

POCKWOCK WATERSHED MANAGEMENT COMMITTEE

March 8, 2019 Meeting Minutes – 10:00 am
2 Park Avenue, Lower Sackville
Halifax Water Conference Room

Attendance:

Jeff Brown (JeB), Forestry TechnicianDepartment of Lands and Forestry (DLF)
Jillanna Brown (JiB), P. Eng, Enforcement.....Nova Scotia Environment (NSE)
Barry Geddes (BG), (*Vice Chair*) Watershed ManagerHalifax Water
Andrew Houlihan (AH), Supervisor, J.D. Kline Water Supply Plant.....Halifax Water
Dawn MacNeill (DM), Watershed PlannerNova Scotia Environment (NSE)
Anna McCarron (AM), (*Secretary*) Source Water Planner.Halifax Water
Tim O’Brien (TO), (*Chair*) Crown ForesterDepartment of Lands and Forestry (DLF)
Heather O’Keefe (HO), Protected Areas Coordinator Central Region....Nova Scotia Environment (NSE)
Debbie Uloth (DU), Planning and Development Planner (for Rachel Gilbert).....East Hants Municipality

Regrets:

Reid Campbell (RC), P. Eng., Director of Water ServicesHalifax Water
Rachel Gilbert (RG), Manager of Planning ServicesEast Hants Municipality (EH)

1. Attendance/Introductions:

- AM distributed copies of the following:
 1. Meeting Agenda;
 2. DRAFT November 1, 2018 Meeting Minutes; and
 3. 2018 Annual Source Water Protection Report.
- DU distributed the following under Item 5.a.:
 1. Preliminary Layout Concept – Uniacke Business Park South Phase Expansion.

Pockwock Watershed Management Committee Meeting Called to Order by Chair (TO)

- Regrets were conveyed (listed above); and
- Quorum determined.

