



Bruce Trail
CONSERVANCY

Bruce Trail Conservancy iNaturalist Project

2020 Report



Wood Frog (*Lithobates sylvaticus*). Photo by [Brian Popelier](#) (CC BY-NC).



Bruce Trail CONSERVANCY

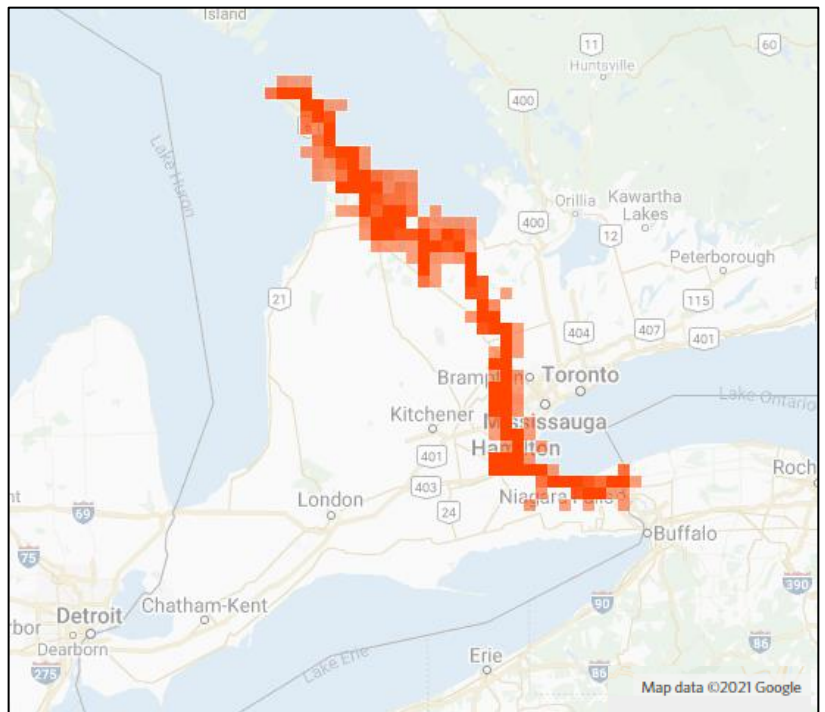
Introduction

The Bruce Trail Conservancy's mission is to 'preserve a ribbon of wilderness, for everyone, forever' along the Niagara Escarpment corridor. In keeping with this mission, the BTC started an iNaturalist project in 2018 to learn more about the wilderness in this corridor and allow trail users to share their wildlife observations with the Bruce Trail community. Since then, our community of citizen scientists has recorded observations of a wide variety of plants, animals and other organisms all along the trail corridor. These observations not only allow hikers to learn more about the wildlife all around them, but also help BTC's ecologists to track species populations along the trail corridor, furthering our preservation efforts. In 2020, we hit an amazing milestone of 10,000 observations. We decided this was a perfect time to share a summary of these observations with the Bruce Trail community and say thank you to the amazing citizen scientists who have contributed to this project. We hope you enjoy this exploration into the amazing diversity of the Niagara Escarpment corridor and the beautiful photographs submitted to the project by these citizen scientists.

Quick Summary

As of November 24, 2020, The Bruce Trail Conservancy iNaturalist Project had:

10,326 Observations
of
1387 Species
made by
60 Citizen Scientists





Bruce Trail CONSERVANCY

And the winner is...



The most commonly observed species was **butternut** (*Juglans cinerea*), with **155 observations**. Butternut is an endangered tree species due to the butternut canker disease, so tracking the whereabouts of individuals of this species is especially important for conservation. BTC ecologists are always on the lookout for healthy individuals that may be resistant to the disease and help scientists to develop resistant varieties.



Clockwise from left: butternut (*Juglans cinerea*) bark, leaves and leaf scar with buds. Photos by [Brian Popelier](#) (CC BY-NC). Photos have been cropped from the originals.

