

Vernal Pools

Can you spot the vernal pool?

About 10 metres ahead, off the trail, is a unique type of habitat – a vernal pool. Vernal pools are small wetlands, usually not connected to streams or larger wetlands. They are filled by spring rains and melting snow, and often dry out by late summer. Vernal pools get their name from the Latin word for spring, *vernalis*.

Important breeding habitat

Vernal pools are safe habitat for breeding amphibians and insects because they are usually free of fish predators. Some amphibians, like the endangered Jefferson salamander, and blue-spotted salamander, breed only in vernal pools.

Blue-spotted salamander

(Ambystoma laterale)

- Adults measure 7.6 – 14 cm long.
- Look for a black salamander with blue spots and flecks on its back, tail, legs and head .
- They breed in vernal pools in late March to mid-April, before the ice is completely off the ponds.
- When not breeding, they live in the forest within hundreds of feet of the vernal pool, under leaf litter and logs, in rock crevices or burrows of other animals.

If you spot a salamander, appreciate your lucky find with your eyes only. Do not touch it - their skin is porous and fragile. Any sunscreen, bug spray or other chemical that may be on your hands will cause it harm.



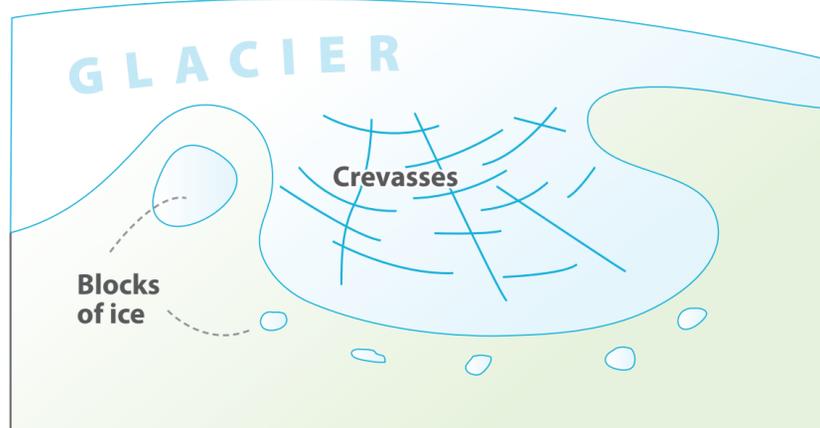
Photo: Tristan Schramer



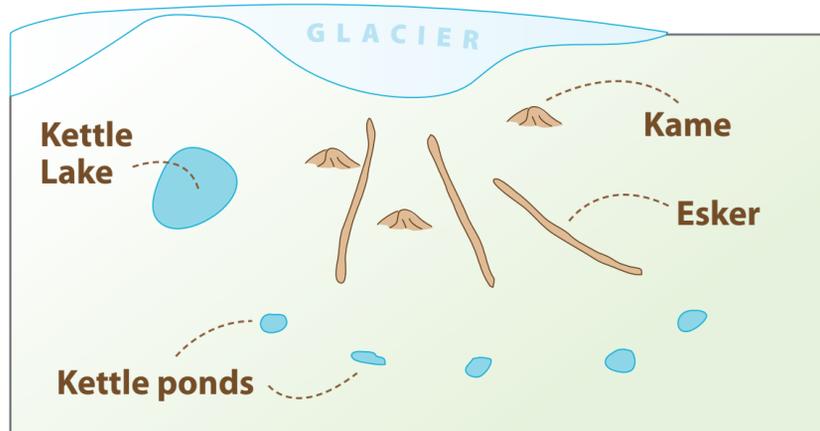
A landscape
formed by

Glaciers

Glacier - beginning its retreat



Glacier - after it has retreated a distance



Kame and esker topography

The topography around Pinehurst Lake Conservation Area is marked with glacial features called *kames* and *eskers*. These hills – of a distinct shape and composition – were formed when the last glacier retreated at the end of the Pleistocene epoch, somewhere around 12,000 to 14,500 years ago.

