



Lake Major Watershed Advisory Board Meeting Minutes Oct 6, 2016 – 2:00 p.m. Lake Major Water Treatment Plant

ATTENDEES:

Reid Campbell (RC), Director of Water Services (*Vice Chair*).....Halifax Water
 Spencer Colley (SC), East Preston Ratepayers Association.....Community Representative
 Julie Ernst (JE), Lake Major.....Community Representative
 Barry Geddes (BG), Watershed Manager (*Secretary*).....Halifax Water
 Dawn MacNeill (DM), Watershed Planner.....Nova Scotia Environment
 Anna McCarron (AM), Source Water Planner.....Halifax Water
 Brenton Sparks (BS), Lake Loon/Cherry Brook Development Assoc. (*Chair*).....Community Representative
 Colin Waddell (CW), Lake Major Treatment Plant Manager.....Halifax Water

REGRETS:

Pearl Cain (PC), North Preston Residents Association.....Community Representative
 Andrew Faulkner (AF), Development Officer.....Halifax Regional Municipality
 Bernie Matlock (BM), P. Eng.....Nova Scotia Environment
 Matt Nelson (MN), Forest TechnicianNova Scotia Natural Resources
 Heather Olivella (HO), Protected Areas Coordinator.....Nova Scotia Environment

GUESTS:

Cameron Deacoff (CD), Environmental Officer.....Halifax Regional Municipality
 Jonathan MacDonald (JM), Project Engineer.....Halifax Water

1. Attendance and Introductions

Meeting Called to Order by Brenton Sparks, Lake Major Watershed Advisory Board (Board) Chair.

- Meeting documents distributed:
 - September 30, 2015 Meeting Minutes;
 - March 6, 2016 Meeting Notes (due to lack of quorum);
 - Letters dated November 23, 2015 and March 15, 2016 regarding Bramco Holdings Subdivision application; and
 - Letter attached to *Lake Major Watershed Protected Water Area (PWA) Regulations and Appendix Re: Request to Amend the Lake Major Watershed PWA Regulations restricting motor size in Lake Major, to accommodate Halifax Water operation needs.*
- Regrets noted (see above).
- Quorum noted.
- Introductions.

Action

2. Preston Area Watershed Study Presentation – Cameron Deacoff

- Cameron was the Project Manager at time of the Study (2013-2014)
 - Presentation summarized the Study's final report by AECOM, the consultant HRM hired to complete the Study, which is accessible at <http://www.halifax.ca/planhrm/#PrestonAreaWS>.
- Scope of Study included 2 adjacent watersheds:
 1. Salmon River Watershed
 2. Partridge River Watershed
- There are four (4) communities within these watersheds:
 1. Lake Loon/Cherrybrook
 2. Lake Major
 3. North Preston
 4. East Preston
- The Study boundary area includes the bottom portion of the Lake Major Watershed PWA – the headwaters of the Salmon River watershed.
- Watershed studies are required by the HRM Regional Plan where there is development potential. Watershed studies provide background for HRM and community groups to refer to during MPS (Municipal Planning Strategy) or community planning processes about the type and degree of development that is suitable for the area in terms of population growth and increased density associated with residential and commercial activity.
- This Study looked at water quality data of various surface water supplies and assessed the status of groundwater resources through well data. Sources of water quality data were compiled from the province, HRM and Halifax Water.
- Phosphorus samples that were collected helped to determine the lake's water quality status:
 - low phosphorus levels in Lake Major indicate that the lake is oligotrophic (nutrient poor), i.e., in good condition;
 - low to moderate phosphorus levels in Long Lake indicate it is in a mesotrophic state which is still considered good water quality; and
 - high phosphorus levels in Winder (Whynder) Lake (which is immediately downstream of the North Preston wastewater treatment plant into which the treated effluent is discharged), indicate that the lake is eutrophic, i.e., has poor water quality, which is a concern. However, Winder (Whynder) Lake is outside of the Lake Major watershed and inside the Partridge River watershed – part of the Study area scope.
- Some homes within the Lake Major watershed area still rely on private

well water. The sample size to collect data from private wells was small, due to the difficulty in accessing private wells. In Minesville, 90% of the wells tested exceeded the acceptable Health Canada Drinking Water standards for Arsenic levels (10 µg/L).

