

# Biostats 2023 Lab Exam Metadata

## Preamble

Data supplied for analysis in BIOL3117 are for educational purposes only, and are to be used by students currently enrolled in the course to complete their assignments. The data for the final exam are sourced from the Ontario Ministry of Natural Resources, via the Ontario Biodiversity Council. Since the data are publicly available you do not need to obtain permission for further use, but dataset originators must be credited, and it is recommended that you access the original versions of the datasets rather than the abridged versions presented herein.

## Dataset Descriptors

### Dataset title

Water quality indicators and fish species abundance for randomly sampled lakes in Ontario.

### Data collection period

1997 – 2022

### Dataset distribution date

April 3, 2023

### Dataset distributor

Ysabel Castle

### Dataset distributor contact email

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### Dataset abstract

The provided dataset contains publicly available information about water chemistry variables for 675 lakes across Ontario, collected as part of the Ontario Broad-Scale Monitoring Program. This program samples randomly selected lakes between 20 and 250,000 hectares in size on a 5 year cycle, with a focus on variables of relevance to fisheries. The data presented here was collected between 2013 and 2017. The dataset also contains publicly available information about the number of fish species found in many of the lakes. This information comes from Ontario's Aquatic Resource dataset, and was collected between 1997 and 2022.

## Experimental and Sampling Design

More information on the sampling designs for the data used to compile this dataset are available from the Ontario Ministry of Natural Resources:

<https://www.ontario.ca/page/broad-scale-monitoring-program>

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

## Dataset Structure

Missing values in this dataset are represented by NAs.

The dataset has been compiled into a single comma separated values (csv) file.

Variables are as follows:

[1] ID – a unique identifier corresponding to each waterbody.

[2] FMZ – the fishery management zone where each waterbody is located. A map and further information about each zone are available at <https://www.ontario.ca/page/fisheries-management-zones>. Values: 4, 5, 6, 7, 8, 10, 11, 12, 15, 16, 17, 18.

[3] Name – The name of each waterbody. Users should note that there may be multiple waterbodies with the same name.

[4] Phos – Total phosphorous, measured in micrograms per litre.

[5] pH – The pH of each lake.

[6] Calc – Calcium, measured in milligrams per litre.

[7] Ecozone – The ecozone in which each waterbody is located.

[9] Species – A count of fish species observed in the waterbody.

[10] Fishery – The main fish which sport fishers visit the waterbody to catch.