



What
YOU
Can Do For
**MUSKRAT
LAKE**



CHANGE STARTS HERE

Did you know that the Ottawa Valley Tourist Association refers to the Ottawa Valley as, “Ontario’s adventure playground and whitewater capital of Canada?” It is no secret that people living in the Ottawa Valley are proud of their natural landscapes, which offer a plethora of memorable experiences through camping, boating, fishing, and swimming. Our natural landscapes are also extremely important to our local economy.



Muskrat Lake is one of the best-known lakes in the Ottawa Valley. Every year, it attracts outdoor enthusiasts, anglers, hunters and cottagers to its shores. It is also the main source of drinking water for the town of Cobden. In recent years, issues concerning the lake’s water quality, such as frequent and prolonged algae blooms, have spurred public interest in protecting and mitigating the effects of nutrient loading. Nutrient loading is known as the quantity of nutrients (e.g., phosphorous, nitrogen) entering an ecosystem in a given period. If nutrients enter the lake at a rate or volume higher than the lake is able to process, we begin to observe detrimental impacts on the lake and its surrounding tributaries. As a citizen, there are many simple ways you can help reduce nutrient loading and improve the water quality of Muskrat Lake.



This booklet was created by the Muskrat Watershed Council to provide information on what YOU can do for Muskrat Lake. But please don’t stop here! Share this booklet with friends and family living in other watersheds and regions, so they can do their part to protect other natural landscapes. We have divided this booklet into three sections: Cottagers/Homeowners, Farmers, and Municipalities. Choose whichever one applies to you, or read all of them!



COTTAGERS | HOMEOWNERS

As a home or cottage owner on Muskrat Lake, residents should be aware of simple and cost effective solutions to help improve the health of the lake. Sometimes making simple changes to our day-to-day routines can have a huge impact, especially if others follow suit.

Household Products

- ▶ Use environmentally friendly soaps, shampoos and detergent products that are phosphate-free
- ▶ Eliminate or reduce the use of any lawn pesticides that could flow into Muskrat Lake



Septic Systems



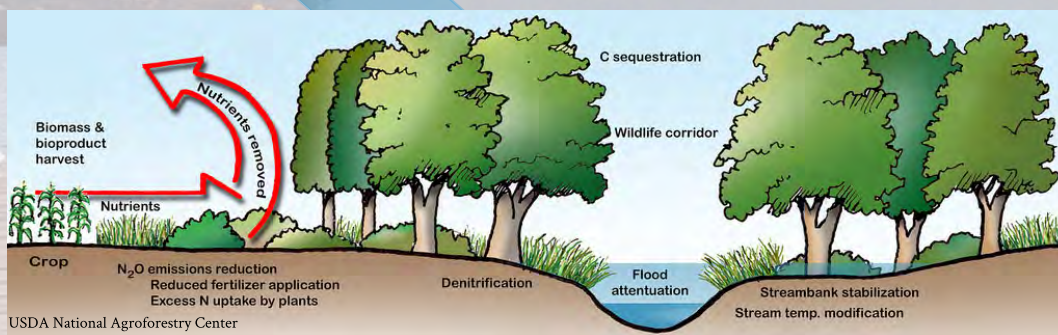
- ▶ Regular inspections (every 3-5 years) and maintenance of septic systems can reduce bacterial contamination flowing into Muskrat Lake
- ▶ Be aware of signs of septic failure, such as slow drainage, septic smells, spongy beds and sewage backups
- ▶ Try to have a green septic tank or have the septic system as far from the shoreline as possible
- ▶ Ask your local municipality if there is funding to support updates in property infrastructure as part of a Community Improvement Plan. If you don't ask, you won't know!



COTTAGERS | HOMEOWNERS

Yard Maintenance

- ▶ Create or expand a buffer of natural plant species along the shoreline to prevent erosion, absorb runoff and increase wildlife habitat
- ▶ If building on a lot near the water, try to maintain a building setback of 30 meters from the shoreline
- ▶ Limit the amount you water your lawn. Our lawns get plenty of rain throughout the summer months. During rare times where we do experience a drought, save on water and accept that your grass might turn brown for the summer
- ▶ Use only native species in your garden. Exotic plants can be invasive and compete with native flora
- ▶ Consider maintaining areas of natural habitat by leaving fallen logs, dead standing trees, rock piles and brush piles around your property. Many mammals, reptiles and amphibians use these for shelter



Property Structures

- ▶ Opt for a dock that has minimal impact on the lake bed, such as a floating dock or a post non-permanent dock
- ▶ Avoid hardened structures, such as retaining walls, since they degrade and erode into the water over time from wave action and ice



FARMERS

A large portion of Muskrat Lake and its tributaries (rivers and streams) are adjacent to agricultural land. Agriculture is an important sector in Renfrew County, helping support our local economy and local culture. Communities all over the world share the same relationship to agriculture as we do, and many of these communities are speaking up globally about the important relationship between ecological conservation and farming.

