



**GEORGIAN BAY
BIOSPHERE
MNIDOO GAMII**

AQUATIC ENVIRONMENT REPORT

NOVEMBER 21, 2023

thom morrison
photography

PARTNERSHIP OVERVIEW

2021

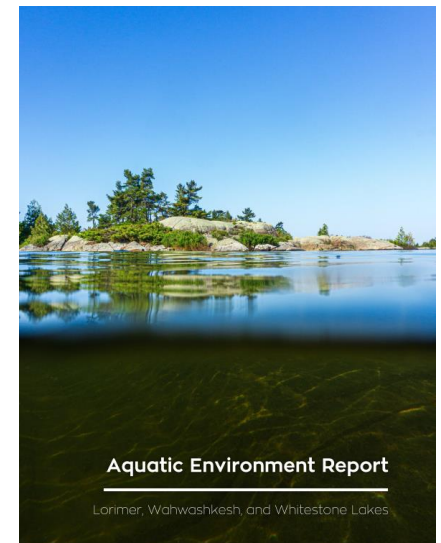
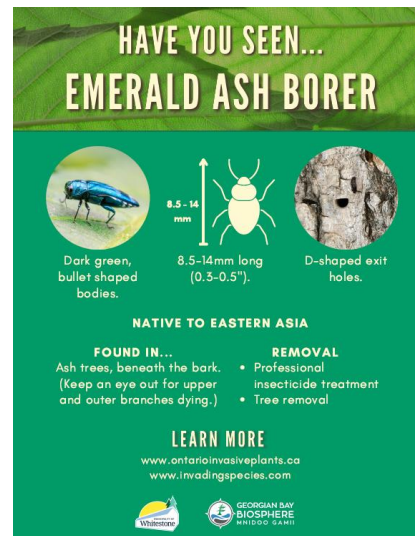
- Staff training on invasive species and species at risk
- Public outreach and education on invasive species
- Benthic monitoring on Whitestone Lake
- Preparation of Aquatic Environment Report

2022

- Benthic monitoring on Lorimer, Wahwashkesh, and Whitestone Lakes
- Preparation of Aquatic Environment Report

2023

- Benthic monitoring on Lorimer, Wahwashkesh, and Whitestone Lakes
- Preparation of Aquatic Environment Report



REPORT OVERVIEW

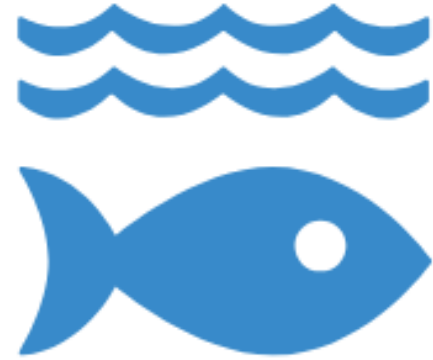
Provide residents with a summary of water quality and fish community monitoring data for Lorimer, Wahwashkesh, and Whitestone Lakes in one report.



WATER CHEMISTRY



BENTHIC MONITORING



FISH COMMUNITIES

REPORT OVERVIEW

WATER CHEMISTRY

- Lake Partner Program (LPP)
 - Total phosphorus, Secchi depth, calcium, chloride
- Lake Wahwashkesh Water Quality Management Program
 - Dissolved oxygen, temperature, pH, specific conductance, oxidation-reduction potential, Secchi depth
- Whitestone Conservation Association annual water quality monitoring
 - Temperature, conductivity, dissolved oxygen, pH



REPORT OVERVIEW

BENTHIC MONITORING



Highly pollution tolerant - most likely to be found in poor, fair, and good quality water



Chironomidae (Midge Larva)



Hirundinea (Leech)

Semi-pollution tolerant - most likely to be found in fair and good quality water



Anisoptera (Dragonfly Larva)



Amphipoda (Scud)

Pollution sensitive - most likely to be found in good quality water



Ephemeroptera (Mayfly Larva)



Trichoptera (Caddisfly Larva)

REPORT OVERVIEW

FISH COMMUNITIES

Ministry of Natural Resources



Natural. Valued. Protected.

