



**REGIONAL WATERSHEDS ADVISORY BOARD
MINUTES
August 12, 2015**

PRESENT: Mr. Allan Billard, Chair
Ms. Meredith Clayton
Mr. Pierre Clement
Ms. Darlene Fenton
Mr. Peter Lund
Mr. Tom Mills
Mr. Walter Regan, Vice Chair
Ms. Kelly Schnare
Dr. Barry Thomas

REGRETS: Dr. Iain Taylor

STAFF: Mr. Cameron Deacoff, Environmental Performance Officer
Mr. Andrew Reid, Legislative Assistant
Ms. Cailin MacDonald, Legislative Support

The following does not represent a verbatim record of the proceedings of this meeting.

The agenda, supporting documents, and information items circulated to the Regional Watersheds Advisory Board are available online: <http://www.halifax.ca/boardscom/150812rwab-agenda.php>

The meeting was called to order at 5:00 p.m. and adjourned at 7:00 p.m.

1. CALL TO ORDER

Mr. Billard called the meeting to order at 5:00 p.m. in the Helen Creighton Room, 2nd floor, Alderney Public Library, 60 Alderney Drive, Dartmouth.

Mr. Billard welcomed new Board members, Ms. Meredith Clayton and Ms. Kelly Schnare. The Board proceeded to conduct roundtable introductions.

Mr. Billard then announced his resignation from the Board, given a possible conflict of interest with a new employment position he acquired, and he proceeded to pass the meeting on to the Vice-Chair, Mr. Regan and departed the meeting immediately.

2. APPROVAL OF MINUTES

MOVED by Mr. Lund seconded by Mr. Mills

THAT the minutes of June 10, 2015 be approved as circulated.

MOTION PUT AND PASSED.

3. APPROVAL OF THE ORDER OF BUSINESS AND APPROVAL OF ADDITIONS AND DELETIONS

Ms. Schnare shared that she would like to discuss the reinstatement of the water caucus. Mr. Regan agreed that is an important subject and Mr. Reid explained that agenda items for RWAB are assigned by the Environment & Sustainability Standing Committee (ESSC). It was advised that Ms. Schnare prepare a written letter for the Board to review which will then be sent to the ESSC.

The following Information Items were added to the Agenda:

8.1 Information report from the Chair of the Environment & Sustainability Standing Committee dated July 2, 2015 re: Water Quality Overview – HRM 2014.

8.2 Information Report from the Chief Planner and Director of Planning and Development dated June 9, 2015 re: *Bedford West Water Quality*.

MOVED by Mr. Clement seconded by Ms. Fenton

Two thirds majority vote was required.

THAT the agenda for August 12, 2015 be approved as amended.

Mr. Regan inquired whether it would be possible to receive an update from staff on the Sackville River floodplain study. Mr. Deacoff responded that he would look into whether this would be possible. Mr. Reid suggested making a request at the end of the meeting.

MOTION PUT AND PASSED.

4. BUSINESS ARISING OUT OF THE MINUTES – NONE

5. CONSIDERATION OF DEFERRED BUSINESS – NONE

6. CORRESPONDENCE, PETITIONS & DELEGATIONS

6.1 Correspondence – None

6.2 Petitions – None

6.3 Presentation – None

7. REPORTS/DISCUSSION

8. ADDED ITEMS

8.1 Information Report from the Chief Planner and Director of Planning and Development dated June 9, 2015 re: *Bedford West Water Quality*.

The following was before the Board:

- *A presentation dated August 12, 2015 regarding Paper Mill Lake Watershed Trophic Status and the Bedford West, Sub – Area 7 & 8*
- *Information Report from the Chief Planner and Director of Planning and Development dated June 9, 2015 re: Bedford West Water Quality*

Mr. Darek Moreau of Stantec and Mr. Scott MacCallum of Clayton Developments presented the Paper Mill Lake Watershed Trophic Status and the Bedford West, Sub – Area 7 & 8. This presentation is available on file. Mr. MacCallum provided a brief introduction and outline of the presentation. He stated that he has been involved with this project since 2007 and wanted to provide the Board with the historical context on West Bedford within the Birch Cove Lakes watershed including previous studies within the watershed and how these thresholds have been developed. Mr. MacCallum continued by outlining the Birch Cove Lakes Watershed and described that West Bedford contains 12 subareas. The subareas currently owned by West Bedford are 2, 3, 4, 5, 6, 7 and 8, West Bedford holdings is a joint partnership with Cresco and Clayton representing approximately 12,000 acres of land.

