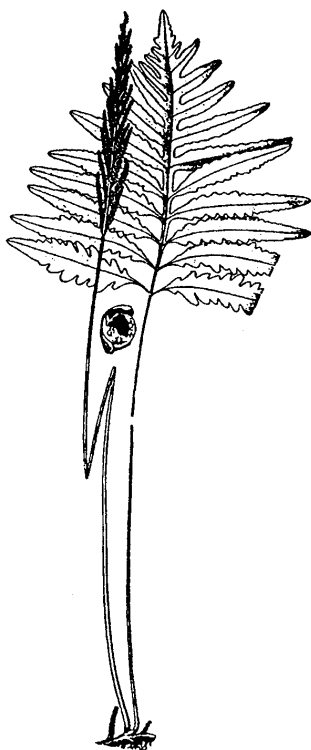
Purple trillium



Red baneberry



Royal fern



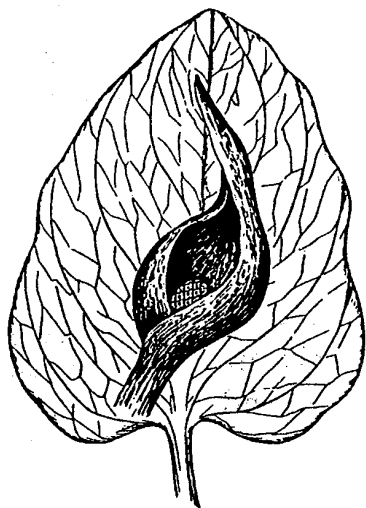
Sensitive fern



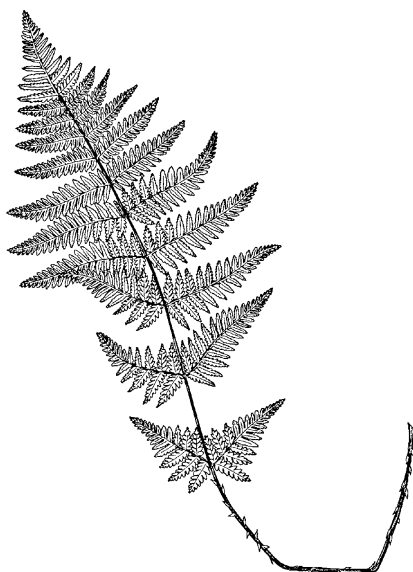
Sheep laurel



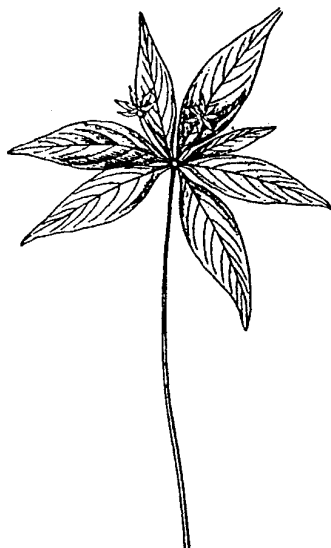
Shepherd's purse



Skunk-cabbage



Spinulose wood-fern



Starflower



Swamp saxifrage



Tall rattlesnake-root



Trailing ground cedar  
(Fan clubmoss)



White wood aster



Wild geranium



Wild sarsaparilla



Wild strawberry



Wintergreen



Wood anemone



Yarrow



Yellow-rocket



Yellow wood-sorrel

# Species Listings for Kingman Farm

## Deciduous Tree Species

<u>Post</u>	<u>Common Name</u>	<u>Scientific Name</u>
	Apple	<i>Malus spp.</i>
21	Ash (White)	<i>Fraxinus americana</i>
22	Aspen, Bigtooth	<i>Populus grandidentata</i>
	Aspen, Quaking	<i>Populus tremuloides</i>
12	Basswood	<i>Tilia americana</i>
3, 17	Beech (American)	<i>Fagus grandifolia</i>
7	Birch, Gray	<i>Betula populifolia</i>
28	Birch, Sweet	<i>Betula lenta</i>
4	Birch, Yellow	<i>Betula alleghaniensis</i>
6	Birch, White	<i>Betula papyrifera</i>
10, 11	Cherry, Black	<i>Prunus serotina</i>
	Cherry, Choke	<i>Prunus virginiana</i>
29	Cherry, Pin	<i>Prunus pensylvanica</i>
14	Elm (American)	<i>Ulmus americana</i>
20	Hazelnut (Beaked)	<i>Corylus cornuta</i>
24	Hickory, Shagbark	<i>Carya ovata</i>
	Maple, Norway	<i>Acer platanoides</i>
15	Maple, Red	<i>Acer rubrum</i>
16	Maple, Sugar	<i>Acer saccharum</i>
19	Hophornbeam	<i>Ostrya virginiana</i>
23	Hornbeam	<i>Carpinus caroliniana</i>
1	Oak, Red (Northern Red)	<i>Quercus rubra</i>
2	Oak, White	<i>Quercus alba</i>
30	Sumac, Staghorn	<i>Rhus typhina</i>
	Willow	<i>Salix spp.</i>
26	Witch-hazel	<i>Hamamelis virginiana</i>

