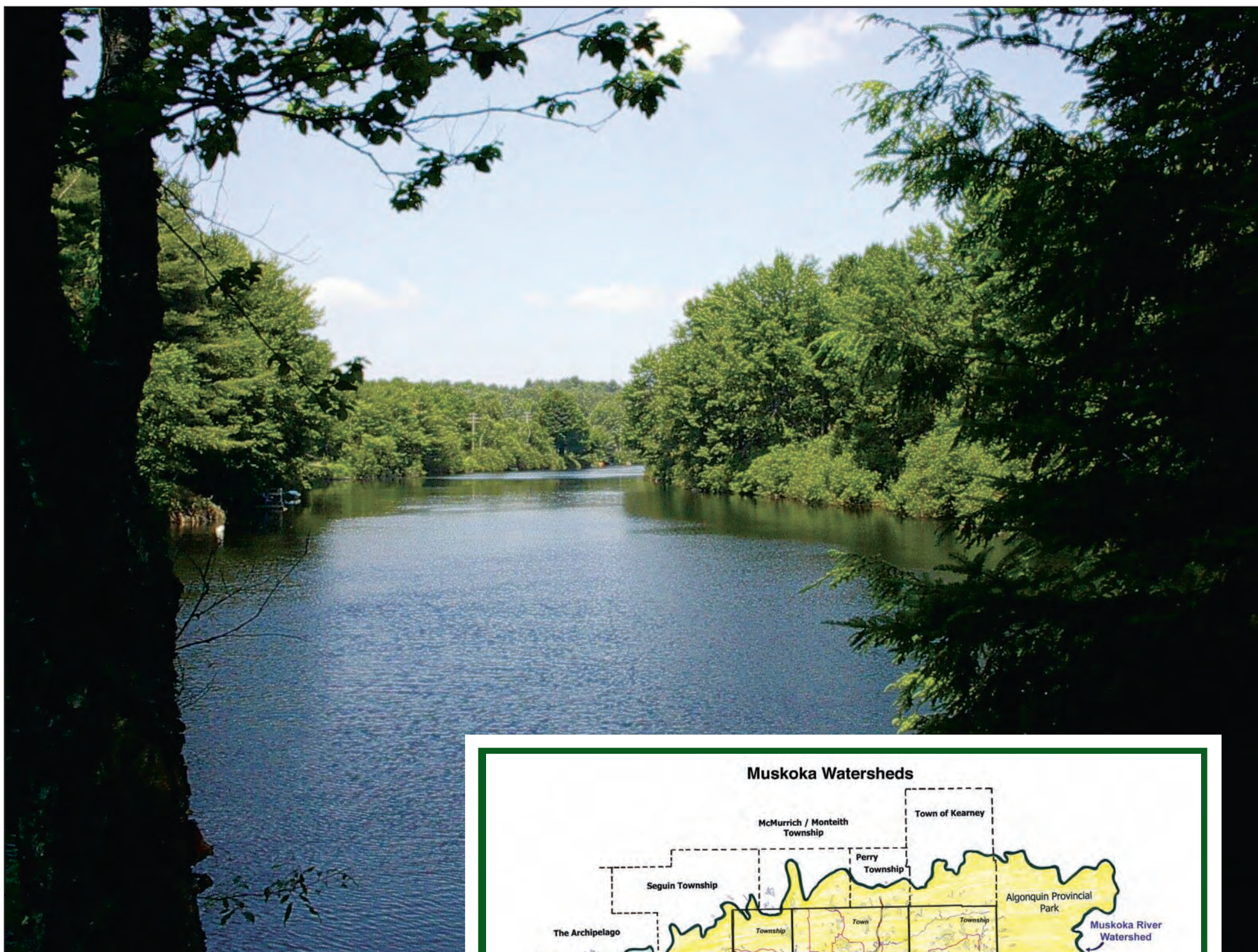


The Muskoka Watershed REPORT CARD



Muskoka
WATERSHED COUNCIL

JULY 2004

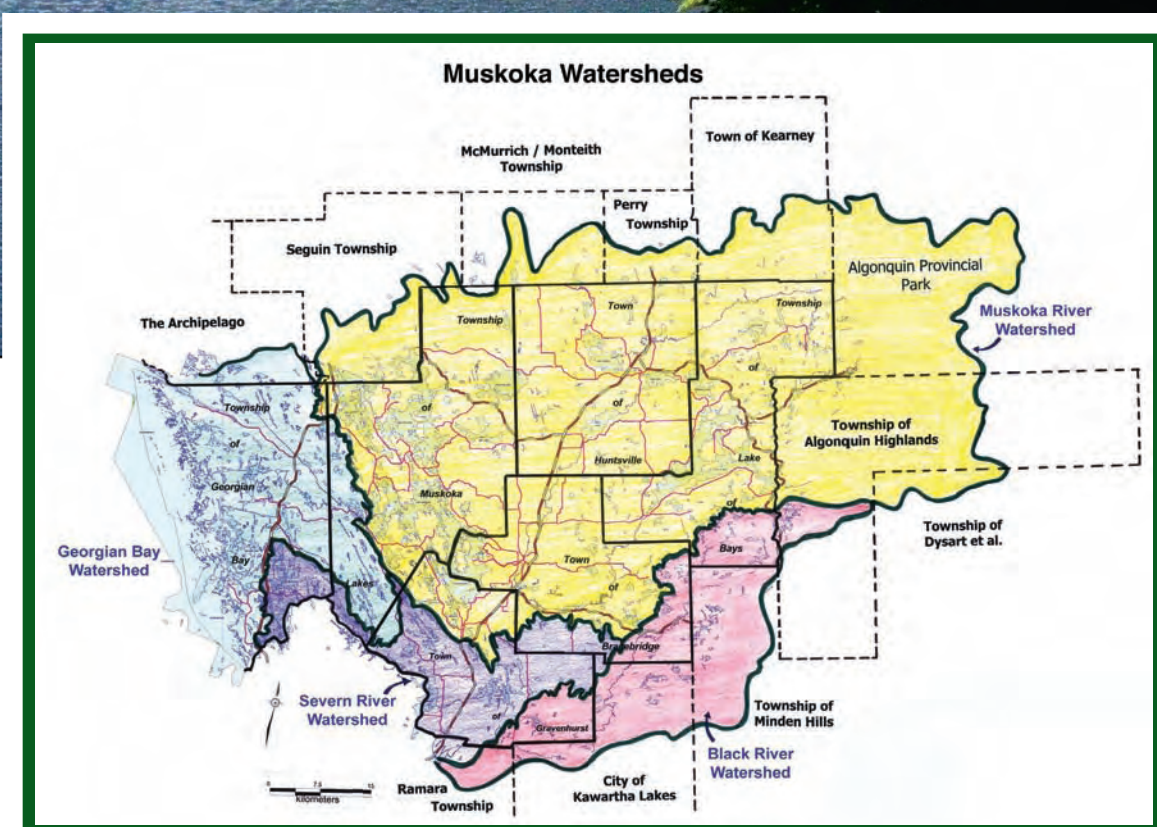


The watersheds of Muskoka

A legacy for future generations

The Muskoka Watershed Council is pleased to present the first report card on the health of the Muskoka watersheds. Similar reports will be prepared at three-year intervals indicating the changes that occur over time. We hope the report will stimulate action on the part of governments, businesses and individuals. For the Watershed Council, it will provide the basis for development of a work plan focusing research, policy development, education and communications activities in those areas where the trends are not satisfactory or where adequate knowledge and understanding do not exist.

The report card highlights Our Air, Our Land, Our Water and Our Community, and provides an overall indication of the environmental health of the watersheds of Muskoka. It is the natural setting and the quality of life that drew many of us to this area and was identified as the top priority for many people during the public consultation sessions held by the Muskoka Watershed Council in 2002. While many choices of indicators could be made, we hope that those used in the report card are meaningful to you and are recognized as significant in illustrating current and changing conditions across our watersheds.



Key Findings:

1. Muskoka's overall watershed health is good but pressure from human activities means we have to be vigilant to preserve it.
2. The quality of the water in our lakes for swimming and drinking is good.
3. We have to continue to pressure for better provincial and international emission controls to improve our air quality.
4. More effective tools are required to protect our wetlands.
5. More information is needed about our fisheries and bacteria levels in our lakes to fully determine the health of the watersheds.