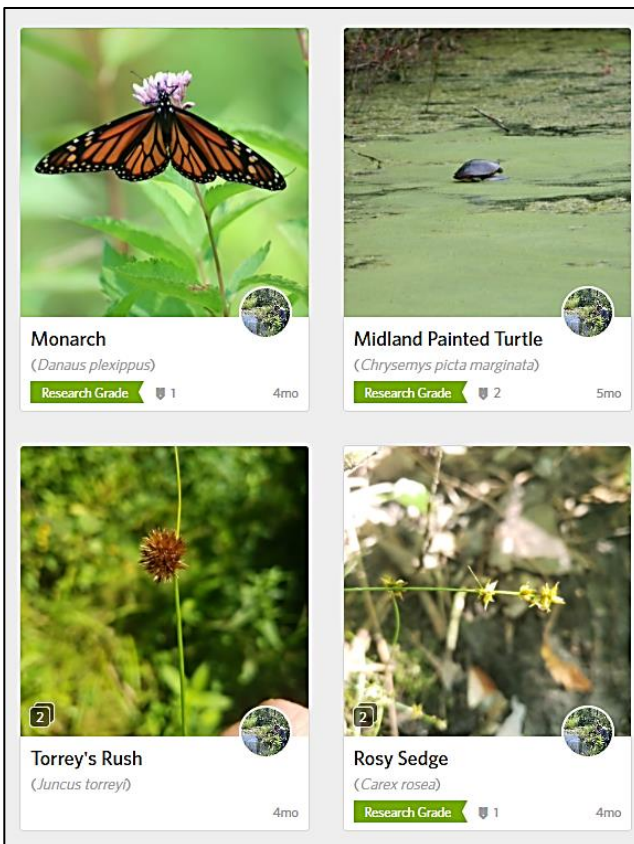
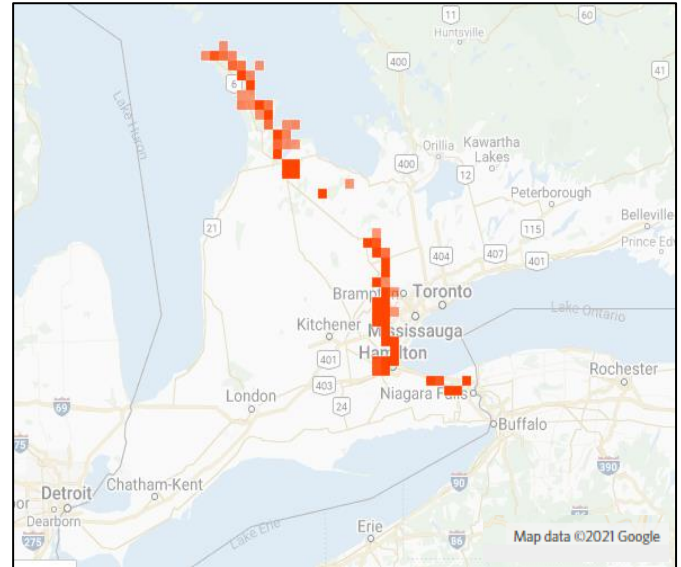


Bruce Trail CONSERVANCY

Our Citizen Scientists

Thank you to the 60 members of our project who contributed observations!

Congratulations to member 'jeremygraves' for making the most observations as of November 24, 2020. Shown here is a map of all 2999 observations submitted to the BTC iNaturalist project by jeremygraves.



Member 'popb25' observed the most species in the project, with 684 unique species added. Shown here are just a few of the species observed by popb25.



Bruce Trail CONSERVANCY

From Niagara to Tobermory

The observation closest to the cairn in Tobermory that marks the Northwest end of the trail was of a staghorn sumac (*Rhus typhina*) made by jason_miller on August 8, 2019.



The observation closest to the cairn in Niagara that marks the Southeast end of the trail was of a yellow trout lily (*Erythronium americanum*) made by margaret57 on May 5, 2018.

Photos: Top left: Staghorn sumac (*Rhus typhina*). Photo by [jason_miller](#) (CC BY-NC).