- Maps shared with the Board outlined areas of concern regarding both ground and surface water.
- Five (5) communities and Council were presented the Study findings.
 - Comments received were incorporated into final report.

Q: *Is there a specific development being proposed for the study area? (SC)*

A: No, the studies are completed in anticipation of development and the potential for growth. The studies help HRM Planning staff make informed decisions about developing areas within the watershed. (CD)

Q: *What does Council do with the studies? (BS)*

A: Staff recommends that the recommendations provided within the reports be considered during the development of community plans. Council can accept or reject the recommendations that are provided in watershed studies. (CD)

Q: *Groundwater quality indicates health concerns, especially from arsenic, in some areas. Will HRM staff make developers aware of these concerns? (BG)*

A: Not quite sure how HRM development officers communicate water quality information, in response to development applications. HRM is looking into how these studies are used; i.e., what information can be and is shared. (CD)

- Concerns were expressed by Board members that if the information is gathered and not being put to good use then why do them at all.

Action: **Circulate the presentation to membership for information purposes and distribution.**

BG/AM

3. Review Previous Minutes

- September 30, 2015 Minutes – approved.
- March 10, 2016 Notes – accepted.

4. Business Arising from the Minutes/Notes

a. Review/Update Outstanding Independent Action Items:

i. **Wetland Area near Quarry area – permit questions:**

- BG contacted Krista Hilchey who indicated inspectors did not yet conduct a site visit; and
- NSE is scheduled to conduct a quarry site visit in fall of 2016.

Action: **Follow up.**

BG

Action

ii. Lake Major Source Water Protection Plan review

- Barry to make changes and send to Advisory Board for review and comment.

Action: Follow up.

iii. Water Supply Plant tour to precede next meeting.

Action: Book tour with CW.

BG

AM

5. Old Business:

a. Protected Areas (PA) Update

- DM provided an update in HO's absence:
 - The license to operate is still being worked on by Halifax Water staff and NSE.
 - Candidate Protected Areas within the Lake Major Watershed have not been finalized.

b. Lake Major Dam Replacement Project Update (JM)

- A geotechnical investigation within the lake was completed by a contractor:
 - Bedrock was found 2 m below the lake bottom; and
 - Sediment samples were sent to a lab for analysis.
- A consultant completed a DFO application and fish habitat assessment to quantify area for fish and aquatic life from existing dam to the ocean.
- An ongoing Environmental Assessment, as required by NSE includes:
 - assessment of animal and plant species at risk and other sensitive areas around the lake; and
 - examining impact on shoreline from water levels.
- Archeological assessment to be completed in October 2016.

Q: *What is the normal operating level of the dam? (CD)*

A: Normal dam operating level is ~19.5m above sea level. The new dam will be designed 0.5 m higher (20 m); however, the new dam will allow water levels to rise and fall which the existing dam does not. The maximum level (20 m) will not be affected. (RC)

- Initial dam design drawings were shared with the Board via PowerPoint.
- A detailed dam design is being developed, which includes:
 - Higher operating level – by 0.5 m;
 - A sluice gate capable of raising and lowering water levels to maintain flow below the dam to accommodate periods of high or low water levels; and



Action

- A concrete fishway.
- Next steps:
 - Public meeting, targeted for fall 2016;
 - Tender for construction – March 2017; and
 - Begin Construction – April 2017.

Q: *Would Halifax Water share the Lake Sediment information with HRM for planning purposes? (CD)*

A: Yes, Halifax Water and HRM regularly share information. (RC)

Action: HRM to request sedimentation information from Halifax Water.

CD

Q: *Is traffic flow going to be disrupted? Will there be road closures during the dam construction period? (JE)*

A: No. Roads will remain open. The construction will be taking place off the main road. (JM)

Q: *What will be the work hours? There are concerns about noise. (JE)*

A: The HRM Noise Bylaw will be followed. Construction noise is to be expected during regular work hours. (JM)

c. Swimming in Long Lake

- Pearl Cain was not available to provide an update. Barry indicated he will follow up with Wayne Desmond.

