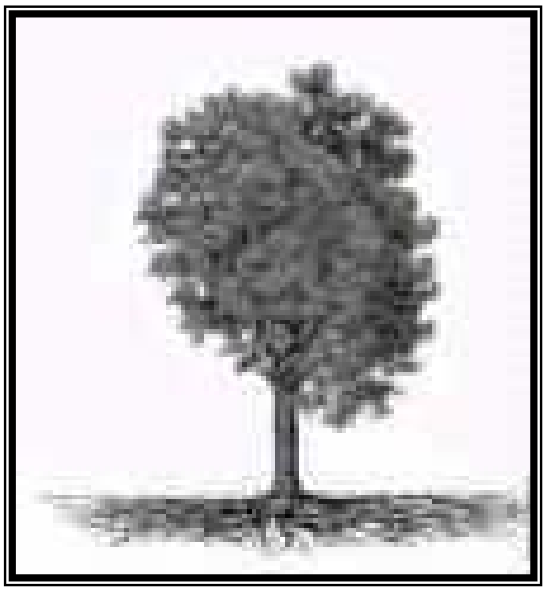

# *Neighbourwoods*

## *Tree Inventory Report©*

**Dundas , Ontario**

**2007 Tree Inventory**

Summary analysis of the tree inventory undertaken in the summer of 2007.

Prepared by

W.A.Kenney & D. Puric-Mladenovic

March, 2008

# *Neighbourwoods:*
# Tree Inventory Report©

## Dundas , Ontario
## 2007 Tree Inventory

- Tree inventory analysis and report prepared by D. Puric-Mladenovic & W.A.Kenney.
- Tree inventory coordinated by Julia Kollek
- Field data collection undertaken by Environment Hamilton and volunteers from Dundas.

***The neighbourhood from Dundas will be referred to as the community in the rest of the report***

# *Neighbourwoods:*
# Tree Inventory Report©

## Dundas

Trees that Could be a Potential Hazard and

## Appendix A: Condition of All Inventoried Trees

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# Composition of Community Forest

Trees have been a component of human settlement for many centuries, either in forests, in the countryside, or in cities and towns. Trees were planted around homes and churches, in cemeteries, school yards, parks, boulevards and many other places, thereby placing an accent on their aesthetic function. Because of this traditional context, tree planting and maintenance were subordinated to a single-tree level, and the connections among them and their collective importance was not thought to be a consideration. More recently, the importance of trees in settled landscapes has increased because of climate change, increasing pollution levels, and an expansion of build up areas, all resulting in degradation or continuous loss of forests and trees within and around urban areas. These dramatic changes in the environment have significantly emphasized the ecological value of trees in urban areas. It has been only in the last few decades that trees in towns have been thought of as a forest that improves our environment and provides us with many benefits.

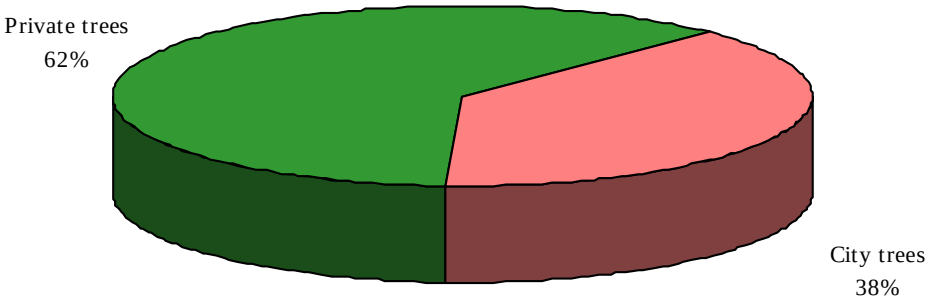
Urban forests, as a product of nature and human activity, can have a very complex structure. With a more detailed look at urban forests, you can see many differences in forest cover alone. The structure and the quality of urban forests differ among parks, ravines, industrial areas, downtowns, streets, and residential areas. Trees from each of these areas have an impact on the urban forest as an entity, and all of them collectively are the urban forest. The structure of the urban forest has been analyzed from different angles. The ownership of trees in a community is summarized, as well as species and genera distribution, diameter class distribution, distribution of native trees, and distribution of conifers versus deciduous trees. This approach is needed to make informed management decisions and to apply proper maintenance techniques. For instance, species distribution does not necessarily reflect real canopy cover in a community. Some species could be numerous, but small in size and thereby not maximizing their contribution to the urban forest. Meanwhile, another species could be less common, but because of its large size, dominate the canopy. By knowing the species distribution it is possible to increase the number of native species versus non-native in future plantings, and to put more emphasis on species diversity. These aspects of composition and structure of the community forest are presented in the following chapter and discussed in the summary of this report.

Residential trees have a meaningful role in towns as a substantial part of the entire urban forest. One third (30%), is composed of trees growing in residential areas. Similarly, the highest percentage of canopy cover is generally found on residential land, vacant and parkland (Nowak 1994). By understanding urban forest composition throughout an entire community, it is possible to identify opportunities to enhance the urban forest as well as address its limitations. Good planning and management practice begins with a comprehensive understanding of the urban forest composition.. Good planning and management can help maximize environmental, economic and social benefits by improving the quality of the community forest.

## Distribution of Trees on Public and Private Land

The ownership of trees is an important aspect to consider in good urban forest management. Typically, about one third of the trees in the urban forest may be found in parks and on streets. These are publicly owned, and their care is the responsibility of the City. The remaining two-thirds of the trees in a city are found on private property, where species choice, tree establishment, and tree maintenance are the responsibility of the owner. The proportion of privately and publicly owned trees in the community is shown in Figure 1.

**Figure - 1. Proportion of municipally owned trees vs. privately owned trees**



## Distribution of Diameter Classes in the Community

The size of a tree will determine the extent of many of the benefits that the tree provides to the community. Larger trees have a greater effect on micro-climate and hydrology, sequester more carbon dioxide, trap more dust and pollutants, and provide more wildlife habitat. The appraised value of a tree, increases with the square of the radius of the tree's cross-section. For many species, size will also provide an estimate of the relative age of an individual.

The distribution of all trees in the community by diameter is presented in Figure -2. For clarity, Figure - 3. shows the distribution of the largest diameter classes.

**Figure - 2. Number of trees in each of six diameter classes**

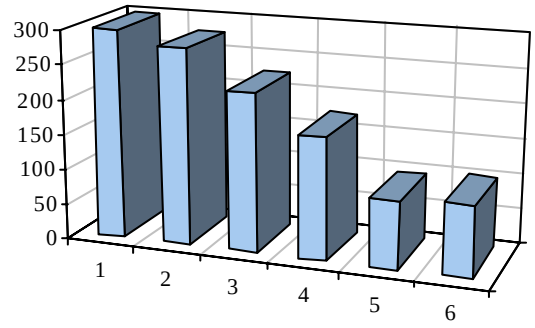
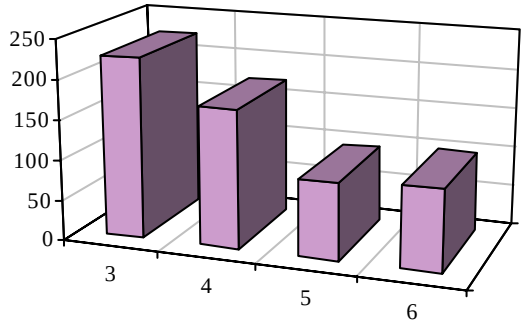



**Figure -3. Number of trees in diameter classes greater than 30 cm**

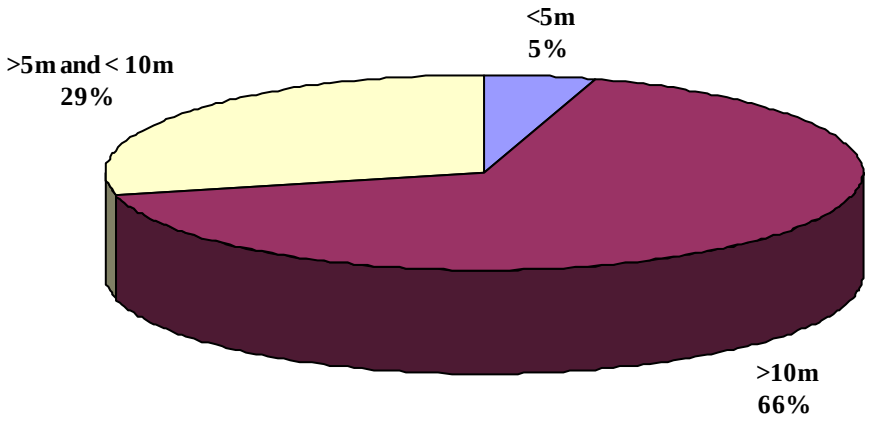



*Diameter classes:*
*1-<15.5cm*
*2- 15.6-30.5cm*
*3- 30.6-45.5cm*
*4- 45.6-60.5cm*
*5- 60.6-76.5cm*
*6- >76.6cm*

## Distribution of Trees by Height Classes in the Community

There is a trend towards planting smaller trees in urban environments, as they are better able to cope with aboveground restrictions, such as power lines, signs, and buildings. However, these trees don't provide the same positive effects on the environment, as do larger trees. Cities need larger trees that can form a closed canopy. Larger trees abundant enough to cover about half the city's surface can: reduce the speed of winter winds, cool pavement and shade buildings in the summer, attenuate storm water, improve air quality by intercepting airborne pollutants, and generally improve the urban landscape, etc.(Moll 1989).The proportion of all trees in each height class, as measure of urban forest structure, is shown in Figure 4.

**Figure - 4. Proportion of trees by height classes**



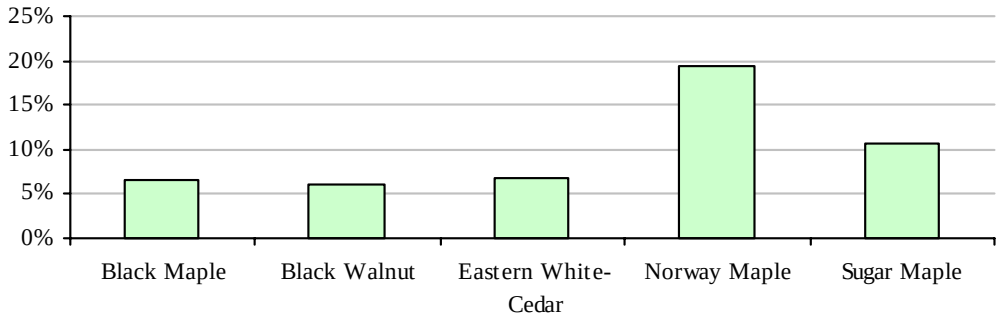

*Height Classes:*
*Height class 1 - <5m*
*Height class 2- 5-10m*
*Height class 3- >10m*

*02-Mar-08*

## Distribution of Species in the Community

In order to increase biodiversity in the urban forest, it has been suggested that no more than 5% of the trees in a community should be of the same species (Moll 1989). Biodiversity ensures against the rapid and devastating loss of trees due to pest or disease epidemics. Consider, for example, the American Elm that used to be the main tree species component in many eastern North American cities. The spread of Dutch Elm Disease killed most elms in a relatively short time, leaving behind severely depleted urban forests.

**Figure -5. Contribution of species represented with more than 5% of the total trees in the community**




The species which represent 5% and more of the population in the community are shown in Figure - 5.
The number of trees in all species is shown in Table - 1. The distribution of species and diameter classes is shown in Figure - 6.

**Table -1. Number of trees by species.**

| Common name | Number of Trees | Proportion of Total Number of Community Trees |
|---|---|---|
| *Norway Maple* | 226 | 19.33% |
| *Sugar Maple* | 124 | 10.61% |
| *Eastern White-Cedar* | 79 | 6.76% |
| *Black Maple* | 76 | 6.50% |

*02-Mar-08*

**Table -1. Number of trees by species.**

| Common name | Number of Trees | Proportion of Total Number of Community Trees |
|---|---|---|
| *Black Walnut* | 72 | 6.16% |
| *Norway Spruce* | 44 | 3.76% |
| *Silver Maple* | 37 | 3.17% |
| *Red Maple* | 28 | 2.40% |
| *Red/Green Ash* | 27 | 2.31% |
| *White Spruce* | 26 | 2.22% |
| *Colorado Spruce* | 23 | 1.97% |
| *Tulip Tree* | 22 | 1.88% |
| *Honey Locust* | 21 | 1.80% |
| *Mulberry sp.* | 18 | 1.54% |
| *unknown* | 17 | 1.45% |
| *Tree of Heaven* | 16 | 1.37% |
| *Yew sp.* | 16 | 1.37% |
| *Common Pear* | 15 | 1.28% |
| *Manitoba Maple* | 14 | 1.20% |
| *Southern Catalpa* | 14 | 1.20% |
| *White Ash* | 14 | 1.20% |
| *Cherry/Plum sp.* | 13 | 1.11% |
| *Paper Birch* | 13 | 1.11% |
| *Red Oak* | 13 | 1.11% |
| *American Beech* | 12 | 1.03% |
| *Red Pine* | 11 | 0.94% |
| *Black Locust* | 10 | 0.86% |
| *Little-Leaf Linden* | 10 | 0.86% |
| *Crabapple(s)* | 9 | 0.77% |
| *Magnolia sp.* | 9 | 0.77% |
| *Ginkgo* | 8 | 0.68% |
| *Hackberry* | 8 | 0.68% |
| *Alternate-Leaf Dogwood* | 7 | 0.60% |

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**Table -1. Number of trees by species.**

| Common name | Number of Trees | Proportion of Total Number of Community Trees |
|---|---|---|
| *Blue Beech* | 7 | 0.60% |
| *Birch sp.* | 6 | 0.51% |
| *Cedar (Thuja)* | 6 | 0.51% |
| *Hemlock* | 6 | 0.51% |
| *Austrian Pine* | 5 | 0.43% |
| *Chinese elm* | 5 | 0.43% |
| *Common Horsechestnut* | 5 | 0.43% |
| *Japanese Maple* | 5 | 0.43% |
| *Juniperus sp.* | 4 | 0.34% |
| *Maple sp.* | 4 | 0.34% |
| *Spruce sp.* | 4 | 0.34% |
| *White Oak* | 4 | 0.34% |
| *White Pine* | 4 | 0.34% |
| *Butternut* | 3 | 0.26% |
| *Mountin-Ash sp.* | 3 | 0.26% |
| *Redbud* | 3 | 0.26% |
| *Scot's Pine* | 3 | 0.26% |
| *Basswood* | 2 | 0.17% |
| *Black Spruce* | 2 | 0.17% |
| *Bur Oak* | 2 | 0.17% |
| *Choke Cherry* | 2 | 0.17% |
| *Elm sp.* | 2 | 0.17% |
| *European Beech* | 2 | 0.17% |
| *European Mountin Ash* | 2 | 0.17% |
| *French Lilac* | 2 | 0.17% |
| *Katsura Tree* | 2 | 0.17% |
| *Linden sp.* | 2 | 0.17% |
| *Slippery Elm* | 2 | 0.17% |
| *Sycamore* | 2 | 0.17% |

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**Table -1. Number of trees by species.**

| Common name | Number of Trees | Proportion of Total Number of Community Trees |
|---|---|---|
| *American Elm* | 1 | 0.09% |
| *American Hazel* | 1 | 0.09% |
| *Apple/Crabapple sp.* | 1 | 0.09% |
| *Ash sp.* | 1 | 0.09% |
| *Bitternut Hickory* | 1 | 0.09% |
| *Chinkapin Oak* | 1 | 0.09% |
| *Dawn Redwood* | 1 | 0.09% |
| *Douglas Fir* | 1 | 0.09% |
| *Eastern Flowering Dogwood* | 1 | 0.09% |
| *English Oak* | 1 | 0.09% |
| *Golden Weeping Willow* | 1 | 0.09% |
| *Osage Orange* | 1 | 0.09% |
| *Red Cedar* | 1 | 0.09% |
| *Shagbark Hickory* | 1 | 0.09% |
| *Sumac* | 1 | 0.09% |
| *White Mulberry* | 1 | 0.09% |
| **Total Number of Trees:** | **1,169** | |

## Distribution of Species by Diameter Classes (only those >3% of the total tree population are shown)

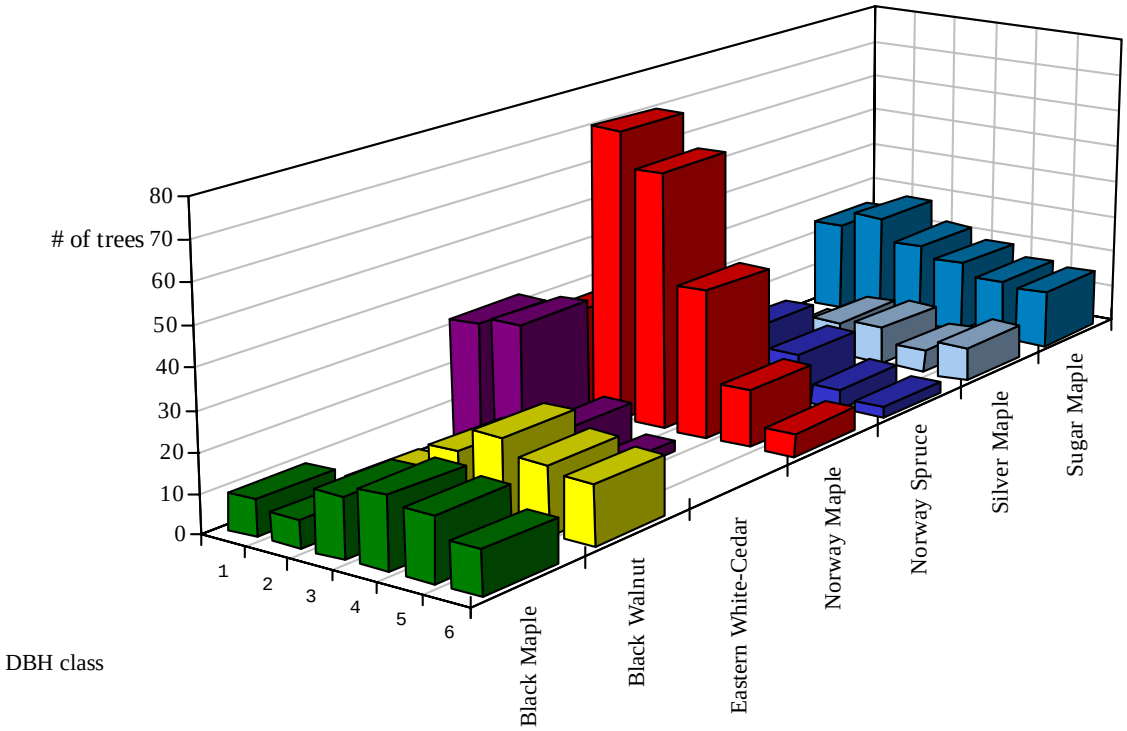



**Figure - 6. Number of trees by species and each diameter class**



*Diameter classes:*

*1- <15.5cm*
*2- 15.6-30.5cm*
*3- 30.6-45.5cm*
*4- 45.6-60.5cm*
*5- 60.6-76.5cm*
*6- >76.6cm*

## Distribution of Genera in the Community

Similar to species biodiversity, it has been suggested that no more than 10% of the trees in a community should be of the same genus (Moll, 1989).
Figure -7. illustrates the distribution of the genera which represent more than 10% of the total tree population.

**Figure -7. Contribution of genera that represent more than 10% of the total number of trees in the community**


Table - 2. summarizes the number of trees by genus. The distribution of genera by diameter class is shown in Figure -8.

**Table -2. Number of trees by genera**

| Genus | Number of Trees | Proportion of Total Number of Community Trees |
|---|---|---|
| *Maple* | 514 | 43.97% |
| *Spruce* | 99 | 8.47% |
| *Cedar (Thuja)* | 79 | 6.76% |
| *Walnut/Butternut* | 75 | 6.42% |
| *Ash* | 42 | 3.59% |
| *Pine* | 23 | 1.97% |

**Table -2. Number of trees by genera**

| Genus | Number of Trees | Proportion of Total Number of Community Trees |
|---|---|---|
| *Tulip-Tree* | 22 | 1.88% |
| *Honey Locust* | 21 | 1.80% |
| *Oak* | 21 | 1.80% |
| *Birch* | 19 | 1.63% |
| *Mulberry* | 19 | 1.63% |
| *unknown* | 17 | 1.45% |
| *Tree of Heaven* | 16 | 1.37% |
| *Yew* | 16 | 1.37% |
| *Cherry/Plum* | 15 | 1.28% |
| *Pear/Flowering Pear* | 15 | 1.28% |
| *Beech* | 14 | 1.20% |
| *Catalpa* | 14 | 1.20% |
| *Linden-Basswood* | 14 | 1.20% |
| *Apple/Crabapple* | 10 | 0.86% |
| *Black Locust* | 10 | 0.86% |
| *Elm* | 10 | 0.86% |
| *Magnolia* | 9 | 0.77% |
| *Dogwood* | 8 | 0.68% |
| *Ginkgo* | 8 | 0.68% |
| *Hackberry* | 8 | 0.68% |
| *Ironwood-Hornbeam* | 7 | 0.60% |
| *Cedatr (Thuja)* | 6 | 0.51% |
| *Hemlock* | 6 | 0.51% |
| *Buckeye/Horsechestnut* | 5 | 0.43% |
| *Juniper* | 5 | 0.43% |
| *Mountin Ash/Whitebeam* | 5 | 0.43% |
| *Redbud* | 3 | 0.26% |
| *Hickory* | 2 | 0.17% |
| *Katsura* | 2 | 0.17% |
| *Lilacs* | 2 | 0.17% |
| *Plane-Sycamore* | 2 | 0.17% |