## Evergreen Tree Species

5,27	Hemlock (Eastern)	<i>Tsuga canadensis</i>
	Pine, Pitch	<i>Pinus rigida</i>
8	Pine, White (Eastern White)	<i>Pinus strobus</i>
	Red cedar (Eastern)	<i>Juniperus virginiana</i>
	Spruce (Colorado Blue)	<i>Picea pungens</i>
	Spruce	<i>Picea sp.</i>

## Spring Flowers

Anemone, Wood	<i>Anemone quinquefolia</i>
Banberry, Red	<i>Actaea rubra</i>
Bane berry, White	<i>Actaea pachypoda</i>
Blackberry and Raspberry	<i>Rubus spp.</i>
Blue-eyed Grass	<i>Sisyrinchium montanum</i>
Bluets	<i>Houstonia caerulea</i>



Bunchberry  
 Buttercup, Bulbous  
 Cancer Root, One-flowered  
 Celandine  
 Chickweed, Mouse-ear  
 Cinquefoil, Common  
 Clintonia or Corn Lily  
 Dame's Rocket  
 Dandelion, Common  
 False Solomon Seal  
 Foamflower  
 Geranium, Wild  
 Gill-over-the-ground  
 Ginseng, Dwarf  
 Hawkweed (Yellow King-devil)  
 Indian Cucumber Root  
 Iris (Northern Blue Flag)  
 Jack-in-the-pulpit  
 Lady's Slipper, Pink  
 Lychnis, Evening  
 Mayflower, Canada  
 Pussetoes, Field  
 Sarsaparilla, Wild  
 Saxifrage, Swamp  
 Shepherd's Purse  
 Skunk-cabbage  
 Speedwell, Common  
 Starflower  
 Strawberry, Wild  
 Trillium, Red  
 Vetch, Bird-  
 Violet  
 Yellow-rocket

*Cornus canadensis*  
*Ranunculus bulbosus*  
*Orobanche uniflora*  
*Chelidonium majus*  
*Cerastium vulgatum*  
*Potentilla simplex*  
*Clintonia borealis*  
*Hesperis matronalis*  
*Taraxacum officinale*  
*Smilacina racemosa*  
*Tiarella cordifolia*  
*Geranium maculatum*  
*Glechoma hederacea*  
*Panax trifolium*  
*Hieracium caespitosum*  
*Medeola virginiana*  
*Iris versicolor*  
*Arisaema triphyllum*  
*Cypripedium acaule*  
*Lychnis alba*  
*Maianthemum canadense*  
*Antennaria neglecta*  
*Aralia nudicaulis*  
*Saxifraga pensylvanica*  
*Capsella bursa-pastoris*  
*Symplocarpus foetidus*  
*Veronica officinalis*  
*Trientalis borealis*  
*Fragaria virginiana*  
*Trillium erectum*  
*Vicia cracca*  
*Viola spp.*  
*Barbarea vulgaris*

## Showing Spring Flowering Shrubs and Tree

Apple  
 Barberry, European  
 Blueberry, Lowbush  
 Blueberry, Highbush  
 Buckthorn, European  
 Cherry, Black  
 Cherry, Choke  
 Cherry, Pin  
 Cranberry bush Viburnum or  
 Guelder-rose  
 Honeysuckle

*Malus sylvestris*  
*Berberis vulgaris*  
*Vaccinium angustifolium*  
*Vaccinium corymbosum*  
*Rhamnus frangula*  
*Prunus serotina*  
*Prunus virginiana*  
*Prunus pensylvanica*  
*Viburnum opulus*  
  
*Lonicera spp.*

## Common Fall Berries

Baneberry, Red  
Baneberry, White  
Barberry  
Canada Mayflower  
Partridgeberry  
Pokeweed  
Sarsaparilla, Bristly  
Sarsaparilla, Wild

*Actaea rubra*  
*Actaea pachypoda*  
*Berberis vulgaris*  
*Maianthemum canadense*  
*Mitchella repens*  
*Phytolacca americana*  
*Aralia hispida*  
*Aralia nudicaulis*

