



Bruce Trail  
CONSERVANCY

# All Season Tree & Shrub Identification

Thursday November 12, 2020

## 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

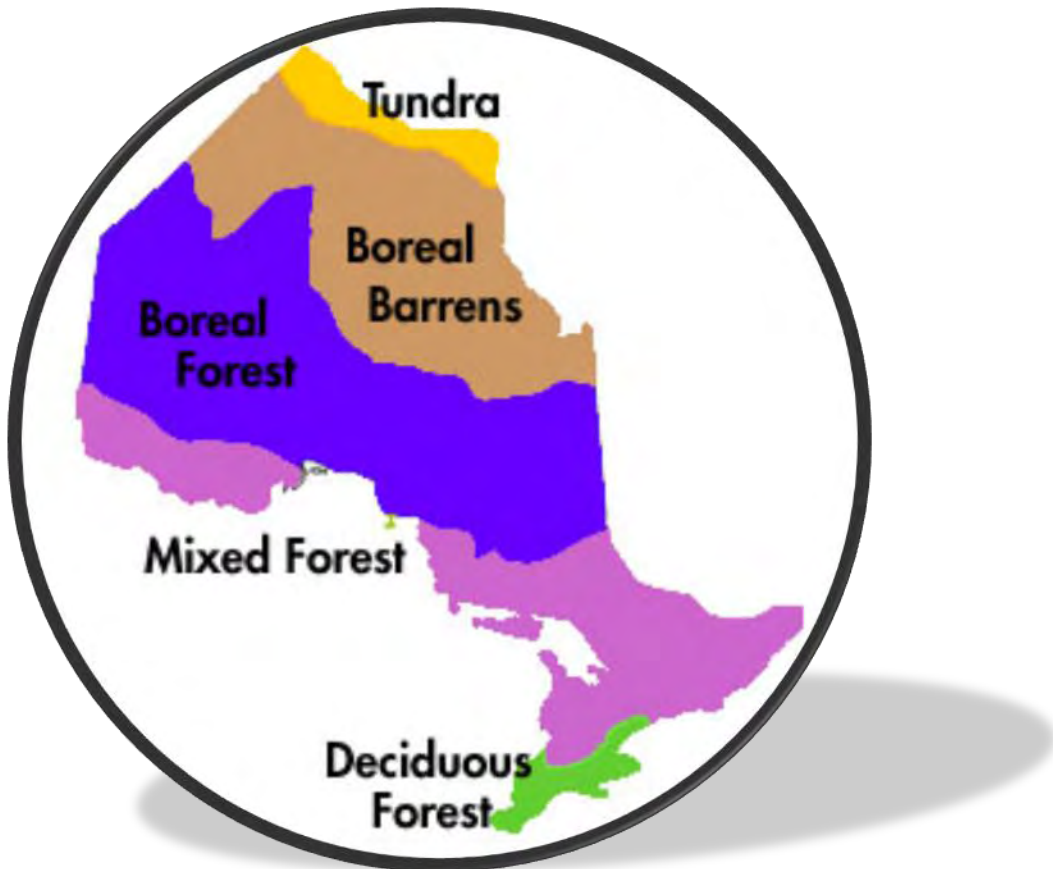


## The Niagara Escarpment

- Over 1500 species of vascular plants (including 40% of Ontario's rare flora)
- The oldest trees in Canada east of the Rocky Mountains
- Two different forest zones



## A Ribbon of Wilderness



The Bruce Trail crosses through two different Forest Zones :

### **Deciduous (Carolinian) Forest**

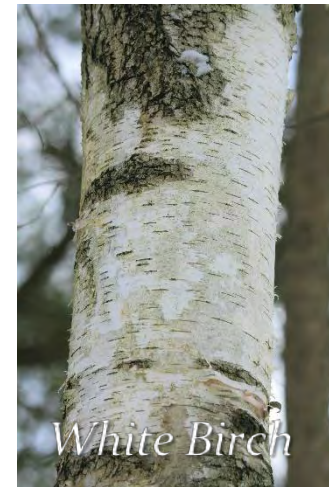
- 25% of Canada's human population in 0.25% of its area
- Has more endangered and rare species than any other life zone in Canada

