

**Soil & Water Conservation Society of Metro Halifax (SWCSMH)**

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Ref.: ESSC2012december13.doc (4 pages)  
To: Environment & Sustainability Standing Committee, HRM  
Cc'd Mayor Mike Savage  
Cc'd CAO, Richard Butts  
From: S. M. Mandaville Post-Grad Dip., Professional Lake Manage.  
Chairman and Scientific Director  
Date: December 13, 2012  
Subject: Shortcomings in HRM's handling of lake science, i.e., limnology

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This is being formulated on an informal basis, hence, may have typos/grammar. Please feel free to ask me any questions, and I will endeavour my level best to respond either via emails and/or in person at one of your meetings, if invited to do so.

Detailed Preamble:-

This is primarily on the determination of 'trophic status' of lakes only. There are numerous other aspects, and kindly peruse our detailed submissions to the HRM as well as to its former municipalities, some of which can be accessed via one of our 400 web pages with the URL, <http://lakes.chebucto.org/HRM/SUBMISSIONS/submissions.html>

This letter has Aspect #s 1 and 2, and Appendices, 1 and 2. I am unsure if the Municipal Clerk's office can print the mini colour picture on page-2 though.

As a very recent example of my cooperation, when Councillor David Hendsbee sent an email to one of his constituents regarding Porters Lake on Nov. 12, 2012 and Cc'd me for potential support, I had immediately responded the same day, in some detail. I had also Cc'd that email to your Chair, Councillor Barry Dalrymple.

As another two examples, Appendix-A shows an inquiry on Bissett Lake, Cole Harbour from Dr. Tony Blouin when he was with the HRM's EMS Dept.

Appendix-B is an email that I received from Ms. Renee Roberge PEng of the HRM's EMS Dept. as well on complaints she had received on Settle Lake, Dartmouth.

The inquiries did not emanate from any of our formal members since our members always funnel them to me.

There were numerous other inquiries. I was delighted and proud to cooperate with the HRM. I do not include my responses here since I send very detailed emails which will take several pages to insert here. There are rarely simple (scientific) answers.

ASPECT #1: Basic open water (i.e., pelagic) sampling of the HRM during the years 2006 to 2011 is not totally conclusive, especially for shallow lakes.

Access the URL, <http://lakes.chebucto.org/DATA/protocols.html> to peruse our multiple protocols.

All our protocols were developed in consultation with some of the leading scientists worldwide, but this letter will end up being too laborious to list all of those names (but I can mention them to your committee in person if invited to do so).

They are extensively published scientists. Some of them are indeed members of our international 'Scientific Directors'.

As a significant shortcoming in HRM's and/or its consultants' conclusions, the trophic states determined even in recent reports (October 2012 on the SEMO's website) do not take into account the littoral flora and its often dominating supply of autochthonous organic matter.

'Trophic status' must take those into account, not just the open water phosphorus and *Chlorophylla* values alone.

See the leading peer reviewed research of one of the top three scientists in limnology in the whole world, the late Prof. Dr. Bob Wetzel. His textbooks and handbooks are used worldwide. I can't think of any other scientist who comes even close to him in these aspects of limnology.

I insert from his latest textbook as:--

**“Trophy of a lake refers to the rate at which organic matter is supplied by or to the lake per unit time.”**



Trophy, then, is an expression of the combined effects of organic matter to the lake. As developed originally and as largely used today, the trophic concept (e.g., TP, Cha, SD, and TN) refers to the pelagic-zone-planktonic portion of the lake ecosystem. The littoral flora and its often dominating supply of autochthonous organic matter to the system, was, and usually still is, ignored (*cf.* Bob Wetzel, a world renown stalwart in limnology and a Scientific Director of our group

[deceased not long ago]. See our web page honouring his achievements, <http://lakes.chebucto.org/PEOPLE/wetzel.html>)

ASPECT #2: Consultants' scientific credibility in the specialty of **limnology**:

The reports on the HRM's website do not state who the authors are and what their formal qualifications and/or international citations in scientific journals are.

In the field of sciences atleast, the authors' names are always delineated, and some leading environmental studies in Canada and the USA include 1-3 pages of the authors' credibility in the appendices of their studies, though I admit that it is not often.

A corporate name, no matter how financially successful the corporation is, has little relevance in any research domain.

Appendix-A

Date: Wed, 04 Sep 2002 10:30:30 -0300  
From: Tony Blouin <blouint@region.halifax.ns.ca>  
To: Mandaville  
Subject: Bisset Lake

Shalom - we have received an enquiry from a resident about the state of Bisset Lake in Dartmouth. Apparently this resident has noted increasing amounts of "plant" growth, presumably emergent macrophytes, in the lake this summer. Are you aware of any changes in this lake or the surrounding watershed that could account for this? Is the lake in fact any different this year from historical conditions? It may just be the recent hot weather promoting growth in a shallow lake?

Thanks for any advice you have on this, as I am not personally familiar with the conditions in Bisset.

Tony

Appendix-B

Untitled

Date: Fri, 02 Oct 1998 09:14:24 -0300  
From: Renee Roberge <robergr@REGION.HALIFAX.NS.CA>  
To: blouint@REGION.HALIFAX.NS.CA  
Cc: "S.M. Mandaville"  
Subject: Settle Lake

Tony,

A concern has been raised with the amount of vegetation that has grown in Settle Lake, Dartmouth. I sent a message to Shalom Mandaville yesterday asking him for input on how this concern could be addressed.

Shalom forwarded to me really interesting information and he suggested that you could be involved in the discussions.

I think the best way would be for us to meet, if you are interested. I could explain what the situation is and we could discuss what could be done according to your knowledge and experience with lakes.

I believe that it is not the first time that a concern about vegetation in or along a lake is raised and it will not be the last time.

Could you let me know if you would have time to meet with us. You can pick the time and location.

(Shalom mentioned that you may have several reports that the Soil & Water Conservation Society of Metro Halifax prepared, could I borrow your copies?)

Thank you.

Renée  
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