Ms. Fenton commented on the land holdings acquired in 2007, and asked whether West Bedford holds dam structure approvals for Paper Mill and Kearny Lakes. Mr. MacCallum stated that Annapolis Group has retained the rights to all three dams, Quarry, Paper Mill and Kearney Lakes, which is an important distinction. Mr. Deacoff commented that all three dams have been upgraded by Annapolis Group according to current standards.

Ms. Fenton inquired whether Paper Mill and Kearney Lakes are used for stormwater retention. Mr. MacCallum stated that the stormwater management masterplan for the individual subareas did not use any of the dams for quantity retention or quality enhancement. Specifically, he noted that for the West Bedford subareas stormwater management approvals are currently in place for all subareas with the approach to use best management practices for the site, conveyance, and pipe treatment. He indicated that at the beginning of the project, they looked closely at establishing the best locations for monitoring stations, and ways to work with HRM when pipe treatment facilities were malfunctioning or not working as efficiently in reducing phosphorus levels. He continued by referencing the stormwater management perspective as well as a mixed-use masterplan for the community which incorporates various land-uses and the monitoring of trophic levels.

Mr. Regan inquired whether the masterplan included data related to the dams and fish passage. Mr. MacCallum commented that they have no control over anything related to the dams and that they are not privy to having any input on the development of the dams.

Mr. Moreau continued by providing the Board with an overview of the total phosphorus trigger ranges for Canadian lakes and rivers and remarked that a trophic status of oligotrophic is considered a healthy baseline condition in this part of the world. He commented that HRM had previously established 10 µg P/L as a trophic status threshold for initiating management measures for watersheds.

Mr. Moreau described a 2004 Dalhousie University study to run the phosphorus loading model. The study predicted total phosphorous concentration in both Kearney and Paper Mill Lakes would likely increase above $10 \mu\text{g P/L}$ leading to a mesotrophic state likely caused by the erosion of septic systems. The study looked at the present-day development as well as future development serviced by central sewer and modelled on-site wastewater system contributions. The study also predicted that future developments (2004 onward), with centralized wastewater treatment infrastructure, would contribute less phosphorus than existing developments.

Mr. Clement clarified that the model predictions of lake phosphorous concentrations for McQuade Lake would go from a present-day level of $10.2 \mu\text{g P/L}$ to a future level of $62.7 \mu\text{g P/L}$. to which Mr. Moreau confirmed. Mr. Lund commented that this dramatic change was in part due to the fact that McQuade Lake is a small lake and that it is nestled with the Kingswood subdivision.

Mr. Clement inquired whether this study was a thesis. Mr. Moreau stated that it was not and that it was contracted by Annapolis Group. Mr. Clement further asked whether the entire report could be made available to the Board and Mr. Moreau noted that copies could be shared with the Board.

Furthermore, Mr. MacCallum described a map which illustrated the Existing Onsite Service for the community and he noted that areas in orange would be municipally serviced. Ms. Fenton inquired whether lots with offsite sewer can connect to the municipal water system. Mr. MacCallum shared that these lots do have the opportunity to connect through the Halifax Water Commission, although it is a charge area. Therefore, he stated that the ability exists but houses would be tasked with payment. Ms. Fenton commented that she believed if a lot was within a certain distance, then it was required to connect to a municipal service. Mr. MacCallum indicated he was uncertain, but believed that a certain percentage of residents within the area also needed to commit in order to connect in.

Mr. MacCallum briefly discussed other developments in programs that would in turn affect the watershed in the West Bedford area.

Mr. Moreau continued that in 2007 a memorandum by Tony Blouin, PhD, was issued to the Bedford Watershed Advisory Board (BWAB) indicating that HRM would be determining water quality objectives for the Paper Mill Lake watershed with the assistance of BWAB to develop a threshold for the area. He went on to share that the highlights of Dr. Blouin's memo as described on page 12 of the presentation.

Mr. Regan inquired whether these recommendations referred to all three lakes. Mr. MacCallum indicated that it strictly related to Paper Mill and Kearney Lakes to which Mr. Regan responded that these are control lakes. Mr. MacCallum agreed that this presented another challenge considering they were not naturally occurring bodies of water. He continued that throughout the years the dams had been raised and lowered and it is difficult to note whether or not this was taken into consideration when data was collected.

Mr. Moreau stated that in 2013 another phosphorus modelling exercise was conducted in Paper Mill, Kearney and McQuade Lakes. The study assessed existing water quality data in the Paper Mill watershed. He outlined that the first model looked at predictions under different development scenarios with and without on-site wastewater (OWS) removal. The second study looked at Storm Water Management (SWM) Model predictions under different development scenarios with and without storm water management systems; this model predicted contribution of storm water management and excluded septic system inputs.