Typically, acts of ecological conservation in the agricultural sector are known as agricultural "best management practices," or BMPs. Many BMPs can be implemented at very little cost and can enhance the profitability of the farming business over time, while protecting surrounding ecosystems.



How we farm – the choices we make today – greatly influence the choices available to us in the future. The conservation of soil, water, and air through our agricultural practices is one of the most effective ways to ensure food security for future generations.



FARMLAND BMPs

Shoreline Buffer



A shoreline buffer is native vegetation (preferably trees and shrubs) planted along shorelines and streambanks. A thirty-metre wide buffer is ideal, but certainly not necessary if you are growing crops and trying to make a profit. Ten to fifteen meters is also good. What does a buffer do?

- ▶ Provides habitat for fish and wildlife, providing shelter, food and nurseries
- ▶ Reduces soil loss from agricultural fields by carefully selecting trees and shrubs with deeper and stronger root systems
- ▶ Provides shade for grazing cattle or livestock, and even for fish that spawn near shore
- ▶ Reduces spring flooding by absorbing excess water, acting like a sponge
- ▶ Slows down and filters runoff from snow melt or heavy rainfall events

Cover Crops



A cover crop is a crop grown for the protection and enrichment of the soil. Some farmers will plant cover crops during the growing season for their soil to rest. Some cover crops are planted before the snowfall to protect and nourish the soil over the winter months. What do cover crops offer?

- ▶ Generally, they are low maintenance
- ▶ They can act as a natural fertilizer (e.g. clover = nitrogen)
- ▶ Rye cover crops can be harvested in the spring and used for haylage
- ▶ They do not interrupt the growing season
- ▶ They prevent soil erosion and nutrient loss by having plants and root systems that help take up water and nutrients
- ▶ Some examples of cover crops: winter wheat, clover or radish



FARMLAND BMPs

Know Your Soil

Bacteria and microorganisms are crucial to the health of our soils, which is why we need to nurture the soil, as the soil in turn feeds our crops. How do you determine soil fertility? Through its chemical, physical and biological properties.

Understanding these processes is important for the farmer because knowing your soil means you are empowering yourself to know how best to nurture your land.

Add too little or too much fertilizer to your soil and you will likely see dollars lost.

In the case of too much fertilizer, excess could flow toward the nearest waterway, creating a whole host of other consequences beyond dollars and cents. Know your soil – whether by learning how to test it yourself or outsourcing your testing to a company you know and trust. Some things to think about:

- ▶ Test soil before the planting season (\$10-\$20 basic, \$30-\$50 detailed)
- ▶ Regular soil testing can save you money on commercial fertilizers

Manage Crop Nutrients by Optimizing:

- ▶ The right rate – account for nutrients from all sources
- ▶ The right time – avoid soil compaction and suit the crop rotation
- ▶ The right place – be cautious in areas at high risk of contaminating surface water and groundwater

Did You Know?

Half a teaspoon of soil contains millions of bacteria and other microorganisms!



FARMLAND BMPs

Cattle Fencing



Cattle eat a lot! This means they poop a lot! To a cow, the sight of a stream signals fresh water to drink from and a place to cool down. It may be more convenient and affordable for cattle to drink from an already existing stream, but that stream leads to other places where fish, mammals, plants, and humans use the water collectively. By fencing cattle away from waterways and providing them with other sources of clean drinking water, we pay it forward to our community by ensuring our aquatic ecosystems stand a fighting chance, and our communities are safe from biological contaminants.

Things to Know

- ▶ In 2019, as part of their Community Improvement Plan (CIP), the Township of Whitewater Region will be accepting applications for property improvements that target improving water quality. Ask your municipal office for more information!
- ▶ When fencing, make sure corner posts are large enough and deep enough
- ▶ Do not “moose-proof” your fence; make fence wildlife friendly
- ▶ Fencing can decrease cases of foot rot and abscesses as well as E. Coli or Lepto
- ▶ Avoid barbed wire fencing



FARMLAND BMPs

Low or No-Till Farming

No-till is a farming technique known to improve soil biological fertility, making soils more resilient. Farm operations can be much more efficient, particularly by improving sowing time. Low till combines no-till with tillage, and is sometimes a preferred option over no-till. Low till generally uses a “planter” or “seed drill,” where soil disturbance is kept to a minimum. The structure of the topsoil, which determines the water-holding capacity of the soil and the ease of new plants to settle roots, is thus preserved. It is important to note that every field and farming operation is different. These techniques may not suit all farming operations. Considering switching?

