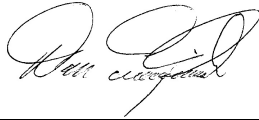


**Item No. 11.1.3**  
**Halifax Regional Council**  
**April 27, 2010**

**TO:** Mayor Kelly and Members of Halifax Regional Council



**SUBMITTED BY:**

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Dan English, Chief Administrative Officer



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Mike Labrecque, Deputy Chief Administrative Officer - Corporate Services  
and Strategy

**DATE:** February 25, 2010

**SUBJECT:** Service Review - Water Quality Sampling

**ORIGIN**

Council recommendation approval August 11, 2009. Moved by Councillor Smith, seconded by Councillor McCluskey that Halifax Regional Council authorize staff to commence review of the following services: Visitor Information Centres; Burial Services - Plot Provision and Interment; Water Quality Sampling; Marketing Services - Publications; and Recreation.

**RECOMMENDATION**

It is recommended that Council maintain the current Budget Commitment for Water Quality Sampling as per the discussion section of this report.

## **EXECUTIVE SUMMARY**

Water Quality Sampling began as a program at HRM in 2002 and was enhanced in 2006 as a result of Council direction. It is a critical program that fits tightly with Council's focus area to "Implement the Regional Plan" and with desired Community Outcomes of a "Clean, Healthy Environment".

Up to this point the program has focussed largely on technical data gathering and now needs to use the data and lessons learned to become a strategically managed program that seeks specific outcomes, efficiencies, analysis and reporting and reaches out to the community to build partnerships and to educate.

With a managed effort the existing budget allotment within SEMO can be optimized to achieve even better Water Quality Sampling service outputs and this is what this service review recommends.

A strategic focus is needed for this service. Increased management will also improve cross coordination of the various efforts being exerted throughout HRM (including at Halifax Water) to monitor water quality and will be essential to maximizing opportunities for efficiency as additional Regional Plan Functional Plans (which relate to Water Quality) are studied and created.

It is also important to note and to manage the progress being made by the Department of the Environment in instituting a Water Management Strategy for the province and to assess the impacts to HRM.

## **BACKGROUND**

On August 11<sup>th</sup>, 2009 Council selected Water Quality Monitoring Services to undergo a Service Review Process. This service was chosen as it is not currently mandated by regulation or legislation and it is still not clear what the municipal implications of the Provincial Water Resources Management Strategy will be. Also, this service has been experiencing some challenges around communication and interpretation of test results. This has resulted in some confusion by the public. A review was recommended to ensure that all water quality testing is integrated, well understood and communicated properly. Water quality monitoring for potable water supplies is mandated by regulation and is mentioned in this report as well.

### **The Regional Plan Chapter 2 - The Environment**

The HRM Regional Plan as approved by Council on June 27, 2006 includes a Chapter entitled Environment (Chapter 2). This chapter discusses the need to undertake environmental protection in a holistic way in order to achieve the key outcomes as described in the Plan which are:

- 1) To protect the natural environment by establishing development practices that are sensitive to water, land and air.
- 2) To foster the development of an integrated system of natural areas, parks, trails and corridors so

as to maintain ecosystem health and preserve HRM citizens' quality of life.

- 3) To support the development of integrated environmental planning practices at the local level.
- 4) To promote the cooperation of other government agencies, private landowners and non-government organizations to achieve good environmental management and planning.

The Open Space Network as discussed in Section 1 of the plan includes nine Land use types of which eight make specific reference to wetlands, watersheds or water resources. There are seven recommendations in this section of the Plan which will support directly or indirectly long term water quality and quantity within HRM boundaries.

Section 2 of this Chapter discusses the Water Resources available within HRM particularly with regard to Potable Water Supplies. Recommendation E-8 requires HRM to establish a Protected Water Supply Zone through the applicable land use by-law in order to protect the public water supply.

Recommendation E-9 requires HRM to establish a Wetlands Schedule through the applicable land use by-law to be used as a reference in determining the presence of wetlands 2000 square meters or greater in area. These areas require environmental assessments prior to any development occurring. It is understood that Wetlands protection falls under provincial legislation.

