TREES FOR A CHANGING WORLD

While it's important to continue working to control climate change, we now face a warming climate and more frequent extremes of weather. With this in mind, a broader range of species may thrive in the Lower Thames Valley, including those native to southwestern Ontario. These are known as Carolinian forest species.

You can improve the chance of success with these trees by selecting planting sites that are protected from bitter winter winds.

SHORT TREES (3 – 8 m)

Common Name	**Redbud**	**Hoptree**
Latin Name	Cercis canadensis	Ptelea trifoliata
Height x Width	6 x 8 m	6 x 8 m
Soil	Loam	Loam
Moisture	Medium	Medium
Sun	Sun, Part Shade	Sun, Part Shade
Comments	Pink blossoms in spring	

MEDIUM TREES (9 – 16 m)

Common Name	**Pin Oak**	**Kentucky Coffee Tree**	**Chinquapin Oak**
Latin Name	Quercus palustris	Gymnocladus dioicus	Quercus muehlenbergii
Height x Width	15 x 12 m	16 x 12 m	15 x 15 m
Soil	Loam, Clay	Sand, Loam	Loam
Moisture	Medium, Wet	Dry, Medium, Wet	Medium
Sun	Sun	Sun	Sun
Comments	Needs acid soil	Pollution tolerant	Needs alkaline soil

TALL TREES (17+ m)

Common Name	**Swamp White Oak**	**Tulip Tree**	**American Sycamore**
Latin Name	Quercus bicolor	Liriodendron tulipifera	Platanus occidentalis
Height x Width	20 x 20 m	30 x 15 m	25 x 20 m
Soil	Loam, Clay	Loam	Loam
Moisture	Dry, Medium, Wet	Medium	Medium
Sun	Sun, Part Shade	Sun	Sun, Part Shade
Comments		Yellow flowers in spring	Attractive peeling bark

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– Lower Thames Valley Conservation Authority

LANDSCAPE

Choosing the Right Tree

in the Lower Thames Watershed

Are you thinking about planting trees?

Whether you wish to beautify your property, provide shade or food, purify the air or attract birds, the first step is selecting the right kind of tree to suit your needs and site conditions.

Like people, trees are particular about the living conditions around them. Some can withstand a fair amount of stress, while others are more delicate and need good soil, adequate water and lots of sun. City life can be especially difficult for trees due to compacted soils, limited growing space and pollutants such as road salt and smog. Wise tree selection means finding a variety that will thrive in the conditions in your yard while fitting in comfortably with the natural ecology of the region.

Consider trees that are native to our region. They have evolved complex links with other living things, and have adapted to local soils and climate. Be sure to avoid any invasive exotic species, which can damage natural areas and destroy biodiversity.

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Selecting a Planting Site

The more you know about your site, the easier it is to select a tree that will thrive there. Is your soil heavy clay that gets soggy in spring and then dries rock-hard later in summer? Do you have sandy soil that dries out very quickly? Are you in a new subdivision with only a few inches of topsoil over compacted hardpan? Is your site mostly sunny or shady? Is it windy or sheltered?

Soil, moisture, sun and exposure are all factors that affect how a tree will grow. In addition, built features such as overhead wires, pavement, underground services, buildings and fences can reduce the growing space, and lead to future problems.

Consider these general guidelines:

- Avoid planting trees under overhead wires, minimum set back 20 ft or 6 m. If unavoidable, select species that will not grow tall, or choose shrubs instead of trees.
- Minimum set back from road center 33 ft or 10 m from roadways, sidewalks and buildings. Allow at least 10 ft. from paved surfaces or buildings.
- Avoid planting in boulevards (the space between roads and sidewalks).
- Consider planting broad leaf trees on the south or west side of buildings to provide cooling summer shade, and warming winter sun.
- Plant beyond dripline of existing mature trees.
- Don't plant near underground services. Call the number to request locates for underground services and allow 30 days prior to planting:

Ontario One Call • 1-800-400-2255

Once you have selected a promising location, use the information on the following pages to find which trees are best suited to your site.

