



Bruce Trail
CONSERVANCY

The Bruce Trail Conservancy

Preserving a Ribbon of Wilderness



Presentation Overview



Niagara Escarpment

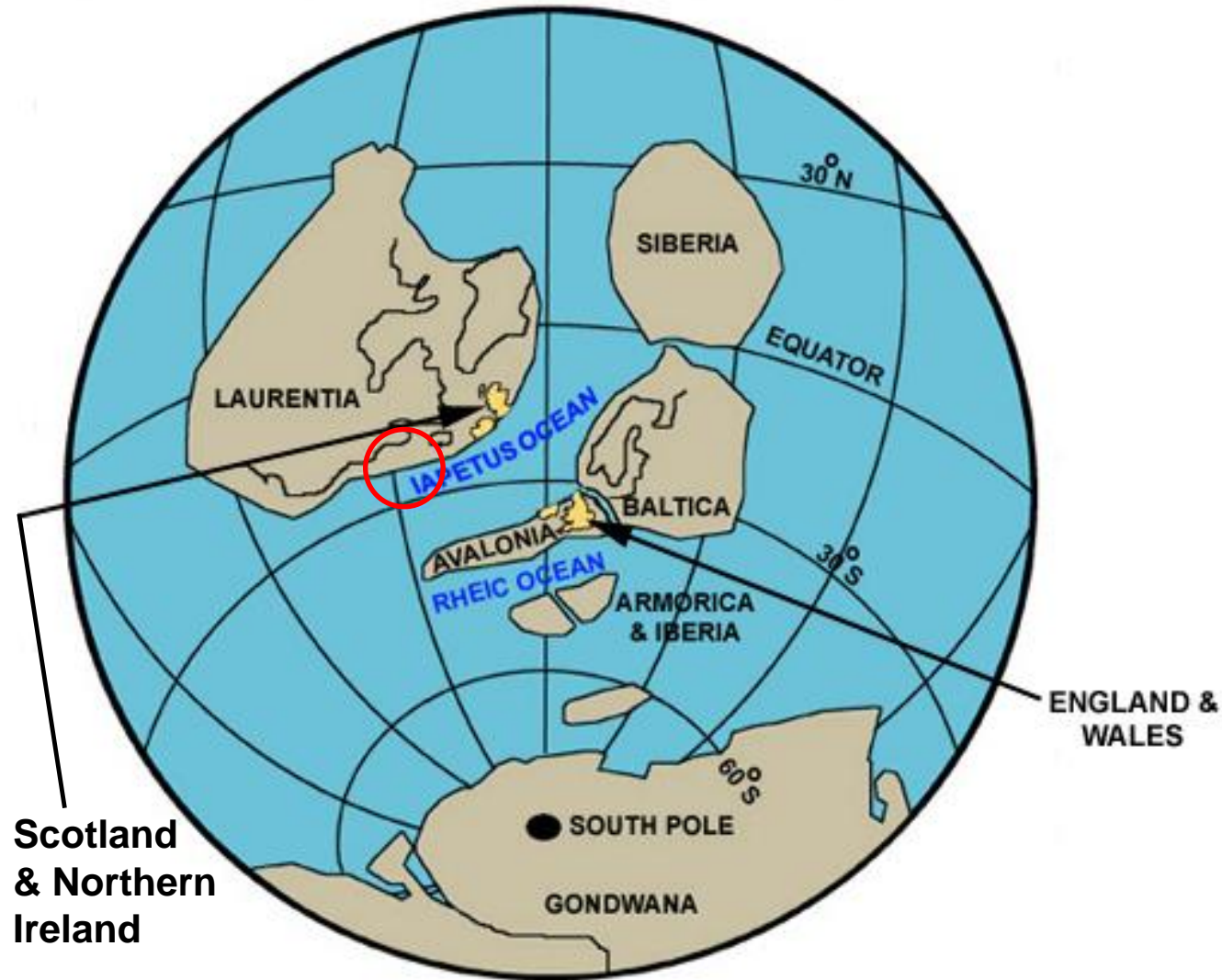
- Formation
- Geology
- Ecology

The Bruce Trail

- History
- Threats to the Niagara Escarpment
- The Bruce Trail Conservation Corridor
- Land Stewardship Program
- Conservation in Action
- BTC Strategic Plan



Formation of the Niagara Escarpment

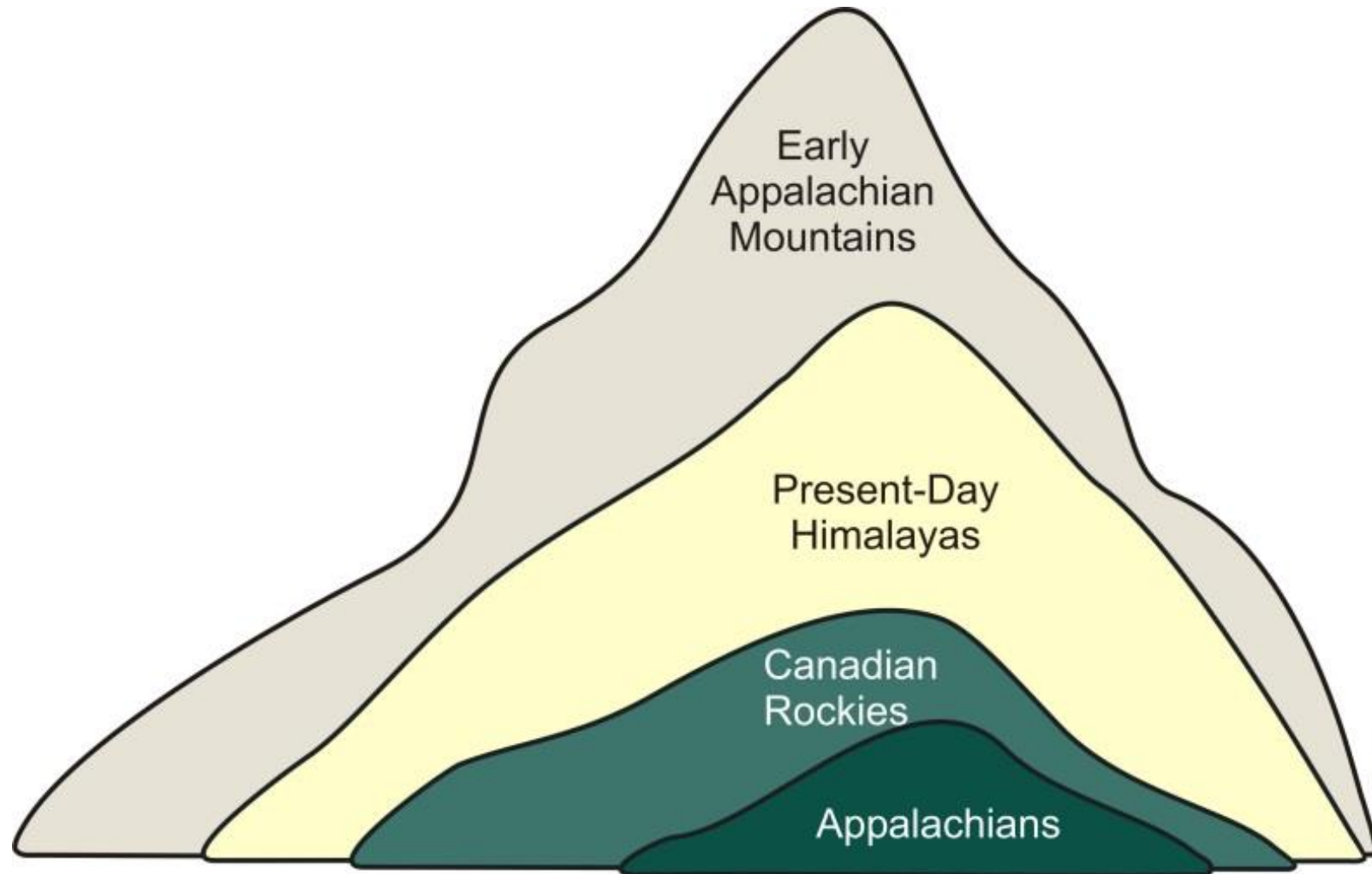


The Basics

- 450 million years ago North America and bits of what would become Europe and Africa were in collision, pushing up a mountain range along what is now the eastern edge of North America
- Shallow tropical seas covered the area to the northwest of this mountain range