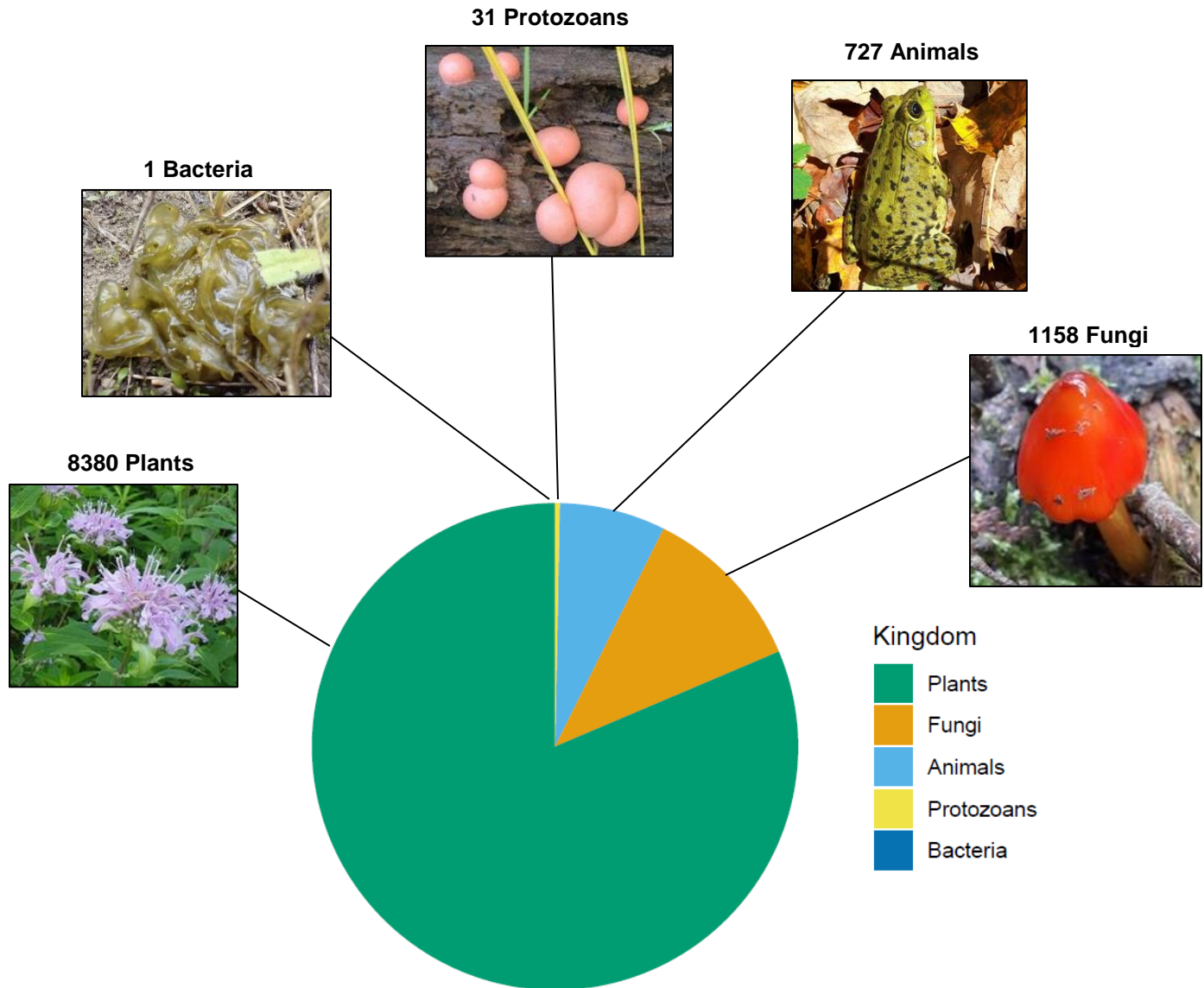
Bottom right: Trout lilies (*Erythronium americanum*). Photo by [Margaret Northfield](#) (all rights reserved).



Bruce Trail CONSERVANCY

The Diversity of Life

Our iNaturalist project includes observations from 5 different kingdoms of life: plants, animals, fungi, protozoans and bacteria! Plants were the most commonly observed, while there was only one observation of bacteria.



