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Item No. 12.1.1
Environment and Sustainability Standing Committee
August 3, 2017

TO: Chair and Members of Environment and Sustainability Standing Committee

Original signed

SUBMITTED BY:

Bob Bjerke, Director and Chief Planner, Planning and Development

DATE: June 2, 2017

SUBJECT: Reinstating Lake Monitoring and Sampling Program

INFORMATION REPORT

ORIGIN

Motion of Halifax Regional Council, November 8, 2016, agenda item 14.6.2: That Halifax Regional Council request a staff report to consider the reinstating of the former lake monitoring and sampling program, undertaken by both HEMDCC and HRC.

LEGISLATIVE AUTHORITY

Section 227 of the *Halifax Regional Municipality Charter* provides that “The Council may adopt a municipal planning strategy for all, or part of the Municipality ...”

Clause 229(1)(c) of the *Halifax Regional Municipality Charter* provides that “A municipal planning strategy may include statements of policy with respect to the protection, use and development of lands within the Municipality, including the identification, protection, use and development of lands subject to flooding, steep slopes, lands susceptible to subsidence, erosion or other geological hazards, swamps, marshes or other environmentally sensitive areas;”

Policy E-24 of the *Regional Municipality Planning Strategy* provides that “HRM may consider preparing a water quality monitoring protocol to provide guidance for water quality monitoring plans accepted by HRM under clause (n) of policy E-23 and any other monitoring programs to be undertaken for HRM by landowners.”

Subclause 79(1)(av)(iii) of the *Halifax Regional Municipality Charter* provides that “The Council may expend money required by the Municipality for ... all other expenditures ... incurred in the due execution of the duties, powers and responsibilities by law vested in, or imposed upon, the Municipality, the Mayor, Council or officers.”

BACKGROUND

The HRM Water Resources Management Study (2003) recommended that the Municipality establish a water quality monitoring program. The full recommendation (# 9-2) is as follows:

“It is recommended that HRM undertake a water quality monitoring program in the order of 50 to 70 sites per year, 3-4 times per year for 4 physical chemical parameters and occasional more complex analyses including bioindicators. In addition to this HRM will undertake lake-based or watershed based studies to establish community based water quality objectives, targets and monitoring parameters and to establish comprehensive development criteria. These studies will be phased over time and be implemented based on need and when funding is available.”

The study indicated that the intent of the recommendation is “to develop a history of water quality data for all of the key areas of issue/concern in HRM. This data will be used for a moderate indication of human health, a basis for responding (sic) the concerns/complaints, to assist in remediation, and to assist in evaluating the effectiveness of infrastructure.” Based on this recommendation, staff of the (former) Environmental Management Services department initiated a monitoring program in 2006. Monitoring occurred twice in 2006 and was conducted once each of three seasons (spring, summer, and fall) from 2007 through 2011. This program was eliminated in the Municipality’s 2012/13 budget.

The ongoing monitoring of water quality at municipally owned and operated beaches in July and August each year is a separate program from that described above. This monitoring program was initially conducted by the Nova Scotia Department of the Environment as a service to the Municipality. That arrangement concluded after summer 2008 and the Municipality initiated its own beach water quality monitoring operations in summer 2009. The program continues today through collaboration between the Departments of Planning and Development and Parks and Recreation.

A memo was tabled at the March 27, 2007 Regional Council meeting. This report can be found through the following link: <http://www.halifax.ca/council/agendasc/documents/070327cai6.pdf>

DISCUSSION

Staff has initiated a broad review of watershed planning and water quality monitoring activities as directed by the Regional Plan to increase the effectiveness of watershed planning functions and water quality monitoring efforts, and to clarify water quality program outcomes. This review forms part of the Planning and Development Department’s approved 2017/18 business plan and will align closely with Regional Plan efforts currently underway including the Halifax Green Network Plan.

The review will consider the origin and limitations of the former monitoring program, identify and prioritize risks to water quality, incorporate observations and lessons learned from water quality monitoring activities being undertaken through development agreements, and put forward an updated water quality monitoring program that is more integrated with regional and sub-regional watershed planning objectives and outcomes. Addressing potential reinstatement of HRM’s former lake monitoring and sampling program under the broader watershed planning and water quality monitoring review will ensure that programming supports evidence-based decision-making, with clear objectives and predictable outcomes reflecting our high priority concerns. This review builds on the foundation of the former monitoring program and will provide more value to the Municipality than reinstating the former water quality monitoring program without considering new information.

The review will:

- Document objectives for a water quality monitoring program;
- Assess the former monitoring program and current monitoring activities for success and failures, gap identification, efficiency and effectiveness, and cost/benefit;
- Develop a recommended municipal water quality monitoring program;

- Characterize watershed management in the Municipality, including governance, administration, projects, activities, reports, and key issues;
- Develop recommendations to improve the land use planning program, including watershed studies; and
- Consider options for how the Municipality may respond where undesirable conditions are detected in lakes and rivers within the county.

The watershed planning and water quality monitoring review will consider and draw from multiple studies and recommendations to develop the recommended water quality monitoring strategy. The following resources at a minimum will be considered:

- Water Resources Management Report (2003);
- Water Quality Sampling Service Review (2010);
- Water Quality Monitoring Functional Plan – Final Report (2010);
- Regional Municipal Planning Strategy (2014);
- Nova Scotia Watershed Assessment Atlas (2014);
- Results of Bedford West water quality assessment process (ongoing);
- Water quality monitoring recommendations from each of 10 complete HRM watershed studies (2007 – 2014);
- Relevant guidelines and frameworks from the Canadian Council of Ministers of the Environment, such as:
 - A Canada-wide Framework for Water Quality Monitoring (2006)
 - Guidance Manual for Optimizing Water Quality Monitoring Program Design (2015)
 - Selected Tools to Evaluate Water Monitoring Networks for Climate Change Adaptation (2011)

The review will result in a watershed management and water quality framework that integrates the previous studies and plans into a program with defined planning and implementation outcomes. The review will also consider any recommendations received since the former water quality monitoring program was initiated and conditions that have changed since that time. This includes consideration of monitoring requirements for land use and developments which were not addressed in the former program.

The scope of work for the 2017/18 fiscal work is to conduct and complete the water quality monitoring review with program recommendations expected for Council's consideration later this year. The broader watershed management review will be initiated this year and completed in 2018/19. It will align with the completion of coastal flood vulnerability mapping which will be conducted following this year's LiDAR data collection. Inland watershed mapping and full watershed management program directions, to be completed in 2018/19, will align with and inform the next Regional Plan Review.

A supplementary report will be presented to the Environment and Sustainability Standing Committee with recommendations for a revised water quality monitoring program upon the completion of the review.