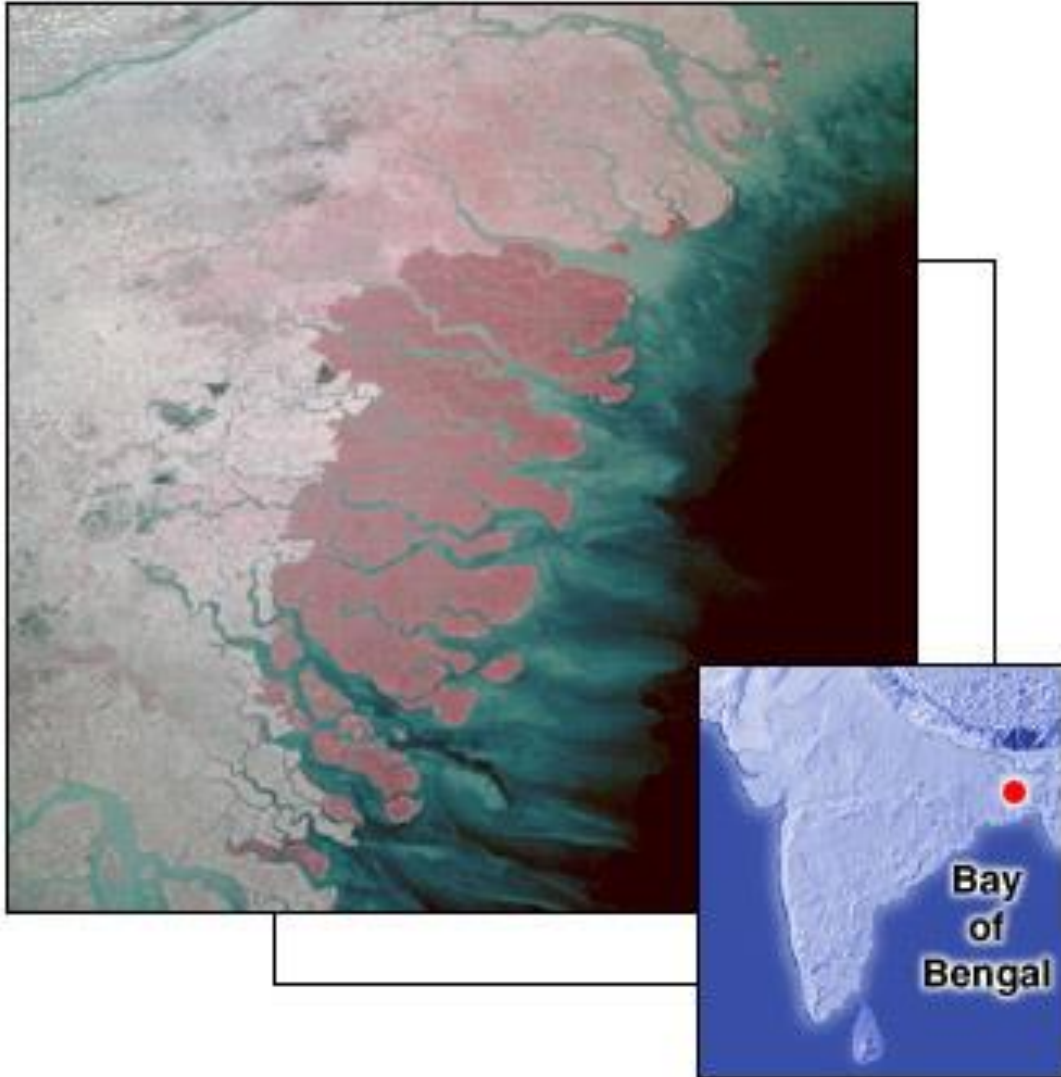
Formation of the Niagara Escarpment

The Appalachian Mountains today are the remnants of a Himalayan-sized mountain range formed from repeated collision of continental plates





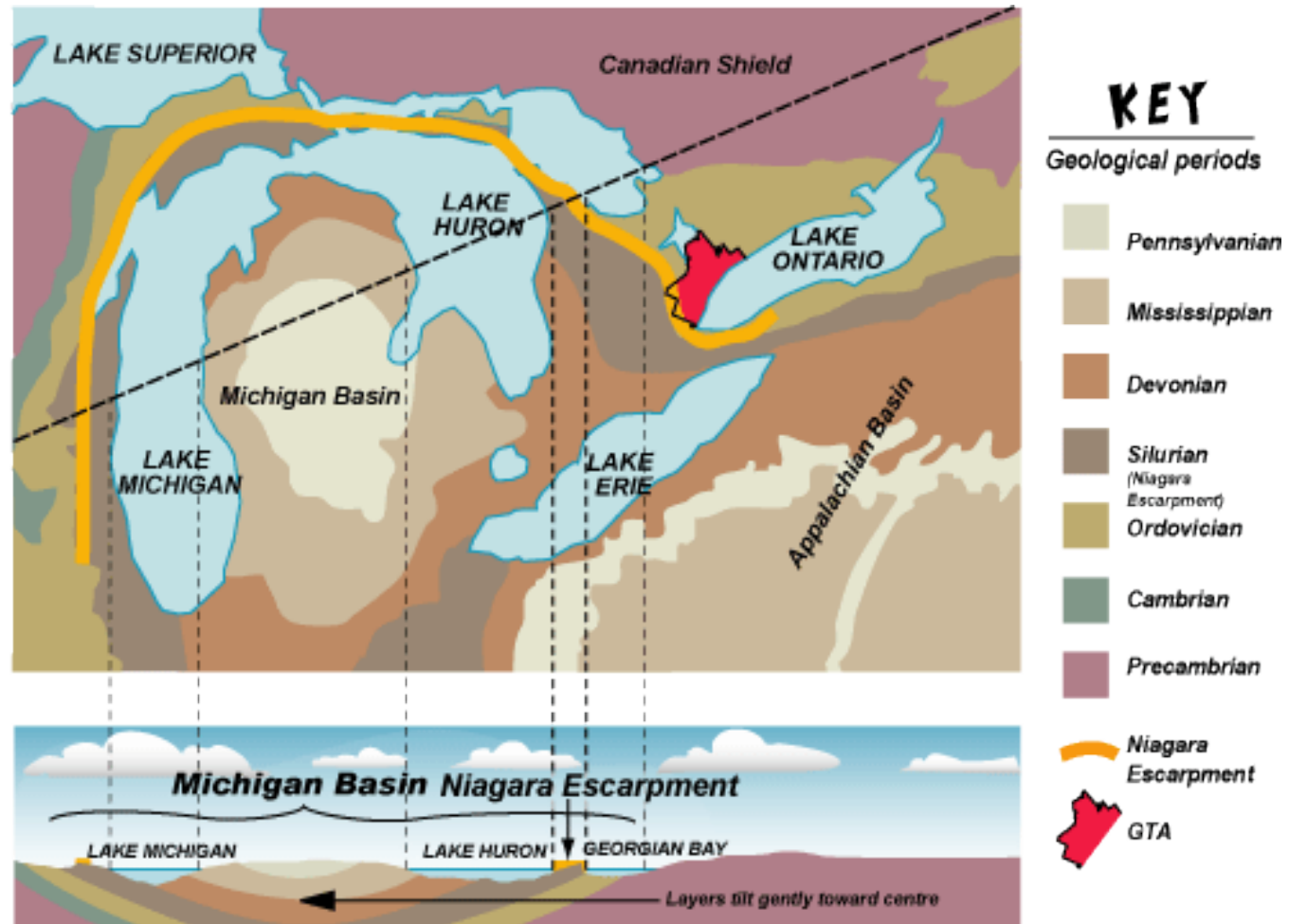
Formation of the Niagara Escarpment



- Conditions were very similar to today's Himalayas, where large rivers coming off of the mountains spill into the Indian Ocean, creating large, muddy deltas
- Its red colour is due to the iron present in the mud

The Basics

- This shallow, tropical sea, lying to the northwest of the mountain range, is called the Michigan Basin
- Sediment (sand, gravel, mud) was eroded over time, and carried from the mountain range into the Michigan Basin by rivers



As the Taconic Mountains eroded, sediments were carried westward and deposited in the Michigan Basin where the layers dip or tilt gently toward the centre of the basin at up to 6 metres per kilometre.



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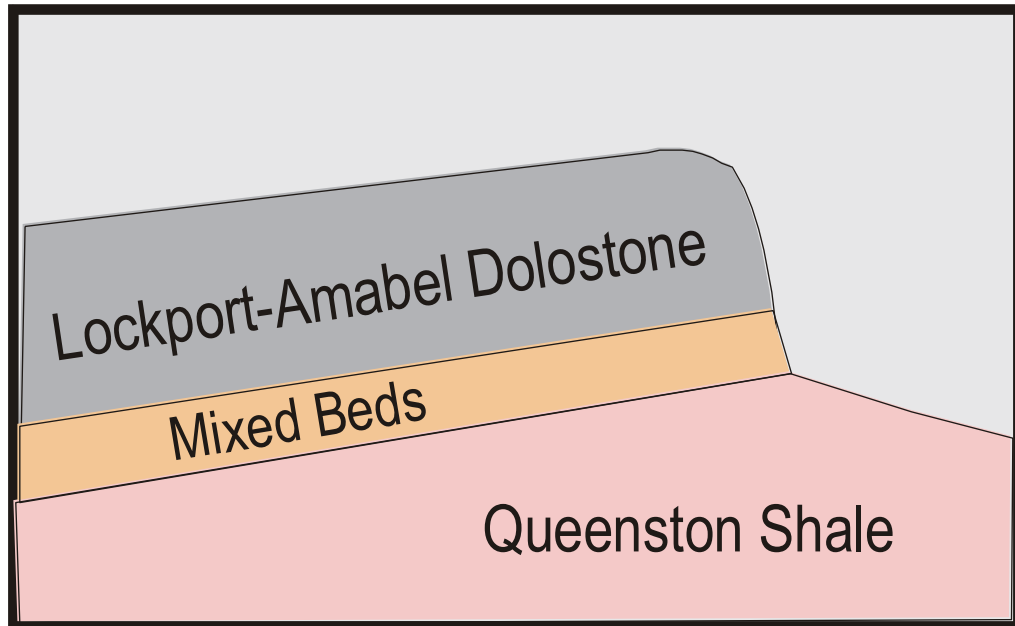
Geology of the Niagara Escarpment



