

Tree Species at Risk

Carolinian Forest Zone, St. Clair Region

The Sydenham River is the only river in Canada contained wholly within the Carolinian Zone. This has made the region incredibly rich and diverse in species including many of Ontario's Species at Risk.

The S.C.R.C.A. owns or manages over 1800 hectares of land across the region. S.C.R.C.A. employees also approached the Counties of Lambton and Middlesex, and the Municipality of Southwest Middlesex about including some of their properties in the inventory and Ausable Bayfield requested 2 of their properties be included. Staff surveyed approximately 700ha in 63 Vegetation Management Units on 35 properties. At least one specimen of the six SAR species was found in 63 of the Vegetation Management Units on 32 of the properties.

American Chestnut - Endangered

Butternut - Endangered

Kentucky Coffee Tree - Threatened

Dwarf Hackberry - Threatened

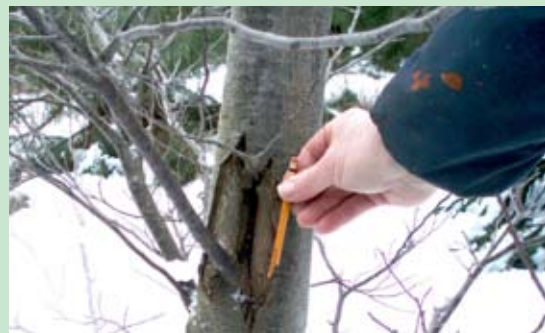
Shumard Oak - Special Concern

Blue Ash - Special Concern

The good news is that of the 20 American Chestnuts planted by the S.C.R.C.A. in 1999, 17 are alive and only one appears to suffer from the blight.

How to Identify an American Chestnut

A healthy tree with proper conditions can grow to be 30 meters tall with smooth dark grey-brown bark that fissures



A canker like the one shown above is a sign of chestnut blight

American Chestnut - *Castanea dentate*

This native Tree is a member of the beech family. Used historically by First Nations People and many forest vertebrates as a staple food source, the American chestnut once made up approximately 25% of the tree population East of the Mississippi before settlement. The introduction of chestnut blight (*Cryphonectria parasitica*) however in 1904 has almost wiped out this once dominate species. The blight is still a problem today.

This species was only growing naturally on properties owned by the County of Middlesex and the Municipality of South West Middlesex and everything larger than 10cm DBH (diameter at breast height) had chestnut blight or was already dead.

with age. The leaves are 14-20cm long and 5-10cm wide, alternate and simple with long tapered tips and base and widely spaced teeth along the margins of the leaf. It is most commonly confused with the non- native Chinese chestnut that has been planted as a replacement tree.

Endangered - Faces imminent extirpation or extinction

Threatened - Likely to become endangered if limiting factors don't change

Special Concern - May become a threatened or endangered species because of a combination of biological characteristics and identified threats



Picture of chestnut blight, causing the bark to fall from the limbs and trunk

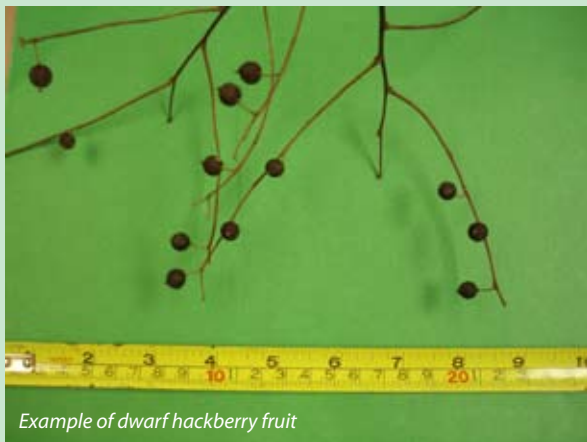
Dwarf Hackberry - *Celtis tenuifolia*

This species does not actually occur within the St. Clair Region Conservation Authority's area of Jurisdiction. It does however occur on property owned by the County of Lambton and under management by the S.C.R.C.A. The Ausable Bayfield Conservation Authority (A.B.C.A.) also requested that staff inspect their L Lake Management Area and Thedford Conservation Area properties. What is most intriguing about dwarf hackberry is that it occurs along Lake Erie and the shoreline of Lake Huron and the north shore of Lake Ontario but not in the interior between the lakes - even though there are site conditions which seem quite similar. It was encouraging that the surveyors found over 11,000 stems on the three properties. The status report of 1983 for the species only found a total for Canada of about 893 stems on the three populations.

Dwarf Hackberry is an important host plant for butterflies and insects including several rare insects and beetles that depend on it for their life cycles. The bark beetle is one of the above mentioned however it causes mortality to the shrub.

How to Identify

Dwarf Hackberry is a small scrubby shrub in the Elm family. While it normally grows between 1 and 4 meters in height it can reach up to 10 meters. The twigs are stiff and its leathery leaves are small and toothed with 3 distinct veins. The orange-brown fruit remains on the plant year round and is edible.



Example of dwarf hackberry fruit



Large dwarf hackberry trunk

Shumard Oak - *Quercus shumardii*

Although this member of the Oak family is thought to be reasonably common on the Lambton clay plain it was only positively identified on two properties owned by the S.C.R.C.A.