Number of Observations

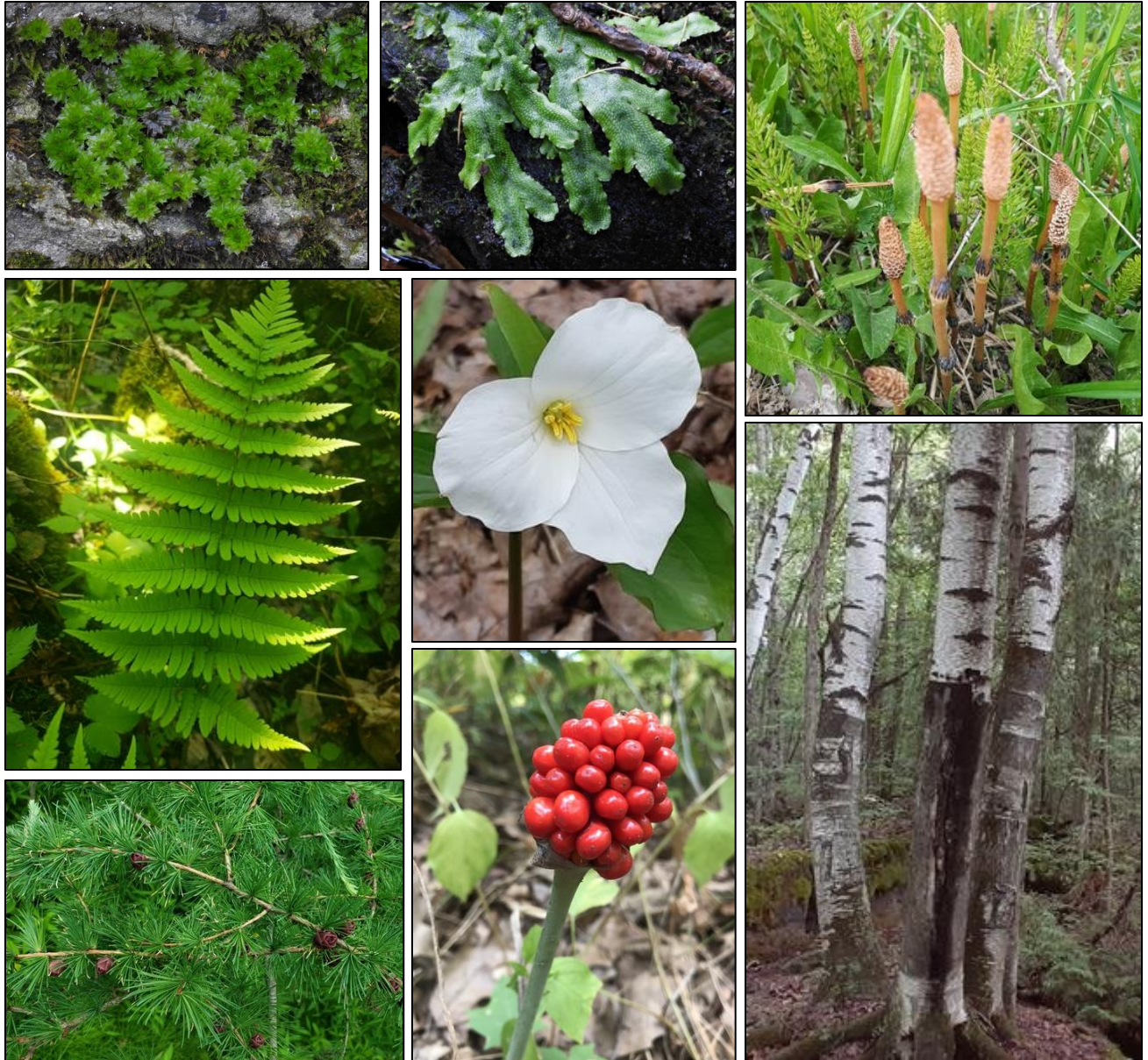
Photos (clockwise from left): Wild bergamot (*Monarda fistulosa*) by [sjconnacher](#) (CC BY-NC), Star Jelly (*Nostoc commune*) by [Isaac R-M](#) (CC BY-NC), Wolf's milk (*Lycogala epidendrum*) by [hikingfam](#) (CC BY-NC), Green frog (*Lithobates clamitans*) by [helen_h](#) (CC BY-NC), Witch's hat (*Hygrocybe conica*) by [Carol Nelson](#) (CC BY-NC). Photos have been cropped from the originals.



Bruce Trail CONSERVANCY

Picture-Perfect Plants

With so many observations of plants, we covered lots of diversity: 8380 observations of 874 confirmed species of plants from 151 different plant families! These plants ranged from tiny mosses to ferns to towering trees!



