



Kawartha Highlands

Mississagua: A River through Time



1.5 hours







1.5 km



Ontario



Legend

-  Trail
-  Road
-  Private Property
-  Park Boundary

**Portions of this
1.5km loop are
rugged. Please
wear
appropriate
footwear, and
keep in mind
individual
ability.**

0 50 100 150 200
Meters

1. The Mississagua River

Shaping Nature and Human Activity



The Mississagua River below is the only river that flows through Kawartha Highlands Signature Site Park. The 15 kilometre river begins at Mississagua Lake just north of here and flows down to Lower Buckhorn Lake approximately 2 kilometres south. At that point it joins the Trent Severn Waterway, where if you turned left, it would take you to Lake Ontario, or if you turned right, to Lake Simcoe. The habitat the river creates is a major draw for wildlife and it has been the focal point for human activity in this area for thousands of years; first as a travel corridor for First Nations then for early European settlers working in the lumber industry who used it to transport wood south to markets.

The river has not always been here and you will learn more about its origins at the next post.

2. The Geology

Where Did the Mountains Go?

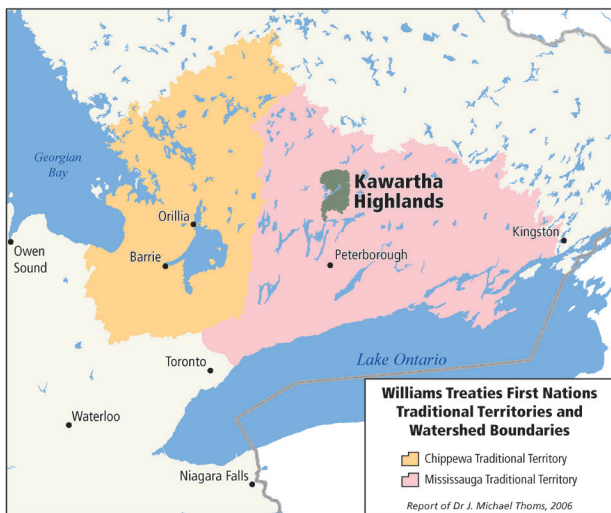
The rock in this area influences everything that occurs here – from human-use activities, to the habitats and species found here, even the form the river itself takes.

The vast rock barrens of Kawartha Highlands were formed about 1.1 billion years ago during a period of mountain building in Ontario. The rocks you are standing on were once buried tens of kilometers deep and represent the highly folded and contorted roots of mountains that were built during a collision between two continental masses. To give you a better idea of how long ago this rock was formed, if you start counting the seconds right now, you will not reach one billion for more than 30 years!

In the billion years since they were formed the rocks have gone through many transformations including faulting, extreme pressure, heating, cooling, glaciation, wind, and rain. These forces eroded the mountains leaving behind what you see here today. The current river path is likely guided by a fault or bedrock structure that was further eroded through glacial scraping.

At our next post you will learn how First Nations people used and travelled this river for thousands of years, likely walking on some of the very rocks you are walking on today.