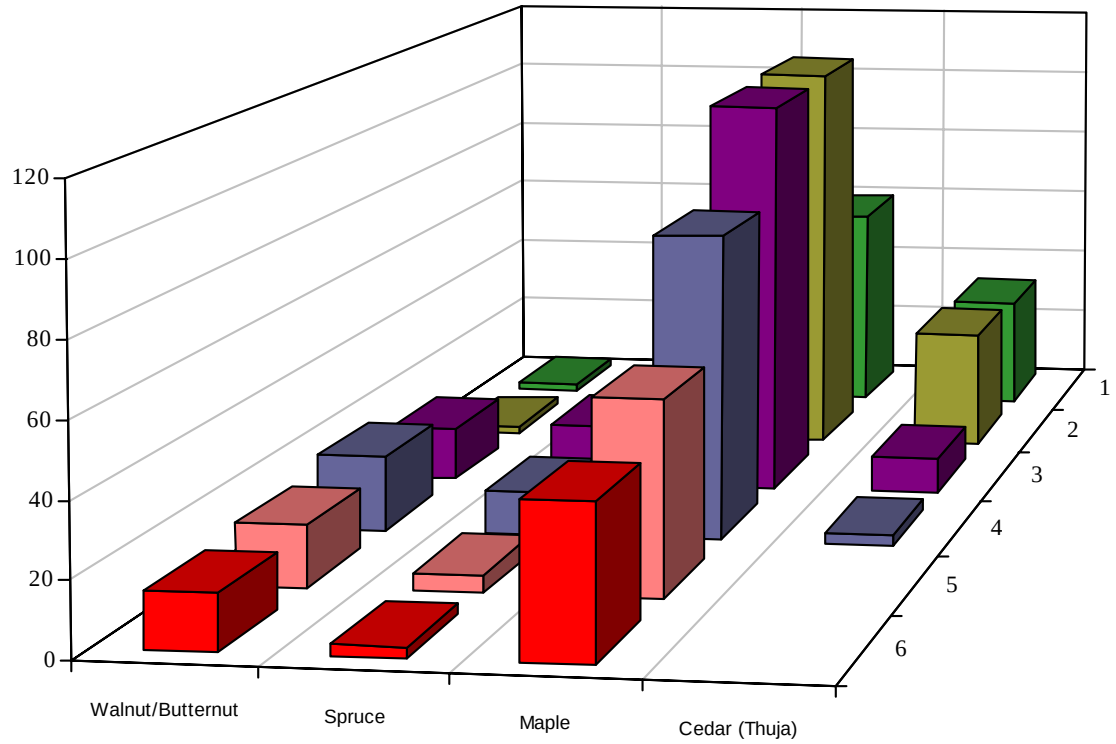
*02-Mar-08*

**Table -2. Number of trees by genera**

| Genus | Number of Trees | Proportion of Total Number of Community Trees |
|---|---|---|
| *Douglas Fir* | 1 | 0.09% |
| *Hazel* | 1 | 0.09% |
| *Osage* | 1 | 0.09% |
| *Redwood* | 1 | 0.09% |
| *Sumac* | 1 | 0.09% |
| *Willow* | 1 | 0.09% |
| **Total Number of Trees** | **1,169** | |

## Distribution of Genera by Diameter Classes (only those >5% of the total tree population are shown)

**Figure -8. Number of trees by genera and each diameter class**

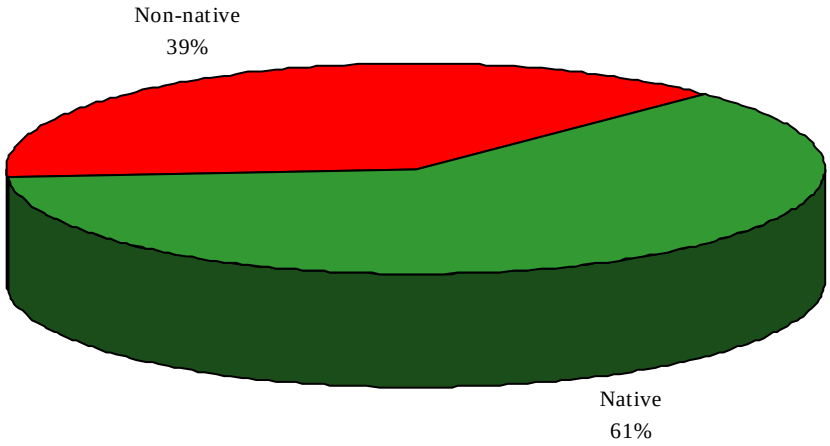



*Diameter classes:*
*1-< 15.5cm*
*2- 15.6-30.5cm*
*3- 30.6-45.5cm*
*4- 45.6-60.5cm*
*5- 60.6-76.5cm*
*6- >76.6cm*

*02-Mar-08*

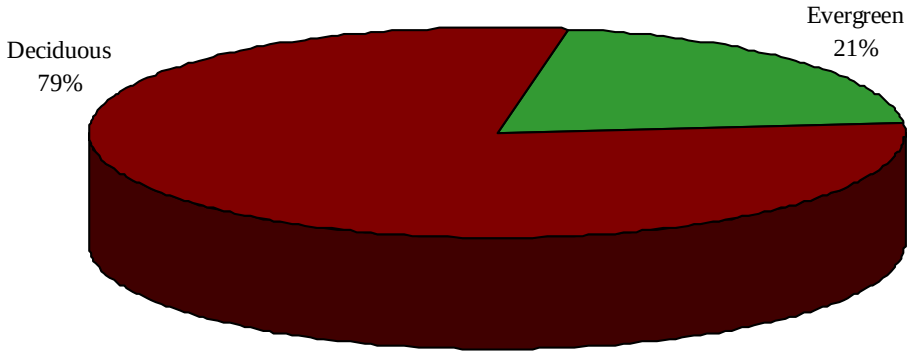
There is growing concern about the spread of “non-native” trees in our communities. Figure -9. illustrates the proportion of non-native trees in the community. We use the term non-native to mean those species which do not grow naturally in the region. (See Table -15).

**Figure - 9. Proportion of native and non-native trees**




Similarly, Figure -10. shows the proportion of coniferous and deciduous trees (softwoods and hardwoods) found in the community. Figure -11. and Figure -12. show the diameter distribution for native vs non-native, and coniferous vs deciduous species.

**Figure - 10. Proportion of deciduous and evergreen trees**



# Distribution of Native vs. Non-native and Conifers vs Deciduous Trees by Diameter Classes

**Figure -11. Number of native and non-native trees by each diameter class**

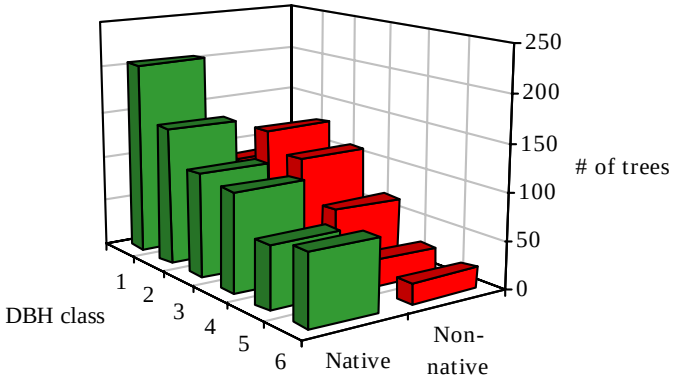
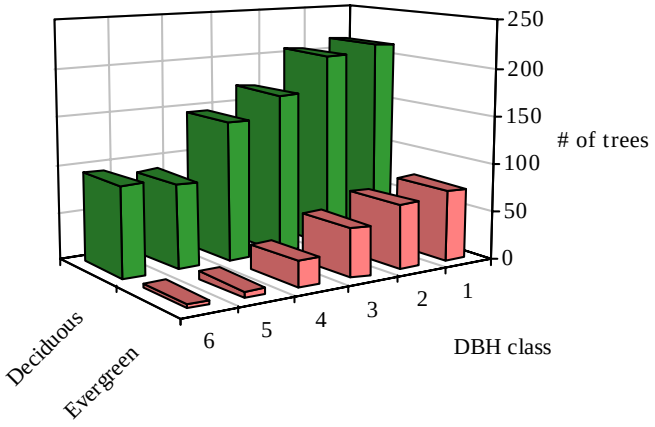



**Figure - 12. Number of evergreen and deciduous trees by each diameter class**

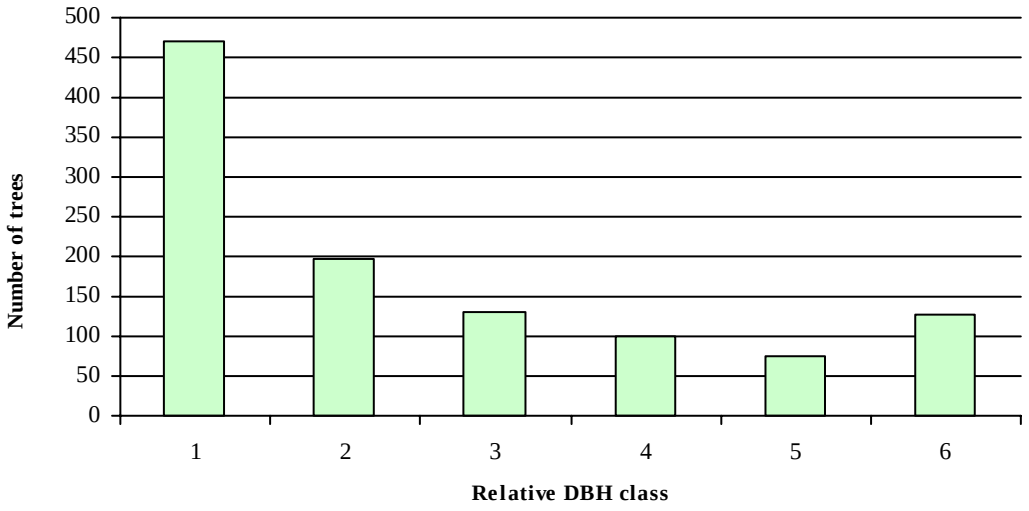



*Diameter classes:*
*1- < 15.5cm*
*2- 15.6-30.5cm*
*3- 30.6-45.5cm*
*4- 45.6-60.5cm*
*5- 60.6-76.5cm*
*6- >76.6cm*

## Relative DBH Distribution in the Community

The relative DBH is one way of representing age class distribution in the urban forest. Relative tree diameter is the ratio (percent) between a tree diameter and the maximum diameter for that species. The relative DBH can be used to compare the distribution of different species or to compare species that have different growth characteristics. A relative DBH near 100% indicates a mature tree.

**Figure 12a - Relative DBH distibution**




25 % of maximum BDH = class1
26-40 % of maximum BDH = class 2
41-55% % of maximum BDH = class 3
56-70% % of maximum BDH = class 4
71-85 % of maximum BDH = class 5
>86% of maximum BDH = class 6

*Diameter classes:*
*1- < 15.5cm*
*2- 15.6-30.5cm*
*3- 30.6-45.5cm*
*4- 45.6-60.5cm*
*5- 60.6-76.5cm*
*6- >76.6cm*

# Tree Condition

Knowing the condition of urban trees and the state of the environment in which they exist, allows you to make better-informed decisions. Trees in urban environments are exposed to different stresses, including soil compaction, lack of nutrients, air pollution, de-icing salt, drought and confined space. These stresses have a negative impact on the condition and health of urban trees. As a result, urban trees have shorter life spans than trees in a natural forest and rarely reach a mature size. For example, the average lifespan of trees in the urban environment is 30 years, but the average lifespan of street trees is only 10 years (Moll, 1989). Extending the life span of urban trees can help to improve the quality of the urban environment significantly, as large trees have much more impact on the urban environment than smaller ones. Nowak (1994) estimated that, in Chicago, large individual trees have the greatest estimated pollution removal capability due to their relatively large leaf surface area. According to him, large healthy trees (larger than 76 cm in diameter at breast height) remove an estimated 60 to 70 times more pollution than small trees (less than 8 cm in diameter abreast height). Trees in both urban and natural forests have life cycles that include natural decline and death.

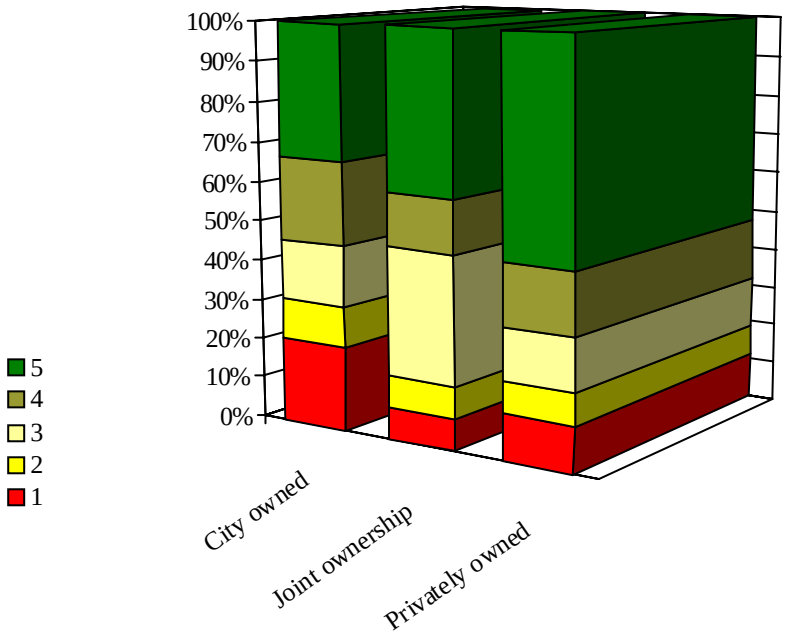
The process of decline for trees in all age classes is more intensive in an urban setting. This is one of the reasons why the quality of young trees should be high, bettering their ability to successfully replace older trees. Maintenance of both older and younger trees, therefore, is necessary to sustain the canopy cover in a community. Tree condition reflects the present structural integrity of a tree, as well as its state of health (CTLA 1992). The determination of tree condition helps to indicate existing and future problems with that tree. Assessing the condition of a tree facilitates decisions about maintenance and species choice for future plantings. Having an indication of the general condition of the urban forest helps in the long-term maintenance and identification of serious problems. Rating tree condition involves looking at the tree crown, the foliage, and the trunk and root characteristics. The condition rating is summarized in five classes:

5-EXCELLENT: tree is without any visible symptoms
4-GOOD: no apparent problem with
3-FAIR: minor problems with
2-POOR: major problems with
1-VERY POOR: extreme problems

The condition of all trees by location is given in Appendix A, while the following chapter and the summary give an overview of tree condition by diameter class, species, genera, distribution of problem-free trees and private trees.

Moll (1989) states that a healthy city forest is usually accompanied by strong citizen support. Citizens have direct responsibility for the health of their own trees and indirect responsibility for the health of municipal trees. Privately owned trees are usually in better condition than publicly owned trees, especially street trees. Street trees grow in a much harsher environment than trees in private yards. They are exposed to different stresses such as drought, soil compaction, de-icing salt, vandalism, conflict with utilities, confined growing space, air pollution, etc. By contrast, trees on private lands have more available space for growth, they grow in a less stressed environment and, presumably, they get more attentive care than street trees. However, intense maintenance measures can help to improve tree health and extend tree life on both public and private lands. The condition of publicly and privately owned trees in the community is shown in Figure 13.

**Figure - 13. The proportion of tree condition classes for municipal and private trees**




5-EXCELLENT: tree is without any visible symptoms
4-GOOD: no apparent problem with a tree
3-FAIR: minor problems with a tree
2-POOR: major problems with a tree
1-VERY POOR: extreme problems

**Figure - 13a. The proportion of tree condition classes for public trees**

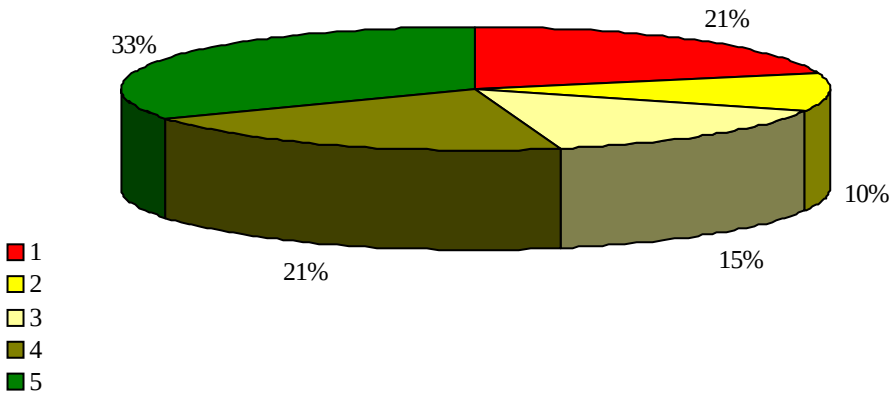
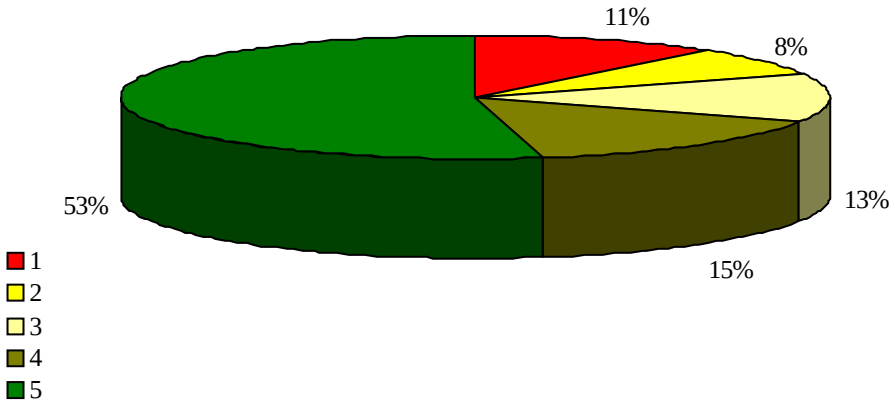



**Figure - 13b. The proportion of tree condition classes for private trees**




5-EXCELLENT: tree is without any visible symptoms
4-GOOD: no apparent problem with a tree
3-FAIR: minor problems with a tree
2-POOR: major problems with a tree
1-VERY POOR: extreme problems

# Tree Condition by Diameter Classes

Maintaining good tree condition in each diameter class avoids a rapid loss of total number of trees due to the aging of the community forest. Larger trees in good health have a much more significant impact on the environment than younger ones, but the younger trees are essential in continuing the future urban forest canopy. Both proper diameter distribution and good tree health ensure that the loss of older trees due to natural decline will be a gradual, phased process, without the sudden absence of the larger diameter classes. The condition of trees in each diameter class in the community is shown in Figure 14. For clarity, Figure 15 shows the distribution of tree condition classes for the largest diameter classes.

**Figure - 14. Distribution of five condition classes by diameter class**

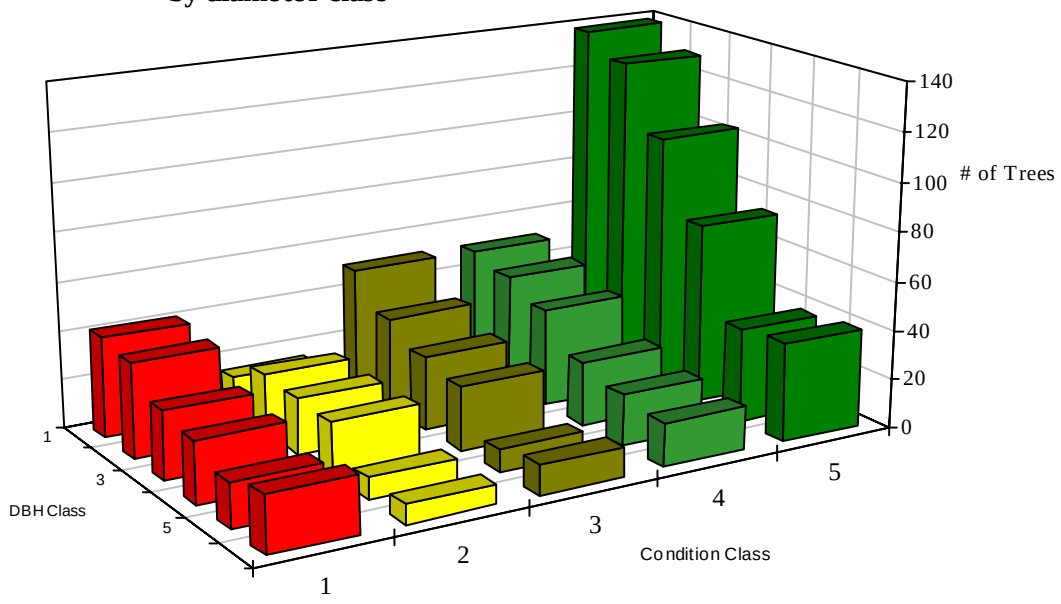
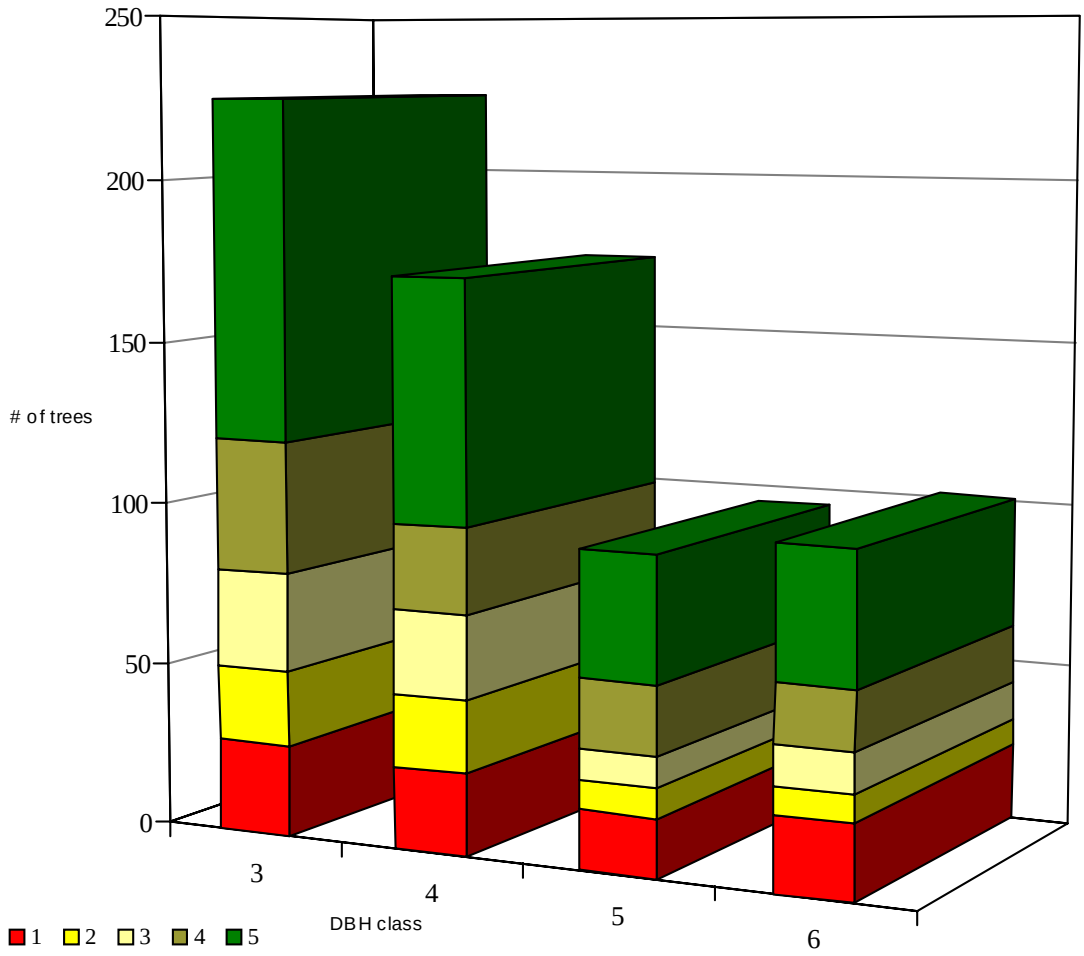


**Figure - 15. Number of trees in each condition class grouped by diameter classes greater than 30 cm**




5-EXCELLENT: tree is without any visible symptoms
4-GOOD: no apparent problem with a tree
3-FAIR: minor problems with a tree
2-POOR: major problems with a tree
1-VERY POOR: extreme problems



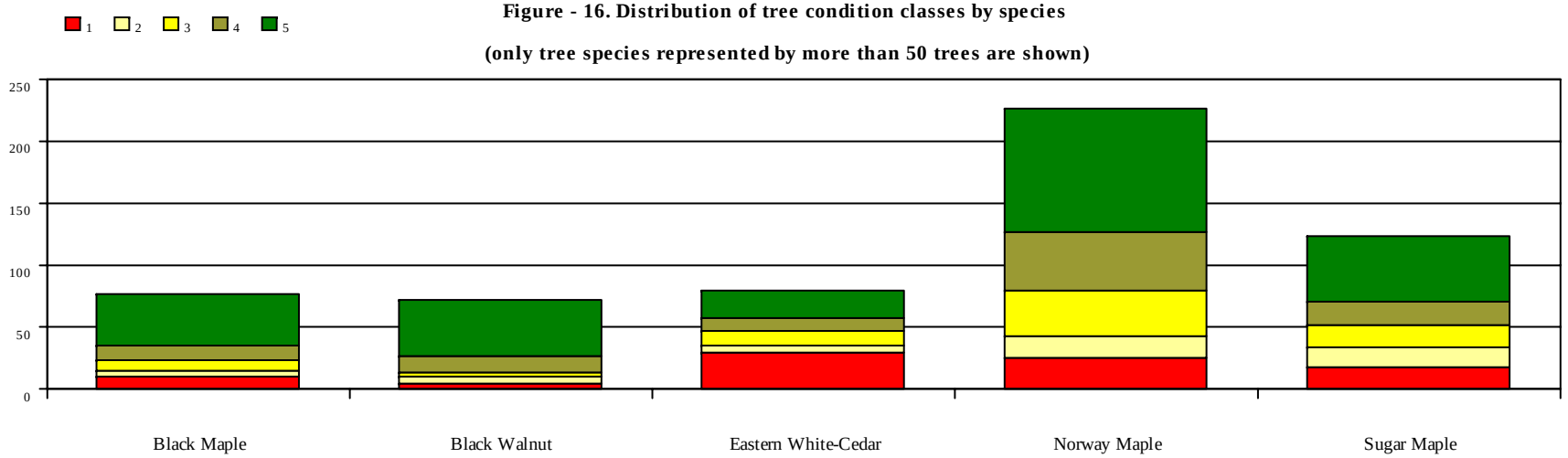
*Diameter classes:*
*1- < 15.5cm*
*2- 15.6-30.5cm*
*3- 30.6-45.5cm*
*4- 45.6-60.5cm*
*5- 60.6-76.5cm*
*6- >76.6cm*

## Species Condition

Many different tree species, cultivars, forms, and varieties are planted in urban areas. We can expect considerable variation in tree condition among species because of their ecological and biological characteristics. Some species are more tolerant of urban environments than others. More attention should be given to the condition of frequently planted species as these common trees give an indication of whether they should be planted more, or less often in the future. It also helps to indicate which species require more care and maintenance, and which species are more suited to a certain microenvironment. The distribution of tree condition classes for species with a frequency more than 50 trees is shown in Figure 16.