In many areas we are doing quite well, in others, not so well. Only through the efforts of each of us will happy smiles and upward trends continue in future reports.

*Tom Smith, Chair
Muskoka Watershed Council*




Muskoka Watershed Report Card 2004

What is our goal?	Why is this important?	Are we happy?	Where are we now?	Are things improving?	What are the threats?
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OUR WATER SWIMABILITY

Supervised public beaches that meet the provincial standard for swimming safety.	Heavy use and poor sanitation result in high bacteria levels which may result in disease and infection to swimmers.		The provincial standard for swimming is 100 counts of <i>E. coli</i> per 100 ml of water. No municipal beaches or beaches at Arrowhead or Georgian Bay Island parks exceeded the standard, however, the beaches at Six Mile Lake Provincial Park exceeded the standard six times in 2003.		Gray water dumping from live-aboard boats, lack of proper sanitation at swimming areas, surface run-off, wildlife congregation areas, livestock watering and faulty septic systems may result in high bacteria counts.
Other swimming areas at lakes, rivers, cottages and homes that meet the provincial standard.			Lake associations have monitored swimming areas across Muskoka. Results consistently meet the provincial standard.	?	
Natural background <i>E. coli</i> levels in all our inland lakes and along our Georgian Bay coastline.	<i>E. coli</i> levels higher than natural background levels indicate a deterioration in water quality and an increase in possible health risk. Natural levels of bacteria in the lakes in Muskoka can be expected to display <i>E. coli</i> readings <10 counts/100 ml.		In 2003, inland lakes and Georgian Bay generally met this local standard except after heavy rain events. Certain sections of the the Severn River Watershed had higher bacteria counts on several occasions and should continue to be monitored.	?	
Lakes that do not have nuisance algae blooms.	Increase in phosphorus will increase algae blooms. Algae detracts from recreational enjoyment and impacts drinking water sources.		86% of lakes meet Muskoka's standard for phosphorus. However, based on modelling done by Muskoka, human inputs of phosphorus have increased by about 20% from an undeveloped state.		Removal of shoreline vegetation, pesticide and fertilizer run-off from lawns and golf courses, nutrient loading from septic systems, and an increase in untreated stormwater all contribute to increases in phosphorus in our lakes.






FISHABILITY

No restrictions on eating local fish.	Toxic chemicals found in fish can cause health problems.		Generally, advisories on Georgian Bay are caused by PCBs levels. Consumption restrictions on 98% of inland lakes are a result of mercury.		Industrial emissions from outside Muskoka are the primary source of PCBs and mercury in our lakes and rivers.
Healthy fish populations.	Fish are sensitive animals that give us an early indication of water quality deterioration.		45% of lake trout lakes are below average with respect to abundance of fish and the effort it takes to catch them. The Georgian Bay fishery has deteriorated due to invasive species, low water levels, and loss of habitat.	?	Threats to fish populations include shoreline development, exotic species, chemicals found in stormwater, fishing pressure, water levels, industrial emissions, and habitat destruction, including loss of shoreline vegetation.

DRINKABILITY

Clean treatable groundwater.	Raw water must be easily treated to ensure an adequate supply for municipal systems and individual homes.		There has been no major health warning respecting groundwater sources. Boil water advisories are generally limited to shallow wells that are susceptible to localized contamination.		Bacteria and toxins from faulty septic systems, agricultural operations and industrial sources may result in water contamination. Loss of wetlands and removal of significant amounts of vegetation may lead to a deterioration in ground and surface drinking water sources.
Clean treatable surface water.	High bacteria levels or the presence of toxic chemicals pose a human health risk.		Water sampling conducted by several organizations indicates surface water has very low bacteria counts and is treatable using standard methods.		
Good municipal water source.			There are eight municipal water treatment plants in Muskoka. All plants require only standard and routine water treatment.		

