



## Township of Drummond/North Elmsley

### TREE CANOPY BACKGROUND INFORMATION

Trees are an important asset to our communities. Trees are known to provide a lot of environmental, economic, health and social benefits that improve our quality of life in the following ways:

#### **Economical**

- Homes landscaped with trees sell more quickly and are worth 5% to 15% more than homes without trees and where the entire street is tree-lined, homes may be worth up to 25% more.
- Business areas landscaped with trees attract new businesses and customers are known to linger and shop longer when trees are present.

#### **Health**

- Studies show that stress is reduced when people are outside enjoying nature which includes trees and natural vegetation.
- Trees are known to absorb and block sound, reducing noise pollution.
- Trees provide shade and relief from a summer's hot sun

#### **Environmental**

- Trees produce oxygen and sequester carbon (CO<sup>2</sup>), which reduces the concentration of greenhouse gases in the atmosphere
- Trees provide wildlife habitats for bird, insect and animal species.
- Water filtration and retention: Trees promote beneficial water quality and reduce storm water management costs by capturing and slowing rainfall and their roots filter water and recharging the aquifer which also aids to reduce flooding,
- Trees reduce air pollution trapping airborne particles, dust and the toxins that mostly come from diesel exhausts.

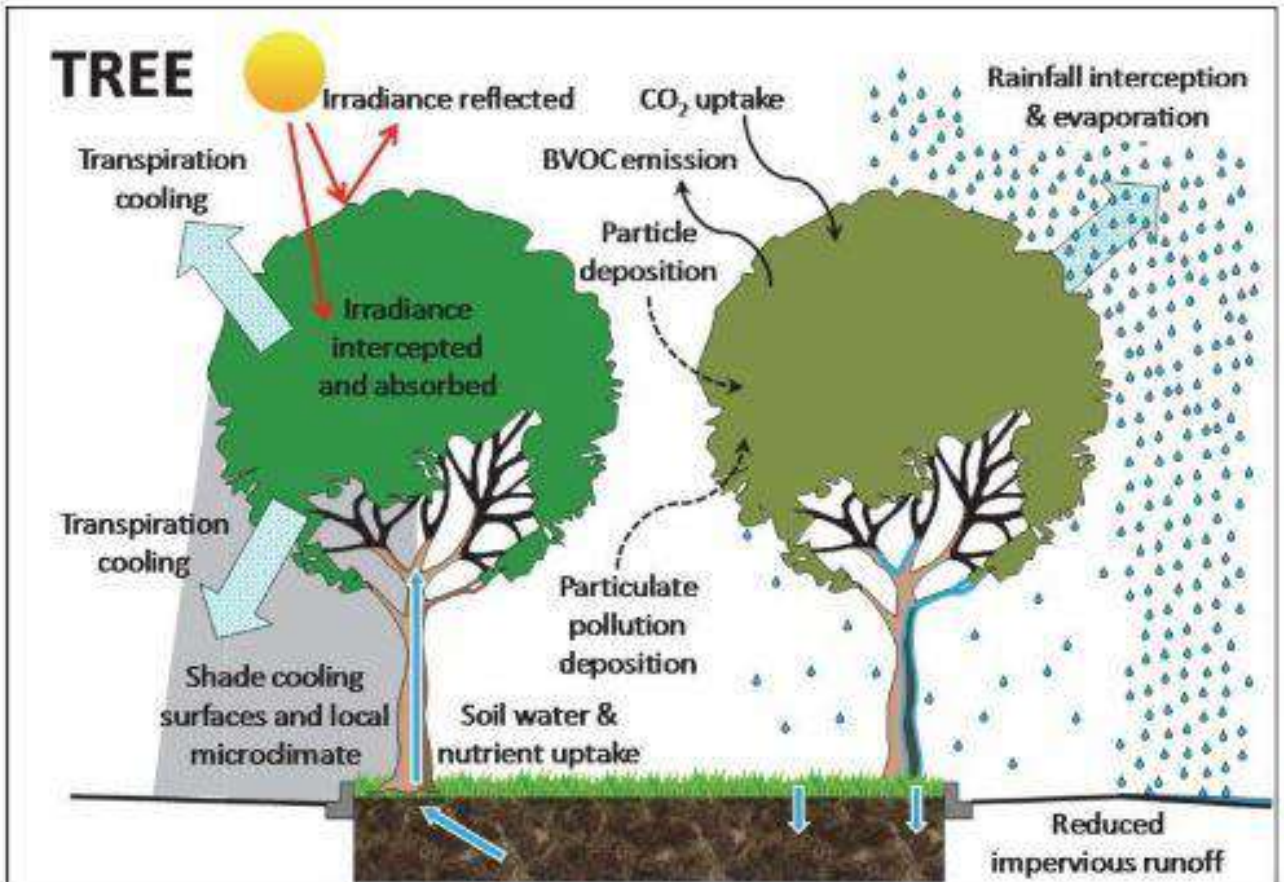