**Figure - 16. Distribution of tree condition classes by species**

**(only tree species represented by more than 50 trees are shown)**

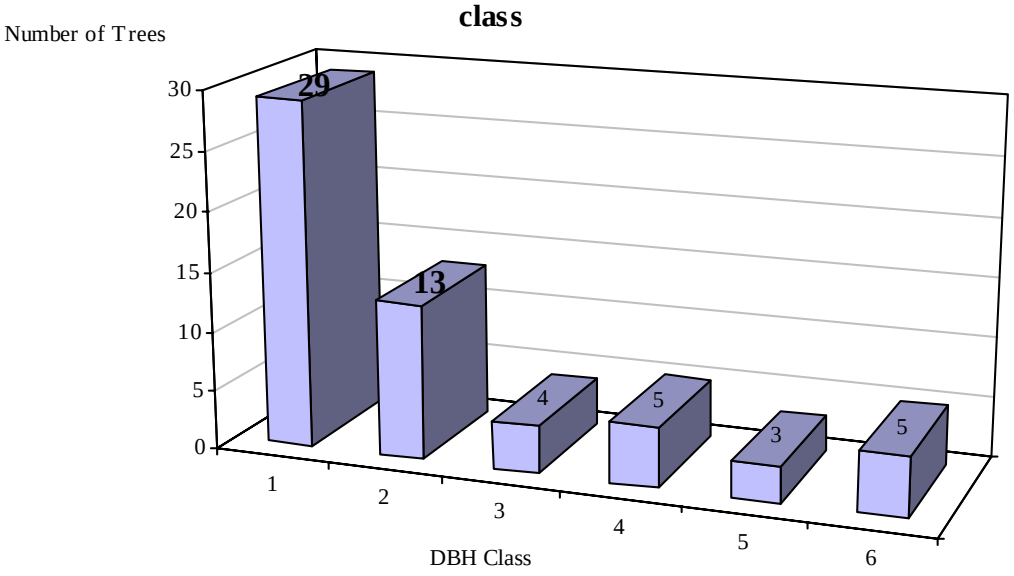



*5-EXCELLENT: tree is without any visible symptoms*
*4-GOOD: no apparent problem with a tree*
*3-FAIR: minor problems with a tree*
*2-POOR: major problems with a tree*
*1-VERY POOR: extreme problems*

## Distribution of Trees with No Problems

Tree condition is based on characteristics of the tree crown, foliage, trunk, and roots. Symptoms such as defoliation, weak foliage, basal scars, rot, cavity, conks, pruning scars, exposed and trenched roots, are summarized to determine tree condition. Trees without any symptoms are ranked as excellent. The number of trees with no problems by diameter classes are shown in Figure 17. For clarity, Figure –18 shows the number of trees with no symptoms for species that are represented by more than 10 trees in each diameter class.

**Figure -17. Number of trees with no problems by diameter class**




*Diameter classes:*
*1- < 15.5cm*
*2- 15.6-30.5cm*
*3- 30.6-45.5cm*
*4- 45.6-60.5cm*
*5- 60.6-76.5cm*
*6- >76.6cm*

*02-Mar-08*

# Distribution of Trees with No Problems by Species

**Figure -18. Number of trees with no problems by six diameter classes for species that are represented with more than 10 trees**

Diameter Class:

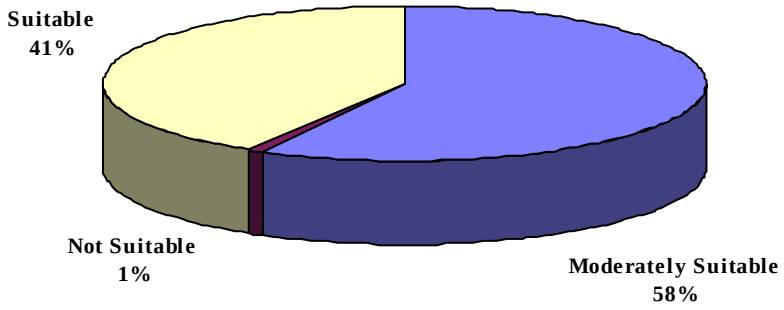
***For all tree species represented by more than 10 individuals at least one problem was noted (e.g. pruning scars, conflicts, etc.)***

*Diameter classes:*
*1- <15.5cm*
*2- 15.6-30.5cm*
*3- 30.6-45.5cm*
*4- 45.6-60.5cm*
*5- 60.6-76.5cm*
*6- >76.6cm*

## Species Suitability in the Community

Some tree species are considered to be more suitable than others in an urban setting. For example, a weak-wooded willow is less appropriate than a stronger sugar maple. McPherson (1998) proposed examining the species distribution in a city's urban forest based on their suitability for that environment. In 1996 the Ontario Chapter of the International Society of Arboriculture undertook to update the species rating for the province (ISAO 1998). A total of 120 experts were surveyed to provide their opinions on species ratings. These ratings are based on a tree's characteristics such as: climate adaptability, growth characteristics, soil adaptability, resistance or tolerance to pests, pollution, maintenance requirements, allergenic properties, aesthetic value, etc. For example, a sugar maple would have a species rating of 80 - 100% (average =90% or 0.9) while willow would have a 40 - 60% rating (0.4-0.6). This analysis summarizes the species distribution based on these species rating (Figure 18a).
The reader should note that the ISAO species rating system does NOT include "invasiveness" or place of origin (native vs. non-native). These are important considerations and are dealt with elsewhere in this report.

**Figure 18a - Species suitability.**




| Species | # of trees | Species Rating | Species suitability |
|---|---|---|---|
| Alternate-Leaf Dogwood | 7 | 0.70 | Moderately Suitable |
| American Beech | 12 | 0.80 | Suitable |
| American Elm | 1 | 0.50 | Moderately Suitable |
| American Hazel | 1 | 0.80 | Suitable |
| Apple/Crabapple sp. | 1 | 0.50 | Moderately Suitable |

| Species | # of trees | Species Rating | Species suitability |
|---|---|---|---|
| Ash sp. | 1 | 0.50 | Moderately Suitable |
| Austrian Pine | 5 | 0.80 | Suitable |
| Basswood | 2 | 0.70 | Moderately Suitable |
| Birch sp. | 6 | 0.55 | Moderately Suitable |
| Bitternut Hickory | 1 | 0.75 | Suitable |
| Black Locust | 10 | 0.30 | Not Suitable |
| Black Maple | 76 | 0.85 | Suitable |
| Black Spruce | 2 | 0.70 | Moderately Suitable |
| Black Walnut | 72 | 0.80 | Suitable |
| Blue Beech | 7 | 0.70 | Moderately Suitable |
| Bur Oak | 2 | 0.80 | Suitable |
| Butternut | 3 | 0.50 | Moderately Suitable |
| Cedar (Thuja) | 6 | 0.70 | Moderately Suitable |
| Cherry/Plum sp. | 13 | 0.50 | Moderately Suitable |
| Chinese elm | 5 | 0.70 | Moderately Suitable |
| Chinkapin Oak | 1 | 0.70 | Moderately Suitable |
| Choke Cherry | 2 | 0.55 | Moderately Suitable |
| Colorado Spruce | 23 | 0.80 | Suitable |
| Common Horsechestnut | 5 | 0.60 | Moderately Suitable |
| Common Pear | 15 | 0.50 | Moderately Suitable |
| Crabapple(s) | 9 | 0.50 | Moderately Suitable |
| Dawn Redwood | 1 | 0.70 | Moderately Suitable |
| Douglas Fir | 1 | 0.60 | Moderately Suitable |
| Eastern Flowering Dogwood | 1 | 0.70 | Moderately Suitable |

| Species | # of trees | Species Rating | Species suitability |
|---|---|---|---|
| Eastern White-Cedar | 79 | 0.80 | Suitable |
| Elm sp. | 2 | 0.55 | Moderately Suitable |
| English Oak | 1 | 0.70 | Moderately Suitable |
| European Beech | 2 | 0.75 | Suitable |
| European Mountin Ash | 2 | 0.40 | Moderately Suitable |
| French Lilac | 2 | 0.80 | Suitable |
| Ginkgo | 8 | 0.90 | Suitable |
| Golden Weeping Willow | 1 | 0.35 | Not Suitable |
| Hackberry | 8 | 0.60 | Moderately Suitable |
| Hemlock | 6 | 0.70 | Moderately Suitable |
| Honey Locust | 21 | 0.60 | Moderately Suitable |
| Japanese Maple | 5 | 0.70 | Moderately Suitable |
| Juniperus sp. | 4 | 0.60 | Moderately Suitable |
| Katsura Tree | 2 | 0.70 | Moderately Suitable |
| Linden sp. | 2 | 0.70 | Moderately Suitable |
| Little-Leaf Linden | 10 | 0.70 | Moderately Suitable |
| Magnolia sp. | 9 | 0.70 | Moderately Suitable |
| Manitoba Maple | 14 | 0.40 | Moderately Suitable |
| Maple sp. | 4 | 0.65 | Moderately Suitable |
| Mountin-Ash sp. | 3 | 0.40 | Moderately Suitable |
| Mulberry sp. | 18 | 0.40 | Moderately Suitable |
| Norway Maple | 226 | 0.70 | Moderately Suitable |
| Norway Spruce | 44 | 0.70 | Moderately Suitable |
| Osage Orange | 1 | 0.50 | Moderately Suitable |

| Species | # of trees | Species Rating | Species suitability |
|---|---|---|---|
| Paper Birch | 13 | 0.50 | Moderately Suitable |
| Red Cedar | 1 | 0.60 | Moderately Suitable |
| Red Maple | 28 | 0.80 | Suitable |
| Red Oak | 13 | 0.90 | Suitable |
| Red Pine | 11 | 0.60 | Moderately Suitable |
| Red/Green Ash | 27 | 0.60 | Moderately Suitable |
| Redbud | 3 | 0.50 | Moderately Suitable |
| Scot's Pine | 3 | 0.60 | Moderately Suitable |
| Shagbark Hickory | 1 | 0.75 | Suitable |
| Silver Maple | 37 | 0.45 | Moderately Suitable |
| Slippery Elm | 2 | 0.60 | Moderately Suitable |
| Southern Catalpa | 14 | 0.60 | Moderately Suitable |
| Spruce sp. | 4 | 0.75 | Suitable |
| Sugar Maple | 124 | 0.85 | Suitable |
| Sumac | 1 | 0.80 | Suitable |
| Sycamore | 2 | 0.60 | Moderately Suitable |
| Tree of Heaven | 16 | 0.40 | Moderately Suitable |
| Tulip Tree | 22 | 0.70 | Moderately Suitable |
| unknown | 17 | 0.70 | Moderately Suitable |
| White Ash | 14 | 0.60 | Moderately Suitable |
| White Mulberry | 1 | 0.60 | Moderately Suitable |
| White Oak | 4 | 0.70 | Moderately Suitable |
| White Pine | 4 | 0.80 | Suitable |
| White Spruce | 26 | 0.80 | Suitable |

| Species | # of trees | Species Rating | Species suitability |
|---|---|---|---|
| Yew sp. | 16 | 0.70 | Moderately Suitable |

# Trees that Could be a Potential Hazard and Trees in Conflicts

## POTENTIAL HAZARD TREES

Different stresses affect tree health and condition that can lead to structural weakening. Through time and/or poor management, they can become hazardous to people and property. The criterion used to determine potential hazard trees is tree condition, which indicated by structural defects. Trees are considered to be a potential problem if they receive a fair, poor, or very poor condition rating in conjunction with any one of the following defects: reduced height, conks, rot/cavity, or root trenching. Trees in the community that need to be given more attention are listed in Table 3.It should be noted that the objective here is to point out trees that could present potential hazards or become a liability. This approach should only be used as a guide to highlight which trees should receive more attention, either as potential hazards, or as trees in poor health. Further evaluation of hazardous trees, seriousness of the defects, and the risk they present is best done by a professional arborist.

## TREES IN CONFLICTS

In an urban environment, trees compete for space, with each other, with urban structures and with human activities. Urban trees grow in conflict with buildings, structures, overhead wires, sidewalks and other trees. Such trees usually have shorter life spans, and thus the benefits they impart, decline. They also have a greater chance of becoming structurally weak. Both trees in existing conflict, and trees in potential conflict, should receive more attention than those without conflicts. These trees need to be specially maintained or, in some cases, removed, when they become a hazard or liability. Avoiding conflict is possible through careful planning and the consideration of the space requirements of a fully-grown tree. Potential hazard trees are listed in Table 3. Existing and potential conflicts of trees are summarized and discussed.

# List of All Trees that could be Potential Hazard

| Tree ID | Address | Tree # | Species Name | Hard Surface Area | DBH (cm) | # of Stems | Height Class | Unbalanced Crown | Reduced Height | Weak Foliage/ Yellowing Leaves | Defoliation | Large Dead/ Broken Branches | Poor Branch Attachment | Lean | Pruning Scars | Basal Scars | Conks | Rot or Cavity | Cracks | Confined Space | Confined Space | Surf. Roots | Trench/ Root Cutting | Conf. with overhead wires | Conf. with structure | Conf. with sidewalk | Conf. with other tree | Conf. with thtraff. sign | Res. Field 1 | Res. Field 2 | **Tree Condition** | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1007 | *victoriaNo. 1* | 2 | *Cherry/Plum sp.* | 5 | 57 | | 3 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 3 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 1010 | *melvilleNo. 12* | 3 | *Norway Spruce* | 50 | 77 | | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | n | e | e | e | n | | | **1** | |
| 103 | *almaNo. 73* | 12 | *Manitoba Maple* | 0 | 39 | | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | n | e | n | e | n | | | **1** | |
| 1033 | *victoriaNo. 22* | 7 | *Sugar Maple* | 75 | 57 | | 3 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 3 | 0 | 0 | e | p | n | n | n | | | **1** | |
| 104 | *almaNo. 73* | 13 | *Manitoba Maple* | 0 | 32 | | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |
| 1058 | *victoriaNo. 25* | 4 | *Sugar Maple* | 0 | 106 | | 3 | 2 | 0 | 0 | 0 | 3 | 0 | 3 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 109 | *almaNo. 73* | 5 | *unknown* | 0 | 38 | | 3 | 0 | 0 | 0 | 3 | 3 | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | DEAD | | **1** | |
| 1155 | *victoriaNo. 53* | 10 | *Black Maple* | 30 | 61 | | 3 | 2 | 0 | 0 | 0 | 3 | 3 | 0 | 2 | 2 | 0 | 3 | 3 | 1 | 1 | 0 | 0 | e | p | n | e | n | | | **1** | |
| 116 | *almaNo. 78* | 2 | *Maple sp.* | 0 | 41 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 1192 | *victoriaNo. 91* | 1 | *Silver Maple* | 80 | 60 | | 3 | 3 | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **2** | |
| 124 | *almaNo. 79* | 1 | *Black Walnut* | 0 | 78 | | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **2** | |
| 126 | *almaNo. 79* | 3 | *Red Maple* | 0 | 69 | | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 190 | *crossNo. 35* | 1 | *Black Locust* | 0 | 92 | | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |
| 197 | *crossNo. 35* | 16 | *Black Walnut* | 50 | 39 | | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 0 | 0 | n | e | n | e | n | | | **2** | |
| 22 | *albertNo. 67* | 8 | *Norway Spruce* | 45 | 46 | | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 239 | *crossNo. 43* | 1 | *Paper Birch* | 25 | 34 | | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | p | p | n | p | n | | | **2** | |
| 259 | *crossNo. 53* | 1 | *Norway Maple* | 5 | 50 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 1 | 1 | 0 | 1 | e | n | n | n | n | | | **1** | |
| 268 | *crossNo. 53* | 15 | *Black Maple* | 15 | 50 | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 3 | 3 | 0 | 0 | e | e | n | n | n | | | **1** | |
| 273 | *crossNo. 53* | 2 | *unknown* | 0 | 37 | | 3 | 0 | 0 | 0 | 3 | 3 | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | DEAD | | **1** | |
| 281 | *crossNo. 53* | 27 | *Sugar Maple* | 0 | 33 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |
| 293 | *crossNo. 53* | 38 | *Manitoba Maple* | 0 | 44 | | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 296 | *crossNo. 53* | 40 | *Manitoba Maple* | 0 | 51 | | 3 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 302 | *crossNo. 53* | 46 | *Manitoba Maple* | 0 | 146 | | 3 | 3 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 308 | *crossNo. 53* | 51 | *unknown* | 0 | 98 | | 3 | 0 | 0 | 0 | 3 | 3 | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | DEAD | | **1** | |
| 33 | *almaNo.* | 1 | *Norway Maple* | 25 | 67 | | 3 | 3 | 3 | 0 | 0 | 2 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | n | n | p | n | | | **1** | |
| 350 | *crossNo. 59* | 22 | *unknown* | 0 | 32 | | 3 | 0 | 0 | 0 | 3 | 3 | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | DEAD | | **1** | |
| 364 | *crossNo. 59* | 7 | *Alternate-Leaf Do* | 0 | 47 | | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 1 | 0 | n | n | n | e | n | | | **2** | |
| 384 | *crossNo.* | 1 | *Norway Maple* | 15 | 46 | | 2 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | e | n | n | n | p | | | **1** | |
| 397 | *crossNo.* | 2 | *Silver Maple* | 50 | 83 | | 3 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | p | n | n | n | n | | | **1** | |
| 41 | *almaNo. 17* | 11 | *Black Maple* | 0 | 47 | | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | e | n | n | n | n | | | **2** | |
| 422 | *Driving ParkNo. 11* | 2 | *Paper Birch* | 50 | 49 | | 3 | 1 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | e | e | n | n | n | | | **1** | |
| 43 | *almaNo.* | 13 | *Chinese elm* | 60 | 42 | | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 438 | *Driving ParkNo. 13* | 2 | *Hackberry* | 0 | 51 | | 3 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **2** | |
| 44 | *almaNo.* | 14 | *Norway Maple* | 20 | 58 | | 3 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **2** | |
| 480 | *Driving ParkNo. 19* | 8 | *Hackberry* | 0 | 53 | | 3 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | n | n | n | n | n | | | **1** | |
| 481 | *Driving ParkNo. 19* | 9 | *Bur Oak* | 10 | 85 | | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 497 | *Driving ParkNo. 22* | 2 | *Sugar Maple* | 25 | 74 | | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | n | n | e | e | n | | | **2** | |
| 504 | *Driving ParkNo. 10* | 4 | *Sugar Maple* | 10 | 70 | | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | n | n | n | n | n | | | **1** | |
| 506 | *Driving ParkNo. 1* | 1 | *Norway Spruce* | 0 | 49 | | 3 | 2 | 3 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | e | e | n | e | n | | | **1** | |
| 507 | *Driving ParkNo. 1* | 10 | *Norway Spruce* | 0 | 39 | | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | e | n | n | e | n | | | **1** | |
| 508 | *Driving ParkNo. 1* | 11 | *Norway Spruce* | 0 | 33 | | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 514 | *Driving ParkNo. 1* | 6 | *Norway Spruce* | 0 | 53 | | 3 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | e | n | n | e | n | | | **2** | |
| 515 | *Driving ParkNo. 1* | 7 | *Norway Spruce* | 0 | 41 | | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | e | n | n | e | n | | | **1** | |
| 520 | *Driving ParkNo. 22* | 3 | *Sugar Maple* | 20 | 70 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | n | n | e | e | n | | | **2** | |
| 523 | *Driving ParkNo. 23* | 2 | *Norway Maple* | 40 | 72 | | 3 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 3 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |
| 529 | *Driving ParkNo. 24* | 2 | *Black Maple* | 20 | 59 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 2 | 2 | 0 | 1 | e | n | e | e | n | | | **1** | |

