



Bruce Trail
CONSERVANCY

Spring Wildflowers Along the Niagara Escarpment and the Bruce Trail

Thursday March 11, 2021



MISSION

**Preserving a ribbon of wilderness,
for everyone, forever.**

VISION

The Bruce Trail secured within a permanently protected natural corridor along the Niagara Escarpment.

VALUES

Commitment | Integrity | Stewardship | Collaboration | Respect

What is a spring ephemeral?

- A wildflower that grows and blooms in the early Spring, usually in April and May. These wildflowers are often seen only for a brief time spanning just a few weeks.
- As the sun shines through the leafless canopy it hits the forest floor and warms up the soil. Spring ephemerals take advantage of this excess light with rapid growth and showy flowers to become pollinated, usually by ants. There is also less competition at this time from other plants.

- Their habitat consists of the understory of deciduous and mixed broad-leaf conifer forests
- Most spring ephemerals are perennials and they are dormant for most of the year
- Spring ephemerals require high light, water, and nutrient conditions to grow
- They grow and fruit during the period between snow melt and the forest trees' canopy growth (between 40-60 days)
- These plants are well adapted to efficiently absorb water and nutrients to promote quick growth
- Invasive plant species (i.e. garlic mustard) can threaten spring ephemeral populations by out-competing them for nutrients
- Spring ephemerals contribute greatly to forest biodiversity even though they only grow for only a short period of the year



Pollinators

- As Spring ephemerals are among the first flowers to bloom, many pollinators (birds, bats, insects) rely on their nectar to survive when other food sources are scarce.
- For some species these plants are essential after a long winter. Some Bumblebees may actually choose their nesting site based on proximity to these flowers.
- Some insects almost solely feed on certain plants. A bee called the Trout Lily Mining Bee has been found to have higher populations in areas near these patches of Trout Lily.



Hummingbird Clearwing Moth



Common Eastern Bumblebee



Virginia Spring Beauty (*Claytonia virginica*)

Leaves: long, slender, strap-like leaves, opposite

Flowers: white and veined with pink, five petals

Fruit: a round capsule containing a few round seeds.

Distribution: southern species, not likely to be seen north of the Toronto section.

Fun Fact: One of the earliest to flower, often found next to trees, where they pick up a little extra warmth.





Carolina Spring Beauty (*Claytonia caroliniana*)

Leaves: wider elliptical leaves, opposite.

Flowers: white and veined with pink, five petals.

Fruit: a round capsule containing a few round seeds.

Distribution: all along the trail but more common in the north sections.

Fun Fact: The roots are dug and consumed in spring by Eastern Chipmunks and White-footed Mice.





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Virginia Spring Beauty



Carolina Spring Beauty





Cutleaf Toothwort (*Cardamine concatenata*)

Leaves: long, slender, strap-like leaves, opposite

Flowers: white and veined with pink, five petals

Fruit: a round capsule containing a few round seeds.

Distribution: southern species, not likely to be seen north of the Toronto section.

Fun Fact: Toothworts are the host plant for the West Virginia White Butterfly which is rare in Ontario.





2 other Toothworts



Two Leaved Toothwort (*Cardamine diphylla*)



Large Toothwort (*Cardamine maxima*)



Blue Cohosh (*Caulophyllum thalictroides*)

Leaves: starts out deep purple turning green as they unfold later in the season, 3 irregular leaflets.

Flowers: 6 petaled, yellowish to green-yellow, appearing after expansion of the leaves.

Fruit: greenish berry ripening to a blue berry.

Distribution: all along the trail but lessen in the Sydenham/Peninsula sections.

Fun Fact: Berries are poisonous so don't mistaken them for Blueberries.





Giant Blue Cohosh (*Caulophyllum giganteum*)

Leaves: starts out deep purple turning green as they unfold later in the season, 3 irregular leaflets.

Flowers: 6 petaled, purple to purple-brown, appearing before expansion of the leaves.

Fruit: greenish berry ripening to a blue berry.

Distribution: all along the trail but seems to be the main variety in the Sydenham/Peninsula sections.

Fun Fact: Newly emerging leaves look like zombie hands coming out of the soil.





