

January 2009

Draft Lake Simcoe Protection Plan

Summary

Lake Simcoe needs our help

Lake Simcoe is one of Southern Ontario's largest lakes. The area surrounding the lake is home to more than 350,000 people.

Activities around Lake Simcoe such as cottaging and year-round fishing bring in more than \$200 million each year for the local economy. In addition, the watershed area feeding into the lake generates more than \$300 million annually from livestock, vegetable and specialty crops.

But Lake Simcoe is not healthy. Because of an excess of phosphorus there is too much algae in the lake, which is using up oxygen that fish need to survive. Climate change, the effects of population growth in the area, and invasive species are also threatening its waters.

Taking action now

The province, the Lake Simcoe Region Conservation Authority, municipalities, environmental groups, industry, First Nation and Métis communities, farmers and concerned citizens have been working hard to improve conditions in and around the lake – especially to curb the amount of phosphorus. But more needs to be done.

That's why the new Lake Simcoe Protection Act requires the province to develop the Lake Simcoe Protection Plan. This plan would improve the water quality in the lake, protect the wider watershed's natural heritage and resources, and manage the effects of climate change and invasive species.

Two advisory committees have helped shape the plan – one comprised of scientific experts, and another of stakeholders. Now the government is asking the public to review the plan and provide input.

This summary gives you an overview of the plan and what it hopes to accomplish. A complete version of the draft Lake Simcoe Protection Plan can be found at www.ontario.ca/lakesimcoe.

Protecting our environment.



A plan for today and for the future

The Lake Simcoe Protection Plan is a long-term plan to protect and restore the ecological health of the watershed. It builds on the good work that has already been done, as well as existing legislation and provincial plans.

A collaborative approach is a priority, so stakeholders can work together for the benefit of Lake Simcoe.

The plan takes an ecosystem approach. This approach uses best available science, considers cumulative impacts, and looks at the whole watershed. It recognizes that a healthy environment provides the foundation for healthy communities and a healthy economy.

The plan reflects a precautionary approach. This means caution is exercised in favour of the environment when there is uncertainty about environmental risks.

While this plan speaks in detail about the initial actions to be taken, it also takes an adaptive management approach. This recognizes that protecting and restoring the ecological health of the Lake Simcoe watershed is a long-term undertaking. The plan will evolve and improve over time based on new science and experience in implementing the plan.

In the near-term the plan would focus on the issues most critical to the health of Lake Simcoe including:

- improving water quality, including reducing loadings of phosphorus to the lake;
- sustaining surface and groundwater resources;
- improving the health of the ecosystem by protecting and rehabilitating important areas, such as vegetated buffers along shorelines, tributaries and wetlands; and
- addressing impacts of invasive species and climate change.

As the understanding of issues such as climate change improves through research and monitoring, we will be better prepared to deal with future impacts. Ongoing monitoring and research will also help us detect changes in watershed conditions over time and measure the effectiveness of our management efforts.

A vision for Lake Simcoe

The government's vision is to create a balanced approach to how we live, work and play in the area. The plan will help ensure future generations of Ontarians enjoy the beaches

and water of Lake Simcoe; the lake can support the fish, wildlife and plants that make up its diverse ecosystem; and a healthy economy can prosper without harming the lake.

By implementing this plan, native coldwater fish will survive and thrive; the lake's water will be clean and plentiful; natural shorelines will be maintained; development will be well-planned and ecologically sound; recreational activities will be environmentally sustainable; and the lake will be able to naturally adapt to future changes.

Protecting the aquatic life

Lake Simcoe is the most intensely fished inland lake in Ontario – with bass tournaments in the summer and some of the world's best ice-fishing in the winter. But coldwater fish such as lake trout and lake whitefish are under threat because of the low levels of oxygen in the water. They are not able to maintain their populations on their own, and exist today largely because of stocking programs.

This plan will better manage and monitor the fish communities and their habitats by developing fish community objectives for the lake and its tributaries. To be developed in collaboration with provincial ministries, First Nation and Métis communities, the Lake Simcoe Region Conservation Authority, the Lake Simcoe Fisheries Stakeholder Committee, key stakeholders and the public – these objectives will be used in making decisions about activities around the lake and will ensure our actions will lead to self-sustaining coldwater fish communities.

