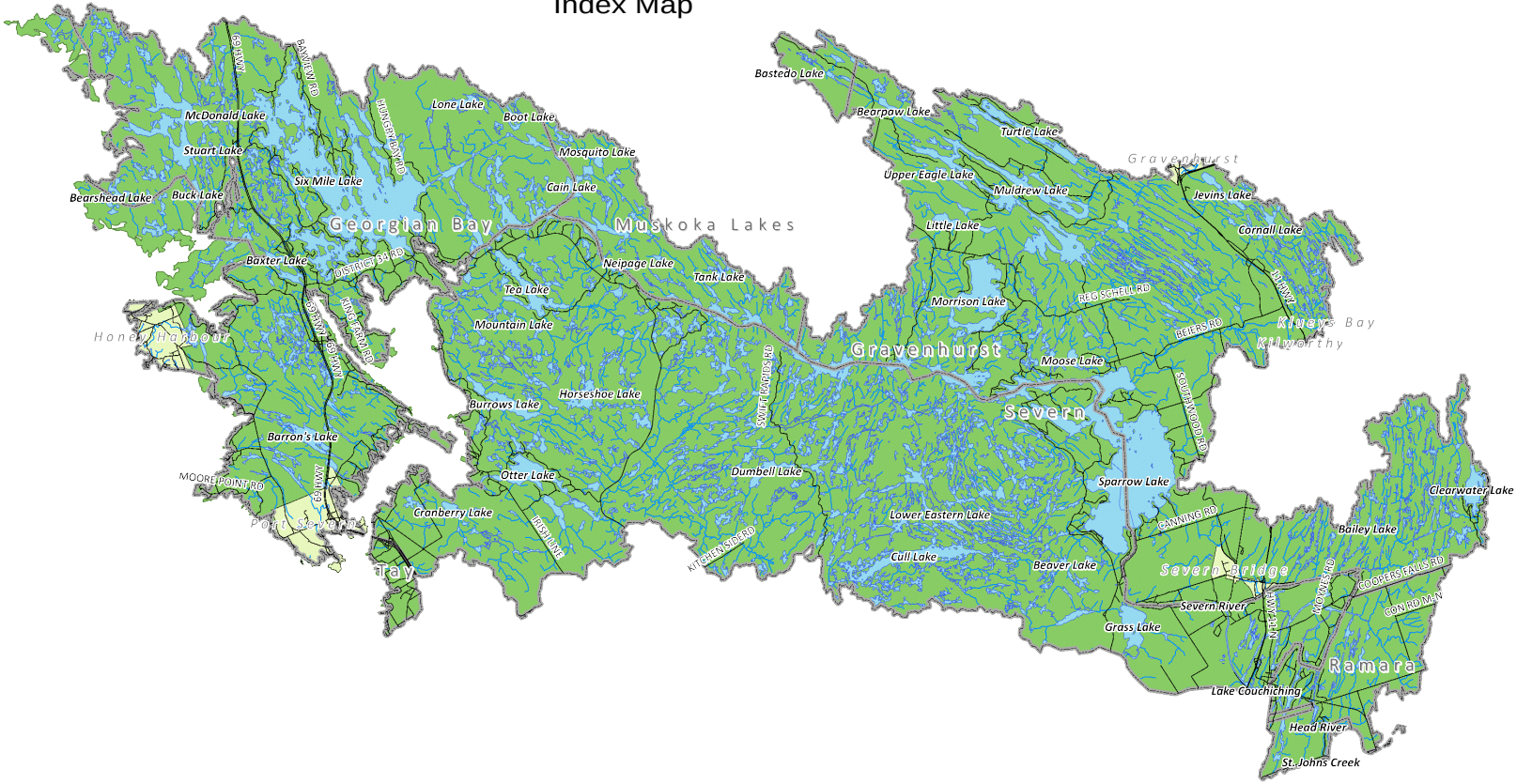
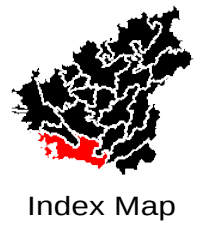