Best Management Practices for Tree Survival

Handling
It is best to plant trees as soon as you receive them, however, this cannot always be done. Cool dark conditions are ideal for tree storage.

Roots should be moist and in a moist substrate such as shredded news paper or wood chips. Roots should be sealed in a bag to retain moisture, but avoid prolonged storage in sealed bags.

Planting Methods
The tree should not be planted too deep or too shallow. This can cause stem rot. The root collar (where the stem turns to roots) should be at the finished surface.
Good soil to root contact is important. Roots should be heeled for best contact.

Watering immediately after planting is ideal to remove unwanted air space in the soil around the roots. This cannot always be done with large, remote plantations.

Site Maintenance
Plantations should be prepared by tilling and then seeding a low growing cover crop such as legume crops or native wildflowers.

After trees have been planted in the site, rows should be band sprayed with simizine to deter weed seed germination.

Mowing between rows should be done 2 to 4 times per year to keep weeds at bay and devote maximum nutrients and water to the tree.

An alternative to cover cropping is tilling between rows. An alternative to spraying tree rows is mulching. Mulching is effective at holding moisture and suppressing weeds. Mulching should be done a minimum of twice a year.

The main idea is to eliminate competition so the trees can develop at the maximum rate. After 3 to 4 years the trees should be well enough established to continue on their own.

TREES FOR DIFFICULT SITES

If you wish to plant a tree near a roadway, or if you live in a new subdivision, you will need to choose a variety that can tolerate stressful conditions. Along roadways, trees are exposed to road salt, air pollution, compacted soil and pavement in the rooting zone. Most modern subdivisions have shallow topsoil and very compacted subsoil. Only the toughest trees can survive on these sites.

These trees are most likely to grow on difficult sites. They include hardy native species as well as non-invasive exotics.

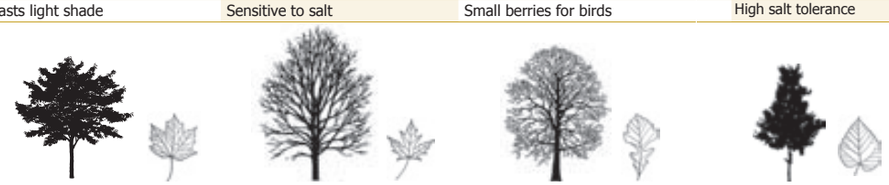
SHORT TREES (3 – 8 m)

Common Name	Serviceberry	Flowering Crabapple
Latin Name	Amelanchier sp	Malus sp.
Height x Width	8 x 3 m	7 x 7 m
Soil	Sand, Loam	Loam, Clay
Moisture	Dry, Medium, Wet	Dry, Medium
Sun	Sun, Part Shade, Shade	Sun, Part Shade
Comments	First tree to bloom in spring	Non-invasive exotic tree

MEDIUM TREES (9 – 16 m)

Common Name	Honeylocust	Ironwood	Hackberry	Colorado Blue Spruce
Latin Name	Gleditsia triacanthos	Ostrya virginiana	Celtis occidentalis	Picea pungens Engeim
Height x Width	16 x 10 m	12 x 8 m	16 x 15 m	50 x 7 m
Soil	Sand, Loam, Clay	Sand, Loam	Sand, Loam, Clay	Sand, Loam, Clay
Moisture	Dry, Medium, Wet	Dry, Medium	Dry. Medium. Wet	Medium, Wet
Sun	Sun	Part Shade, Shade	Sun, Part Shade	Sun
Comments	Casts light shade	Sensitive to salt	Small berries for birds	High salt tolerance

TALL TREES (17+ m)