- ▶ Low or no-till can save money – less labor and fuel use
- ▶ Undisturbed soil is protected from erosion and runoff
- ▶ Can increase soil biological fertility and resiliency
- ▶ Water conservation through slower evaporation (crop residues)
- ▶ Government agencies and agricultural organizations will sometimes provide funding to switch to low till or no-till



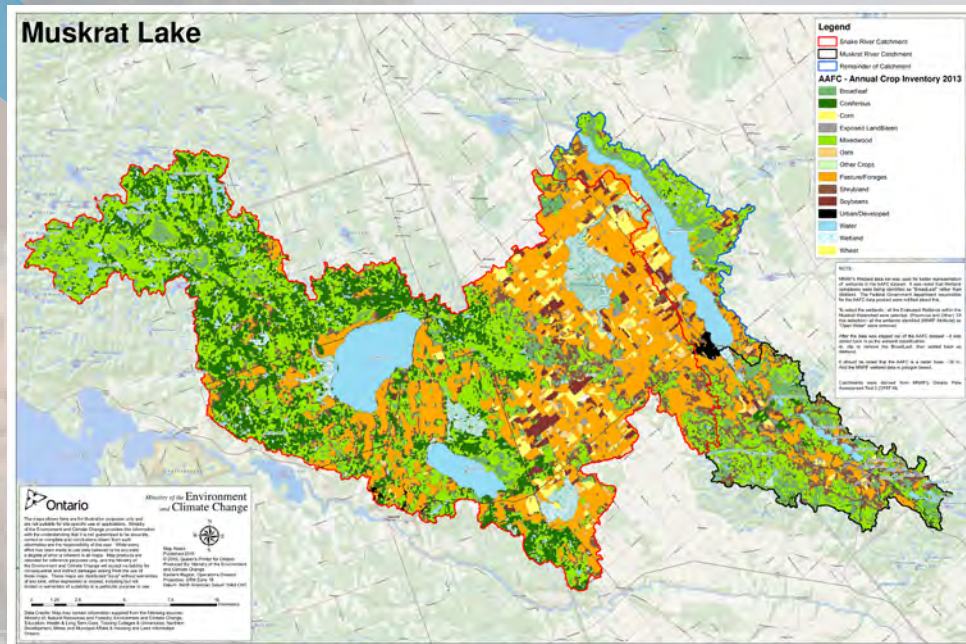


MUNICIPALITIES

The Muskrat Lake Watershed encompasses an area that covers five municipalities, including the Township of Whitewater Region, the Township of Admaston/Bromley, the Township of North Algona Wilberforce, and the Township of Laurentian Valley.

Municipalities are one of the governing bodies responsible for keeping our communities safe, clean, and connected. One way of doing so is by supporting existing policy or creating new policy that acknowledges the dependency between long-term economic viability and environmental health. If we want to experience healthy, vibrant communities for the long-term, we need to make the environment a priority.

Muskrat Lake Watershed



Larger map image can be found at www.muskratwatershedcouncil.com

As members of the public seek ways to improve the health of Muskrat Lake, so should our local governments. Some ways municipalities have done so in the past is by providing financial incentives to property owners and/or homeowners to update property infrastructure or to financially assist farmers in installing cattle fencing or planting trees and shrubs for buffers.



MUNICIPALITIES

Ways Municipalities Can Create Lasting and Positive Change

- ▶ If your community is adjacent to a lake or river, collaborate with local organizations to develop a long-term lake management plan. For a lake management plan to have any real weight or significance, it requires the backing and leadership of our local governments
- ▶ Work with local organizations to host events that seek to educate and raise awareness about freshwater issues
- ▶ Create jobs that will support local residents in making the necessary changes toward a healthier watershed (e.g. support for planting buffers, landscaping, updating infrastructure, keeping the beach clean, etc.). Summer students are a great way to help execute these kinds of initiatives
- ▶ Advocate for regulation around the use of phosphorous – guidelines are not enough
- ▶ Plant more native tree/shrub buffers along municipal drainage ways
- ▶ Ensure local infrastructure is up-to-date. For example, the updates to the wastewater treatment facility in Cobden is an excellent example of positive change led by our local government.



THANK YOU!

The Muskrat Watershed Council hopes this information booklet was helpful. If you would like to show your support, you can donate by visiting our website www.muskratwatershedcouncil.com

Also, like us on Facebook!

Our regular monthly meetings happen every third Thursday of the month at 6:30 p.m. at 44 Main St. Cobden, ON, K0J 1K0. Parking is behind the building, and enter through the back door into the basement.

All are welcome!

Muskrat Watershed Council