#### **Social**

- People walk and jog more on shaded streets which encourage interaction with neighbors and establish a sense of community.
- Access to trees, green spaces, and parks promotes greater physical activity, and reduces stress, while improving the quality of life in our cities and towns.

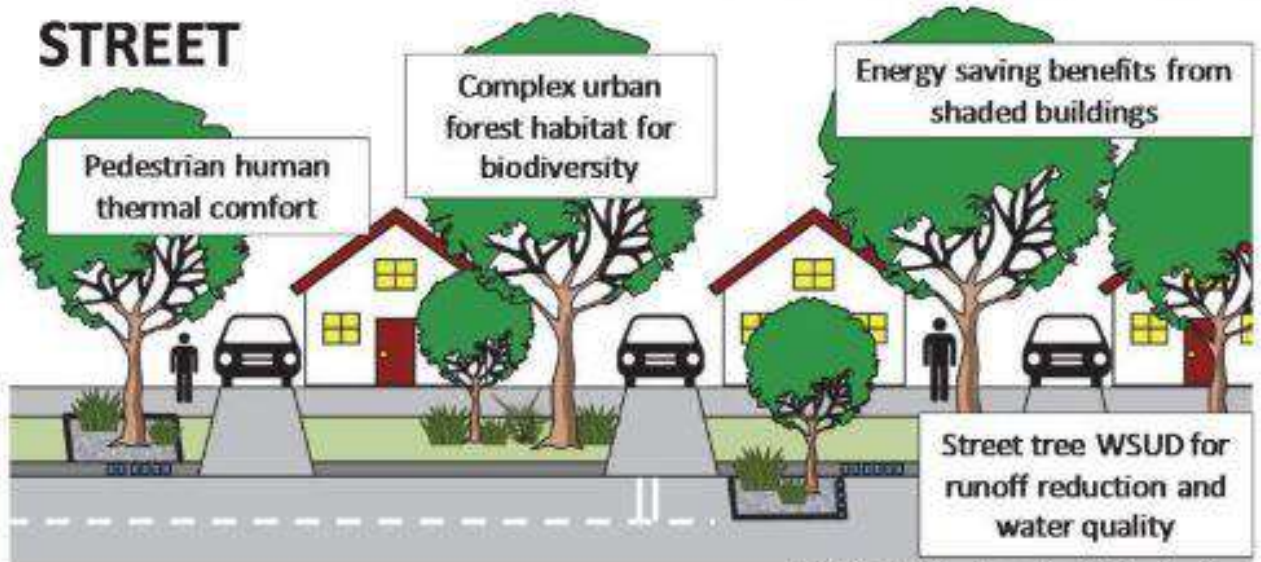
Natural vegetation also has benefits such as enhancing wildlife habitat by providing nesting and hiding cover, food, and safe travel corridors. They aid in reducing air pollutants, reduce stormwater runoff and flood damage downstream. Their presence along water shores help reduce water temperature. Natural vegetation help maintain slopes and reduce erosion from surface water. They protect soil and remove water during the winter months when deciduous plants are dormant.

Some of these benefits are summed up in the following infographic.

Source; Livesly, SJ, McPherson, EG, and Calfapietra, C. (2016). *Journal of Environmental Quality*. "The Urban Forest and Ecosystem Services: Impacts on Urban Water, Heat, and Pollution Cycles at the Tree, Street, and City Scale." Vol 45 No. 1. p.1



BVOC = Biological volatile organic compounds



WSUD = Water Sensitive Urban Design

Watersheds should have at least 30% forest cover to support wildlife species, conserve biodiversity, and maintain water quality and quantity.<sup>1</sup> The optimum forest cover is 50% as noted in the pictogram below. Given that the Township's forest cover is somewhere between 40-50%, the tree canopy policy approach taken by the Township is based on public education and awareness.



