

# Tree Inventory Report

*Community Tree  
Stewardship*

November 2023

Tree Inventory  
In Progress



NeighbourWoods  
IN BEAVERBROOK

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A photograph of a person wearing a white hat and an orange safety vest, standing next to a large, mature tree. The person appears to be inspecting the tree trunk. The background shows a lush green park with other trees and a lawn.

# NeighbourWoods in Beaverbrook

Our mission is to foster neighbourhood stewardship of the urban forest in Beaverbrook.

By conducting a detailed tree inventory, we can:

- ▶ Identify spaces where new trees can be planted
- ▶ Identify declining trees in need of attention
- ▶ Estimate the economic benefits of trees and forest canopy
- ▶ Educate residents about trees and their maintenance needs.

# Acknowledgements

- ▶ [KBCA](#) for their on-going support
- ▶ Dr A. Kenney and [NeighbourWoods](#) protocol and analysis tools which informs our understanding of the health and composition of the tree canopy
- ▶ Astrid Nielsen, Forester, for assistance with volunteer training
- ▶ [i-tree](#) tools and ECO software to calculate and monetize the environmental services of trees
- ▶ Our past and present volunteers for their many hours of work and dedication to the project
- ▶ You! for participating and engaging with us.



# 2023 Accomplishments

## May

- ▶ Met with other Ottawa NeighbourWoods teams to share lessons learned, plans going forward