### **Mixed (Great Lakes- St Lawrence) Forest**

- Second largest forest zone in Ontario
- Contains 19% of the province's forests and covers approximately 20 million hectares (~50 million acres)
- Is the transitional zone between the southern Deciduous (Carolinian) forest and the northern Boreal forest



## Deciduous Trees



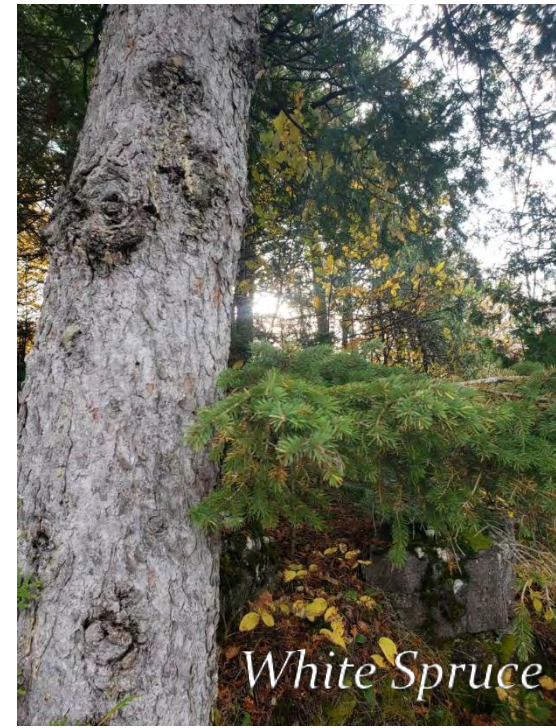
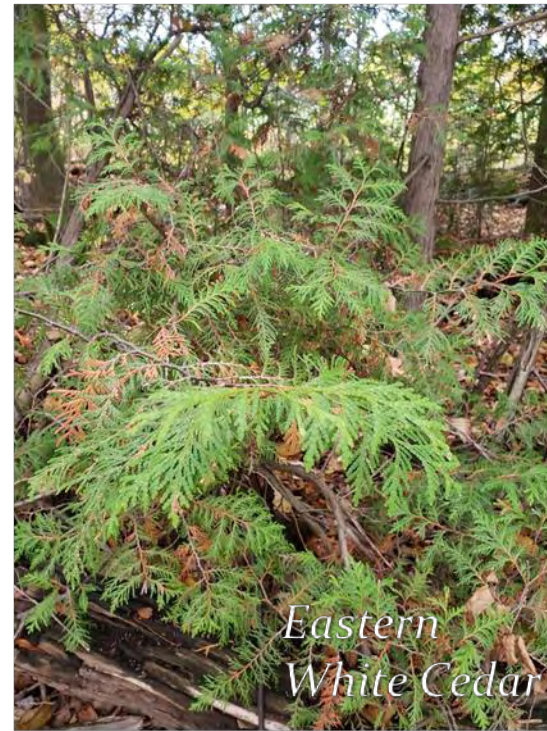


# Deciduous Carolinian Trees & Shrubs





## Coniferous Trees





## Why ID Trees?

- A name is a gateway to more information
- Learn about different habitats and ecosystems
- Assess biodiversity





