



The Great Lakes Forestry Centre Arboretum

An arboretum is a collection of trees, identified and labeled as to species, to provide enjoyment, relaxation, and education. The labels allow visitors to identify the many species of trees they encounter in the arboretum and to use the collection as a reference when making comparisons with trees in other locations. The Great Lakes Forestry Centre's (GLFC) arboretum also provides foliage for insect rearing and plant material for experimental purposes.



DEVELOPMENT OF THE GLFC ARBORETUM

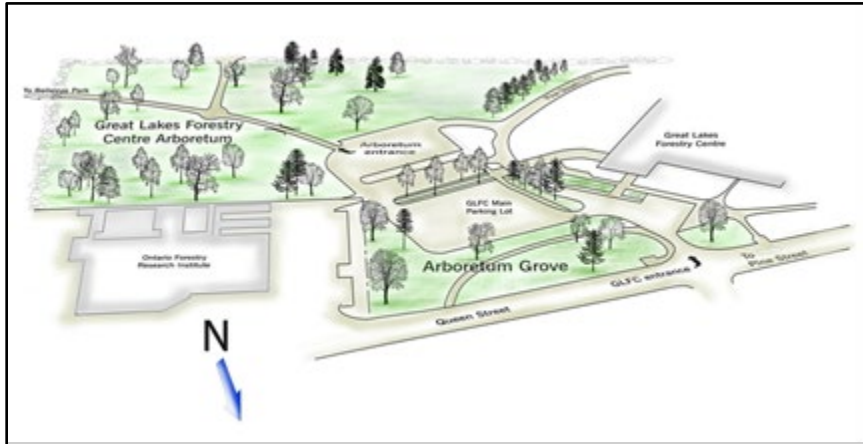
Plans for an arboretum began in the early 1970s, when the Canadian Forest Service built a new research facility. At that time, the federal government research facilities consisted of the Insect Pathology Research Institute's Cameron Building (known locally as "The Bug Lab") at the current site, the Great Lakes Forestry Centre's regional building, a number of Quonset portable buildings on the river bank, and the entomology laboratories at Church Street.

The original concept was to assemble as large a collection of native trees of Canada as local climate and available space would allow. However, the scope of the plan was broadened to include exotic, or non-native, species to provide an experimental showcase of plant material available and suitable for ornamental use in this particular plant zone. A grove of existing trees, with a species composition of mature white elm (*Ulmus americana* L.), northern red ash, (*Fraxinus pennsylvanica* Marsh.) and balsam poplar, (*Populus balsamifera* L.) were the only trees on the site.

The soil in the arboretum was a heavy clay that was seasonally flooded by water from the St. Mary's River. The site was filled using materials left over from various excavations around the city prior to 1950, such as asphalt, concrete, sandstone. These conditions were not conducive to good plant growth, so topsoil was brought in for the planting holes when trees were planted and site amendments were carried out.

Whenever possible, planting was carried out in the spring to allow the maximum length of time for root development and the accumulation of nutrient reserves in the tree before leaf drop, dormancy and freeze up. A hedge, comprised of a variety of native and exotic shrub species was planted to define the arboretum area.

THE ARBORETUM SITE



TAKE A TOUR OF THE ARBORETUM



HOW TO GET TO THE ARBORETUM

Walk east from the main entrance of the forestry centre to map stop #1. This is the main entrance to the arboretum.

STOP #1: THE ENTRANCE SIGN

At the entrance, mugo pine and emerald cedar have been planted and you will see eastern redcedar, western redcedar and yellow-cedar nearby. Welcome to the arboretum, we hope that you will enjoy the tour.



STOP #2: DEDICATION GROVE

Now walk south from Stop#1 towards the St. Mary's River to get to Stop#2. The most prominent element at this stop is the sandstone boulder with a plaque attached which dedicates the arboretum to Dave Kennington, who was instrumental in the development and maintenance of the arboretum. Nearby, a sugar maple was planted commemorating the 100th anniversary of the Canadian Forest Service, which was celebrated in 1999. It is hoped that this tree will still be here for the 200th anniversary to provide enjoyment and shade for future generations of visitors.