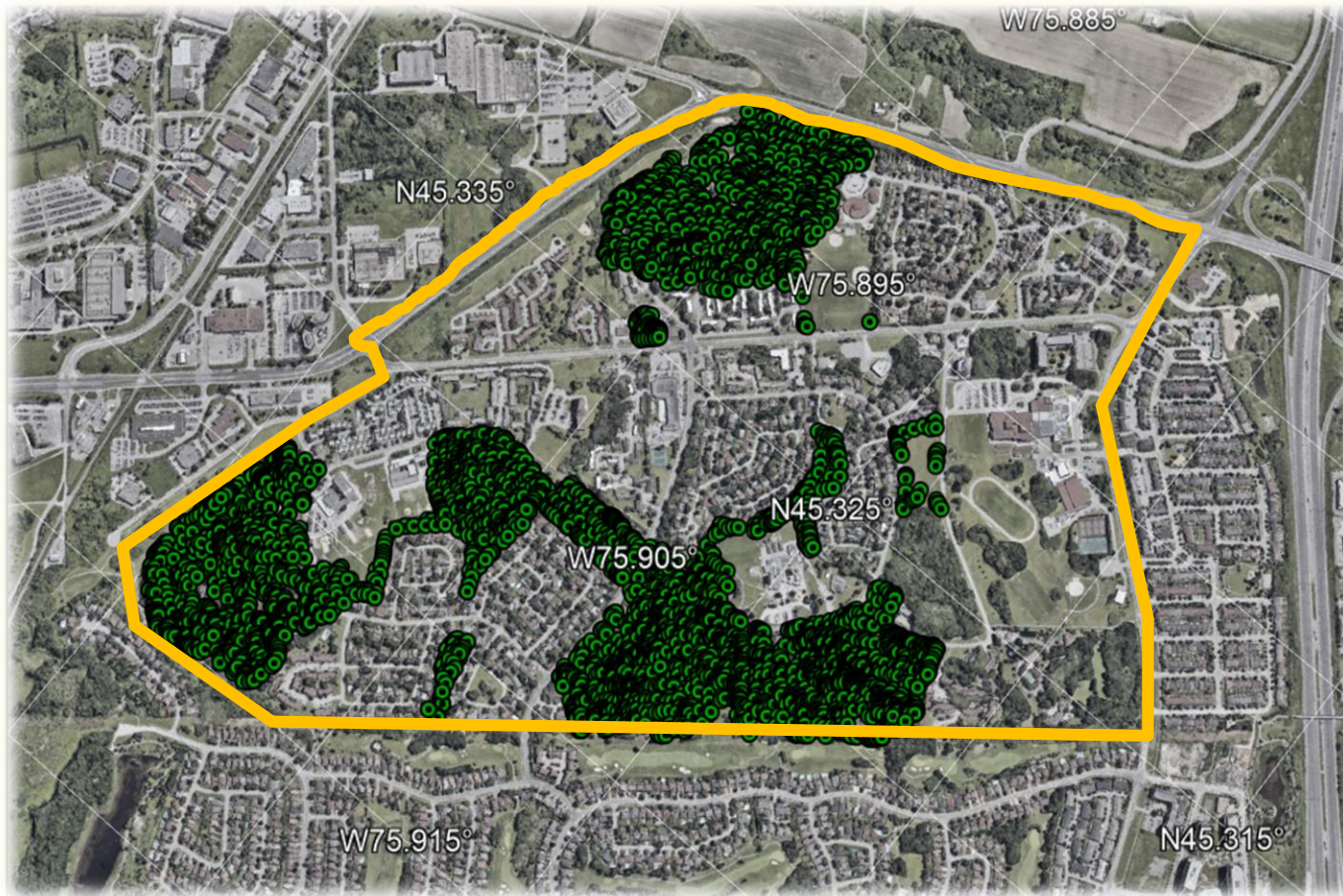
## June

- ▶ Led a 2-day NeighbourWoods training course and recruited more volunteers

## June -August

- ▶ Completed tree inventory of the Lismer Cluster (10 weeks, 60 shifts, 383 volunteer hours)
- ▶ Visited 90 properties and inventoried 809 trees.

# Progress to Date



*Area surveyed is 68 hectares with average canopy coverage of 28.1%*



# Ecoservices of Trees

- ▶ Cool the air
  - ▶ by providing shade for people and buildings and
  - ▶ evaporative transpiration (air conditioning)
- ▶ Purify the air
  - ▶ Trapping particulates and pollutants
  - ▶ Removing carbon dioxide and producing oxygen
- ▶ Avoid storm water run-off
  - ▶ Intercepting rain on their leaves and needles
  - ▶ Absorbing and retaining water in the soil