Recommendations E-10 to E-16 discuss measures needed in order to protect watercourses through the use of riparian buffers, and to consider floodplains and coastal water inundation when approving development applications.

Finally in the Watershed Planning Section of the Environment Chapter of the Regional Plan there are two requirements outlined. **E-17 and E-18**. **E-17** requires HRM to carry out watershed studies as part of a comprehensive secondary planning process. These studies shall determine the carrying capacity of the watersheds to meet the water quality objectives which shall be adopted following the completion of the studies. These studies shall be designed in part to:

- 1) Recommend measures to protect and manage quantity and quality of groundwater resources;
- 2) Recommend water quality objectives for key receiving watercourses in the area;
- 3) Determine the amount of development and maximum inputs that receiving watercourses can assimilate without exceeding the water quality objectives;
- 4) Determine the parameters to be attained or retained to achieve marine water quality objectives;
- 5) Identify sources of contamination within the watershed;
- 6) Identify remedial measures to improve fresh and marine water quality;

- 7) Recommend strategies to adapt HRM's stormwater management guidelines to achieve the water quality objectives;
- 8) Recommend methods to reduce and mitigate loss of permeable surfaces, native plants and soils, groundwater recharge areas and other important environmental functions and create methods to reduce cut and fill and overall grading of development sites;
- 9) Identify appropriate riparian buffers;
- 10) Identify areas that are suitable or not suitable for development
- 11) Recommend potential regulatory controls or management strategies to achieve water objectives;
- 12) Recommend a monitoring plan to assess if the specific water quality objectives for the watershed are being met.

HRM has a number of watershed studies already completed since the approval of the Regional Plan, including Musquodoboit Harbour, Shubenacadie Lakes/Fall River and Hubbards. HRM is about to begin studies in Tantallon and in Lake Echo/Porter's Lake areas. These areas are relatively undeveloped in comparison to the urban centre. In working with the community to establish a vision of their future community, it is important to have at hand several years of water quality sampling data on the applicable watercourses in order to be able to predict an impact from the proposed development. The Water Quality Sampling program should therefore be instructed by anticipated development in these watershed areas.

It is important to note that some 100,000 citizens rely on well water for their water supply and so ensuring the continued health of the groundwater and watersheds which serve these citizens is critical. Yet, HRM has no jurisdiction over these groundwater supplies. Necessarily, HRM should work in concert with the Province to ensure our joint citizens are well served.

The Dillon report which informed and guided the Regional Plan to some degree recommended that watershed studies be conducted on **sensitive** watersheds within HRM boundaries. To date the watershed studies conducted have been initiated more from community demand than from HRM leading a process of identification of sensitive watersheds.

Overall, however, the Regional Planning Strategy is intended to allocate the lion's share of growth to HRM's urban and suburban watersheds that have been heavily impacted. In those areas HRM will be relying primarily on stormwater management practices to minimize further impact on receiving waters and need the water quality monitoring program to help assess how HRM's management strategies are working. In the rural areas, Regional and Community Planning has developed a plan and schedule for undertaking watershed studies based on pressures for growth and environmental sensitivity. These are the areas where HRM may prevent water quality decline through growth controls and have thus decided to allocate the limited funds for studies to these areas

The baseline data that would be collected from these studies would **not** be useful if taken only one year in advance of development as the data can be extremely misleading in any one year. Multiple years of data are what the scientific community would deem **baseline**. As well, defensible and appropriate community water quality objectives cannot be established without first understanding the existing environment and whether those objectives would be considered reasonably attainable.

Within the urban centre watershed studies are not as relevant as the level of development is such that studies are potentially too late, as once a lake is impacted it is virtually impossible to go backwards. However, it is critical that HRM be aware of stormwater runoff impacts of development on urban centre watercourses and that this data be usable to predict impacts as well as to detect impacts and move to prevent further impacts.