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| <p>2. Old Business:</p> <p>a. Approval of November 1, 2018 Minutes: <u>Minutes approved as amended–Moved by JiB, seconded by BG.</u></p> <p>b. Special Constable Status (SCS)/Memorandum of Understanding (MOU)</p> <ul style="list-style-type: none"> • The SCS and MOU for an inspector (i.e., BG) specific to Halifax Water <i>Protected Water Areas (PWA)</i> Lake Major, Pockwock and Bennery lakes, as defined under the <i>Environment Act</i>, has been signed by NSE and returned to Halifax Water for sign-off. It resides with the Department of Justice. • BG waiting for final approval from the Department of Justice. <p>Action: BG will show signed SCS MOU for Halifax Water at the next meeting.</p> <p>c. Protected Areas Signage Update (HO/BG) <u>HO will contact BG about Protected Area signage in PWA.</u></p> <ul style="list-style-type: none"> • JeB provided a signage plan to Sally Steele, Protected Areas Coordinator, Western Region, who covers 3/4 of the Pockwock watershed area, and is the lead on this file. <p>Q: <i>Have any signs been erected on Crown (Wilderness Areas) yet?</i> (HO) A: No. There have been policy changes; signs will not be put up unless there is a need. (JeB)</p> <ul style="list-style-type: none"> • On a Google Maps display, BG showed where the boundary of the <i>Wilderness Area</i> is within the Pockwock Watershed Area; • BG informed the Committee that there has been an increase in ATV activity in the watershed and wilderness areas; • 8 cameras have been placed in the watershed area, showing the activity: <ul style="list-style-type: none"> ○ notification of camera use in the area is posted as such; ○ pictures are taken every 5 seconds after movement is detected, depending on shadow and wind, etc., 150 – 200 pictures are snapped every two weeks; ○ cost for camera is ~\$70 – if we use a cell phone, it is more expensive; ○ given the opportunity, letting the perpetrators know that they are being filmed does help to deter activity to some degree; ○ cameras indicate who the users are; about 10 people use the watershed as a thoroughfare between Mount Uniacke and Lower Sackville, utilizing the NS Power transmission cut along the way; <p>Q: <i>Is there a lot of passive use (e.g., walkers, cc skiers) as well as ATV use?</i> (DM) A: Yes. (BG)</p> <p>Q: <i>Do we need more action on the camera?</i> (DM) A: No. Just need more signage and to put in a gate at the pinch point. (BG)</p> | <p style="text-align: center;"><u>Action</u></p> <p style="text-align: center;">Pending</p> |
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| <ul style="list-style-type: none"> watershed signs were put up two years ago, clearly indicating protected watershed area regulations, but they do not deter ATV use there; <p>Q: <i>Is there some way to make it difficult for ATVs to access the area? (JiB)</i></p> <p>A: We need to cut ATV access off through the Island Lake and Grand Lake roads pinch point, by putting in a gate (designed the same as the ones now in use). (BG)</p> <p>Q: <i>Does a road need to be there for fire access? (JiB)</i></p> <p>A: No. The area there is being allowed to grow in. (BG)</p> <ul style="list-style-type: none"> the main issue is ATVs going through the <i>Wilderness Area</i>; if NSE has a gate, Halifax Water could put it in at the Island Lake turnout; the challenge is to protect the <i>Wilderness Area</i> portion of the watershed; Halifax Water does not have jurisdiction in this area and the agency that does is not exercising the authority available to it: <ul style="list-style-type: none"> Halifax Water has responsibility for the <i>PWA</i> under that <i>Act</i>, but there is a no-man's land within the <i>Wilderness Area</i>; the <i>Wilderness Area</i> land falls under the higher order of governance, the Wilderness Areas Protection Act; without the province putting up <i>Wilderness Protection Area</i> signs, Halifax Water does not have the support needed to exercise enforcement of all of the <i>PWA</i>; if NSE/DLF can provide the gate and signs, HW can look after protection of the area more easily; the <i>Off-highways Vehicle Act</i> overrides both the <i>Protected Water Area Act</i> and Wilderness Areas Protection Act (DM); conservation agents have been in the area, according to the cameras; however, if it is not signed, enforcers cannot exercise their authority; <p>Q: <i>Are the ATVs causing any damage? (JiB)</i></p> <p>A: Not so much, yet, but the point is the principal of upholding regulations; and the potential for these machines to do a lot of damage to the watershed area. (BG/DM)</p> | <p><u>Action</u></p> |
| <p>Action: Send locations and request for signage at the boundaries so Conservation agents can enforce <i>Wilderness Protected Area</i> regulations; and cc to DM, JeB and Terry White.</p> <p>d. Mount Uniacke Signage:</p> <p><i>i. Community Signage at Bell Park:</i></p> <ul style="list-style-type: none"> need to discuss with new community member, yet to be determined; | <p>BG</p> |
| <p>Action: Consult with new community member about community signage once the member has been instated on Committee.</p> <p><i>ii. Highway 101 Pockwock Signage:</i></p> <ul style="list-style-type: none"> NSTIR needs to approve the sign design, which will be similar to the latest sign designs at Bennery Lake and Middle Musquodoboit. All Pockwock signs need to be replaced. | <p>All</p> |

Action: AM/BG to continue working on signage for Pockwock watershed area.

**Action
AM/BG**

e. Resource management updates:

i. Forest:

- harvesting will occur on the west side of watershed area, Bowater Lands will have a partial harvest;
- originally discussed having a road through Bowater lands, but settled on an old “cow path” that has no water crossings;
- Halifax Water is involved in a National Science and Engineering Research Council of Canada ([NSERC](#)) [Network for Forested Drinking Water Source Protection Technologies](#) research project that is bringing together utilities and forestry people across Canada, who are looking at different forest management strategies as a means to improving water technology on the land base; part of the research is about minimizing the Total Organic Carbon (TOC) going into the lake.

Q: *How many watersheds allow forestry in their watershed?*

A: Victoria used to allow forestry and are trying to get back into it, for instance.

- the research is about finding the sweet spot; i.e., what kind of forest management can occur in a watershed area that leaves the least impact to the water source;
- surface runoff is a big issue, but TOC is considered a bigger problem;
- higher pH in rainwater combined with higher TOC coming into the water treatment plant is challenging the performance of water treatment systems;
- everyone needs to speak the same language and understand the impacts;
- 2 harvest blocks have gone through the wait period and been approved;
- a small patch cut got denied, a partial harvest is desired in that area;
- considering adding a variable retention block that is mainly balsam fir;

Q: *Who denied the request for the variable retention area?(AM)*

A: Through public comment and other considerations that are reviewed, the DLF either approves or denies requests; the Minister is very hands-on as well. (TO)

Q: *Will new culverts be required? (DM)*

A: The proposed new road is all high ground, so no crossings are required.

