

HUNTSVILLE LAKES SUBWATERSHED

Grades		
Land: C	Water: B	Wetland: —



Index Map

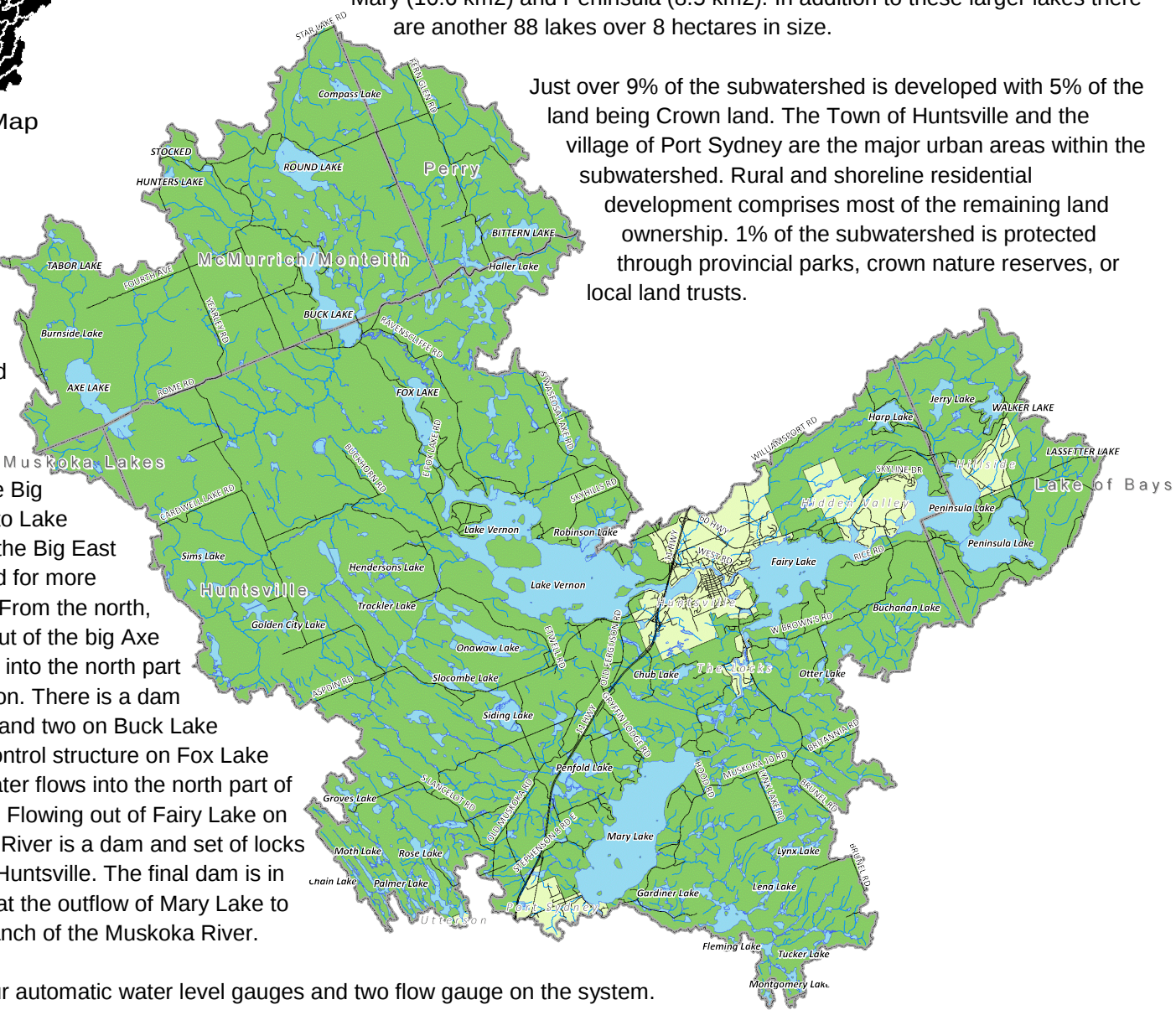
The Huntsville Lakes subwatershed is 66,544 hectares in area. The four predominant lakes in the subwatershed are Vernon (14.6 km²), Fairy (7.4 km²), Mary (10.6 km²) and Peninsula (8.5 km²). In addition to these larger lakes there are another 88 lakes over 8 hectares in size.

Just over 9% of the subwatershed is developed with 5% of the land being Crown land. The Town of Huntsville and the village of Port Sydney are the major urban areas within the subwatershed. Rural and shoreline residential development comprises most of the remaining land ownership. 1% of the subwatershed is protected through provincial parks, crown nature reserves, or local land trusts.

