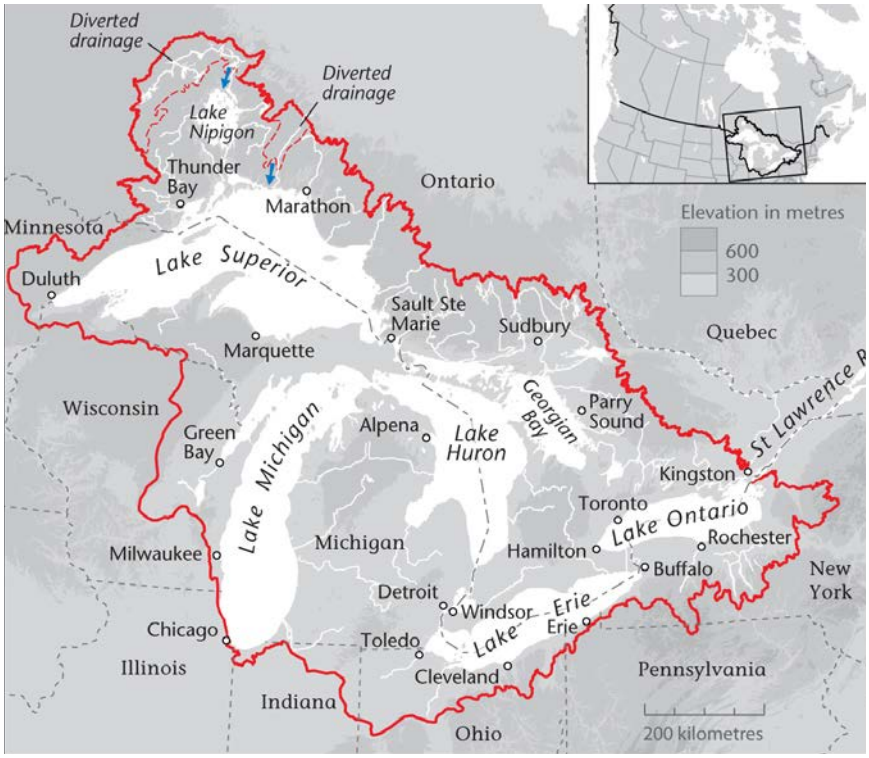
Policy Brief: The Great Lakes Basin - A Model for Transboundary Cooperation

June 2012

Background and Context

The Great Lakes and St. Lawrence River form a single hydrological system linking the interior of North America with the Atlantic Ocean. The system contains over 80% of North America's surface freshwater, and provides habitat for over 350 species of fish and over 3,500 species of plants and animals. Despite this large volume, the system has a relatively small outflow; as a result, pollutants accumulate and concentrate in the lakes. The system comprises about a third of the border between the United States and Canada, and is home to some 40 million people in Ontario, Québec, Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, and New York. The basin provides drinking water for 23 million people, jobs for 1.5 million, and $62 billion in wages annually (much of which is related to tourism, which relies on protection of the system).



Source: Original map. Cartographer: Eric Leinberger, Department of Geography, UBC.

The Great Lakes provide an example of transboundary cooperation that yields positive results, and there is a long history of transboundary cooperation in the Great Lakes Basin. For example:

- The 1972 Great Lakes Water Quality Agreement (GLWQA) and subsequent 1978 amendment;
- The 1985 signing of the Great Lakes Charter (a notice and consultation process for any significant new use, increased diversion, or consumption of Great Lakes water);
- The 1987 remedial action plans that led to lakewide management plans; and
- The 2008 Great Lakes Compact, which established basin-wide common standards for water use and procedurally incorporated The Great Lakes Agreement's Regional Body.

Challenges and Opportunities

Significant challenges looming on the horizon include climate change, invasive species, energy development, and water pollution. Recent climate change models predict smaller decreases in water levels than previously thought (and in some cases even rises due to changes in precipitation patterns), but air and water temperatures are still expected to rise by the end of the century, significantly impacting fisheries, wildlife, water quality, tourism, and shipping.

The Great Lakes have significant oil and gas resources – estimated at 465 million barrels of oil and 6.7 trillion cubic feet (2.0 trillion cubic metres) of natural–gas – and drilling presents risks to the region's freshwater system.

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Pollution from a variety of sources – including municipal and industrial wastewater, deposition from air pollution, contaminated sediments, runoff, and groundwater – continues to threaten water quality. Phosphorous from runoff contributes to algal blooms, and substances from consumer products (including flame retardants, plasticizers, pharmaceuticals, and personal care products) are now found in the lakes and may pose health risks.

Perhaps the greatest challenge is tackling the threat of invasive species. At least 185 documented invasive species now inhabit the lakes, often introduced in ballast water discharged by ocean-going ships. Species like the sea lamprey and zebra mussel have wrought devastation on fisheries, and Asian Carp pose a similar potential threat. Microflora and fauna, as well as non-indigenous diseases, also jeopardize the ecosystems that support the fishing and tourism industries.

Recommendations

The past successes of transboundary cooperation can be a model for future novel agreements. The International Joint Commission has proven to be an effective mechanism for preventing potential international disputes in the Great Lakes basin and warrants the renewed commitment of both parties. In relation to the uncertainties of climate change, the Great Lakes Compact could be an ideal policy to help the region adapt to future conditions because the Compact does not rely on fixed estimates of water supply to make definitive allocations; instead, it requires states to comprehensively regulate use to meet water conservation, ecosystem protection, and other standards.

The opportunity for cooperation on energy development also exists. Currently, the US federal government and most states have banned oil and gas drilling in the Great Lakes; Canada still allows offshore gas wells and directional drilling of oil wells. In the summer of 2010, over 20 members of the US House of Representatives from Great Lakes states sent a letter to US President Barack Obama, Canadian Prime Minister Stephen Harper, and the International Joint Commission urging them to review Canada's drilling with regard to safety, environmental impact, and oil spill response plans.

Regarding future pollution and water quality issues, the GLWQA is currently under review and both nations have an interest in ensuring that the new agreement will adequately address emerging pollution threats. Perhaps most immediately, current political and ecological conditions suggest that now is the time for cooperation on the question of invasive species. In particular, the development of new ballast water exchange procedures and technologies make possible the option of new and locally appropriate regulations.

Note: This Policy Brief draws on the research presented in *Water Without Borders? Canada, the United States and Shared Waters* (University of Toronto Press), edited by Dr. E. Norman, Dr. A. Cohen, and Dr. K. Bakker. This Brief draws in part from the chapter written by Jamie Linton and Noah Hall. It forms part of a set of Policy Briefs funded by the Walter & Duncan Gordon Foundation on 'flashpoints' in Canada-US Transboundary Water Governance. The full set of Policy Briefs can be found at www.watergovernance.ca.

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