Chapter 2 concludes with a list of requirements to create Functional Plans. These are:

- 1) Water Quality Monitoring Functional Plan (**Recommendation E-18**)
- 2) Open Space Functional Plan
- 3) Urban Forest Functional Plan
- 4) Potential Hazards to Development Functional Plan
- 5) Emissions Reduction Functional Plan

**The Water Quality Monitoring Functional Plan is meant to:**

- 1) meet body contact recreation standards for our lakes, waterways and coastal waters and;
- 2) stem the decline of lakes from eutrophication and sedimentation and other urban runoff inputs by managing development on a watershed basis.

The RP specifically directs that the WQM Functional Plan should consider:

- 1) specifying the duration of monitoring for the pre-construction, construction and post-construction phases of development;
- 2) specifying the physical and chemical water quality indicators to be measured, the location and frequency of testing and the format of submissions to the Municipality in each phase of development;
- 3) assessing lake water quality against the water quality objectives established under Policy E-17 (watershed carrying capacity studies) to detect changes such as eutrophication, which would be used as a basis for re-evaluating watershed management controls and future development potential within the area;

4) conforming with all water quality policies, specifications, protocols and review and approval procedures approved by Regional Council; and

5) establishing an on-going monitoring program for selected lakes and rivers to determine the state of water resources and to detect changes over time.

In May 2009 HRM accepted a report from the consulting firm Stantec recommending the form of a Water Quality Monitoring Functional Plan. This plan will be presented to council in the near future. It may result in a decision to increase the Water Quality Sampling service, however, currently staff feel it is not timely to recommend an increase without benefit of the recommendations contained herein.

There has been a history of water sampling for HRM supervised beaches conducted by the NS Department of the Environment which just recently was halted by the Department. (Last season conducted by NSE was summer 2008) There has also been a history of HRM conducting water sampling under a Lakes Quality Sampling Program and a Baseline Lake Sampling Program.

On April 22, 2008 council approved a staff plan to issue public advisories for any lakes (other than supervised lakes) detected with faecal coliform values above the acceptable limit of 400/100 ml, and resample the lake after three months during the next scheduled sampling period. Then withdraw the advisory if the lake has returned to below 400, or reaffirm the advisory if it remains above 400.

This practice of public notification was subsequently directed by Council to be halted on July 7, 2009 due to issues of citizen confusion concerning water quality for swimming in lakes not supervised by HRM staff.

The requirement for a Water Quality Monitoring Functional Plan has been the impetus for the Water Quality Sampling Program being undertaken by SEMO. The program began in 2006 as approved by council even prior to its endorsement in the Regional Plan.

Initially 53 lakes were selected. Subsequently, 17 lakes were added to the program for purposes of efficiency as these watercourses had been monitored for bacteria since 2002 by Environmental Engineering Services of HRM as a way to assess infrastructure impacts.

### **The Regional Plan Chapter 7 - Water, Wastewater, Utilities and Solid Waste**

The HRM Regional Plan also includes Chapter 7 entitled Water, Wastewater, Utilities and Solid Waste. It discusses issues around water distribution and wastewater systems within an Urban Service Area. This chapter requires HRM to prepare Wastewater Management Functional Plans on a sewershed basis. Recommendation SU-4 states: "HRM **may** monitor the amount of wastewater generated and discharged.....to determine whether the capacity of any system is at risk of being exceeded." CCME guidelines will prevent HW from exceeding overflow frequency and duration levels that currently exist so as to prevent impact to receiving waters. Necessarily some level of

water quality monitoring will need to occur in order to react should such an event happen.

This chapter also requires HRM to prepare a Stormwater Management Functional Plan in consultation with the Province. HRM acknowledges that although the Province has primary responsibility for protecting water resources, HRM plays a role in this effort through application of engineering regulations (HW and/or HRM) which outlines standards for storm water management systems which are then applied to subdivision applications and building permits submitted for approval. Recommendation SU-28 requires HRM to prepare a Stormwater Management Functional Plan which will instruct amendments to the engineering regulations where appropriate.

This chapter specifically discusses Rural Services issues as well. Although the RP is meant to encourage development within areas serviced by existing wastewater and water distribution systems, it is acknowledged that there are some existing developments serviced with water distribution systems and on-site sewage disposal systems. Recommendation SU-20 states HRM shall investigate a means to ensure on-site sewage disposal systems are properly maintained, perhaps by establishing a by law and requiring a fee for monitoring.