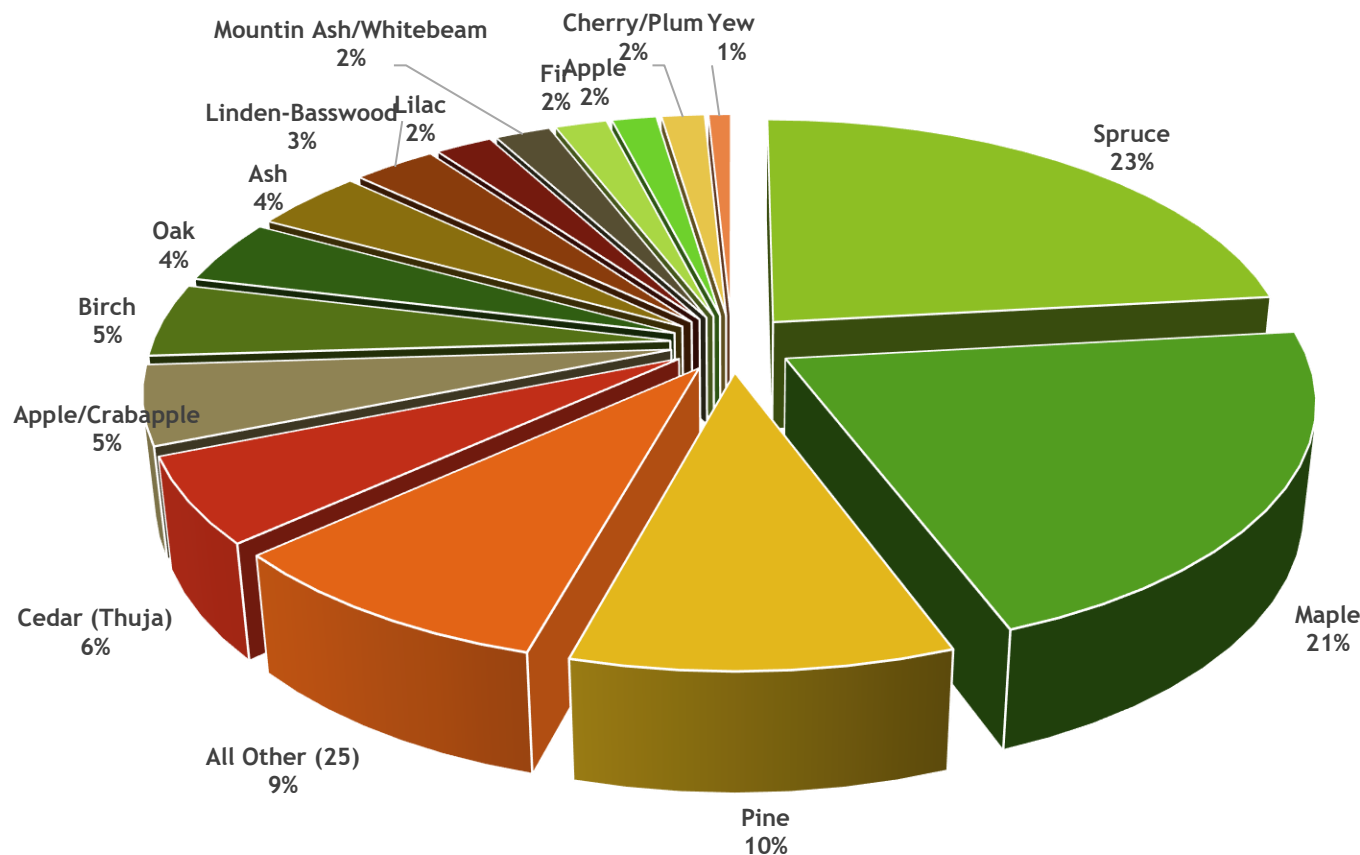


## Eco Services by the Numbers

- ▶ Oxygen Production: 86.54 metric tons/year
  - ▶ Enough oxygen for 117 people for one year
- ▶ Pollution Removal (PM2.5 and Ozone): 939 kilograms/year
- ▶ Carbon Sequestration (CO<sub>2</sub>): 32.45 metric tons/year
  - ▶ Enough to offset 7 average passenger cars for 1 year
- ▶ Avoided Runoff: 4,376 cubic meters/year
  - ▶ Equivalent to 1.2 Olympic sized swimming pools
- ▶ Total Carbon Storage: 1,772 metric tons

*Replacement value of trees inventoried to date: \$10.8 million*

# Over Representation of Some Species



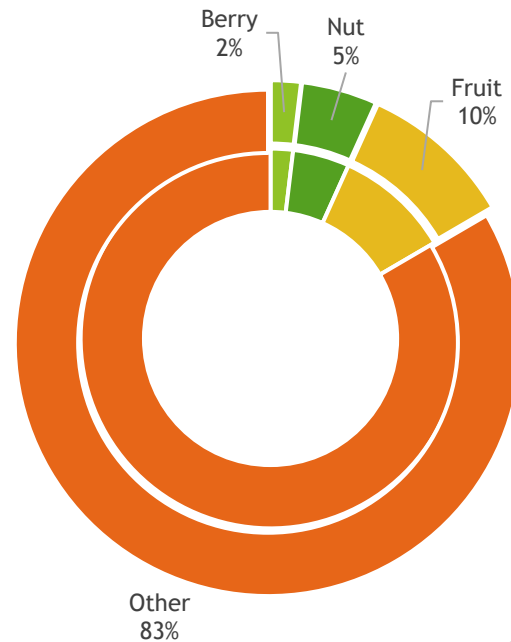
Spruce, Maple and Pine make up more than 50% of the urban forest. More fruit and nut trees, such as Oaks and Serviceberry, are needed.

*More diversity is needed to mitigate the effects of climate change and safeguard against pests and diseases.*

# Too Few Fruit and Nut Trees

Fruit and Nut trees make up only 17% of the tree canopy.

Distribution of Fruit and Nut Trees



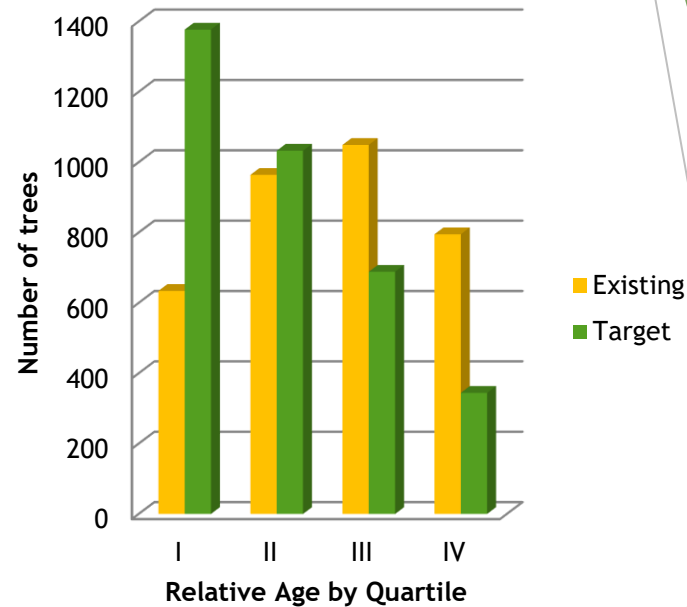
*More fruit and nut trees are needed to support wildlife and biodiversity.*