SEVERN RIVER SUBWATERSHED

Grades

Land: **B** Water: **A** Wetland: **—**



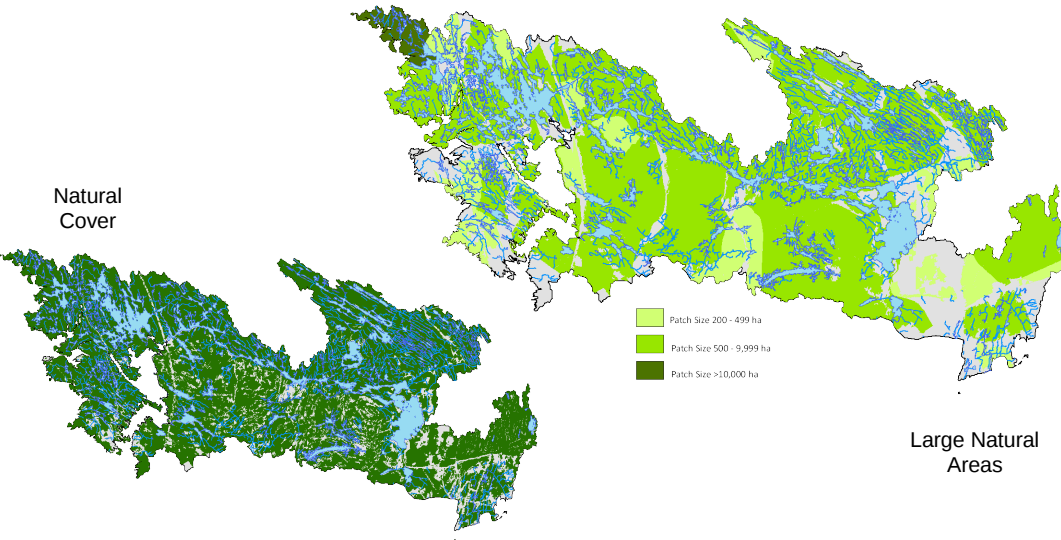
The Severn River subwatershed is 62,500 hectares in size. There are no large lakes that dominate the subwatershed, however there are 18 lakes over 8 hectares in size in the subwatershed. The Severn River subwatershed forms the southern border of The District Municipality of Muskoka with Simcoe County.

Just over 6% the subwatershed is developed with most of that development along the Highway 11 corridor. Rural and shoreline residential development comprises the other major land use. 56% of the subwatershed is Crown land and 11% of the subwatershed is protected through provincial parks, crown nature reserves, or local land trusts.

*This report card describes the health of the land, water and wetlands of the Severn River 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.*

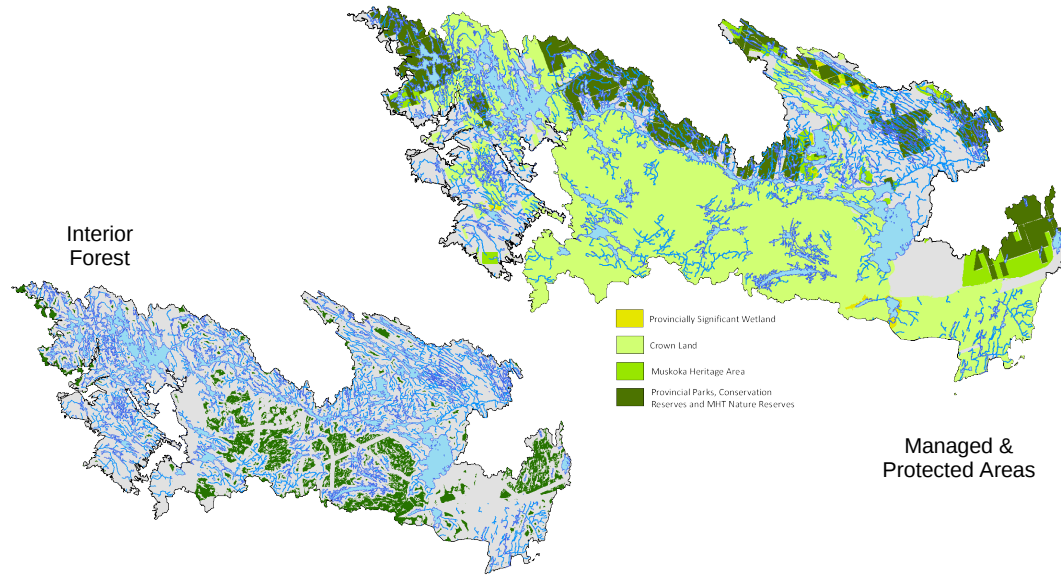


Natural Cover



Large Natural Areas

Interior Forest



Managed & Protected Areas

The Severn River subwatershed is relatively large and is dominated by the river itself. The Severn River acts as the political boundary between The District Municipality of Muskoka and Simcoe County and flows from Lake Couchiching westerly to Georgian Bay. The subwatershed is made up of large areas of rock barren, several provincially significant wetlands and mixed forest. Interspersed across the landscape are many small lakes. The lands north of the Severn River are relatively inaccessible with no road access.

