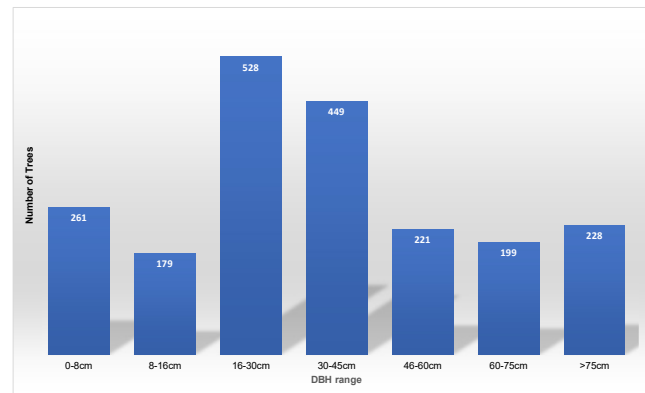
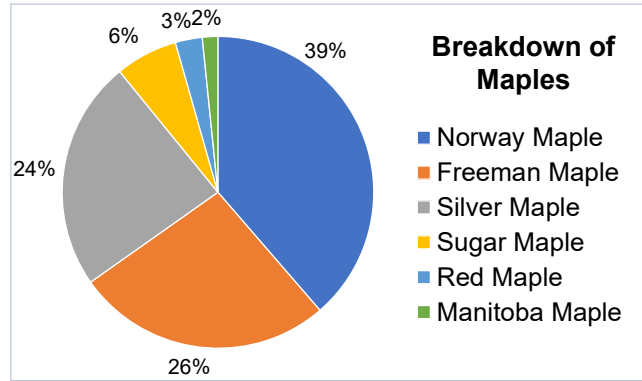