Action: Follow-up.

BG

d. Bramco Holdings Ltd. Subdivision Application (BG)

- Bramco approached Halifax Water to purchase all subdivision lands inside the watershed area; ~20 acres. Halifax Water reached an agreement with Bramco and the purchase will be finalized in late 2016.
- Remove from Agenda

6. New Business:

a. 76 Johnson Road

- HRM contacted Halifax Water to investigate a complaint of non-compliant land-use within the watershed.
- The landowner had a non-conforming land-use permit, dating back to the 1990's, to operate an auto repair shop.
- The issue is that his holding yard was larger than permitted.
- Halifax Water is working with HRM by-law enforcement to ensure that the property is cleaned up to comply with the permit and provincial

Action

legislation.

- The owner has been cooperating by cleaning up the property.
- A follow-up site visit is scheduled with HRM in late 2016 or early 2017.

Action: HRM and Halifax Water to conduct a follow up site visit to 76 Johnson Road in late 2016-early 2017.

BG

b. Lake Major Regulation changes/considerations

i. **Dam Upgrade (BG)**

- Halifax Water made an application to the province to amend the *Lake Major Watershed Protected Water Area (PWA)* regulations to allow for an outboard motor larger than 9.9 horse power (hp) for water utility-related business; i.e., the Lake Major dam replacement project.
 - Existing regulations were legislated prior to the Lake Major water supply plant installation.
 - Amendment to hp size is needed to provide a safer work environment for Halifax Water.
 - The public will continue to be permitted to use up to a 9.9 hp motor.
 - The request to amend the regulations was submitted by Halifax Water this fall (2016).
 - Halifax Water is waiting for the final decision.

ii. **On-site septic systems (BG)**

- Halifax Water is responsible for monitoring activities inside the Lake Major Watershed PWA. The most efficient way to monitor activities is to ensure Halifax Water is contacted when risky activities take place, which is normally performed. However, exceptions occur, most notably when private on-site septic systems are installed in the PWA. Halifax Water is seeking improvement in notification from NSE since they are the agency responsible for approving on-site septic system installations.
- Halifax Water staff attended and presented at the 2016 annual wastewater meetings to improve communications between the installers, NSE and Halifax Water; and to make them aware of public water supply area locations and regulations associated with them.
 - The new on-line registration process for on-site septic systems was introduced in May 2016, designed to address issues including those listed above.
 - Halifax Water will monitor the watershed for any new developments that may require on-site septic installations.

c. Lake Major Water Level (RC)

- Water level trends were displayed on PowerPoint for the Board.

Action

- Due to failure of the fishway in 2015, fish passage has been temporarily blocked until the new dam is built. In the meantime:
 - A siphon has been installed to move fish and water over the dam. Since the persistence of the unusually low water levels and the blocked fishway, no water has been spilled over the dam.
 - Department of Fisheries and Oceans (DFO) and Nova Scotia Environment (NSE) determined that to establish safe fish passage, Halifax Water needed to provide maintenance flow (4ft³/sec) to the river below the dam. Halifax Water complied, using the temporary siphon. However, on Sept 6, the siphon stopped working because water levels above the dam were too shallow for the siphon to work properly.
- Currently, Halifax Water is not in compliance regarding flow maintenance in Lake Major; however, Halifax Water is working with NSE to develop a water quantity compliance plan that will meet customer needs and provide adequate fire protection to the city.
- The fish maintenance water flow of 4 ft³/sec represents about 25% of daily customer needs, an amount that would increase the risk of running out of water if Halifax Water were to continuously pump it over the dam.
- Further stress to the water supply, in addition to the historic low water level, includes a main reservoir on the Halifax side, which was down for repair; and the disconnected MacDonald Bridge pipeline connecting the Pockwock system to the Lake Major system, due to the “Big Lift” project.
- To combat low water levels, public water use restrictions were enacted on September 20, 2016 which has decreased water use by ~3 million litres/day.
 - Halifax Water is reminding people of the restriction through the media.
 - Halifax Water Bulk stations supplied by the Lake Major system are closed.
- Lake Major is not at risk of running dry. The risk is that the pumping station intake is in a shallow bay; if the lake drops below a certain level it will create an air pocket over the intake which will cause the intake to lose suction. Halifax Water has a short-term plan, if needed, to build a temporary holding pond in front of the intake into which water may be pumped to provide the head height required to maintain intake suction. In the long-term, there is a plan to move the intake into deeper water.