# Not Enough Young Trees

One method to determine the relative age of a tree is to compare its trunk diameter at breast height (DBH) with the maximum trunk diameter for its species.

When compared to the target quartile distribution, the data indicate that **the majority of trees inventoried (~60%) are approaching or have reached their mature size (III and IV) while younger trees (I) are under represented.**

Existing Versus Target



*It is time to invest in renewal of the urban forest.*

# Renewing the Canopy

When planting a tree, your selection can help improve the diversity of the urban forest and provide food for wildlife.

## Instead of these

- ▶ Blue Spruce
- ▶ Bur Oak
- ▶ Crabapple
- ▶ Eastern White Cedar
- ▶ Norway Maple
- ▶ Red Maple
- ▶ Sugar Maple
- ▶ White Birch
- ▶ White Pine
- ▶ White Spruce

## Consider one of these

- ▶ Beech
- ▶ Black Walnut
- ▶ Cherry (Pin, Choke, Black)
- ▶ Elm Hybrids
- ▶ Hackberry, Nannyberry, Serviceberry
- ▶ Hickory
- ▶ Ironwood
- ▶ Mountain Ash
- ▶ Oak ( Pin, Red, White)
- ▶ Tamarack

*When is the best time to plant a tree? Yesterday!*  
*When is the next best time? Today!*

# Additional Resources

- ▶ The City of Ottawa's [Trees in Trust](#) program allows you to request a tree be planted on the city owned frontage of your property
- ▶ The i-tree [My Tree](#) app is a layman tool you can use to explore the benefits of the trees on your property.
- ▶ [The Value of Urban trees](#) is an inspiring presentation from the City of Halifax about the importance and benefits of trees.

# Evolution of Tree Inventory Project

## 2017 - Project Launch

- Launched a pilot of the NeighbourWoods tree survey.
- Opted not to measure cedar hedges because they are ubiquitous.

## 2018

- Recruited and trained volunteers, inventoried 153 properties, 1083 trees
- Inventory was limited to trees that had a DBH of 7cm or larger.
- Data tracking was entirely paper based.

## 2019

- Recruited and trained volunteers, completed 2 more clusters
- Hosted a panel discussion on tree selection: “Right Tree in the Right Spot”

## 2020

- No training, no tree inventory, and no volunteer recruiting.
- Core team worked on-line to improve training tools and handouts.

# Evolution of Tree Inventory Project

## - Continued

### **2021**

- No training or recruiting of new volunteers.
- Inventoried trees in 9 parks, developed and trialed an app for data capture
- Included all planted tree regardless of DBH to capture young trees
- Helped launch NeighbourWoods programs in Old Ottawa South and Centertown

### **2022**

- Recruited and trained more volunteers, inventoried 79 properties, 438 trees
- Held Spongy moth workshop to protect Beaverbrook Park Trees
- Tackled Dog Stangling Vine, an invasive species, threatening parks and Alice Wilson Woods

### **2019 to 2023 - Ongoing**

- Collaborated with City of Ottawa and other groups (CAFES, Ecology Ottawa, Greenspace Alliance, Carleton U, other Community Associations)



# NeighbourWoods

IN BEAVERBROOK

<u>Year</u>	Properties*	Trees
2017 - 2018 (2 clusters)	153	1083
2019 (2 clusters)	142	1124
2021 (9 parks)	-	476
2022 (1 cluster)	79	438
2023 (1 cluster)	<u>90</u>	<u>809</u>
<b>Total</b>	<b>464</b>	<b>3930</b>

**Unique Tree Species >95**

**Plantable Spots 63**

\*11 properties were excluded from inventory at owner's request