

Draft Recommendations to Protect Physical Integrity and Watershed Security in the Great Lakes

March 2025

The Great Lakes Water Quality Agreement, a bi-national initiative of the United States and Canada, is a visionary document that commits the two nations, separately and collaboratively, to “restore and maintain the chemical, physical, and biological integrity of the Great Lakes basin ecosystem”.

Built on the framework of the 1909 Boundary Waters Treaty, which established the International Joint Commission to prevent and resolve disputes over waters shared by the US and Canada, the Great Lakes Water Quality Agreement has led to significant progress.

Key accomplishments by the US and Canada, known as the Parties to the Agreement, have included work on water quality and quantity; the identification and proposed remediation of polluted ‘areas of concern’; and efforts to reduce toxic substances, phosphorus, nutrients, and non-native invasive plants and animals.

Most of these accomplishments, however, have been focused on the chemical and biological integrity of the ecoregion, while the physical integrity of the lakes themselves has been relatively ignored and their watersheds have become impaired by increased development and their protection hand-cuffed by the complexity and inadequacy of sub-national legislation and regulations on land use planning.

Given on-going increases in population and development across the Great Lakes Basin, and their growing impact, we offer the following list of policy initiatives for a renewed effort to better protect physical integrity and watershed security in the Great Lakes region:

- Retain and protect natural shorelines, with vegetated buffer zones, and coastal wetlands;
- Implement guidelines to minimize dredging and its impact on beneficial uses and adverse effects;
- Establishing targets for the retention of key ecological features in a watershed, on a percentage basis, such as for areas in natural heritage, wetlands, and streamside vegetation, and developing restoration plans where targets are not being met;
- Requiring planning authorities to integrate land use and watershed planning. This should include:
 - Taking a whole-of-the-watershed approach, seeking normal flows of clean water entering the municipality from upstream areas while assuring the same for downstream communities;
 - Protecting agricultural lands to help maintain regional food security ecological integrity;
 - Conducting current condition reports to identify and protect key ecological features and functions;
 - Embracing sustainable development for planning, transportation planning, energy infrastructure, and buildings; and,
 - Performing before and after terrestrial and aquatic monitoring of large-scale development and applying adaptive management to address unacceptable outcomes;
- Safeguarding pre-development stream and lake levels, as well as temperature, from significant alteration;
- Remediating or removing in-stream infrastructure to alleviate fish barriers and thermal loading; and,
- Developing and delivering enhanced outreach and educational programs for physical integrity, including for local decision-makers, and to encourage improved stewardship on both public and private lands.

The Ontario Headwaters Institute and the Great Lakes Ecoregion Network will refine and develop these recommendations to present them to the International Joint Commission, the Parties to the Great Lakes Water Quality Agreement, US States and the Province of Ontario, as well as municipal and other organizations in order to increase efforts to protect physical integrity and watershed security in region, its economy, and the well-being of its communities.