

VISITOR'S GUIDE (WEST SIDE)



1. WELCOME TO THE SHAW WOODS

You are about to step into a rare and ancient forest. In many ways, it is not unlike what the first European explorers to eastern North America would have encountered. Some clues to recognizing this as an 'Old Growth Forest' are obvious while others are more subtle. See how many of these characteristics you can identify on your walk:

- High-branched, large diameter trees
- Multilayered canopy
- Pit and mound topography
- Nurse logs and cavity trees
- Lack of pioneer tree species
- Absence of sawn stumps

We hope you enjoy your journey back in time!

SHAW WOODS

OUTDOOR EDUCATION CENTRE INC.
2065 BULGER ROAD
WWW.SHAWWOODS.CA

GENERAL INFORMATION

Within these woods you will find one of eastern Canada's premier examples of an old growth maple/beech/hemlock forest. It supports a wide variety of ecological communities and has been carefully protected for generations. In addition, the property features a variety of managed forests, plantations and wetlands.

Please note that motorized vehicles, bicycles, horseback riding, overnight camping and open fires are not permitted. In order to protect sensitive habitats, visitors must remain on trails and dogs must be on a leash.

Enjoy your visit but remember to take only pictures and leave only footprints.

MISSION STATEMENT

To foster an ethic of responsible environmental stewardship by providing courses and/or seminars that teach sound environmental practices to local school groups, community organizations and the public at large. In conjunction with the foregoing, to teach generally accepted proper forest management practices for the purpose of achieving sustainable forest utilization while respecting the concept of creating reserves of undisturbed forest areas as examples of old growth forest.

ABOUT US

The Shaw Woods Outdoor Education Centre Inc. is a not-for-profit volunteer-based organization.

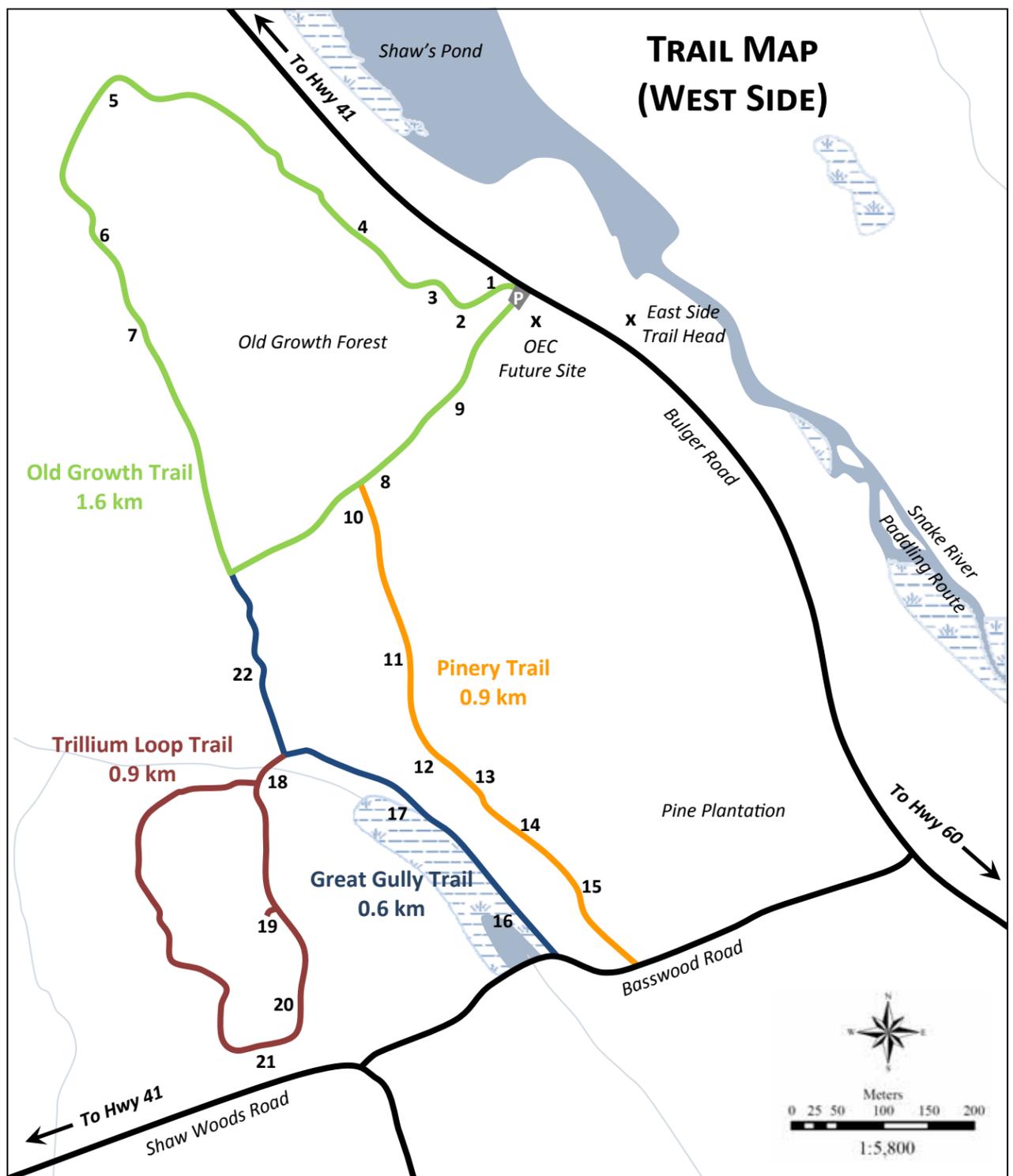
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18. CANOPY STRUCTURE IS FOR THE BIRDS