Trilliums – 4 species



White



Red



Painted



Nodding

White Trillium (*Trillium grandiflorum*)

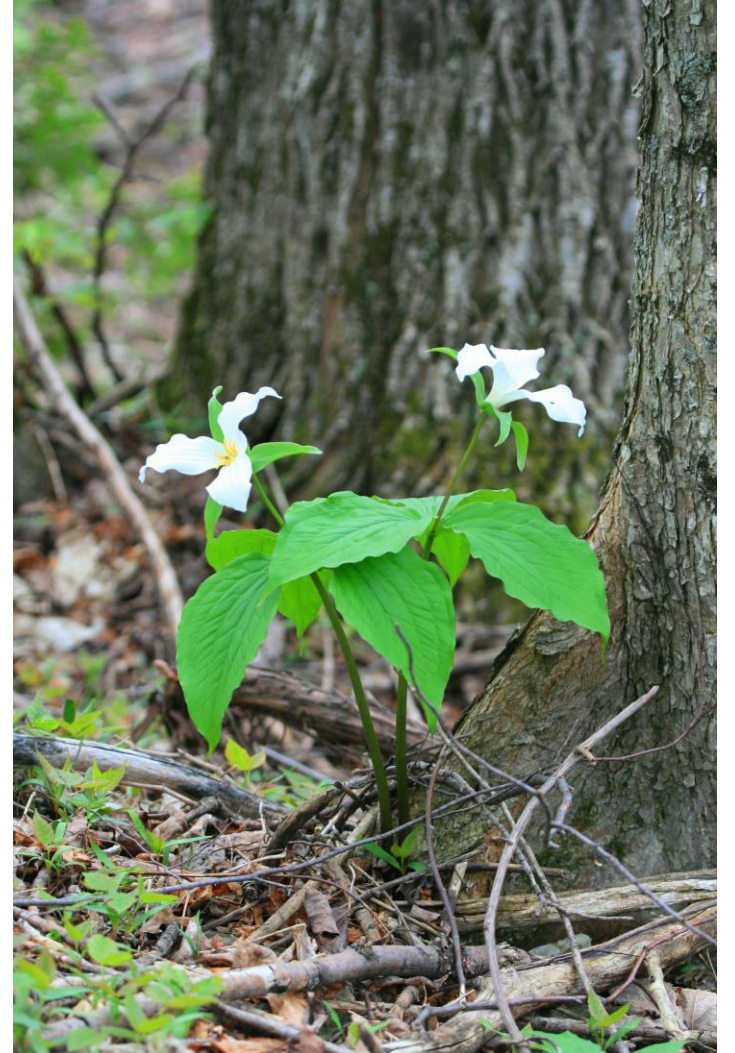
Leaves: distinctive whorl of three wide leaves.

Flowers: 3 white petals, usually with ruffled or wavy edges, and a pointed tip

Fruit: reddish, roundish, usually drooping.

Distribution: all along the trail.

Fun Fact: Flowers can turn rosy pink with age or have green variation due to an infection by a microscopic organism.





Red Trillium (*Trillium erectum*)

Leaves: distinctive whorl of three wide leaves.

Flowers: 3 red/maroon petals, usually with ruffled or wavy edges, and a pointed tip

Fruit: reddish, roundish, usually drooping.

Distribution: all along the trail, prefers more acidic soils.

Fun Fact: Flowers have a stinking smell to attract insects like flesh flies and carrion beetles.





Painted Trillium (*Trillium undulatum*)

Leaves: distinctive whorl of three smaller leaves.

Flowers: white flowers with ring of purple in centre.

Fruit: reddish, roundish, usually drooping.

Distribution: more of a northeastern species but observed on 1 BTC property in Beaver Valley section.

Fun Fact: Like most Trilliums, seeds have a fleshy structure that is rich in lipids and protein. This attracts ants who carry the seeds to their nest, where they eat the attachment and discard the seed.





Nodding Trillium (*Trillium cernuum*)

Leaves: distinctive whorl of three wide leaves.

Flowers: white flowers with pinkish/purple anthers, hang down from centre of plant.

Fruit: reddish, roundish, usually drooping.

Distribution: more of a northern species with observations from Toronto to Peninsula section.

Fun Fact: Very easy to miss these flowers because the leaves tend to drape over them, hiding them from view.





Yellow Trout Lily (*Erythronium americanum*)

Leaves: one or two per plant, stiff and upright, mottled (like a trout fish).

Flowers: bright yellow, six petals, solitary.

Fruit: capsule, oval to inverted egg-shaped, rounded at the tip.

Distribution: all along the trail.

Fun Fact: Large colonies of Trout Lily may be over 100 years old.





Bloodroot (*Sanguinaria canadensis*)

Leaves: rounded, deeply lobed.

Flowers: white with 8 – 10 petals.

Fruit: spindle-shaped capsule about 1 inch long.

Distribution: all along the trail.

Fun Fact: The roots contain a blood-red juice, which is poisonous to humans.





Large Flowered Belwort (*Uvularia grandiflora*)

Leaves: alternate leaves are oblong-ovate to elliptic, base of each leaf is perfoliate – it completely surrounds the stem.

Flowers: yellow bell-shaped flowers, each hanging from a single stem.

Fruit: 3-sectioned capsule roughly shaped like an inverted pyramid with rounded corners.