You will also notice other trees in this grove that have been dedicated to former staff at GLFC and important events. A bench has been placed in the spruce grove in memory of Tony Silc who passed away in 1982. A white pine was also planted in memory of Peter de Groot, an entomologist from GLFC who passed away in 2011. This tree has been dubbed "Peter's pine". Another tree, closer to the parking lot, is a swamp white oak, which has been dubbed "Gary's oak" and was dedicated to Gary Grant, a scientist who passed away in 2011. In 2012 a sugar maple was planted to mark the 100th anniversary of the City of Sault Ste. Marie. Approximately 150 metres to the west of the main arboretum there is also a bench and a Freeman maple (hybrid red X silver maple) tree that was planted in memory of John Graham from Fisheries and Oceans Canada who passed away in 2011.

STOP #3: THE BRIDGE

Proceeding down the path towards Bellevue Park, you will come to a wooden bridge, which is a popular setting for wedding photography during summer months.



STOP #4: ARBORETUM CENTRE

A few metres further along the path, you will be in the centre of the arboretum. From this point, it is possible to see black cherry; ironwood; little-leaf linden; chinquapin, white and black oak; laurel-leaf and weeping willow; Colorado blue spruce; red maple; and basswood.



STOP #5: THE SANDSTONE ROCK GARDEN

On the north side of the path you will find sandstone slabs that were unearthed during the planting hole excavations. The shrub bed at this stop is made up of exotic plants including Euonymus, Potentilla, smoke tree, royal purple smoke tree and forsythia.



STOP #6: THE BLACK ASH TREE



From Stop #5, take the branch path towards the river. Just before the end of the path, look to your left and you will see a group of three ash trees, easily recognized by their compound leaves. It is one of our native trees and has a range that extends from eastern Manitoba to Newfoundland. Native peoples have long made baskets from this species by pounding a block of its wood when it is thoroughly wet until the annual growth rings separate into slats fine enough to weave. Beautifully intricate baskets are still made this way, and are sometimes available from local native craft outlets throughout northern Ontario.

STOP #7: THE GINKGO TREE



Head back towards the Sandstone Garden (Stop # 5) and turn to your right on the path and walk three metres towards Bellevue Park. About three metres from the path on the north side is a sapling stage tree that is a long way from home: the Ginkgo, or Maiden hair tree of China. *Ginkgo biloba* is the only known tree of its genus, and was unknown to European botanists until 1690, when it was discovered by a surgeon employed by the Dutch East India Company. The Ginkgo is sacred in many Asian countries and is often found planted in the grounds of Buddhist temples and palaces in China, Manchuria, Korea and Japan. In fact, it may owe its present day existence to the Buddhist belief in its sacred significance, and the traditional temple plantings of this species. There are no known truly wild specimens of Ginkgo to be found in its native China, indicating that temple cultivation may have saved this species from extinction.

Ginkgo is also thought to have a number of medicinal properties, the best known of which are the improvement of blood circulation and improvement of memory. The roasted seeds, when eaten, are thought to aid digestion, and according to Buddhist monks, diminish the effects of drinking wine. Ginkgo tea is, by tradition, said to be good for nervous disorders.

STOP #8: THE CATALPA TREE

From stop #7, walk towards Queen Street looking to the right for a bush with large, heart-shaped leaves. This tree is the Catalpa, *C. speciosa* Warder. The Catalpa is not truly hardy enough for successful establishment in this plant zone, and the shrub-like form of this specimen is the result of the almost annual freezing damage. In southern Ontario, the Catalpa grows in a truer tree form than the individual seen here, and will produce a single, branchless stem. Its orchid-like flowers make it a spectacular addition to any garden.



