

# **NEWS RELEASE**

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## ***Backgrounder:***

### ***State of the Lakes Ecosystem Conference***

SOLEC is a binational conference held every two years under the auspices of the Canadian and U.S. governments to assess and report on the state of the Great Lakes, as required under the 1987 Protocol to the [Great Lakes Water Quality Agreement \(GLWQA\)](#).

SOLEC presents a science-based assessment of the state of the Lakes. It does not review or comment on programs put in place to achieve the objectives of the GLWQA.

All materials presented at SOLEC are considered draft and subject to comment and change by conference participants.

A final report on the state of the Lakes is issued in the months after SOLEC. All comments received on the draft material are considered and, where appropriate, incorporated into the document.

SOLEC is geared to Great Lakes decision-makers from federal governments; state and provincial governments; First Nations / Tribes; ENGOs; academics; industry; recreational groups; sport and commercial fishers; and health professionals.

## **History of the GLWQA and the need for indicators**

The history of environmental change in the Great Lakes basin ecosystem reflects the changing attitudes of its inhabitants. In pre-European settlement times, the Basin was a pristine system, with abundant fish and wildlife, almost limitless forests, pure water and clean air. Aboriginal People exploited these resources, but had minimal impact on them. From 1600 onwards, European settlement meant land clearance, over exploitation of fish and wildlife, development of cities and so on, resulting in large scale degradation of the ecosystem. It was only in the past 80 or so years that citizens and governments around the Great Lakes began to take action. In 1972 a concerted effort to redress the problems of the past 150 years was started by both governments by establishing the Great Lakes Water Quality Agreement (GLWQA).

The GLWQA sets out the commitment of Canada and the United States "to restore and maintain the chemical, physical and biological integrity of the waters of the Great Lakes basin ecosystem". The governments have been working towards achieving this vision over the past 25 years. The 1987 protocol to the Agreement called for the development of indicators of ecosystem health.

The two countries have invested billions of dollars to improve the health of the Great Lakes and to strive towards the Agreement's goals. Policies, regulations and programs have been developed to address the complex problems facing the Lakes, including: nutrients, persistent toxic chemicals, habitat destruction, loss of native species and introduction of exotic ones, shoreline alterations, atmospheric deposition of pollutants, and many others.

The challenges facing the management of the Great Lakes basin ecosystem are long term and complex. They require a dedication by society to the care and protection of these invaluable freshwater gems, and their life support system, the basin in which they sit.

A comprehensive set of Great Lakes indicators will help us assess our progress towards the binational commitment in the GLWQA, and determine how much farther we have to go to meet the goals of the Agreement.

What is an indicator? An indicator is a piece of evidence or signal that tells us something about the conditions around us. An indicator is a tool that provides us with information about the state of large systems - like the environment, the economy, or even the weather. It gives us a clue about the "bigger picture" by looking at a small piece of the puzzle, or at several pieces together. To a sailor or a pilot, for example, atmospheric pressure is an indicator of the weather. To a doctor, blood pressure provides a clue about the overall health of a patient. To an economist, Gross Domestic Product (GDP) gives a snapshot of the state of a country's economy. Each of these indicators provides us with information about conditions at a particular point in time. To be really useful, however, we need indicators to give us information about trends over time. Is the barometric pressure rising, falling or staying the same? Is our blood pressure higher or lower than it was the last time we visited the doctor? Is the GDP growing or shrinking? One of the best ways to track trends in the condition of a system is through the development and use of a set or "suite" of indicators. By looking at a number of indicators together, we can see which way a system is going: up or down, forward or backward. We can then assess whether it getting better or worse or staying the same.

In the environmental field, and for SOLEC, indicators are commonly classified in three ways, to provide information about:

- the state of the environment (the environmental conditions around us);
- the pressures (or influences) that affect natural systems; and
- activities by governments, industries, organizations and individuals that respond to these pressures.

**State** indicators address the state of the environment, the quality and quantity of natural resources, and the state of human and ecological health.

Human activities - how we build, how we alter the environment, the resources we consume -- can have a dramatic, sometimes irreversible influence on the state of the environment. Indicators inform society about the pressures on the environment. Some common indicators of these **pressures** are the amount of pollutants discharged to the environment, the rate of urbanization, the presence of exotic species such as zebra mussels, and the amount of wetlands filled in (or restored).

Indicators that address **activities** provide valuable information about progress towards goals. Are sewage treatment plants meeting the targets laid down in regulations? Have local targets for restoring wildlife habitat been met? Are young people learning about the environment through schools? Have municipalities adopted sediment control programs to reduce erosion from construction sites?

Over time, indicators can be used to monitor change, to help focus research, monitoring and remediation programs, and to set targets and goals.

To help the public relate the indicators to common concerns such as, "How safe is the water to drink? How safe is the air to breathe? How safe are fish to eat?" the indicators will be grouped within new categories for SOLEC 2000 with a general assessment provided for each category. The indicators will be grouped within seven environmental categories: air, water, land sediments, biota, fish and humans, and additionally, by issues such as: persistent toxic chemicals, nutrients, exotic species, habitat, climate change and stewardship.

1. Sea Lamprey
2. Native Unionid Mussels
3. Benthos Diversity and Abundance
4. Phosphorus Concentrations and Loadings
5. Contaminants in Colonial Nesting Waterbirds
6. Atmospheric Deposition of Toxic Chemicals
7. Wetland-Dependent Bird Diversity and Abundance
8. Gain in Restored Wetland Area by Type
9. Sediment Flowing into Coastal Wetlands
10. Area, Quality and Protection of Special Lakeshore Communities
11. Sustainable Agricultural Practices
12. Breeding Bird Diversity and Abundance
13. Fecal Pollution Levels of Nearshore Recreational Waters
14. Chemical Contamination in (edible) Fish Tissue
15. Chemical Contaminant Intake from Air, Water, Soil and Food
16. Air Quality
17. Chemical Contaminants in Human Tissue
18. Citizen/Community Place-Based Stewardship Activities
19. Acid Rain

A full description of the indicators can be found at the SOLEC websites at: [www.on.ec.gc.ca/solec/](http://www.on.ec.gc.ca/solec/) or [www.epa.gov/glnpo/solec/98/](http://www.epa.gov/glnpo/solec/98/). Look for the report called A Selection of Indicators for Great Lakes Basin Ecosystem Health, Version 4.