OUR AIR

No incidents of poor air quality.	Excessive industrial emissions result in poor air quality.		In 2002 there were 6 advisories covering 12 days. In 2003 there were 4 advisories covering 10 days.	?	Emission from both Canadian and American industries, electricity production and automotive emissions from inside and outside Muskoka continue to release high levels of sulphur and nitrogen oxides, and volatile organic compounds into the air.
Industrial and automotive emissions in a healthy range.	Poor air quality leads to many health problems, especially in children and older people.		Sulphur emissions are decreasing but nitrogen oxides and volatile organic compounds are increasing.		
Reduction in acid rain that will allow full recovery of our lakes and forests.	Acid rain harms lakes, forests, and air quality. As a result, it can impact natural habitats and jobs in logging, fishing and the tourism industry.		Emissions are 58% less than in 1980. However, the current level of acid rain is still unlikely to promote widespread recovery.		

Legend



High quality



Good quality



Needs improvement



Needs significant improvement



Improving



Deteriorating



























No change



Insufficient data to establish a trend



Vulnerable to significant deterioration

What is our goal?	Why is this important?	Are we happy?	Where are we now?	Are things improving?	What are the threats?
OUR LAND					
Sufficient amounts of protected land to maintain healthy ecosystems.	Healthy ecosystems support healthy plant and animal populations, clean groundwater for drinking, lake water quality and our economy.		There has been an increase in protected areas with the completion of the Ontario Living Legacy program. However, the distribution of protected areas leaves large portions of Muskoka vulnerable.		Increased development pressure, lack of viable options for the protection of private property and tax disincentives threaten a comprehensive approach to habitat protection.
Large natural areas with connecting corridors.	Fragmentation by roads and large scale development reduces the quantity of habitat, increases risk of species mortality and allows the introduction of parasitic and invasive species.		The current average road density in Muskoka will support most native species including song birds, and large and small mammals. Some species such as lynx are either stressed or no longer populate this area.		Development pressure and the increase in private roads to water-access properties contribute to habitat fragmentation.
Quality natural habitat.	Key species give an indication of the quality of the natural areas in Muskoka. Our key species include several warblers, pileated woodpeckers, merlins, loons, moose, deer and pine marten.		A wide variety of native birds and mammals are found across Muskoka.		Habitat fragmentation, poor logging practices, acid rain, climate change, development, and the introduction of aggressive exotic species threaten both the amount of forest and the quality of the habitat they provide.
To maintain the naturally forested environment.	Forests support biodiversity, clean groundwater for drinking, lake water quality and our tourism- and forestry-based economy.		Forest covers 98% of the land mass in the watersheds of Muskoka.		
Naturally vegetated shorelines and adjacent areas.	Shoreline vegetation filters run-off, reduces erosion, absorbs nutrients, and provides flood control, shade, and habitat. It also has aesthetic appeal and protects property values.	 	Based on a survey of 13 lakes, an average 80% of the shoreline and adjacent areas remains naturally vegetated.		Lack of knowledge with respect to the value of shoreline vegetation often results in clearing. High property taxes encourage people to subdivide existing lots, often resulting in the removal of more vegetation.
Wetlands are adequately protected.	Wetlands support biodiversity, filter and clean water, provide habitat, reduce flooding, and maintain water levels year round.	 	16 Provincially Significant Wetlands have been identified to date. A portion of 6 are protected as Conservation Reserves or Provincial Parks. All other wetlands have some level of protection through provincial or municipal policy.		Wetlands are threatened by a lack of knowledge related to their value, increasing development pressure, tax disincentives and few viable options for protection. Existing policy may not be sufficient to protect all wetlands or it may not be implemented consistently.
OUR COMMUNITIES					
All farms have an Environmental Farm Plan.	An Environmental Farm Plan indicates the commitment of the owner to environmental excellence.		Over 90% of registered farms in Muskoka currently have an Environmental Farm Plan.		The attitude and knowledge of the individual farmer will determine environmental practices.
All owners of 100+ acres of forested land participate in the Managed Forest Tax Incentive Program (MFTIP).	Participation in MFTIP is an indication of forest stewardship by individual property owners.		11% of privately owned lots of 100+ acres participate in MFTIP.		The knowledge and attitude of the individual property owner will determine the stewardship practices on specific land parcels. Technical issues with the existing program do not encourage widespread participation.
All marinas participating in the 'Clean Marine' program.	Marinas can have a significant impact on pollution levels with oil, gas, and boat washing practices.		The program began in 2001. Currently 50% of marinas in Georgian Bay and 33% in the rest of Muskoka participate.		The knowledge and understanding of the marina owner about environmental issues will determine involvement in the program.
Strong environmental ethic and responsible civic attitude among all residents of Muskoka.	The attitude of individuals is key to improving many environmental indicators.		Awareness and action oriented programs are currently under development in Muskoka.		The attitude of people toward activities such as littering, recycling, composting, motorized recreation, and natural areas will impact our ability to achieve environmental objectives.
60% of waste recycled by 2008.	Diverting waste from landfill sites extends the life of these sites, saving a significant amount of public funds.		Residential properties in Muskoka currently recycle 40% of waste. Some industrial and commercial operations must be encouraged to participate more fully in programs.		The knowledge and attitude of property owners and businesses about recycling and composting will determine involvement in the program. Improved markets for recycled material are required to support program growth.