However, we are considering replacing Peggy’s Brook and Lacy Mill bridges. (BG)

- Atlantic Forestry magazine article referenced Halifax Water’s 2018 summer student, Dakota Tomah;

Q: *Any silviculture? (TO)*

A: Not at the moment. (BG)

Q: *When is a clearcut not a clearcut (“variable retention”) in Halifax Water’s criteria after harvest? (TO)*

A: 2 metres for softwood and/or 10 years; 3 metres and/or 10 years for hardwood; largest is 10 ha. (BG)

Q: *Do other NS utilities' source water protection issues vary depending on whether the utility landownership is private or Crown?* (AM)

A: Yes. Other issues include approvals that have been revoked due to activities that are not supposed to be occurring in the watershed area. (DM)

ii. *Water Quality:*

Geosmin update (AH):

- Geosmin levels have not exceeded the detection limit for over a year;
- there was a high level of geosmin collected near Island Lake that didn't work its way to the water supply plant;
- However, we have something else:
 - In June/July we started to have shorter filter runs because the filters were clogging;
 - after much sampling and study, we discovered the filter-plugging was caused by a microorganism called tabularia;
 - no cyanotoxins are derived from this microorganism;
 - it is a major nuisance, not a health hazard.

Tabularia (AH):

- a diatom microorganism that can form many irregular star-shapes and create longer chains;
- they attach to the surface of the filter and act like rebar;
- they get into the floc – the coagulation of the fine compounds in the water, formed by the addition of aluminum sulphate – and create a cement-like barrier on top of the filters;
- the first clues of this phenomenon was the shorter than normal filter runs and a fishy smell in the plant;
- once we identified the tabularia, a heavy organism, we were told by experts in Winnipeg that this phenomenon would be short-lived;
- however, the extent of the problem was longer than the predicted timeframe; therefore, we surmised that these organisms got stuck in the thermocline when the lake stratified, due to the quick warming of the lake, which is where the water intake is situated; we determined that these microorganisms also must be growing in the plant;
- pre-chlorination of the raw water was the tool used to effectively combat the problem within the plant;
- pre-chlorination was determined not to increase the risk of trihalomethanes (THMs);
 - initially saw a spike in THMs, which was attributed to the materials in the filters, but once they were oxidized out, numbers dropped;