With regard to Private wells, Recommendation SU-21 requires HRM to request the Province to amend the Halifax Charter to give HRM the authority to require hydrogeological assessment for lots serviced with wells as a condition for granting as-of-right subdivision approval. With some 100,000 citizens relying on private wells for their potable water supply, ensuring the sources of water for that supply is safe, is of paramount importance to HRM.

NS Dept of Environment is developing a Water Resources Management Strategy partly in response to the Council of the Ministers of the Environment (CCME) issuing its *Canada-wide Framework for Water Quality Monitoring* in 2006. This Strategy will be issued for consultation with municipalities early in 2010 with an anticipated plan for the strategy to go into regulation sometime in 2010. It is anticipated that there may be some impacts HRM should consider before finalizing the Functional Plans that relate to water resources.

The Province is particularly concerned about coastal waters. Given that Nova Scotia has an abundance of ocean exposed land it is logical that the province would take a lead in this particular area. Recent news reports indicate the province will be seeking a degree of consistency in approach to land use by-laws among municipalities. This **may** affect the functional plans and their emphasis in the coming months and years.

The Acting Manager of SEMO has applied for and has been approved to be a member of the Municipal/Provincial Joint Advisory Group on Water and Wastewater Committee. This consultation group is representing the Association of Municipal Administrators in the development of the water resource strategy by the province. Key to the outcomes of HRM participation is the need to ensure that where the province imposes a higher standard for water quality, the province also provides for a funding mechanism to pay for any additional costs which may arise at the municipal level.

**DISCUSSION**

**Service Owner**

The Service Owner for this service is primarily HRM’s Sustainable Environment Management Office reporting to the Director of IAM. This report is co-written by this office and the Service Review staff lead within BPIM.

**Stakeholder Identification**

Citizens	Regional Council
Recreation Services-Aquatic Program	Watershed Advisory Boards
Resident Associations	Watershed Citizen Groups
Developers	Halifax Water
IAM-Real Property Planning staff	Provincial Department of Environment
Legal Services-Risk Management staff	Community Development staff
Water Quality Monitoring Functional Plan Review Committee	

**Stakeholder Consultation**

Fifteen interviews and consultation meetings encompassing about 45 hours of staff time were held with twenty one staff of HW, HRM and with the province. A follow up interview to discuss the Water Quality Monitoring Functional plan report of May 2009 was held with Stantec. This report included a section where consultation was conducted with:

- Watershed Advisory Boards
- Private sector development community
- Community Development staff

The feedback in that report was considered in the writing of this report.

**Data Report**

The table below describes the **Annual** Water Quality Sampling activities currently being undertaken on behalf of HRM taxpayers and HW ratepayers.

Program	Locations	Frequency	# of Samples	Operating \$	Capital \$
Beaches	22	10 Weeks July 1-Sept 1	220	\$4,100	\$0
Development specific	4	Varies		Paid by developer	
Long term baseline*	4	3 X per year	12*		



Downstream of HW infrastructure*	24	3 X per year	72*		
Development pressure*	21	3 X per year	63*		
Public Interest*	11	3 X per year	33*		
<b>Total*</b>			<b>180*</b>	\$75,000	\$5,000
Halifax Harbour**	35	Bi weekly	about 910	\$250,000	
HW ***- WTP, Water Distribution and WWTP's	>66	Various some daily up to quarterly	approx 10,000	about \$700,000	

\* Halifax Water cost shares 27% of the annual laboratory analytical operating expense for these programs. Approximately 35-50 parameters are tested.

\*\* Currently suspended but will be reinstated upon full functioning of the Harbour WWTP's

\*\*\* Mandated by provincial regulation and permits (Both Harbour and HW programs are funded by the Water Rate Payer)

Direct Costs of Service:

Lab analysis fees	\$70,000
Vehicle expenses	4,000
Supplies	<u>1,000</u>
	<u>\$75,000</u>

Indirect Costs of Service:

Environmental Performance Officer (300 hours)	\$ 9,000
Administrative Assistant (270 hours)	5,200
Manager (180)	<u>7,400</u>
	<u>\$21,600</u>

**Full Annual Costs of Service** **\$96,600**

Tests are conducted by certified laboratories and results posted within 1 month of sampling effort completion. Supervised beach testing is posted weekly. Breaches of water quality standards are reported to responsible authorities within 24 hours of results notification from the laboratories.