44% of the subwatershed is privately owned and 56% is owned by the Crown. 14% is protected as a provincial park or crown nature reserve. Only 2% of the land is currently under active private land stewardship.

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

Indicator	Severn River		Muskoka Watershed		Indicator Description
	%	Grade	%	Grade	
Natural Cover	94	A	94	A	Natural cover is defined as lakes, wetlands, forests, rock barrens and other natural systems.
Large Natural Areas	82	A	79	B	Areas of natural cover that are 200 ha or greater.
200 - 499 ha	12		7		
500 - 9,999 ha	68		52		
>10,000 ha	2		20		
Interior Forest	44	C	58	C	Interior forest is defined as a forested area with a 100-metre forested buffer surrounding it.
Managed & Protected Areas	72	A	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	14		17		
Crown Land	56		26		
Private Stewardship	2		5		
Riparian Area	60	B	68	B	Riparian area is defined as the shoreline of a lake or river plus an area 20 metres inland from the shore.

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 Severn River subwatershed are below the mercury standard and considered very healthy.

The Severn River subwatershed flows westerly from Lake Couchiching to Georgian Bay and is part of the Trent-Severn waterway. This canal is part of the National Canal system that joins Lake Ontario, at Kingston, to Georgian Bay, at Port Severn.

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. Six lakes in the Severn River subwatershed are Over Threshold for a total of 7.6% 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. 5.33% of the shoreline of lakes in the Severn River subwatershed have been altered.

Indicator	Severn River		Muskoka Watershed		Indicator Description
	%	Grade	%	Grade	
% Surface Area Over Threshold	7.6	B	4.9	B	This is a measure of recreational water quality as phosphorus is generally the limiting nutrient in algae production.
% Natural Shoreline	95	A	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

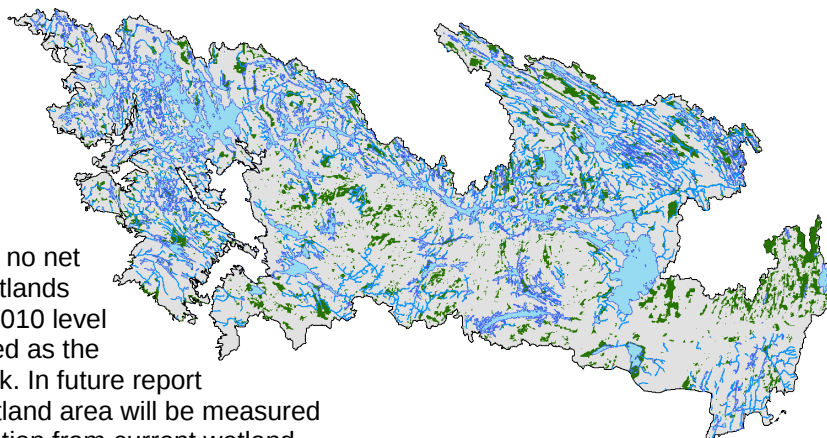
Wetlands

The Severn River subwatershed has 7,800 hectares of wetlands, which covers 12.5% of the subwatershed.

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 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.



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

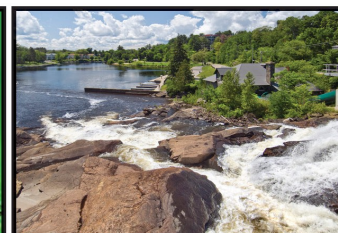
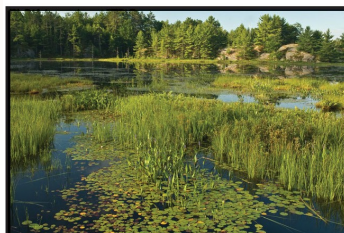


3. Protect wetlands

- 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.