Common Name	Freeman Maple	Silver Maple	Bur Oak	Basswood 'Redmond'
Latin Name	Acer x freemanii	Acer saccharinum	Quercus macrocarpa	Tilia americana 'Redmond'
Height x Width	17 x 12 m	25 x 16 m	20 x 20 m	17 x 20 m
Soil	Sand, Loam, Clay	Loam, Clay	Sand, Loam, Clay	Loam, Clay
Moisture	Dry, Medium, Wet	Dry, Medium, Wet	Dry, Medium	Medium, Wet
Sun	Sun	Sun	Sun	Sun, Part Shade
Comments	Hybrid of native red and silver maples	Fast-growing tree	Long-lived tree	Pyramidal shape

Note: Species of ash (Fraxlnus sp.), notably white and green ash, have been excellent choices for planting In the C-K area for many years. They are not included In this list due to uncertain Impacts of the Emerald Ash Borer, a devastating exotic insect that feeds on ash trees.

TREES FOR TREE-FRIENDLY SITES

Backyards are often more tree-friendly, with fewer pollutants and underground services, and deeper and richer soil. These are beautiful, but more sensitive trees that will thrive in the Lower Thames Valley sites with good growing conditions.

SHORT TREES (3 – 8 m)

Common Name	Nannyberry	Buttonbush	Pagoda Dogwood	Arrowwood	Common Elderberry
Latin Name	Viburnum lentago	Cephalanthus occidentalis	Cornus alternifolia	Viburnum dentatum	Sambucus canadensis
Height x Width	6 x 3 m	4 x 3 m	5 x 7 m	3 x 2 m	4 x 4 m
Soil	Sand, Loam, Clay	Sand, Loam, Clay	Loam, Clay	Loam, Clay	Loam, Clay
Moisture	Dry, Medium, Wet	Medium, Wet	Medium	Medium, Wet	Dry, Medium, Wet
Sun	Sun, Part Shade	Sun, Part Shade	Part Shade, Shade	Sun	Sun, Part Shade
Comments	Edible fruit	Wildlife food source	Blue berries	Ornamental bush	Edible fruit

MEDIUM TREES (9 – 16 m)

Common Name	Blue Beech	White Cedar	Ohio Buckeye
Latin Name	Carpinus caroliniana	Thuja occidentalis	Aesculus glabra
Height x Width	9 x 8 m	12 x 3 m	15 x 10 m
Soil	Loam, Clay	Loam, Clay	Loam, Clay
Moisture	Medium, Wet	Dry, Medium, Wet	Medium
Sun	Part Shade, Shade	Sun, Part Shade	Sun
Comments	Bark like muscles	Sacred to Ojibwa	

TALL TREES (17+ m)

Common Name	White Birch	Black Walnut	White Spruce	American Beech	Sugar Maple	White Pine
Latin Name	Betula papyrifera	Juglans nigra	Picea glauca	Fagus grandifolia	Acer saccharum	Pinus strobus
Height x Width	20 x 10 m	30 x 18 m	25 x 5 m	25 x 20 m	30 x 15 m	30 x 10 m
Soil	Loam, Clay	Loam, Clay	Sand, Loam	Loam	Loam	Sand, Loam
Moisture	Medium, Wet	Medium	Dry, Medium	Medium	Medium	Dry, Medium
Sun	Sun	Sun	Sun	Sun, Pt Shade, Shade	Sun, Pt Shade, Shade	Sun
Comments	White papery bark			Edible nuts	Brilliant fall colour	Tree of Ontario

Common Name	Black Cherry	Red Oak	Eastern Hemlock	Tamarack	Bitternut Hickory
Latin Name	Prunus serotina	Quercus rubra	Tsuga canadensis	Larix laricina	Carya cordiformis
Height x Width	22 x 10 m	25 x 16 m	30 x 8 m	20 x 9 m	25 x 20 m
Soil	Sand, Loam	Sand, Loam	Loam, Clay	Loam, Clay	Sand, Loam, Clay
Moisture	Dry, Medium	Dry, Medium	Medium	Medium, Wet	Dry, Medium, Wet
Sun	Sun	Sun	Sun, Pt Shade, Shade	Sun	Sun, Part Shade
Comments		Needs acid soil	Shelter from wind	Sheds leaves in fall	Nuts not edible

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