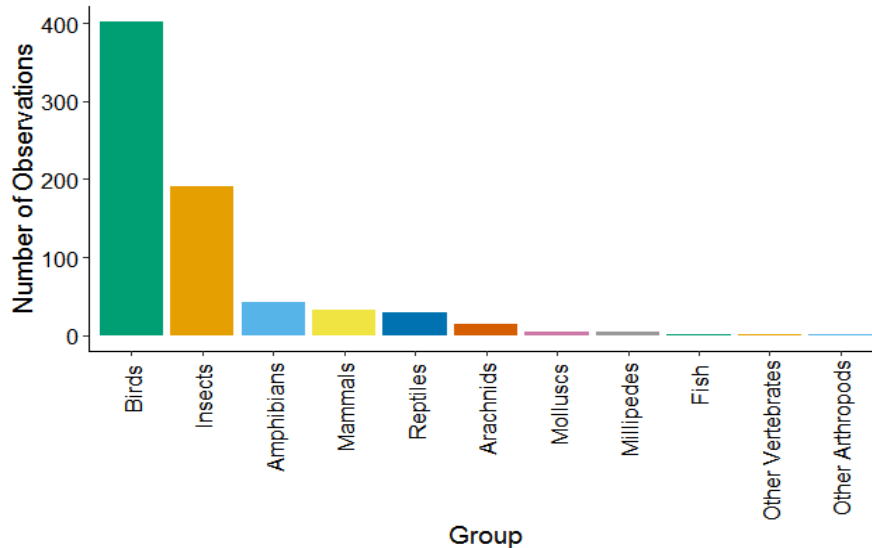
Photos (clockwise from top left): Ontario rhodobryum moss (*Rhodobryum ontariense*) and snakewort (*Conocephalum salebrosum*) by [Joanne Redwood](#), field horsetail (*Equisetum arvense*) by [Carol Nelson](#), paper birch (*Betula papyrifera*) by [Anne Marie Ratych](#), Jack-in-the-pulpit (*Arisaema triphyllum*) by [lbicum](#), tamarack (*Larix laricina*) and marginal wood fern (*Dryopteris marginalis*) by [Brian Popelier](#), white trillium (*Trillium grandiflorum*) by [Anne Marie Ratych](#). All photos are under a creative commons license ([CC BY-NC](#)) and some have been cropped from the originals.



Bruce Trail CONSERVANCY

Animal Kingdom

In total, 727 observations of animals were added to the project.



Citizen scientists observed:



402 birds



191 insects



43 amphibians



33 mammals



30 reptiles



14 arachnids



5 molluscs



4 millipedes



2 fish

Photos: scarlet tanager (*Piranga olivacea*) by [Brian Popelier](#) (CC BY-NC), golden sweat bee (*Augochlorella aurata*) by [Mark Whitcombe](#) (CC BY-NC), eastern newt (*Notophthalmus viridescens*) by [Anne Marie Ratych](#) (CC BY-NC), North American porcupine (*Erethizon dorsatum*) by [twilson2019](#) (CC BY-NC), snapping turtle (*Chelydra serpentina*) by [Trish Bouskill-Cardwell](#) (CC BY-NC), grey cross spider (*Larinioides sclopetarius*) by [Michael McDonald](#) (all rights reserved), western dusky slug (*Arion subfuscus*) and black-and-gold flat millipede (*Apheloria virginensis*) by [jason miller](#) (CC BY-NC-SA), brook trout (*Salvelinus fontinalis*) by [Fraser Gibson](#) (CC BY-NC). Photos have been cropped from the originals.



Bruce Trail CONSERVANCY

Species at Risk

Our citizen scientists recorded many observations of species at risk, included 7 species that are listed as threatened or endangered in Ontario. Butternut, an endangered species, was actually the most commonly observed of all species in our iNaturalist project! Tracking species at risk is very important for conservation and allows us to ensure that they are protected on BTC-managed lands.