Ms. Fenton inquired what the prediction was for onsite systems in 2004, whether onsite systems would fail after so many years or whether systems leak a little bit every year which contributes to increasing phosphorus levels. Mr. Moreau responded that not a lot of detail was listed but he believed the values used were for based on how typical septic systems age. Mr. MacCallum stated that in 2012-2013 AECOM did an extensive amount of research into how septic systems can be improved and looked at the policies and challenges from a municipal perspective.

Ms. Fenton asked whether it would help with levels for HRM to have a prepaid pumping system. Mr. MacCallum agreed that he felt this would help and he commented that conservation groups have implemented this type of program in other areas across Canada to meet provincial regulations. The Board further discussed the implications of implementing a prepaid pumping system operated by the municipality and taxed back to residents.

Mr. Moreau concluded by summarizing that previous modelling efforts in 2004 and 2013 suggest Kearney and Paper Mill Lake systems are shifting from an oligotrophic to mesotrophic state and that the existing phosphorus sources remain a legacy issue. He suggested that setting an oligotrophic standard may not have been realistic.

Mr. Regan asked what phosphorus level would be preferred. Mr. MacCallum stated that it is quite clear that 10 µg P/L is an unrealistic goal particularly where there are many uncontrollable factors. While confident with the storm water management designs currently in place within West Bedford district, he stated that not all of the contributors into Kearney Lake are held to the same standard. Mr. Regan suggested halting development until it can be addressed and levels recede to 10 µg P/L. Mr. MacCallum responded that stopping development was not a realistic approach to understand what the management thresholds should be. He continued that if you look historically at the data from 2004 and the modelling exercises, it is clear that these lakes would have increased in trophic status with or without service development.

Mr. Mills referenced the Bedford West Water Quality Report, commenting that the blasting of bedrock and the metal runoff would be contributing greatly to the trophic status. As well, Mr. Mills noted that there are pH problems appearing in all test results and he would like to see it summarized and graphed to better understand these implications. Because of the testing that has been done the metal concentrations are noted, but have not been addressed. Mr. MacCallum agreed that the storm water management strategy was not focused on metals; however there is influence from a metals perspective. The Board continued to discuss these implications with the presenters and staff.

Mr. Lund questioned whether or not Stantec was exclusively looking at phosphorus levels. Mr. Deacoff shared that the work Stantec is conducting is primarily looking at the trophic levels of the lakes because of the requirements placed on them on behalf of the Municipality were to focus on phosphorus management. He stated that the Municipality hires other contractors whose scope of work includes metal analysis and while trends are evolving which may warrant investigation, the Municipality is focused on phosphorus management and its framework for trophication.

Mr. Clement inquired whether the data has been plotted since it appeared that the phosphorous levels are continuously above 10 µg P/L. He continued by asking what the real level should be and why this information has not triggered action by Municipal staff to address the change in trophic status. Mr. Deacoff responded that the majority of water quality results from the early 2000s had been below 10 µg P/L although there had been sporadic results above this level. He continued that as you look chronologically towards current day, higher values are being reported which has triggered the Municipality to engage the Board as well as continue its work with Clayton Developments to address these levels and the contributing Bedford West Water Quality Report.

Mr. Lund commented on the impact of fertilizers on phosphorus levels and Mr. Moreau agreed that that was a contributor. Mr. Lund commented that Council had at one time looked at having regulations for homeowners when it comes to fertilizers and pesticides. He inquired whether this would help. Mr. Moreau responded that encouraging more responsibility on the part of homeowners would make a difference. Mr. Deacoff commented that part of the reason why these regulations were not passed was because the market had essentially corrected itself and the majority of products available to residents were already phosphorus free.

Mr. MacCallum commented that since 2010, Clayton Developments has been looking at best management practices to inform and engage homeowners on what they can be doing from a site

perspective, such as how to cut and irrigate their lawn as well as encouraging use phosphorus-free products, to contribute to healthy watershed.

Mr. Regan thanked Mr. MacCallum and Mr. Moreau for their presentation.

Mr. Mills commented that the graphics provided by Stantec on Brunello Estates in the Water Quality Overview Halifax 2014 Report were well done and stated that this is the type of reporting that should be provided. Mr. Deacoff responded that this is something that can be required in reporting. Mr. Mills commented that there continues to be issues with metals because the reality is there is a lot of heavily mineralized rock in Nova Scotia and when blasted and developed over time, a lot of those minerals end up in residents' water. The Board continued to discuss their concerns for the effect of metals on watersheds and wildlife.