What can I do?

As an individual I can:

- 1 Drive a more gas-efficient vehicle.
- 2 Use alternative means of transportation.
- 3 Reduce my use of electricity by buying energy-efficient appliances.
- 4 Turn down the heat in the winter and the air conditioning in the summer.
- 5 Ensure that my septic system is maintained and pumped out regularly.
- 6 Pump out my gray water at recognized pump-out stations.
- 7 Wash my boats and cars away from my lake.
- 8 Maintain my shoreline vegetation and reduce my use of fertilizers and pesticides close to the water.
- 9 Lobby senior levels of government for legislation that will protect our watersheds and limit habitat fragmentation.
- 10 Educate myself on environmental issues and change my behaviour to ensure the long-term health of our watersheds.

DO YOU WANT MORE INFORMATION?

Visit our website at www.muskokaheritage.org/watershed for background reports on the health of our watersheds.

YOUR COMMENTS ARE WELCOME

What do you think about the Muskoka Watershed Report Card? Have we provided you with enough information to answer your questions? Are there other things on which we should report? Let us know! You can reach us at:

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Muskoka
WATERSHED COUNCIL

A partnership of The District of Muskoka and the Muskoka Heritage Foundation



THE MUSKOKA WATERSHED COUNCIL

The Muskoka Watershed Council is a partnership of the District Municipality of Muskoka and the Muskoka Heritage Foundation formed in the belief that the most effective way to sustain the watersheds for future generations is through cooperative approaches to watershed management involving a broad cross-section of interests from across Muskoka's watersheds. The Council is composed of volunteer representatives from watershed stakeholder groups and municipal council members who value our water, our land, our air and our communities.

Early in 2002, the Watershed Council began to develop a set of indicators of watershed health. Public consultation sessions were held across the watershed and key interests and concerns were noted and incorporated into the report card. A panel of experts provided input and guidance in finalizing the areas on which we have reported. By establishing benchmarks and targets for key programs and environmental values, change in the watersheds can be monitored and evaluated, and proactive programs or remedial action can be taken to ensure the long-term health of our watersheds.

In today's society, we are overloaded with data and information, but the question remains, what does it all mean? How do we respond to the question: Are the watersheds of Muskoka getting better? This report card provides an overview of the health of our watersheds and a basis upon which we can identify environmental priorities.

THANK YOU

The Muskoka Watershed Report Card is based on current science and local monitoring programs. It would be impossible to recognize all the technical experts who have willingly provided their input and assistance but we are grateful to all of them. Without their knowledge and expertise, it would not have been possible to complete this project. In particular, we would like to acknowledge our provincial and federal partners. The staff of the Ministry of Natural Resources and the Ministry of the Environment were essential in providing data and guidance. Parks Canada shared its data for our Georgian Bay Coast and reviewed the document for accuracy. Several lake associations and Al Sinclair from the Muskoka Field Naturalists also provided background data and technical support. Dr. Neil Hutchinson and Dr. Norm Yan, two local scientists with national acclaim, were especially helpful in providing input and direction.