Threatened species observed:

- 6 bobolink (*Dolichonyx oryzivorus*)
- 3 barn swallow (*Hirundo rustica*)
- 2 lakeside daisy (*Tetraneuris herbacea*)
- 1 dense blazing-star (*Liatris spicata*)



Endangered species observed:

- 155 butternut (*Juglans cinerea*)
- 2 American ginseng (*Panax quinquefolius*)
- 1 eastern flowering dogwood (*Cornus florida*)

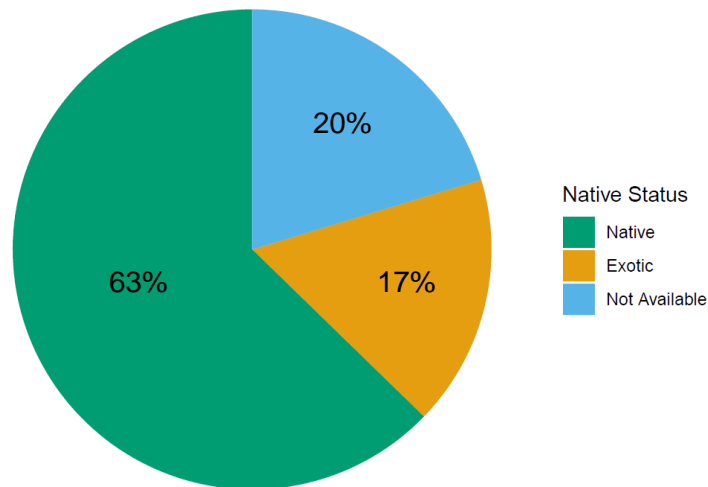
Photos: Above: dense blazing star (*Liatris spicata*) by [porto27](#) (CC BY-NC).

Left: American ginseng (*Panax quinquefolius*) by [Fraser Gibson](#) (CC BY-NC).

Photos have been cropped from the originals.

Native or Not?

Native species are species that have been found in Ontario for centuries, before European settlers arrived. Non-native, or 'exotic' species are species from other parts of the world that have been intentionally or accidentally introduced to Ontario by humans. While the majority of species observed by citizen scientists are native to Ontario, there are also many observations of exotic species along the Bruce Trail.



Number of Species

Some exotic species have become invasive in Ontario, meaning they outcompete native species and have a negative impact on our ecosystems and/or society. Observations of invasive species along the trail are very important, because they can help us track the spread of invasive species and identify hotspots that can be prioritized for management. In the following few pages, you'll find information about some of the invasive plant species that can be found along the Bruce Trail.



Invasive Species

Garlic Mustard (*Alliaria petiolata*): 46 observations

Garlic mustard is an understory plant that can invade and carpet forest floors and inhibit the growth of native plants. It has a two year life cycle. In the first year, it produces 'rosette leaves' that are low to the ground and that smell of garlic when crushed. In the second year, it produces a flower stalk with a cluster of small white flowers that turn into thin pods containing thousands of seeds.



Photos: Garlic mustard (*Alliaria petiolata*) first year rosette leaves by [Richard Smythe \(CC BY-NC\)](#), second year flowering stalk by [Brian Popelier \(CC BY-NC\)](#) and flowers with flower buds by [J Hull \(CC BY-NC\)](#). Photos have been cropped from the originals.

Common buckthorn (*Rhamnus cathartica*): 37 observations

Common buckthorn is a shrub or small tree that invades forests and open areas and competes with young trees. It has glossy bark, black berries and dark green leaves with veins that curve toward the tip. The ends of the twigs often end in a sharp point, giving this shrub its name.



Photos: Common buckthorn (*Rhamnus cathartica*) leaves by [Richard Smythe \(CC BY-NC\)](#), bark by [Fraser Gibson \(CC BY-NC\)](#) and berries by [Fraser Gibson \(CC BY-NC\)](#). Photos have been cropped from the originals.



Bruce Trail CONSERVANCY

Dog strangling vine / European swallowwort (*Vincetoxicum rossicum*): 15 observations

Dog strangling vine is a perennial twining vine that uses other plants to support itself and can invade large areas of meadow and open forest. It is in the milkweed family, and can negatively affect monarch butterflies, who mistake it for milkweed and lay their eggs on the plant, where the larvae cannot survive. Dog strangling vine has glossy leaves that are found in pairs along the stem, and small maroon-coloured flowers. In late summer, the plant produces pods similar to other milkweed species that split open and disperse fluffy seeds that can travel in the wind.