## Tree terminology – leaf arrangement

**Alternate**



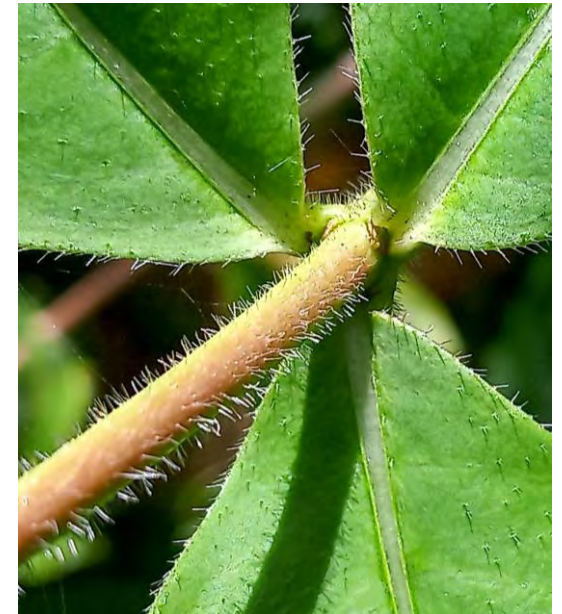
1 leaf/twig emerges from  
each point

**Opposite**



2 leaves/twigs emerge from  
each point

**Whorled**



3+ leaves/twigs emerge from  
each point



## Tree terminology – leaf edges

**Entire**



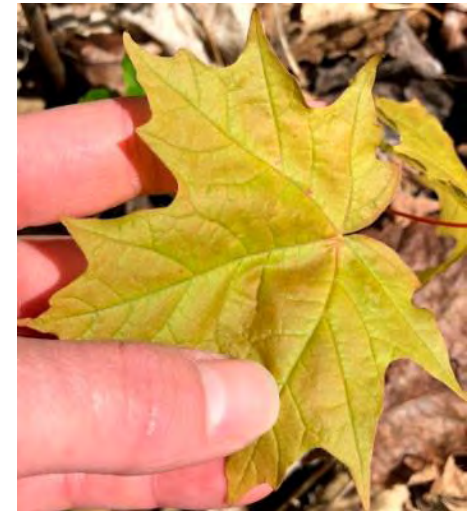
Smooth edges

**Toothed**



Jagged edges

**Lobed**



Divided into sections



## Tree terminology – leaf types

### Simple



1 leaf blade emerging from  
each bud

### Compound pinnate



Multiple leaf blades ('leaflets')  
emerging from a single bud

### palmate





## Tree terminology – needles vs. scales

**Needles**



**Scales**



## What features do we use to identify trees and shrubs?

- Leaves
- Buds
- Bark
- Flowers/Fruit
- Habitat
- Growth Form

Let's take a look at the features of some of the trees and shrubs you can find along the Bruce Trail!



## Sugar Maple (*Acer saccharum*)

Leaves: opposite, divided into 3-5 lobes

Buds: covered in brown scales

Bark: vertical ridges or plates

Fruit: maple 'keys'

Habitat: moist to dry forests

Growth Form: rounded crown

Fun Fact: used for maple syrup





## Other maples to look for:

**Silver maple**



**Red maple**



**Norway maple**



**Manitoba maple**





## American Beech (*Fagus grandifolia*)

Leaves: alternate, simple, toothed

Buds: spear-shaped

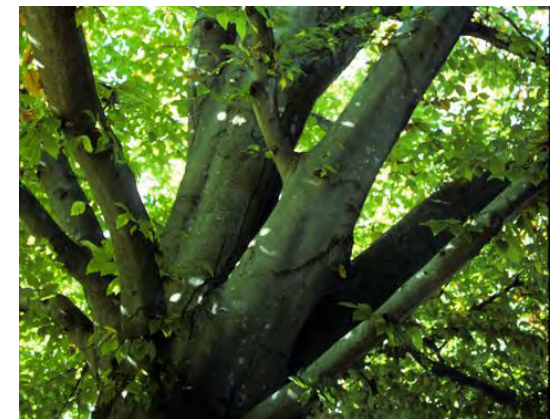
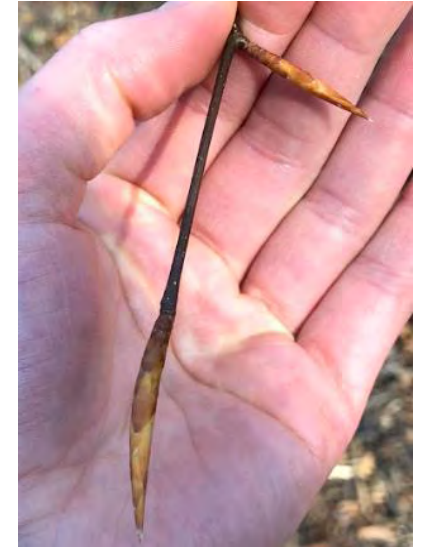
Bark: smooth, like elephant skin