Queenston Shale is
the lowest unit in the
Niagara Escarpment

*Cheltenham Badlands
Caledon Hills*

The Niagara Escarpment can be thought of as three separate sections:



Lockport- Amabel Dolostone
caprock at the top

Thinner layers of sandstone,
shale, limestone and dolostone
in the middle

Queenston Shale at the bottom

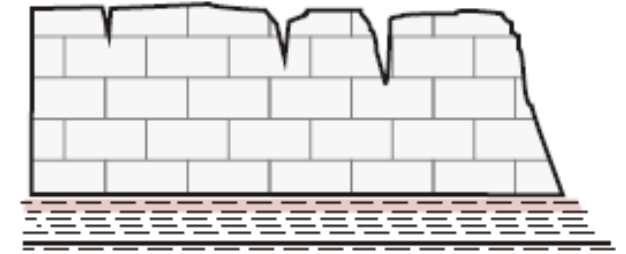


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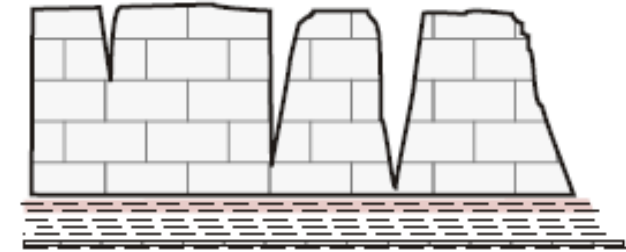
Geology of the Niagara Escarpment



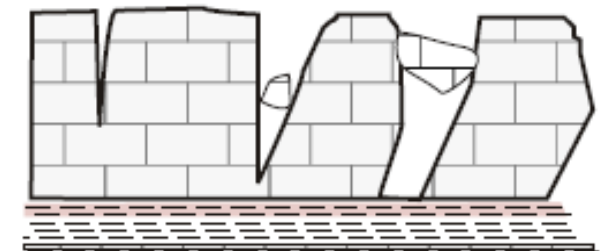
Crevice Development



Cracks begin to form in the jointed dolostone, through chemical and physical means



Cracks widen through "freeze-thaw" activity



Cracks continue to widen and deepen as blocks "camber" on the soft shale below. Crevices and caves are created.



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Geology of the Niagara Escarpment

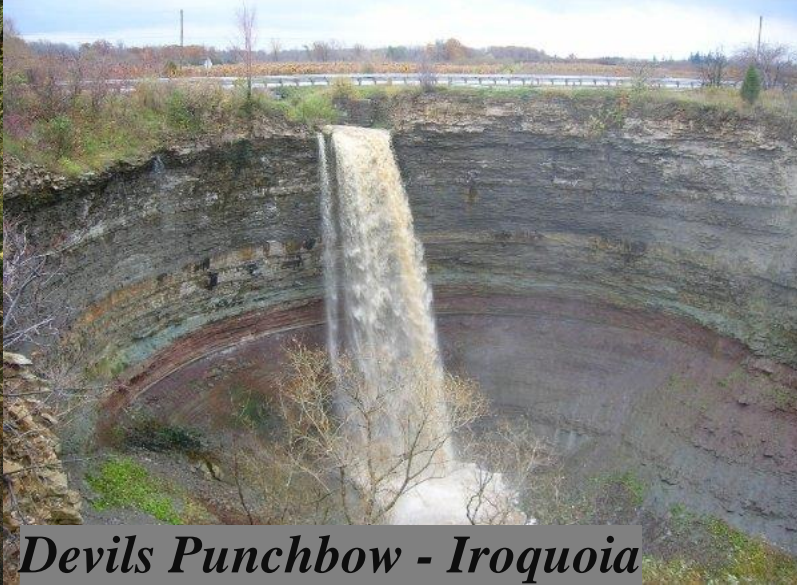




Tews Falls - Iroquoia



Websters Falls - Iroquoia



Devils Punchbowl - Iroquoia



Sherman Falls - Iroquoia



Smokey Hollow Falls - Iroquoia



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Geology of the Niagara Escarpment



Beaver Valley – Beaver Valley



Old Baldy – Beaver Valley

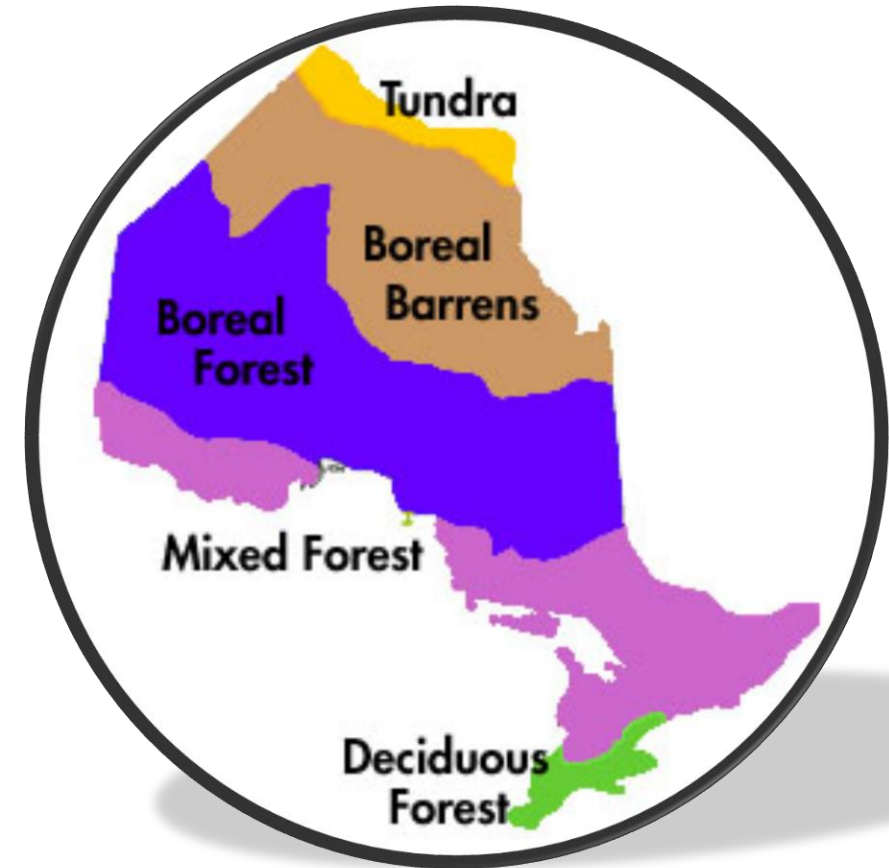
- Over 1500 species of vascular plants (including 40% of Ontario's rare flora)
- 325 bird species or 72% of all birds recorded in Ontario (of which 200 species have shown evidence of breeding in the Niagara Escarpment area)
- 55 mammal species and 34 species of reptiles and amphibians have been recorded
- 44 of the 65 species of Orchids in Ontario
- 50 fern species
- The oldest trees in Canada east of the Rocky Mountains



Ontario Life Zones

The Niagara Escarpment in Ontario is 885 km and crosses through two different Life Zones : Deciduous (Carolinian) Forest and Mixed Forest

- Starts in Queenston, Niagara
- Ends in Tobermory on the Bruce Peninsula



Carolinian Life Zone

- 25% of Canada's population on 0.25% of its area
- More endangered and rare species than any other life zone in Canada
- Less than 2% of the landscape is in public ownership
- 73% of the landscape is in highly productive agriculture
- Forest cover has been reduced from 80% to 11.3%
- Forest interior has been reduced to just 2%
- Wetlands reduced from 28.3% to 5.1%



American Badger



Prothonotary Warbler



Spiny Soft-shelled Turtle



Tulip Tree

Niagara-on-the-Lake



Sassafras



Paw Paw

Tallgrass Prairie

In Ontario, tallgrass prairie and savanna, including alvars (calcareous prairies), once covered at least 1,000 km²

Today only about 30 km² remains in approximately 200 highly fragmented known remnant sites