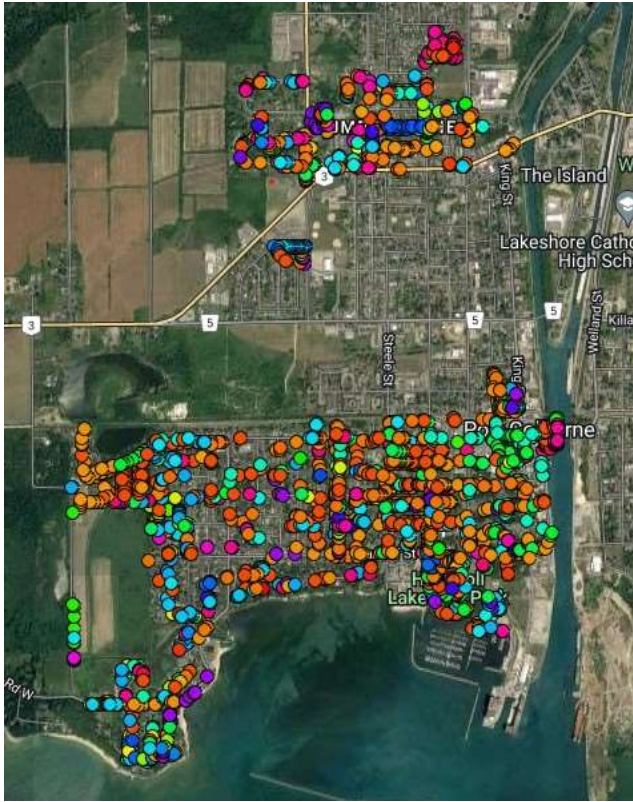
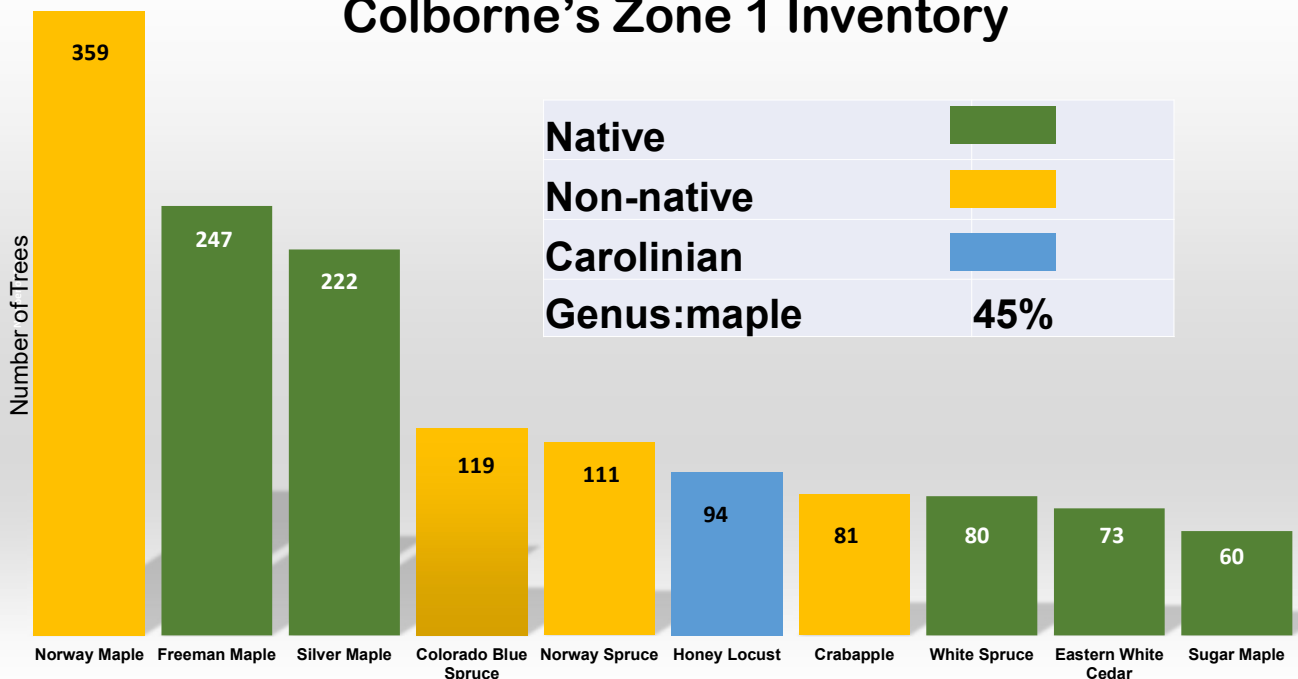