Lake Fact Sheet – Parry Sound District Lorimer Lake

Location

Official Name: Lorimer Lake Local Names:
 County/District: Parry Sound Geographic Twp: Ferguson, Hagerman
 Municipality: Municipality of McDougall MNR Admin. Area: Parry Sound
 Municipality of Whitestone
 Lat./Long: 45.539 N, 79.963 W UTM (NAD83): 17-580562-5043736
 Topographic Map (1:50,000): 31E/12 Magnetawan Drainage Basin: Manitowabing River

Physical Features

Surface Area (ha): 480 Maximum Depth (m): 24 Mean Depth (m): 7
 Elevation (m asl): 243 Perimeter (km): 37 Island Shoreline (km):
 Volume (10⁶ m³): 3082 Watershed (km²): 27.4 Water Clarity (m): 3.5
 (excludes area of lake)

Land Use and Development

Crown Land (%): 0 Provincial Parks: none
 Shoreline Development: moderate; commercial, shoreline residential
 Access: public; small boat access at west end from Lorimer Lake Road;
 Municipality of Whitestone may be developing new access at east end
 Water Level Management: regulated; level is controlled by dam at outlet of Grey Owl Lake;
 dam is owned by Bracebridge Generation Ltd.
 operated in accordance with Seguin River Simplified Water Management Plan

Fish Species

Major Fish Species: lake trout (S), northern pike (I 1972), smallmouth bass (I 1942)
 largemouth bass (I 1977), black crappie (I 2002)
 Other Fish Species: brown bullhead, golden shiner, bluntnose minnow, yellow perch, rock bass,
 rainbow smelt (I 1972), pumpkinseed, white sucker, cisco, creek chub, mottled sculpin
 Other Species: spiny water flea (I 2000)

Notes: E: extirpated, I: introduced – intentional or accidental, O: occasional, R: remnant, S: currently stocked, ? : status uncertain,
 2009: year of first record or introduction if known, blank: presumed native

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Parry Sound District office: (705) 746-4201
 Bracebridge Area office: (705) 645-8747

Wahwashkesh Lake

Waterbody Regulations **Fish** Stocking Survey

Fish Species Found in Waterbody

MNRF

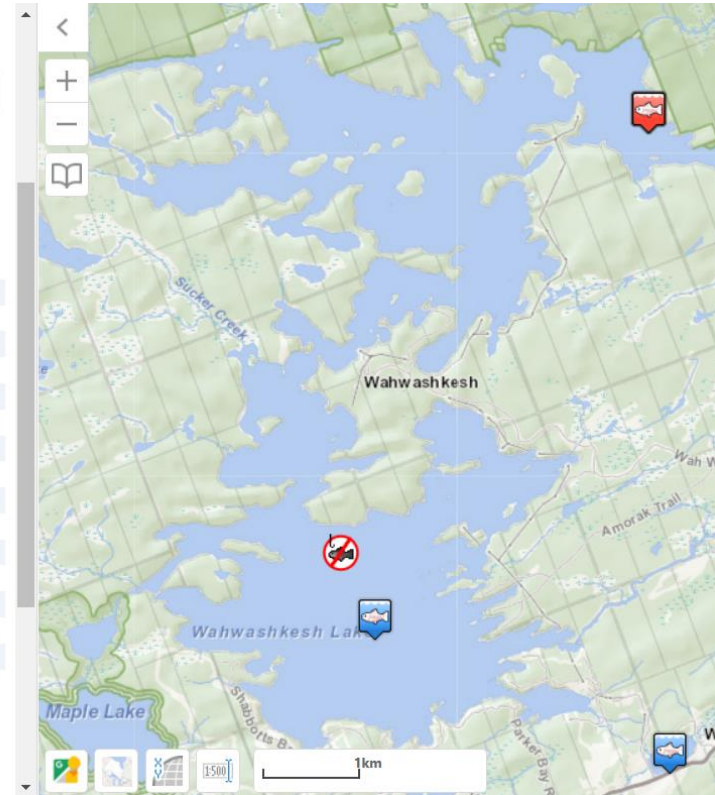
Species observed or confirmed by MNRF. This list may contain historical records