Big Bluestem

Mixed Forest: Great Lakes-St. Lawrence Life Zone

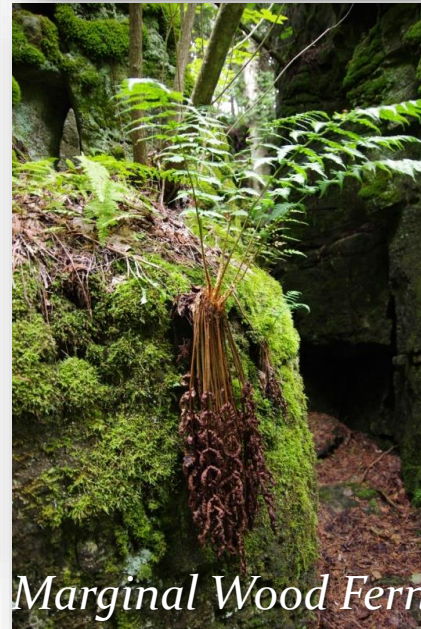
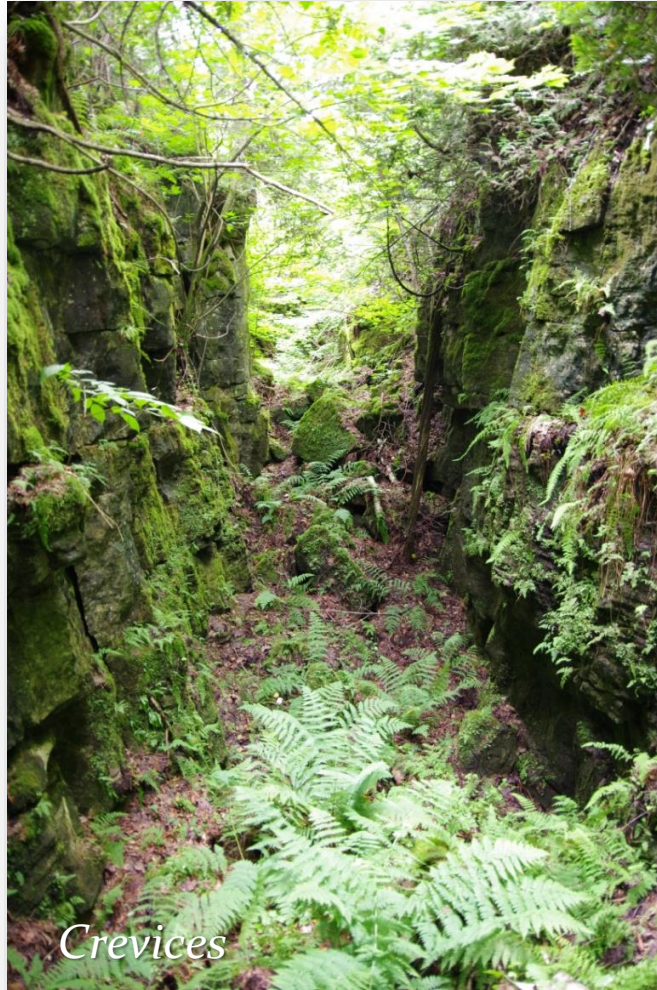
- Is the second largest forest zone in Ontario, containing 19% of the provinces forests
- Covers approximately 20 million hectares (~50 million acres)
- 38% of this forested region is privately owned

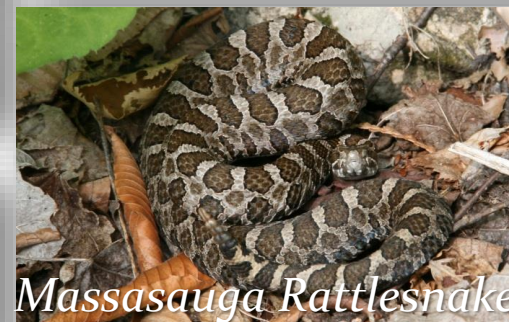
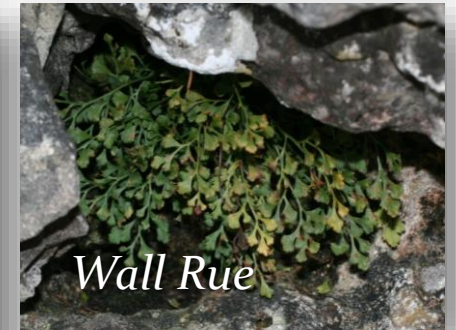




- Wetlands are among the most productive and biologically diverse habitats on the planet
- Ontario has an estimated 23 million to 29 million hectares of wetlands. This represents approximately 25% of Canada's wetlands, or about 6% of Earth's wetlands
- 70% of Southern Ontario's wetlands have been converted to other uses







The Financial Post

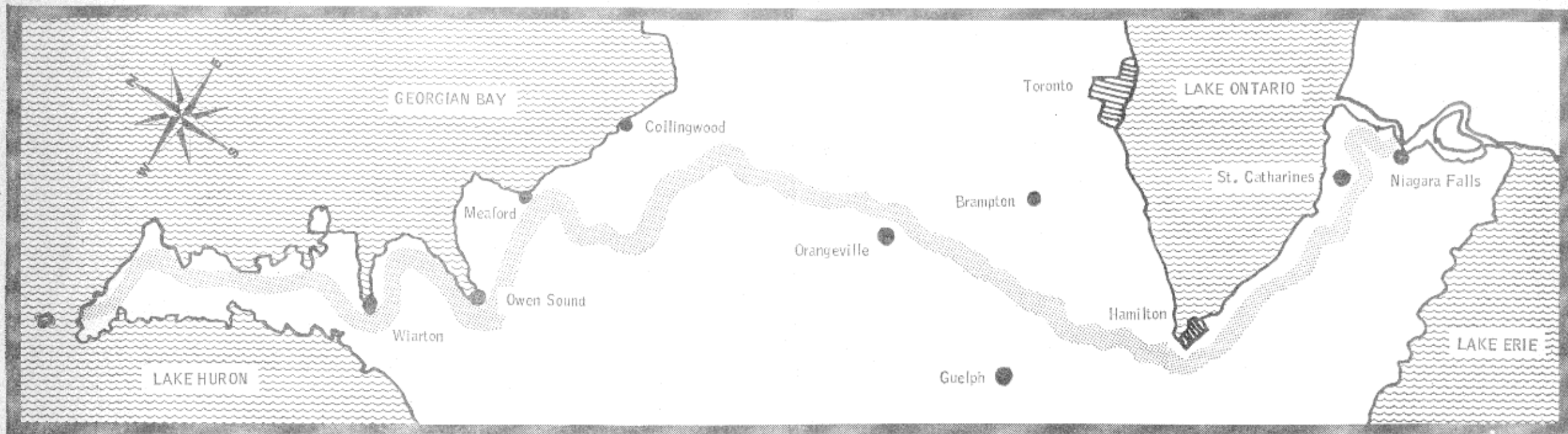
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No. 46



Can They Save This Ribbon of Wilderness?

By BEATRICE RIDDELL

The shaded strip that winds across the map of southern Ontario above is the Niagara Escarpment, a 240-mile ribbon of rugged hills and forests smack in the middle of Central Canada's industrial heartland.

It rises, wild and beautiful, above housing subdivisions, steel mills, shipyards, farmland and the sky-blue waters of Georgian Bay's resort coast — stretching from Niagara Falls at the U. S. border to Tobermory at the tip of the Bruce Peninsula.

In the months ahead, you're going to hear a lot more about the Niagara Escarpment. A group of conservationists, mostly businessmen, soon will start a campaign to preserve this geological phenomenon as a recreation area.

Some see the strip of wilderness as another Appalachian Trail, a paradise for hikers and rough-it campers, the growing

Much of it is still wild but a very large part of the escarpment is now in private hands. Many Canadians fear it is in danger of being spoiled by indiscriminate quarrying operations and real estate development.

Quarrying has spoiled the face of the escarpment in some of the most scenic places. Already the Caledon Hills (actually part of the escarpment), about an hour's drive from Toronto, are being snapped up for private country estates.

Conservationists and industrialists are meeting in Hamilton this week. At a conference sponsored by the Conservation Council of Ontario representatives of all groups concerned are discussing the possibilities of compatible commercial and public recreational use of the escarpment.

For the construction industry, the escarpment is the closest source of stone and gravel for Toronto and Hamilton building.

Construction men say quarrying affects only a small area

years, it will be most surprising," says I. L. Jennings, vice-president of Standard

But, conservation in small sections alone.

"In the long run tribute to the recreation Butchart Gardens part of Hamilton's

"Eventually quarry parkland," he said.

But while building "sacred ground" tionalists and conservationists.