| Tree ID | Address | Tree # | Species Name | Hard Surface Area | DBH (cm) | # of Stems | Height Class | Unbalanced Crown | Reduced Height | Weak Foliage/ Yellowing Leaves | Defoliation | Large Dead/ Broken Branches | Poor Branch Attachment | Lean | Pruning Scars | Basal Scars | Conks | Rot or Cavity | Cracks | Confined Space | Confined Space | Surf. Roots | Trench/ Root Cutting | Conf. with overhead wires | Conf. with structure | Conf. with sidewalk | Conf. with other tree | Conf. with thtraff. sign | Res. Field 1 | Res. Field 2 | **Tree Condition** | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 534 | *Driving ParkNo. 24* | 7 | *Black Maple* | 20 | 53 | | 3 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | e | p | e | e | n | | | **1** | |
| 535 | *Driving ParkNo. 24* | 8 | *Scot's Pine* | 0 | 65 | | 3 | 0 | 0 | 3 | 2 | 3 | 3 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | e | p | n | e | n | | | **1** | |
| 547 | *Driving ParkNo. 26* | 3 | *Silver Maple* | 10 | 81 | | 3 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |
| 549 | *Driving ParkNo. 26* | 5 | *Silver Maple* | 0 | 86 | | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 575 | *Driving ParkNo. 29* | 1 | *Eastern White-Ced* | 0 | 36 | | 3 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | e | e | n | e | n | | | **1** | |
| 577 | *Driving ParkNo. 29* | 3 | *Eastern White-Ced* | 0 | 43 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 579 | *Driving ParkNo. 29* | 5 | *Red Pine* | 2 | 35 | | 2 | 3 | 3 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 597 | *Driving ParkNo. 3* | 1 | *Common Horseche* | 0 | 35 | | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 611 | *Driving ParkNo. 31* | 6 | *Mulberry sp.* | 30 | 72 | | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 635 | *Driving ParkNo. 14* | 7 | *Silver Maple* | 0 | 72 | | 3 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |
| 638 | *Driving ParkNo. 2* | 1 | *Silver Maple* | 40 | 105 | | 3 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | e | n | e | n | n | | | **1** | |
| 643 | *Driving ParkNo. 4* | 1 | *Norway Maple* | 5 | 62 | | 3 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | n | n | n | n | n | | | **1** | |
| 644 | *Driving ParkNo. 4* | 2 | *Norway Maple* | 0 | 48 | | 3 | 2 | 0 | 3 | 2 | 2 | 0 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | n | n | n | n | n | | | **1** | |
| 651 | *Driving ParkNo. 5* | 2 | *Sugar Maple* | 0 | 31 | | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | p | n | | | **1** | |
| 654 | *Driving ParkNo. 5* | 6 | *Norway Maple* | 0 | 35 | | 3 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | p | n | | | **1** | |
| 713 | *KingNo. 257* | 2 | *Black Maple* | 20 | 69 | | 3 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **2** | |
| 757 | *melvilleNo. 45* | 1 | *Sugar Maple* | 60 | 90 | | 3 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 2 | 2 | 0 | 1 | n | n | e | e | n | | | **1** | |
| 758 | *melvilleNo. 45* | 2 | *Sugar Maple* | 30 | 34 | | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | p | n | e | e | p | | | **2** | |
| 759 | *melvilleNo. 45* | 3 | *Sugar Maple* | 50 | 63 | | 3 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | e | n | e | e | n | | | **1** | |
| 76 | *almaNo. 54* | 1 | *Sugar Maple* | 20 | 60 | | 3 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | p | p | n | e | n | | | **1** | |
| 766 | *melvilleNo. 5* | 2 | *Sugar Maple* | 0 | 40 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 1 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 782 | *melvilleNo. 36* | 6 | *Red Maple* | 20 | 65 | | 3 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 785 | *melvilleNo.* | 9 | *Sugar Maple* | 30 | 58 | | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 1 | n | n | p | e | n | | | **2** | |
| 793 | *melvilleNo. 112* | 2 | *European Beech* | 5 | 45.5 | | 3 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | e | e | n | p | e | | | **2** | |
| 80 | *almaNo. 54* | 5 | *Sugar Maple* | 10 | 70 | | 3 | 0 | 0 | 0 | 3 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 804 | *melvilleNo. 58* | 8 | *Eastern White-Ced* | 45 | 34 | | 3 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | n | e | e | e | n | | | **1** | |
| 848 | *parkNo. 37* | 1 | *Sugar Maple* | 60 | 35 | | 3 | 2 | 1 | 0 | 2 | 3 | 2 | 0 | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | p | n | e | e | n | | | **1** | |
| 887 | *parkNo.* | 2 | *Norway Maple* | 60 | 56 | | 3 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 3 | 0 | 1 | 1 | 0 | 2 | 2 | 0 | 0 | e | n | e | n | n | | | **1** | |
| 891 | *parkNo. 102* | 1 | *Southern Catalpa* | 50 | 70 | | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | e | p | e | n | n | | | **1** | |
| 899 | *parksideNo. 1* | 1 | *Black Maple* | 35 | 66 | | 3 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | e | n | e | p | p | | | **1** | |
| 923 | *sydenhamNo.* | 2 | *Cherry/Plum sp.* | 0 | 59 | | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 925 | *sydenhamNo.* | 4 | *Choke Cherry* | 0 | 68 | | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 933 | *sydenhamNo. 34* | 1 | *Norway Maple* | 15 | 88.5 | | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 945 | *sydenhamNo. 16* | 2 | *Norway Spruce* | 5 | 32 | | 3 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | n | p | n | e | n | | | **2** | |
| 946 | *sydenhamNo. 16* | 3 | *Norway Spruce* | 0 | 43.2 | | 3 | 1 | 3 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | p | n | e | n | | | **2** | |
| 957 | *sydenhamNo. 21* | 5 | *Red Maple* | 25 | 107 | | 3 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | p | p | n | e | n | | | **1** | |
| 99 | *almaNo.* | 7 | *Black Maple* | 0 | 61 | | 3 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |

This list is generated from data on overall tree condition, structural problems and conflicts.

**Total Number of Trees that could be Potential Hazard:** **83**

# List of Private Trees that could be Potential Hazard

| Tree ID | Address | Tree # | Species Name | Hard Surface Area | DBH (cm) | # of Stems | Height Class | Unbalanced Crown | Reduced Height | Weak Foliage/ Yellowing Leaves | Defoliation | Large Dead/ Broken Branches | Poor Branch Attachment | Lean | Pruning Scars | Basal Scars | Conks | Rot or Cavity | Cracks | Confined Space | Confined Space | Surf. Roots | Trench/ Root Cutting | Conf. with overhead wires | Conf. with structure | Conf. with sidewalk | Conf. with other tree | Conf. with traff. sign | Res. Field 1 | Res. Field 2 | **Tree Condition** | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1007 | *victoriaNo. 1* | 2 | *Cherry/Plum sp.* | 5 | 57 | | 3 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 3 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 1010 | *melvilleNo. 12* | 3 | *Norway Spruce* | 50 | 77 | | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | n | e | e | e | n | | | **1** | |
| 103 | *almaNo. 73* | 12 | *Manitoba Maple* | 0 | 39 | | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | n | e | n | e | n | | | **1** | |
| 1033 | *victoriaNo. 22* | 7 | *Sugar Maple* | 75 | 57 | | 3 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 3 | 0 | 0 | e | p | n | n | n | | | **1** | |
| 104 | *almaNo. 73* | 13 | *Manitoba Maple* | 0 | 32 | | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |
| 1058 | *victoriaNo. 25* | 4 | *Sugar Maple* | 0 | 106 | | 3 | 2 | 0 | 0 | 0 | 3 | 0 | 3 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 109 | *almaNo. 73* | 5 | *unknown* | 0 | 38 | | 3 | 0 | 0 | 0 | 3 | 3 | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | DEAD | | **1** | |
| 116 | *almaNo. 78* | 2 | *Maple sp.* | 0 | 41 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 124 | *almaNo. 79* | 1 | *Black Walnut* | 0 | 78 | | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **2** | |
| 126 | *almaNo. 79* | 3 | *Red Maple* | 0 | 69 | | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 190 | *crossNo. 35* | 1 | *Black Locust* | 0 | 92 | | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |
| 197 | *crossNo. 35* | 16 | *Black Walnut* | 50 | 39 | | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 0 | 0 | n | e | n | e | n | | | **2** | |
| 22 | *albertNo. 67* | 8 | *Norway Spruce* | 45 | 46 | | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 239 | *crossNo. 43* | 1 | *Paper Birch* | 25 | 34 | | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | p | p | n | p | n | | | **2** | |
| 259 | *crossNo. 53* | 1 | *Norway Maple* | 5 | 50 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 1 | 1 | 0 | 1 | e | n | n | n | n | | | **1** | |
| 268 | *crossNo. 53* | 15 | *Black Maple* | 15 | 50 | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 3 | 3 | 0 | 0 | e | e | n | n | n | | | **1** | |
| 273 | *crossNo. 53* | 2 | *unknown* | 0 | 37 | | 3 | 0 | 0 | 0 | 3 | 3 | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | DEAD | | **1** | |
| 281 | *crossNo. 53* | 27 | *Sugar Maple* | 0 | 33 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |
| 293 | *crossNo. 53* | 38 | *Manitoba Maple* | 0 | 44 | | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 296 | *crossNo. 53* | 40 | *Manitoba Maple* | 0 | 51 | | 3 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 302 | *crossNo. 53* | 46 | *Manitoba Maple* | 0 | 146 | | 3 | 3 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 308 | *crossNo. 53* | 51 | *unknown* | 0 | 98 | | 3 | 0 | 0 | 0 | 3 | 3 | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | DEAD | | **1** | |
| 350 | *crossNo. 59* | 22 | *unknown* | 0 | 32 | | 3 | 0 | 0 | 0 | 3 | 3 | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | DEAD | | **1** | |
| 364 | *crossNo. 59* | 7 | *Alternate-Leaf Dog* | 0 | 47 | | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 1 | 0 | n | n | n | e | n | | | **2** | |
| 41 | *almaNo. 17* | 11 | *Black Maple* | 0 | 47 | | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | e | n | n | n | n | | | **2** | |
| 76 | *almaNo. 54* | 1 | *Sugar Maple* | 20 | 60 | | 3 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | p | p | n | e | n | | | **1** | |
| 766 | *melvilleNo. 5* | 2 | *Sugar Maple* | 0 | 40 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 1 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 80 | *almaNo. 54* | 5 | *Sugar Maple* | 10 | 70 | | 3 | 0 | 0 | 0 | 3 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 804 | *melvilleNo. 58* | 8 | *Eastern White-Ced* | 45 | 34 | | 3 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | n | e | e | e | n | | | **1** | |
| 923 | *sydenhamNo.* | 2 | *Cherry/Plum sp.* | 0 | 59 | | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 925 | *sydenhamNo.* | 4 | *Choke Cherry* | 0 | 68 | | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 945 | *sydenhamNo. 16* | 2 | *Norway Spruce* | 5 | 32 | | 3 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | n | p | n | e | n | | | **2** | |
| 946 | *sydenhamNo. 16* | 3 | *Norway Spruce* | 0 | 43.2 | | 3 | 1 | 3 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | p | n | e | n | | | **2** | |
| 957 | *sydenhamNo. 21* | 5 | *Red Maple* | 25 | 107 | | 3 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | p | p | n | e | n | | | **1** | |

This list is generated from data on overall tree condition, structural problems and conflicts.

**Total Number of Trees that could be Potential Hazard:** **34**

# List of Public (City) and Jointly Owned Trees that could be Potential Hazard

| Tree ID | Address | Tree # | Species Name | Hard Surface Area | DBH (cm) | # of Stems | Height Class | Unbalanced Crown | Reduced Height | Weak Foliage/ Yellowing Leaves | Defoliation | Large Dead/ Broken Branches | Poor Branch Attachment | Lean | Pruning Scars | Basal Scars | Conks | Rot or Cavity | Cracks | Confined Space | Confined Space | Surf. Roots | Trench/ Root Cutting | Conf. with overhead wires | Conf. with structure | Conf. with sidewalk | Conf. with other tree | Conf. with traff. sign | Res. Field 1 | Res. Field 2 | **Tree Condition** | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1155 | *victoriaNo. 53* | 10 | *Black Maple* | 30 | 61 | | 3 | 2 | 0 | 0 | 0 | 3 | 3 | 0 | 2 | 2 | 0 | 3 | 3 | 1 | 1 | 0 | 0 | e | p | n | e | n | | | **1** | |
| 1192 | *victoriaNo. 91* | 1 | *Silver Maple* | 80 | 60 | | 3 | 3 | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **2** | |
| 33 | *almaNo.* | 1 | *Norway Maple* | 25 | 67 | | 3 | 3 | 3 | 0 | 0 | 2 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | n | n | p | n | | | **1** | |
| 384 | *crossNo.* | 1 | *Norway Maple* | 15 | 46 | | 2 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | e | n | n | n | p | | | **1** | |
| 397 | *crossNo.* | 2 | *Silver Maple* | 50 | 83 | | 3 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | p | n | n | n | n | | | **1** | |
| 422 | *Driving ParkNo. 11* | 2 | *Paper Birch* | 50 | 49 | | 3 | 1 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | e | e | n | n | n | | | **1** | |
| 43 | *almaNo.* | 13 | *Chinese elm* | 60 | 42 | | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 438 | *Driving ParkNo. 13* | 2 | *Hackberry* | 0 | 51 | | 3 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **2** | |
| 44 | *almaNo.* | 14 | *Norway Maple* | 20 | 58 | | 3 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **2** | |
| 480 | *Driving ParkNo. 19* | 8 | *Hackberry* | 0 | 53 | | 3 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | n | n | n | n | n | | | **1** | |
| 481 | *Driving ParkNo. 19* | 9 | *Bur Oak* | 10 | 85 | | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 497 | *Driving ParkNo. 22* | 2 | *Sugar Maple* | 25 | 74 | | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | n | n | e | e | n | | | **2** | |
| 504 | *Driving ParkNo. 10* | 4 | *Sugar Maple* | 10 | 70 | | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | n | n | n | n | n | | | **1** | |
| 506 | *Driving ParkNo. 1* | 1 | *Norway Spruce* | 0 | 49 | | 3 | 2 | 3 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | e | e | n | e | n | | | **1** | |
| 507 | *Driving ParkNo. 1* | 10 | *Norway Spruce* | 0 | 39 | | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | e | n | n | e | n | | | **1** | |
| 508 | *Driving ParkNo. 1* | 11 | *Norway Spruce* | 0 | 33 | | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 514 | *Driving ParkNo. 1* | 6 | *Norway Spruce* | 0 | 53 | | 3 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | e | n | n | e | n | | | **2** | |
| 515 | *Driving ParkNo. 1* | 7 | *Norway Spruce* | 0 | 41 | | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | e | n | n | e | n | | | **1** | |
| 520 | *Driving ParkNo. 22* | 3 | *Sugar Maple* | 20 | 70 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | n | n | e | e | n | | | **2** | |
| 523 | *Driving ParkNo. 23* | 2 | *Norway Maple* | 40 | 72 | | 3 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 3 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |
| 529 | *Driving ParkNo. 24* | 2 | *Black Maple* | 20 | 59 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 2 | 2 | 0 | 1 | e | n | e | e | n | | | **1** | |
| 534 | *Driving ParkNo. 24* | 7 | *Black Maple* | 20 | 53 | | 3 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | e | p | e | e | n | | | **1** | |
| 535 | *Driving ParkNo. 24* | 8 | *Scot's Pine* | 0 | 65 | | 3 | 0 | 0 | 3 | 2 | 3 | 3 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | e | p | n | e | n | | | **1** | |
| 547 | *Driving ParkNo. 26* | 3 | *Silver Maple* | 10 | 81 | | 3 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |
| 549 | *Driving ParkNo. 26* | 5 | *Silver Maple* | 0 | 86 | | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 575 | *Driving ParkNo. 29* | 1 | *Eastern White-Ced* | 0 | 36 | | 3 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | e | e | n | e | n | | | **1** | |
| 577 | *Driving ParkNo. 29* | 3 | *Eastern White-Ced* | 0 | 43 | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 579 | *Driving ParkNo. 29* | 5 | *Red Pine* | 2 | 35 | | 2 | 3 | 3 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **2** | |
| 597 | *Driving ParkNo. 3* | 1 | *Common Horseche* | 0 | 35 | | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 611 | *Driving ParkNo. 31* | 6 | *Mulberry sp.* | 30 | 72 | | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 635 | *Driving ParkNo. 14* | 7 | *Silver Maple* | 0 | 72 | | 3 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |
| 638 | *Driving ParkNo. 2* | 1 | *Silver Maple* | 40 | 105 | | 3 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | e | n | e | n | n | | | **1** | |
| 643 | *Driving ParkNo. 4* | 1 | *Norway Maple* | 5 | 62 | | 3 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | n | n | n | n | n | | | **1** | |
| 644 | *Driving ParkNo. 4* | 2 | *Norway Maple* | 0 | 48 | | 3 | 2 | 0 | 3 | 2 | 2 | 0 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | n | n | n | n | n | | | **1** | |
| 651 | *Driving ParkNo. 5* | 2 | *Sugar Maple* | 0 | 31 | | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | p | n | | | **1** | |
| 654 | *Driving ParkNo. 5* | 6 | *Norway Maple* | 0 | 35 | | 3 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | n | n | n | p | n | | | **1** | |
| 713 | *KingNo. 257* | 2 | *Black Maple* | 20 | 69 | | 3 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **2** | |
| 757 | *melvilleNo. 45* | 1 | *Sugar Maple* | 60 | 90 | | 3 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 2 | 2 | 0 | 1 | n | n | e | e | n | | | **1** | |
| 758 | *melvilleNo. 45* | 2 | *Sugar Maple* | 30 | 34 | | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | p | n | e | e | p | | | **2** | |
| 759 | *melvilleNo. 45* | 3 | *Sugar Maple* | 50 | 63 | | 3 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | e | n | e | e | n | | | **1** | |
| 782 | *melvilleNo. 36* | 6 | *Red Maple* | 20 | 65 | | 3 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | e | n | n | e | n | | | **1** | |
| 785 | *melvilleNo.* | 9 | *Sugar Maple* | 30 | 58 | | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 1 | n | n | p | e | n | | | **2** | |
| 793 | *melvilleNo. 112* | 2 | *European Beech* | 5 | 45.5 | | 3 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | e | e | n | p | e | | | **2** | |
| 848 | *parkNo. 37* | 1 | *Sugar Maple* | 60 | 35 | | 3 | 2 | 1 | 0 | 2 | 3 | 2 | 0 | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | p | n | e | e | n | | | **1** | |
| 887 | *parkNo.* | 2 | *Norway Maple* | 60 | 56 | | 3 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 3 | 0 | 1 | 1 | 0 | 2 | 2 | 0 | 0 | e | n | e | n | n | | | **1** | |
| 891 | *parkNo. 102* | 1 | *Southern Catalpa* | 50 | 70 | | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | e | p | e | n | n | | | **1** | |

| Tree ID | Address | Tree # | Species Name | Hard Surface Area | DBH (cm) | # of Stems | Height Class | Unbalanced Crown | Reduced Height | Weak Foliage/ Yellowing Leaves | Defoliation | Large Dead/ Broken Branches | Poor Branch Attachment | Lean | Pruning Scars | Basal Scars | Conks | Rot or Cavity | Cracks | Confined Space | Confined Space | Surf. Roots | Trench/ Root Cutting | Conf. with overhead wires | Conf. with structure | Conf. with sidewalk | Conf .with other tree | Conf .with traff. sign | Res. Field 1 | Res. Field 2 | **Tree Condition** | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 899 | *parksideNo. 1* | 1 | *Black Maple* | 35 | 66 | | 3 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | e | n | e | p | p | | | **1** | |
| 933 | *sydenhamNo. 34* | 1 | *Norway Maple* | 15 | 88.5 | | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | n | n | n | n | n | | | **1** | |
| 99 | *almaNo.* | 7 | *Black Maple* | 0 | 61 | | 3 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | n | n | n | e | n | | | **1** | |

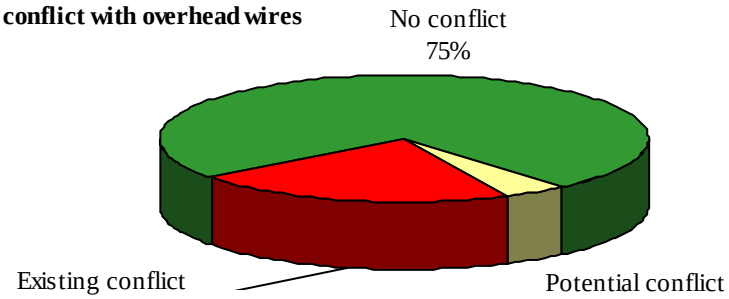
This list is generated from data on overall tree condition, structural problems and conflicts.

**Total Number of Trees that could be Potential Hazard:** **49**

# Conflicts between Trees and Overhead Wires or Sidewalks

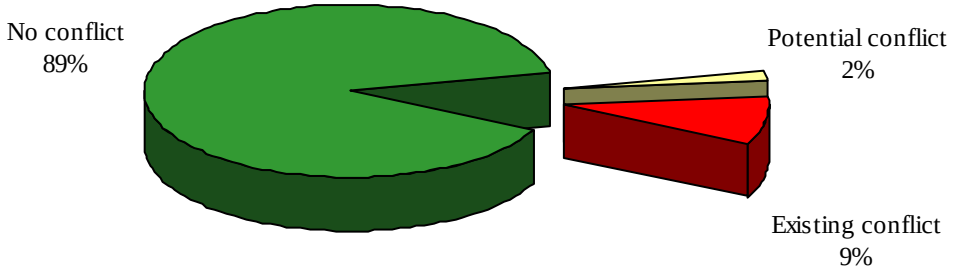
Urban trees often come into conflict with overhead wires. Although these lines look harmless enough, they can be extremely dangerous for the tree and for people. Damage to the wire by the tree could cause a disruption in the service provided by those wires. Trees in conflict with overhead wires ultimately require pruning to maintain proper clearance. Periodic pruning can lead to poorer condition and a shortened life span of the tree. Conflict with overhead wires usually is typical of street trees, but is also not uncommon with backyard trees. Figure 19 shows the proportion of trees in the community that have existing (e) or potential (p) conflict with overhead wires. A point to note is that trees in conflict with overhead wires are already of large size, and therefore are among the more valuable trees existing in a community.

**Figure - 19. Proportion of trees that are in conflict with overhead wires**




Trees growing in urban spaces such as on streets, parking lots, and other paved areas usually do not have enough space for their roots. Trees growing in such spaces are more subject to girdling roots, drought effect, and other secondary problems such us pests and disease. This could be easily prevented by planting the right tree in the right place but if the conflict already exists, these trees should get more attention. The proportion of trees in the community that are either in existing (e), potential (e) or no conflict (n) with sidewalks is shown in Figure -20.