3. First Nations Use of this Area



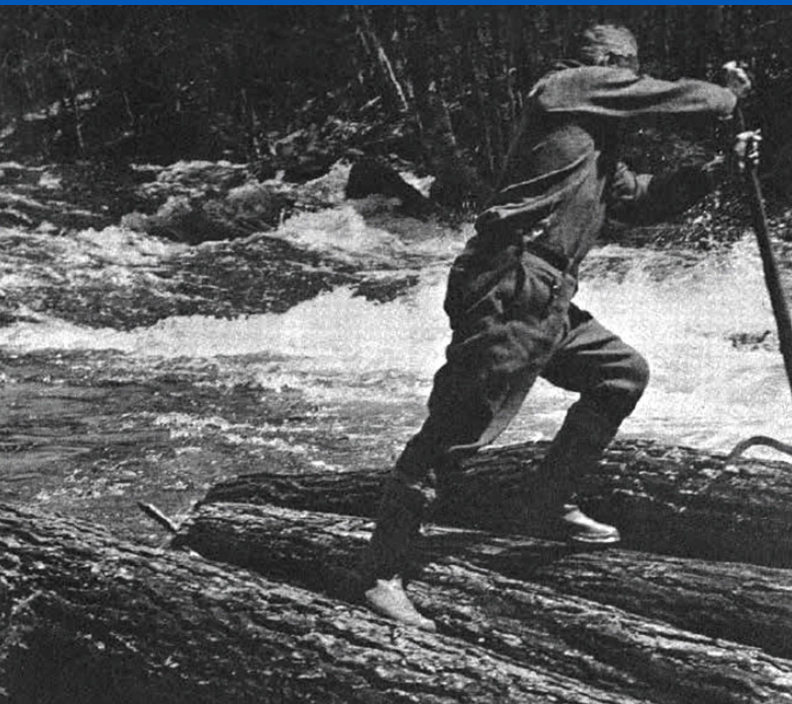
The Michi Saagiig (Mississauga) people have made use of the land currently known as Kawartha Highlands Signature Site Park for time immemorial. The forest provided game in the form of deer, moose, elk and woodland caribou. The river provided an excellent source for fish and was also an excellent area for trapping fur bearing animals like beaver, muskrat, pine marten, fisher, fox, mink, weasel and occasionally otter. The land provided fresh berries and fruit as well as nuts and seeds. The land was plentiful in providing medicines, which the

Anishinaabek (Michi Saagiig) are known for. The water also provided a means of transport by canoe from north of Mississauga Lake on down to Lake Ontario. This made trade with other Nations more accessible. The land and water has always been held in high regard by the Anishinaabek people and continues to be used in a respectful and responsible way. The Kawartha Highlands continues to provide teachings on culture and tradition for the Anishinaabek people and those who walk lightly on the land.

This area and the river experienced huge changes when European settlers arrived here in larger numbers in the early 1800s as you will see at the next stop.

4. The Lumber Industry

A Link to the Past



When European settlers arrived in this part of Ontario, the rocky landscape made farming impossible. Settlers were able to earn a living by logging, the main industry in Ontario in the mid-1800s. Logs were transported by water and many lakes, rivers, and creeks had “improvements” made to them to regulate water levels and flows. Remnants of these improvements in the form of old logging dams can

still be found within the park and most rapids on the Mississagua River show some evidence of damming, chutes or channelization.

Just 600 metres north of this spot, a sawmill was built adjacent to the river in 1858. The sawn lumber was shipped on flat cars on rail tracks to barges on Bald Lake and then to Pigeon Lake. In 1863 W.A. Scott purchased this mill and its extensive lumber rights, which became known as Scott's Mill. A large timber chute (still visible today) was erected to prevent log jams and damage to the logs. Depending on water levels and visibility, sawn lumber slabs can still be seen on the bottom of the river near this location.

The mill was typical of the kind of multi-use milling facilities operating at that time and made squared timbers, ship's masts, shingles and barrels. The mill cut five million board feet of pine during the 1872-73 season. At one time there were 100 men working at the mill and 20 to 30 families lived at the site. A boarding house built there was eventually demolished as the industry declined and the wood was used to build Windsor House, now known as the Cody Inn in the Town of Buckhorn.

As you walk to the next stop consider what impacts logging had on the environment, and what the landscape might have looked like before. Look for clues of the greatest force of change after the lumbering peak.

5. The Rock Barren

The Hard Facts



Jack Pine

The extensive rock barrens in this area have undergone little or no recent disturbance, although their large size is likely a result of the major forest fires that swept through this area in the early 1900s. While wildfire is a natural part of the environment here, the fires of this era burned hotter and longer than normal as they were fueled by the piles of chip waste and branches left behind by the lumbering practices at the time. These wildfires burned away not only the trees and shrubs but much of the shallow organic

soils occurring on bedrock outcrops reducing both soil quality and quantity. Logging and forest fire significantly changed the types of plants and trees found here. A forest takes a long time to regenerate after a fire and there is little or no soil left on a rock barren to support the roots of large trees.

In that era an average of 5,650 hectares (14,000 acres) of forest were lost to fire each year and many areas were burned over repeatedly. The year 1913 was a particularly bad one for fire, and 77,600 hectares (191,770 acres) of forest were lost here and in areas to the north.