Many bird species can co-exist in a forest because they each make use of different parts of the ecosystem. Scarlet tanagers live in the tall treetops and can be hard for us to see even though the males are so brightly coloured. Red-eyed Vireos tend to reside in the mid-canopy with the females nesting lower down and the males not helping much but singing incessantly. Meanwhile, wood thrushes nest in a dense understory of young trees and shrubs although males perch higher up to sing. The ovenbird builds its enclosed, oven-like nest on the ground. Standing decaying and dead trees are excavated by woodpeckers at various heights. And tangles of fallen trees and logs appeal to winter wrens. The vertical canopy structure and the living, dying, and dead trees in this old forest provide a variety of habitats representing homes and workplaces for a diverse bird community.



Technology may have changed since aboriginal people first used elm or birchbark vessels for sap collection and red hot stones to reduce the volume by 40 times. But for the most part, the end product is much as it has always been. Maple sugar was a staple food during the early days of settlement as refined sugar was both expensive and hard to obtain. By the 1880s, the expansion of local commerce allowed the production to shift from sugar to syrup. At the end of this 20-metre side trail you will see the site of the original fireplace and pan used by the Shaw family to produce syrup up until the early 1940s.

19. MAPLE SUGARING

At the end of this 20-metre side trail you will see the site of the original fireplace and pan used by the Shaw family to produce syrup up until the early 1940s.



20. PARASITES AMONG US

One of the more unusual plants to be found in abundance along this section of trail is beechdrops. You should be able to easily spot the 15-45 cm tall stems with small pinkish flowers from late summer onwards. Note that this plant lacks leaves! It is one of a handful of parasitic or saprophytic plants including Indian pipe, pine drops and

pinetops which grow along the various trails here in the Shaw Woods. In this instance, beechdrops are parasitic on the roots of adjacent beech trees and thus have no need for chlorophyll, a big benefit on a shady forest floor. Some other parasitic plants, such as Indian pipe, are parasitic on mycorrhizal fungi that grow on the roots of certain plants.



Credit: C. Hough

21. COLOUR IN TRILLIUMS

Perhaps nothing represents our spring woods better than the spectacle of broad swathes of flowering trilliums. You can observe two species in the Shaw Woods. The most abundant is the white trillium (*Trillium grandiflorum*). It prefers rich, neutral soils and sometimes takes on a pinkish hue as the petals mature. Look for the red trillium (*Trillium erectum*) in damper and more acidic conditions. Curiously enough, it can occasionally have a white colour variation. One of the easiest ways to identify the red trillium is the very broad leaves which almost touch. So keep an eye out - what may appear to be a white trillium at first glance may actually be red!



22. DISTURBANCE AND REGENERATION

You have now entered into a much younger forest community. Notice the sudden presence of largetooth aspen and white birch, which are shade-intolerant trees and good indicators of the age of this stand. In the absence of fire, wind is a primary agent of change in this forest. Some years ago, a microburst swept along this hillside, and the resulting open sunlight conditions allowed these pioneer species to become established. Many are now reaching maturity and over the next few decades sugar maple and beech will gradually succeed in this area. Such disturbance and regeneration events are a normal and important part of the cycle of life in every forest ecosystem new and old alike.