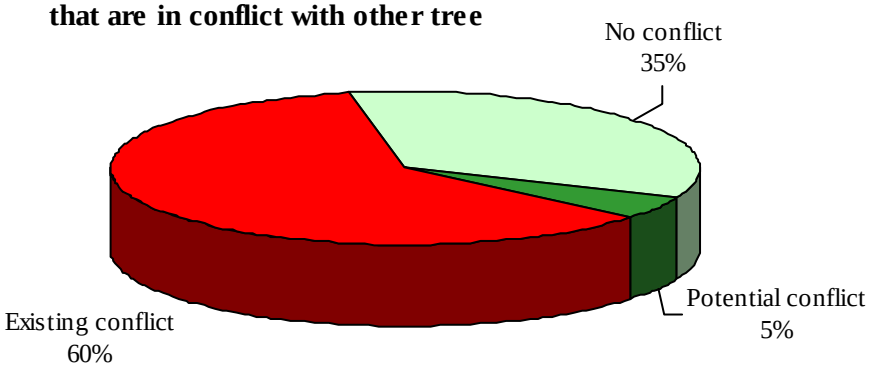
**Figure - 20. Proportion of trees that are conflict with sidewalk**



## Tree Conflict with Other Tree and Structure

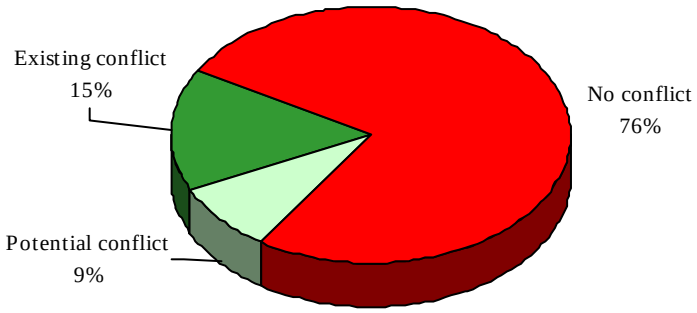
Urban trees are often planted too closely for aesthetics reasons, or the misjudgment of the size of a fully grown tree. Such trees have reduced crown and leaf area due to competition for space and light on a particular side of the tree crown. Smaller trees planted under the crowns of larger ones do not have enough light and space for regular growth. This can result in an irregular crown, or poor tree condition. At the same time their trunks are straight and free of branches. Figure - 21 shows the proportion of trees in existing (e) and potential (p) conflict with other trees in the community.

**Figure - 21. Proportion of trees in the community that are in conflict with other tree**




Trees planted too close to buildings, or walls have unbalanced crowns, leaning trunks, reduced crown sizes, restricted roots, etc. This could be easily prevented by planting the right tree in the right place but if the conflict already exists, these trees should get more attention.
The proportion of trees in the community that are either in existing (e), potential (e) or no conflict (n) with structure is shown in Figure -22.

**Figure - 22. Proportion of trees in the community that are in conflict with structure**



# Candidate Heritage Trees, Community and Regionally Rare Tree Species

If we are lucky, our landscape will include those magnificent and massive trees that inspire us. They represent the same cultural and historical heritage as old buildings or monuments. These heritage trees are rare, and as living organisms, require special protection and care. The presence of large trees in cities is valuable not only from a biological and ecological perspective, but also from a social one. Large trees also have very important educational significance for a community. These special trees are also referred to as heritage, significant, historical or champion trees. Determining significant and potential candidate heritage trees could be a first step towards tree protection and conservation in the community. The focus of this report is to point out trees of notable size in the community that may be considered as significant and/or candidate heritage trees. The main criterion for candidate heritage trees is diameter at breast height (DBH). Individuals with a DBH greater than half of the maximum size for the species in question (Farrar 1995) (See Table 15) are first considered. The program suggests a meaningful diameter for all species; useful for comparing with your trees in consideration of heritage candidacy, as well as gives a species weight to each tree. However, there are possibilities for a community to adapt these two criteria to their own situation, and is allowed for in the computer program. Trees that meet the size and species criteria, and have at least a good (3) tree condition rating are marked as candidate heritage trees. For example some communities could consider large, healthy Manitoba maples as potential heritage trees, while others would not consider a similar tree as a heritage because of the species. Candidate heritage trees are listed in Table 4. The recommendations for significant and heritage trees in the community are discussed in the summary of the report. Species representing less than one percent in a community, are listed in Table 5 and 6.

Both the presence and absence of heritage trees in a community forest is meaningful for further management and tree protection. For example, some older communities will probably have larger trees and they can consider not only a protection by-law but also special maintenance techniques to keep them in a good condition. At the same time, newly built communities with smaller trees need to reach this goal by protecting young, healthy trees.

Some trees are rare in a community either because they seldom occur in native forests or they are not very common as landscape trees. These trees can be considered very interesting from an educational point of view. Such species, representing less than one percent in a community, are listed in Table - 5 and 6.

## Table - 4. Candidate heritage trees listed by location

| Location | Ownership | Tree Number | Common Name | Diameter (cm) | Diameter Considered for Heritage Significance (cm) | Heritage Diameter Approached in % | Tree Condition |
|---|---|---|---|---|---|---|---|
| 50 albert | City owned | 13 | *Sugar Maple* | 84.7 | 191 | 44% | 5 |
| albert | City owned | 12 | *Black Spruce* | 50 | 41 | 122% | 5 |
| 73 alma | Privately owned | 105 | *Manitoba Maple* | 87 | 136 | 64% | 3 |
| 79 alma | Privately owned | 125 | *Red Maple* | 79 | 127 | 62% | 3 |
| 78 alma | Privately owned | 117 | *White Spruce* | 69 | 69 | 100% | 5 |
| 78 alma | Privately owned | 118 | *White Spruce* | 49 | 69 | 71% | 5 |
| 34 alma | Privately owned | 70 | *White Spruce* | 42 | 69 | 61% | 5 |
| 53 cross | Privately owned | 317 | *Sugar Maple* | 133 | 191 | 70% | 5 |
| 35 cross | Privately owned | 195 | *Black Walnut* | 111 | 188 | 59% | 5 |
| 53 cross | Privately owned | 271 | *Red Oak* | 106 | 45 | 236% | 3 |
| 43 cross | Privately owned | 222 | *Sugar Maple* | 93 | 191 | 49% | 5 |
| 32 cross | Privately owned | 175 | *Ginkgo* | 78 | 118 | 66% | 4 |
| cross | Privately owned | 374 | *Black Locust* | 73 | 155 | 47% | 4 |
| 30 Driving Park | City owned | 588 | *White Oak* | 95 | 191 | 50% | 5 |
| 9 Driving Park | City owned | 668 | *English Oak* | 89 | 194 | 46% | 4 |
| 11 Driving Park | City owned | 427 | *Red/Green Ash* | 85 | 60 | 142% | 5 |
| 11 Driving Park | City owned | 426 | *Red/Green Ash* | 82 | 60 | 137% | 4 |
| 17 Driving Park | City owned | 470 | *Red Maple* | 80 | 127 | 63% | 3 |
| 25 Driving Park | City owned | 543 | *Red/Green Ash* | 79 | 60 | 132% | 5 |
| 11 Driving Park | City owned | 428 | *Red/Green Ash* | 78 | 60 | 130% | 4 |
| 28 Driving Park | City owned | 569 | *Red Maple* | 57 | 127 | 45% | 4 |
| 32 Driving Park | City owned | 621 | *Colorado Spruce* | 43 | 46 | 93% | 4 |
| DundasCentralScho | City owned | 703 | *Sugar Maple* | 91 | 191 | 48% | 5 |
| 7 melville | Privately owned | 771 | *Black Walnut* | 102 | 188 | 54% | 4 |
| 45 melville | City owned | 760 | *Sugar Maple* | 86 | 191 | 45% | 4 |
| 11 melville | Privately owned | 737 | *Ginkgo* | 81 | 118 | 69% | 4 |



*Tree Condition:*
*Excellent (No problem(s)) - 5*
*Good (No apparent problem(s)) - 4*
*Fair (Minor problem(s)) - 3*
*Poor (Major problem(s)) -2*
*Very Poor (Extreme problem(s)) -1*

## Table - 4. Candidate heritage trees listed by location

| Location | Ownership | Tree Number | Common Name | Diameter (cm) | Diameter Considered for Heritage Significance (cm) | Heritage Diameter Approached in % | Tree Condition |
|---|---|---|---|---|---|---|---|
| 12 melville | Privately owned | 745 | *White Spruce* | 78 | 69 | 113% | 4 |
| 11 melville | Privately owned | 738 | *Ginkgo* | 71 | 118 | 60% | 5 |
| 12 melville | Privately owned | 748 | *White Spruce* | 58 | 69 | 84% | 5 |
| 12 melville | Privately owned | 774 | *White Spruce* | 53 | 69 | 77% | 5 |
| 12 melville | Privately owned | 744 | *White Spruce* | 52 | 69 | 75% | 4 |
| 12 melville | Privately owned | 747 | *White Spruce* | 50 | 69 | 72% | 5 |
| 12 melville | Privately owned | 746 | *White Spruce* | 49 | 69 | 71% | 5 |
| 2N napier | Joint ownership | 818 | *Black Walnut* | 103 | 188 | 55% | 5 |
| 49 park | Privately owned | 866 | *Black Walnut* | 102 | 188 | 54% | 5 |
| 22 park | City owned | 842 | *Black Locust* | 92 | 155 | 59% | 4 |
| 21 sydenham | Privately owned | 956 | *Red Maple* | 107 | 127 | 84% | 3 |
| 58 sydenham | Privately owned | 972 | *Manitoba Maple* | 68.5 | 136 | 50% | 4 |
| 38 sydenham | Privately owned | 938 | *White Spruce* | 47.7 | 69 | 69% | 5 |
| sydenham | Privately owned | 930 | *Paper Birch* | 45.4 | 94 | 48% | 5 |
| 30 victoria | Privately owned | 1068 | *Black Walnut* | 109 | 188 | 58% | 4 |
| 17 victoria | Privately owned | 1016 | *Silver Maple* | 108 | 208 | 52% | 5 |
| 30 victoria | Privately owned | 1066 | *Black Walnut* | 97 | 188 | 52% | 5 |
| 90 victoria | Privately owned | 1191 | *Sugar Maple* | 89 | 191 | 47% | 3 |
| 100 victoria | City owned | 1133 | *Sugar Maple* | 86.4 | 191 | 45% | 5 |
| 25 victoria | Privately owned | 1060 | *Common Horsechestnut* | 59 | 144 | 41% | 3 |
| 121 victoria | Privately owned | 1143 | *Paper Birch* | 43 | 94 | 46% | 5 |



*Tree Condition:*
*Excellent (No problem(s)) - 5*
*Good (No apparent problem(s)) - 4*
*Fair (Minor problem(s)) - 3*
*Poor (Major problem(s)) -2*
*Very Poor (Extreme problem(s)) -1*

# City and Jointly Owned
# Potential Significant and Candidate Heritage Trees

## Table - 4a. Public (city) and jointly owned candidate heritage trees listed by location

| Location | Tree Number | Common Name | Diameter (cm) | Diameter Considered for Heritage Significance (cm) | Heritage Diameter Approached in % | Tree Condition |
|---|---|---|---|---|---|---|
| 50 albert | 13 | *Sugar Maple* | 84.7 | 191 | 44% | 5 |
| albert | 12 | *Black Spruce* | 50 | 41 | 122% | 5 |
| 30 Driving Park | 588 | *White Oak* | 95 | 191 | 50% | 5 |
| 9 Driving Park | 668 | *English Oak* | 89 | 194 | 46% | 4 |
| 11 Driving Park | 427 | *Red/Green Ash* | 85 | 60 | 142% | 5 |
| 11 Driving Park | 426 | *Red/Green Ash* | 82 | 60 | 137% | 4 |
| 17 Driving Park | 470 | *Red Maple* | 80 | 127 | 63% | 3 |
| 25 Driving Park | 543 | *Red/Green Ash* | 79 | 60 | 132% | 5 |
| 11 Driving Park | 428 | *Red/Green Ash* | 78 | 60 | 130% | 4 |
| 28 Driving Park | 569 | *Red Maple* | 57 | 127 | 45% | 4 |
| 32 Driving Park | 621 | *Colorado Spruce* | 43 | 46 | 93% | 4 |
| DundasCentralSchool | 703 | *Sugar Maple* | 91 | 191 | 48% | 5 |
| 45 melville | 760 | *Sugar Maple* | 86 | 191 | 45% | 4 |
| 2N napier | 818 | *Black Walnut* | 103 | 188 | 55% | 5 |
| 22 park | 842 | *Black Locust* | 92 | 155 | 59% | 4 |
| 100 victoria | 1133 | *Sugar Maple* | 86.4 | 191 | 45% | 5 |



*Tree Condition:*
*Excellent (No problem(s)) - 5*
*Good (No apparent problem(s)) - 4*
*Fair (Minor problem(s)) - 3*
*Poor (Major problem(s)) -2*
*Very Poor (Extreme problem(s)) -1*

# Privately Owned
# Potential Significant and Candidate Heritage Trees

## Table - 4b. Privately owned candidate heritage trees listed by location

| Location | Tree Number | Common Name | Diameter (cm) | Diameter Considered for Heritage Significance (cm) | Heritage Diameter Approached in % | Tree Condition |
|---|---|---|---|---|---|---|
| 73 alma | 105 | *Manitoba Maple* | 87 | 136 | 64% | 3 |
| 79 alma | 125 | *Red Maple* | 79 | 127 | 62% | 3 |
| 78 alma | 117 | *White Spruce* | 69 | 69 | 100% | 5 |
| 78 alma | 118 | *White Spruce* | 49 | 69 | 71% | 5 |
| 34 alma | 70 | *White Spruce* | 42 | 69 | 61% | 5 |
| 53 cross | 317 | *Sugar Maple* | 133 | 191 | 70% | 5 |
| 35 cross | 195 | *Black Walnut* | 111 | 188 | 59% | 5 |
| 53 cross | 271 | *Red Oak* | 106 | 45 | 236% | 3 |
| 43 cross | 222 | *Sugar Maple* | 93 | 191 | 49% | 5 |
| 32 cross | 175 | *Ginkgo* | 78 | 118 | 66% | 4 |
| cross | 374 | *Black Locust* | 73 | 155 | 47% | 4 |
| 7 melville | 771 | *Black Walnut* | 102 | 188 | 54% | 4 |
| 11 melville | 737 | *Ginkgo* | 81 | 118 | 69% | 4 |
| 12 melville | 745 | *White Spruce* | 78 | 69 | 113% | 4 |
| 11 melville | 738 | *Ginkgo* | 71 | 118 | 60% | 5 |
| 12 melville | 748 | *White Spruce* | 58 | 69 | 84% | 5 |
| 12 melville | 774 | *White Spruce* | 53 | 69 | 77% | 5 |
| 12 melville | 744 | *White Spruce* | 52 | 69 | 75% | 4 |
| 12 melville | 747 | *White Spruce* | 50 | 69 | 72% | 5 |
| 12 melville | 746 | *White Spruce* | 49 | 69 | 71% | 5 |
| 49 park | 866 | *Black Walnut* | 102 | 188 | 54% | 5 |
| 21 sydenham | 956 | *Red Maple* | 107 | 127 | 84% | 3 |
| 58 sydenham | 972 | *Manitoba Maple* | 68.5 | 136 | 50% | 4 |
| 38 sydenham | 938 | *White Spruce* | 47.7 | 69 | 69% | 5 |
| sydenham | 930 | *Paper Birch* | 45.4 | 94 | 48% | 5 |
| 30 victoria | 1068 | *Black Walnut* | 109 | 188 | 58% | 4 |

*02-Mar-08*

*Tree Condition:*
*Excellent (No problem(s)) - 5*
*Good (No apparent problem(s)) - 4*
*Fair (Minor problem(s)) - 3*
*Poor (Major problem(s)) -2*
*Very Poor (Extreme problem(s)) -1*

## Table - 4b. Privately owned candidate heritage trees listed by location

| Location | Tree Number | Common Name | Diameter (cm) | Diameter Considered for Heritage Significance (cm) | Heritage Diameter Approached in % | Tree Condition |
|---|---|---|---|---|---|---|
| 17 victoria | 1016 | *Silver Maple* | 108 | 208 | 52% | 5 |
| 30 victoria | 1066 | *Black Walnut* | 97 | 188 | 52% | 5 |
| 90 victoria | 1191 | *Sugar Maple* | 89 | 191 | 47% | 3 |
| 25 victoria | 1060 | *Common Horsechestnut* | 59 | 144 | 41% | 3 |
| 121 victoria | 1143 | *Paper Birch* | 43 | 94 | 46% | 5 |



*Tree Condition:*
*Excellent (No problem(s)) - 5*
*Good (No apparent problem(s)) - 4*
*Fair (Minor problem(s)) - 3*
*Poor (Major problem(s)) -2*
*Very Poor (Extreme problem(s)) -1*

# Regionally Rare Native Trees

Some species rarely occur in native forests either because they are out of their range or they are not dominant species in a forest community (Farar, 1995; Argus et al., 1982-87) (See Table -15). Their presence in a community forest is listed in Table - 5 regardless of their frequency in the community, condition or size (>20cm).

**Table - 5. List of regionaly rare native trees by their location**

| Common Name | Address | Tree ID | Diameter (cm) |
|---|---|---|---|
| *Bur Oak* | 19 Driving Park | 481 | 85.00 |
| *Bur Oak* | 19 Driving Park | 479 | 152.00 |
| *Red Oak* | 31 Driving Park | 603 | 30.00 |
| *Red Oak* | 17 Driving Park | 469 | 90.00 |
| *Red Oak* | 15 Driving Park | 462 | 130.00 |
| *Red Oak* | 53 cross | 271 | 106.00 |
| *White Oak* | 5 Driving Park | 649 | 96.00 |
| *White Oak* | 30 Driving Park | 588 | 95.00 |
| *White Oak* | 27 Driving Park | 554 | 118.00 |
| *White Oak* | 23 Driving Park | 522 | 52.00 |

**Total Number of Trees:** **10**

# Tree species that make up less than one percent (1%) of the total tree number of trees

Humans have planted a variety of trees in and around their homes since ancient times. A preference for new and unusual trees has resulted in about 1,500 major landscape trees and 5000 species, cultivars and varieties in North American Nurseries (Jacobson 1996). Many of these are sporadically planted and do not have a significant impact on urban forest cover. However, the numerous species and cultivars found in urban areas have an impact on biodiversity. Table 6 gives the list of species that make up less than one percent (1%) of the total tree population. They are grouped by their origin as native or alien. For more information on the listed species see Table 15.

**Table - 6. Species representing less than 1% of the total tree population, listed by origin**

| Common name | Number of Trees | Native Species |
|---|---|---|
| *American Elm* | 1 | Yes |
| *Basswood* | 2 | Yes |
| *Black Locust* | 10 | No |
| *Black Spruce* | 2 | Yes |
| *Bur Oak* | 2 | Yes |
| *Butternut* | 3 | Yes |
| *Cedar (Thuja)* | 6 | No |
| *Chinese elm* | 5 | No |
| *Choke Cherry* | 2 | Yes |
| *Common Horsechestnut* | 5 | No |
| *English Oak* | 1 | No |
| *European Mountin Ash* | 2 | No |
| *Ginkgo* | 8 | No |
| *Hemlock* | 6 | Yes |
| *Japanese Maple* | 5 | No |
| *Little-Leaf Linden* | 10 | No |
| *Redbud* | 3 | Yes |
| *White Oak* | 4 | Yes |
| *White Pine* | 4 | Yes |

# Summary of Tree Valuation Based on CTLA Approach

Trees in cities and communities have mainly been planted for beauty and to provide shade. Lately, many other values, such as environmental and economic benefits have been recognized. The less tangible aesthetic value of trees and the value they add to the property are realized mostly by the owners. The aesthetic value of trees is very subjective and difficult to measure. However, the economic value of trees can be estimated by their impact on property value. Research shows that the value trees add to a particular property ranges from 15 % to 25 % of the total value. Approximately 15% of the house and lot price (CLTA 1992) may be related to tree value. Petit et al. (1995) quote developers who estimate that the amount could be between 20% and 30%. Each tree and shrub has a monetary value that represents its replacement cost. A number of different formulae can be used to calculate the appraised value of a tree. In this report, the estimated value of trees is determined using an approach by the Council of Tree and Landscape Appraisers (CTLA1992). This procedure calculates a value based on cross-sectional area at DBH. This value is calculated using the current value of trees available for transplanting. This basic price is then adjusted for species, tree condition and location. It should be noted that the objective for this report is to determine a conservative value based on average conditions. The approach applied here may overestimate some trees, but will also underestimate others. It will, nonetheless, yield a credible value for all the trees in the community, or for a group of trees, but should not be used for individual tree valuation.

It should be noted that the objective for this report was to determine a conservative value based on average conditions. The approach applied here, may over-estimate some trees but will also under-estimate others. It will yield a credible value for all the trees in the community, or for a group of trees but should not be used for individual trees valuation.

The value of trees by ownership in the community is shown in Figure 24. The value of community trees summarized by ownership is shown in Table 7.

Figure 25 shows the value of community trees by street.