Source: Environmental Commissioner of Ontario. *Back to the Basics*. pg. 50. Retrieved on February 4, 2019 from <https://docs.assets.eco.on.ca/reports/environmental-protection/2018/Back-to-Basics-Volume4-Ch2.pdf>.

<sup>1</sup> Environmental Commissioner of Ontario. 2010. *Redefining Conservation Annual report 2009/2010*. Retrieved on February 4, 2019 from <http://docs.assets.eco.on.ca/reports/environmental-protection/2009-2010/2009-10-AR.pdf>

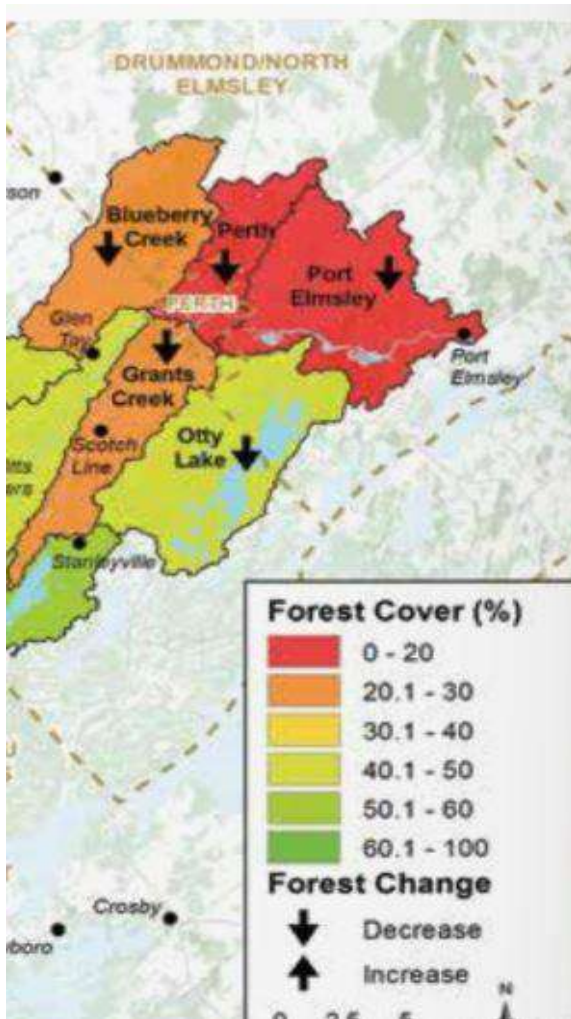
## **CURRENT CONDITION OF TREE CANOPY & NATURAL VEGETATION**

It is estimated that the significant woodlands cover 41.23% of the Township's land (CGIS mapping calculations) and therefore total tree canopy could be close to 50% of the Township's land mass. Appendix A is a current satellite image showing the forested areas in the Township.

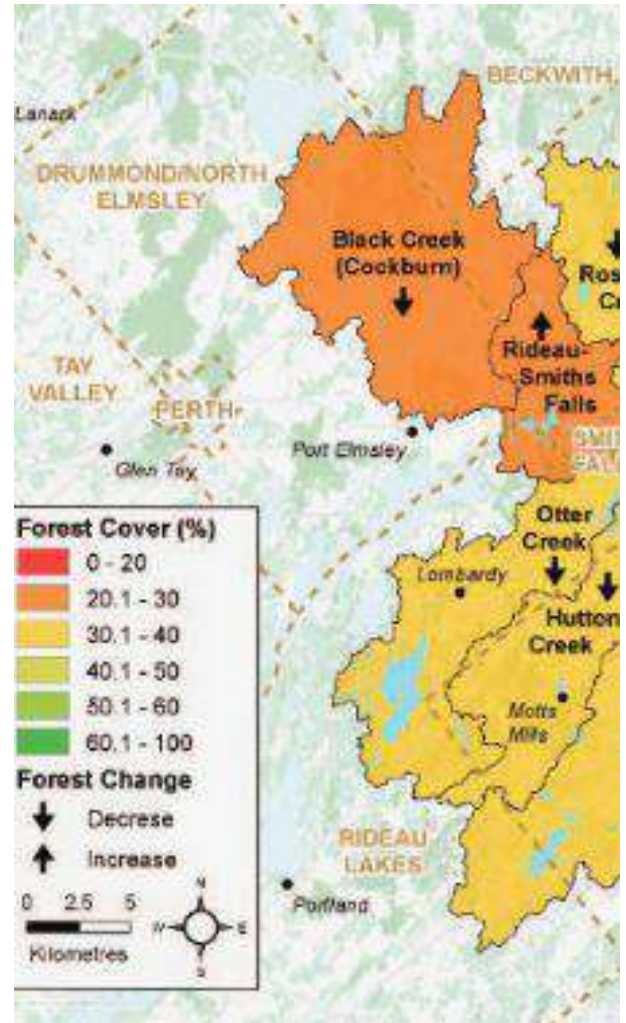
In addition to these maps, the conservation authorities report annually on the status of their watersheds. According to the latest reports, forest cover and vegetation figures give an accurate picture of what is occurring in our township.

