

Algonquin Hardwood Forests

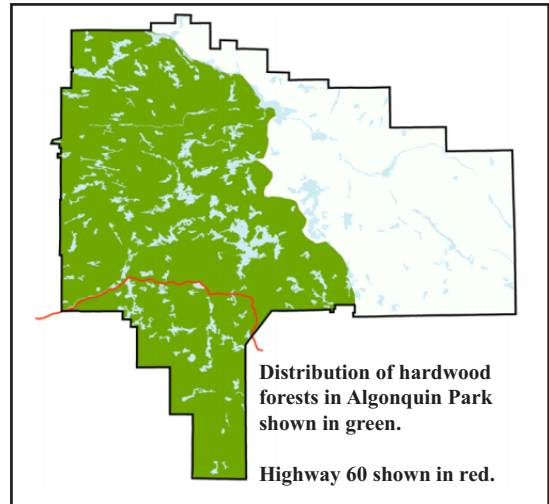
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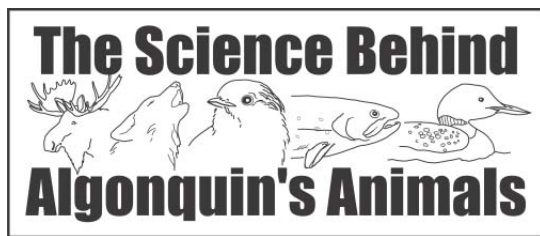
Many people think of Algonquin Park as being 'up north'. In reality Algonquin is largely covered by southern forests. Covering two-thirds of the western part of Algonquin, hardwood forests are the largest and single-most important of the five major habitats in the Park. The hardwood forests of Algonquin cover more area than the other four major habitats found in the Park combined. The dominant tree of the hardwood forests is the Sugar Maple, and this is most evident in the fall as the hills of the western upland forests come ablaze in brilliant reds and yellows.

Over the last million years four different glaciers have advanced and retreated over the Algonquin area. The last glacier melted back just 11,000 years ago. As the glaciers retreated they left behind boulders, sand, gravel, and silt. All this debris, which spread out over the underlying bedrock, is known as glacial till. It is this glacial till that forms the soil of Algonquin's hardwood forests. This till acts like a sponge and can hold water for long periods of time and never dries out. This is important for trees such as Sugar Maple, American Beech, and Yellow Birch which need a lot of moisture in order to survive.

The tree that dominates Algonquin's hardwood forests is the Sugar Maple. It has adapted so well to the soil conditions that it accounts for 90% of the trees in Algonquin's western uplands and has a large influence on the other plants that are found here.

For a brief period in early spring the forest floor is covered with spring wildflowers such as Red Trillium, Painted Trillium, Trout-lily, and Spring Beauties. The beautiful scene drastically changes as the leaves of the Sugar Maple start to emerge. By late spring the broad leaves of the Sugar Maple have severely limited the sunlight reaching the forest floor, making it difficult for any green plants to grow. There is one plant in the hardwood forests that can survive in the low-light conditions imposed by the Sugar Maples. The Indian Pipe is a small, ghostly white plant that does not rely on chlorophyll in order to produce food energy. Instead, the Indian Pipe relies on a fungus in the soil to obtain its energy. This fungus gets its energy from tree roots and then the Indian Pipe takes this energy from the fungus. Thus,





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the Indian Pipe is indirectly getting its energy from the same trees that are preventing the life-giving light of the sun from reaching the forest floor.

The leaves of the Sugar Maple not only prevent the growth of many plants while they are still on the tree, they also inhibit the growth of plants when they fall onto the ground. The leaf litter caused by the Sugar Maples is so abundant that many plants have a hard time penetrating this layer and getting their roots established in the soil below. The Yellow Birch, another tree found in the hardwood forests, is a good example of this problem. However, the Yellow Birch has solved this problem by having its seeds take root in an old stump or log rather than the forest floor. If you walk through a hardwood forest in Algonquin you will often see old stumps that have a Yellow Birch growing from them, taking its place in the Sugar Maple dominated forest.