Fruit: spiky 'beechnut'

Habitat: dry forest

Growth Form: oval shaped

Fun Fact: nuts provide food for wildlife







## White ash (*Fraxinus americana*)

Leaves: opposite, pinnately compound, entire

Buds: like a 'deer hoof'

Bark: diamond-shaped ridges

Fruit: winged seeds

Habitat: dry-moist woods

Growth Form: cone shaped or rounded

Fun Fact: host of the emerald ash borer



## American elm (*Ulmus americana*)

Leaves: alternate, simple, double-toothed, asymmetric

Buds: reddish brown, pointed, zigzag pattern

Bark: grey, furrowed, sometimes flaking

Fruit: seeds with papery 'wings'

Habitat: prefers full sun and moist soil

Growth Form: vase-shaped

Fun Fact: New varieties resistant to Dutch elm disease





## Basswood (*Tilia americana*)

Leaves: simple, alternate, look like asymmetrical hearts

Buds: smooth and pink-brown

Bark: long narrow ridges

Flowers/Fruit: fragrant yellow flowers, round fruit

Habitat: dry woods

Growth Form: pyramid-shaped with drooping branches

Fun Fact: inner bark traditionally used for making  
baskets & rope



Courtesy of R. W. Smith, Lady Bird  
Johnson Wildflower Center



## Black Cherry (*Prunus serotina*)

Leaves: simple, alternate, toothed, oval-shaped

Buds: covered in glossy reddish-brown scales

Bark: flaky, like 'burnt cornflakes'

Flowers/Fruit: white blossoms, fruit is a small cherry

Habitat: woods, fields and thickets

Growth Form: oval-shaped crown

Fun Fact: fruit can be used to make jam



## Trembling aspen (*Populus tremuloides*)

Leaves: alternate, toothed, triangular

Buds: pointy with red-brown scales

Bark: pale & smooth with dark ridges

Fruit: green capsules with fluffy seeds

Habitat: open, disturbed areas

Growth Form: slender with short crown

Fun Fact: can form genetically identical colonies





## Black walnut (*Juglans nigra*)

Leaves: alternate, pinnately compound with 15-23 toothed leaflets

Buds: grey & fuzzy

Bark: deep diamond-shaped furrows

Fruit: nut in a tennis ball-like casing

Habitat: open woodlands & meadows

Growth Form: open, rounded crown

Fun Fact: leaf scar looks like a 'monkey face'