2. CHANGING OF THE GUARD

Shade-tolerant hardwoods are not all created equal. The concept of a 'climax' forest of sugar maple, hemlock and beech locked perpetually in equal harmony is a short-term reality. A longer 400-year perspective sees variability in the abundance of each of these species as the conditions change ever so slightly. The cycle of deer populations might favour beech regeneration for a period of time. Similarly, a tip-up tree might create some moist, rich micro-sites for hemlock to germinate for a while. And the right amount of light on the forest floor might favour sugar maple for a number of years. As the conditions change in the forest over time, so too does the blend of sugar maple, hemlock, and beech.



3. INTERIOR VS. EDGE IN FORESTS

You have just walked 100 metres inside the forest. This is the minimum distance from the forest edge required by many of our songbirds to situate a successful nest. For these species, the edge environment offers too much light and wind. Many birds need large forested areas because they prefer to live in the deep woods rather than near the periphery and small woodlots may only provide edge conditions. During the breeding season, interior forest birds avoid competition from those species that prefer the edge environment. This habitat also provides better cover from predators and nest robbers such as raccoons and squirrels. When these birds nest near the edge, they are vulnerable to the brown-headed cowbird – a parasitic bird of open areas which lays its eggs in the nests of other birds.



4. OF WOODPECKERS AND HUMMINGBIRDS

This orderly pattern of small holes in the bark is a hallmark of eastern hemlock trees. These are in fact 'sap wells' carefully chiseled out and regularly maintained as a food source by the yellow-bellied sapsucker, but also relied upon by a host of other species including butterflies and wasps. Perhaps the most intriguing benefactor is the ruby-throated hummingbird whose arrival from Central America coincides with the return of the sapsucker. Unlike in Central America, there are not many suitable red tubular flowers for a hummingbird in our late-April woods, so the sugary sap makes for a fine alternative. Do you suppose there might be some connection with the bright red colour on the woodpecker tending its crop?



5. HEMLOCK CATHEDRAL

This small but magnificent hemlock grove contains some of Shaw Woods' most senior citizens. Many of these giants are 30 meters tall and well over 200 years old. Although you will also find them mixed with sugar maple and beech, they often form exclusive communities such as this one. Heavy shade and fallen needles that release acids and aluminum is enough to inhibit the growth of most other plants - notice the park-like under-story. Hemlock saplings can survive decades - even centuries - with only 5 % light waiting for their chance in the sun. Hemlock bark was once in high demand for its tannin which was used in the production of leather. And there was no equal for the wooden floors built in early shanties and stables throughout the Ottawa Valley. Further back in time, aboriginal peoples used the needles, bark and roots in naturopathic remedies for a variety of illnesses from the common cold to scurvy.



6. ROOMS FOR RENT

The cavity tree before you is one of the most desirable bits of real estate in a forest. Here in the Shaw Woods, there are many such trees and they are a vital source of food, shelter and safety for some 50 species of wildlife. The most prominent excavations on this tree are feeding cavities carved out by the resident pileated, hairy and downy woodpeckers. Larger hollows are also formed by natural and environmental ageing processes and these cavities provide prime real estate for fishers, raccoons, porcupines, and the pine marten, to name a few. During your walk, try to spot den and roost cavities in all shapes and sizes and try to guess who calls them home – perhaps a flying squirrel, deer mouse, nuthatch, weasel or saw-whet owl?



7. PORCUPINES AND FISHERS

This beech tree has been girdled by one of our more commonly observed woodland animals. A connoisseur of many kinds of bark and twigs, the porcupine can be especially destructive in young evergreen forests. In winter, watch for its tracks plowed into the snow between hollow den trees and the relative warmth of the nearby hemlock grove. You may also observe another set of tracks close by. The fisher is the porcupine's chief predator. It deftly avoids its prey's formidable weaponry and has the unique ability to expel any quills that do make contact to avoid infection.



Credit: J. Glover

8. GLACIAL ERRATICS

This is one of many glacial erratics torn off the granitic bedrock of the Dore Scarp which skirts the eastern shore of Shaw's Pond. With the pressures exerted by a 2-km tall ice sheet slowly pushing a path south, this erratic arrived here about 11, 000 years ago during the last glacial period. At some point since being released by the ice it has sheared in half. Take note of the colonization pattern of mosses and lichens on the rock surfaces.



9. PITS AND MOUNDS

This pit and mound formed when a large wind-thrown tree became uprooted. The resulting variation in micro-topography has dramatic effects on the soil temperature and moisture and creates niche microsites allowing diverse flora to develop. The ephemeral pool of water that forms temporarily each spring provides essential habitat for frogs, toads and also most species of salamanders. Since it eventually dries up later in the summer, it cannot sustain fish which would have otherwise consumed the amphibian eggs. Be on the lookout for signs of pits and mounds of various ages. This land feature can last for 500-1000 years and is another good indicator of an 'Old Growth Forest'. Also, consider why they might be uncommon in a managed forest.