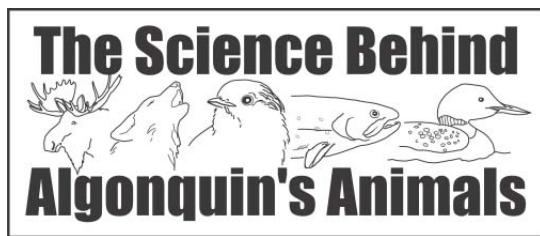
One tree which is able to get its seeds through the thick mat of Sugar Maple leaves and establish itself is the American Beech. Beech trees are often found on the drier hilltops of the hardwood forests. They reach sexual maturity between 40 and 60 years and start to produce big beechnuts. These larger seeds allow the saplings a better chance of establishing their roots in the thick cover of the forest floor.

The seeds of the American Beech are not only big, but they are also very nutritious. While producing big seeds allows for a better chance of reproduction, they also attract animals that feed on them. The Black Bear is one of the primary consumers of beechnuts.

You can tell if a Beech tree has been visited by a Black Bear by claw marks on the smooth bark of the tree. Another tell-tale sign that a Black Bear has been busy feeding on beechnuts are bears' nests. In order to get at the nutritious beechnuts, Black Bears will climb high up into a Beech tree. Sitting in the tree they start to pull the seed-laden branches towards them, bending and often breaking them as they go. Often the broken branches fall and get caught in a crook of the tree. The resulting mass of broken branches is known as a bear nest.

The composition of Algonquin's hardwood forests results in a very distinctive set of birds which inhabit them. The heavy canopy results in very few shrubs and ground plants, therefore a lot of leaf-dwelling insects are found in the canopy. This limits the number of birds that feed in the forest understory. The Red-eyed Vireo is one of the birds that live high up in the canopy and utilize this





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food source. Although it is Algonquin's most abundant bird, you are more likely to hear its warbling song, which it sings close to 3000 times an hour, than see it.

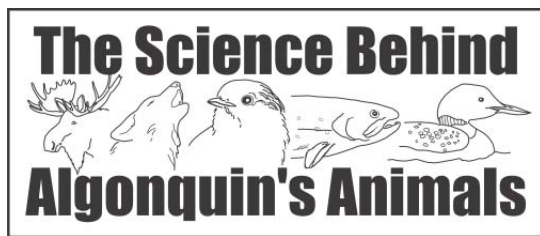
Every autumn the leaves of the trees of the hardwood forest change colour to brilliant reds and yellows, and eventually fall to the forest floor. The accumulated leaf litter provides excellent shelter for a variety of insects. Several birds make their home on the forest floor and specialize in exploiting this hidden food source. The Ovenbird nests here, which is unusual for most of Algonquin's birds. The nest of the Ovenbird has a 'roof' and the entrance is on the side and resembles a Dutch oven, hence the bird's name. The Ovenbird spends most of its time on the ground scouring the leaf litter for insects. Its brown-and-white-streaked coloration often makes it hard to see, but its distinctive call of "teacher, teacher, teacher", makes it readily identifiable.

The Wood Thrush uses its long legs and feet to kick and poke through the leaf litter where it grabs up exposed insects before they can scurry back under cover again. Although a common bird in Algonquin from mid-May to mid-September, its numbers seem to be declining. Researchers speculate that the reason for the decline may be due to loss of habitat in its winter nesting grounds in Central America.

The space between the ground and the canopy is utilized by the flycatchers. Birds like the Least Flycatcher sit on branches waiting for insects to fly by. The Least Flycatcher is the most common flycatcher in Algonquin's hardwood forests. Like other birds of the hardwood forest you are more likely to hear, rather than see it. Their small size and plain coloration makes them difficult to see at the best of times. It is hard though not to hear them as you walk through the forest in May or June, with their familiar call of "chebec, chebec" resounding through the woods. Interestingly, unlike most of our other migratory birds that stay throughout the summer, Least Flycatchers migrate back south as soon as they have finished nesting. By late July most adults have left Algonquin, and only juvenile birds remain until they are strong enough to make the journey to Mexico.

There are numerous insects that live either under the bark of hardwood trees or inside of the trees themselves. This allows for a great variety of birds that can utilize this food source in many different ways. The Brown Creeper is just one of the birds of the hardwood forest that preys on insects living in crevices or behind bark. It works its way 'creeping' up the trunk of a tree looking for insects.





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When it has reached the top it drops to the ground and starts to ‘creep’ its way up another tree.