## Red oak (*Quercus rubra*)

Leaves: simple, alternate, pinnately lobed with sharp tips

Buds: orange-brown scales, cluster at branch tips

Bark: gray & smooth, with vertical brown cracks

Fruit: acorns with saucer-like caps

Habitat: dry-moist woods

Growth Form: dense, rounded crown

Fun Fact: sometimes keeps leaves through the winter





## Butternut (*Juglans cinerea*)

Leaves: alternate, pinnately compound with 15-23 toothed leaflets

Buds: grey and fuzzy

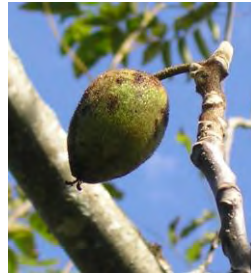
Bark: flat ridged, grey

Flowers/Fruit: sticky-hairy, egg-shaped husk

Habitat: forest openings and edges

Growth Form: open, rounded crown

Fun Fact: endangered in Ontario and Canada





## Eastern White Cedar (*Thuja occidentalis*)

Leaves: small scaly leaves cover the fan-shaped twigs

Bark: flat, narrow strips

Cones: 7 to 12 mm long and grow in clumps of 5 or 6 pairs

Habitat: forests, edges, swamps, almost everywhere

Growth Form: conical to pyramidal

Fun Fact: important food source for deer in winter



Courtesy Ryan Hodnett, Wikipedia Commons



## Eastern Hemlock (*Tsuga canadensis*)

Leaves: flat rows of needles that have two white bands on the underside

Bark: deeply furrowed with broad flat topped ridges

Cones: cones 1-2 cm attached by hairy stalk

Habitat: cool, shady, moist forests

Growth Form: conical when young, and irregular as they age

Fun Fact: not suitable for firewood because it throws off many sparks



## Balsam Fir (*Abies balsamea*)

Leaves: flat rows of needles, dark and shiny green, with two white bands underneath.

Bark: grey and smooth with raised resin blisters

Cones: barrel shaped, greyish brown and are 4 to 10 cm long

Habitat: forests, swamps

Growth Form: pyramidal

Fun Fact: favored as a Christmas tree because the needles stay on for a long time after cutting



