

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

310-4 Lakefront Road, Dartmouth, NS, Canada B2Y 3C4  
Email: [limnes@chebucto.ns.ca](mailto:limnes@chebucto.ns.ca) Tel: (902) 463-7777  
Master Homepage: <http://lakes.chebucto.org>

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Ref.: lakesauthority2006july12 (2 pages + Appendix-A= total 6 pages)

To: **Mayor Peter Kelly and the Regional Council, HRM**

From: S. M. Mandaville Post-Grad Dip., Professional Lake Manage.  
Chairman and Scientific Director

Date: July 11, 2006

Subject: **Request for a Council resolution to set up a pragmatic  
LAKES AUTHORITY per our proposal of year-2001**

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We had made a 5-minute presentation to the Regional Council on August 21, 2001 pleading HRM set up a civil service **Lakes Authority**. Staff's response of September 19, 2001 to the Regional Council is inserted as Appendix-A here. But there has been no further pragmatic action taken since then.

Numerous studies over the years (including the WRMS) costing millions of dollars, cumulatively, have been futile in this domain!

The primary function of such a Lakes Authority would include, but not limited to, addressing public complaints on a pragmatic level, lake restoration (if needed), and ancillary professional lake management activities.

At present, there is no section or staff person at HRM who perform these functions as problems after problems have been accruing over the years, alas!

The aforesaid functions can be better performed by a civil service agency staffed with **accredited applied limnologists**.

Professional accreditation in applied limnology (i.e., lake management) is available via international peer reviews which verify one's formal education as well as relevant experience in the practical domain!

**As already notified you all Councillors via numerous emails and printed communications over the years, several senior present and former staff of the HRM as well as numerous citizens all across HRM have approached `yours truly' asking for limnological advice, scientific documentations, and synopses. The concern of the citizens is quite genuine, and in most cases unresolved by staff! These are over and above the concerns of our own team and associates.**

Civil service lake management authorities are not any extraordinary idea of ours since some regional municipal units elsewhere in Canada and the USA have been in operation.

We are heartened at the deep interest shown in lakes by several councillors of the present Regional Council. Hence, we feel this is the time to set up a civil service **Lakes Authority** in keeping with the proverbial `striking while the iron is still hot'!

## Appendix-A

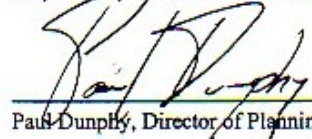


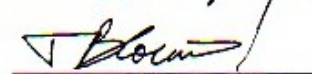
7.

Halifax Regional Council  
October 9, 2001

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY:

  
Paul Dunphy, Director of Planning & Development

  
Tony Blouin, Manager of Environmental Policy

DATE: September 19, 2001

SUBJECT: Lakes Management

### INFORMATION REPORT

#### ORIGIN

Council request for staff report in response to presentation by Mr. Shalom Mandaville to Council, August 21, 2001 (Item 10.3.1), suggesting that HRM hire two staff with appropriate qualifications in lake management.

#### BACKGROUND

Significant issues exist regarding the effects of watershed development on lakes (Appendix A). HRM currently has in progress a consulting study on various aspects of Water Resource Management. The product of this study:

- will be a set of policy recommendations to address a number of identified problems and issues having to do with the management of water resources, and
- the results of this study will help to clarify the role of HRM and identify needs in the areas of policy, implementation, resources and staffing.

### **DISCUSSION**

Staff with expertise in lakes management could presumably have a mandate to implement appropriate policies and procedures to provide protection for lakes, to monitor development activities for compliance, to monitor lake water quality and/or biological aspects to detect changes, and to provide advice to both municipal staff and the development community on appropriate best management practices to protect lakes.

Such a regulatory function would have to operate within the bounds of present legislated authority granted to municipalities by the Province. While the formal legislative mandate for protection of freshwater resources resides with the province, the municipality does have some degree of control over a wide range of activities which impact water quality in lakes. Additional policies which may be implemented following recommendations of the Water Resources Study could provide added authority and new techniques to augment existing mechanisms.