## Fall Wildflowers

Aster, Bushy  
Aster, Flat-topped  
Aster, Red-stalk  
Aster, White Wood  
Aster, Willow  
Evening Primrose, Common  
Goldenrod  
Hop clover  
Indian Tobacco  
Rattlesnake Root, Tall/  
Gall-of-the-Earth  
Snapdragon, Dwarf  
Wood Sorrel, Yellow

*Aster dumosus*  
*Aster umbellatus*  
*Aster puniceus*  
*Aster divaricates*  
*Aster salicifolius*  
*Oenothera biennis*  
*Solidago spp.*  
*Trifolium aureum*  
*Lobelia inflata*  
*Prenanthes trifoliata*  
  
*Chaenorrhinum minus*  
*Oxalis stricta*

## Ferns

Cinnamon Fern  
Christmas Fern  
Royal fern  
Sensitive Fern  
Wood-fern, Evergreen

*Osmunda cinnamomea*  
*Polystichum acrostichoides*  
*Osmunda regalis*  
*Onoclea Sensibilis*  
*Dryopteris intermedia*

## Clubmosses

Fan Clubmoss  
Ground-pine, Princess-pine

*Lycopodium digitatum*  
*Lycopodium obscurum*

## Horsetails

Field Horsetail

*Equisetum arvense*

## Complete Species Listing

American Basswood	<i>Tilia americana</i>
American Beech	<i>Fagus grandifolia</i>
American Elm	<i>Ulmus americana</i>
Apple	<i>Malus sylvestris</i>
Bead Lily, Clintonia, Corn Lily	<i>Clintonia borealis</i>
Beaked Hazelnut	<i>Corylus cornuta</i>
Beechdrops (parasitic)	<i>Epifagus virginiana</i>
Bigtooth Aspen	<i>Populus grandidentata</i>
Bird-vetch	<i>Vicia cracca</i>
Black Cherry	<i>Prunus serotina</i>
Blue Cohosh	<i>Caulophyllum thalictroides</i>
Blue-eyed Grass	<i>Sisyrinchium montanum</i>
Bluets	<i>Houstonia caerulea</i>
Bramble, Blackberry, Raspberry	<i>Rubus spp.</i>
Bristly Aster	<i>Aster puniceus</i>
Bristly Sarsaparilla	<i>Aralia hispida</i>
Bulbous Buttercup	<i>Ranunculus bulbosus</i>
Bunchberry	<i>Cornus canadensis</i>
Butter-and-eggs, Toadflax	<i>Linaria vulgaris</i>
Canada Mayflower	<i>Maianthemum canadense</i>
Celandine	<i>Chelidonium majus</i>
Choke Cherry	<i>Prunus virginiana</i>
Christmas Fern	<i>Polystichum acrostichoides</i>
Cinnamon Fern	<i>Osmunda cinnamomea</i>
Colorado Blue Spruce	<i>Picea pungens</i>
Common Cat-tail	<i>Typha latifolia</i>
Common Cinquefoil	<i>Potentilla simplex</i>
Common Dandelion	<i>Taraxacum officinale</i>
Common Evening Primrose	<i>Oenothera biennis</i>
Common Juniper	<i>Juniperus communis</i>
Common Poison-ivy	<i>Toxicodendron radicans</i>
Common Ragweed	<i>Ambrosia artemisiifolia</i>
Common Speedwell	<i>Veronica officinalis</i>
Common White Heart-leaved Aster	<i>Aster divaricatus</i>
Common Yellow Wood-sorrel	<i>Oxalis stricta</i>
Cranberrybush Viburnum	<i>Viburnum opulus</i>
Dame's Rocket	<i>Hesperis matronalis</i>
Dwarf Ginseng	<i>Panax trifolium</i>
Eastern Hemlock	<i>Tsuga canadensis</i>
Eastern Red cedar	<i>Juniperus virginiana</i>
Eastern White Pine	<i>Pinus strobus</i>
European Alder-buckthorn	<i>Rhamnus frangula</i>
European Barberry	<i>Berberis vulgaris</i>
Evening Lychnis	<i>Lychnis alba</i>
False Solomon's Seal	<i>Smilacina racemosa</i>
Fan Clubmoss	<i>Lycopodium digitatum</i>