**Figure 25. Tree value based on CTLA by the ownership**

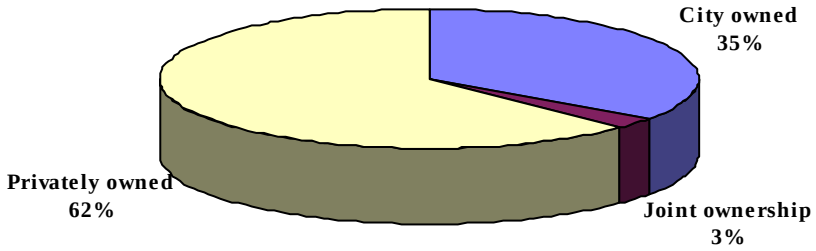



**Table - 7. Tree Value based on CTLA approach on public and private land**

| Street | Tree Value | Proportion of Total Value of Community Trees |
|---|---|---|
| **City owned** | | |
| albert | $56,961.55 | 1.479% |
| alma | $40,831.77 | 1.060% |
| cros/vic | $763.83 | 0.020% |
| cross | $104,264.43 | 2.707% |
| Driving Park | $567,805.43 | 14.743% |
| DundasCentralSchool | $33,756.04 | 0.876% |
| elgin | $35,283.88 | 0.916% |
| King | $12,166.07 | 0.316% |

**Table - 7. Tree Value based on CTLA approach on public and private land**

| Street | Tree Value | Proportion of Total Value of Community Trees |
|---|---|---|
| main | $6,347.10 | 0.165% |
| market | $6,776.46 | 0.176% |
| melville | $160,200.30 | 4.160% |
| park | $53,590.31 | 1.391% |
| parkside | $5,959.30 | 0.155% |
| queen | $19,902.09 | 0.517% |
| sydenham | $40,559.52 | 1.053% |
| victoria | $195,616.76 | 5.079% |
| **City owned** | **$1,340,784.83** | **34.81%** |
| **Joint ownership** | | |
| alma | $20,244.04 | 0.526% |
| cross | $18,822.24 | 0.489% |
| Driving Park | $7,259.41 | 0.188% |
| melville | $349.11 | 0.009% |
| napier | $18,914.60 | 0.491% |
| park | $22,794.63 | 0.592% |
| sydenham | $16,582.70 | 0.431% |
| victoria | $311.17 | 0.008% |
| **Joint ownership** | **$105,277.90** | **2.73%** |
| **Privately owned** | | |
| albert | $92,341.71 | 2.398% |
| alma | $227,776.33 | 5.914% |
| cameron | $20,761.56 | 0.539% |
| cross | $685,114.47 | 17.789% |
| dr./alma | $13,172.07 | 0.342% |
| King | $34,527.58 | 0.896% |
| main | $22,477.24 | 0.584% |
| market | $1,510.36 | 0.039% |
| melville | $309,789.03 | 8.044% |
| napier | $2,466.95 | 0.064% |

**Table - 7. Tree Value based on CTLA approach on public and private land**

| Street | Tree Value | Proportion of Total Value of Community Trees |
|---|---|---|
| park | $139,524.58 | 3.623% |
| sydenham | $291,749.57 | 7.575% |
| victoria | $529,876.87 | 13.758% |
| York Rd | $34,227.65 | 0.889% |
| **Privately owned** | **$2,405,315.97** | **62.45%** |
| **Total Value of of All Trees:** | **$3,851,378.70** | |

## Tree Value Based on CTLA Approach on Private Land

**Table - 7a. Tree Value based on CTLA approach on private land**

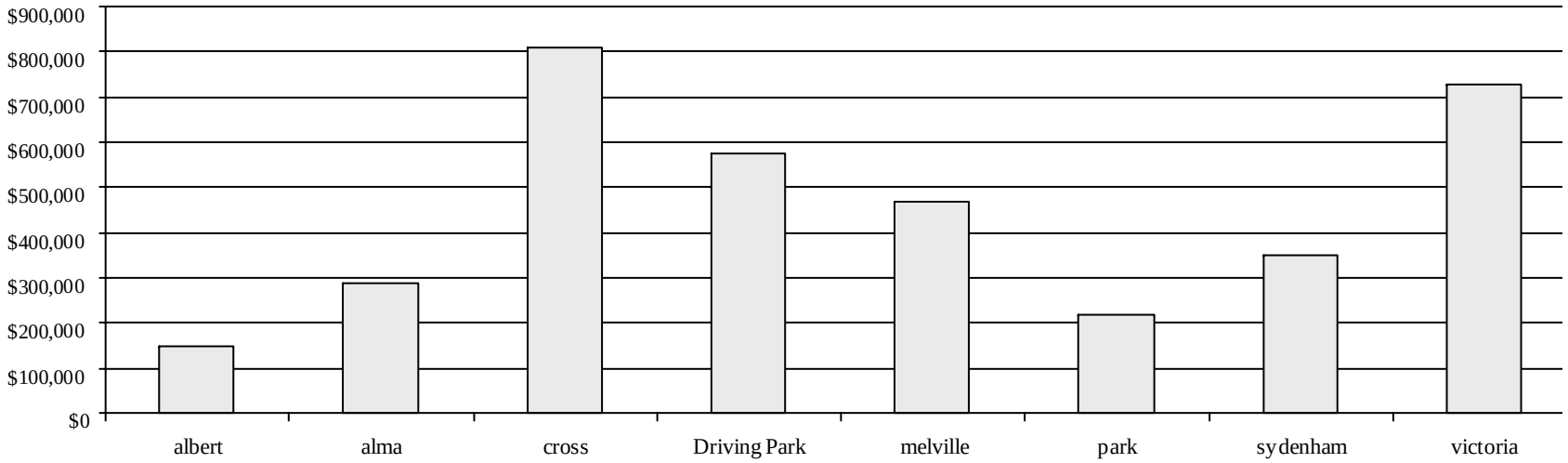
| Street | Tree Value | Proportion of Total Value of PrivateTrees |
|---|---|---|
| albert | $92,341.71 | 3.839% |
| alma | $227,776.33 | 9.470% |
| cameron | $20,761.56 | 0.863% |
| cross | $685,114.47 | 28.483% |
| dr./alma | $13,172.07 | 0.548% |
| King | $34,527.58 | 1.435% |
| main | $22,477.24 | 0.934% |
| market | $1,510.36 | 0.063% |
| melville | $309,789.03 | 12.879% |
| napier | $2,466.95 | 0.103% |
| park | $139,524.58 | 5.801% |
| sydenham | $291,749.57 | 12.129% |
| victoria | $529,876.87 | 22.029% |
| York Rd | $34,227.65 | 1.423% |
| **Privately owned** | **$2,405,315.97** | **100.00%** |
| **Total Value of of All Trees:** | **$2,405,315.97** | |

## Tree Value Based on CTLA Approach - City and Jointly Owned Trees

**Table - 7b. Tree Value based on CTLA approach for city and jointly owned trees**

| Street | Tree Value | Proportion of Total Value of Public/Joint Trees |
|---|---|---|
| albert | $56,962 | 3.9% |
| alma | $40,832 | 2.8% |
| cros/vic | $764 | 0.1% |
| cross | $104,264 | 7.2% |
| Driving Park | $567,805 | 39.3% |
| DundasCentralSchool | $33,756 | 2.3% |
| elgin | $35,284 | 2.4% |
| King | $12,166 | 0.8% |
| main | $6,347 | 0.4% |
| market | $6,776 | 0.5% |
| melville | $160,200 | 11.1% |
| park | $53,590 | 3.7% |
| parkside | $5,959 | 0.4% |
| queen | $19,902 | 1.4% |
| sydenham | $40,560 | 2.8% |
| victoria | $195,617 | 13.5% |
| **City owned** | **$1,340,785** | **92.7%** |
| alma | $20,244 | 1.4% |
| cross | $18,822 | 1.3% |
| Driving Park | $7,259 | 0.5% |
| melville | $349 | 0.0% |
| napier | $18,915 | 1.3% |
| park | $22,795 | 1.6% |
| sydenham | $16,583 | 1.1% |
| victoria | $311 | 0.0% |
| **Joint ownership** | **$105,278** | **7.3%** |
| **Total Value of of All Trees** | **$1,446,063** | |

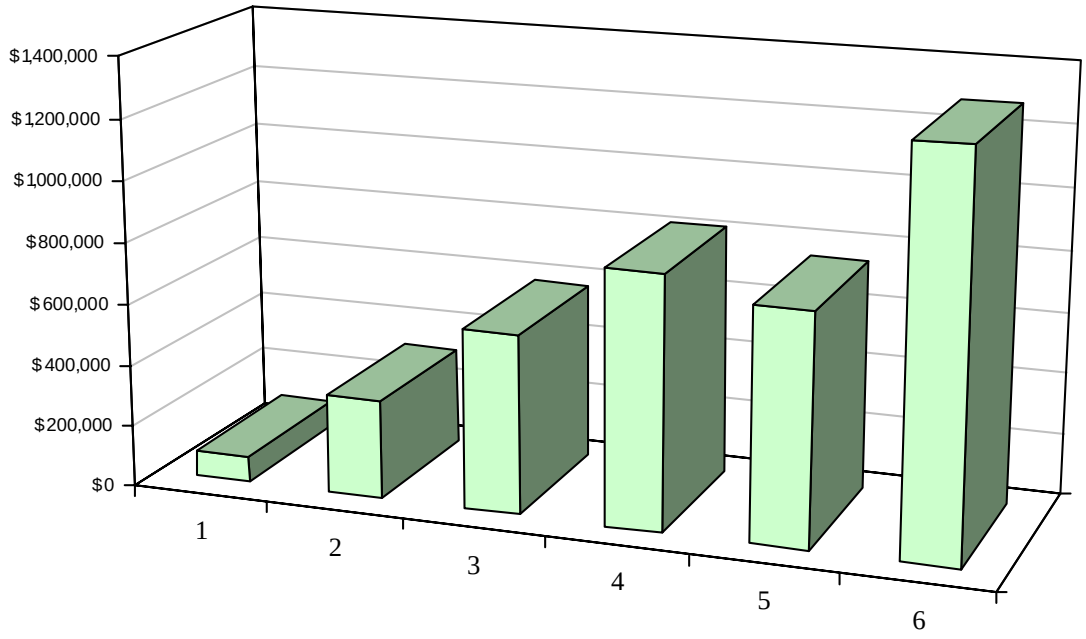
**Figure - 25. Value of trees summarized by streets (more than $ 50 000)**



## Value of Trees by Diameter Classes Based on CTLA Approach

The value of a single tree is related to its size, condition, location and species rating. A few trees left on a lot that is being developed may add thousands of dollars to the site's property value. Furthermore, a healthy tree in an urban area may be worth twenty-five times its rural counterpart (Moll 1989). The value of trees, by diameter class, is shown in Figure 26.The cumulative values of all species represented in the community have been estimated based on the CTLA approach, and shown in Table 8. The ten species with maximum cumulative values are shown in Figure 27.Similarly, values of all genera represented in the community are shown in Figure 28 and Table 9.

**Figure - 26. Value of trees in each diameter class based on CTLA approach**






*Diameter classes*
*1- < 15.5cm*
*2- 15.6-30.5cm*
*3- 30.6-45.5cm*
*4- 45.6-60.5cm*
*5- 60.6-76.5cm*
*6- >76.6cm*

## Value of Species Based on CTLA Approach (sorted by species)

**Figure - 27. Top ten species values based on CTLA approach**

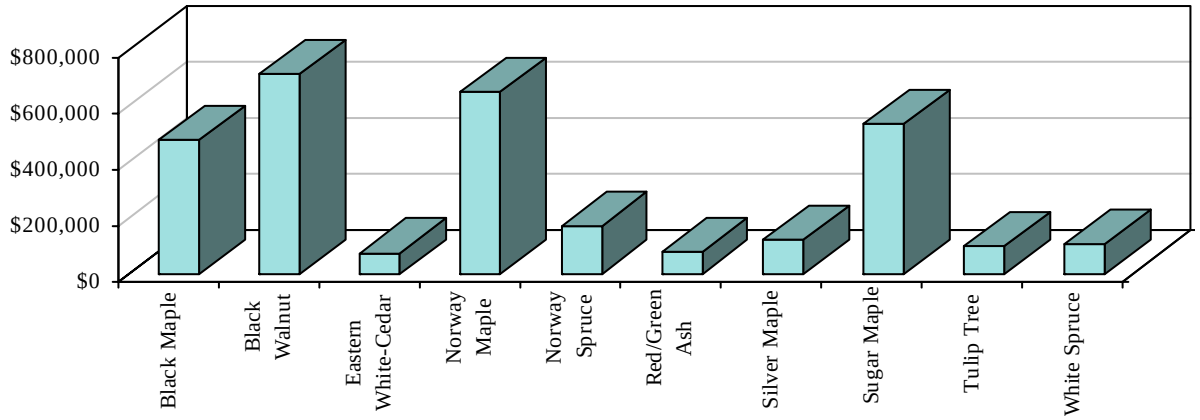



**Table - 8. Species values based on CTLA approach sorted by species**

| Common name | Species Value | Proportion of Total Value of Community Trees |
|---|---|---|
| Alternate-Leaf Dogwood | **$2,185** | 0.06% |
| American Beech | **$48,516** | 1.26% |
| American Elm | **$117** | 0.00% |
| American Hazel | **$70** | 0.00% |
| Apple/Crabapple sp. | **$794** | 0.02% |
| Ash sp. | **$8,694** | 0.23% |
| Austrian Pine | **$8,076** | 0.21% |
| Basswood | **$2,781** | 0.07% |
| Birch sp. | **$847** | 0.02% |
| Bitternut Hickory | **$387** | 0.01% |
| Black Locust | **$16,977** | 0.44% |
| Black Maple | **$474,337** | 12.32% |
| Black Spruce | **$7,364** | 0.19% |
| Black Walnut | **$707,265** | 18.36% |
| Blue Beech | **$439** | 0.01% |
| Bur Oak | **$7,130** | 0.19% |
| Butternut | **$10,236** | 0.27% |

**Table - 8. Species values based on CTLA approach sorted by species**

| Common name | Species Value | Proportion of Total Value of Community Trees |
|---|---|---|
| Cedar (Thuja) | **$7,508** | 0.19% |
| Cherry/Plum sp. | **$13,287** | 0.35% |
| Chinese elm | **$8,349** | 0.22% |
| Chinkapin Oak | **$32,149** | 0.83% |
| Choke Cherry | **$632** | 0.02% |
| Colorado Spruce | **$45,774** | 1.19% |
| Common Horsechestnut | **$8,299** | 0.22% |
| Common Pear | **$6,966** | 0.18% |
| Crabapple(s) | **$3,321** | 0.09% |
| Dawn Redwood | **$46** | 0.00% |
| Douglas Fir | **$382** | 0.01% |
| Eastern Flowering Dogwoo | **$471** | 0.01% |
| Eastern White-Cedar | **$74,281** | 1.93% |
| Elm sp. | **$5,318** | 0.14% |
| English Oak | **$13,185** | 0.34% |
| European Beech | **$1,173** | 0.03% |
| European Mountin Ash | **$965** | 0.03% |
| French Lilac | **$94** | 0.00% |
| Ginkgo | **$64,622** | 1.68% |
| Golden Weeping Willow | **$6,963** | 0.18% |
| Hackberry | **$16,354** | 0.42% |
| Hemlock | **$2,686** | 0.07% |
| Honey Locust | **$33,470** | 0.87% |
| Japanese Maple | **$597** | 0.02% |
| Juniperus sp. | **$373** | 0.01% |
| Katsura Tree | **$19,713** | 0.51% |
| Linden sp. | **$4,416** | 0.11% |
| Little-Leaf Linden | **$35,693** | 0.93% |
| Magnolia sp. | **$8,372** | 0.22% |
| Manitoba Maple | **$23,510** | 0.61% |
| Maple sp. | **$13,264** | 0.34% |
| Mountin-Ash sp. | **$1,813** | 0.05% |
| Mulberry sp. | **$9,071** | 0.24% |
| Norway Maple | **$646,602** | 16.79% |
| Norway Spruce | **$167,074** | 4.34% |

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**Table - 8. Species values based on CTLA approach sorted by species**

| Common name | Species Value | Proportion of Total Value of Community Trees |
|---|---|---|
| Osage Orange | **$1,510** | 0.04% |
| Paper Birch | **$11,414** | 0.30% |
| Red Cedar | **$676** | 0.02% |
| Red Maple | **$56,499** | 1.47% |
| Red Oak | **$22,597** | 0.59% |
| Red Pine | **$12,285** | 0.32% |
| Red/Green Ash | **$77,394** | 2.01% |
| Redbud | **$608** | 0.02% |
| Scot's Pine | **$212** | 0.01% |
| Shagbark Hickory | **$3,224** | 0.08% |
| Silver Maple | **$119,026** | 3.09% |
| Slippery Elm | **$3,099** | 0.08% |
| Southern Catalpa | **$57,827** | 1.50% |
| Spruce sp. | **$11,752** | 0.31% |
| Sugar Maple | **$530,608** | 13.78% |
| Sumac | **$1,018** | 0.03% |
| Sycamore | **$1,656** | 0.04% |
| Tree of Heaven | **$35,401** | 0.92% |
| Tulip Tree | **$100,311** | 2.60% |
| unknown | **$70,052** | 1.82% |
| White Ash | **$21,554** | 0.56% |
| White Mulberry | **$558** | 0.01% |
| White Oak | **$21,477** | 0.56% |
| White Pine | **$4,603** | 0.12% |
| White Spruce | **$104,928** | 2.72% |
| Yew sp. | **$8,084** | 0.21% |
| **Total Value of Trees:** | **$3,851,379** | |

# Value of Species Based on CTLA Approach (sorted by value)

**Table - 8a. Species values based on CTLA approach sorted by value**

| Common name | Species Value | Proportion of Total Value of Community Trees |
|---|---|---|
| Black Walnut | **$707,265** | 18.36% |
| Norway Maple | **$646,602** | 16.79% |
| Sugar Maple | **$530,608** | 13.78% |
| Black Maple | **$474,337** | 12.32% |
| Norway Spruce | **$167,074** | 4.34% |
| Silver Maple | **$119,026** | 3.09% |
| White Spruce | **$104,928** | 2.72% |
| Tulip Tree | **$100,311** | 2.60% |
| Red/Green Ash | **$77,394** | 2.01% |
| Eastern White-Cedar | **$74,281** | 1.93% |
| unknown | **$70,052** | 1.82% |
| Ginkgo | **$64,622** | 1.68% |
| Southern Catalpa | **$57,827** | 1.50% |
| Red Maple | **$56,499** | 1.47% |
| American Beech | **$48,516** | 1.26% |
| Colorado Spruce | **$45,774** | 1.19% |
| Little-Leaf Linden | **$35,693** | 0.93% |
| Tree of Heaven | **$35,401** | 0.92% |
| Honey Locust | **$33,470** | 0.87% |
| Chinkapin Oak | **$32,149** | 0.83% |
| Manitoba Maple | **$23,510** | 0.61% |
| Red Oak | **$22,597** | 0.59% |
| White Ash | **$21,554** | 0.56% |
| White Oak | **$21,477** | 0.56% |
| Katsura Tree | **$19,713** | 0.51% |
| Black Locust | **$16,977** | 0.44% |
| Hackberry | **$16,354** | 0.42% |
| Cherry/Plum sp. | **$13,287** | 0.35% |
| Maple sp. | **$13,264** | 0.34% |
| English Oak | **$13,185** | 0.34% |
| Red Pine | **$12,285** | 0.32% |
| Spruce sp. | **$11,752** | 0.31% |
| Paper Birch | **$11,414** | 0.30% |

**Table - 8a. Species values based on CTLA approach sorted by value**

| Common name | Species Value | Proportion of Total Value of Community Trees |
|---|---|---|
| Butternut | **$10,236** | 0.27% |
| Mulberry sp. | **$9,071** | 0.24% |
| Ash sp. | **$8,694** | 0.23% |
| Magnolia sp. | **$8,372** | 0.22% |
| Chinese elm | **$8,349** | 0.22% |
| Common Horsechestnut | **$8,299** | 0.22% |
| Yew sp. | **$8,084** | 0.21% |
| Austrian Pine | **$8,076** | 0.21% |
| Cedar (Thuja) | **$7,508** | 0.19% |
| Black Spruce | **$7,364** | 0.19% |
| Bur Oak | **$7,130** | 0.19% |
| Common Pear | **$6,966** | 0.18% |
| Golden Weeping Willow | **$6,963** | 0.18% |
| Elm sp. | **$5,318** | 0.14% |
| White Pine | **$4,603** | 0.12% |
| Linden sp. | **$4,416** | 0.11% |
| Crabapple(s) | **$3,321** | 0.09% |
| Shagbark Hickory | **$3,224** | 0.08% |
| Slippery Elm | **$3,099** | 0.08% |
| Basswood | **$2,781** | 0.07% |
| Hemlock | **$2,686** | 0.07% |
| Alternate-Leaf Dogwood | **$2,185** | 0.06% |
| Mountin-Ash sp. | **$1,813** | 0.05% |
| Sycamore | **$1,656** | 0.04% |
| Osage Orange | **$1,510** | 0.04% |
| European Beech | **$1,173** | 0.03% |
| Sumac | **$1,018** | 0.03% |
| European Mountin Ash | **$965** | 0.03% |
| Birch sp. | **$847** | 0.02% |
| Apple/Crabapple sp. | **$794** | 0.02% |
| Red Cedar | **$676** | 0.02% |
| Choke Cherry | **$632** | 0.02% |
| Redbud | **$608** | 0.02% |
| Japanese Maple | **$597** | 0.02% |
| White Mulberry | **$558** | 0.01% |
| Eastern Flowering Dogwoo | **$471** | 0.01% |

**Table - 8a. Species values based on CTLA approach sorted by value**

| Common name | Species Value | Proportion of Total Value of Community Trees |
|---|---|---|
| Blue Beech | **$439** | 0.01% |
| Bitternut Hickory | **$387** | 0.01% |
| Douglas Fir | **$382** | 0.01% |
| Juniperus sp. | **$373** | 0.01% |
| Scot's Pine | **$212** | 0.01% |
| American Elm | **$117** | 0.00% |
| French Lilac | **$94** | 0.00% |
| American Hazel | **$70** | 0.00% |
| Dawn Redwood | **$46** | 0.00% |
| **Total Value of Trees:** | **$3,851,379** | |

# Value of Genera Based on CTLA Approach

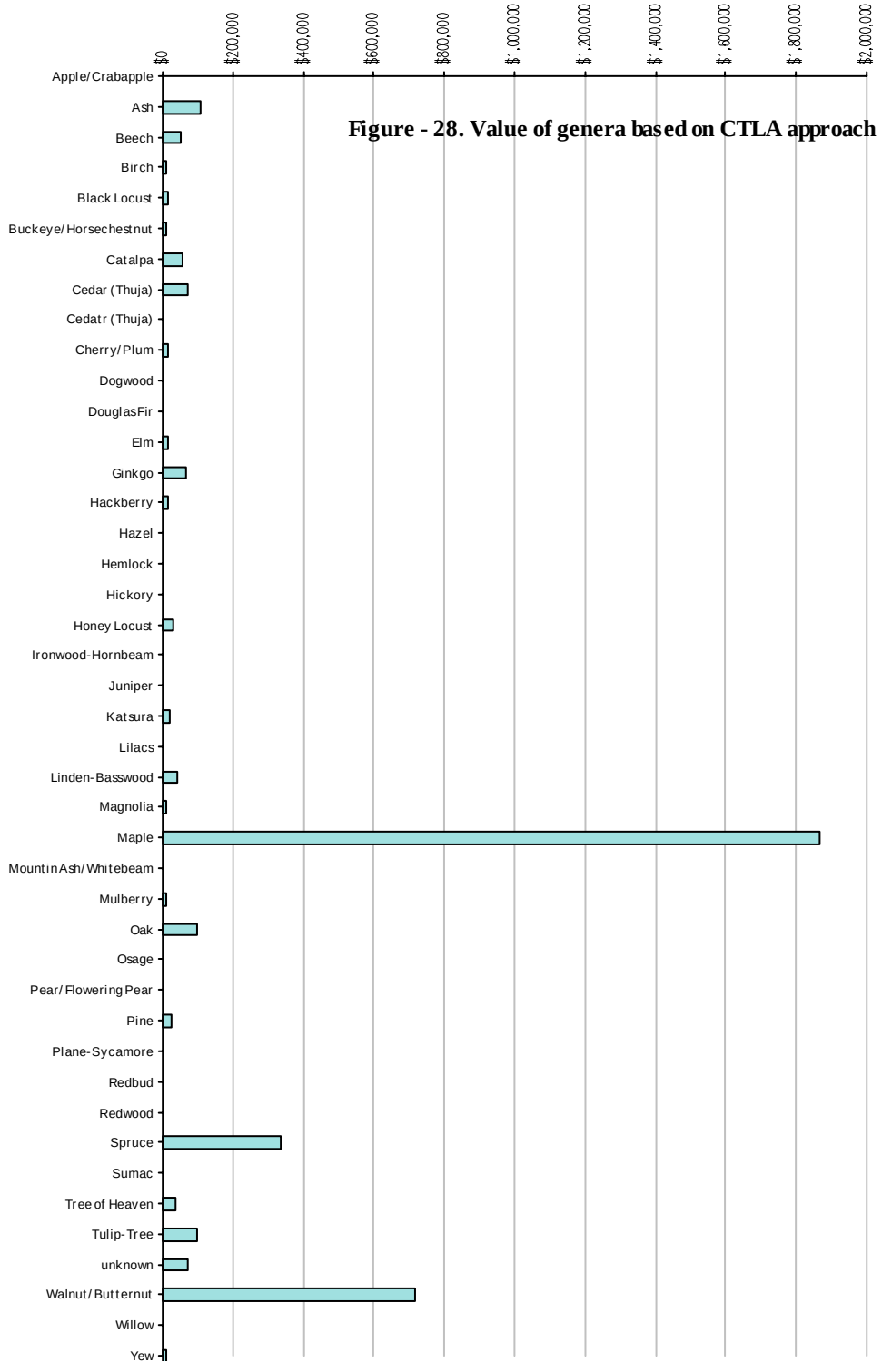


**Figure - 28. Value of genera based on CTLA approach**

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**Table - 9. Genera value based on CTLA Approach**

| Genus | Genera Value | Proportion of Total Value of Community Trees |
|---|---|---|
| *Apple/Craba* | $4,116 | 0.11% |
| *Ash* | $107,642 | 2.79% |
| *Beech* | $49,689 | 1.29% |
| *Birch* | $12,261 | 0.32% |
| *Black Locust* | $16,977 | 0.44% |
| *Buckeye/Hor* | $8,299 | 0.22% |
| *Catalpa* | $57,827 | 1.50% |
| *Cedar (Thuja* | $74,281 | 1.93% |
| *Cedatr (Thuj* | $7,508 | 0.19% |
| *Cherry/Plum* | $13,919 | 0.36% |
| *Dogwood* | $2,656 | 0.07% |
| *Douglas Fir* | $382 | 0.01% |
| *Elm* | $16,882 | 0.44% |
| *Ginkgo* | $64,622 | 1.68% |
| *Hackberry* | $16,354 | 0.42% |
| *Hazel* | $70 | 0.00% |
| *Hemlock* | $2,686 | 0.07% |
| *Hickory* | $3,611 | 0.09% |
| *Honey Locust* | $33,470 | 0.87% |
| *Ironwood-Ho* | $439 | 0.01% |
| *Juniper* | $1,050 | 0.03% |
| *Katsura* | $19,713 | 0.51% |
| *Lilacs* | $94 | 0.00% |
| *Linden-Bass* | $42,889 | 1.11% |
| *Magnolia* | $8,372 | 0.22% |
| *Maple* | $1,864,442 | 48.41% |
| *Mountin Ash/* | $2,778 | 0.07% |
| *Mulberry* | $9,630 | 0.25% |
| *Oak* | $96,537 | 2.51% |
| *Osage* | $1,510 | 0.04% |
| *Pear/Floweri* | $6,966 | 0.18% |
| *Pine* | $25,177 | 0.65% |
| *Plane-Sycam* | $1,656 | 0.04% |

**Table - 9. Genera value based on CTLA Approach**

| Genus | Genera Value | Proportion of Total Value of Community Trees |
|---|---|---|
| *Redbud* | $608 | 0.02% |
| *Redwood* | $46 | 0.00% |
| *Spruce* | $336,891 | 8.75% |
| *Sumac* | $1,018 | 0.03% |
| *Tree of Heav* | $35,401 | 0.92% |
| *Tulip-Tree* | $100,311 | 2.60% |
| *unknown* | $70,052 | 1.82% |
| *Walnut/Butte* | $717,501 | 18.63% |
| *Willow* | $6,963 | 0.18% |
| *Yew* | $8,084 | 0.21% |
| **Total Value:** | **$3,851,379** | |

# Basal and Leaf Area

Benefits derived from an urban forest are directly related to the canopy or, more specifically, the leaf area. Leaf area in both urban and surrounding rural areas is critical for evapotranspiration, intercepting atmospheric deposition, biogenic volatile organic emissions, light interception and other ecosystem processes (Nowak 1996). Knowing leaf and basal area helps you to target urban forest management in order to increase the canopy cover. For example, urban forests comprised of numerous small trees can have less leaf area than one with fewer but larger trees. Reports on species, leaf area and basal area, along with reports (Table 10, 11, 12, 13 and Figure 29and 30) on species/genera distribution can help you to target urban forest planning and management for increasing canopy cover. The increase of canopy cover or leaf area does not necessarily mean planting more trees; it might be directed toward protecting larger trees. This program provides you with reports on basal and leaf area by species and management unit. Both leaf and basal area are shown in square meters.