The headwaters for the Huntsville Lakes subwatershed start in Algonquin Park and

flow down the Big East River into Lake Vernon (see the Big East subwatershed for more information). From the north, water flows out of the big Axe Lake wetland into the north part of Lake Vernon. There is a dam on Axe Lake and two on Buck Lake with a final control structure on Fox Lake before the water flows into the north part of Lake Vernon. Flowing out of Fairy Lake on the Muskoka River is a dam and set of locks just south of Huntsville. The final dam is in Port Sydney at the outflow of Mary Lake to the North Branch of the Muskoka River.

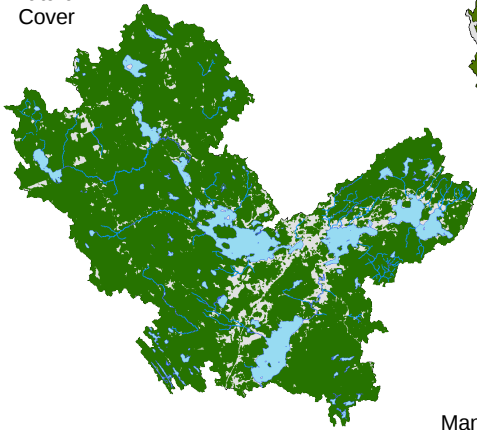
There are four automatic water level gauges and two flow gauge on the system.



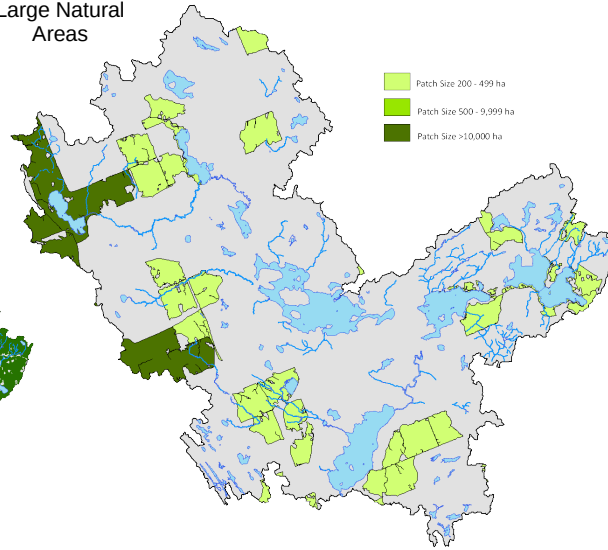
This report card describes the health of the land, water and wetlands of the Huntsville Lakes subwatershed and is part of the larger report **The 2010 Muskoka Watershed Report Card** that is posted on the MWC website www.muskokaheritage.org/watershed.



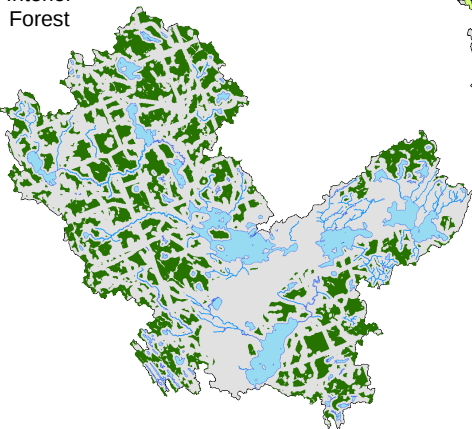
Natural Cover



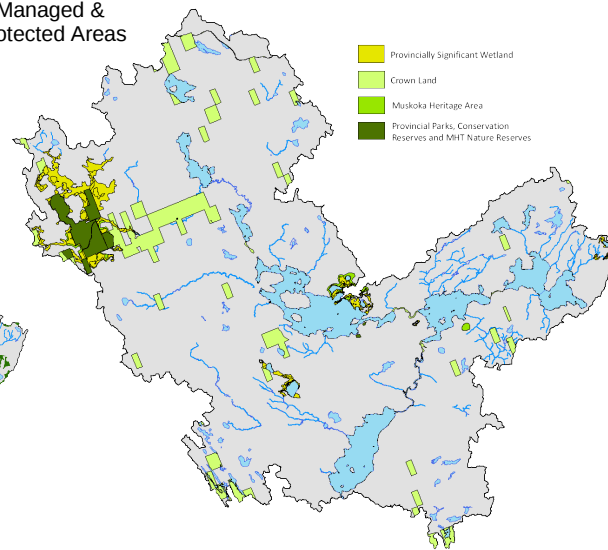
Large Natural Areas



Interior Forest



Managed & Protected Areas



The Huntsville Lakes subwatershed is relatively large and contains 47 small and medium sized lakes. The lakes are surrounded by mixed forest vegetation with little development in the subwatershed. The development pattern has resulted in a large undisturbed area that supports many of the large mammals native to Muskoka, such as bear and moose. These natural areas are also important to help purify the air, maintain good water quality and provide a carbon sink.