## Eastern White Pine (*Pinus strobus*)

Leaves: long and slender in bundles of 5

Bark: grayish brown broken into scaly ridges

Cones: 8-20 cm long, spreading scales

Habitat: forests, plantations

Growth Form: columnar, pyramidal at top

Fun Fact: the provincial tree of Ontario



## White Spruce (*Picea glauca*)

Leaves: short and stiff, surround twig

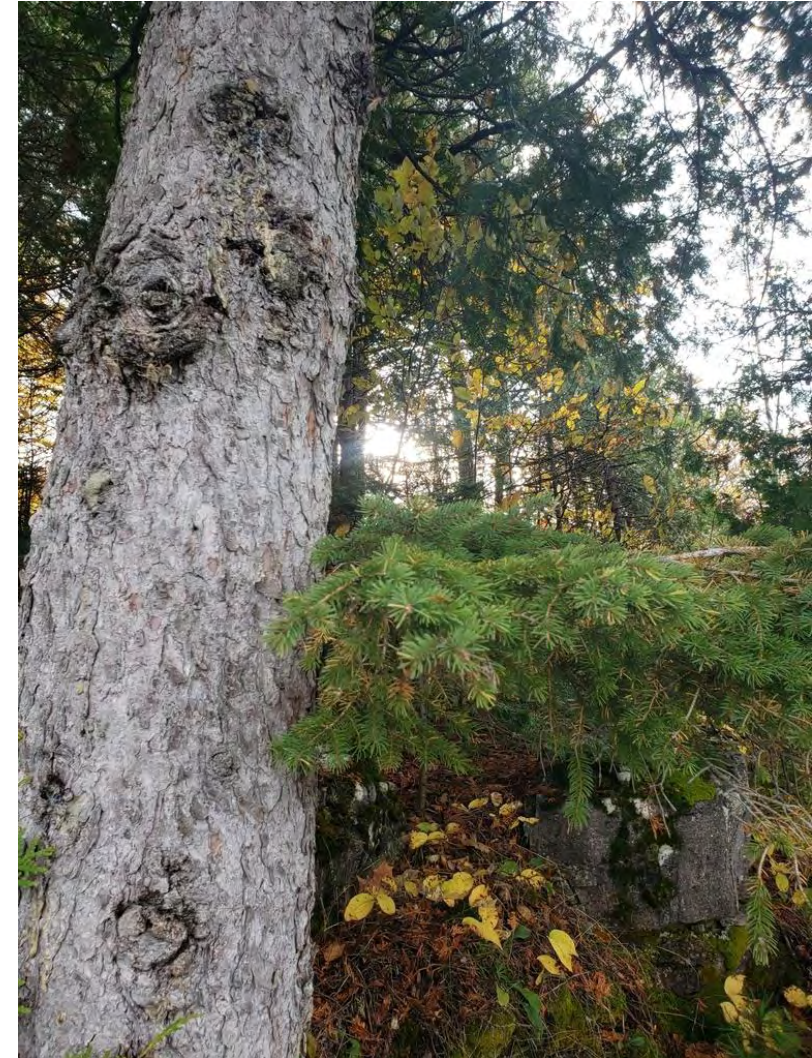
Bark: grey and scaly

Cones: 3-6 cm, cylindrical, blunt tipped

Habitat: forests, yards, plantations

Growth Form: conical becoming spire-like at top

Fun Fact: grows well in the far north and can be found along the arctic tree line





## **ID Resources:**

- iNaturalist app/website: [inaturalist.org](https://www.inaturalist.org)
- Go Botany website: [gobotany.nativeplanttrust.org](https://gobotany.nativeplanttrust.org)
- Minnesota Wildflowers website: [minnesotawildflowers.info](https://minnesotawildflowers.info)
- Trees in Canada by John Laird Farrar

# Questions?

Q - Interested in tips to identify the various spruces we see on hikes

A – Most common spruce along the trail is White Spruce. Blue Spruce is a cultivar easily identified by its blue hue to the needles. Norway Spruce is another common non-native tree identified by its branches hanging downwards and large cones.

Q - Why was red pine planted so extensively in the 50's & 60's?

A - This tree was widely planted for timber production as it grows relatively fast and used extensively as a building material.

Q - Are the plantations gradually being removed?

A - Yes and no. Timber companies still use plantations for economical reasons but many conservation organizations thin out plantations to increase biodiversity

Q - Why are there never any cherries at the base of Black Cherry Trees?

A - The small cherries are a favorite of wildlife which eat them up very quickly.



# Questions?

Q - When does a tree start growing a larger trunk? There are lots of "young" spindly and very tall trees (maple, beech, etc) and they're so skinny. When do they start "thickening"?

A - Each tree has its own growth factor so they start to thicken at different ages for each species. Each year they do thicken but its not easily noticed. It takes years for a tree to begin to look thick.

Q - What is the correct name for Cedar "fronds"? They aren't leaves. So what are they called?

A - As a matter of fact many publications and ecologists do refer to them as leaves. They are also referred to as scales.

Q - How many types of oak are there, how to tell apart and are they everywhere along the trail?

A – In Ontario there are 10 species of native oak tree. These are: Black Oak (*Quercus velutina*), Bur Oak (*Quercus macrocarpa*), Chinquapin Oak (*Quercus muehlenbergii*), Dwarf Chinquapin Oak (*Quercus prinoides*), Hill's Oak (*Quercus ellipsoidalis*), Pin Oak (*Quercus palustris*), Red Oak (*Quercus rubra*), Shumard Oak (*Quercus shumardii*), Swamp White Oak (*Quercus bicolor*), White Oak (*Quercus alba*). The most common species that we see along the Bruce Trail are Red Oak, White Oak and Bur Oak.





# Questions?

Q - Can black spots on Maple leaves kill the tree?

A – No. These spots are the result of a fungus that only attacks the invasive Norway Maple. It may look unsightly but it does not affect the health of the tree. Raking all of your leaves in the fall will help to prevent them from returning.


## MISSION


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## VISION

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[brucetrail.org](http://brucetrail.org)

 [TheBruceTrailConservancy](https://www.facebook.com/TheBruceTrailConservancy)

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Rated top environmental  
charity in Canada for 2020  
by Maclean's