Photos: Dog strangling vine (*Vincetoxicum rossicum*) leaves by [Richard Smythe \(CC BY-NC\)](#), flowers by [laura2ee \(CC BY-NC\)](#), immature pods by [Fraser Gibson \(CC BY-NC\)](#) and dried pods by [Joanne Redwood \(CC BY-NC\)](#). Photos have been cropped from the originals.

Tatarian honeysuckle (*Lonicera tatarica*): 6 observations

Tatarian honeysuckle and other non-native honeysuckle species are shrubs that can invade and form dense thickets in forests and fields. These shrubs have light brown bark and leaves with smooth edges that emerge in pairs from the twigs. Most non-native honeysuckle species, including the Tatarian honeysuckle, have hollow twigs, whereas native honeysuckle species do not. The Tatarian honeysuckle produces showy white or pink flowers and bright red berries, often in multiples of two.



Photo: Tatarian honeysuckle (*Lonicera tatarica*) by [Brian Popelier \(CC BY-NC\)](#). Photo has been cropped from the original.



Bruce Trail CONSERVANCY

Giant hogweed (*Heracleum mantegazzianum*): 2 observations

Giant hogweed is a member of the carrot family that usually spreads along roads, ditches and streams. Its sap contains toxins that can cause severe burns if skin is exposed to the sap and then sunlight. This is a large perennial plant that can reach heights of 3-5 metres tall and has spiked, jagged leaves that can grow up to 1 metre wide. It produces large clusters of small white flowers that resemble the flowers of Queen Anne's lace (wild carrot), only larger. Each tiny flower produces a seed that turns green and then brown, and a single plant can produce tens of thousands of seeds. Please take extreme caution around this plant and **DO NOT TOUCH IT!**



Photo: Giant hogweed (*Heracleum mantegazzianum*) leaves. Photo by [Fraser Gibson](#) (CC BY-NC). Photo has been cropped from the original.

Please be on the lookout for these invasive species and submit an observation when you see one! Tracking the spread of invasive species along the trail helps us to better manage them so we can prevent them from harming the sensitive ecosystems along the Niagara Escarpment.

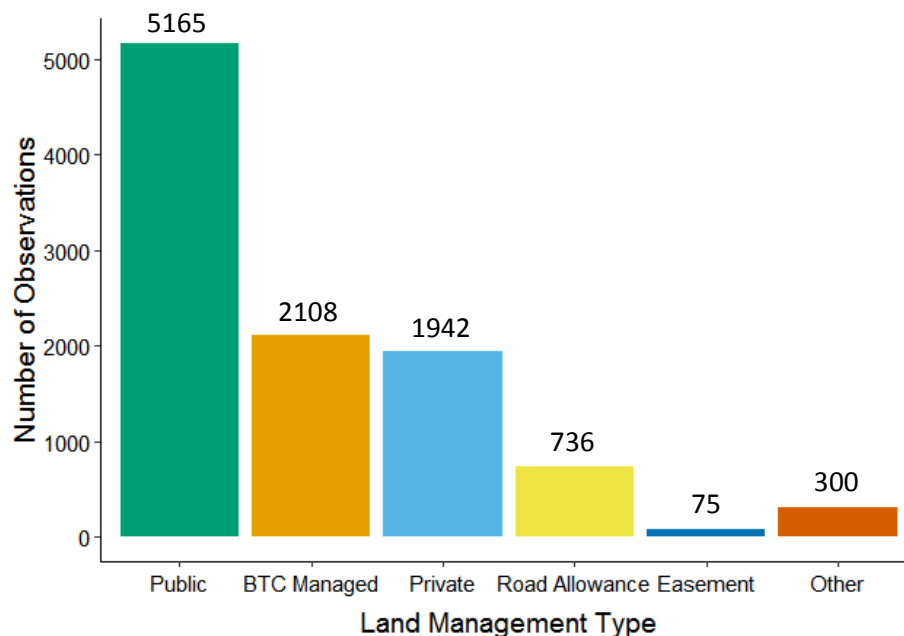
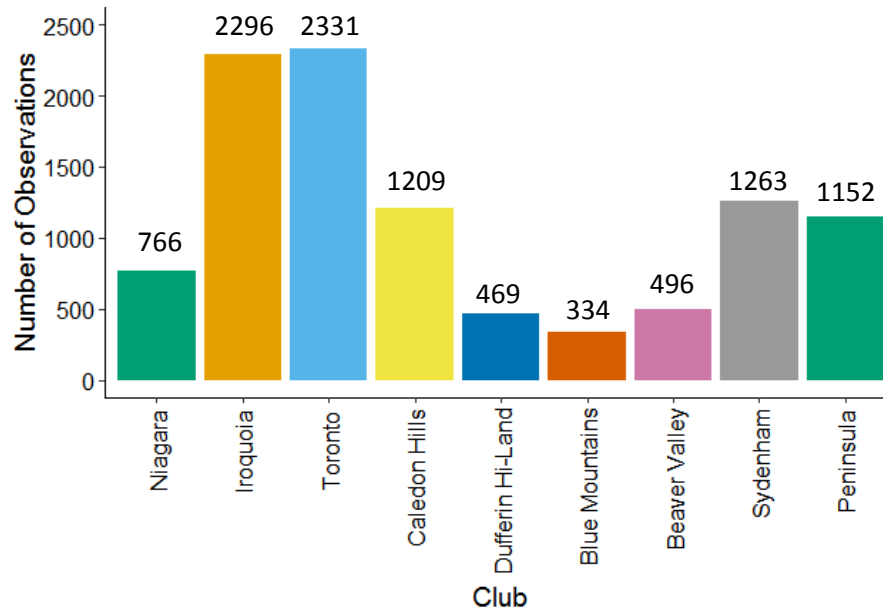
For more information on invasive species in Ontario, visit invadingspecies.com or ontarioinvasiveplants.ca.