Species	Last Observation Date
Black Crappie	-
Brown Bullhead	-
Burbot	-
Cisco	-
Lake Trout	-
Lake Whitefish	-
Largemouth Bass	-
Northern Pike	-
Pumpkinseed	-
Rainbow Smelt	-
Rock Bass	-
Sauger	-
Smallmouth Bass	-
Walleye	-
White Sucker	-
Yellow Perch	-

Public

Species reported by the public (unconfirmed)

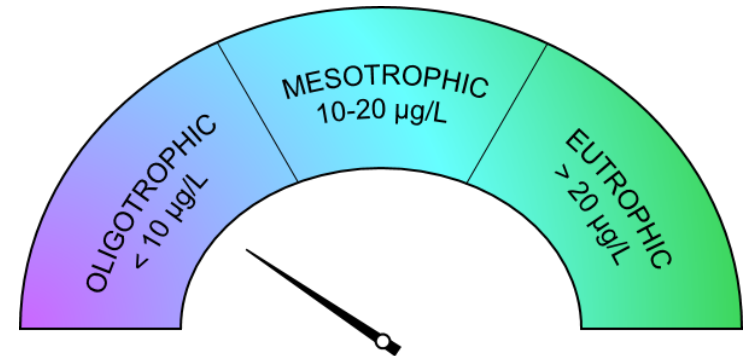
[Report a Species](#)



RESULTS

WATER CHEMISTRY

- Lorimer Lake
 - Trophic status: oligotrophic
 - TP trend: decreasing
 - Continue LPP monitoring
- Wahwashkesh Lake
 - Trophic status: oligotrophic
 - TP trend: increasing for three sites with sufficient data, no trend for one site
 - Continue LPP monitoring, continue summarizing results of WQMP for WWKCA members
- Whitestone Lake
 - Trophic status: oligotrophic
 - Additional data needed to comment on average TP and/or TP trend
 - Continue LPP monitoring, work on clearly defining objectives of the WCA water quality monitoring