"Legislation to escarpment is reason

tario government taking the lead) to discover its complete





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The Bruce Trail

Ray Lowes writing in the Bruce Trail News, Volume 1, Number 2 (September 1963):

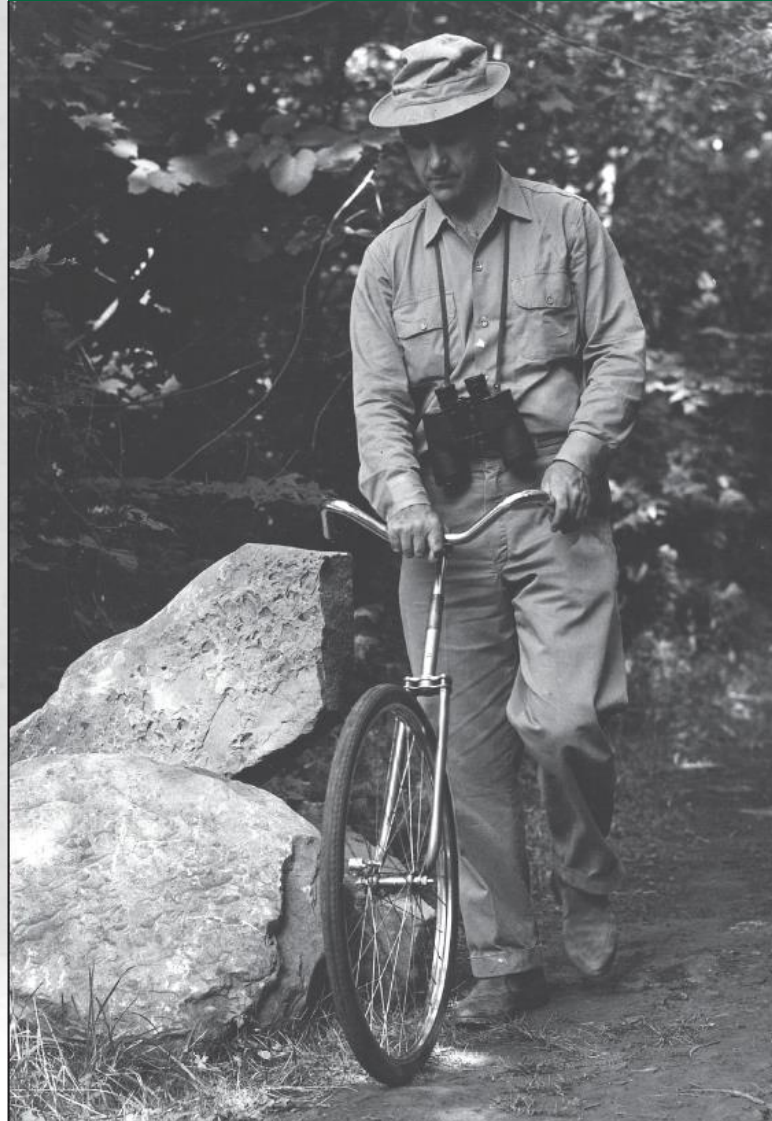


“ . . . here stands a rugged, beautiful continuum of rocks, waterfalls, greenery and ‘recreational opportunity’ that must be preserved in its entirety for us and for the future.

The Bruce Trail is the chain that at once binds this potential into a unified whole; that brings the very existence of a unique resource sharply to the attention of a population used to taking things for granted; that, when it is built and being used, will inspire a desire to protect and preserve from further encroachment a green belt across the province which could be our pride in future years.”

The Bruce Trail

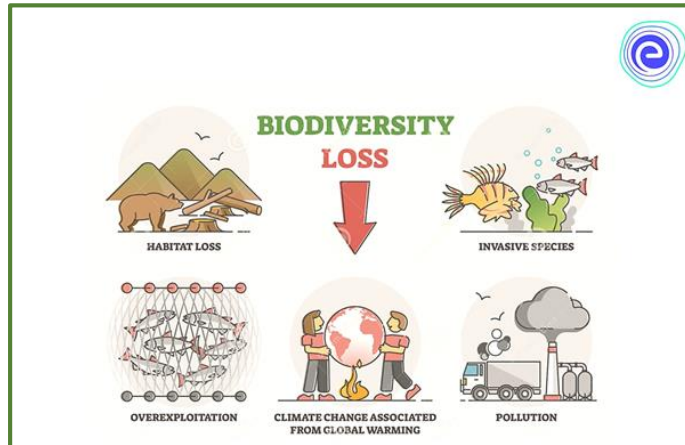
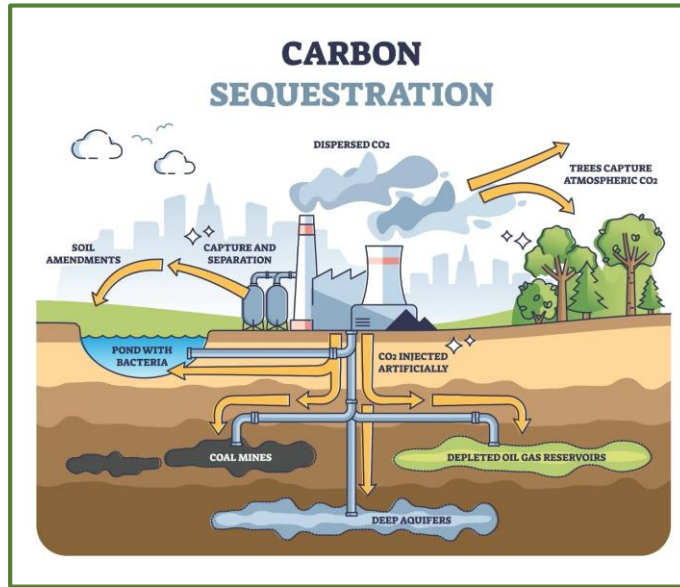
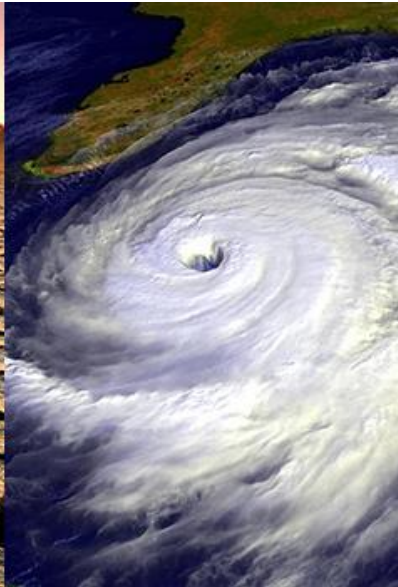
*Philip Gosling
measuring the
Bruce Trail,
1962*





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Threats to the Niagara Escarpment





MISSION

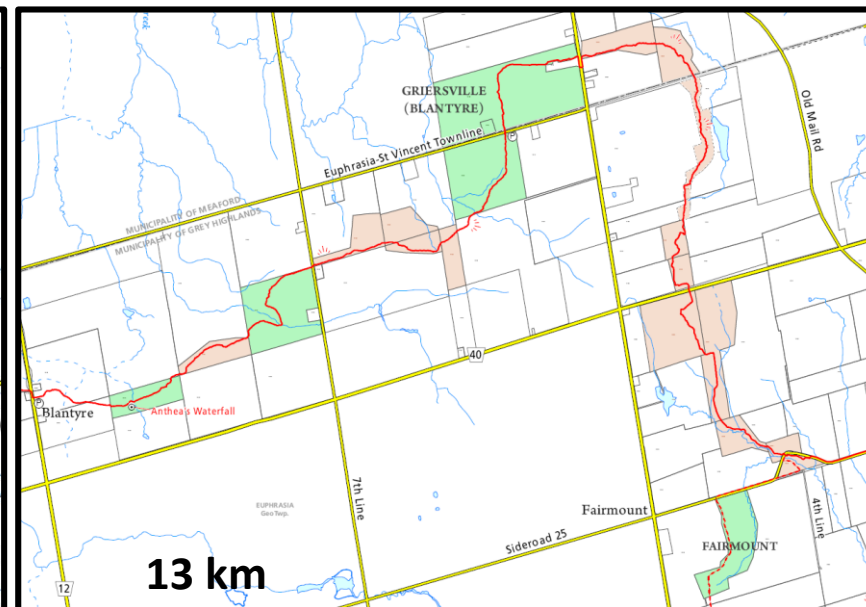
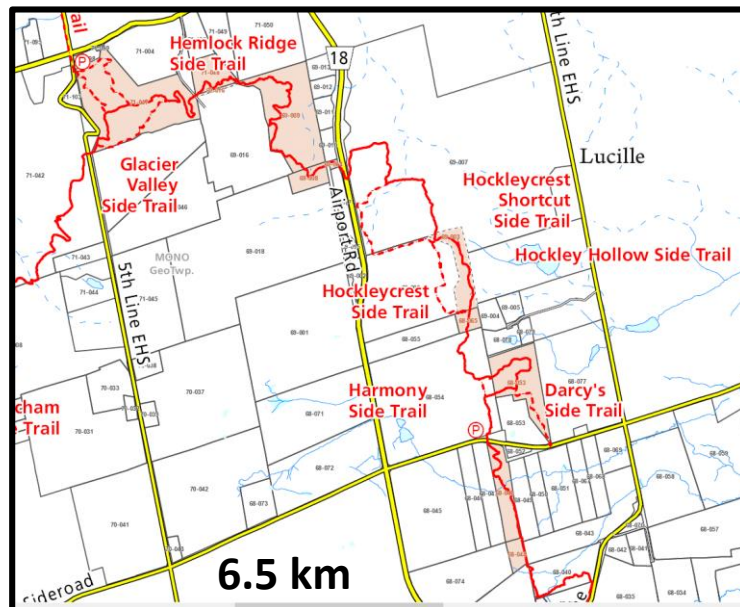
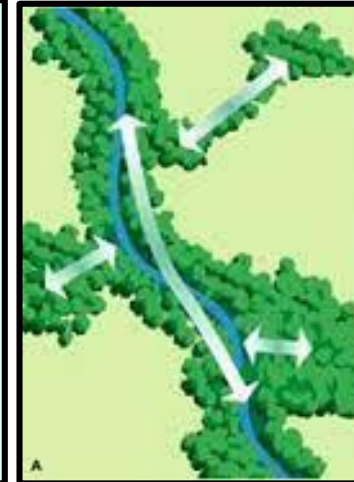
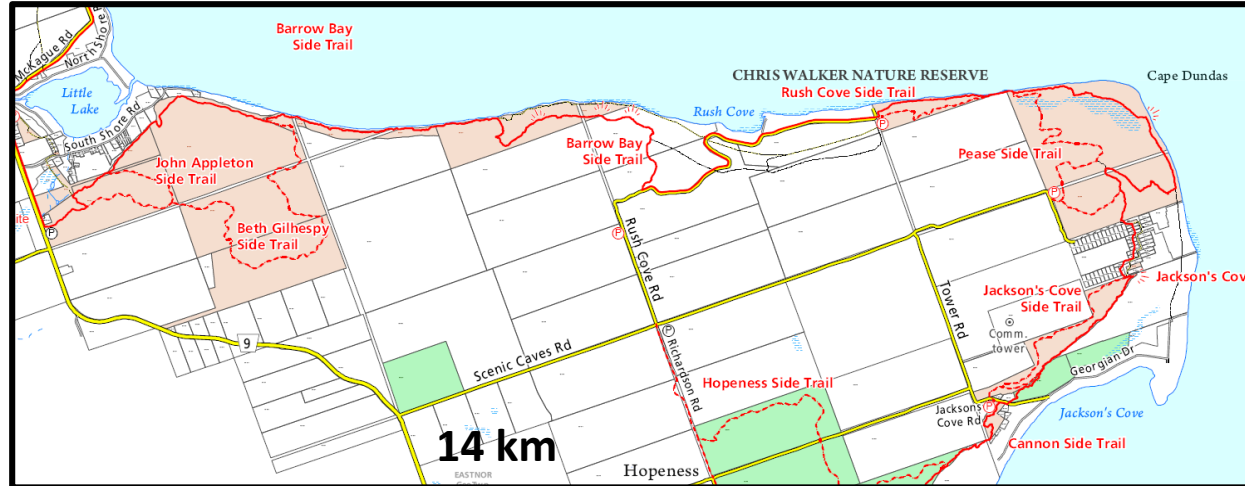
**Preserving a ribbon of wilderness,
for everyone, forever.**