There is approximately \$5,000 invested in equipment to conduct the program.

Performance measures are not fully developed and their creation is a recommendation herein.

## **Stakeholder/Client Consultation results**

### **Staff:**

There needs to be coordination and cross consultation between the various areas conducting water quality sampling and monitoring. Some degree of consistency in how development specific WQS is undertaken would be good however each development is unique and needs to be considered as such in undertaking impact analysis and testing of water quality.

Existing development which is impacting water quality is very difficult to reverse and no funds or legal authority exists to undertake mitigative action, to impose fines or enforce actions at the municipal level.

### **Watershed Advisory Boards:**

Consistent funding for water quality sampling needs to be secured. The boards felt the program should be increased significantly. Sampling needs to be scientific. Improved communication and coordination of various WQS initiatives happening at HRM among HRM staff and the Advisory Boards would be beneficial.

### **Private Sector Developers:**

Clearly defined roles and responsibilities (HRM staff, WAB's, Province and developers) are essential. Integrated management of the watershed is needed. Use good science and management approach to WQS programs. Development companies will pay for certainty.

### **Legal-Risk Management:**

By identifying HRM owned beaches by specific signage that indicates this is an HRM beach an expectation that the beach is safe for swimming and other body contact recreation is created.

## **Recommended Approach**

An overarching theme of the staff recommendations on Water Quality Sampling is to continue to

transition from a solely technically scientific focus to a management / strategic focus enabling enhanced engagement of stakeholders and utilization of all resources.

### Coordination of Effort

Coordination of water sampling activity and cross consultation between stakeholders to achieve desired joint objectives has been lacking since the departure of the staff person who was originally part of the Environmental Performance effort of IAM and the move of the Environmental Services section to Halifax Water effective August 2007. The following recommendations relate to a requirement to update the plan and manage the outcomes of the sampling and require no additional resources:

- 1) HRM continue to conduct Water Quality Sampling for body contact criteria at supervised beaches but to coordinate the collection, analysis of results and communication to the public through the SEMO office.
- 2) HRM continue to conduct baseline water quality sampling but to do so in areas deemed potentially developable as well as in areas deemed sensitive.
- 3) HRM continue to monitor vulnerable lakes within the Urban Service Areas. (Within Water and Sewer Service boundaries).
- 4) HRM continue to monitor development specific activity impacts to watercourses. Existing development agreements approaches will be maintained. Future development agreement monitoring will be conducted by qualified persons having regard to internal staff capacity and will be customized to the specifics of the development as determined by Planning and Development staff in consultation with the SEMO office, staff of IAM-Real Property Planning, staff of HW and the Watershed Advisory Boards or the applicable standing committee as approved by council through the current Committees of Council Reform review.
- 5) HRM delay any enhancements to the Water Quality Sampling program until the Province of NS has completed its Water Resources Management Strategy.
- 6) HRM update the Dillon report action plan last published in 2008.
- 7) SEMO revisit the cost share percentage for water quality sampling with HW.
- 8) HRM begin a formal process of developing partnerships with key interested groups within HRM eg Universities, NSCC, BIO, Volunteer associations.
- 9) HRM begin to enhance the existing water specific education program to include more emphasis on demand side management ie reduced usage of water.

10) HRM staff begin a process of analysis of data collected to date and create a report of results.

11) HRM create a database of information that can be used to gather information from various partners as well as HRM's own data.

12) HRM create water quality objectives, indicators, measurable parameters and targets for each area of significance to HRM.

### Communication and Expectations

13) Signage at publicly supervised beaches needs to be explicit as to the parameters for responsibility that HRM will undertake versus the responsibility of the recreational swimmer with regard to water body contact safety within a specified area. Health Canada in recent pronouncements has been clear that beach providers are responsible for water quality monitoring for body contact safety.