Distribution: all along the trail.

Fun Fact: The foliage is heavily grazed by deer and it is known to decline in abundance when there is an overpopulation of deer in the area.





Dutchmans Breeches (*Dicentra cucullaria*)

Leaves: somewhat fern-like, very finely divided.

Flowers: white and slightly yellow, spreading wings/pant-like shape.

Fruit: bean-like capsule tapering at both ends.

Distribution: all along the trail.

Fun Fact: The foliage is toxic to mammalian herbivores and it is not often eaten by them.





Squirrel Corn (*Dicentra canadensis*)

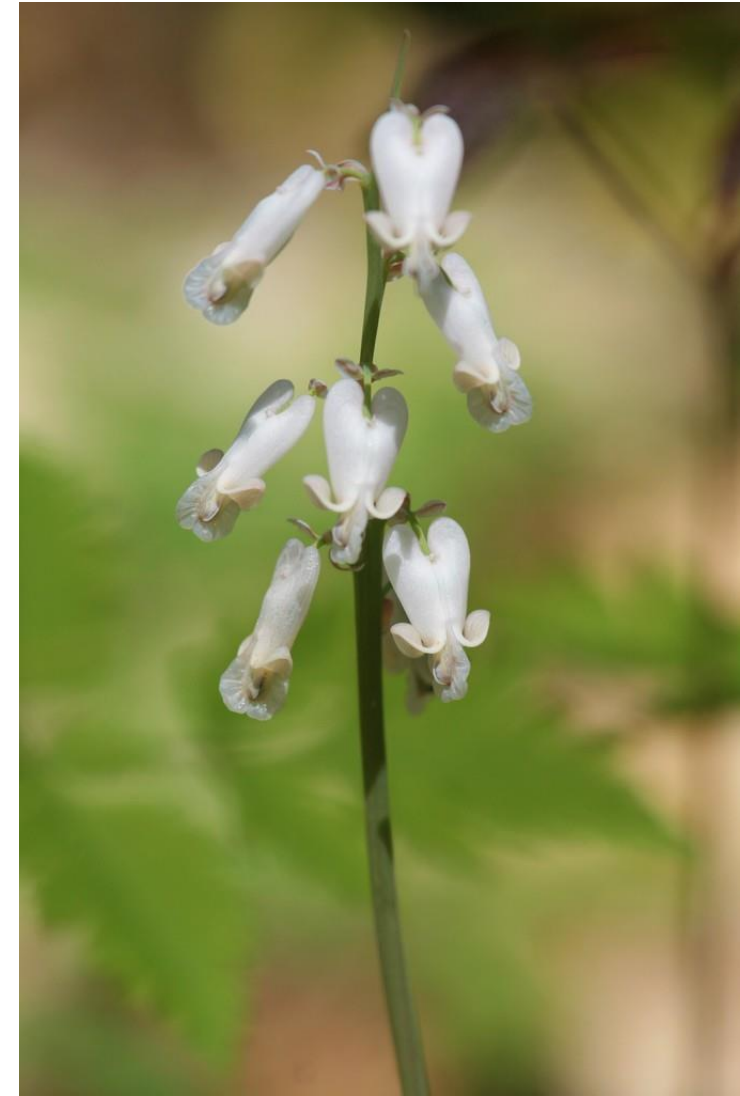
Leaves: somewhat fern-like, very finely divided.

Flowers: white, irregular, heart-shaped.

Fruit: bean-like capsule tapering at both ends.

Distribution: all along the trail.

Fun Fact: All parts of the plant are toxic in large quantities.





Skunk Cabbage (*Symplocarpus foetidus*)

Leaves: large green leaves somewhat like cabbage.

Flowers: spike-like structure called a spadix inside a purple structure called a spathe.

Fruit: round to oval compound fruit.

Distribution: more of a southern plant found in swamps or riparian areas, not to common north of Caledon section.

Fun Fact: One of the first plants to bloom, in fact sometimes as early as late January.





Marsh Marigold (*Caltha palustris*)

Leaves: large round to kidney shaped and deeply heart-shaped at the base.

Flowers: Very showy, yellow, 5-9 petals.

Fruit: curved capsule initially green, drying to light greenish brown.

Distribution: all along the trail in wetlands often near watercourses.

Fun Fact: Unlike the name suggests, it is not a Marigold which is in the aster family, its in the Buttercup family.





Jack in the Pulpit (*Arisaema triphyllum*)

Leaves: 1 or 2 sets of compound each leaf with 3 leaflets.

Flowers: a striped hood (the spathe) that furls around and over a spike (the spadix).

Fruit: bunch of bright red berries.

Distribution: all along the trail.