The government will also work with these partners to implement an annual aquatic community monitoring program involving enhanced surveys of anglers, studies of fish diet and growth, and increased monitoring of fish communities and invasive species.

Most importantly, the plan will tackle the main threat to fish – and to the quality of Lake Simcoe's water – the excessive phosphorus that is entering the lake from sewage plants, stormwater runoff, and agricultural activities.

Protecting the water

Phosphorus reduction strategy

The plan's long-term goal is to reduce this amount of phosphorus loading to 44 tonnes a year. This reduced level is needed to improve water quality so the lake can support a self-sustaining coldwater fish community.

The first step is working with partners to develop a Phosphorus Reduction Strategy within one year of the plan coming into effect.

This strategy will develop targets for subwatersheds and specific areas of the lake. It will assess innovative actions to reduce phosphorus from key sources such as sewage treatment plants, stormwater runoff, and atmospheric deposition and identify actions to address each of these sources. It will establish a long term total phosphorus loading cap for all sewage treatment plants in the watershed, as well as caps for each individual plant; and examine possible effluent re-use opportunities. The current interim limits will be extended until this strategy is put into effect.

Within one year of the plan coming into effect, a study will be conducted to consider the feasibility of using water quality trading in the Lake Simcoe watershed.

Sewage treatment

In addition to the Phosphorus Reduction Strategy, the plan will reduce phosphorus levels by imposing stricter controls on sewage treatment plants. An environmental assessment must be carried out and approved before sewage services, whether new or extended, can be provided to areas outside existing settlement areas. Existing plants will have to adhere to annual average phosphorus discharge limits. In addition, any new municipal sewage treatment plants in the Lake Simcoe watershed will be approved only to replace an existing plant or failing subsurface sewage works. Any new non-municipal plant will be approved only if it can demonstrate a net reduction in phosphorus.

No new septic systems will be permitted within 100 meters of the Lake Simcoe shoreline unless it serves an agricultural use, replaces an existing septic system, or serves a development that consists of three dwellings or less.

Stormwater management

Municipalities will have five years to prepare and implement a stormwater management master plan to reduce phosphorus discharge.

This plan would include an evaluation of the impact of the stormwater from existing and planned development, as well as recommended approaches for stormwater management. In addition, all applications for major development must be accompanied by a plan showing development is consistent with the master plan.

Water quantity

Although water quality is the main challenge for Lake Simcoe, water quantity is also under stress. The use of large amounts of groundwater and surface water not only lowers the water table; it reduces flow to streams, which is important for sustaining aquatic ecosystems.

This plan will ensure enough of the available water supply is reserved for the ecosystem. It will also promote greater efforts to conserve and use water more efficiently so that future demands for water are kept within sustainable limits.

This will be done by developing instream flow targets that will be used in future strategies for water-takings, as well as water budgets for stressed watersheds that will help inform municipal water conservation and efficiency plans and decisions on permits to take water.

Within five years of the plan coming into effect, the municipalities of Barrie, Orillia, New Tecumseth, Bradford West Gwillimbury, Innisfil, Oro Medonte and Ramara would prepare a water conservation and efficiency plan. This plan would identify and evaluate water conservation measures, incentives, analyze costs and benefits, contain an implementation plan, monitor the effectiveness, and consider the potential impacts of climate change.

Protecting shorelines and natural heritage

An ecologically healthy Lake Simcoe shoreline and natural heritage system will improve water quality and will better equip the watershed to tolerate ongoing and future challenges such as invasive species, climate change, and land use change.

Protecting and restoring the Lake Simcoe shoreline is particularly important. Natural shoreline areas control run-off, filter nutrients and other pollutants, prevent shoreline erosion, provide habitat for water and land species, preserve the natural beauty of the landscape and provide recreational opportunities.

Natural heritage refers to the woodlands, wetlands and streams surrounding Lake Simcoe. These features provide important wildlife habitat and stabilize shorelines. These areas also help preserve the biodiversity of the watershed – the woodlands help filter contaminants entering the water while wetlands regulate water quality and quantity.

The shoreline and other natural heritage features also provide economic benefits to the area by attracting cottagers and tourists.

The plan restricts development or site alteration along the Lake Simcoe shore, in key natural heritage and hydrologic features, and in associated vegetation protection zones.