VISION

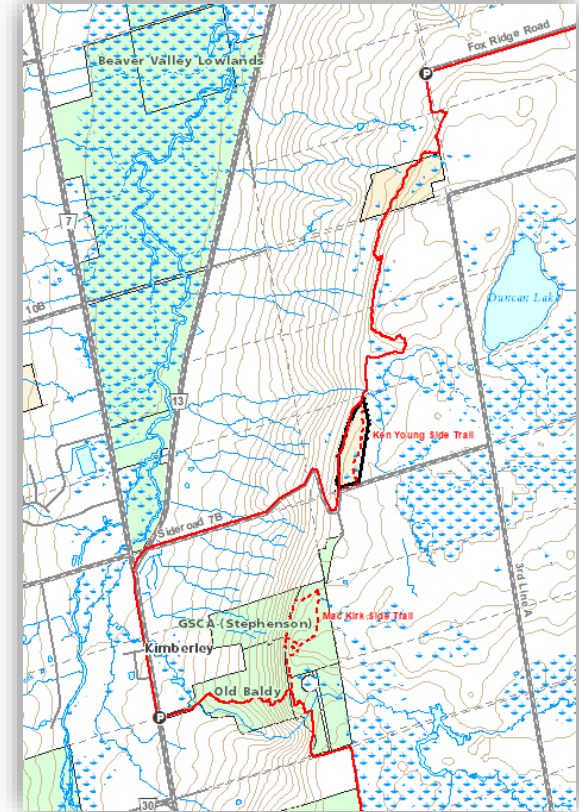
The Bruce Trail secured within a permanently protected natural corridor along the Niagara Escarpment.

VALUES

Commitment | Integrity | Stewardship | Collaboration | Respect

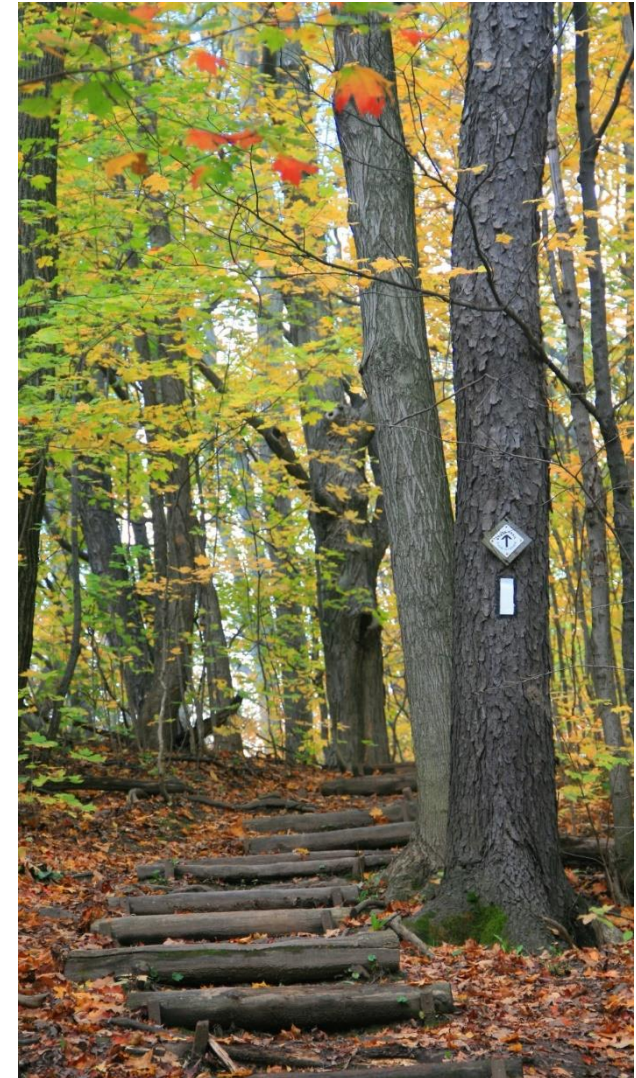


- **1970's:** BTC began acquiring land to secure the Optimum Route
- **1996:** Land Stewardship Program was created to manage BTC land
- **1997/98:** BTC transferred ~4500 ac to Ontario Heritage Trust (OHT)
- **2024:** 16,000 acres managed by the BTC



First BTC acquisition was 1976 – K. Young property near Old Baldy in the Beaver Valley

- Assign Land Steward
- BTC Land Stewardship Staff Site Visits
- Prepare Land Stewardship Plan
- Initiation of projects or recommendations from Land Stewardship Plan
- 10-year review of Land Stewardship Plan
- CONTROLLED ACCESS



