

# STATE OF THE GREAT LAKES 2017

An overview of the status and trends of the Great Lakes ecosystem





# WHAT ARE THE GREAT LAKES INDICATORS TELLING US?

## CAN WE DRINK THE WATER?

**YES** The Great Lakes remain a source of high quality drinking water.

## CAN WE SWIM AT THE BEACHES?

**YES** But some beaches are unsafe for swimming some of the time due to bacterial contamination.

## CAN WE EAT THE FISH?

**YES** But contaminants in fish require limits to be placed on the amount of fish consumed in order to safeguard human health.

## ARE THE LAKES FREE FROM POLLUTANTS AT LEVELS HARMFUL TO HUMAN HEALTH AND THE ENVIRONMENT?

**GENERALLY, YES** But some pollutants in local areas, including in designated Areas of Concern, remain at problem concentrations.

## ARE THE LAKES SUPPORTING HEALTHY WETLANDS AND OTHER HABITATS FOR NATIVE SPECIES?

**IN SOME INSTANCES YES, AND IN OTHERS NO** Results vary significantly from location to location.

## ARE THE LAKES FREE FROM EXCESS NUTRIENTS?

**NO** Nutrient loadings in Lake Erie and some nearshore areas of Lakes Huron, Michigan and Ontario are causing severe impacts due to the formation of toxic and nuisance algae.

## ARE WE WINNING THE BATTLE AGAINST AQUATIC INVASIVE SPECIES?

**NO** While the introduction of new non-native species has declined, the spread and impacts of aquatic invasive species already in the lakes continues.

## IS GROUNDWATER NEGATIVELY AFFECTING THE WATER QUALITY OF THE LAKES?

**GENERALLY, NO** But some localized areas of contamination exist.

## ARE LAND USE CHANGES IMPACTING THE LAKES?

**YES** Growth, development, and land-use activities stress the waters of the Great Lakes.

**OVERALL,  
THE GREAT LAKES  
ARE ASSESSED  
AS FAIR AND  
UNCHANGING.**

While progress to restore and protect the Great Lakes has been made, including the reduction of toxic chemicals, we are still facing challenges with issues such as invasive species and nutrients.

In addition, the ecosystem is large and complex and it can take years to respond to restoration activities and policy changes.





# ASSESSING THE GREAT LAKES

## Why are the Great Lakes Important?

The Great Lakes contain one fifth of the world's fresh surface water supply and are one of the most ecologically diverse ecosystems on earth. They provide drinking water to tens of millions of Canadians and Americans and are important to the economies of both Canada and the United States, supporting manufacturing, transportation, farming, tourism, recreation, clean energy production, and other forms of economic growth.

## How are Governments Working Together to Protect the Great Lakes?

2017 marks the 45th anniversary of the signing of the Great Lakes Water Quality Agreement by the Governments of Canada and the United States. The Agreement commits both countries to working cooperatively to restore and protect the water quality and aquatic ecosystem health of the Great Lakes. Through the Agreement, the Governments of Canada and the United States engage the provincial and state governments of Ontario, Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin, Tribes, First Nations, Métis, municipal governments, watershed management agencies, other local public agencies, industry and the public in actions to ensure that the Great Lakes remain an important and vibrant natural resource for the benefit and enjoyment of this generation and those to come.

## How is the Health of the Great Lakes Assessed?

The Governments of Canada and the United States, together with their many partners in protecting the Great Lakes, have agreed on a set of 9 indicators of ecosystem health. These indicators are in turn supported by 44 sub-indicators, measuring such things as concentrations of contaminants in water and fish tissue, changes in the quality and abundance of wetland habitat, and the introduction and spread of invasive species. To create this report, more than 180 government and non-government Great Lakes scientists and other experts worked to assemble available data to populate the suite of sub-indicators

and to agree on what the indicators are telling us. Each indicator was assessed in relation to both status and trend. Status is defined as Poor, Fair or Good. Trend is defined as Deteriorating, Unchanging or Improving.

## How is the Assessment of the Great Lakes Used?

Assessments of the Great Lakes help Governments to identify current, new and emerging challenges to Great Lakes water quality and ecosystem health. Assessments also help Governments to evaluate the effectiveness of programs and policies in place to address challenges, and help inform and engage others. We all have a role to play in helping to restore and protect the Great Lakes.

## Overall Assessments of the Nine Great Lakes Indicators of Ecosystem Health

Great Lakes Indicator	Status and Trend
Drinking Water	Status: Good Trend: Unchanging
Beaches	Status: Fair to Good Trend: Unchanging
Fish Consumption	Status: Fair Trend: Unchanging
Toxic Chemicals	Status: Fair Trend: Unchanging to Improving
Habitats and Species	Status: Fair Trend: Unchanging
Nutrients and Algae	Status: Fair Trend: Unchanging to Deteriorating
Invasive Species	Status: Poor Trend: Deteriorating
Groundwater Quality	Status: Fair Trend: Undetermined
Watershed Impacts and Climate Trends	<u>Watershed Impacts:</u> Status: Fair Trend: Unchanging
	<u>Climate Trends:</u>
	No Overall Assessment



**The *State of the Great Lakes* reports are developed by the Governments of Canada and the United States, in collaboration with many partners, in accordance with the 2012 Canada-United States Great Lakes Water Quality Agreement. State of the Great Lakes assessments support the identification of current and emerging challenges to Great Lakes water quality and ecosystem health, help Governments evaluate the effectiveness of programs and policies in place to address challenges, and help inform and engage others. For more information about state of the Great Lakes reporting, and to access the *State of the Great Lakes 2017 Highlights Report* and the *State of the Great Lakes 2017 Technical Report*, visit the following websites:**

**[www.binational.net](http://www.binational.net)  
[www.ec.gc.ca/greatlakes](http://www.ec.gc.ca/greatlakes)  
[www.epa.gov/greatlakes](http://www.epa.gov/greatlakes)**

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