Q: *Does Halifax Water know how long it would be before they would need to build a holding pond in front of the pumping station? (CD)*

A: Conservative calculations for the contingency plan indicate about three months, but that is based on a number of factors including future rainfall amounts and the need to instate further water reduction measures, which Halifax Water could consider. However, we are entering the typical rainy season and winter is coming. These factors could lengthen the time needed before building a holding



pond would be deemed necessary. (RC)

Q: *How long will it take Halifax Water to set up the contingency plan? (CD)*

A: We are working on that now. (RC)

7. Landowner Questions:

Q: *There are concerns about a property being infilled in the Cherry Brook area; however, it is outside of the watershed boundary. (BS)*

A: This would be a matter to bring forward to HRM.

Q: *Many of the homes in the Cherry Brook area are older and on private wells and septic systems which are not in compliance with present setbacks. Does the Preston Area Study take this into consideration for water quality conditions? (BS)*

A: No, to my knowledge, proximity to on-site septic systems was not taken into consideration. (CD)

A: This is an NSE responsibility; however, if no one reports the problem it is difficult to correct it. (DM)

Q: *When is the Lake Major Dam Replacement Project Community Meeting scheduled and how will people be notified? (JE)*

A: The Community meeting is scheduled for sometime this fall (2016). People will be notified using the Lake Major Newsletter as well as formal letters that Halifax Water will send out to affected landowners. (JM)

Q: *Can the Lake Major Watershed Advisory Board Minutes be shared with the public. (JE)*

A: Yes, once they are approved by the Board. The most recent minutes are also posted on the Halifax Water website www.halifawater.ca. (BG)

8. Education Update

a. Arnold D. Johnson Sr. Water Resources Award Update

- Spencer Colley confirmed that he sent notification out to the Black Education Association for distribution.

b. Source Water Protection Brochure

- AM indicated that the brochure has been approved and distributed to key locations.
- Hard copies are available to Board members to distribute to their contacts.

c. Lake Major Newsletter

- Due to work priorities, no summer edition was published.
- Goal is to complete the 2017 winter edition.
 - Topics to consider:



- Profile of Board member
- Lake Major Regulations changes
- Lake Major Dam Replacement Project

Action

9. Municipal Development Update:

- HRM Planning has nothing to report.

Q: Who should be contacted to have the old North Preston C&D recycling site cleaned up? (SC)

A: Halifax Water is aware of the situation; however, it is not within the PWA or natural watershed area. The site location was displayed to the members via Google Earth, showing where Halifax Water and the Board have jurisdiction, which does not include the recycling site. NSE and HRM have jurisdiction over that area and are the agencies to contact. (BG)

10. Election of Officers – September 2016:

a. Election of Officers

- 2017-2018 Chair – BS
- 2017-2018 Vice President – BG
- 2017-2018 Secretary – AM

b. Board positions with respect to Terms of Reference.

- Community reps to contact respective community groups and indicate whether they will be reoffering. In the case of areas with no community representatives, Halifax Water will send out letters to landowners seeking candidate nominations.

Action: Community Board members representing a group or organization are to contact their respective groups for reappointment.

Action: Halifax Water to send out letters to Lake Major Community residents who do not have a representative group, to seek candidate nominations.

Board
Members

BG

11. Next Meeting Date:

- March 23, 2017.

12. Meeting adjourned:

- 4:30 p.m.

Brenton Sparks – Chair

Reid Campbell – Vice Chair

Barry Geddes – Secretary