Fun Fact: Scientists believe that this plant will eventually evolve to ingest insects which get trapped in the spathe.



iNaturalist Observation © jeremygraves





Violets (*Viola spp.*)

Most people are familiar with these small flowers, but you are going to need a guidebook to tell them apart. There are white, yellow, blue and not surprising violet violets. Most have a distinctive heart shaped leaf.





Mayapple (*Podophyllum peltatum*)

Leaves: umbrella-like, palmately lobed in 5 to 9 parts; lobes may be deeply notched at the tip.

Flowers: 1 white 6 to 9 petaled flower where the leaves attach to the stem.

Fruit: oval berry that ripens to yellow.

Distribution: all along the trail.

Fun Fact: Fruit when peeled resembles a brain, edible for a short amount of time.





Sharp Lobed and Round Lobed Hepatica (*Anemone acutiloba*/*Anemone americana*)

Leaves: *Anemone americana* - on a hairy stalk, lobed in 3 parts, each lobe generally round to oval .

Anemone acutiloba - each lobe generally egg-shaped with a pointed tip.

Flowers: 5 to 12 petal-like sepals, color ranges from violet to white, sometimes pinkish or blue.

Fruit: small, dry one-seeded fruit called an achene.

Distribution: all along the trail however Sharp Lobed Anemone is more common in northern sections.

Fun Fact: Roots were used by Indigenous people as a charm on traps for mammals, and as a compound given to forest runners to relieve shortness of breath.



iNaturalist Observation © Colleen Cirillo



iNaturalist Observation © iadams





Wood Anemone (*Anemone quinquefolia*)

Leaves: whorl of 3 stalked leaves, notched, lobed or deeply divided in 2 or 3 parts.

Flowers: 1 white 4 to 9 petaled flower where the leaves attach to the stem.

Fruit: round head of beaked, oval seeds.

Distribution: generally southern species not common north of Toronto section.

Fun Fact: Single plant may take 5 years or longer to flower, so often only a few flowers are seen among the leaves.





Wild Leek (*Allium tricoccum*)

Leaves: large patches of smooth light green, oval, waxy leaves.

Flowers: appears mostly after the leaves have died back, small round cluster of creamy or greenish white flowers on stout stalks.

Fruit: 3-celled glossy black capsule.

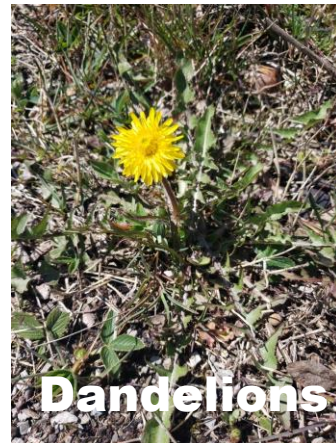
Distribution: all along the trail.

Fun Fact: Highly sought after by foragers so much so that the plant is now a Species at Risk in Quebec due to over harvesting.





Non-Natives



Look but Don't Touch

- Many species take a very long time to establish their populations that can be found on the forest floor.
- By picking or removing these flowers, humans can cause many species to struggle to retain enough energy to survive through the following winter, and they might not grow back.
- So even though they might look beautiful to display in your kitchen or plant in your yard, it's best to just observe spring ephemerals in their natural habitat and collect only photos.
- Better yet take a picture and upload it to the BTCs iNaturalist project.
- If you really want to try and plant these wildflowers in your garden, you can visit local native plant nurseries to find seeds or cultivated plants.

Questions

Q. Which plants are edible?

A. Several of these plants have been traditionally used by the indigenous people but none are known for food sources except Wild Leek. The BTC does not condone the foraging of any wild plant on BTC properties.

Q. Which spring flower is mostly seen on the Caledon Hills area of the Bruce Trail?

A. White Trillium and Trout Lily are very plentiful in this area.

Q. Are there any surveys that monitor for the presence of wild flowers?

A. BTC ecologists perform vegetation surveys on all BTC lands as part of the Management planning process.

Q. Is picking wild flowers still a problem?

A. Yes because you may not know how rare a plant is and if disturbed the plants survival may be put at risk. The BTC recommends that you enjoy being out and nature and that you only take away the experience and pictures.

Q. Crocus and snow drops are my favorite spring flowers. Are they native?

A. These species are not native to Ontario.

Q. What species are markers of past forest disturbance, i.e., grazing, How would I measure flower diversity in a meaningful way?

A. Generally non-native species are signs of past disturbance (Dandelions, Bull Thistle, Wild Teasal, Garlic Mustard). Flower diversity can be measured by establishing certain plots and counting the different species and amounts of each species in that plot (I.E. count everything within a 5m X 5m square).

Q. Where best in Ontario to see the flowers ?

A. Why the Bruce Trail of course. Anywhere the trail meanders through deciduous forest these flowers should be found.

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