10. INVADERS OF THE CRAWLY KIND

Look down! There's an invading army moving under your feet. Believe it or not, all the earthworms in the Shaw Woods were brought here from Asia and Europe. Without earthworms, fallen leaves decompose slowly creating a spongy layer of organic 'duff'. This layer is essential for many woodland plants and wildflowers which provide habitat for ground-dwelling animals and also help prevent soil erosion. When they are present, earthworms rapidly consume the leaf litter that creates the duff layer and thereby cause remarkable ecosystem-wide changes. So keep this invasive species in your garden and don't dump your fishing bait!



11. A GRACEFUL EXIT

The majestic white pines at this location will not last. From a forestry perspective, the white pine on this site is not the 'climax' state - tolerant hardwoods are. White pine, although long-living, requires fire to prepare a seed bed, to reduce competing vegetation and to thin the overstory trees in order to stimulate seed production. Fire is a natural disturbance agent on dry sandy sites and typically occurs with enough frequency to keep those locations in pine. This site is richer and does not favour a fire return interval of sufficient frequency to retain pine indefinitely. So enjoy the white pine while they are here but, by the next century, their numbers will be greatly reduced and replaced by the young hardwoods coming in around you.



12. WHERE DID ALL THE WATER GO?

Ten thousand years ago, Lake Dore was twice its present size and the Great Gully below you was a raging river draining this ancient version of the lake. The Great Gully is also evidence that an ice sheet once blocked the lower elevations around the lake including the current outlet into the Snake River. During that time, the landscape here would have looked remarkably different. From your current vantage point, try to imagine a shrub tundra similar to what you would find today on the Hudson Bay coastline.

Over the following thousand years or so, an open forest of jack pine, black spruce, balsam fir and poplar would have gradually replaced the shrub tundra. The temperate forest that we see today did not arrive until much later.



13. HOMESTEAD TO FOREST

The early-succession forest around you was once farmland. Settled by John and Barbara Shaw in 1847, it was part of a diversified operation including grist and sawmills which ran on waterpower from the Snake River. By 1851, there were seven employees and the farm had 15 acres under cultivation and 15 acres cleared for pasture. Census records tell us that they also had "one bull and seven pigs". Active farming in this section ceased in the 1940s. But keep an eye out for some of the original stone fences.



14. FORESTS FOR THE FUTURE

This site has newly planted red pine working their way through the thick ground vegetation. Although this area could have been left for nature to slowly fill in, reforestation efforts can greatly accelerate the process of natural forest regeneration. Red pine is often chosen as an intermediate crop on the path from an old farm field towards a robust and diverse natural forest. It is a popular choice for plantations because it grows quickly in the open and has few pests.



15. PLANTATIONS WITH BENEFITS

A well-managed plantation provides many benefits and is usually thinned on 10 to 20 year intervals. Thinning promotes a vigorous understory of shrubs for wildlife such as red elderberry, which is seen in abundance here, as well as for future tree species to shoot up into the space provided. Within a few generations, this continuous forest cover system will transform the land from a field to a healthy diverse forest.



16. WETLAND AS PANTRY

For aboriginal people living along the Snake River watershed, the wetlands represented a rich food resource, both for animals that could be hunted and plants that could be gathered. The elderberry seen to your right served as both food and medicine. The arrowhead growing further out into the marsh was collected barefoot for its tasty potato-shaped tubers. The common cattail spreading out in front of you was like our modern day grocery store. Flour was made from pollen, the young stems were eaten like asparagus and the cooked rhizomes provided over 30% dietary starch and sugars.



17. CEDAR SWAMPS

In lowland areas such as this site where there is good alkaline organic soil and the ground water is close to the surface, one will often find a forested wetland dominated by eastern white cedar trees that can be up to 500 years old. Cedar lowland swamps provide excellent shelter for a variety of wildlife. In winter, the evergreen canopy intercepts much of the snowfall, reducing snow depth on the ground and providing valuable shelter from the wind-chill effects of the winter wind. In the summer, the effect is reversed and the shade and proximity of the groundwater provides a cool refuge from the heat. Cedar is also called arborvitae or 'tree of life' from the experience of 16th century French explorer Jacques Cartier who learned from the aboriginal peoples how to use cedar to supplement dietary vitamin C and thereby treat scurvy.