Forest Coverage - RVCA – (Source: [www.watersheds.rcva.ca](http://www.watersheds.rcva.ca))

TAY RIVER SUB-WATERSHED



MIDDLE RIDEAU SUB-WATER



In the Tay River Sub-Watershed, RVCA shows a declining forest coverage of 0-30% in the Port Elmsley/Perth section and in the range of 20.1-30% coverage in the Blueberry Creek section. The Middle Rideau Sub-Watershed Report also shows a declining forest in the Black Creek section in the range of 20.1-30% coverage.

Forest coverage – MVCA

The forest coverage rating in the Mississippi Lake Watershed received a B rating because of shoreline clearing around Mississippi Lake associated with extensive lakeshore development (Source: MVCA 2018 Report Card).

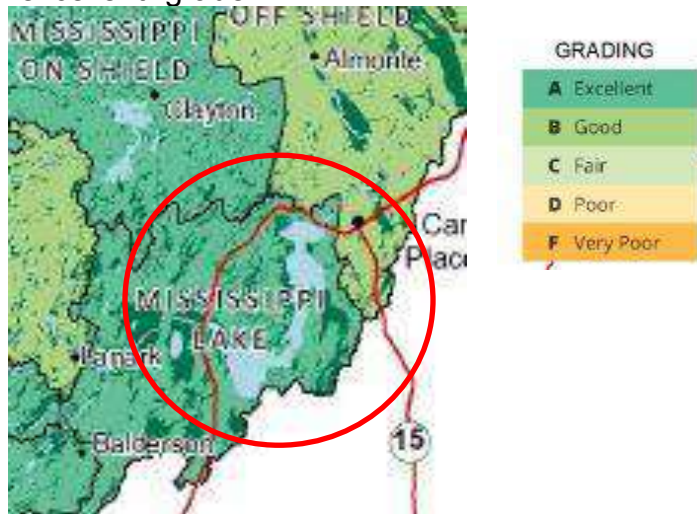
**Table 6: Subwatershed Forest Condition grade results for the 2018 Report Card (based on Conservation Ontario, 2011)**

Subwatershed	Forest Cover		Forest Interior		Riparian Zone Forested		Average Points	Final Grade
	%	Grade	%	Grade	%	Grade		
Upper Mississippi	84.9	A	38.8	A	58.9	A	5	A
Central Mississippi	76.7	A	25.2	A	53.3	B	4.7	A
Clyde River	80.2	A	32.7	A	57.8	A	5	A
Fall River	71.1	A	17.3	A	50.0	B	4.7	A
Mississippi Lake	44.0	A	11.9	A	38.8	C	4.3	B
Lower Mississippi On Shield	71.1	A	22.6	A	48.0	B	4.7	A
Lower Mississippi Off Shield	29.8	B	6.3	C	29.6	C	3.3	C
Carp River	33.2	B	7.8	C	25.0	D	3	C
Ottawa River Tributaries	37.3	A	6.8	C	24.7	D	3.3	C

Mississippi Valley Conservation. 2018 Report Card. Retrieved on February 5, 2019 from <http://mvc.on.ca/wp-content/uploads/2013/07/MVCA-Watershed-Report-Card-Full-FINAL-2018.pdf> p. 22

### Natural Vegetation

Vegetated Shoreline Cover – Mississippi Lake Watershed (MVCA) shows an “excellent” grade.