Effective controls on sediment and nutrients during development within a watershed provide the best way to reduce impacts on lakes. The Water Resources Management Study will provide policy recommendations on best management practices which may be used to reduce impacts under various conditions. There is a need for consistent, effective policy within municipal planning strategies, land use bylaws, subdivision bylaws, and technical specifications, which will provide adequate levels of protection. The intent cannot be to prevent any impacts, as this is not practical, but to provide sufficient levels of protection.

The Municipality's roles, responsibilities and authority in the area of lake management will be determined following completion of the Water Resources Management Study. HRM will then be in a position to determine:

- what policies should be implemented;
- what new requirements might result for both HRM staff and the development community; and
- what the level of need for such expertise will be.

### **BUDGET IMPLICATIONS**

None at present. If the Water Resources Management Study recommends additional staff, such a request would go through the usual budget process for approval. At minimum, the two suggested staff positions would require either additional funding within the HRM budget, or (as suggested in the public presentation) substitution for two existing staff positions and functions, which would not be replaced upon retirement.

If a monitoring and sampling function is desired, the cost would depend upon the scope of such a program. Basic sampling equipment, together with a vehicle and boat, would be required. Additional budget would be required for sample analysis at qualified labs, dependant on the number and type of samples to be analyzed.

**FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN**

Initiatives resulting from the Water Resources Study will be identified in subsequent departmental Business Plans as appropriate, possibly including the need for additional staff for lakes management.

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

**ALTERNATIVES**

None at this time.

**ATTACHMENTS**

Appendix A - Lake Management Issues

Additional copies of this report, and information on its status, can be obtained by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Tony Blouin, Manager of Environmental Policy

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Appendix A  
Lake Management Issues

The problem-

In their natural state, lakes with undisturbed drainage basins tend to become gradually enriched over century time-scales with nutrients and organic material carried into the lakes with runoff. This natural process, termed "eutrophication", makes lakes more biologically productive. In an undisturbed state, the productivity of a lake is limited by the nutrients which plants and ultimately the invertebrates and fish require for growth. In most freshwater systems, phosphorus is the most limiting nutrient, and as phosphorus concentrations increase through enrichment, the lake becomes more eutrophic. Water quality changes from very clear to more cloudy due to increased growth of unicellular algae floating in the water column, more growth of aquatic plants occurs in the shallower areas, more organic matter and sediment builds up on the lake bottom, oxygen concentrations in the water may be reduced by decomposition, and fish communities tend to change from those preferring cold, clear waters (trout) to other species more tolerant of enriched conditions.

When human activity disturbs part of a drainage basin or watershed, increased concentrations of sediments and nutrients are carried into the lake both as suspended particles and in solution. This causes an acceleration of the eutrophication process as a result of the human disturbance of soils and organic materials in the watershed, and through increased runoff of nutrients, salt, hydrocarbons, pesticides, wastes and organic material from septic systems, sewers, lawn and paved areas. This is termed "cultural eutrophication" and can occur on a relatively short timescale of years. The result is cloudy water with increased growth of algae and aquatic plants, increased bacterial levels, and a perception of impaired aesthetics - the lake appears dirty or polluted, not as desirable for swimming, there may be fewer game fish, and algal blooms may cause surface scum and bad odour.

Possible solutions-

There are ways to control or limit the eutrophication process, some of which are implemented to some extent in present provincial or municipal legislation. Controls on development which can reduce impacts on lakes include lot grading and vegetation clearing limitations, sedimentation controls, preservation of natural buffer zones around waterbodies and natural wetlands (which provide natural filtering and nutrient absorption), mandatory treatment of stormwater runoff, limitation of the use of artificial fertilizer, and community stewardship in limiting the amounts of organic waste (for example pet wastes) which enter storm sewers or waterbodies.

In order to detect and monitor changes in lake water quality, background sampling should ideally be conducted prior to development activity, for comparison with sampling results obtained during and following development. Biological sampling may also be used to detect changes in physiology of organisms or changes in community structure resulting from development impacts, and lake nutrient modeling can be used to predict likely impacts of future development. Monitoring is also important to ensure adherence with regulatory controls, and to determine the adequacy of controls and methods which were used.

Once a lake has become enriched or "eutrophied", there is relatively little which can be done to effectively restore the lake to an unimpacted state. Reduction or elimination of any sources of nutrients can slow the process, but lakes tend to accumulate nutrients in bottom sediments, which are then recycled back into the water over time, continuing the impacts over longer periods.