Ms. Fenton commented that it appeared that achieving trophic standards of 10 µg P/L is going to be difficult for a variety of reasons including many outside influences and she inquired what the Board is being asked to consider. Mr. Clement questioned the Board's role in considering the report. Mr. Clement continued that it was unclear what the purpose was of having a threshold that when exceeded, was not being addressed.

Mr. Regan asked Mr. Reid whether or not the Board could make comments or recommendations. Mr. Reid responded that the Board is able to make comments for staff consideration at this time as well as identify concerns which can then be communicated to the ESSC.

Mr. Deacoff commented that while at this stage the report is informational and recommendations are not being considered, staff is questioning the utility of the threshold. As well, in light of observations in the report, it is likely that it will be coming back to the Board for formal recommendations.

Mr. Clement inquired whether there has been any follow up on the phosphorus levels in Paper Mill and Kearney Lakes given there is recognition that levels are above the threshold. Mr. Deacoff responded that presently there is no formal protocol for determining when levels exceed the threshold. He highlighted that the report states HRM has engaged a firm to conduct statistical analysis and that staff are expecting the report in mid-August 2015. The Board continued to discuss with staff the analysis mechanisms in place and existing protocols in place to trigger or not trigger action.

Mr. Regan commented that he is in agreement with the recommended 10 µg P/L. However, since there is evidence that indicates that this is an unrealistic threshold, he noted that HRM should conduct another study to understand what a real level would be. He continued that he believes HRM should be conducting storm water treatment and be pumping out waste management systems, and that development should cease until phosphorus levels are within the threshold.

Ms. Clayton inquired who is responsible for taking the information in this report and the Board's comments and acting on it. Mr. Deacoff clarified that he is the primary contact for these matters. He highlighted how his role involves receiving reports, making observations, sharing recommendations, identifying what is of concern and/or at risk and recommendations to be done, as well as hiring contractors, and monitoring projects and results.

Dr. Thomas inquired what it would mean to put a freeze on development in the area and Mr. Deacoff clarified that the Municipality would not be in a position to put a hold on development in these cases, especially when projects are in accordance with the development agreement. He further stated that elevated phosphorous levels are not cited in any agreements and therefore would not allow the Municipality the authority to put a hold on development. However, he indicated that the Municipality may be permitted to place a hold on development that has not been permitted to start.

Ms. Fenton encouraged the ESSC to send this report back to the Board for further discussion and recommendations. As well, she commented that on the policy side, it seemed like a course of action is

being developed as it arises and that this would be an opportunity where the Board could meaningfully influence some of this policy and procedural development.

Mr. Lund echoed Ms. Fenton's comments that the report should come back to the Board for discussion and recommendations. Mr. Deacoff explained that the phases are still in development and now that it has the data it is a matter of understanding the causes. The Board continued to discuss the impacts of development on the Municipalities' watershed.

Mr. Regan inquired whether any additional tests are planned for Paper Mill and Kearney Lakes and whether other parameters like mercury and metals could be added to the scope. Mr. Deacoff remarked that in general no tests are planned, although through the development agreement it has ability to require follow up monitoring and cited that this may be a good opportunity to investigate further and to sample again and possibly sample other elements. He commented that it was unclear what this may look like without any kind of framework in place, but it would be an opportunity to explore. Mr. Regan shared that perhaps storm water runoff could be tested at the end of the pipes. Mr. Deacoff commented that developing a protocol for testing is a priority.

Mr. Lund commented that the water quality monitoring framework applied to Brunello Estates was done well since results were recorded, and analysis and insights were outlined as to why the results were elevated. He continued that the purpose for collecting data is to trigger action and it appeared that this step of the process is missing in the Bedford West Water Quality Report and he suggested AGAT Laboratories should be required to use this type of approach in their future reporting and analysis.

Mr. Mills stated that assigning a trophic status which sees phosphorous level 10 µg P/L makes light of an obvious problem which is that the historic land uses are now at a point where the levels are exceeded. He continued that in order to help correct this problem, a wastewater management district is required to ensure that there is proper septic pumping in the area so that future development can occur and that phosphorous levels can be managed. As well, as a result of all of the testing, he said that it is obvious that there are severe metal problems that had not previously been discussed, but now that this is known it should be reviewed and addressed and any type of future of development that might exacerbate the situation by exposing that mineralized rock should be avoided by looking for alternative methods to blasting.

8.2 Information report from the Chair of the Environment and Sustainability Standing Committee dated July 2, 2015 re: Water Quality Overview – HRM 2014.

