

WHAT WE HOPE TO SEE IN THE
***GREAT LAKES PROTECTION
ACT***

**HUMAN HEALTH &
THE GREAT LAKES**

**Great Lakes Protection Act
Alliance Backgrounder Series**

Canadian Environmental Law Association, Conservation Ontario, Ecojustice, Ducks Unlimited Canada, Environmental Defence, Great Lakes United, and Sierra Club Ontario.

How do the Great Lakes affect human health?

The Great Lakes are central to Ontario's health. They are a major source of drinking water, food and recreation for Ontarians. A robust *Great Lakes Protection Act* can protect Ontarians health if it effectively protects the Great Lakes from the input of toxins, ensures investment into environmental research, monitoring and reporting, and guarantees sustainability.



→ *a Source of Drinking Water*
The Great Lakes-St. Lawrence River basin holds 95% of North America's fresh water supply and provides a source of drinking water for more than 24 million people in the U.S. and Canada.ⁱ More than 70 per cent of Ontarians rely directly on the Great Lakes for their drinking water.ⁱⁱ Globally, the Great Lakes represent nearly 20% of the world's available freshwater. Many Ontarians and First Nations rely on untreated or minimally treated water from the Great Lakes basin.

→ *a Source of Food*
Agriculture, aqua-culture, commercial fisheries and First Nations communities are dependent on clean water, and aquifers, and tributaries from which to extract fish or to feed their crops. In 2008, Ontario's fishing industry's contribution to Ontario's economy was approximately \$180 million to \$215 million dollars.ⁱⁱⁱ



→ *a Source of Recreation*
For locals and tourists, the Great Lakes are a recreation destination for swimming, paddling, and fishing. Their protection means protecting the health of its visitors and of the vibrancy of Ontarians tourist economy. Recreational fishing alone is estimated to contribute \$350 million annually to Ontario's economy.^{iv}

Threats to human health from the Great Lakes

Pollution

Increasing pollution in the Great Lakes basin is a major threat to human health. The Great Lakes receive billions of litres of wastewater annually from municipal sewer and stormwater runoff.^v Billions of litres of untreated sewage are also entering the Great Lakes, due to aging sewer systems and sewer and stormwater overflows.^{vi} These overflows are an escalating issue due to intense weather events linked to climate change. Farm runoff is responsible for about 25% of total waterborne phosphorus loadings (more than three times the combined inputs of phosphorus from municipalities).^{vii} Air pollution is a significant source of pollution to the Great Lakes as well.

Hundreds of toxic chemicals are being detected in the Great Lakes.^{viii} Many of these chemicals are found in consumer products (cosmetics, pharmaceuticals) and are produced by industrial and agricultural processes (pesticides, manure, oil refining, mining). This pollution creates a huge burden on end of pipe water treatment, which is outdated and inadequately regulated, resulting in beach closures, and toxic sludge being spread on Ontario fields and entering the food stream,^{ix} amongst other issues.^x

The impact of toxic chemicals on human health is not yet completely understood; however, we are beginning to understand its threats of endocrine disruption, cancer^{xi}, and reproductive and developmental disorders^{xii} -

particularly for children and fetuses.^{xiii}

Water levels

Only 1% of the waters of the Great Lakes are renewable from runoff, return flow and rainfall. The rest of the water was deposited long ago from glacial melt. Great Lakes water levels should be restored to support wetland recovery, so that wetlands can filter and naturally remove contaminants, and to help restore fish habitat.

The more we conserve the bigger margin of error we give ourselves for unknown impacts of future droughts and climate change.^{xiv} Conservation ensures that future generations will continue to have vital access to fresh drinking water.



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ⁱ Environmental Defence and the Canadian Environmental Law Association, *Partners in Pollution 2: An Update on the Continuing Canadian and United States Contributions to Great Lakes-St. Lawrence River Ecosystem*, (2010) page 2.

ⁱⁱ Environmental Commissioner of Ontario, 2010-2011 Annual Report, p.10

ⁱⁱⁱ Ontario Ministry of Natural Resources, Great Lakes Fisheries page. Accessed at: http://www.mnr.gov.on.ca/en/Business/GreatLakes/2ColumnSubPage/STEL02_173_913.html.

^{iv} Ontario Ministry of Natural Resources, Great Lakes Fisheries page. Accessed at: http://www.mnr.gov.on.ca/en/Business/GreatLakes/2ColumnSubPage/STEL02_173_913.html.

^v Ecojustice, *Green Cities, Great Lakes: Using Green Infrastructure to Reduce Combined Sewer Overflows*, (2008).

Accessed at: <http://www.ecojustice.ca/publications/reports/the-green-infrastructure-report>.

^{vi} *Supra* i, p. 4. According to the Ministry of Environment 18 billion liters of untreated sewage poured into Lake Ontario in 2006 and 15 billion in 2007 (see:

<http://www.waterkeeper.ca/2009/06/29/ont-slacking-over-sewage-oversight-says-report/>)

^{vii} *Supra* ii, p.11

^{viii} International Joint Commission, *Working Group Report on Chemicals of Emerging Concern: Great Lakes Water Quality Agreement Priorities 2007-09 Series*, (2009). Accessed at: www.ijc.org/en/priorities/2009/reports/2009-chemicals.pdf.

^{ix} Lowell Centre for Sustainable Production & the Canadian Environmental Law Association, *The Challenge of Substances of Emerging concern in the Great Lakes Basin: a Review of chemical policies and programs in Canada and the United States*, (2009), p.12.

^x Alliance for the Great Lakes, Biodiversity Project, Canadian Environmental Law Association, Great Lakes United, *The Great Lakes*

Water Quality Agreement Promises to Keep; Challenges to Meet, (2006).

^{xi} Cancer and the Environmental stakeholder Group, *Cancer and the Environment in Ontario: Gap analysis on the Reduction of Environmental Carcinogens*, (2007).

^{xii} Cooper K, Marshall L, Vanderlinden L, and Ursitti F, *Early Exposures to Hazardous Chemicals/Pollution and*

Associations with Chronic Disease: A Scoping Review, (2011). A report from the Canadian Environmental Law Association, the Ontario College of Family Physicians and the Environmental Health Institute of Canada. ^{xiii} *Ibid*.

^{xiv} Sarah Miller, *Why is the Great Lakes Basin Sustainable Water Resources Agreement important to Ontario? A report by the Canadian Environmental Law Association*, (2004).