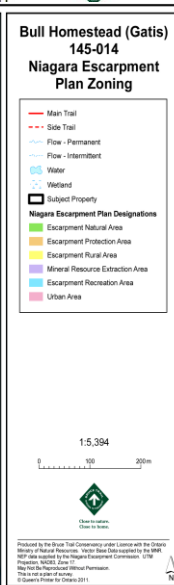
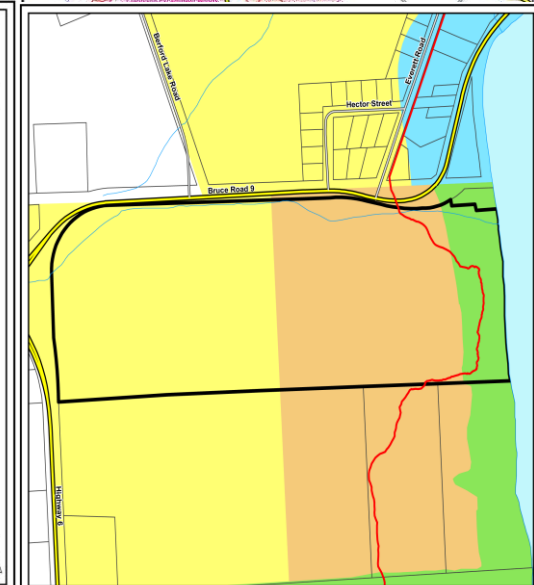
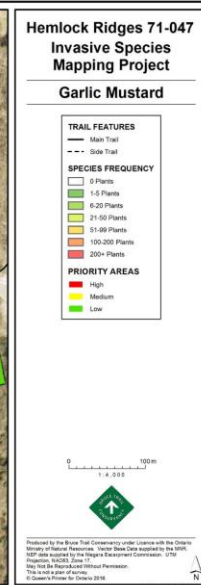
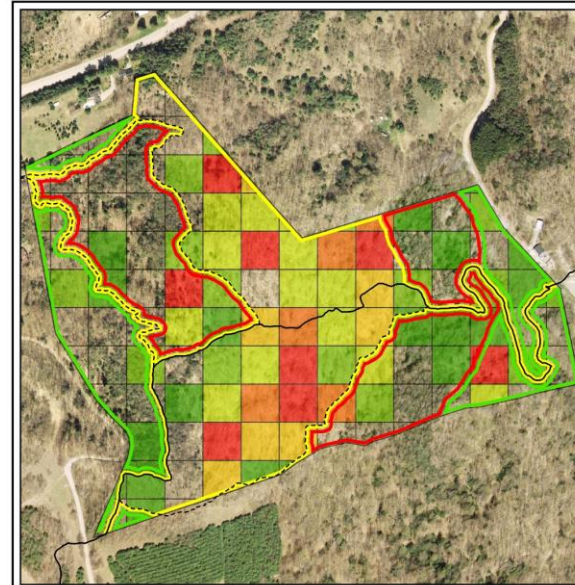
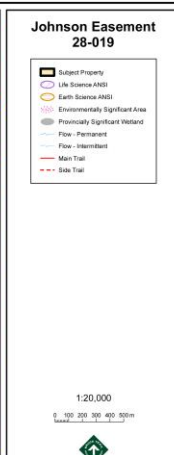
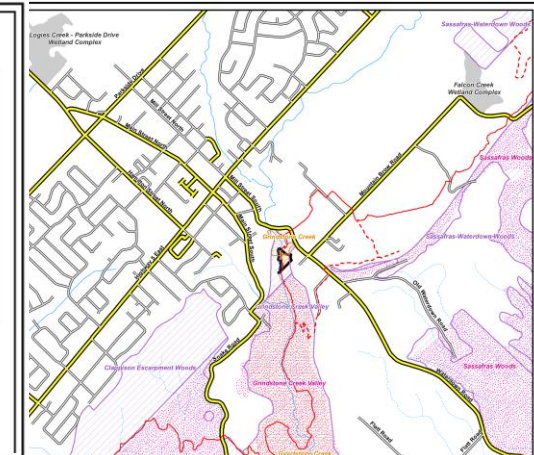
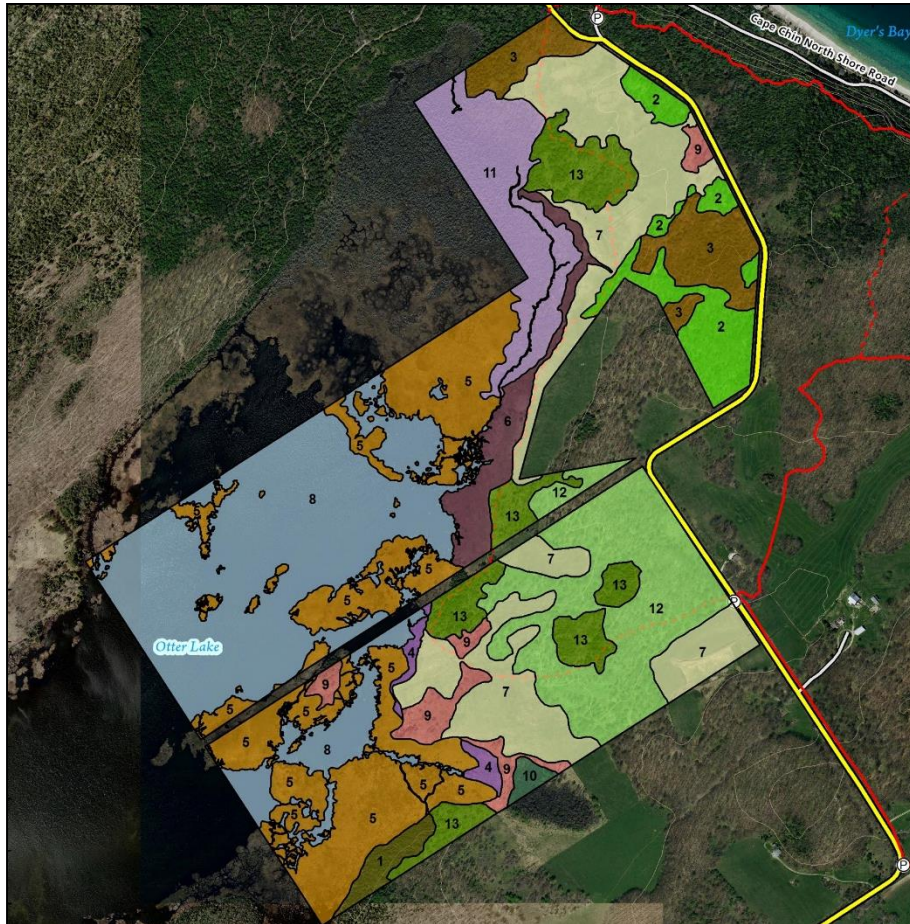
BTC staff perform 3-season biophysical inventory (spring, summer, fall) to identify:

- Biophysical Features (plants, animals, geology, soils, hydrology)
- Species at Risk
- Ecological Communities
- Invasive Species
- Cultural Features (structures, agriculture)
- Encroachment/Trespassing

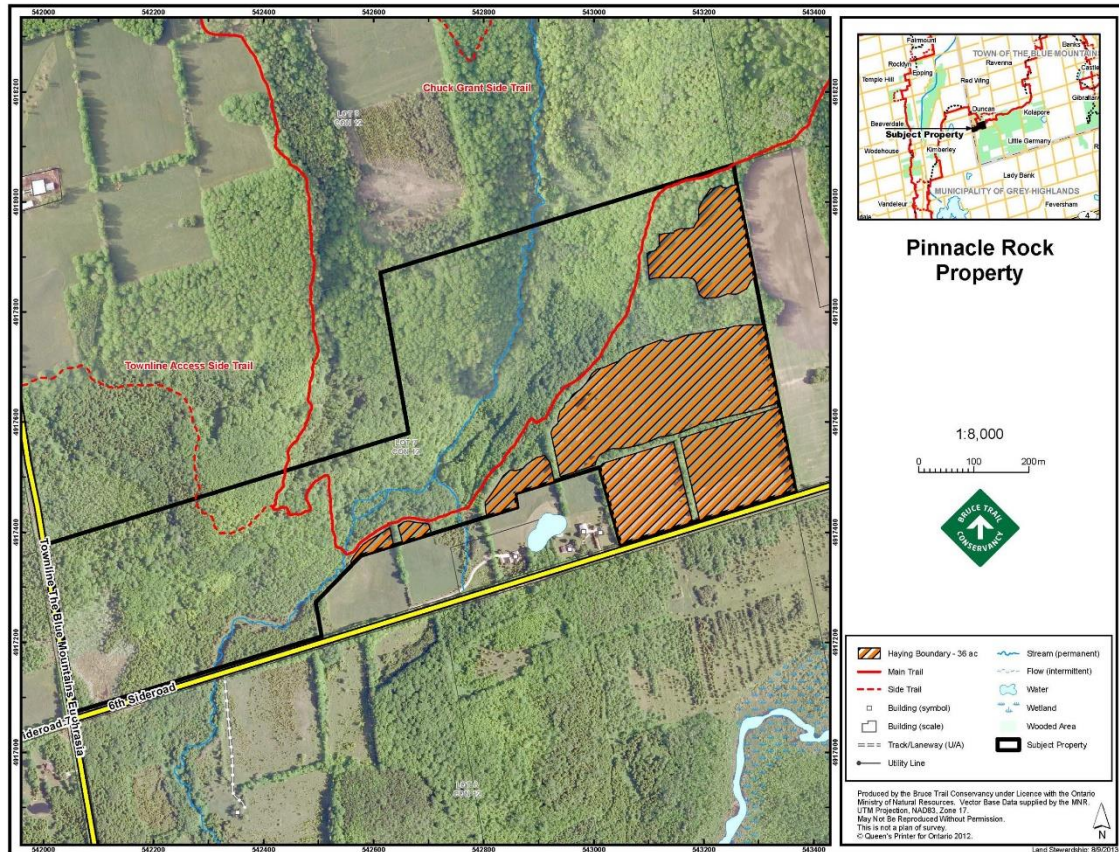




Mapping



Land Use Agreements



- Exist when a pre-authorized activity occurs on a BTC managed property that is anything other than hiking.
- Examples include: Haying, Riding of Horses, Snowmobile use, Mowing of Grass and Cattle Grazing