Kames

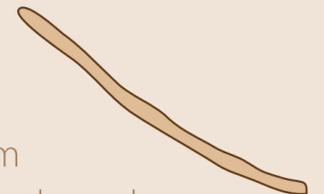
Cavities in the glacial ice can fill with sand and gravel. When the ice melts, these deposits are left behind as

isolated hills, called kames.



Eskers

Melting water from the ice flows down through crevasses in the glacier. Sand and gravel are carried by this melt water and are deposited on the ground. These deposits are called eskers.



Did you know?

Lake Pinehurst itself was also formed at the end of the last glacial period. Called a "kettle lake," it formed when a large block of ice broke off the retreating glacier and remained in place. When the block of ice melted, a depression in the ground was left which filled with water.



Sassafras

Photo: Liz West

An unusual history

Sir Walter Raleigh brought sassafras to England from North America in the early 1600s. It was called a "wonder drug," and was said to cure a variety of ailments. By the mid-1600s sassafras became North America's number two export, after tobacco.

Various parts of the tree were widely used in food and medicine. The leaves were dried to make tea and ground to make a cooking spice. Sassafras oil, extracted from the root bark, was



used to flavour many things, including root beer. Later, sassafras oil was discovered to contain very high amounts of the chemical compound *safrole* – a potential carcinogen – and was banned for use in medicine and food in the 1960s. Parts of the tree are still used today in candy, beverages, perfumes and soaps, provided the safrole is removed.

Sassafras oil was used to flavour root beer.



Did you know?

Sassafras (*Sassafras albidum*) is related to the cinnamon tree (India), the camphor tree (China) and the avocado (Mexico).



Photo: Tim Harkleroad

Can you spot any sassafras along the trail? When the sassafras tree is young, its leaves are shaped like "mittens", sometimes with two "thumbs". As the tree matures, the leaves grow more rounded.



The comeback of the

Wild Turkey



A wild turkey hen.

Photo: Nancy Brandt

Wild turkeys were eradicated from this area, the province and many states by 1909 due to unregulated hunting and the loss of native forests that were cleared for agriculture.

Eastern wild turkeys (*Meleagris gallopavo silvestris*) from several American states were released at 15 sites in the Grand River watershed between 1986 and 2002. Now they are back by the thousands.

Fleshy growths on the head are called... *caruncles*.

The long, fleshy object over a male's beak is called a... *snood*.

The ornament hanging from the throat is called a... *wattle*.

Flight

Despite their weight, and unlike their domestic counterpart, wild turkeys are agile fliers. Their ideal habitat is open woodland or savanna, where they may fly beneath the canopy top and find perches.

That's a big bird!

Toms (adult males)

Weight: 5 to 11 kg (11 to 24 lb)

Height: 100 to 125 cm (3 to 4 ft)

Hens (adult females)

Weight: 2.5 to 5.4 kg (5.5 to 12 lb)

Height: 76 to 95 cm (2.5 to 3 ft)



A wild turkey tom.

Photo: Dave Rintoul



Southern Flying Squirrel

Southern flying squirrels (*Glaucomys volans*) feed on fruit and nuts from trees such as red and white oak, hickory and beech. They store food, especially acorns, for winter consumption. They also dine on mushrooms, buds, carrion, bird eggs and insects. Predators include snakes, owls, hawks and raccoons.

Creatures of the night

Since southern flying squirrels are nocturnal, their big eyes are essential for capturing available light to help them see in the dark. Their whiskers – called feelers – are very sensitive, and also help with nocturnal travel.



Photo:
John Howard

Expert gliders

Southern flying squirrels don't actually fly, but glide from tree to tree. They leap into the air and extend two furry membranes – called patagia – on either side of its body. The patagia extend from the wrists and ankles and act like a parachute. The squirrel uses the patagia, and its tail, to steer left, right and even make 180-degree turns.



