



## A Trail Workers Guide to Sensitive Species

As an organization that is committed to the conscientious enjoyment of Ontario's Niagara Escarpment, the BTC has a responsibility to protect the natural features to which the Bruce Trail provides public access. The task of creating and maintaining a conservation corridor that contains a public hiking path brings with it an understanding that the utmost care and concern must be shown in the placement and construction of the Trail. This document will help Trail workers identify key sensitive species that should be taken into consideration during development and maintenance of the Bruce Trail.

A sensitive species is one that has been deemed by either the federal, provincial or municipal government to be rare in a given region, based on the number of reports of that species in that particular region. Some of these species have been classified as "Species at Risk". This is a designation that is given to a species that is either federally or provincially rare. The descriptions of the designations given to Species at Risk are:

**Special Concern** - A species with characteristics that make it sensitive to human activities or natural events.

**Threatened** - A species that is at risk of becoming endangered if limiting factors are not reversed.

**Endangered** - A species facing imminent extinction or extirpation.

These designations are backed by the Federal Species at Risk Act and the Ontario Endangered Species Act. Any one of these designations will classify a species as a "Species at Risk" and will afford that species protection. The criteria for a species' protection are laid out in both the Species at Risk Act and the Endangered Species Act, as well as within the recovery strategy or management plan that was prepared for that particular species by the provincial government (management plans are less detailed than recovery strategies and are only prepared for the lower ranked "Species of Special Concern").

Recovery strategies include information about:

- The species' habitat needs,
- The types of threats to the species, or ecosystem,
- Recommendations on how to protect and recover species and their habitats,
- The area that should be considered habitat. [this includes information on exactly how a species should be protected – i.e. a 25m area around a species at risk within which no disturbance or alteration can take place]

It is important to become familiar with some of these species when routing and re-routing portions of the Trail for two major reasons. Firstly it is the BTC's responsibility as a conservation organization to ensure that

ecological sensitivity is respected in conjunction with Trail placement. Secondly, there are often very severe fines, upwards of \$250,000 or a year in jail, for the disturbance or removal of Species at Risk.

According to an existing Trail Development and Maintenance policy, Trail routing or Trail re-routes on a BTC owned or managed property must be cleared with the Land Stewardship department in order to ensure that there are no ecological concerns with the proposed Trail placement. Disturbance to Species at Risk is perhaps the most important reason for this policy. Although this policy applies only to properties that are owned or managed by the BTC, it would be prudent to be mindful of Species at Risk when routing or re-routing sections of Trail that lie off of BTC owned or managed land. If there are any questions as to the identity of a suspected Species at Risk it would be appropriate to contact Land Stewardship staff to confirm the report.

If you do find a sensitive species, record it, take pictures if you can, mark the location with a GPS and please contact BTC ecologists as there are different regulations and setbacks depending on the species. In doing so it would be helpful for Land Stewardship staff to have photographs of multiple parts of the species in question, including: leaves, bark, buds, fruit/seeds. A description of the habitat in which it was found would also be helpful (i.e. in the understory of a Sugar Maple forest). **Never** make the locations of rare species publicly available. Poaching is a serious threat to many species in Ontario and revealing the locations of populations predisposes them to local extinction. Detailed location information should only be reported to the appropriate BTC staff and volunteers, other recognized conservation programs and appropriate government agencies, such as the Ontario Ministry of Natural Resources, Environment Canada or Parks Canada.

### **Who can I contact to find out more about what species-at-risk are, or might be, in my area?**

Beside BTC staff ecologists you can also contact your local government and non-government natural heritage organizations. Their offices or websites are the best places to start and include:

- the nearest Ontario Ministry of Natural Resources district office; more precisely, a species-at-risk biologist or the district ecologist.
- conservation authorities
- stewardship councils
- nature conservancies
- field naturalist clubs
- biosphere reserves
- provincial parks
- national parks

Although it would be very difficult to include every Species at Risk in this document, there are a number of species that are more likely to be encountered and for which the penalties for killing or disturbing are particularly severe. These species include:

<b>Species</b>	<b>Provincial Designation (COSSARO)</b>	<b>Federal Designation (COSEWIC)</b>	<b>BTC Club that it is likely to be found in</b>
American Chestnut	Endangered	Endangered	Niagara, Iroquoia but has been found in the northern sections
American Columbo	Endangered	Endangered	Niagara, Iroquoia
American Hart's Tongue Fern	Special Concern	Special Concern	Blue Mountains to Peninsula
Butternut	Endangered	Endangered	All
Eastern Flowering Dogwood	Endangered	Endangered	Niagara, Iroquoia

Red Mulberry	Endangered	Endangered	Niagara, Iroquoia
Green Dragon	Special Concern	Special Concern	Niagara, Iroquoia
American Ginseng	Endangered	Endangered	All
Broad Beech Fern	Special Concern	Special Concern	All

Below are species information plates that will help with the identification of each of the species mentioned. Although they do not offer a thorough description of each species, they will provide an introduction to each species' basic characteristics and identifying features. It would be worthwhile for anyone performing Trail related activities to become familiar with the Species at Risk that are listed as occurring within their Club section.