## Vegetated Shoreline Cover – RVCA

The charts below show the ratings for shoreline cover by catchment. The recommended target is 30 metres of natural vegetation on both sides of a stream for at 75% of its length. (Source: www.watersheds.rcva.ca)

### TAY RIVER SUB-WATERSHED

Shoreline Cover by Catchment			
Catchment	Natural Shoreline in 2014	Natural Shoreline Change Since 2008	
Blueberry Creek	75.1%	-0.06%	-0.17 ha
Bobs Lake	90.0%	0.05%	1.05 ha
Christie Lake	91.6%	-0.01%	-0.18 ha
Crow Lake	94.2%	0.00%	0.00 ha
Eagle Lake	92.5%	0.00%	0.00 ha
Elbow Lake	90.6%	-0.03%	-0.28 ha
Glen Tay	79.8%	-0.08%	-0.67 ha
Grants Creek	60.6%	-0.09%	-0.33 ha
Long Lake	89.7%	-0.02%	-0.22 ha
Otty Lake	81.4%	-0.05%	-0.32 ha
Perth	68.7%	-0.60%	-1.26 ha
Pike Lake	91.5%	-0.03%	-0.31 ha
Port Elmsley	52.0%	-0.09%	-0.38 ha
Rudsdale Creek	78.1%	0.00%	0.01 ha
<b>Subwatershed Average</b>	<b>85.6%</b>	<b>-0.03%</b>	<b>-3.05 ha</b>

### MIDDLE RIDEAU SUB-WATERSHED

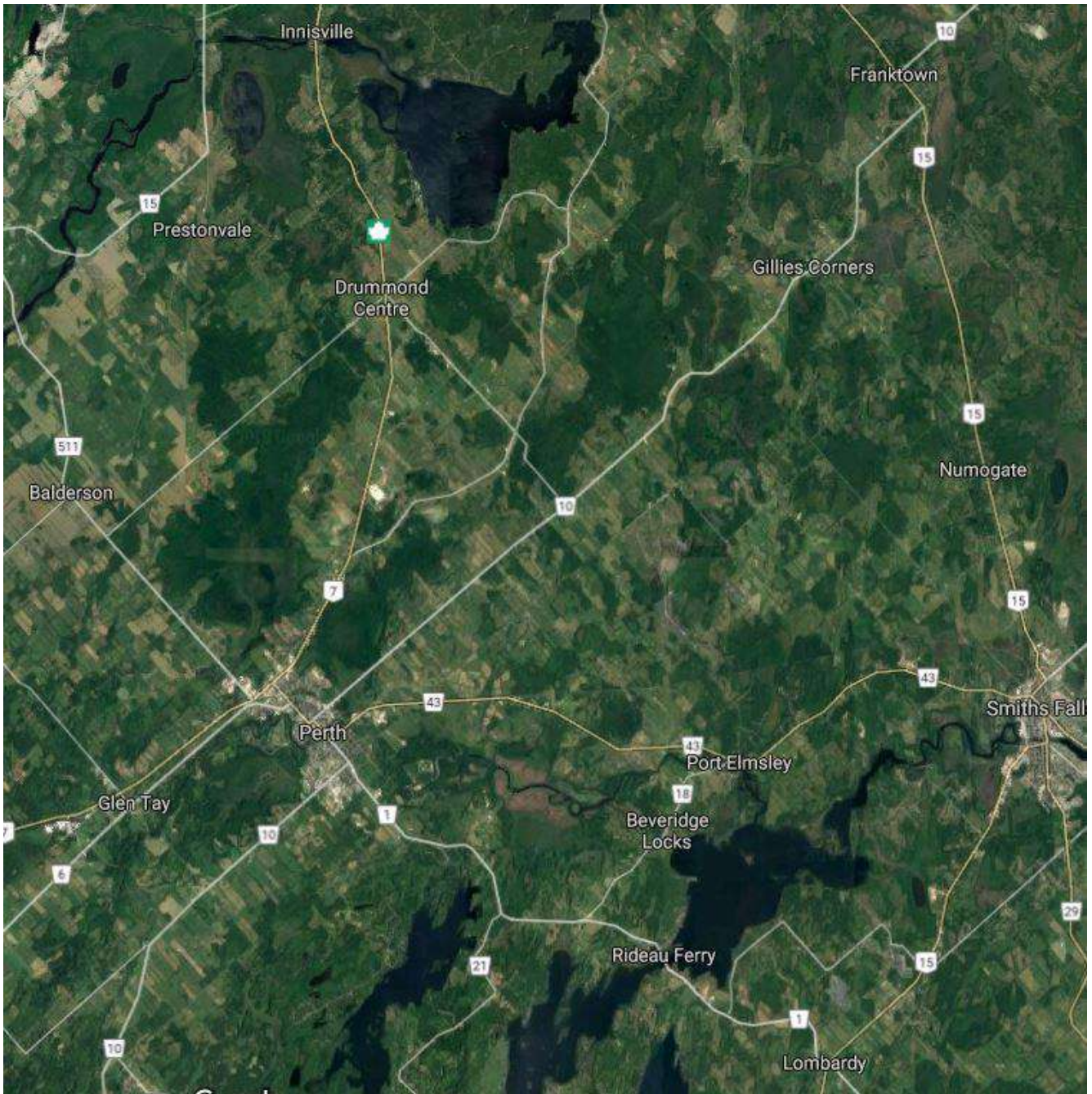
Shoreline Cover by Catchment		
Catchment	Shoreline Cover in 2014	Shoreline Change Since 2008
Barbers Creek	62.10%	-2.02%
Black Creek (Cockburn)	67.34%	-0.06%
Dales Creek*	85.36%	+0.27%
Hutton Creek*	82.85%	-0.10%
Irish Creek	70.48%	+0.04%
Otter Creek*	79.55%	-0.20%
Rideau Creek*	88.53%	+0.10%
Rideau-Merrickville	64.85%	+0.02%
Rideau-Smiths Falls	66.83%	+0.06%
Rosedale Creek*	75.26%	-0.20%