Organized fire protection started locally in 1922 and fire has been rigorously suppressed since. This suppression is causing changes in the plant communities, but there is still evidence of fire; such as burned stumps, and fire dependent species like blueberries and jack pine. Remember as you walk here today that rock barren vegetation is particularly susceptible to disturbance by trampling, and stay on the marked path.

While the river's flow is no longer manipulated for logging it still doesn't run free, as you will learn at the next stop.

6. The Rapids

Controlling the Flow



Water levels in the Mississagua River have been controlled by the federally operated Trent Severn Waterway since 1906; a time when the federal government acquired 70 lakes in the northern part of Peterborough and Haliburton Counties to use as reservoirs. A system of dams was installed for both flood control and to regulate water flow ensuring that boats traveling the canal system would have enough water to pass through safely. The dam at Mississagua Lake is still used today to regulate water levels in the Mississagua River and downstream. The lake itself fluctuates approximately 1.5m from High to Low level.

These small rapids are a popular place for local residents to enjoy recreational activities, such as picnics, swimming, and fishing.

The controlled river and other habitats in the park are important homes for wildlife, as will be examined at the next two stops.

7. Existing Habitat

What Might You See Today?



Five-lined Skink

Kawartha Highlands Signature Site Park protects a highly diverse natural area straddling the boundary of two ecoregions of the province. The exposed bed-rock, rocky ridges and wetland features found here appear similar to more remote locations in Northern Ontario, yet its relatively southern location invites more southern species.

A diversity of habitats also promotes a diversity of species. From here you can see three types of habitat—the river, rock barrens and wetlands. The park provides homes for at least 37 mammal species, more than half of all that exist in Ontario. It also supports: 176 bird species, 13 reptile species, 16 amphibian species, 74 dragonfly and damselfly species, 65 butterfly species, and 688 vascular plant species.

Of these animals and plants, many that are listed as Species at Risk are concentrated here. The abundance of rock barrens and wetlands are especially supportive of reptile Species at Risk including Eastern Hog-nosed Snake, Blanding's Turtle, and Ontario's

only lizard, the Five-lined Skink. Within the Park there are 15 provincially rare vascular plant species and 13 provincially rare dragonflies and damselflies species. 42 of the plant species and 13 bird species within the Kawartha Highlands are rare in Peterborough County.

As you walk along the trail pay attention to the diversity of the habitats around you. Our next stop overlooks the work of an animal that is able to change the environment in which it lives.



Eastern Hog-nosed Snake



Blandings Turtle



Eastern Wolf

Photo: Sandy Dobbyn

8. The Beaver Dam

Shaping the Future



In the river below you can see an active beaver dam. Beaver dams are a major cause of change in rivers and wetlands; they flood the landscape upstream, which modifies the natural environment in such a way that benefits beavers and also impact the overall ecosystem. The new pond will attract nesting ducks, different fish and amphibian species and even muscles (clams) not known to exist in streams.

As the pond ages the beavers will deplete the local food supply and eventually move out. The dam will no longer be maintained, will weaken and fail. The pond will drain and revert to an open grassy “bea-

ver meadow” hosting different plants and attracting different animals than it did as a pond. This example of change on the landscape reminds us that our walk today has followed a river through a landscape that has seen changes both great and small, from mountain building and glaciation to logging, fires, and river controls. These and other factors will continue to alter this location, while its status as a park will keep those changes following as natural a path as is possible.

Provincial park management today evolves and adapts as nature changes. Species, habitats, and human activities are monitored. Park staff analyze the results and review and share new information as it becomes available. This allows park managers to respond to change and continue to manage the park to protect important values.



Beaver

We hope you have enjoyed your visit today and that you have learned something new from the interpretive information along the way. If you are finished with this trailguide, please recycle it in the box at the trailhead.

For more information on the Kawartha Highlands Signature Site Park visit the park website at: www.ontarioparks.com or call 613-332-3940 (ext.261)

For more information about the Buckhorn Area, visit the Buckhorn Tourist Information Centre just off the highway south of this location. To get there turn left as you exit this parking lot then turn right at the next set of traffic lights.

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