# Study 1: Sample Inventory City of Port Colborne's Forest



## Ten Most Common Species in Port Colborne's Zone 1 Inventory



33 other genera were represented with a few trees each

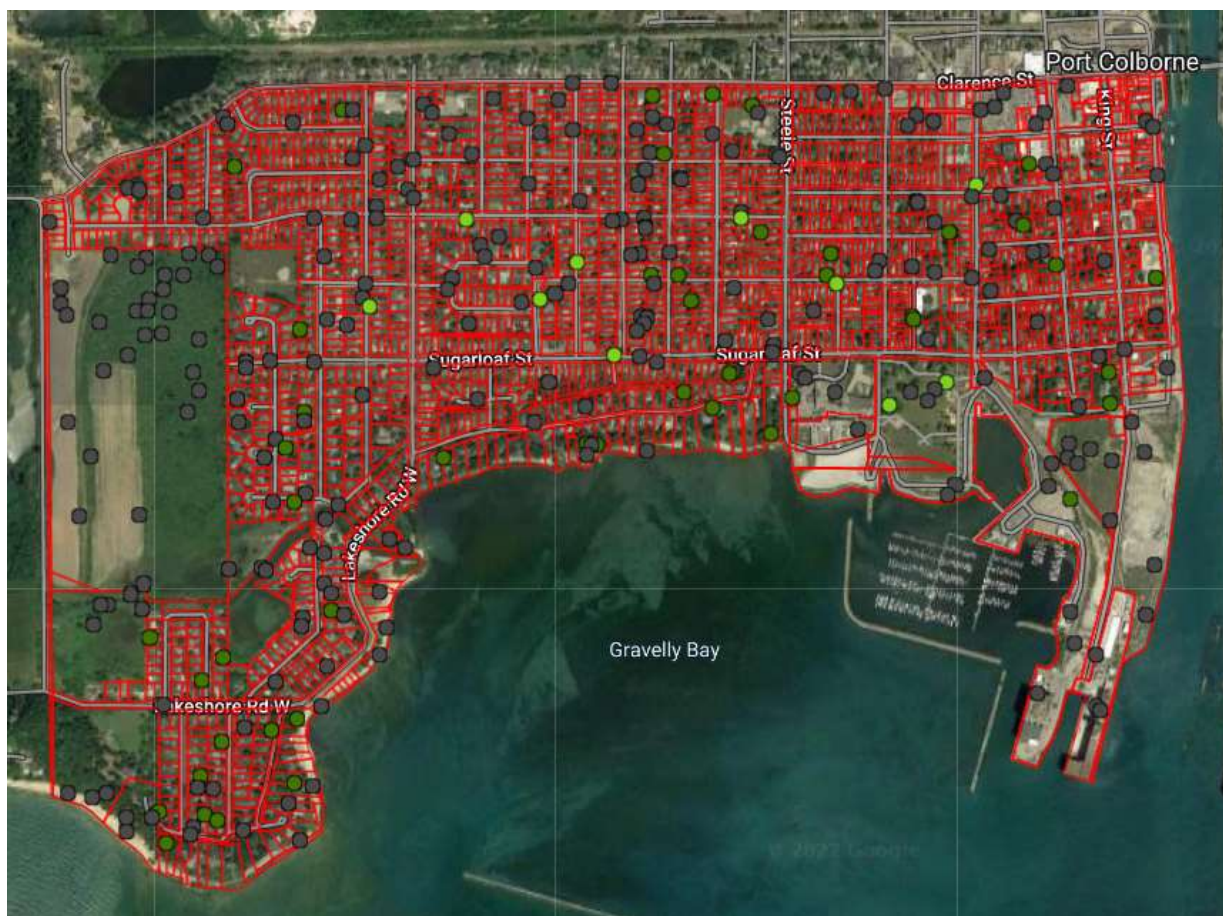
# Study: Tree Canopy Change Analysis

Years	Municipal Canopy		Private Canopy	
	Canopy (%)	% change *	Canopy (%)	% change *
2006	17.1		34.5	
2015	14.5	-15%	32.2	-7%
2018	13.2	-9%	27.6	-14%
* % change from previous assessment				
<b>Total Canopy Change</b>				
<b>2006 - 2018</b>				
		-23%		-20%
<sup>1</sup> 76 points out of 300 were within municipal Property\				
<sup>2</sup> 174 points out of 300 are within private residential and commercial property				

Cover Class	Description
Municipal Canopy	Tree Canopy over municipal property – parks, road allowance, street trees, etc.
Private Canopy	Tree Canopy within private land in residential and commercial areas.
Other	All other surfaces including natural areas

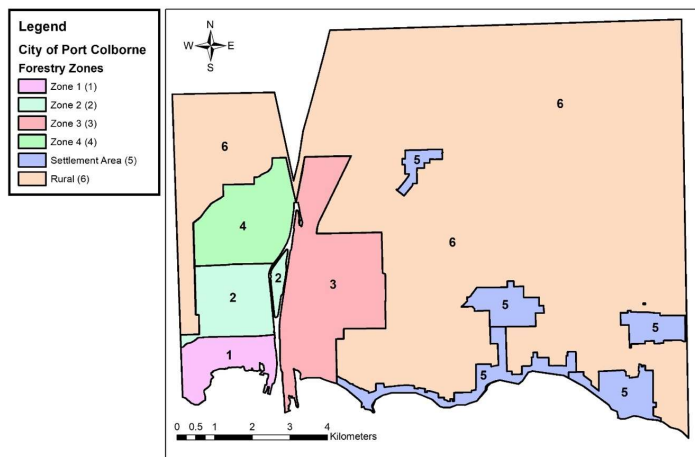
Aerial photography was used to compare a sample of the Tree Canopy in 2006, 2015 and 2018