The following information item was before the Board:

- Water Quality Overview Halifax 2014, Summary of Program Results – Calendar 2014, Prepared by Cameron Deacoff, Energy & Environment, March 2015

Mr. Regan invited Mr. Deacoff to present the Water Quality Overview report. Mr. Deacoff provided a brief overview of the report, stating that this report is a summary of the water quality monitoring results that were obtained by the Municipality in 2014 and that this was a limited first step to a more thorough review.

Mr. Regan commended Mr. Deacoff on the report, although he expressed disappointment in the status of the lakes report since it does not cover all of the lakes in HRM and inquired about the membership of the water issues advisory board. Mr. Deacoff stated that the group was made up of primarily representatives of different non-governmental organizations (NGOs) representing the interests of individual lakes or watersheds in the Municipality. The board meets at the direction of Community Council to address water concerns in HRM.

Ms. Schnare inquired when the first report was done and when the next is planned. Mr. Deacoff commented that the first one was done in 2013 and that it is intended to be an annual report for the calendar year, therefore the 2015 report would be completed by March 2016; however he noted that this presumes that there are minimal changes to this reporting framework.

Ms. Fenton inquired whether there was possibility to use testing kits available through Saint Mary's University to employ local NGOs to test additional lakes and watersheds to help supplement this report. Mr. Deacoff responded that generally this type of initiative would be possible and there are groups that have expressed interest in supporting a program like this; however, due to limited staff resources, this time it is not a priority project. Mr. Clement cited that there can be grave quality issues with initiating these types of programs as well, so implementing something like this would require careful consideration.

Mr. Lund inquired whether there was anything the Board could do to help Mr. Deacoff, particularly in reference to developing trigger mechanisms. Mr. Deacoff responded that the Board can share when there is an action that other responsible entities can take on. He continued that if the Board recognized an issue that needed to be addressed, he can forward this information to management for consideration.

Mr. Clement stated that when the lake water quality monitoring program was cut, city administration argued that it was a provincial responsibility. Therefore, he inquired whether there is an ongoing dialogue happening with the province on the ongoing lake water quality within the HRM. Mr. Deacoff responded that there is not. Mr. Clement continued by asking Mr. Deacoff whether this was a deficiency in the way that the Municipality is operating and in how this information was being collected. The Board continued to discuss with staff the province's responsibility in reference to water quality monitoring.

Mr. Lund commented on the mean values that were provided for Brunello Estates and he questioned the statistical validity of these values.

Mr. Regan commented on the recommendations from the watershed studies, specifically Salmon River Lake Major areas, which showed elevated levels of arsenic and he asked whether residents were informed of these results. Mr. Deacoff commented that in this watershed study program all participants were given the results as well as information on the varying health concerns and how to address it.

Mr. Regan commented on the water quality findings for Sandy Lake and the removal of Uplands Park waste water treatment facility and asked what actions the Municipality is planning. Mr. Deacoff responded that this project is the responsibility of the Halifax Water Commission and as he understands it is part of their long-term commitments.

Mr. Regan inquired whether the recommendations listed in the report have been looked at and addressed. Mr. Deacoff clarified that all recommendations have been presented to the appropriate Community Councils and have been accepted as background information that will inform future community planning.

Mr. Mills commented on Mr. Deacoff's reference to the provincial guidelines related to arsenic and he recommended following the CCME (Canadian Council of Ministers of the Environment) Canadian Environmental Quality Guidelines as they are kept more up-to-date.

Mr. Clement commented that the scope of these reports is incredibly broad and inquired whether a summary document or graphic representation will be created for the public since they should be informed that this type of work is going on. Mr. Deacoff stated that that is not a current consideration. He stated that management continually reviews its processes and that the Bedford West Water Quality is an example which provides a lot of opportunity for recommendations and this kind of outcome.

Mr. Regan invited Mr. Lund to share information related to the Water Quality Overview Halifax 2014.

Mr. Lund provided a brief presentation on the Five Bridges watershed and McCabe Lake and the water quality monitoring work at 11 area sites that is taking place to the Board and staff.

4. BUSINESS ARISING OUT OF THE MINUTES – NONE

5. CONSIDERATION OF DEFERRED BUSINESS – NONE

6. CORRESPONDENCE, PETITIONS & DELEGATIONS

6.1 Correspondence – None

6.2 Petitions – None

6.3 Presentations – None

7. REPORTS/DISCUSSION

8. ADDED ITEMS – NONE

9. DATE OF NEXT MEETING – September 9, 2015

10. ADJOURNMENT

The meeting was adjourned at 7:00 p.m.

Cailin MacDonald
Legislative Support