95% of the subwatershed is privately owned and it will be important to maintain a strong private land stewardship program to ensure that the long-term health of the subwatershed is maintained as development occurs. Although only 10% of the land is currently under active private land stewardship, there has been an increase in participation in MFTIP and CLTIP and donations to land trusts.

Both healthy riparian areas and interior forests are important to support local wildlife and maintain good water quality.

Indicator	Huntsville Lakes		Muskoka Watershed		Indicator Description
	%	Grade	%	Grade	
Natural Cover	91	A	94	A	Natural cover is defined as lakes, wetlands, forests, rock barrens and other natural systems.
Large Natural Areas	71	B	79	B	Areas of natural cover that are 200 ha or greater.
200 - 499 ha	13		7		
500 - 9,999 ha	52		52		
>10,000 ha	6		20		
Interior Forest	46	C	58	C	Interior forest is defined as a forested area with a 100-metre forested buffer surrounding it.
Managed & Protected Areas	16	F	48	A	Protected areas are defined as lands within national or provincial parks, Crown conservation reserves, Crown land, and land held by land trusts. Managed areas are defined as lands under the Managed Forest Tax Incentive Program or Conservation Land Tax Incentive Program, or have a conservation easement held by a reputable conservation organization.
Parks & Protected Areas	1		17		
Crown Land	5		26		
Private Stewardship	10		5		
Riparian Area	44	D	68	B	Riparian area is defined as the shoreline of a lake or river plus an area 20 metres inland from the shore.



The Huntsville Lakes subwatershed flows southward through the Muskoka River to Lake Muskoka.

Total phosphorus is an indication of the nutrient level of waterbody. A background or undeveloped level of total phosphorus has been determined for each lake. Scientists indicate that a lake may become unhealthy with an increase in phosphorus greater than 50% from that background level. This is considered the threshold for that lake. There is one lake in the subwatershed that is Over Threshold for a total of 1.2% of the total water surface area in the subwatershed.

Shoreline vegetation protects waterbodies from nutrients and toxic chemicals that can contribute to water quality issues. It also protects the lake edge from erosion caused by waves and ice. The shoreline zone provides critical habitat for fish and other animals, helping to maintain a natural balance in sensitive aquatic ecosystems. 11.85% of the shoreline of lakes in the Huntsville Lakes subwatershed have been altered.

In Muskoka there are no notable point sources of industrial contamination in lakes and rivers. Most industrial contamination is generally a result of air pollutants traveling long distances and being deposited in local lakes. In inland lakes on the Canadian Shield, mercury in fish is the most significant contaminant.

Mercury levels in lakes does not pose a significant human health threat, however, wildlife like loons are more sensitive. Loons eat fish that are 4 to 10 centimeters in size. If fish in a particular lake do not reach the 0.033 ppm standard until the fish is over 10 centimeters, then loons will not be impacted. Otherwise, there could be a possible neurological impact. All fish in the Huntsville Lakes subwatershed are below the mercury standard and considered very healthy.

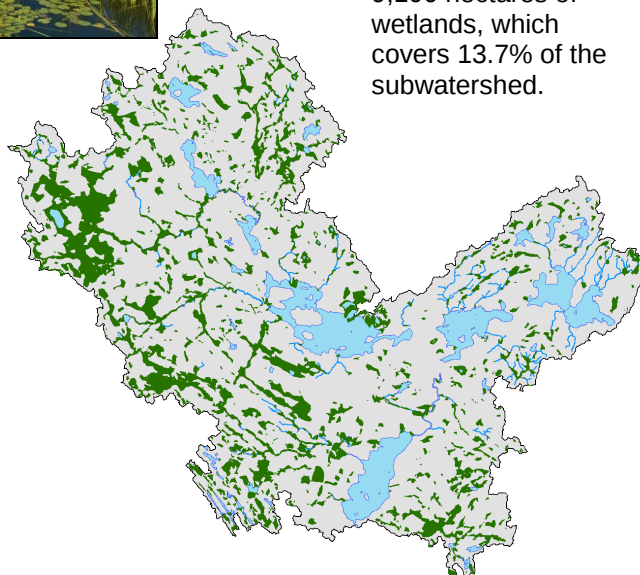
Indicator	Huntsville Lakes		Muskoka Watershed		Indicator Description
	%	Grade	%	Grade	
% Surface Area Over Threshold	1.2	B	4.9	B	This is a measure of recreational water quality as phosphorus is generally the limiting nutrient in algae production.
% Natural Shoreline	88	B	91	B	This is a measure of fish habitat. Many fish species require overhanging vegetation, rock shoals, and aquatic vegetation found in undisturbed sites.
Mercury Levels in Fish Less Than 10 cm in Size	N/A	A	N/A	B	Mercury levels in lakes do not pose a significant human health threat, however, wildlife like loons are less tolerant to mercury and may be impacted in some cases.



