

Data Limitations & Disclaimers

Introduction

Ontario is blessed with some of the most stunning lakes in the world. With over 250,000 lakes, waterfront property owners and users have a wide variety of water bodies to enjoy. Providing drinking water, fish and wildlife habitat, recreational activities, and a source of energy our inland lakes are a key part of Ontario's heritage and economy.

It is the responsibility of everyone to protect these important resources. Understanding the chemistry and natural ecology of a lake is key to making informed decisions to best maintain their integrity. With the wealth of environmental data gathered over the years, it can be overwhelming to know where to look, and what the data means.

The intention of this report is to gather relevant water quality data, and to present it in a format to communicate this information to Lake Partner Program volunteers, Federation of Ontario Cottagers' Associations (FOCA) members, and other interested parties. From this, users can hopefully better understand the existing data, trends, and potential areas for enhanced management.

The format and layout have been inspired by the work of the Coalition of Haliburton Associations (CHA), and their excellent [Lake Health Report](#) (2019). Many thanks to the CHA and particularly to the lead authors and number crunchers for their example and advice

Data Sources

This report is a collection of water quality data and includes multiple data sources. These sources include:

The Lake Partner Program

The Lake Partner Program (LPP) is a province-wide, volunteer-based, water-quality monitoring program. Volunteers collect water samples to be tested for total phosphorus, calcium, and chloride. Volunteers also make monthly water clarity observations on their lakes using a Secchi disc. Run out of the Dorset Environmental Science Centre in partnership with FOCA, the program is the largest of its kind in Canada. For lakes on the Canadian Shield, water samples are taken once in the spring; lakes off the Canadian Shield have samples taken each month from

May-October. All volunteers take monthly Secchi disc samples from May-October. After quality checking the data throughout the winter, it is released online to the public the following spring.

All total phosphorus, calcium, and Secchi disc data in this report are from the LPP. Data on whether a lake is monitored through the LPP was also used in this report. More information can be found at:

<https://www.ontario.ca/environment-and-energy/map-lake-partner>

Fish Online

Fish Online is an online mapping tool created by the Ontario government. It displays data on Ontario's inland lakes regarding fish species, fisheries management, and general lake morphology (e.g. the shape and structure of a lake basin). It is a data source for serious and casual anglers and provides an overview of regulations and ecological fishing data.

All fish species data, fisheries management zones, geographic coordinates of the lakes, lake surface area, maximum lake depth, mean lake depth, and township data was taken from Fish Online.

<https://www.lioapplications.lrc.gov.on.ca/fishonline/Index.html?viewer=FishONLine.FishONLine&locale=en-CA>

<https://geohub.lio.gov.on.ca/datasets/aquatic-resource-area-polygon-segment-/data>

Conservation Ontario

Conservation Ontario is a central hub for Ontario's 36 conservation authorities. These conservation authorities work at the local level to conserve, protect, manage, and restore Ontario's natural spaces. They also seek to engage and educate the public on environmental issues.

Data regarding whether a lake is in a conservation authority's jurisdiction was used for this report. Data was taken from the Conservation Ontario online map. In addition, maps from Conservation Ontario were used to determine whether a lake was part of a source water protection region.

<https://conservationontario.ca/conservation-authorities/find-a-conservation-authority/>

https://conservationontario.ca/fileadmin/pdf/conservation_authorities_section/SWPNorthernON_EN.pdf

https://conservationontario.ca/fileadmin/pdf/conservation_authorities_section/SWPSouthernON_EN.pdf

Federation of Ontario Cottagers' Associations

The Federation of Ontario Cottagers' Association (FOCA) is a not-for-profit organization representing volunteer associations and individual property owners across Ontario. They seek to engage and represent lake associations, waterfront property owners (WPO) and waterfront communities through education, communication and government advocacy.

FOCA's in-house maps were used to determine watershed delineation with regards to individual lakes. In addition, FOCA's database was used to determine the presence of member associations on a waterbody.

<https://foca.on.ca/member-services/list-of-associations/>

Ontario Provincial Government

The Ontario provincial government is responsible for the management of Ontario's natural resources. This includes its inland lakes and the fish that inhabit them. Only about one percent of Ontario's lakes contain Lake Trout, but this represents 20-25% of all Lake Trout lakes in the world. Lakes containing Lake Trout are managed by the provincial government.

A comprehensive list of lakes currently designated for Lake Trout management is provided by the provincial government and was used for this report.

<http://docs.files.ontario.ca/documents/3269/inland-ontario-lakes-designated-for-lake-trout.pdf>

Data Limitations and Disclaimers

The data in this report comes from a variety of sources, as listed above. The data collection, methodology, analysis, and representation of this data appears to be robust and based on scientific principles. However, it is important to note that FOCA cannot vouch for the veracity of all the data, and it should be noted that each data source collects and displays their data in different formats.

In terms of the reporting of data in this document, readers should also note that water quality data (total phosphorus, calcium, and Secchi data) is represented as averages over three-year periods. The data was displayed in this format to create a clearer and more understandable format for readers. Some data may be slightly skewed, because outliers may also be included in the averages (for example, an impossibly high result due to a contaminated water sample). In addition, some averages may only have one data point in them (meaning only one water sample or Secchi disc reading was taken for that site in a three-year period) or, it may have

many. Data points may all have been collected in one year of a three-year average or spread out across the entire time range. Data collected before the official beginning of the LPP (2002) has been omitted for consistency's sake. As such, not all sites on a lake are displayed, nor their data. In addition, sites with inaccurate coordinates do not have their data displayed.

Although the writers of this report have worked to ensure that data accuracy is consistent, errors may occasionally occur. FOCA would like to remind users of this report that the intention of this document is to provide an approximation of past water quality and aquatic ecosystem data and is not intended to be used for any other purpose.