Great Lakes of North America

*Water Without Borders: 104 Years of U.S.-Canada Cooperation*

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[Introduction ]

**Slide 1. U.S.-Canada Boundary Watersheds**

Good afternoon. As Chair of the United States Section of the International Joint Commission, I am honored to participate in this Congress.

Fresh water has long been a source of human conflict. Now with climate change, we expect even greater competition for water. Continued loss of glacial melt waters, along with population growth and development, mean that we cannot afford to squander water, either by wasting it or by polluting it. My remarks today, therefore, include concerns for managing both fresh water *quality* as well as fresh water *quantity*. 
Of course, water recognizes the laws of physics and chemistry, but not those made by parliaments or presidents. If we are to optimize water use in times of scarcity, we will need to embrace holistic management systems rather than those driven by geopolitical boundaries. If fresh water is not to be squandered, governments are going to have to share the management of the resource with other governments, as well as sharing the resource itself.

[The Boundary Waters Treaty of 1909]

Slide 2. Niagara Falls

Canada and the United States have lots of practice sharing management of their waters, with more than 300 common bodies of water on a boundary that stretches almost 8,900 km,
not just coast to coast but between Alaska and the Yukon. In fact, more than 40% of the border passes through water. And even among the best of friends, this much sharing leaves room for plenty of controversy.

More than 100 years ago conflicts between the two countries were most acute in the continent’s water-scarce western region. Downstream interests complained that upstream farmers were taking more than their fair share for irrigation. And in the water-rich eastern region of the continent, at Niagara Falls, Canada wanted more flow dedicated to hydropower, while U.S. claimed more water should be left to flow naturally over the falls to promote tourism.

To settle these disputes and others that were sure to follow, Canada and the United States signed the Boundary Waters Treaty of 1909. This treaty, which set up a system to prevent and
resolve disputes related to their shared waters, is still a vital force in U.S.-Canada relations. Here are key elements of the Treaty:

1) It established the International Joint Commission (IJC) with three Commissioners appointed by the Prime Minister of Canada and three appointed by the President of the United States. It vested in those Commissioners considerable authority to assure the fair distribution of boundary waters.

2) The Treaty created equality of rights, responsibilities and authority between the two countries. All costs of running the IJC are shared equally. This has been a key element in the success of the Treaty and the IJC.

3) To encourage binationalism, each of the six Commissioners must take two oaths, one to uphold their respective nation’s Constitution, and another to administer their Treaty obligations.
without bias. This means all six Commissioners have promised to consider the interests of both countries.

4) No decision can be made with less than the consent of four Commissioners. In all but a few instances in the past 100 years, the six Commissioners have issued unanimous decisions.

5) The Treaty requires Commissioners to consider multiple interests, including sanitary uses, navigation, hydropower and irrigation, in that order. Often the competition among these disparate interests is far more problematic than differences between the two countries.

6) The Treaty stipulates that all interested parties must have “a convenient opportunity to be heard,” so Commissioners hold public meetings in areas impacted by our decisions. Today we also supplement in person meetings with video conferencing, telephone town halls, webinars and email.
7) The Treaty also notes the need to protect water quality, stating that boundary waters “shall not be polluted on either side to the injury of health or property on the other.” The Treaty does not grant IJC Commissioners power to implement pollution prevention or remediation, but IJC’s science based advice has prompted some important environmental laws in both countries.

**North America’s Great Lakes**

**Slide 3. Great Lakes as seen from space**

**Slide 4. Horizon**

Nothing is more impressive about the five Great Lakes of North America than their size. So vast that they are sometimes referred to as “inland seas,” there is little that humans can do to regulate Great Lakes water levels.
Slide 5. Great Lakes basin superimposed on Europe

If the Great Lakes basin were superimposed on Europe its footprint would cover several nations. The Great Lakes are clearly visible from space and contain almost 20% of the earth's fresh surface waters.

Slide 6. Agriculture

Slide 7. Shipping

One of the world's most intensely agricultural areas, and home to North America’s largest manufacturing centers, the Great Lakes also support a multi-billion dollar global shipping industry with lake traffic moving seamlessly across the boundary of the two countries.

Slide 8. Lake Michigan-Huron Water Levels

Slide 9. House Affected by Erosion
Slide 10. Diversions and Dams

And while Great Lakes levels fluctuate naturally by more than two meters, the impact of all dams, diversions and dredging over time is still measured in just a few centimeters.

All this is managed by an extraordinarily complex patchwork of geopolitical interests under the governance of both countries, eight states, two provinces plus thousands of municipal authorities and other governmental entities, each one of which can make decisions that can impact Great Lakes water quality.

Slide 11. Cuyahoga River on fire

By the mid- twentieth century, after decades of intense industrial and agricultural use, the Lakes were a mess. Public tolerance of this calamity disappeared during the social revolution of the 1960s. Burning rivers, waters too foul for swimming and the
declaration that Lake Erie was “dead” prompted Canada and the U.S. to ask the IJC for advice. The IJC’s 1969 report on eutrophication of Lake Erie and of other portions of the Great Lakes system led to significant changes.

[The Water Quality Agreement]

The first Great Lakes Water Quality Agreement, signed by President Nixon and Prime Minister Trudeau in 1972, focused on reducing nutrient loading. Later an eco-system approach was incorporated to address chemical contaminants and invasive species. In 2012, climate change adaptation was added.

Throughout the 40-year history of the Water Quality Agreements, the IJC has been charged with presenting assessments of the governments’ progress in meeting their
obligations under the Agreement. The IJC has not always pleased the governments with its candid assessments and advice. The ambitious promises of the Agreements have not always been met, but these Agreements and public pressure have prompted passage of important environmental laws in each country.

A quick snapshot of the past forty years shows substantial gains in the early decades, followed in later decades by a loss of momentum and in the case of nutrient loading, significant regression.

[Lake Erie]

Slide 12, 13, 14. Lake Erie algae
IJC has worked with scientists to determine the causes of these recent unprecedented algal blooms on Lake Erie. We have just issued a draft report showing that agriculture contributes more than half of the dissolved reactive phosphorous driving those blooms, compounded by urban pollution, climate driven warmer waters and invasive mussel species. Based on this science, IJC is calling for substantial agricultural reforms and controls. But to what degree will the agriculture industry embrace these reforms? To what degree will governments impose regulations or withhold financial support? And will the interests in one country prompt or delay reforms in the other? The response to the IJC Report on Lake Erie will be a test of its moral authority in this period of its history.

[Conclusion]

**Slide 15. Closing**
The original Treaty has worked quite well, but a stronger commitment to action is needed. The 2008 Great Lakes St. Lawrence River Compact supplements the 1909 Treaty, and may protect the Great Lakes against out of basin diversions. State, local and provincial governments are also considering collaborative efforts with adaptive management.

Now 104 years old, the Treaty and the Commission that it created continue to be tested. The Treaty is stronger today because it has a century of history and a number of science based successes in binational water quantity and water quality management. Its future will ultimately depend on strong public demand for sufficient and reliably clean freshwater.