We thank the Ontario Trillium Foundation for their financial support of our land stewardship program. The Ontario Trillium Foundation is an agency of the Government of Ontario.

# American Chestnut (*Castanea dentata*)



Leaves



Fruit

Photos: Paul Wray, Iowa State University, Bugwood.org



Young Tree

Photo: Jaknouse, Wikipedia.org



Young Tree with Canker

Photo: Linda Haugen, USDA Forest Service, Bugwood.org

## Distinct Physical Features:

- Glossy green leaves with straight parallel veins that end in a short, upwardly curved bristle
  - Clusters of 2-5 nuts housed in a spiny green bur-like husk
    - Often only existing as a small re-sprouting sucker

## Typical Habitat:

- Occurs on a variety of sites, including well drained sands and gravels
  - Often mixed with other broadleaf trees
- Being tolerant of shade it is often found under a tree canopy

## Species Significance:

- Almost completely wiped out in the early 1900's by an introduced blight

## Conservation Status:

Provincial Rank – S2

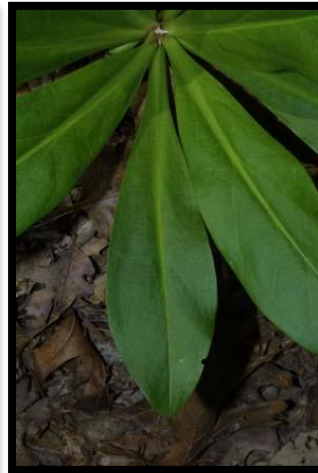
COSEWIC- Endangered

COSSARO – Endangered

## American Columbo (*Frasera caroliniensis*)



Basal Rosette



Leaves

Photos: ©2005 Steve Baskauf, bioimages.vanderbilt.edu



Flowers

Photo: © 2005 Darel Hess, bioimages.vanderbilt.edu



Mature Plant

Photo: Kenneth J. Sytsma, wisplants.uwsp.edu

### Distinct Physical Features:

- Often a large basal rosette of long leaves (up to 40cm long) – growing occasionally into a tall (2-3m) stem with whorled leaves that get progressively smaller and produce clusters of flowers in leaf axils
  - Flowers are greenish yellow with purple dots

### Typical Habitat:

- Open woods and meadows

### Species Significance:

- Loss of habitat is threatening the 22 known populations that exist in Canada

### Conservation Status:

Provincial Rank – S2      COSEWIC- Endangered      COSSARO – Endangered

## American Hart's Tongue Fern (*Asplenium scolopendrium* var. *americanum*)



Photo: J. Marko Dunn



Photo: A. Watt

### **Distinct Features :**

- Thick, dark, glossy, green leaves with wavy edges and a pointed tip
- The shape of the leaf is similar to the tongue of a deer (hence the name 'hart's tongue')
  - Fruitdots are elongate, in pairs on either side of a vein

### **Typical Habitat :**

- Shaded, damp rocky limestone crevices
- High lands where it is cool and moist

### **Species Significance :**

- Provincially rare and local to the Niagara Escarpment, the variety 'americanum' is globally rare
  - Ontario General Status: SENSITIVE

### **Conservation Status:**

Provincial Rank – S3    COSEWIC- Special Concern    COSSARO – Special Concern

## Butternut (*Juglans cinerea*)



Butternut fruit



Butternut leaf

Photos: Paul Wray, Iowa State University, Bugwood.org



Butternut Buds

Photo: Bill Cook, Michigan State University, Bugwood.org



Butternut Bark

Photo Left: United States Department of Agriculture, Wikipedia.org

Photo Right: Manfred Mielke, USDA Forest Service, Bugwood.org



### Distinct Physical Features:

- Leaves composed of 11-17 leaflets; terminal leaflet well developed (whereas in Black Walnut the terminal leaf is often absent or deformed)
  - Thick, light gray bark in broad, flat-topped ridges

### Typical Habitat:

- Occurs on a variety of sites, including dry rocky soils (particularly limestone)
  - Individuals or in small groups mixed with other species
  - Intolerant of shade

### Species Significance:

- Becoming rare due to declines caused by a fungal infection

### Conservation Status:

Provincial Rank – S3

COSEWIC- Endangered

COSSARO – Endangered

## Eastern Flowering Dogwood (*Cornus florida*)



Bark



Flowers

Photos: Chris Evans, River to River CWMA, Bugwood.org



Bud



Fruit



Flower and Leaves

Photos: Chris Evans, River to River CWMA, Bugwood.org

Photo: David Stephens, Bugwood.org

### Distinct Physical Features:

- Large distinct white flowers in spring
- Rough bark breaking into small plates
  - Red fruit
- Oppositely arranged, green, parallel veined leaves that end in a pointed tip.

