



Mattatall Lake Stewardship Committee Newsletter

NOVEMBER 2015

Update on Mattatall Lake Algae and Water Conditions, Testing, and Funding News

Water Quality and Lake Conditions

Since early September, the Lake has experienced another algae bloom. This has caused the water to turn green in colour with little depth visibility. At times, prevailing winds have concentrated the algae along shorelines and in shallower water.

Dr. Tri's Research Team collected water samples on Oct. 4th and Oct. 27th. The results of these tests indicate that in almost all cases, the level of nutrients has continued to increase at various depths around the Lake.

The type of algae has also changed to include a variety of species dispersed throughout the water. The presence of some potentially harmful cyanobacteria was also noted.

Although the toxicity tests performed in October indicate that the microcystin levels and anatoxin-a levels have increased from testing done in the summer, the good news is that the levels of these toxins are within established international standards. Washington State has, after years of regulating the use of lakes and rivers for recreational use, developed toxicity guidelines. The recent series of toxicity tests on Mattatall Lake, when

evaluated using Washington State guidelines, are as follows:

Microcystin – 0.6ug/l at Mattatall Lake
(6.0ug/l is the Washington State standard)

Anatoxin-a – less than 10ug/l at
Mattatall Lake
(75ug/l is the recognized Washington State standard)

These will be the last water tests taken in 2015. We have asked Dr. Tri to provide us with a summary and interpretation of his research results.

There have been no reports of any harm to fish or wildlife as a result of the algae presence.

Dr. Tri's Research Study

We owe much gratitude to Dr. Tri and his Research Team from Dalhousie University. They completed, in total, 9 field trips and collected and analyzed 1000 water samples from the Lake, streams and soil of the watershed area.

His study will provide valuable information we would not otherwise have obtained such as changing phosphorous and nitrate levels, algae identification and toxin analysis.

Unfortunately, funding to continue his study has not yet been obtained. We will be supporting his efforts as best we can to find grants and government support for his research.

Funding

As of October 31, we have received contributions from 67 residents amounting to \$14,050. We have also received funds previously committed by Cumberland and Colchester Counties (\$5000 each) and the provincial Department of Environment (\$10,000).

Our expenses have been limited to the purchase of 2 toxicity test kits (\$3300) and application fees related to the pending installation of the sonic disruptors (\$310).

Thus, we have \$30,400 available in 2016 for continued testing, remediation efforts and education.

For the few residents that have not yet contributed their \$200 in 2015, please send a cheque payable to:

Mattatall Lake Community Group
c/o Barb MacKinnon,
90 Smith Avenue,
Truro, Nova Scotia B2N 1C4

Remediation

Nutrient enrichment promotes the growth of algae blooms. The dying off of the green algae 'blobs' (Mougeotia) that were present during the late summer have probably contributed to the increased nutrient levels. In our last newsletter, we included information on Good Shoreline and Water Stewardship Practices that would help reduce sources of nutrients – it's important that we all follow these best practices for eliminating fertilizers, maintaining septic systems and managing yard materials.

The Department of Environment advises that storm water and run off from agricultural and forest harvesting activities provide other sources of nutrients. The Committee is attempting to engage these stakeholders in our remediation efforts – this is especially critical as a large clear cut is planned to the east of the Lake within the watershed area.

Besides these efforts to identify and control the source of nutrients, the Committee has determined that our best option to limit the spread of algae once it appears is to install a series of sonic disruptors in each section of the Lake. The intention of these devices is to disrupt the growth of algae before a significant bloom occurs.

An improved prototype of these disruptors is expected to be available for installation next Spring. The developer and supplier have advised us to await the final production of this improved model – we expect our available funding would enable us to initially purchase 6 of these units. We require approval from the Department of Environment to install these disruptors and have made an application for this. Unfortunately, there is limited experience with this technology in NS.

We are also considering other possible remediation solutions to complement

this approach such as barley straw, bio-bacterial products, and physical removal of certain algae.



Good Shoreline and Water Stewardship Practices

As residents, we all share in the responsibility for achieving and maintaining a healthy Lake. Our human activities have a significant impact on water quality and on nutrient levels that affect algae growth.

At this time of the year, it is important that raked leaves be piled well away from the Lake.

Stewardship Committee

The Committee continues to work on your behalf. We meet nearly monthly and continue to work with Dr. Tri and support his research. We have corresponded with other lake associations that have experienced algae problems (we're not alone) and plan to more formally exchange information and to better engage government resources.

The remediation plans will be the Committee's focus over the winter months with action steps ready to go in the Spring. We'll continue to keep residents advised of these plans and involved in any proposed actions.

By mid-November all of our boats have been hauled up and our wharves have

been stored for the winter. As the weather turns cold and the Lake freezes, we remain optimistic that we will again start next Spring with clear and safe water conditions. The challenge for all of us is to keep it that way.

Stewardship Committee Members:

Bob MacLean, Chair

Blaine Ogden, Vice Chair

Donna Spracklin, Secretary

Barb MacKinnon, Treasurer

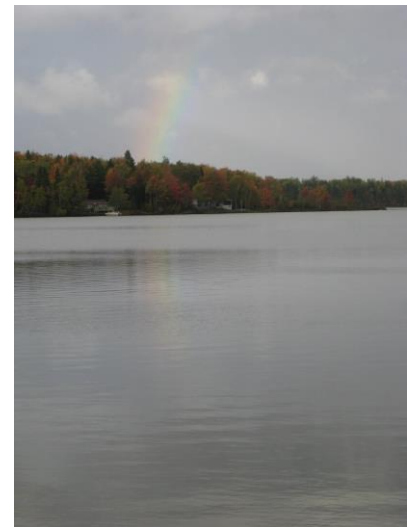
Rodger Sorsdahl, Adjudicator

Wade Parker

Sandy Welsh

Dave Lilly

Rick Parker



Note: Considerable time and effort have been donated by Bob and Blaine to help Dr. Tri's team in collecting samples. They also took the lead in the placement and collection of the buoys. Thanks so much for your continuing assistance.