

PLA Eco-Workshop Agenda



- Kevin Boyle (District of Muskoka) Road Salt Effective Use and a preview of the new Muskoka Flood Plain Maps
- Mike Peppard (District of Muskoka) Monarch Butterflies and Their Habitat
- Rob Bosomworth (Safe Quiet Lakes) Organization Overview and 2020 Programs
- Wendy Somerville (PLA) Algae study pilot project; Algae Causation study; 2019
 Pen Lake Testing Results

Eco Workshop Report of 2019 Testing on Peninsula Lake

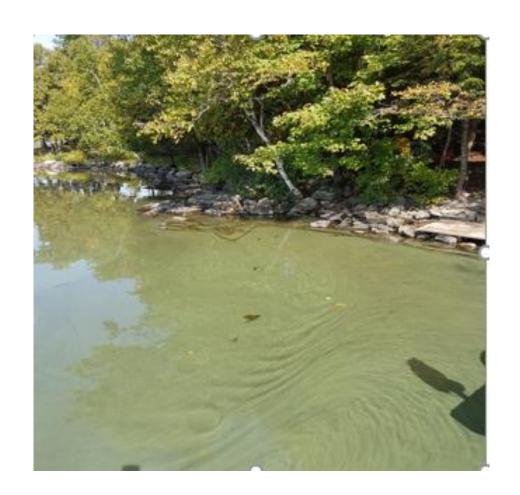
- 1. Algae Causation Study
- 2. Algae Working Group Pilot Project
- 3. 2019 Pen Lake Testing Results



Wendy Somerville (PLA)

1. Algae Causation Study

- Amendment to District of Muskoka Official Plan
- Classification of Peninsula Lake as 'vulnerable' due to 2017 algae bloom
- Triggered a causation study to try and determine the cause of the bloom
- All environmental data from the last 10 years reformatted and forwarded to Hutchinson Environmental to aid them in their study
- Testing data from MNRF, bacterial testing and water temperatures and incident reports from Jim Marshall. Also several studies performed by University of Waterloo and Queen's University.



1. Algae Causation Study

- Second Stakeholder Meeting being held 'virtually' on Zoom by Hutchinson Environmental on July 22 at 10:00 am.
- They will be presenting their draft findings and recommendations for the public.
- It will give us an opportunity to ask questions and provide feedback
- If you wish to attend contact Emily Crowder

Emily.crowder@muskoka.on.ca

2. Algae Working Group – 2019 Pilot Project

PURPOSE:

- Monitor all algae combined and blue-green algae using fluorometric techniques
- Plan and pilot methods for fluorometric analysis of phytoplankton for further use by Lake Associations
- Develop information materials and a presentation on algae for delivery to Lake Associations
- Communicate these efforts to other Lake Associations

OBJECTIVE:

- Develop a greater understanding of algae by using volunteers to collect DATA on the DISTRIBUTION, ABUNDANCE and SEASONAL CYCLE of phytoplankton across Muskoka area lakes to:
 - a) Identify conditions favouring algae
 - b) Detect trends in phyto plankton abundance
 - c) Provide management advice



2. Algae Working Group – 2019 Pilot Project

Results:

- 4 lakes taking part in a pilot project
- Samples collected every 2 weeks and sent to Dorset lab for testing for the presence of blue/green algae
- Confirmed bloom on 3 Mile Lake in August and it coincided with a prominent spike in the phycocyanin record of that lake over 2 subsequent sampling sessions
- Final 2019 report due soon
- Note: No testing being done in 2020 but perhaps next year



3. 'Lake Partners Program' – PLA's Yearly Testing Program

- Peninsula Lake is part of the Lake Partners Program and each year at 'spring turnover', Jim Marshall collects water samples at two places on the lake and sends them to MNRF lab in Dorset.
- Samples are tested for Phosphorus and Calcium and are available for any further tests the MNRF wish to perform.
- Jim does additional testing for us at 2 week intervals from mid July to mid September on the following:
 - Secchi disk reading which tests for clarity
 - 2. Water temperature
 - 3. Bacterial testing for both total coliform and E.coli



3. 'Lake Partners Program' – PLA's Yearly Testing Program

| Classification of Lakes | | | | |
|------------------------------------|--|---------------|---------------|--|
| | BEST | MODERATE | POOR | |
| | (Oligotrophic) | (Mesotrophic) | (Eutrophic) | |
| | Unenriched / | Moderately | High levels | |
| | Few nutrients | Enriched | of nutrients | |
| Clarity Secchi disk reading | over 5 meters | 3 – 4.9 m | less than 2.9 | |
| Phosphorus | less than 10 ug/l | 11-20 ug/l | 21+ ug/l | |
| | 1.2 – 2.5 mg/L is the threshold for sustainability of crustaceans and mollusks. (water fleas, crayfish, clams, | | | |
| Calcium | | | | |
| | snails) | | | |



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| Pen Lake | | |
|-----------|--|--|
| 2019 | | |
| Results | | |
| | | |
| 4.1m | | |
| 10.3 ug/l | | |
| 4.3 mg/l | | |

ICE DAYS 2019 = 130 (December 4 – April 13, 2020)

3. 'Lake Partners Program' – PLA's Yearly Testing Program.

BACTERIAL TESTING

Criteria:

 Bacterial counts considered to present a health risk in recreational waters at the following levels:

Total Coliform: Greater than **1000** cfu / 100 ml of water

E. coli: Greater than **100** cfu / 100 ml of water

Methodology:

• 11 sites are tested around the lake, utilizing appropriate controls, at 2 week intervals. If the testing results in a positive test, the sites are retested 2 days later. If retests are still positive the residents or resort owners are notified.

2019 Results:

Although there were several incidents of E.coli found to be over acceptable limit, only in 1 circumstance did the tests remain positive on retesting and the appropriate people were notified.

Any Questions?

Thank You!