No Grade

Wetlands

The Huntsville Lakes subwatershed has 9,100 hectares of wetlands, which covers 13.7% of the subwatershed.



A value of no net loss of wetlands from the 2010 level will be used as the benchmark. In future report cards, wetland area will be measured as a deviation from current wetland area.

Wetland Values

- Control and storage of surface water and recharge groundwater;
- Maintain and improve water quality, aid in flood control, and protect shorelines from erosion;
- Trap sediments which would otherwise fill watercourses;
- Support and initiate complex food chains;
- Provide important habitat
- Support species at risk;
- Provides fish populations;
- Provide active and passive recreational opportunities, including canoeing, bird watching, hunting and fishing.

A changing climate

The biggest unknown in watershed health is the impact of climate change. What will climate change mean in Muskoka?

Warmer summers will see increased evaporation of water from lake surfaces and increased transpiration of water by wetlands and forests, meaning less runoff, less water, lower lake levels, and longer periods of drought. Warmer winters will see more winter thaws and winter rains potentially leading to more flooding. If the snowpack is reduced due to mid-winter thaws then less snow pack remains for the spring run-off, which could result in an earlier onset of drought and lower water levels.

Warmer lakes will likely lead to:

- less habitat for lake trout
- more algae blooms and possibly blue-green algae blooms

Warmer temperatures will likely:

- allow a greater range of insects and disease in our forests, such as the Mountain Pine Beetle
- allow more invasive species, such as ticks that carry lyme disease
- result in more smog days and result in human health impacts
- eliminate winter recreation although summer recreation may be enhanced
- extend the growing season

More severe weather events will likely:

- damage large tracts of commercially important forests
- overload municipal infrastructure
- result in more damage to agricultural crops

Drier conditions will likely lead to more drought.

Rapid change in habitat conditions will likely reduce biodiversity.



Get involved and be a watershed steward

When all is said and done, the fate of sustainable management of a watershed lies in the hands of grass-roots residents as they go about their day-to-day business. It is the citizens of the watershed who must generate the interest and enthusiasm to create, continue and expand local projects which lead to positive actions and results.



1. Maintain large natural areas

- Practice sustainable forestry
- Use existing roads and rights of way for access and utility corridors
- Reduce cleared areas in the rural area

2. Retain shorelines in a natural state

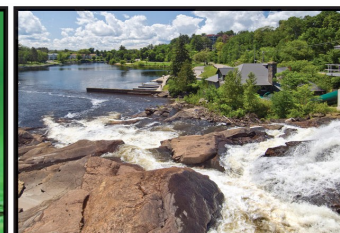
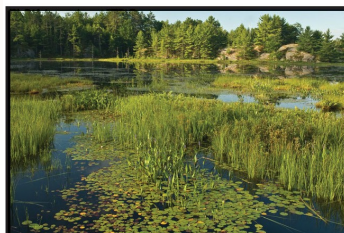
- Maintain a wide natural buffer of plants and trees around shorelines of lakes, rivers and streams
- Obey speed signs in erosion sensitive low wake areas
- Reduce grassed lawns in the waterfront area and minimize the use of fertilizer
- Pick up after pets
- Plant native species

3. Protect wetlands

- Leave wetlands alone
- Keep recreational vehicles out of wetlands
- Learn about wetland values

4. Reduce your carbon footprint

- Plant native trees
- Reduce your use of electricity
- Improve energy efficiency of your home and vehicle
- Reduce waste



Muskoka
WATERSHED COUNCIL

The Muskoka Watershed Report Card is produced by the Muskoka Watershed Council. The mission of the Muskoka Watershed Council is to *champion watershed health*.

For the full background report, visit www.muskokaheritage.org/watershed.