Most of the Shumard Oak found during the survey by the S.C.R.C.A. were quite large exhibiting flared butts and epicormic branches. Smaller ones could not be positively identified in the winter conditions when the survey was conducted. If there are few or no small Shumard oak being regenerated and its existence as a species may be in jeopardy.

How to Identify

Commonly confused with red oak, the best way to tell them apart is a comparison of the lobes. The lobes of the Shumard will be deeper than that of the Red oak. Trees generally hold their leaves longer into the fall than other oaks. Shumard Oak prefers to grow in moist soils, and can grow well close to water and in swampy areas.



shumard oak leaf
source: www.bashamlandscape.com



red oak leaf
source: imfc.cfl.scf.mcan.gc.ca

Butternut - *Juglans cinerea*

A member of the walnut family butternut was never a very common species in the St. Clair Region. A combination of light and soils requirements make it more difficult to grow than walnut and was often overlooked when planting. It is generally found on well drained soils and in river valleys in this region.

During the 1960s, some residents in this area noticed many of the butternut dying. Today there are very few butternuts to be found in the region. The main reason for the decline is butternut canker (clavignenti - juglandacearum) which infects an estimated 90% of butternut trees in North America.

A total of 33 trees were inventoried on seven Authority owned properties. 25 of those were growing naturally, while the other 8 were planted. Only 2 of the trees had no signs of butternut canker

How to Identify Butternut

It is a small to medium sized tree rarely over 30 meters in height or 90cm in diameter. The bark is smooth and grey on young trees and irregularly ridged on older trees. The leaves are opposite and compound with 11 to 17 leaflets.



Sign of butternut canker



The leaf of the butternut can sometimes be confused with ash species. Notice the stalks are almost non-existent.

Source www.mntca.org

Kentucky coffee tree - *Gymnocladus dioicus*

The scientific name of this tree, *Gymnocladus dioicus*, means 'naked branch' due to the fact it spends up to 9 months of the year with no leaves.

How to Identify

The leaves when they do appear in late spring are the largest of any leaf in Canada. They grow up to 1 meter in length and 60cm in width and have 40 or more alternate leaflets per stem with no terminal leaflet, Kentucky coffee is a member of the bean family and it is said early settlers would use the seeds as a coffee substitute. However this is not recommended as the seed contains a poisonous substance.

The most northerly natural stands of this species appear to be located on the Sydenham River Valley. Like blue ash it is a species associated with stream valleys and was probably greatly reduced in numbers because this was the first land cleared for agriculture. All of the stands on public land in this Authority are located in the river floodplain although two other stands on private lands in the St Clair Region are not in the floodplain of any stream.

The main restricting factor with Kentucky coffee tree is the species' reproductive biology. Individual trees produce either male or female flowers, rarely both, and in order for fertile seeds to be produced, pollen from flowers on male trees must be transported to flowers on female trees by insects. With so few trees in such a widely dispersed area, reproduction is almost impossible. At present there are only 35 natural occurrences of Kentucky coffee-trees recorded in Ontario by the Natural Heritage Information Center (NHIC). Of those, 11 occur on the Sydenham River floodplain. Four of these sites are owned by the S.C.R.C.A. and one by the Municipality of Southwest Middlesex. The S.C.R.C.A. has also planted Kentucky coffee-trees on eight of its properties. Of the eight properties owned by the S.C.R.C.A. where Kentucky coffee-trees have been planted, two are producing fruit with seed, of the five sites where Kentucky coffee-trees are naturally occurring, two are producing fruit. However the fruit that was collected carried no seed.



Kentucky coffee tree 'pods' or 'beans'

Blue Ash - *Fraxinus quadrangulata*

This member of the Olive family was the most common on the S.C.R.C.A. properties partially because of the nature of the lands (mostly floodplains). Natural stands of blue ash in Canada seem to have been confined to extreme Southwestern Ontario. In the Thames and Sydenham river watersheds it is almost always found in river and major creek valleys or in woodlots adjacent to those valleys. Although the natural sites where it is located are limited it seems to thrive well when planted on a variety of sites. One of the reasons it may appear rarer than it actually is, because many people confuse it with other ash species. The regeneration of Blue Ash is promising with some sites having as many as 38,000 saplings.

The main threat to Blue Ash is the lack of suitable habitat and the continued threat of Emerald Ash Borer. While Emerald Ash Borer does not currently appear to be affecting the Blue Ash the threat is still there.

How to Identify Blue Ash

Blue Ash grows tall and straight with a narrow crown and reaches heights of up to 20 meters. The leaves are opposite and compound with 5 to 11 leaflets per stem. The underside of the leaf is lighter than the top. The main identification features for this species are its twigs, while other Ash species have round twigs the blue Ash's are square or 'four sided'



Grove of blue ash



Surveying a blue ash

St. Clair Region Conservation Authority would like to thank the following for their participation and assistance with this program:

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County of Middlesex
Municipality of Southwest Middlesex
Ausable – Bayfield Conservation Authority
Employment Ontario
County of Lambton

What's next?

St. Clair Region Conservation Authority plans to continue working on a 'woodland species at risk' program in 2008-2009 that will include plants, mammals, birds, insects and fungi.



Karner blue butterfly
Source of photo www.nweco.com



Prothonotary Warbler (source of photo www.northalabamabirdingtrail.com)

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