

Accounting for the Great Lakes

Quantifying the benefits of the ecosystem to our well-being

- The International Joint Commission (IJC) helps Canada and the United States prevent and resolve issues over shared waters on 5,525 miles of boundary, including the Great Lakes.
- The Great Lakes provide both direct and indirect benefits to those who live in the Great Lakes basin, but it can be difficult to quantify the value that these benefits provide to quality of life.
- The IJC Great Lakes Science Advisory Board's latest research aims to describe the value of the Great Lakes ecosystem to support Great Lakes policy and decision making.

Valuing the Great Lakes ecosystem's human benefits

Measuring the ecosystem's contributions to the welfare of society

It benefits society when the Great Lakes ecosystem is healthy. For example, coastal wetlands filter pollutants out of water, improving the water quality of the Great Lakes as a source of drinking water for 36 million residents in the region. Both directly and indirectly, the contributions of ecosystems ("ecosystem services") are key to our quality of life and well-being.

There is a need to better understand, measure and communicate the full value of the Great Lakes' ecosystem services. The Great Lakes support a valuable regional economy of US\$6 trillion (CDN\$7.5 trillion), including a multi billion-dollar sports fishing industry and 200 million tons of shipping annually.

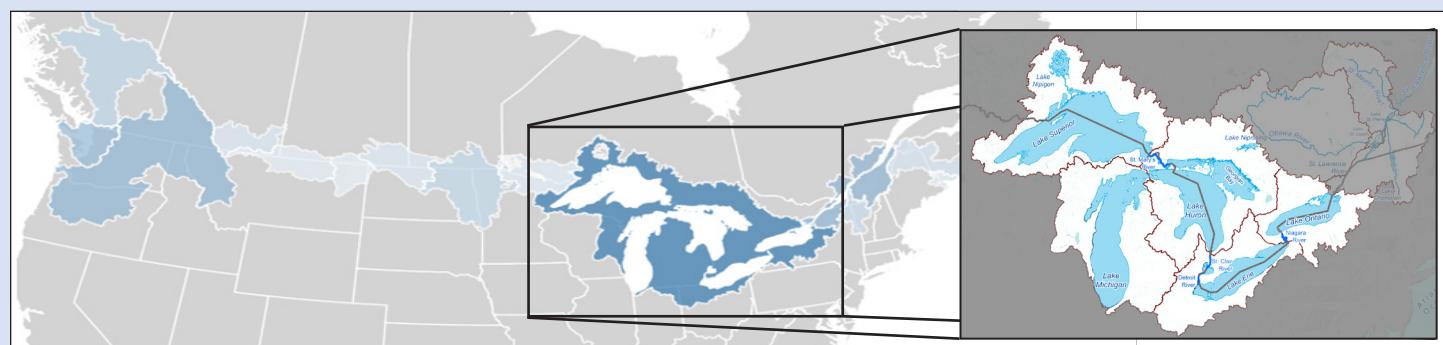
The Great Lakes Science Advisory Board's *Great Lakes Ecosystem Services Valuation* project aims to develop a more complete understanding of how much the Great Lakes ecosystem is worth. Ecosystem services valuation attempts to understand and quantify, usually in monetary units, the extent to which ecosystem benefits contribute to human well-being, both directly and indirectly.

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Where will this work impact?



More than a century of cooperation protecting shared waters
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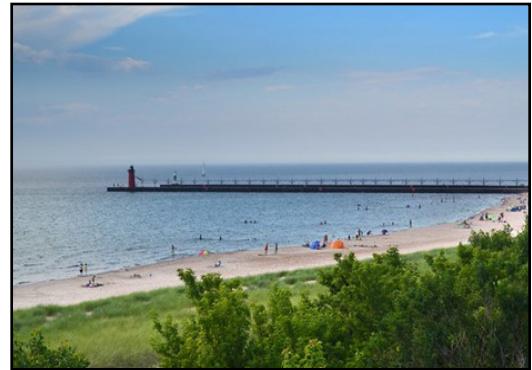


Great Lakes Ecosystem Services Valuation

Great Lakes Science Advisory Board

For the first phase of the *Great Lakes Ecosystem Services Valuation* project, the board completed a scoping study for a Great Lakes nonmarket valuation. Some ecosystem services, like commercial fishing, can be valued using the prices for fish that are bought and sold on the market. Other ecosystem services, such as recreational fishing, are not bought and sold on the market and are thus harder to value. Nonmarket valuation uses a set of methodologies, including specialized models, survey design practices and statistical tools, to estimate the economic value of nonmarket ecosystem services.

A proposed second phase would conduct a nonmarket valuation study of Great Lakes ecosystem services. The study results would help inform Great Lakes decision-makers.



Access to a beach is an indirect contribution of the Great Lakes to human wellbeing. Credit: Todd Marsee, Michigan Sea Grant

The Great Lakes Water Quality Agreement

Under the Great Lakes Water Quality agreement, the Great Lakes Science Advisory Board advises the IJC on scientific matters related to the Great Lakes basin ecosystem, including advising the social, economic, and environmental aspects of current and emerging issues related to Great Lakes water quality. The *Great Lakes Ecosystem Service Valuation* project aims to improve the current understanding of both the social and economic aspects of Great Lakes water quality issues.

About the International Joint Commission

The IJC was established in 1909 under the Boundary Waters Treaty to help Canada and the United States prevent and resolve disputes over shared waters. The IJC's responsibilities include reporting on progress made by the governments under the 2012 Great Lakes Water Quality Agreement. The Great Lakes Science Advisory Board provides advice on research and scientific matters on Great Lakes water quality issues.

The Great Lakes ...



contain roughly 20 percent of the world's fresh surface water



support a US\$6 trillion (CAD\$7.5 trillion) regional economy



are a source of drinking water for 36 million people



are home to 4,000 species of plants and animals



More than a century of cooperation protecting shared waters
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