Bruce Trail CONSERVANCY

Mapping It Out!

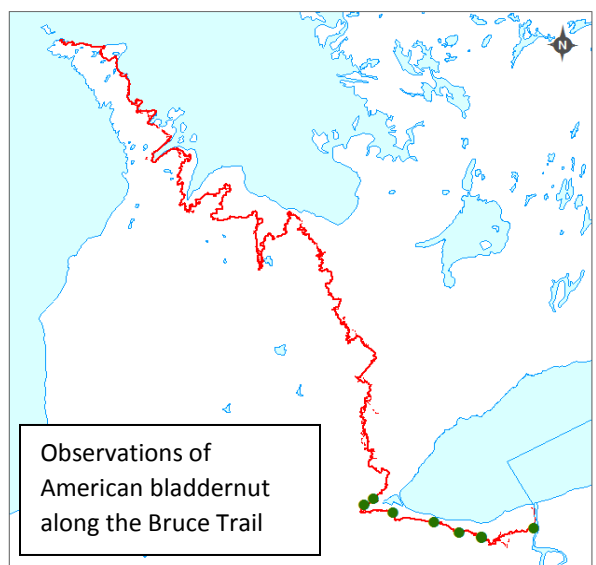
The Bruce Trail is divided into 9 club sections and meanders through public lands, private lands, and lands owned and managed by the BTC. The observations submitted to our iNaturalist project can help us understand which properties and sections of the trail support certain species, and where citizen scientists are most actively recording observations. Here's a breakdown of observations by club section and land management type.





Bruce Trail CONSERVANCY

Mapping these observations also helps us to learn more about the ecology of the species that live along the Niagara escarpment. It can tell us about species' ranges and environmental tolerances. For example, marginal wood fern (*Dryopteris marginalis*) has a wide range, and has been observed along most of the length of the Bruce Trail. However, as its name might suggest, northern holly fern (*Polystichum lonchitis*) is only found in the northern sections of the Bruce Trail. On the other hand, American bladdernut is a Carolinian species, meaning it prefers the warmer climate of the southern sections of the Bruce Trail.



Information about where species are found is really valuable to our ecologists and also helps us to prioritize protecting land where sensitive species are found.



Bruce Trail CONSERVANCY

Get Involved

If you want to help the Bruce Trail Conservancy to better understand the diversity and distribution of plants, fungi, birds and other organisms along the Bruce Trail, email mccroll@brucetrail.org or visit brucetrail.org for more information. Whether you're a trained expert or just interested in learning more about the life around you, we can use your help!

Thank you to our amazing community of citizen scientists who have made this project possible!



Barn swallows (*Hirundo rustica*). Photo by [Brian Popelier](#) (CC BY-NC).