The plan prohibits significant alteration of the shoreline and establishes minimum vegetated protection zones for the Lake Simcoe shoreline. These zones range from 100 metres for undeveloped shoreline areas to 30 metres in settlement areas and from 30 to 120 metres for the remaining shoreline areas.

The plan also establishes minimum vegetated protection zones of 30 to 120 metres for key natural heritage features and key hydrologic features outside of settlement areas and those outside of the Greenbelt. These protections are consistent with the natural heritage protections already established in the Greenbelt Plan and the Oak Ridges Moraine Conservation Plan. Mineral aggregate operations would be restricted consistent with Greenbelt Plan policies.

Within one year, the province will develop and consult on a proposed regulation to regulate activities in or close to hydrologic features and shoreline areas, including vegetation removal, peat extraction, filling and draining of existing wetlands and fertilizer use.

Other threats

Invasive species

Many water and land species within Lake Simcoe are not native to the lake or the watershed. These species have entered the lake by attaching themselves to boats moving through the Trent-Severn waterway, or through the release of live bait fish captured outside the watershed.

Unfortunately, these invasive species can push out native species, and disrupt nutrient and energy cycles. Once established, these species are difficult and costly to get rid of.

The first line of defense is to prevent these species from entering the watershed, but when prevention fails, early detection is extremely important to mount a response to get rid of

or contain the species. That's why public awareness of these invasive species is so important.

The plan starts with developing a comprehensive information program to educate key stakeholders and the public on how to detect invasive species and help prevent them from spreading. The plan will also look at ways to change people's behavior to reduce the introduction and spread of invasive species. It will also put a regulation in place to restrict live bait fish to species from the watershed.

In addition, over the next five years a watch list of species likely to enter the watershed will be developed, as will a coordinated approach for monitoring and responding.

Climate change

As a result of global warming, scientists predict average temperatures in Ontario could rise by as much as three to eight degrees Celsius over the next century. In fact, studies have shown that climate change is already shortening the duration of ice cover on Lake Simcoe.

Climate change will influence – directly and indirectly – all elements of the Lake Simcoe watershed, including water quality and quantity, fish populations, and natural areas and shorelines. But we don't know the extent to which they will be affected. In addition to preparing for the effects by protecting the natural resiliency of the entire Lake Simcoe ecosystem through the protection plan, we are developing a climate change adaptation strategy.

This strategy will monitor the impact of climate change and identify actions that need to be taken to enhance the watershed's capacity to naturally adapt to future changes in climate.

Recreational activities

Besides protecting the natural heritage of the lake, the plan also ensures that recreational activities such as swimming, camping, fishing and boating will be enjoyed by generations to come. The growing population in southern Ontario is expected to increase demand for these activities. The challenge is to expand these recreational activities while minimizing the impact to the natural environment.

Golf course and marina owners and operators are encouraged to adopt best management practices that protect the ecological integrity of the lake and adopt environmental

certification programs. These programs aim to protect, preserve and improve the environment through voluntary actions.

Putting the plan into action

Successful implementation of the Lake Simcoe Protection Plan will require collaboration and coordination amongst the province, the Lake Simcoe Region Conservation Authority, municipalities, First Nation and Métis communities, agriculture, industry, commercial, small businesses, environmental groups, and citizens.

Subwatersheds

Some policies in this plan have a broad focus and apply to the Lake Simcoe watershed as a whole, while others may be specific to the needs and priorities of a particular subwatershed.

Within one year of the plan coming into effect, guidelines will be prepared for defining subwatersheds, how to evaluate subwatersheds, and, how to set targets and actions for reducing phosphorous, managing stormwater, developing water budgets, maintaining instream flow, and restoring and enhancing natural heritage.

Processes for subwatershed evaluations will build on protection plans under the Clean Water Act, and five years after the plan comes into effect, the Lake Simcoe Region Conservation Authority, in partnership with municipalities, will develop and complete evaluations for priority subwatersheds.

Partnerships

Given the scope of the Lake Simcoe Protection Plan, partnerships are needed to both implement and finance the plan.

The Government of Ontario will play a lead role in developing and coordinating the implementation of the plan, with provincial ministries providing policy and program support. Two new committees will also be formed to help implement the plan, the Lake Simcoe Science Committee and the Lake Simcoe Coordinating Committee.