**Figure 29. Proportion of basal area for species that contribute to the total basal area with more than one (>1% ) percent.**

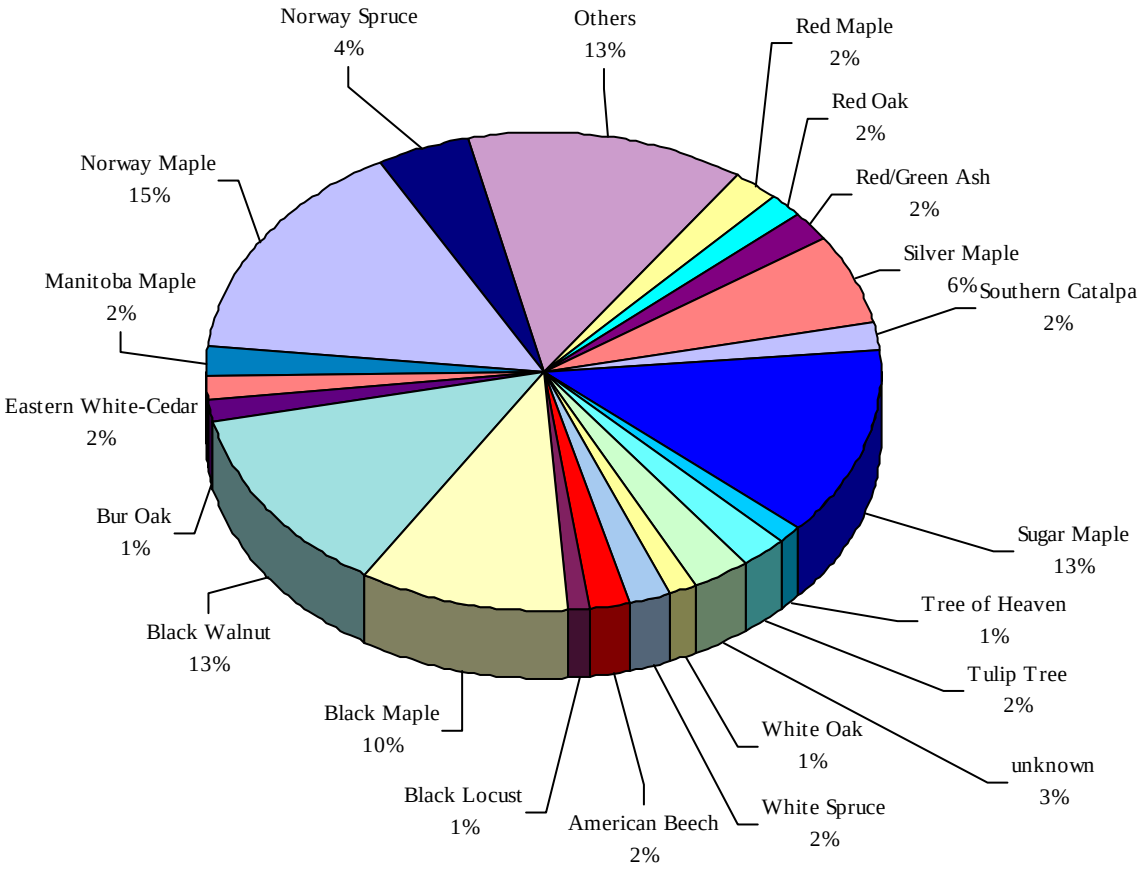

**Table - 10. Species basal area.**

| Species | Number of trees | Basal Area (square m) | Proportion in total basal area |
|---|---|---|---|
| Alternate-Leaf Dogwood | 7 | 0.19 | 0.10% |
| American Beech | 12 | 3.38 | 1.83% |
| American Elm | 1 | 0.00 | 0.00% |
| American Hazel | 1 | 0.00 | 0.00% |
| Apple/Crabapple sp. | 1 | 0.06 | 0.03% |
| Ash sp. | 1 | 0.38 | 0.21% |
| Austrian Pine | 5 | 0.25 | 0.13% |
| Basswood | 2 | 0.13 | 0.07% |
| Birch sp. | 6 | 0.02 | 0.01% |
| Bitternut Hickory | 1 | 0.03 | 0.02% |
| Black Locust | 10 | 2.28 | 1.24% |
| Black Maple | 76 | 18.35 | 9.96% |
| Black Spruce | 2 | 0.24 | 0.13% |
| Black Walnut | 72 | 23.64 | 12.83% |
| Blue Beech | 7 | 0.01 | 0.01% |
| Bur Oak | 2 | 2.38 | 1.29% |
| Butternut | 3 | 0.60 | 0.32% |
| Cedar (Thuja) | 6 | 0.23 | 0.12% |
| Cherry/Plum sp. | 13 | 1.40 | 0.76% |
| Chinese elm | 5 | 0.39 | 0.21% |
| Chinkapin Oak | 1 | 1.43 | 0.78% |
| Choke Cherry | 2 | 0.37 | 0.20% |
| Colorado Spruce | 23 | 1.31 | 0.71% |
| Common Horsechestnut | 5 | 0.67 | 0.37% |
| Common Pear | 15 | 0.17 | 0.09% |
| Crabapple(s) | 9 | 0.18 | 0.10% |
| Dawn Redwood | 1 | 0.00 | 0.00% |
| Douglas Fir | 1 | 0.02 | 0.01% |
| Eastern Flowering Dogwood | 1 | 0.01 | 0.01% |
| Eastern White-Cedar | 79 | 3.07 | 1.66% |
| Elm sp. | 2 | 0.16 | 0.09% |
| English Oak | 1 | 0.62 | 0.34% |
| European Beech | 2 | 0.16 | 0.09% |

**Table - 10. Species basal area.**

| Species | Number of trees | Basal Area (square m) | Proportion in total basal area |
|---|---|---|---|
| European Mountin Ash | 2 | 0.14 | 0.08% |
| French Lilac | 2 | 0.00 | 0.00% |
| Ginkgo | 8 | 1.80 | 0.97% |
| Golden Weeping Willow | 1 | 1.25 | 0.68% |
| Hackberry | 8 | 1.15 | 0.63% |
| Hemlock | 6 | 0.05 | 0.03% |
| Honey Locust | 21 | 1.57 | 0.85% |
| Japanese Maple | 5 | 0.12 | 0.06% |
| Juniperus sp. | 4 | 0.02 | 0.01% |
| Katsura Tree | 2 | 0.76 | 0.41% |
| Linden sp. | 2 | 0.15 | 0.08% |
| Little-Leaf Linden | 10 | 1.19 | 0.64% |
| Magnolia sp. | 9 | 0.24 | 0.13% |
| Manitoba Maple | 14 | 3.59 | 1.95% |
| Maple sp. | 4 | 0.54 | 0.29% |
| Mountin-Ash sp. | 3 | 0.06 | 0.03% |
| Mulberry sp. | 18 | 0.88 | 0.48% |
| Norway Maple | 226 | 28.42 | 15.42% |
| Norway Spruce | 44 | 7.98 | 4.33% |
| Osage Orange | 1 | 0.20 | 0.11% |
| Paper Birch | 13 | 0.82 | 0.45% |
| Red Cedar | 1 | 0.03 | 0.02% |
| Red Maple | 28 | 4.58 | 2.49% |
| Red Oak | 13 | 2.97 | 1.61% |
| Red Pine | 11 | 0.89 | 0.48% |
| Red/Green Ash | 27 | 3.30 | 1.79% |
| Redbud | 3 | 0.01 | 0.01% |
| Scot's Pine | 3 | 0.75 | 0.41% |
| Shagbark Hickory | 1 | 0.22 | 0.12% |
| Silver Maple | 37 | 11.41 | 6.19% |
| Slippery Elm | 2 | 0.58 | 0.32% |
| Southern Catalpa | 14 | 3.41 | 1.85% |
| Spruce sp. | 4 | 0.33 | 0.18% |
| Sugar Maple | 124 | 23.83 | 12.93% |
| Sumac | 1 | 0.02 | 0.01% |
| Sycamore | 2 | 0.06 | 0.03% |

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**Table - 10. Species basal area.**

| Species | Number of trees | Basal Area (square m) | Proportion in total basal area |
|---|---|---|---|
| Tree of Heaven | 16 | 2.05 | 1.11% |
| Tulip Tree | 22 | 4.00 | 2.17% |
| unknown | 17 | 4.93 | 2.68% |
| White Ash | 14 | 1.10 | 0.60% |
| White Mulberry | 1 | 0.02 | 0.01% |
| White Oak | 4 | 2.74 | 1.49% |
| White Pine | 4 | 0.11 | 0.06% |
| White Spruce | 26 | 3.56 | 1.93% |
| Yew sp. | 16 | 0.30 | 0.16% |
| **Total:** | **1,169** | **184.27** | |

**Table 11. Species Basal and Leaf Area.**

| Species | Basal Area (square m) | % Basal Area | Leaf Area (square m) | % Leaf Area |
|---|---|---|---|---|
| *Acer negundo (Manitoba Maple)* | 3.59 | 1.949% | 61,023.50 | 2.00% |
| *Acer palmatum (Japanese Maple)* | 0.12 | 0.065% | 484.39 | 0.02% |
| *Acer platanoides (Norway Maple)* | 28.42 | 15.425% | 139,682.12 | 4.57% |
| *Acer rubrum (Red Maple)* | 4.58 | 2.487% | 50,768.63 | 1.66% |
| *Acer saccharinum (Silver Maple)* | 11.41 | 6.192% | 82,553.65 | 2.70% |
| *Acer saccharum (Sugar Maple)* | 23.83 | 12.935% | 230,234.33 | 7.54% |
| *Acer saccharum ssp nigrum (Black Maple)* | 18.35 | 9.961% | 133,986.81 | 4.39% |
| *Acer sp. (Maple sp.)* | 0.54 | 0.293% | 2,196.83 | 0.07% |
| *Aesculus hippocastanum (Common Horsechestnut)* | 0.67 | 0.366% | 2,595.30 | 0.08% |
| *Ailanthus altissima (Tree of Heaven)* | 2.05 | 1.115% | 7,591.06 | 0.25% |
| *Betula papyrifera (Paper Birch)* | 0.82 | 0.446% | 2,319.75 | 0.08% |
| *Betula sp. (Birch sp.)* | 0.02 | 0.010% | 283.51 | 0.01% |
| *Carpinus caroliniana (Blue Beech)* | 0.01 | 0.005% | 217.39 | 0.01% |
| *Carya cordiformis (Bitternut Hickory)* | 0.03 | 0.017% | 88.04 | 0.00% |
| *Carya ovata (Shagbark Hickory)* | 0.22 | 0.120% | 456.63 | 0.01% |
| *Catalpa bignonioides (Southern Catalpa)* | 3.41 | 1.848% | 20,743.16 | 0.68% |
| *Celtis occidentalis (Hackberry)* | 1.15 | 0.626% | 5,218.97 | 0.17% |
| *Cercidiphyllum japonicum (Katsura Tree)* | 0.76 | 0.414% | 3,871.74 | 0.13% |
| *Cercis canadensis (Redbud)* | 0.01 | 0.007% | 135.56 | 0.00% |
| *Cornus alternifolia (Alternate-Leaf Dogwood)* | 0.19 | 0.101% | 704.69 | 0.02% |
| *Cornus florida (Eastern Flowering Dogwood)* | 0.01 | 0.005% | 56.30 | 0.00% |
| *Corylus americana (American Hazel)* | 0.00 | 0.001% | 37.36 | 0.00% |
| *Fagus grandifolia (American Beech)* | 3.38 | 1.834% | 43,651.89 | 1.43% |
| *Fagus sylvatica (European Beech)* | 0.16 | 0.089% | 511.52 | 0.02% |
| *Fraxinus americana (White Ash)* | 1.10 | 0.596% | 3,678.72 | 0.12% |
| *Fraxinus pennsylvanica (Red/Green Ash)* | 3.30 | 1.789% | 20,798.77 | 0.68% |

**Table 11. Species Basal and Leaf Area.**

| Species | Basal Area (square m) | % Basal Area | Leaf Area (square m) | % Leaf Area |
|---|---|---|---|---|
| *Fraxinus sp. (Ash sp.)* | 0.38 | 0.207% | 2,146.49 | 0.07% |
| *Ginkgo biloba (Ginkgo)* | 1.80 | 0.974% | 10,189.41 | 0.33% |
| *Gleditsia triacanthos (Honey Locust)* | 1.57 | 0.853% | 2,508.94 | 0.08% |
| *Juglans cinerea (Butternut)* | 0.60 | 0.323% | 2,618.18 | 0.09% |
| *Juglans nigra (Black Walnut)* | 23.64 | 12.828% | 299,880.25 | 9.82% |
| *Juniperus sp. (Juniperus sp.)* | 0.02 | 0.009% | 167.27 | 0.01% |
| *Juniperus virginiana (Red Cedar)* | 0.03 | 0.019% | 75.87 | 0.00% |
| *Liriodendron tulipifera (Tulip Tree)* | 4.00 | 2.170% | 355,394.19 | 11.63% |
| *Maclura pomifera (Osage Orange)* | 0.20 | 0.107% | 553.44 | 0.02% |
| *Magnolia sp. (Magnolia sp.)* | 0.24 | 0.129% | 768.40 | 0.03% |
| *Malus hybrids (Crabapple(s))* | 0.18 | 0.100% | 864.76 | 0.03% |
| *Malus sp. (Apple/Crabapple sp.)* | 0.06 | 0.031% | 91.51 | 0.00% |
| *Metasequoia glyptostroboides (Dawn Redwood)* | 0.00 | 0.000% | 35.23 | 0.00% |
| *Morus alba (White Mulberry)* | 0.02 | 0.012% | 80.03 | 0.00% |
| *Morus sp. (Mulberry sp.)* | 0.88 | 0.476% | 3,098.40 | 0.10% |
| *Picea abies (Norway Spruce)* | 7.98 | 4.328% | 29,056.54 | 0.95% |
| *Picea glauca (White Spruce)* | 3.56 | 1.931% | 11,208.11 | 0.37% |
| *Picea mariana (Black Spruce)* | 0.24 | 0.129% | 655.81 | 0.02% |
| *Picea pungens (Colorado Spruce)* | 1.31 | 0.710% | 3,256.16 | 0.11% |
| *Picea sp. (Spruce sp.)* | 0.33 | 0.180% | 831.69 | 0.03% |
| *Pinus nigra (Austrian Pine)* | 0.25 | 0.133% | 603.15 | 0.02% |
| *Pinus resinosa (Red Pine)* | 0.89 | 0.484% | 1,924.17 | 0.06% |
| *Pinus strobus (White Pine)* | 0.11 | 0.059% | 342.26 | 0.01% |
| *Pinus sylvestris (Scot's Pine)* | 0.75 | 0.406% | 1,131.68 | 0.04% |
| *Platanus occidentalis (Sycamore)* | 0.06 | 0.034% | 232.76 | 0.01% |
| *Prunus sp. (Cherry/Plum sp.)* | 1.40 | 0.762% | 5,582.55 | 0.18% |
| *Prunus virginiana (Choke Cherry)* | 0.37 | 0.203% | 1,648.86 | 0.05% |
| *Pseudotsuga menziesii (Douglas Fir)* | 0.02 | 0.008% | 50.34 | 0.00% |

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**Table 11. Species Basal and Leaf Area.**

| Species | Basal Area (square m) | % Basal Area | Leaf Area (square m) | % Leaf Area |
|---|---|---|---|---|
| *Pyrus communis (Common Pear)* | 0.17 | 0.092% | 918.52 | 0.03% |
| *Quercus alba (White Oak)* | 2.74 | 1.486% | 18,639.29 | 0.61% |
| *Quercus macrocarpa (Bur Oak)* | 2.38 | 1.293% | 132,556.86 | 4.34% |
| *Quercus muehlenbergii (Chinkapin Oak)* | 1.43 | 0.777% | 78,988.46 | 2.59% |
| *Quercus robur (English Oak)* | 0.62 | 0.338% | 5,895.60 | 0.19% |
| *Quercus rubra (Red Oak)* | 2.97 | 1.610% | 42,744.79 | 1.40% |
| *Rhus typhina (Sumac)* | 0.02 | 0.008% | 67.13 | 0.00% |
| *Robinia pseudoacacia (Black Locust)* | 2.28 | 1.238% | 16,521.26 | 0.54% |
| *Salix babylonica (Golden Weeping Willow)* | 1.25 | 0.677% | 47,560.51 | 1.56% |
| *Sorbus aucuparia (European Mountin Ash)* | 0.14 | 0.076% | 239.09 | 0.01% |
| *Sorbus sp. (Mountin-Ash sp.)* | 0.06 | 0.034% | 225.63 | 0.01% |
| *Syringa vulgaris (French Lilac)* | 0.00 | 0.001% | 35.76 | 0.00% |
| *Taxus sp. (Yew sp.)* | 0.30 | 0.161% | 876.16 | 0.03% |
| *Thuja occidentalis (Eastern White-Cedar)* | 3.07 | 1.665% | 7,945.84 | 0.26% |
| *Thuja sp. (Cedar (Thuja))* | 0.23 | 0.125% | 470.91 | 0.02% |
| *Tilia americana (Basswood)* | 0.13 | 0.069% | 456.80 | 0.01% |
| *Tilia cordata (Little-Leaf Linden)* | 1.19 | 0.645% | 5,222.50 | 0.17% |
| *Tilia sp. (Linden sp.)* | 0.15 | 0.083% | 500.88 | 0.02% |
| *Tsuga canadensis (Hemlock)* | 0.05 | 0.028% | 318.99 | 0.01% |
| *Ulmus americana (American Elm)* | 0.00 | 0.002% | 57.94 | 0.00% |
| *Ulmus parvifolia (Chinese elm)* | 0.39 | 0.214% | 494.53 | 0.02% |
| *Ulmus rubra (Slippery Elm)* | 0.58 | 0.317% | 4,590.24 | 0.15% |
| *Ulmus sp. (Elm sp.)* | 0.16 | 0.088% | 514.28 | 0.02% |
| *unknown (unknown)* | 4.93 | 2.675% | 1,139,871.13 | 37.32% |
| **Total:** | **184.27** | | **3,054,600.19** | |

## Table 12. Total species basal and leaf area by street

| Street Name | Basal Area (square m) | % Basal Area | Leaf Area (square m) | % Leaf Area |
|---|---|---|---|---|
| **albert** | 6.89 | 3.74% | 74,731 | 2.45% |
| **alma** | 14.96 | 8.12% | 114,451 | 3.75% |
| **cameron** | 0.74 | 0.40% | 4,775 | 0.16% |
| **cros/vic** | 0.01 | 0.01% | 73 | 0.00% |
| **cross** | 34.32 | 18.62% | 654,624 | 21.43% |
| **dr./alma** | 0.37 | 0.20% | 985 | 0.03% |
| **Driving Park** | 39.55 | 21.46% | 348,225 | 11.40% |
| **DundasCentralSchool** | 0.87 | 0.47% | 8,366 | 0.27% |
| **elgin** | 1.19 | 0.64% | 5,208 | 0.17% |
| **King** | 2.69 | 1.46% | 86,411 | 2.83% |
| **main** | 1.19 | 0.65% | 3,375 | 0.11% |
| **market** | 0.41 | 0.22% | 925 | 0.03% |
| **melville** | 19.69 | 10.69% | 139,587 | 4.57% |
| **napier** | 1.67 | 0.91% | 30,430 | 1.00% |
| **park** | 10.24 | 5.56% | 71,509 | 2.34% |
| **parkside** | 0.53 | 0.29% | 1,972 | 0.06% |
| **queen** | 0.61 | 0.33% | 2,549 | 0.08% |
| **sydenham** | 14.98 | 8.13% | 109,160 | 3.57% |
| **victoria** | 30.81 | 16.72% | 271,271 | 8.88% |
| **York Rd** | 2.54 | 1.38% | 1,125,973 | 36.86% |
| **Total:** | **184.27** | | **3,054,600** | |