14) At beaches that are not supervised but owned by HRM and at all beaches within HRM boundaries no signage should be in place to create an expectation of assurance of safety by HRM for water body contact safety.

15) Guidelines, policies and procedures around expectations for WQS at supervised beaches should be reviewed and enhanced to ensure the public is optimally served.

### Governance

16) Governance of the Water Strategy outside HRM needs to be examined so as to leverage all of the potentialities of activities taking place which impact HRM water resources. Governance within and outside of HRM would involve a close consultation with any newly created standing committee of council once that structure is approved.

17) Governance within HRM can be accomplished through a focused working group chaired by the manager of SEMO which would meet quarterly to review progress of water resource action plan initiatives and update information that crosses HRM and HW boundaries.

18) HRM ensure the functional integration of the Water Resource related Functional Plans (including the pending Water Quality Monitoring and Stormwater Management Functional Plans) required under the RP and only make changes to the Water Quality Sampling Program after considering the cross cutting efficiencies that can be gained by inter-relation of those plans.

19) HRM update the criteria of selection for sampled lakes, revisit the locations of samples and update the location choices, frequency and type of testing as appropriate based on results of analysis of the data and updated water quality objectives. Sample selection should be reviewed annually with stakeholders.

## Analysis of Recommended Approach

### Priority Alignment

The Water Quality sampling program contributes to community outcome areas and goals:

#### A Safe and Welcoming Community

- 1) compliance with public safety and community regulations
- 2) increase the safety of HRM owned assets
- 3) make HRM a clean and attractive city

#### Diverse Recreation, Leisure and Cultural Choices

- 4) provide opportunities for recreational activities

#### Well Planned and Engaged Communities

- 5) Smart growth is achieved through implementation of the Regional Plan

A Clean, Healthy Environment **This outcome area is directly related to the water quality sampling program however water quality (other than potable water under the jurisdiction of HW) is not a mandate of HRM.**

- 6) Ensure clean rivers, lakes and harbour

The Water Quality Sampling Program contributes to **Council Focus Areas:**

**7) Ongoing implementation of the Regional Plan: Direct link to water quality sampling as well as the requirement for a Water Quality Monitoring Functional Plan.**

- 8) Infrastructure: Protect and promote natural assets, view and water access.

### Stakeholder/Client impact

Current service standards provided by the program only partially meet the requirements established in the Regional Plan. The Water Quality Monitoring Functional Plan currently under review by staff is designed to address the needs of E-18 of the Regional Plan and is recommending an increase to service.

Any decrease in service may impact the long term health of HRM watercourses and will not meet the objectives for water quality as outlined in the Regional Plan.

### **Financial plan**

Implementation of a Water Quality Monitoring Functional Plan will not necessarily require an increase to budget. Although the report presented by Stantec includes recommendations to increase water quality sampling to a total of 132 locations and to include a parameter of testing not previously contemplated resulting in a projected budget requirement of almost \$400,000, there are other options in the report that indicate an acceptable level of service and spending is within the existing budget for the program.

### **BUDGET IMPLICATIONS**

The current 2009/10 budget for Cost Centre D947 called Environmental Water Quality administered within the Sustainable Environmental Management Section is \$252,100. This cost centre is misnamed as other programs are funded from this budget besides the WQS program. For example, this cost centre includes the new Environmental Performance Officer, Corporate Due Diligence that will be responsible for Environmental Assessments on HRM infrastructure, Climate Change Risk Management Strategy and Environmental Due Diligence efforts. Plans of Finance and SEMO are to combine currently separated Cost Centres into one:

- D935 SEMO Administration
- D940 SEMO Programs
- D945 SEMO Projects
- D947 Environmental Water Quality

As per the Discussion Section of the Report, the full cost for Water Quality Sampling is currently \$96,600.

Sustainable Environment Management Office will find additional funding for the recommendations outlined in this report within its' existing budget envelopes, potentially finding funding from:

- D945 SEMO Projects
- D940, SEMO Programs: Potentially with the transition of Pesticide Education and Enforcement to a Provincial Service some budget capacity will be realized
- Q127 Sustainable Communities Reserve
- D947 Environmental Water Quality: Potentially by managing the selection of sampling on an annual basis, budget capacity will be realized to fund some of the smaller recommendations

SEMO will absorb the cost of the beach program from Recreation Services while still utilizing their area supervisory staff to collect the samples.

## FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

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

### **Option 1: Eliminate Water Quality Sampling Program (but maintain Aquatic and Beach Program)**

#### **Analysis**

##### **Priority Alignment**

##### A Safe and Welcoming Community

- 1) compliance with public safety and community regulations
- 2) increase the safety of HRM owned assets
- 3) make HRM a clean and attractive city

##### Diverse Recreation, Leisure and Cultural Choices

- 4) provide opportunities for recreational activities

##### **Stakeholder/Client impact**

Will meet the regulated need to ensure body contact safety as per Health Canada regulations but will not meet most water quality objectives of the Regional Plan.

##### **Financial plan**

Savings will be approximately \$75,000 per year (the Direct Costs of the WQS program)

### **Option 2: Increase Water Quality Sampling Program to include an additional 60 lakes and 4 Rivers plus add Benthic sampling to the program.**

#### **Analysis**

**Priority Alignment-All of the areas identified in the recommended approach except to a greater degree**

##### A Safe and Welcoming Community

- 1) compliance with public safety and community regulations
- 2) increase the safety of HRM owned assets
- 3) make HRM a clean and attractive city

Diverse Recreation, Leisure and Cultural Choices

- 4) provide opportunities for recreational activities

Well Planned and Engaged Communities

- 5) Smart growth is achieved through implementation of the Regional Plan
- 6) Residents feel more engaged in community leadership, planning and development

A Clean, Healthy Environment

**This outcome area is directly related to the water quality sampling program however water quality (other than potable water under the jurisdiction of HW) is not a mandate of HRM.**

- 7) Ensure clean rivers, lakes and harbour

The Water Quality Sampling Program contributes to **Council Focus Areas:**

**8) Ongoing implementation of the Regional Plan: Direct link to water quality sampling as well as the requirement for a Water Quality Monitoring Functional Plan.**

- 9) Infrastructure: Protect and promote natural assets, view and water access.

**Stakeholder/Client impact**

This enhanced level of program is supported by the Watershed Advisory Boards and by the consultant themselves (Stantec). HRM and HW staff also support this level of programming but feel that benthic sampling, although beneficial, is not required. While staff feel there may be a benefit to this increased level of service it is not recommended to expand the program at this time. The decision should not be made until the functional plans, provincial water strategy are completed.

**Financial plan**

An additional \$395,000 per annum would be needed to provide this level of service.



## ATTACHMENTS

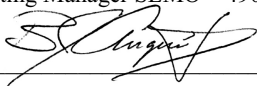
A: List of current HRM Water Quality Sampling Sites and Reason for inclusion in Program

B: List of Supervised Beaches monitored for Body Contact suitability under Aquatic Program

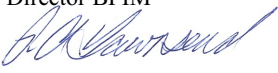
A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

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Brad Anguish, Director BPIM

Report Approved by:

  
\_\_\_\_\_  
Phillip Townsend, Director IAM

**Appendix A**

**HRM Water Quality Monitoring Program  
Rationale for Watercourse Selection**

<b>Sample Site</b>	<b>Monitoring Objective</b>
Albro Lake	Formal Recreational Use
Barrett Lake	Public access, development pressure
Bell Lake	Recreational use - boat club
Beaverbank Lake	Development Agreement only (not part of HRM's regular WQM program)
Bissett Lake	Urban lake - public access
Black Duck Pond	(Original Reason), Downstream of HRM Infrastructures
Black Point Lake	Public Interest
Chocolate Lake	Public Interest, Recreational use- public beach
Cranberry Lake	Urban lake - public access
De Said Lake	Downstream of HRM Infrastructures
Dents Bowl Punch	Downstream of HRM Infrastructures
Drain Lake	Downstream of private sewage plant
Duck Lake	(Original Reason), Downstream of HRM Infrastructures, also downstream of private (trailer park) sewage plant
Fenerty Lake	Unimpacted
First Chain Lake	Downstream of HRM Infrastructures and Back up water supply
First Lake	Formal Recreational Use, Public beach
Fletchers Lake	Downstream of municipal sewage plant
Frenchman Lake	Downstream of HRM Infrastructures, Assess impacts of Burnside development
Frog Pond	Downstream of HRM Infrastructures
Governor Lake	Downstream of pumping station, recreational use
Grand Lake (Shubenacadie)	Recreational use
Half Mile Lake	Downstream of HRM Infrastructures
Hubley Big Lake	Public Interest
Kearney Lake	Recreational use (beach, boat club), development pressure
Kidston Lake	Downstream of HRM Infrastructures
Kinsac Lake	Development pressure
Lake Banook	Recreational use (beach, boat club), development pressure
Lake Charles	Recreational use, development impacts
Lake Echo	Relatively unimpacted
Lake Micmac	Recreational use, development impacts

Sample Site	Monitoring Objective
Lake Thomas - North	Downstream of private sewage plant
Lake Thomas - South	Recreational use, development impacts
Lake William	Recreational use (beach), downstream of municipal sewage plant
Lisle Lake	Public access, development pressure
Little Albro Lake	Urban development pressure
Long Lake	Public Interest
Long Pond	Downstream of HRM Infrastructures
Loon Lake	Downstream of HRM Infrastructures
Lovett Lake	Downstream of HRM Infrastructures
Maynard Lake	Urban development, public access
McCabe Lake	Development pressure
McIntosh Run (Mouth)	Downstream of HRM infrastructure
McIntosh Run at Roachs Pond	Downstream of HRM Infrastructure
Moody Lake	Downstream of HRM Infrastructure
Morris Lake (Both S & N basins)	Development Pressure Within Watersheds
Nine Mile River at Highway 103	Downstream of municipal sewage plant
Nine Mile River at Mouth (Shad Bay)	Assess watershed impacts
Oathill Lake	Urban lake - public access
Papermill Lake	Public access, development pressure
Penhorn Lake	Public beach
Porters Lake (Upper)	Relatively unimpacted
Powder Mill Lake	Development pressure
Ragged Lake	Development pressure
Red Bridge Pond	Downstream of HRM Infrastructures
Rocky Lake	Commercial development, park access
Russell Lake	Development Pressure Within Watersheds
Sackville River at Highway 102	Urban impacts
Sackville River at Mouth (Fish Hatchery Park)	Urban impacts
Sandy Lake (Bedford)	Public interest
Sandy Lake (Glen Arbour)	Development pressure

Sample Site	Monitoring Objective
Second Lake	Public Interest
Settle Lake	Urban lake - public access
Sheldrake Lake	Public Interest
Smelt Brook	Development pressure
Springfield Lake	Public access, development pressure
Stillwater Lake	Relatively unimpacted
The Mill Pond (Three Mile Pond)	Downstream of HRM Infrastructures
Third Lake	Development pressure
Tucker Lake	Public access, development pressure
Whimsical Lake	Public access, development pressure
Whynder (Winder) Lake	Downstream of HRM Infrastructure
Williams Lake	Public Interest, Public access, development pressure
<b>Selection Criteria</b> (non-ranked order)	Development Pressure Within Watersheds
	Downstream of HRM Infrastructures
	Formal Recreational Use
	Heavily Impacted (Urban)
	Public Interest
	Unimpacted- Used to create a baseline of condition prior to development

**APPENDIX B**

**HRM SUPERVISED BEACHES MONITORED**

Birch Cove  
Penhorn Lake Park  
Shubie Park  
Albro Lake Park  
Kearney Lake  
Cunard Park  
Kidston Lake Park  
Long Pond  
Springfield Lake Park  
Kinsmen Park  
Sandy Lake  
Scott Saunders Memorial Park (Papermill Lake)  
Siverside  
Webbers  
Malay Falls  
Oakfield Provincial Park  
Black Rock  
Dingle  
Kinnap  
Pleasant  
Government's Wharf (Eastern Shore)  
Lake Echo  
Chocolate Lake  
Campbell Point-Prospect