The Lake Simcoe Science Committee will be made up of scientific experts who will review the environmental conditions of the watershed and advise on issues such as ecological health, and strategies to deal with threats to Lake Simcoe.

The Lake Simcoe Coordinating Committee will be comprised of representatives from municipalities, Aboriginal communities, the Lake Simcoe Region Conservation Authority, provincial ministries, agricultural, commercial and industrial sectors, environmental groups, and the public. This committee will identify and resolve issues related to implementing the plan, and provide advice to the Minister.

This collaboration will help keep the public informed about the actions taking place, and provide an opportunity for local involvement. It will also provide Aboriginal communities with cultural, heritage or economic links to Lake Simcoe the opportunity to collaborate on the design, development and implementation of programs and initiatives to protect the lake.

Stewardship

Stewardship programs help people understand their influence on the watershed and encourage them to voluntarily engage in responsible and sustainable actions.

These programs can make a big difference when various groups collaborate and work together. The plan sets out three areas in which stewardship would benefit Lake Simcoe:

Agricultural Stewardship – Helping farmers with the cost of best management practices such as restricting livestock access to watercourses, establishing vegetated buffers along lake and tributary shorelines, improving on-farm storage and handling of petroleum products, pesticides, manures and fertilizer, modifying tillage practices to reduce soil erosion and run off, and using nutrients such as phosphorous effectively.

Rural Land Stewardship – Developing a Rural Community Landowner Stewardship Program that would engage non-farm landowners in activities that protect and improve water quality and natural heritage features.

Lake Simcoe Stewardship Network/Alliance – Helping stewardship groups share information, increase efficiencies in cost-sharing, communication and co-marketing, identify stewardship priorities for action, and much more.

Research, monitoring and reporting

To remain effective over time, this plan must adapt to ongoing scientific research and monitoring in the watershed. The plan uses a precautionary approach and prescribes action using the best available scientific information with the understanding that there are gaps in our knowledge of the lake and its watershed.

To address these gaps and to reduce the uncertainty around current information, the plan provides for research initiatives that will cover a range of key Lake Simcoe watershed issues, including water quality and quantity, aquatic life and habitat, invasive species and climate change. These research initiatives will inform the implementation of current policies and help direct future amendments to the plan.

The government will also monitor the implementation of the plan and the results. Periodic reports will describe the extent to which the objectives of the plan are being achieved.

Financing

Operating costs for implementing the plan are estimated at between \$100 and \$135 million for the first 10 years. Infrastructure costs – which include an estimated \$120 million for stormwater management and up to \$105 million for sewage treatment plant upgrades – can be phased in over a longer period.

To meet these high costs, implementation of the plan will be financed through a variety of different funding sources and innovative financing tools such as partnerships and cost sharing.

The plan will be supported by a \$20 million investment focusing on assisting farmers with their stewardship activities, scientific research and monitoring and supporting the two committees.

Implementation will be based on funding those priority actions which are most critical to achieving the plan's targets and meeting its objectives. Cost-effective solutions will be employed wherever possible and the timing of actions will be managed over a reasonable

time frame. Because of its evolving nature, the plan will be reviewed and potentially amended at least every 10 years, at which time new priority actions and sources of funding may be added.

Transition

A transition regulation would address development proposals that are currently in the approvals process. Generally, the plan would not apply to development proposals that have already obtained their significant development approvals, but in some cases, policies in the plan may be applied to applications, matters or proceedings started before the plan comes into effect. The regulation would set the criteria for identifying affected proposals. Factors would include the location, scope or scale, type of development and the timing of the proposal.

Together we can create a better future

The Lake Simcoe Protection Plan provides a framework for everyone concerned about the lake to work together to ensure the long term health of Lake Simcoe and its watershed.

We hope this summary has given you a better understanding of the plan and what it hopes to accomplish. To read the entire Lake Simcoe Protection Plan, please visit www.ontario.ca/lakesimcoe.

We look forward to hearing your suggestions, comments and concerns regarding the plan. Please get involved by sending your thoughts to the Ministry of the Environment by March 16, 2009.

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By working together, we can create a healthier future for Lake Simcoe.