**Canopy is declining rapidly at 0.29% per year..**



# Study 3: Port Colborne Canopy Cover/Plantable spaces

City of Port Colborne Proposed Forestry Zones



**Ecologic services and economic benefits from Port Colborne's trees and urban forest within the municipal boundary.**

Air Pollution	Removal Rate (g/m <sup>2</sup> /yr)	\$/t/yr	\$
CO2	0.101	\$125.55	\$573.76
NO2	0.551	\$39.64	\$988.28
O3	5.489	\$207.28	\$51,480.56
Particulate Matter (10 µm)	1.838	\$449.24	\$37,360.84
Particulate Matter (2.5 µm or less)	0.267	\$8,818.06	\$106,531.24
SO2	0.347	\$10.99	\$172.55

Hydrological	Tree effects (L/m <sup>2</sup> /yr)	\$/m <sup>2</sup> /yr	\$
Avoided Run-off	0.008	\$3.16	\$1,143.85

Carbon	Carbon Rate (t/ha/yr)	Carbon price (\$/t)	\$
Stored in Trees (not annual rate)	76.848	\$251.68	\$87,513,276.40

**Total Annual \$3,682,930.26**

## Canopy Cover percentage of each Zone separated by canopy type

Zone	Canopy Tree (%)	Canopy Shrub (%)	Canopy Woodlot (%)	Canopy Total (%)	Plantable (%)
1	18.5	2.4	8.3	29.2	21.4
2	9.3	5.2	4.9	19.4	27.5
3	4.3	7.3	13.2	24.8	21.3
4	5.2	6.0	26.2	37.4	21.2
5	15.9	4.1	28.0	48.0	21.4

## Cover class percentages by average for all Urban Zones (1-5)

Cover Class	Average
Canopy- Shrub or Thicket	5.2
Canopy -Tree	10.2
Canopy- Woodlot	16.4
Impervious Surfaces	19.9
Non-plantable Permeable	25.9
Plantable-	22.5

## Plantable Areas Cover Class percentage\* for each urban Zone

Planting Space Cover Class	Zone 1 (%)	Zone 2 (%)	Zone 3 (%)	Zone 4 (%)	Zone 5 (%)
Municipal Road Allowance	20.8	17.8	17.3	8.8	2.2
Municipal Parks & Facilities	9.7	25.7	7.6	3.8	5.6
Private Grass	56.9	50.5	65.7	82.8	92.2
Private Other Plantable	12.5	5.9	12.4	3.8	0.0

## A few of the results from the 3 studies:

- **Port Colborne's urban forest has**
  - low and falling urban tree cover
  - a high proportion of non-native species
  - very low proportion of Carolinian trees
  - space for more trees including in parks, facilities, and road allowances
- Woodlots make up 71% of Port Colborne's canopy cover.



# Study 3: Port Colborne Canopy Cover/Plantable spaces

i-Tree Category	Cover Class	Description
Canopy	Canopy – Tree	Single or small group of trees on residential lots, street trees or middle of field
	Canopy – Shrub or Thicket	Shrub, thicket, or early successional forest
	Canopy – Woodlot	Woodlots and forests
Plantable	Plantable – Grass/ Herbaceous	Residential lawn, open park, open space, municipal right of ways, schools, hospitals, regenerating meadow, grassy strips in parking lots or gravel boulevards
Non-Plantable	Non-Plantable Permeable Surface	Cultivated agriculture, sports fields, cemetery, golf course fairway, driving range, open water, wetlands, gravel parking, waste management/disposal area, quarry, other areas meant to be devoid of trees
	Impervious Surfaces	Buildings, roads, concrete, structures, sidewalks, driveways