In a special photographic project, photographer Kim Taylor captures a sequence of the southern flying squirrel landing, taken at 50 millisecond intervals.



Photo: Warren Photographic



Photo: C. Duvall

Eastern Ribbonsnake

The eastern ribbonsnake gets its name from its very thin body.

A mature snake can measure anywhere from 18 to 86 cm (7 to 34 inches) in length.

Eastern ribbonsnakes are often confused with the common garter snake. **How can you tell them apart?**



Photo: J. Crowe

Compare the lips

The lips of the ribbonsnake are pure white or bright yellow, while garter snakes have dark marks along the edge of the lips.

Compare the eyes

Ribbonsnakes have white or yellow crescent marks in front of the eyes, while garter snakes don't.

Species at risk

In Canada, the eastern ribbonsnake (*Thamnophis sauritus*) is found only in southern Ontario and a small area of southwestern Nova Scotia.

The eastern ribbonsnake is at risk of becoming extinct. Its conservation status is listed as "special concern" both provincially and nationally. The species is threatened by habitat loss and wetland fragmentation.

Water lovers

Eastern ribbonsnakes are usually spotted in wetlands and near the edges of ponds and streams. They are comfortable both in and out of water. They do not dive like water snakes, but glide across the water surface. They eat small fish, tadpoles, salamanders, small frogs and toads and occasionally insects.



Photo: NBII - USGS



What is that smell?!

Eastern skunk cabbage

Eastern skunk cabbage (*Symplocarpus foetidus*) is a wetland wildflower known for its bad smell. The smell, most often described as rotting flesh, attracts bees and flies that act as its pollinators. It also discourages animals from nipping at its leaves and disturbing its soft, muddy wetland habitat. The pungent odour occurs when the leaves of the plant are torn or bruised.

Photo: C. Madler



Ancient plants?

Skunk cabbage has such an amazing survival strategy that botanists theorize the plant's central rhizome (its underground stem) could live for thousands of years. Specimens that are several hundred years old have been found.

A clue to the age of the plant is in its leaves. Young plants have few leaves, while very old plants have many. The roots of a mature plant are so massive that it is nearly impossible to dig it out.



Photo: Shawnee Nature Blog

A welcome spring sight

Skunk cabbage is one of few plants that exhibit **thermogenesis** – meaning they have the ability to raise their own temperature. The plant melts its way through the frozen ground, poking up through the ice and snow.



Eastern skunk cabbage

Photo: Jeff Titon

Photo: S. Bauskauf

A bit about Hickories

The word "hickory" is derived from *pawcohiccora*, an Algonquian word for the tree's oily nutmeat.

You are walking through Carolinian forest.

The Carolinian Zone is a region in eastern North America characterized primarily by a predominance of deciduous trees such as birch, chestnut, oak, walnut, hickory, and unique species such as American chestnut, sassafras and tulip tree. It is recognized as one of the most biologically diverse and unique regions in Canada and supports many rare and endangered species of plants and animals.

Bitternut hickory

(*Carya cordiformis*)

Bitternut hickory is a large deciduous tree that grows up to 35 metres tall. An identifying characteristic is its bright sulfur-yellow winter buds. This tree is closely related to the pecan. But unlike the pecan, the nuts are bitter. The bark and nuts are eaten by wildlife.



Pignut hickory

(*Carya glabra*)

Pignut hickory is also known as smoothbark hickory and broom hickory. The few pignut hickories you may spot in this forest are at their northernmost range in North America. The pear-shaped nut ripens in autumn and is eaten by many wild animals. The tough wood of the pignut hickory was used by First Nations people to make snowshoes.



Shagbark hickory

(*Carya ovata*)

Shagbark hickory is a large deciduous tree, growing up to 27 metres tall. Mature shagbarks are easy to recognize because, as their name implies, they have shaggy bark. The shagbark hickory's nut has a very sweet taste, and they were a major food source for First Nations people.



Hickory nut illustrations: Nathan Beccue