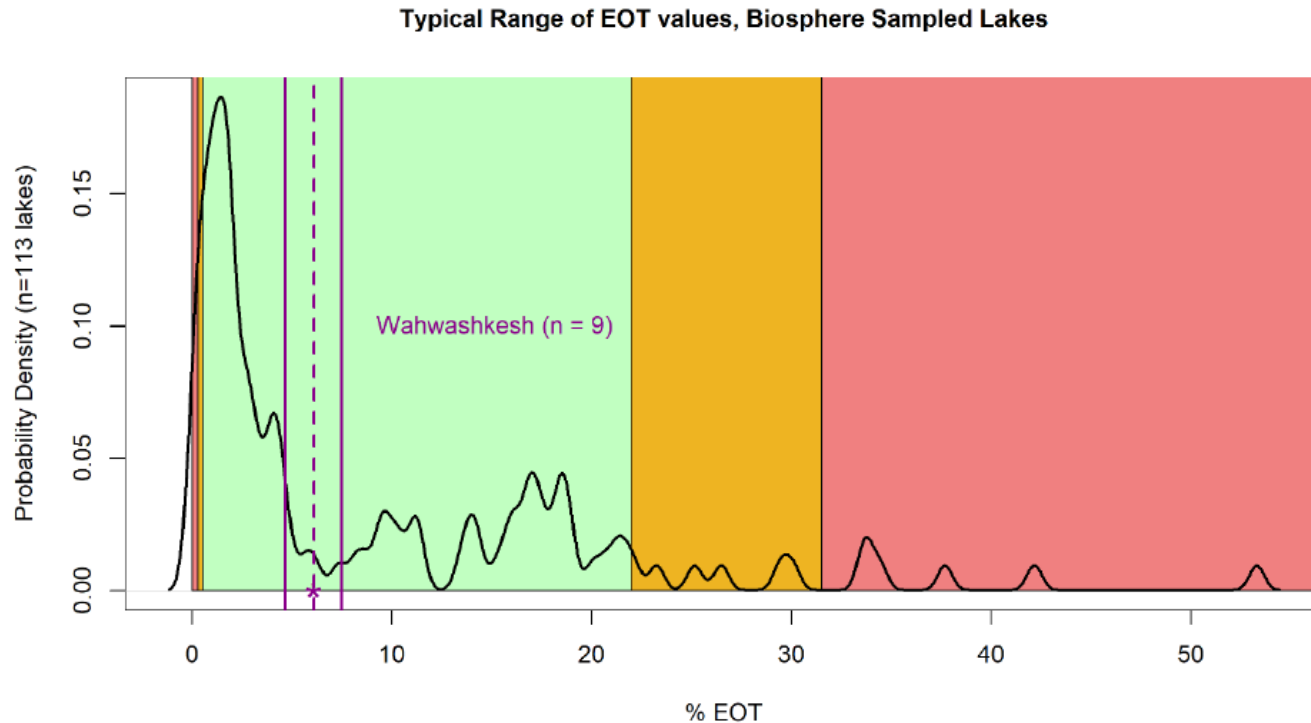


RESULTS

BENTHIC MONITORING

- Whitestone Lake and Wahwashkesh Lake benthic communities considered “typical”
- Additional years of data needed for Lorimer Lake before analysis can begin

Recommendation: continue annual monitoring to assess trends over time

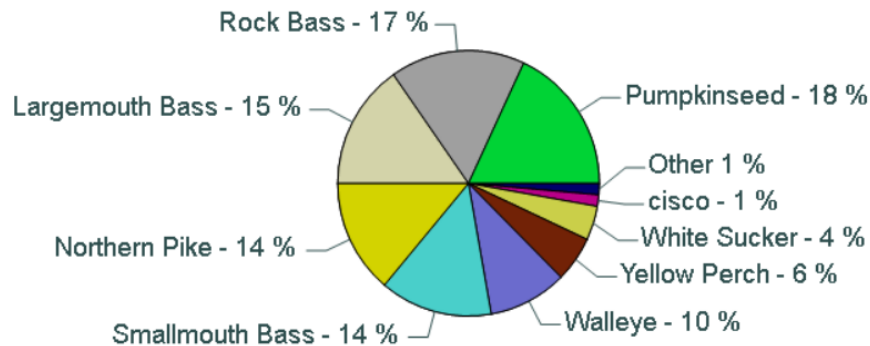


RESULTS

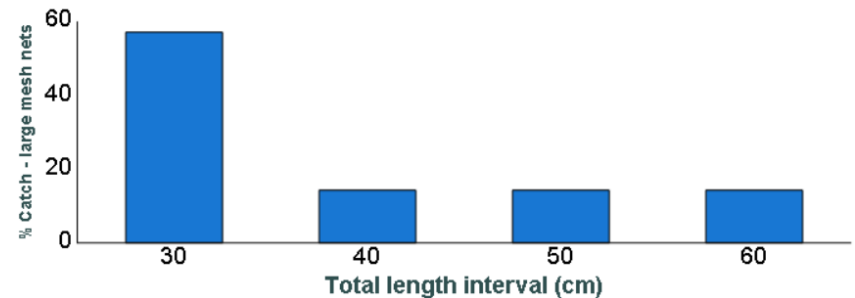
FISH COMMUNITIES

- Lorimer Lake
 - Continues to be managed as a put-grow-take lake (last stocked in 2022 with 1,200 yearlings)
 - Last index netting completed in 2000
- Wahwashkesh Lake
 - Spring Littoral Index Netting (SLIN) conducted in 2004 to monitor relative abundance of lake trout
 - Synoptic Trapnet Survey (STNS) conducted in 2002 focusing on walleye and smallmouth bass
- Whitestone Lake
 - Broad-scale Monitoring (BsM) conducted in 2021

Proportion of fish caught in large mesh nets



Length distribution of Walleye



MNRF, 2023



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QUESTIONS