Flowers usually appear in late June or early July. Very few seed pods have been produced by this tree to date, but if you look carefully a few weeks after flowering has finished, you may see some of the long green seed pods that give Catalpa one of its common names, Indian bean.

STOP #9: EASTERN HEMLOCK

To reach Stop #9, walk towards Queen Street, parallel to the hedge on your right. The eastern hemlock was once a commercially important species due to the high tannin content of its bark. This graceful tree is very shade tolerant, and because of its leaf form and branching habit, can support greater amounts of snow than any other eastern Canadian tree species.



This attribute makes it important to wildlife, especially white-tailed deer. The deer will gather in large groups, known as deer yards, in an area of dense evergreen trees when extreme cold and deep snow threaten their survival. The canopies formed by evergreens, particularly stands containing a high proportion of eastern hemlock, intercept as much as sixty percent of each snowfall, providing an insulating blanket overhead with an area of shallow snow beneath.

STOP #10: SANDSTONE BOULDERS

Continue towards Queen Street through the grove of mixed pines and turn to your left. Just beyond the group of white pine (Ontario's official provincial tree), you will see three large boulders. These are fragments of Paleozoic Cambrian sandstone that were uncovered during construction excavations for the Ontario Forest Research Institute. They may not have originated on this site but are of interest because they are part of the Jacobsville Formation, which underlays the Sault Ste. Marie area.



The excavation of the Sault Locks provided much of the sandstone used in the construction of some of the most historically important buildings in Sault Ste. Marie, including Precious Blood Cathedral, St. Luke's Cathedral, the Sault Ste. Marie Museum, and Mill Market Square. Unquarried sandstone was also used in the building of Charles Ermatinger's home and fur trading post, the Old Stone House, (built in 1840, the oldest stone building west of Toronto), and the Bishop Fauquier Memorial Chapel at Algoma University.


STOP #11: THE ARBORETUM GROVE

The Arboretum grove is comprised of trees that were on site at the time of the construction of GLFC. The oldest and largest trees in the stand are the white elms. Precautions were taken to prevent Dutch elm disease, using a chemical injection system developed and patented by GLFC scientists. However, the grove has seen the loss of a number of large white elm trees in recent years. As a result, in 2017 new species of trees were planted to diversify the tree cover in this area, including shagbark hickory, bitternut hickory and black maple. Treatment and monitoring of the white elm will continue in efforts to preserve this species of tree in the arboretum.

TREE AND SHRUB SPECIES IN THE ARBORETUM

Plant material was obtained by collection from the wild, by rooting cuttings from various plant sources, by producing plants from seed, and by purchase from commercial nursery sources. The Ontario Ministry of Natural Resources and Forestry also provided a number of both native and non-native species from provincial government nurseries in St. Williams and Midhurst, Ontario. Some individuals also donated plant material from their own nurseries and properties.

The first tree planted was a red maple (*Acer rubrum* L.) on 2 May 1978 - Arbor Day. During that same spring, thirty trees, representing ten species, were planted in groups of three trees of each species.



Additions to the collection have continued up to the present day, but the most recent additions have been planted as single specimens. The arboretum now includes close to ninety species of trees representing thirty-two genera.

In 2017, the Grounds Committee initiated a major renewal effort to maintain the tree canopy, which included the grove and the arboretum. As a result, 60 trees were planted, representing 16 new species. Through a generous donation of seedlings from a nursery in northern British Columbia, the arboretum added whitebark pine, western redcedar, yellow-cedar, amabilis fir and subalpine fir. Seedlings of limber pine and Rocky Mountain Douglas Fir were planted in the dedication grove. With these additions, the arboretum now has 10 species of trees from western Canada.

SPECIES IDENTIFICATION

Identification plaques are attached to sandstone blocks beside one representative of each species planted in the arboretum. Each plaque gives the botanical (scientific) name and the common name of the tree in English and French. The book: *Trees in Canada* (1995) was used as the nomenclature authority for native species.