\* meet or exceed minimum seventy-five percent threshold.

## Forest Coverage of Drummond/North Elmsley

### Overview of the Township

(Source: google maps)

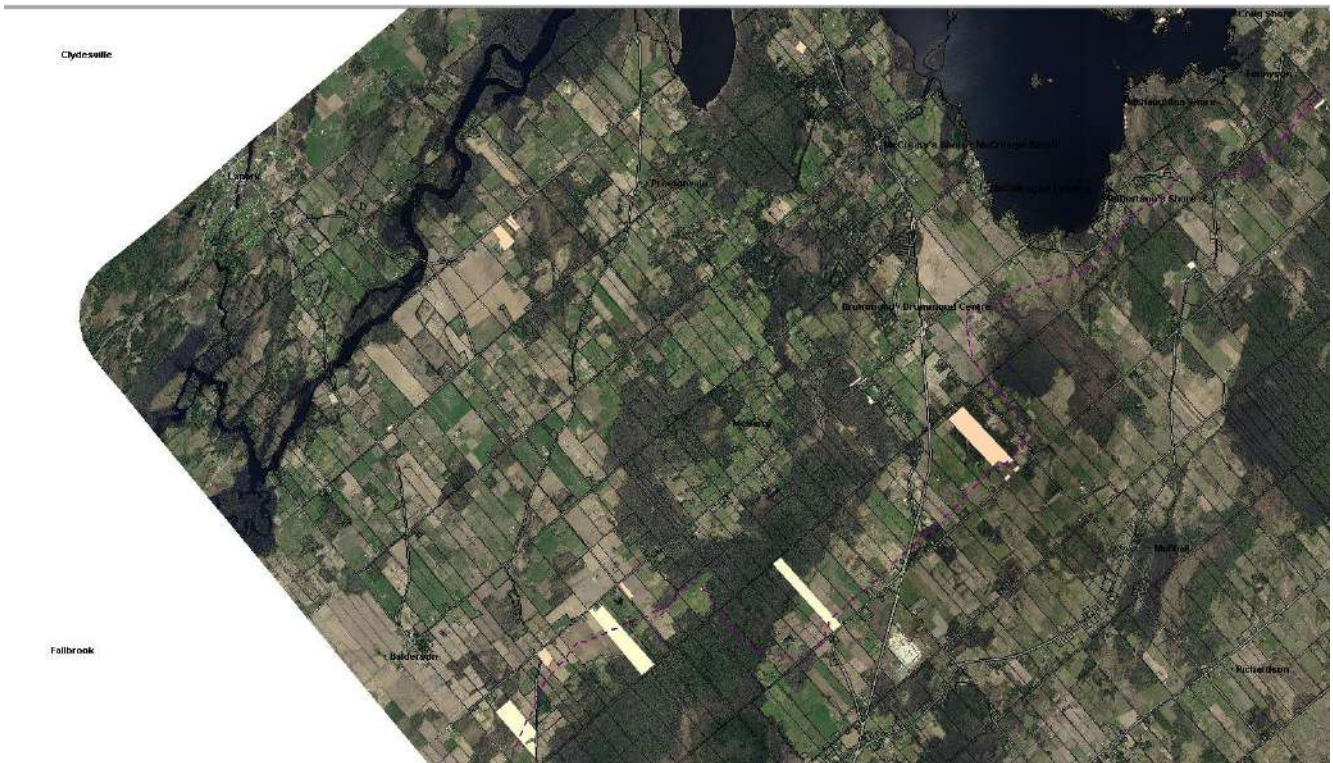




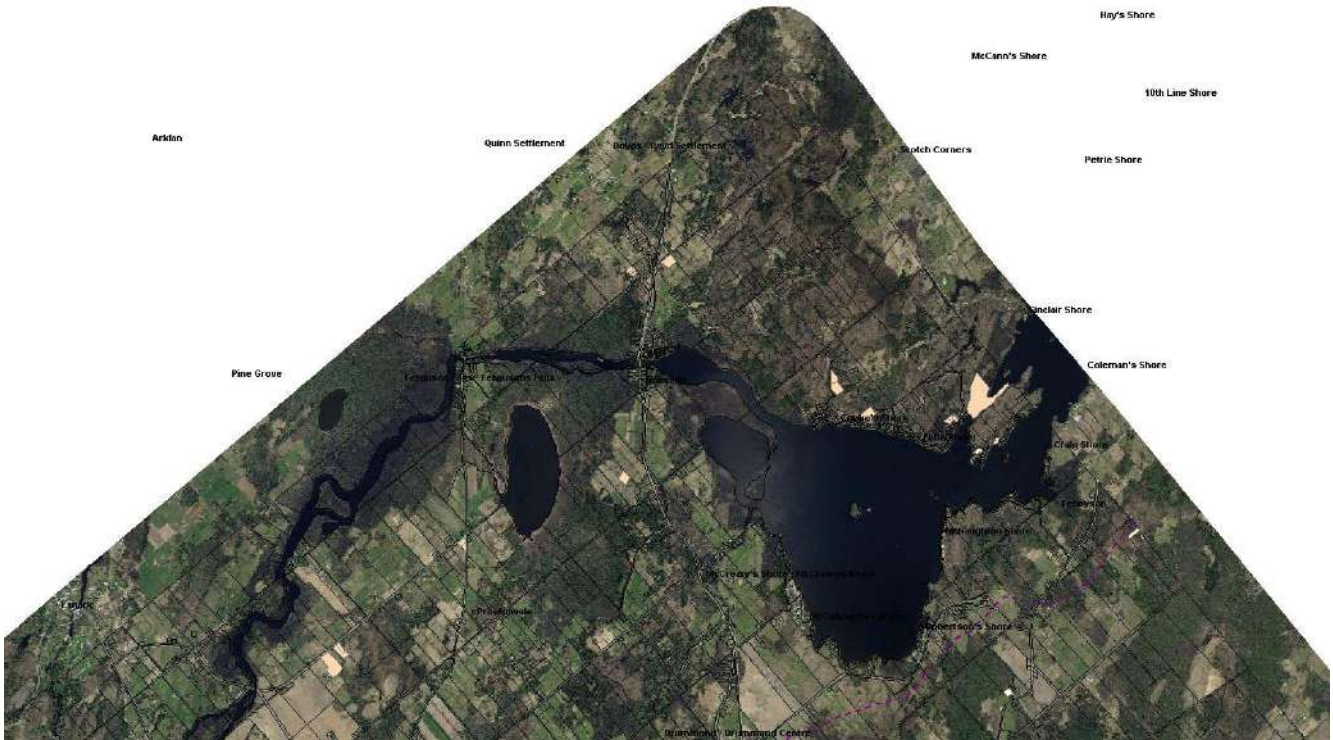
Eastern portion of Drummond Ward  
Mississippi lake



# Northwestern boundary of Drummond Ward



Drummond Ward  
Innisville/Ferguson's falls / Mississippi Lake



North Elsmley Ward North of County Road 43



# North Elmsley Ward South of County Road 43

