

This summer the city will be collecting data for its i-Tree Eco study. Developed by the United States Forest Service, the model can inform the community about the environmental benefits and value of their urban forest. Kitchener will use the study results to identify the benefits of the urban forest, assist in developing an urban forest strategy and to identify the full impact of emerald ash borer on private and public lands.

My property has an i-Tree Eco plot - what does this mean?

The presence of a study plot on your property will have no impact on you or your property. The information collected from your property will only be used to calculate the characteristics and benefits of the urban forest at the city level. If your property is part of this study you will have received a letter requesting your approval for city staff to enter onto your property for one field visit. During that visit, the following information will be collected: surface material, percentage of tree cover, tree species, diameter of trees, height of trees, crown width, percentage of missing tree canopy, amount of dieback, direction and distance to buildings. If you did receive a letter, we hope that you will participate in this valuable study.

To better understand the characteristics and benefits of the urban forest, six land classes (e.g. agriculture, industrial, commercial, residential, open space, public parkland) have been developed for this study. These land classes created from a number of sources (Official Plan, Amanda, GIS Parks Layer) have no legal status. The 240 plots (0.4 hectares) across the city were randomly selected by a computer to achieve a statistically valid sample.

What will i-Tree Eco tell us?

Using local air pollution and meteorological data, i-Tree Eco can provide accurate estimates of:

- » The structure of the urban forest (e.g., species composition, number of trees, tree health, etc.).
- » The kinds of pollution removed by the urban forest (e.g., ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, particulate matter), and improvement to air quality.
- » The impact of each tree species on ozone and carbon monoxide levels.
- » The total carbon and net carbon annually stored by the urban forest.
- » Effects of trees on energy use by buildings.
- » The values of the forest, air pollution removal and carbon storage.
- » The level of tree pollen allergens.
- » Potential impact of pests such as emerald ash borer, and Asian long-horned beetle.





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ECONOMIC, ENVIRONMENTAL & SOCIAL BENEFITS OF THE URBAN FOREST

TREES IMPROVE AIR QUALITY BY

- » absorbing gaseous pollutants (e.g. sulfur & carbon dioxide, nitrogen oxides, ozone, smog)
- » intercepting particulate matter (e.g. dust, pollen) linked to disease (e.g. asthma, cancer)
- » reducing emissions from power generation required for heating and cooling
- » reducing local air temperatures through transpiration and shading
- » releasing oxygen through photosynthesis

TREES MITIGATE CLIMATE CHANGE THROUGH CARBON SEQUESTRATION & STORAGE

- » carbon sequestration increases with large, healthy trees

TREES CONSERVE ENERGY BY

- » shading buildings, providing evaporative cooling, and blocking winter winds

TREES REDUCE STORMWATER RUNOFF & EROSION

- » by intercepting precipitation (e.g. 7% drop in runoff for a community with 22% tree canopy)

TREES PROVIDE ECONOMIC & SOCIAL BENEFITS TO COMMUNITIES BY

- » building neighbourhoods through increased community use and social interaction
- » reducing crime rates
- » creating safer streets by reducing road stress and traffic safety
- » increasing local economies through higher home values and increased retail sales
- » increasing work performance and reduced work stress
- » reducing public health costs by reducing mental fatigue, the effects of mental illness and ADHD, improved recovery rates from illness and surgery
- » improving cognitive, social and moral development in children who experience urban nature
- » creating healthy and beautiful communities.

To learn more about i-Tree Eco, search the term in your web browser or go to www.itreetools.org/eco/. Recent study results (e.g. Oakville, Toronto) can also be viewed under the resources section (www.itreetools.org/resources/reports.php).

To learn about the care of trees go to www.tresaregood.com