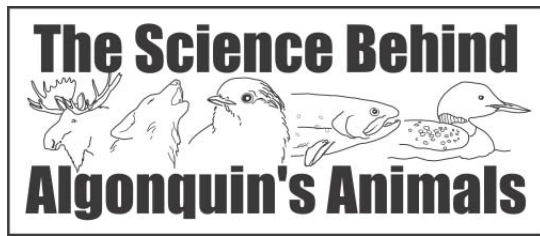
A little less subtle than the Brown Creeper are the woodpeckers that chip off the bark or excavate holes to get at the insects living inside. Downy Woodpeckers, Hairy Woodpeckers, and Pileated Woodpeckers exploit this hard-to-get-at food source. The Pileated Woodpecker is the largest in the woodpecker family, being about the same size as a crow. The holes that they excavate for their nests are also important to other birds. Wood Ducks and Hooded Mergansers both use old Pileated Woodpecker nests as nesting sites.

Another woodpecker lives in the hardwood forests of Algonquin’s west side, the Yellow-bellied Sapsucker. The Sapsucker is Algonquin’s most common woodpecker and does not only rely on insects for sustenance but consumes the sap of trees. They drill ordered rows of holes in the bark and return later when the sap has started to flow to drink it and eat any insects that may have been caught in the sap. If a Sapsucker drills enough holes in a tree it may eventually kill it. Even if this does not, fungi may get established in the holes and still kill the tree. While this may seem destructive, the Sapsucker is actually playing an important part in the natural change of the forest.

Apart from insects, the hardwood forests of Algonquin also have a small supply of seeds, buds, and berries for non-insect-eating birds. The Ruffed Grouse is one of the few birds of the hardwood forest that spends the winter in Algonquin. During the spring and summer they will feed on some insects, but during the winter they rely heavily on the buds of hardwood trees for sustenance. In summer, you may see a Ruffed Grouse strutting across a hiking trail or across a portage to disappear into the underbrush, or be startled as one explodes from cover and lands in a nearby tree. In the spring you will definitely be able to hear a Ruffed Grouse as the males ‘drum’ to attract a potential mate. Standing on top of a fallen log, male Ruffed Grouse rotate their wings forward very quickly creating a mini sonic boom. This starts out as slow, hollow thumping, gradually getting faster and higher in pitch, and is a sure sign of spring in Algonquin’s hardwood forests.

The seeds of the Sugar Maple are an important food source for another animal of the hardwood forests, the Deer Mouse. In turn, mice are an important food source for another bird of the hardwood forest, the Barred Owl. The Barred Owl is one of two commonly found owls in Algonquin Park and the only one that is a year-round resident. Its call of “Who cooks for you? Who cooks for you all?” is a common sound in the hardwood forests of Algonquin’s west side. With eyesight a hundred times





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greater than ours, highly sensitive hearing, and silent flight, the Barred Owl is a very deadly predator. Even during the long, dark winter nights Deer Mice, which live under the snow, are not safe from the Barred Owl. With ears that are offset, they hear prey with pinpoint accuracy, so that even at night under several feet of snow, they are able to locate their prey.

One of the larger animals that may be found in the hardwood forests of Algonquin is the White-tailed Deer. Deer feed on leaves and twigs, but are limited by what they can reach. A mature hardwood forest provides little browse for deer, who prefer disturbed areas where there is plenty of sunlight and low vegetation.

Within Algonquin's hardwood forests are 'islands' of Eastern Hemlock groves. These areas are quite small, consisting of only a hectare or two in size. These small stands provide another area for birds to utilize, but are very different in appearance from the surrounding hardwood forest, and the birds which exploit the canopy and forest floor for insects in these Hemlock groves are distinctly different from those found in the hardwood forest. The Blackburnian Warbler specializes in picking insects off the needles and branches of Hemlocks. Not having an overly impressive call, the males make up for it with their visually striking, bright-orange throat.

The hardwood forests of Algonquin's western uplands are a constantly changing mosaic. The cold barren winter landscape slowly gives way to a period where beautiful wildflowers are allowed to flourish for a brief period before the leaves of the hardwood trees emerge, limiting the sunlight to the forest floor. Many plants and animals have different roles in Algonquin's hardwood forests and different ways to survive. For those that can not, a Hemlock oasis exists.

