

Trees that typically mature to a size of less than 30 cm in diameter

Date:	May 23, 2012
To:	Parks and Environment Committee
From:	Jim Hart, General Manager, Parks, Forestry and Recreation
Wards:	All
Reference Number:	P:\2012\Cluster A\PFR\PE14-061912-AFS#15313

SUMMARY

The purpose of this report is to provide information on the species of trees that typically mature in two size categories - those that develop a trunk larger than 30 cm in diameter, measured at 1.4 m above ground level, and those that do not. An explanation of why the City's Private Tree By-law protects trees measuring 30 cm in diameter and larger is also provided.

RECOMMENDATIONS

The General Manager of Parks, Forestry and Recreation recommends that:

1. this report be received for information.

Financial Impact

There are no financial implications resulting from the adoption of this report.

DECISION HISTORY

During consideration of the report entitled Revisions to the Tree By-laws at the meeting of November 22, 2011, the Parks and Environment Committee requested that the General Manager of Parks, Forestry and Recreation to report back on the two kinds of trees that grow up to 30 centimetres in diameter and beyond and the other group of trees that grow up to less than 30 centimetres in diameter in their maturity."

ISSUE BACKGROUND

Toronto's Private Tree By-law (*Municipal Code Chapter 813, Trees, Article III*) protects private trees that have a diameter of 30 cm or greater, measured at 1.4 m above ground level. The purpose of the by-law is to protect significant trees from unnecessary injury, destruction, or removal and to require the planting of replacement trees where tree removal or destruction is unavoidable. This report outlines the rationale for selecting the 30 cm diameter threshold for regulation under the by-law.

COMMENTS

A harmonized City-wide Private Tree By-law was enacted by Council in 2004 for the purpose of regulating the unnecessary injury or destruction of significant trees on private property. In the interest of protecting trees for the benefits they provide to communities, the goal was also to implement Official Plan policy 3.4.1:

To support strong communities, a competitive economy and a high quality of life, public and private city-building activities and changes to the built environment, including public works, will be environmentally friendly based on preserving and enhancing the urban forest by...regulating the injury and destruction of trees.

Benefits of Large Growing Trees

It was determined that trees having a diameter of 30 cm or greater, measured at 1.4 m above ground level, should be protected as trees of this size are significant in their contribution to the urban forest. Environmental benefits from trees occur in direct proportion to their total leaf area. The 2010 Urban Forestry report, *Every Tree Counts*, identifies that 14% of Toronto's trees are larger than 30 cm in diameter and contribute 56% of the environmental benefits. For example, large trees in Toronto intercept up to 10 times more air pollution than small trees. Carbon storage is also maximized in larger diameter trees. Protecting larger stature trees provides a substantial return on the investment in by-law administration.

As a general principle, Urban Forestry advocates for the protection, care and maintenance of trees of all sizes and species growing in appropriate locations. Maintaining a diversity of tree species is important for the maintenance of forest health. The current 30 cm diameter threshold for private tree protection represents a balanced approach, providing significant benefits for reasonable costs.

What About Smaller Trees?

Approximately 11% of Toronto's tree population is composed of small growing tree species, comprising 40 species. These species will not be protected under the by-law as they will rarely, if ever, grow to 30 cm in diameter. They provide 5% of the urban forest

leaf area, in contrast to the 74 large growing tree species that make up 89% of the tree population and provide 95% of the leaf area. As environmental benefits are generated in direct ratio to leaf area, it is prudent to concentrate protection measures on the larger growing tree species. Attachment 1 lists a number of common tree species in Toronto that are categorized as small or large growing species.

Protecting trees of smaller diameter would represent an exponentially increased cost for both the City in by-law administration, and the property owner for permit application fees. This would also result in delays for processing applications. For example, if trees that are 20 cm and greater were to be included for protection, permit requirements would be increased by approximately 61%.

Urban Forestry encourages protection of all trees where possible. The Private Tree By-law protects trees once they attain a size of 30 cm in diameter. These trees provide significant environmental, economic and community benefits. Regulating large trees preserves these benefits without causing undue expense to the tax payer or property owners. Protecting smaller growing trees, having diameters less than 30 cm, while benefiting the urban forest and the City's environmental goals, would involve some economic hardship and create additional pressures on City resources. The current by-law offers a balanced approach to environmental protection that contributes towards a sustainable City that enhances the quality of life of its citizens.