**Figure 30. Proportion of leaf area for species that contribute to the canopy with more than one (>1% ) percent.**

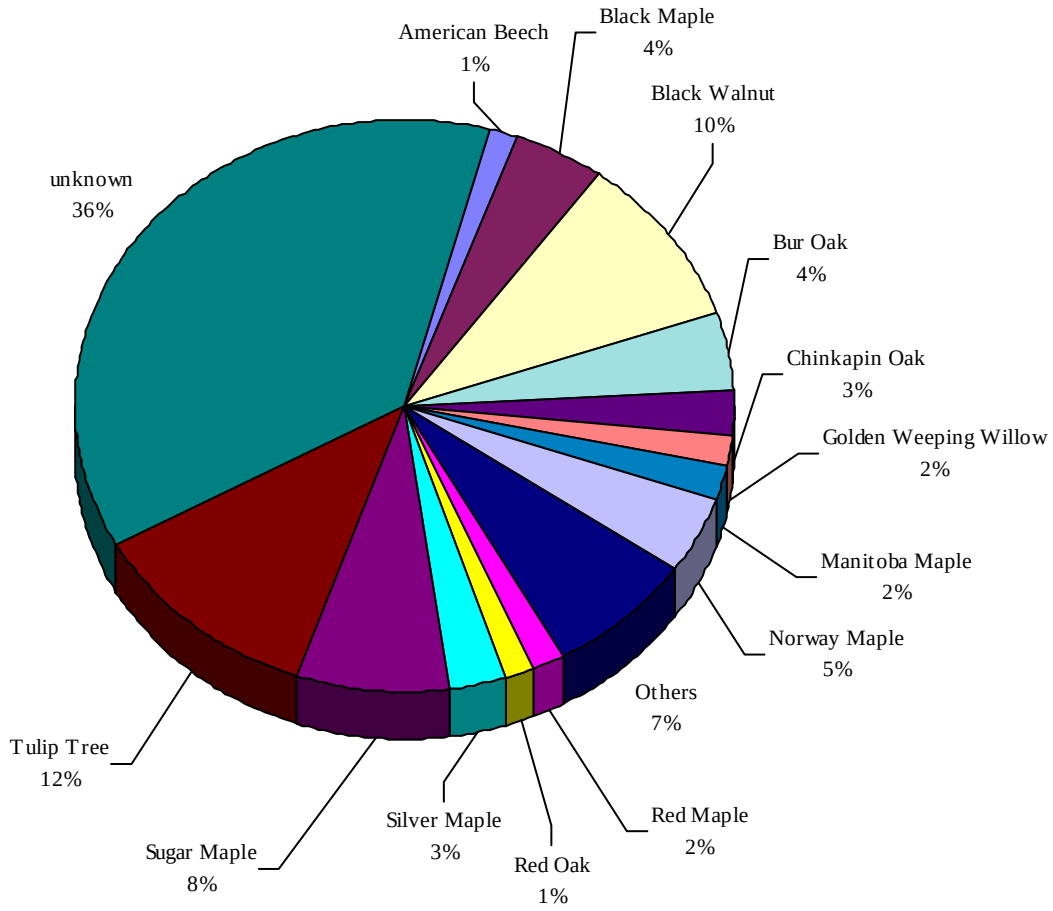

**Table 13. Species Leaf Area**

| Species | Number of trees | Leaf Area (square m) | Proportion of total leaf area |
|---|---|---|---|
| unknown | 17 | 1,139,871.1 | 37.32% |
| Tulip Tree | 22 | 355,394.2 | 11.63% |
| Black Walnut | 72 | 299,880.3 | 9.82% |
| Sugar Maple | 124 | 230,234.3 | 7.54% |
| Norway Maple | 226 | 139,682.1 | 4.57% |
| Black Maple | 76 | 133,986.8 | 4.39% |
| Bur Oak | 2 | 132,556.9 | 4.34% |
| Silver Maple | 37 | 82,553.7 | 2.70% |
| Chinkapin Oak | 1 | 78,988.5 | 2.59% |
| Manitoba Maple | 14 | 61,023.5 | 2.00% |
| Red Maple | 28 | 50,768.6 | 1.66% |
| Golden Weeping Willow | 1 | 47,560.5 | 1.56% |
| American Beech | 12 | 43,651.9 | 1.43% |
| Red Oak | 13 | 42,744.8 | 1.40% |
| Norway Spruce | 44 | 29,056.5 | 0.95% |
| Red/Green Ash | 27 | 20,798.8 | 0.68% |
| Southern Catalpa | 14 | 20,743.2 | 0.68% |
| White Oak | 4 | 18,639.3 | 0.61% |
| Black Locust | 10 | 16,521.3 | 0.54% |
| White Spruce | 26 | 11,208.1 | 0.37% |
| Ginkgo | 8 | 10,189.4 | 0.33% |
| Eastern White-Cedar | 79 | 7,945.8 | 0.26% |
| Tree of Heaven | 16 | 7,591.1 | 0.25% |
| English Oak | 1 | 5,895.6 | 0.19% |
| Cherry/Plum sp. | 13 | 5,582.5 | 0.18% |
| Little-Leaf Linden | 10 | 5,222.5 | 0.17% |
| Hackberry | 8 | 5,219.0 | 0.17% |
| Slippery Elm | 2 | 4,590.2 | 0.15% |
| Katsura Tree | 2 | 3,871.7 | 0.13% |
| White Ash | 14 | 3,678.7 | 0.12% |
| Colorado Spruce | 23 | 3,256.2 | 0.11% |
| Mulberry sp. | 18 | 3,098.4 | 0.10% |
| Butternut | 3 | 2,618.2 | 0.09% |

## Table 13. Species Leaf Area

| Species | Number of trees | Leaf Area (square m) | Proportion of total leaf area |
|---|---|---|---|
| Common Horsechestnut | 5 | 2,595.3 | 0.08% |
| Honey Locust | 21 | 2,508.9 | 0.08% |
| Paper Birch | 13 | 2,319.7 | 0.08% |
| Maple sp. | 4 | 2,196.8 | 0.07% |
| Ash sp. | 1 | 2,146.5 | 0.07% |
| Red Pine | 11 | 1,924.2 | 0.06% |
| Choke Cherry | 2 | 1,648.9 | 0.05% |
| Scot's Pine | 3 | 1,131.7 | 0.04% |
| Common Pear | 15 | 918.5 | 0.03% |
| Yew sp. | 16 | 876.2 | 0.03% |
| Crabapple(s) | 9 | 864.8 | 0.03% |
| Spruce sp. | 4 | 831.7 | 0.03% |
| Magnolia sp. | 9 | 768.4 | 0.03% |
| Alternate-Leaf Dogwood | 7 | 704.7 | 0.02% |
| Black Spruce | 2 | 655.8 | 0.02% |
| Austrian Pine | 5 | 603.2 | 0.02% |
| Osage Orange | 1 | 553.4 | 0.02% |
| Elm sp. | 2 | 514.3 | 0.02% |
| European Beech | 2 | 511.5 | 0.02% |
| Linden sp. | 2 | 500.9 | 0.02% |
| Chinese elm | 5 | 494.5 | 0.02% |
| Japanese Maple | 5 | 484.4 | 0.02% |
| Cedar (Thuja) | 6 | 470.9 | 0.02% |
| Basswood | 2 | 456.8 | 0.01% |
| Shagbark Hickory | 1 | 456.6 | 0.01% |
| White Pine | 4 | 342.3 | 0.01% |
| Hemlock | 6 | 319.0 | 0.01% |
| Birch sp. | 6 | 283.5 | 0.01% |
| European Mountin Ash | 2 | 239.1 | 0.01% |
| Sycamore | 2 | 232.8 | 0.01% |
| Mountin-Ash sp. | 3 | 225.6 | 0.01% |
| Blue Beech | 7 | 217.4 | 0.01% |
| Juniperus sp. | 4 | 167.3 | 0.01% |
| Redbud | 3 | 135.6 | 0.00% |
| Apple/Crabapple sp. | 1 | 91.5 | 0.00% |
| Bitternut Hickory | 1 | 88.0 | 0.00% |

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## Table 13. Species Leaf Area

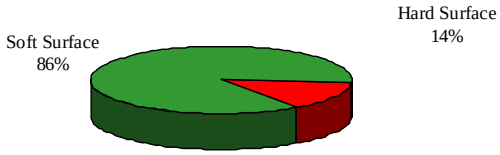
| Species | Number of trees | Leaf Area (square m) | Proportion of total leaf area |
|---|---|---|---|
| White Mulberry | 1 | 80.0 | 0.00% |
| Red Cedar | 1 | 75.9 | 0.00% |
| Sumac | 1 | 67.1 | 0.00% |
| American Elm | 1 | 57.9 | 0.00% |
| Eastern Flowering Dogwood | 1 | 56.3 | 0.00% |
| Douglas Fir | 1 | 50.3 | 0.00% |
| American Hazel | 1 | 37.4 | 0.00% |
| French Lilac | 2 | 35.8 | 0.00% |
| Dawn Redwood | 1 | 35.2 | 0.00% |
| **Total:** | **1169** | **3,054,600.2** | |

# Plantable Spots

Hard surfaces, such as buildings, parking lots, streets, and paved paths dominate the urban landscape. Hard surfaces, such as buildings, parking lots, streets, and paved paths dominate the urban landscape. They have a great impact on urban climate and water attenuation. Hard surfaces are the cause of a phenomenon known as the urban heat island effect. This involves hard surfaces which absorb and re-radiate heat into the ambient atmosphere, raising the temperature. As a result, average temperatures in urban areas are invariably a few degrees higher than in the surrounding landscape. Heat islands are not only characteristic of large cities, but also of smaller communities.

Paved areas and buildings also have an impact on water attenuation. Even in regions with adequate annual participation, cities are generally drier than the surrounding landscape, as almost all the water flows towards sewage and storm drains. This impacts the moisture regime of urban soils and stresses tree growth. Soft surfaces (e.g. grass, flower and vegetable gardens, unpaved ground, mulch, etc.), which allow water in infiltrate and percolate into the soil, are a much better substrate for tree growth. A high proportion of hard surfaces devalue the community environment. The proportion of hard to soft surfaces in the community is shown in Figure 31.

**Figure - 31. Proportion of hard and soft surfaces under tree canopies.**




Within the paved urban environment there are still many spaces and city plots that can successfully support tree growth. For example, an average forest cover of 30 percent, which is typical for American cities, could increase up to 60 percent (Moll, 1989). This opportunity to increase the number of trees in urban settings could be realized by planting on many different types of land plots found in the city. It has been suggested in the US that enough room for planting more trees can be found in city parks, school yards, cemeteries, parking lots, industrial yards, barren land along highways, residential land, etc. (Moll, 1989). For example, it has been estimated that there are 1200 million “tree spaces” available around homes and businesses within American communities. Filling these spaces with mature trees could result in a saving of 500 trillion kilowatt-hours of energy and reduce the amount of carbon dioxide by as much as 18 million tons each year in the US. In addition, there are 60 million open spaces along public roadways that need trees and millions of others in parks and greenways in the US (Sampson, 1989).

Residential areas have the greatest opportunity to increase their crown cover and improve the quality of life. Not only climate and hydrology but, also wildlife, air quality and human well being can be significantly improved by planting more trees in urban areas. More trees can be planted in residential areas on lots by reducing the area of lawns, open land, paved paths and parking lots. However, just planting more trees is not the answer. Prior tree planting biology and site characteristics have to be considered during tree planting, characteristics of planting sites and size of fully grown tree should be kept on mind.
The available planting spots are listed in Table -14. and Table -15. The number of trees that could be planted classified by three height classes is shown in Figure - 32 and Table - 16.

# Plantable Spots and Proportion of Hard and Soft Surface Areas in the Community

**Table - 14. Location and number of plantable spots, and proportion of hard and soft surfaces per property**

| Street name | Lot No | Hard Surface % | Soft Surface % | Location of Plantable Spot | Height Class | Number of Plantable Spots |
|---|---|---|---|---|---|---|
| **alma** | **20** | 0% | 100% | | | |
| | | | | *sy* | *2* | 1 |
| | | | | *sy* | *2* | 1 |
| | | | | *sy* | *2* | 1 |
| ***Total Number of Plantable Spots per Lot No: 20*** | | | | | | **3** |
| **cross** | **32** | 0% | 100% | | | |
| | | | | *by* | *2* | 1 |
| ***Total Number of Plantable Spots per Lot No: 32*** | | | | | | **1** |
| **Driving Park** | **10** | 0% | 100% | | | |
| | | | | *pk* | *2* | 1 |
| ***Total Number of Plantable Spots per Lot No: 10*** | | | | | | **1** |
| **Driving Park** | **11** | 0% | 100% | | | |
| | | | | *pk* | *2* | 1 |
| | | | | *pk* | *2* | 1 |
| | | | | *pk* | *2* | 1 |
| ***Total Number of Plantable Spots per Lot No: 11*** | | | | | | **3** |
| **Driving Park** | **13** | 0% | 100% | | | |
| | | | | *pk* | *2* | 1 |
| ***Total Number of Plantable Spots per Lot No: 13*** | | | | | | **1** |
| **Driving Park** | **14** | 0% | 100% | | | |
| | | | | *pk* | *2* | 1 |
| | | | | *pk* | *2* | 1 |
| ***Total Number of Plantable Spots per Lot No: 14*** | | | | | | **2** |
| **Driving Park** | **19** | 0% | 100% | | | |
| | | | | *pk* | *2* | 1 |

**Table - 14. Location and number of plantable spots, and proportion of hard and soft surfaces per property**

| Street name | Lot No | Hard Surface % | Soft Surface % | Location of Plantable Spot | Height Class | Number of Plantable Spots |
|---|---|---|---|---|---|---|
| ***Total Number of Plantable Spots per Lot No: 19*** | | | | | | **1** |
| **Driving Park** | **20** | 0% | 100% | | | |
| | | | | *pk* | *2* | 1 |
| ***Total Number of Plantable Spots per Lot No: 20*** | | | | | | **1** |
| **Driving Park** | **21** | 0% | 100% | | | |
| | | | | *pk* | *2* | 1 |
| | | | | *pk* | *2* | 1 |
| | | | | *pk* | *2* | 1 |
| ***Total Number of Plantable Spots per Lot No: 21*** | | | | | | **3** |
| **Driving Park** | **30** | 0% | 100% | | | |
| | | | | *pk* | *2* | 1 |
| | | | | *pk* | *2* | 1 |
| ***Total Number of Plantable Spots per Lot No: 30*** | | | | | | **2** |
| **Driving Park** | **31** | 0% | 100% | | | |
| | | | | *pk* | *2* | 1 |
| | | | | *pk* | *2* | 1 |
| | | | | *pk* | *2* | 1 |
| | | | | *pk* | *2* | 1 |
| | | | | *pk* | *2* | 1 |
| ***Total Number of Plantable Spots per Lot No: 31*** | | | | | | **5** |
| **Driving Park** | **8** | 0% | 100% | | | |
| | | | | *pk* | *2* | 1 |
| ***Total Number of Plantable Spots per Lot No: 8*** | | | | | | **1** |
| **Total Number of Plantable Spots in the Community:** | | | | | | **24** |

# Plantable Spots and Proportion of Hard and Soft Surface Areas in the Community

**Table - 14. Number of plantable spots per street**

| | |
|---|---|
| **alma** | **3** |
| **cross** | **1** |
| **Driving Park** | **20** |
| **Total Number of Plantable Spots:** | **24** |

# Number of Plantable Spots by Height Classes per Street

**Table - 15. Number of plantable spots by height classes per street**

| Street name | Height Class | Number of Trees |
|---|---|---|
| alma | | |
| | 2 | 3 |
| **Total Number of Plantable Spots per Street:** | | **3** |
| cross | | |
| | 2 | 1 |
| **Total Number of Plantable Spots per Street:** | | **1** |
| Driving Park | | |
| | 2 | 20 |
| **Total Number of Plantable Spots per Street:** | | **20** |
| **Total Number of Plantable Spots:** | | **24** |

# Total Number of Plantable Spots Grouped by Height Class

**Figure - 32. Number of plantable spots by three height class (1 -3)**

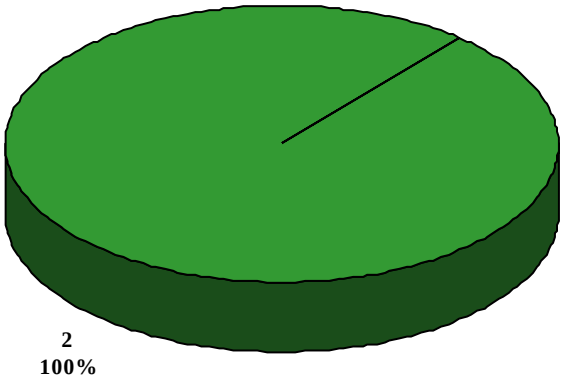



**Table - 16. Total number of plantable spots by height class and streets**

| Height Class | Number of Plantable Spots per Street | Street name |
|---|---|---|
| ***2*** | | |
| | 3 | alma |
| | 1 | cross |
| | 20 | Driving Park |
| **Number of Trees for Hight Clas 2** | **24** | |
| **Total Number of Plantable Spots:** | **24** | |



*Height Class:*
*1 -5-10m*
*2 - 10-15m*
*3 - >15m*

# Species List

The survey of trees identified over 50 species of trees and 30 genera. Recorded species are listed in Table -17. Common and scientific names of species and genera are included along with a few additional details such as average species height and diameter and species origin.

# Species List

**Table -17. List of species that are represented in the community**

| Common name: | Genus: | Scientific name: |
|---|---|---|
| **Manitoba Maple** | Maple | *Acer negundo* |
| **Japanese Maple** | Maple | *Acer palmatum* |
| **Norway Maple** | Maple | *Acer platanoides* |
| **Red Maple** | Maple | *Acer rubrum* |
| **Silver Maple** | Maple | *Acer saccharinum* |
| **Sugar Maple** | Maple | *Acer saccharum* |
| **Black Maple** | Maple | *Acer saccharum ssp nigrum* |
| **Maple sp.** | Maple | *Acer sp.* |
| **Common Horsechestnut** | Buckeye/Horsechestnut | *Aesculus hippocastanum* |
| **Tree of Heaven** | Tree of Heaven | *Ailanthus altissima* |
| **Paper Birch** | Birch | *Betula papyrifera* |
| **Birch sp.** | Birch | *Betula sp.* |
| **Blue Beech** | Ironwood-Hornbeam | *Carpinus caroliniana* |
| **Bitternut Hickory** | Hickory | *Carya cordiformis* |
| **Shagbark Hickory** | Hickory | *Carya ovata* |
| **Southern Catalpa** | Catalpa | *Catalpa bignonioides* |
| **Hackberry** | Hackberry | *Celtis occidentalis* |
| **Katsura Tree** | Katsura | *Cercidiphyllum japonicum* |
| **Redbud** | Redbud | *Cercis canadensis* |
| **Alternate-Leaf Dogwood** | Dogwood | *Cornus alternifolia* |
| **Eastern Flowering Dogwood** | Dogwood | *Cornus florida* |
| **American Hazel** | Hazel | *Corylus americana* |
| **American Beech** | Beech | *Fagus grandifolia* |
| **European Beech** | Beech | *Fagus sylvatica* |
| **White Ash** | Ash | *Fraxinus americana* |
| **Red/Green Ash** | Ash | *Fraxinus pennsylvanica* |
| **Ash sp.** | Ash | *Fraxinus sp.* |
| **Ginkgo** | Ginkgo | *Ginkgo biloba* |
| **Honey Locust** | Honey Locust | *Gleditsia triacanthos* |
| **Butternut** | Walnut/Butternut | *Juglans cinerea* |
| **Black Walnut** | Walnut/Butternut | *Juglans nigra* |
| **Juniperus sp.** | Juniper | *Juniperus sp.* |
| **Red Cedar** | Juniper | *Juniperus virginiana* |
| **Tulip Tree** | Tulip-Tree | *Liriodendron tulipifera* |
| **Osage Orange** | Osage | *Maclura pomifera* |
| **Magnolia sp.** | Magnolia | *Magnolia sp.* |

**Table -17. List of species that are represented in the community**

| Common name: | Genus: | Scientific name: |
|---|---|---|
| **Crabapple(s)** | Apple/Crabapple | *Malus hybrids* |
| **Apple/Crabapple sp.** | Apple/Crabapple | *Malus sp.* |
| **Dawn Redwood** | Redwood | *Metasequoia glyptostroboides* |
| **White Mulberry** | Mulberry | *Morus alba* |
| **Mulberry sp.** | Mulberry | *Morus sp.* |
| **Norway Spruce** | Spruce | *Picea abies* |
| **White Spruce** | Spruce | *Picea glauca* |
| **Black Spruce** | Spruce | *Picea mariana* |
| **Colorado Spruce** | Spruce | *Picea pungens* |
| **Spruce sp.** | Spruce | *Picea sp.* |
| **Austrian Pine** | Pine | *Pinus nigra* |
| **Red Pine** | Pine | *Pinus resinosa* |
| **White Pine** | Pine | *Pinus strobus* |
| **Scot's Pine** | Pine | *Pinus sylvestris* |
| **Sycamore** | Plane-Sycamore | *Platanus occidentalis* |
| **Cherry/Plum sp.** | Cherry/Plum | *Prunus sp.* |
| **Choke Cherry** | Cherry/Plum | *Prunus virginiana* |
| **Douglas Fir** | Douglas Fir | *Pseudotsuga menziesii* |
| **Common Pear** | Pear/Flowering Pear | *Pyrus communis* |
| **White Oak** | Oak | *Quercus alba* |
| **Bur Oak** | Oak | *Quercus macrocarpa* |
| **Chinkapin Oak** | Oak | *Quercus muehlenbergii* |
| **English Oak** | Oak | *Quercus robur* |
| **Red Oak** | Oak | *Quercus rubra* |
| **Sumac** | Sumac | *Rhus typhina* |
| **Black Locust** | Black Locust | *Robinia pseudoacacia* |
| **Golden Weeping Willow** | Willow | *Salix babylonica* |
| **European Mountin Ash** | Mountin Ash/Whitebeam | *Sorbus aucuparia* |
| **Mountin-Ash sp.** | Mountin Ash/Whitebeam | *Sorbus sp.* |
| **French Lilac** | Lilacs | *Syringa vulgaris* |
| **Yew sp.** | Yew | *Taxus sp.* |
| **Eastern White-Cedar** | Cedar (Thuja) | *Thuja occidentalis* |
| **Cedar (Thuja)** | Cedatr (Thuja) | *Thuja sp.* |
| **Basswood** | Linden-Basswood | *Tilia americana* |
| **Little-Leaf Linden** | Linden-Basswood | *Tilia cordata* |
| **Linden sp.** | Linden-Basswood | *Tilia sp.* |
| **Hemlock** | Hemlock | *Tsuga canadensis* |
| **American Elm** | Elm | *Ulmus americana* |
| **Chinese elm** | Elm | *Ulmus parvifolia* |
| **Slippery Elm** | Elm | *Ulmus rubra* |
| **Elm sp.** | Elm | *Ulmus sp.* |

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