### Typical Habitat:

- An understorey tree of deciduous woods

### Species Significance:

- An introduced fungus called Dogwood Anthracnose is causing a dramatic decline in North American populations

### Conservation Status:

Provincial Rank – S2?

COSEWIC- Endangered

COSSARO – Endangered

## Red Mulberry (*Morus alba*)



**Red Mulberry leaves**



**Red Mulberry fruit**

Photos: Seiberling *et al.* 2005



**Red Mulberry Bark**

Photo: Paul Wray, Iowa State University, Bugwood.org

### **Distinct Physical Features:**

- Small deciduous tree growing to a height of up to 9m
- Alternate, toothed leaves with zero to three deep lobes with soft hairs on the underside – many different leaf variations are usually present on the same tree
  - Red to dark purple, sweet, fleshy fruits resembling a blackberry
  - Young bark is reddish-brown and smooth
- **Very** easily confused with the White Mulberry and hybrids, which is hairless on the underside of its leaves. Genetic analysis is sometimes necessary for identification and the two species readily hybridize.

### **Typical Habitat:**

- Deep, moist soils, forested floodplains and valleys
  - Shade tolerant

### **Species Significance:**

In Canada Red Mulberry can only be found in a few locations in Southern Ontario, with an estimated population of only 200. It is one of Canada's most endangered tree species.

### **Conservation Status:**

Provincial Rank – S2      COSEWIC- Endangered      COSSARO – Endangered

## Green Dragon (*Arisaema dracontium*)



Leaves



Whole Plant

Photos: B.Popelier



Seed Pod just after Flowering

Photo: B.Popelier

### Distinct Physical Features:

- native perennial plant is 1½–2½' tall
- has only 1 leaf; however, the leaf stem forks so that there appears to be 2 separate leaves, each divided into 5–15 unequal leaflets which are arranged palmately (like the upturned palm of one's hand)
- A separate flower stalk hold the unique blossom which is a greenish, long-tipped spadix or floral spike (the dragon's tongue) protruding several inches beyond a narrow green spathe or leafy bract.
  - The ripened berries are in a tight cluster and red-orange in colour

This species resembles Jack-in-the-Pulpit somewhat, but the latter has only 3 leaflets per compound leaf. There are also differences in the structure of their flowers: the spadix of Green Dragon is much longer and strongly exerted from the spathe, while the spathe of Jack-in-the-Pulpit forms a hood over the spadix.

### Typical Habitat:

- moist deciduous floodplain woodlands, shady seeps, and wooded areas adjacent to springs, creeks and vernal pools.

### Species Significance:

The Green Dragon is at the northern limit of its' range in Ontario and was likely never common here. Historical records suggest that the species was once more widespread in Ontario, and it may have declined in Ontario as forests were cleared.

### Conservation Status:

Provincial Rank – S3

COSEWIC- Special Concern

COSSARO – Special Concern

## American Ginseng (*Panax quinquefolius*)



**Whole Plant**

Photo: B.Popelier



**Flowers**

Photo: B.Popelier

### **Distinct Physical Features:**

- Has palmately compound, toothed leaves arranged in a whorls with five leaflets. The top three leaves are generally larger than the bottom 2. Very similar in appearance to Wild Sarsaparilla but its leaves have larger leaflets at the bottom of the whorl and the flower cluster appears below the leaves.
- The flowers appear in a cluster or umbrel at the same level as the leaves and they are small and greenish white in colour.
- The ripened berries are in a tight cluster and reddish in colour.

### **Typical Habitat:**

This wildflower is found in moist deciduous woodlands that are relatively undisturbed and of high quality. Also seem to thrive in creviced topography of gently sloping vegetated talus.

### **Species Significance:**

Populations of American Ginseng have decreased significantly in Ontario over the past 150 years because of illegal harvesting, logging practices, and the clearing of land for agriculture and development. These threats continue at present, and it has been estimated that at least half of the populations are declining.

### **Conservation Status:**

Provincial Rank – S2

COSEWIC- Endangered

COSSARO – Endangered

## Broad Beech Fern (*Phegopteris hexagonoptera*)



**Whole Fern**

Photo: Wikipedia Commons



**Close-up of winged tissue between bottom pinnae**

Photo: DenPro

### **Distinct Physical Features:**

- Has delicate, triangular-shaped fronds which can grow to 40 cm in length and they are tapered at both ends.
  - Lowest pair of pinnae are larger, broader and often point downward.
- Lowest two pair of pinnae or leaflets are joined by winged tissue. The similar looking Northern Beech Fern does not have this winged tissue joining the bottom pinnae.

### **Typical Habitat:**

Rich, deciduous forests and treed Talus slopes.

### **Species Significance:**

Ontario is the northern limit for this species, and it was probably never common here. Historical records suggest that the species was once more widespread in Ontario, and it may have declined in Ontario as forests were cleared.

### **Conservation Status:**

Provincial Rank – S3      COSEWIC- Special Concern      COSSARO – Special Concern