Field Horsetail  
 Field Pussytoes  
 Flat-topped White Aster  
 Flowering Maple  
 Foamflower  
 Fragrant Bedstraw  
 Gall-of-the-earth  
 Gill-over-the-ground  
 Goldenrod  
 Goldthread  
 Gooseberry  
 Grape  
 Gray Birch  
 Ground-pine, Princess-pine  
 Hardback, Steeplebush  
 Highbush Blueberry  
 Hobble-bush  
 Honeysuckle  
 Indian Cucumber-root  
 Indian Tobacco  
 Jack-in-the-pulpit  
 Lesser Toad Flax  
 Long-stalked Aster  
 Lowbush Blueberry  
 Meadowsweet  
 Mouse-ear Chickweed  
 Multiflora-rose  
 Musclemwood  
 Nightshade, Bittersweet  
 Northern Arrowwood  
 Northern Blue Flag  
 Northern Red .Oak  
 Norway Maple  
 One-flowered Cancer-root  
 Orange Touch-me-not, Jewel-weed  
 Ox-eye Daisy  
 Palmate Hop-clover  
 Paper Birch  
 Partridgeberry  
 Pin Cherry  
 Pink Lady's Slipper  
 Pitch Pine  
 Pokeweed  
 Purple or Red Trillium  
 Quaking Aspen  
 Red Baneberry  
 Red Clover  
 Red Maple  
 Red-osier Dogwood

*Equisetum arvense*  
*Antennaria neglecta*  
*Aster umbellatus*  
*Viburnum acerifolium*  
*Tiarella cordifolia*  
*Geranium maculatum*  
*Prenanthes trifoliata*  
*Glechoma hederacea*  
*Solidago spp.*  
*Coptis trifolia*  
*Ribes spp.*  
*Vitis spp.*  
*Betula populifolia*  
*Lycopodium obscurum*  
*Spiraea tomentosa*  
*Vaccinium corymbosum*  
*Viburnum alnifolium*  
*Lonicera spp.*  
*Medeola virginiana*  
*Lobelia inflata*  
*Arisaema triphyllum*  
*Chaenorrhinum minus*  
*Aster dumosus*  
*Vaccinium angustifolium*  
*Spiraea alba*  
*Cerastium vulgatum*  
*Rosa multiflora*  
*Carpinus caroliniana*  
*Solanum dulcamara*  
*Viburnum dentatum*  
*Iris versicolor*  
*Quercus rubra*  
*Acer platanoides*  
*Orobanche uniflora*  
*Impatiens capensis*  
*Chrysanthemum leucanthemum*  
*Trifolium aureum*  
*Betula papyri/era*  
*Mitchella repens*  
*Prunus pensylvanica*  
*Cypripedium acaule*  
*Pinus rigida*  
*Phytolacca americana*  
*Trillium erectum*  
*Populus tremuloides*  
*Actaea rubra*  
*Trifolium pratense*  
*Acer rubrum*  
*Cornus stolonifera*

Royal Fern  
 Sensitive Fern  
 Shagbark Hickory  
 Sheep Laurel  
 Shepherd's Purse  
 Skunk-cabbage  
 Smooth Alder  
 Spinulose Wood-fern  
 Spruce  
 Staghorn Sumac  
 Starflower  
 Sugar Maple  
 Swamp Saxifrage  
 Sweet Birch  
 Tall Rattlesnake-root  
 Tick-trefoil  
 Veiny Lined Aster  
 Virginia Creeper  
 White Ash  
 White Baneberry  
 White Oak  
 White Wood Aster  
 Whitlow-grass  
 Wild Sarsaparilla  
 Wild Strawberry  
 Willow  
 Witch-hazel  
 Wood Anemone  
 Wood-fern, Evergreen  
 Yarrow  
 Yellow Birch  
 Yellow King-devil (hawkweed)  
 Yellow-rocket

*Osmunda regalis*  
*Onoclea sensibilis*  
*Carya ovata*  
*Kalmia angustifolia*  
*Capsella bursa-pastoris*  
*Symplocarpus foetidus*  
*Alnus serrulata*  
*Dryopteris carthusiana*  
*Picea sp.*  
*Rhus typhina*  
*Trientalis borealis*  
*Acer saccharum*  
*Saxifraga pensylvanica*  
*Betula lenta*  
*Prenanthes trifoliata*  
*Desmodium spp.*  
*Aster praealtus*  
*Parthenocissus quinquefolia* *Fraxinus*  
*americana*  
*Actaea pachypoda*  
*Quercus alba*  
*Aster divaricatus*  
*Draba verna*  
*Aralia nudicaulis*  
*Fragaria virginiana*  
*Salix spp.*  
*Hamamelis virginiana*  
*Anemone quinquefolia*  
*Dryopteris intermedia*  
*Achillea millefolium*  
*Betula alleghaniensis*  
*Hieracium caespitosum*  
*Barbarea vulgaris*