CONTACT

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SIGNATURE

Jim Hart
General Manager of Parks, Forestry and Recreation

ATTACHMENTS

Attachment 1 – List of common tree species in Toronto, categorized as small or large growing species

Common Tree Species in Toronto			
Genus	Species	Common Name	Size Category
<i>Abies</i>	<i>balsamea</i>	balsam fir	Large
<i>Abies</i>	<i>concolor</i>	white fir	Large
<i>Acer</i>	<i>negundo</i>	Manitoba maple	Large
<i>Acer</i>	<i>nigrum</i>	black maple	Large
<i>Acer</i>	<i>platanoides</i>	Norway maple	Large
<i>Acer</i>	<i>rubrum</i>	red maple	Large
<i>Acer</i>	<i>saccharinum</i>	silver maple	Large
<i>Acer</i>	<i>saccharum</i>	sugar maple	Large
<i>Acer</i>	<i>x. freemanii</i>	freeman maple	Large
<i>Acer</i>	<i>campestre</i>	hedge maple	Small
<i>Acer</i>	<i>ginnala</i>	amur maple	Small
<i>Aesculus</i>	<i>hippocastanum</i>	horsechestnut	Large
<i>Ailanthus</i>	<i>altissima</i>	tree of heaven	Large
<i>Alnus</i>	<i>glutinosa</i>	European alder	Large
<i>Alnus</i>	<i>incana</i>	grey alder	Large
<i>Amelanchier</i>	<i>alnifolia</i>	western service berry	Small
<i>Amelanchier</i>	<i>arborea</i>	downy serviceberry	Small
<i>Amelanchier</i>	<i>canadensis</i>	eastern service berry	Small
<i>Amelanchier</i>	<i>laevis</i>	smooth service berry	Small
<i>Betula</i>	<i>alleghaniensis</i>	yellow birch	Large
<i>Betula</i>	<i>nigra</i>	river birch	Small
<i>Betula</i>	<i>papyrifera</i>	paper birch	Small
<i>Carpinus</i>	<i>caroliniana</i>	American hornbeam	Large
<i>Carya</i>	<i>cordiformis</i>	bitternut hickory	Large
<i>Catalpa</i>	<i>speciosa</i>	northern catalpa	Large
<i>Celtis</i>	<i>occidentalis</i>	common hackberry	Large
<i>Chamaecyparis</i>	<i>lawsoniana</i>	port orford cedar	Large
<i>Cornus</i>	<i>mas</i>	cornelian cherry	Small
<i>Crataegus</i>	<i>calpodendron</i>	pear hawthorn	Small
<i>Crataegus</i>	<i>chrysoarpa</i>	fireberry hawthorn	Small
<i>Crataegus</i>	<i>crus-galli</i>	cockspur hawthorn	Small
<i>Crataegus</i>	<i>mollis</i>	downy hawthorn	Small
<i>Fagus</i>	<i>grandifolia</i>	American beech	Large
<i>Fagus</i>	<i>sylvatica</i>	European beech	Large
<i>Fraxinus</i>	<i>americana</i>	white ash	Large
<i>Fraxinus</i>	<i>excelsior</i>	European ash	Large
<i>Fraxinus</i>	<i>pennsylvanica</i>	green ash	Large