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Conservation in Action



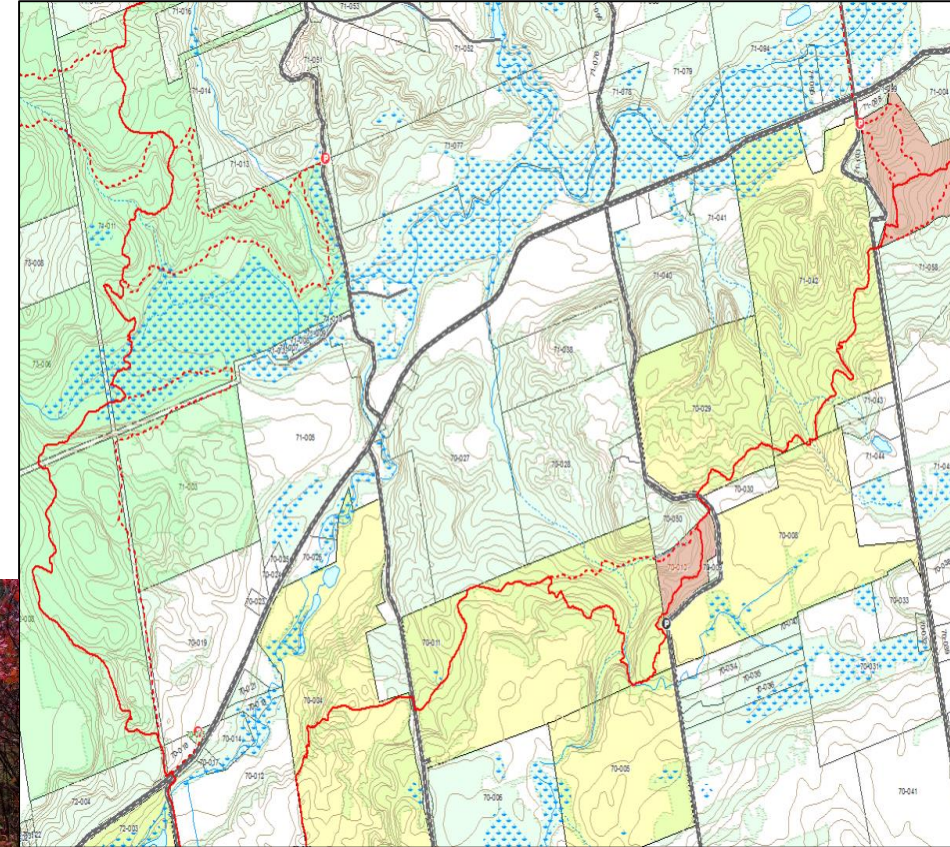
Corporate Volunteer Events

- Tree/Shrub/Wildflower Plantings
 - Invasive Species Removal
 - Bird/Bee House Installation
 - Interpretive Hikes
 - Trail Closures
 - Construction
-
- 2004 – First BTC corporate volunteer group
 - 2008 – BTC began asking for donations
 - 2017 - Increased Events – 12-20/year



Landowner Stewardship Program

- Focused on assisting private landowners with stewardship between ‘islands of conservation’
- Any landowner with Bruce Trail Optimum Route on their property can participate
- Program includes
 - Free site visit
 - Stewardship plan
 - Stewardship resources
 - Support for stewardship projects

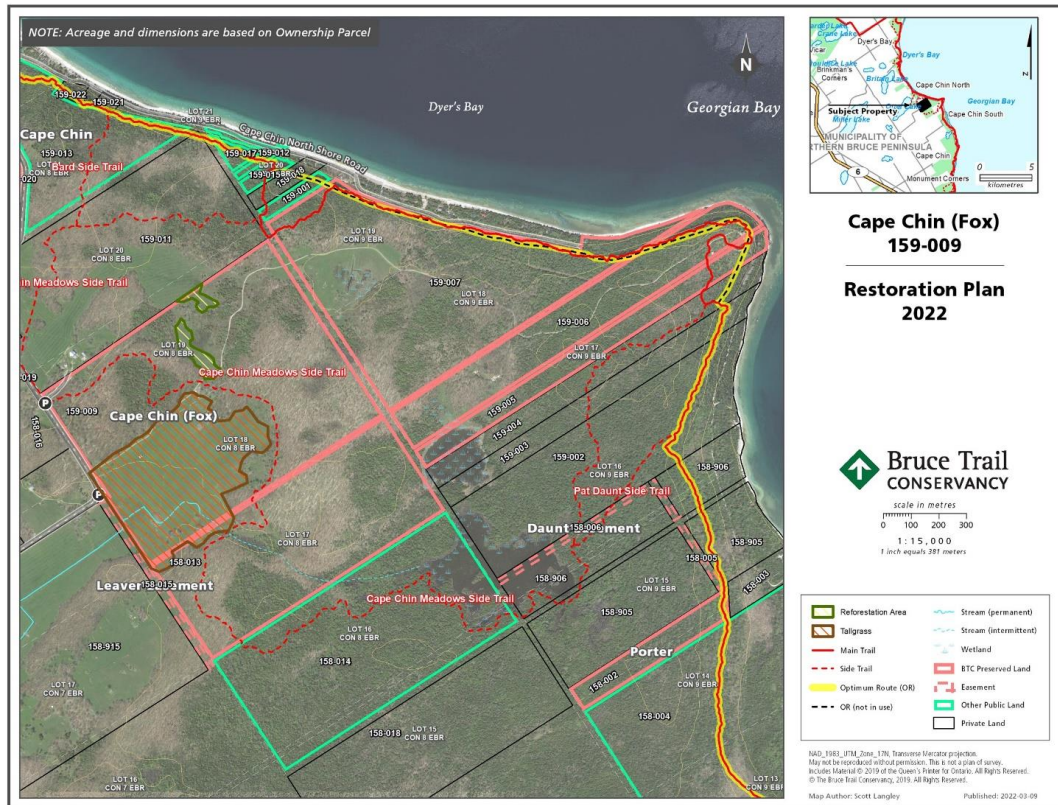


Restore and Care for Niagara Escarpment Lands

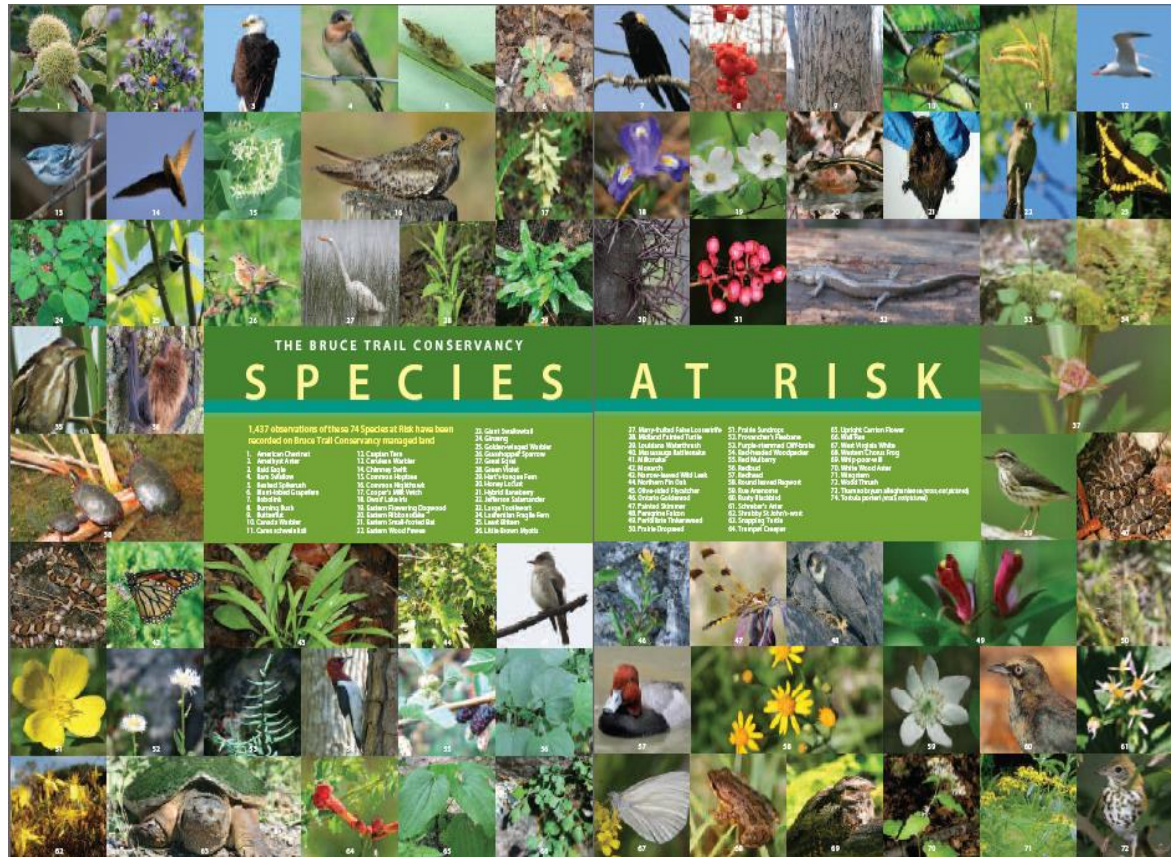
Steward and restore significant ecosystems to optimum ecological health



Employ nature-based solutions



Protect species at risk



89 species of conservation concern identified

The most abundant are:

- Butternut – Endangered
- American Hart’s Tongue Fern – Special Concern
- Bobolink – Threatened
- Eastern Meadowlark – Threatened
- Eastern Wood-pewee – Special Concern
- Wood Thrush – Threatened
- Monarch – Special Concern



Mitigate impact of invasive species



Embrace Indigenous knowledge





Collaborate with Relevant Sectors



Accommodations along the Bruce Trail

Campsite List at:

<https://brucetrail.org/explore-the-trail/>



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