Common Tree Species in Toronto			
Genus	Species	Common Name	Size Category
<i>Ginkgo</i>	<i>biloba</i>	ginkgo	Large
<i>Gleditsia</i>	<i>triacanthos</i>	honeylocust	Large
<i>Juglans</i>	<i>cinerea</i>	butternut	Large
<i>Juglans</i>	<i>nigra</i>	black walnut	Large
<i>Juniperus</i>	<i>virginiana</i>	eastern red cedar	Large
<i>Juniperus</i>	<i>pinchotii</i>	pinchot juniper	Small
<i>Larix</i>	<i>laricina</i>	tamarack	Large
<i>Magnolia</i>	<i>acuminata</i>	cucumber tree	Large
<i>Magnolia</i>	<i>x soulangeana</i>	saucer magnolia	Small
<i>Malus</i>	<i>baccata</i>	siberian crabapple	Small
<i>Malus</i>	<i>tschonoskii</i>	crabapple	Small
<i>Malus</i>	<i>angustifolia</i>	southern crabapple	Small
<i>Malus</i>	<i>coronaria</i>	sweet crabapple	Small
<i>Malus</i>	<i>sylvestris</i>	European crabapple	Small
<i>Morus</i>	<i>alba</i>	white mulberry	Large
<i>Morus</i>	<i>nigra</i>	black mulberry	Large
<i>Morus</i>	<i>rubra</i>	red mulberry	Large
<i>Ostrya</i>	<i>virginiana</i>	ironwood	Large
<i>Picea</i>	<i>abies</i>	Norway spruce	Large
<i>Picea</i>	<i>glauca</i>	white spruce	Large
<i>Picea</i>	<i>pungens</i>	blue spruce	Large
<i>Pinus</i>	<i>nigra</i>	Austrian pine	Large
<i>Pinus</i>	<i>resinosa</i>	red pine	Large
<i>Pinus</i>	<i>strobus</i>	eastern white pine	Large
<i>Pinus</i>	<i>sylvestris</i>	scotch pine	Large
<i>Populus</i>	<i>balsamifera</i>	balsam poplar	Large
<i>Populus</i>	<i>deltoides</i>	eastern cottonwood	Large
<i>Populus</i>	<i>grandidentata</i>	bigtooth aspen	Large
<i>Populus</i>	<i>tremuloides</i>	trembling aspen	Large
<i>Populus</i>	<i>x canadensis</i>	Carolina poplar	Large
<i>Prunus</i>	<i>pensylvanica</i>	pin cherry	Large
<i>Prunus</i>	<i>serotina</i>	black cherry	Large
<i>Prunus</i>	<i>americana</i>	American plum	Small
<i>Prunus</i>	<i>armeniaca</i>	apricot	Small
<i>Prunus</i>	<i>domestica</i>	common plum	Small
<i>Prunus</i>	<i>persica</i>	nectarine	Small
<i>Prunus</i>	<i>sargentii</i>	sargent cherry	Small
<i>Prunus</i>	<i>virginiana</i>	common chokecherry	Small

Common Tree Species in Toronto			
Genus	Species	Common Name	Size Category
<i>Pyrus</i>	<i>calleryana</i>	callery Pear	Small
<i>Quercus</i>	<i>alba</i>	white oak	Large
<i>Quercus</i>	<i>macrocarpa</i>	bur oak	Large
<i>Quercus</i>	<i>robur</i>	English oak	Large
<i>Quercus</i>	<i>rubra</i>	red oak	Large
<i>Robinia</i>	<i>pseudoacacia</i>	black locust	Large
<i>Salix</i>	<i>alba</i>	white willow	Large
<i>Salix</i>	<i>babylonica</i>	weeping willow	Large
<i>Salix</i>	<i>nigra</i>	black willow	Large
<i>Salix</i>	<i>discolor</i>	pussy willow	Small
<i>Sorbus</i>	<i>americana</i>	American mountain ash	Small
<i>Sorbus</i>	<i>aucuparia</i>	European mountain ash	Small
<i>Sorbus</i>	<i>decora</i>	showy mountain ash	Small
<i>Syringa</i>	<i>reticulata</i>	Japanese tree lilac	Small
<i>Taxus</i>	<i>baccata</i>	English yew	Large
<i>Thuja</i>	<i>occidentalis</i>	northern white cedar	Large
<i>Thuja</i>	<i>plicata</i>	western red cedar	Large
<i>Tilia</i>	<i>americana</i>	American basswood	Large
<i>Tilia</i>	<i>cordata</i>	littleleaf linden	Large
<i>Tsuga</i>	<i>canadensis</i>	eastern hemlock	Large
<i>Ulmus</i>	<i>americana</i>	American elm	Large
<i>Ulmus</i>	<i>pumila</i>	siberian elm	Large
<i>Ulmus</i>	<i>rubra</i>	slippery elm	Large