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| <ul style="list-style-type: none"> ○ not maintaining a chlorine residual in the plant; ○ once it leaves the filter, there is virtually no chlorine residual remaining; ● 4 of 8 media filters have been rehabilitated; <ul style="list-style-type: none"> ○ the new filters work much better than the old filters; <p>Q: <i>Is the air-scouring process on line? (JiB)</i> A: Yes, every filter will have air-scouring.</p> <p><u>Lake Recovery Research:</u></p> <ul style="list-style-type: none"> ● tabularia is, in theory, another aspect of lake recovery, for which research is continuing; ● a data shift increase in pH occurred in 2012, which coincided with the switch from a coal-fired generating plant to a half gas generating plant; ● anomalies in water quality data have occurred and are accounted for; e.g., at PG-5 – West Lake –when nearby highway work was going on; ● all water quality parameters are increasing except for nutrient loading, such as nitrates; and ● we are seeing an increase in blue-green algae. <p>Q: <i>What is the index on customer satisfaction? Has that increased? (TO)</i> A: There were comments when we got the taste and odour event after pre-chlorination resumed; in the short term we will maintain the pre-chlorination. (AH)</p> <p>Q: <i>When the air-scouring is done on all the filters, will you no longer need to do the pre-chlorination tool? (JiB)</i> A: We need conventional treatment, but being a direct filtration plant we don't have all the tools to combat all the organisms. Who knows what next year will bring and what tools will be required to combat the issues that may arise. Spending lots of money on upgrades could be unnecessary if the situation doesn't return. (AH)</p> <p>Q: <i>Will monitoring for geosmin continue? (DM)</i> A: As part of our lake recovery research, we are designing a limnology inventory program that will allow us to monitor lake changes over time. (BG)</p> <p>A: We are also working with the Water Research Foundation to study how to design a water treatment plant based on a changing water chemistry. (AH)</p> <ul style="list-style-type: none"> ● The Committee has not had a tour of the plant in some time; ● A tour would help members have a clearer understanding of the mechanics of water treatment at the J. D. Kline Water Supply Plant (WSP). <p>Action: Arrange a tour of the J.D. Kline WSP after we have a new community member in place.</p> <p>f. Pockwock/NSTIR Lands <u>RG to confirm if EH is still interested in pursuing the NSTIR property that is for sale.</u></p> | <p><u>Action</u></p> <p>AM</p> |
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| <ul style="list-style-type: none"> • East Hants Municipality purchased the 12 acres of NSTIR lands that are commercial-ready and inside the business park portion of the watershed area. <p>g. forWater Research Network:</p> <ul style="list-style-type: none"> • Halifax Water is hosting the forWater AGM on April 23, 24 and 25, 2019; • The forWater AGM is an opportunity for Halifax Water to showcase the forestry practices Halifax Water conducts in its watershed areas; <ul style="list-style-type: none"> ○ in April we will showcase the forestry practices in Lake Lemont; ○ In August, forWater students are coming to Pockwock to see the forest management practices Halifax Water conducts there. <p>h. Terms of Reference Community Member</p> <ul style="list-style-type: none"> • Recommend asking Michael Perry, the new Councillor for Mount Uniacke, to fill vacant community rep position. | <p><u>Action</u></p> |
| <p>Action: Retract last meeting’s Action Items on this topic and approach Councillor Michael Perry about membership options.</p> | <p>AM/BG</p> |
| <p>3. New Business</p> <p>a. 2018 Annual Source Water Protection Report (BG):</p> <ul style="list-style-type: none"> • The first 8 pages is general information covering all general source water protection efforts; <ul style="list-style-type: none"> ○ includes the lake recovery efforts and research, previously discussed; • Pockwock portion: <ul style="list-style-type: none"> ○ In 2018 MEH asked Halifax Water to provide information on how the Pockwock watershed area boundaries were established; ○ Westfor is managing the forest management practices in Pockwock and Halifax Water is collaborating with them; ○ Outstanding issues; <ul style="list-style-type: none"> ▪ ATVs in watershed; ▪ community rep vacancy; and ▪ signage. ○ Water Quality tracking for 2018: <ul style="list-style-type: none"> ▪ This information is given to NSE – a snapshot of where we stand re water quality in all watersheds; and ▪ water quality readings have remained consistent over the year. <p>Q: <i>Where is PG5? It seems to have higher levels of iron and sodium and aluminum? (JiB)</i></p> <p>A: There was an old welding shop and an old shale pit that is now mostly covered. The part that remains uncovered drains into a swamp, which drains into West Lake. We sample there and it is highly impacted by the shale. The salvage yard practices are pretty good – there are no hydrocarbons. We may see some impact over time</p> | |

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| <p>through accumulation, because it was cleared off all at once and the geology in the area supports large seams of iron sulphate that is highly exposed. (BG)</p> <p>Q: <i>Though it has since been covered over, I am assuming the proper protocol was not applied?(JiB)</i></p> <p>A: The developer was bought out and did not end up developing it. There are no direct tributaries to the lake. We suspect there will be changes to water quality in the future because the lots have been sold and the resulting development activity will have a direct influence on PG5 (West Lake). (BG)</p> <ul style="list-style-type: none"> • The tributary runs across all of the lots that have recently been sold for development. • They are supposed to maintain a certain distance from the tributary. (DU) | <p><u>Action</u></p> |
| <p>Comment: <i>Appendix A shows Max limits in mg not µg.</i></p> <p>Action: Correct unit numbers.</p> <ul style="list-style-type: none"> • JiB wants to see all the water quality parameter data. | <p>BG</p> |
| <p>Action: Provide all water quality parameter data to JiB.</p> | <p>BG</p> |
| <p>4. Landowner Q & A</p> <ul style="list-style-type: none"> • None. <p>5. Municipal Planning Update</p> <p>a. Business Park Expansion:</p> <ul style="list-style-type: none"> • DU circulated the map of the Uniacke Business Park area that shows a rough layout of the business park expansion; • Land clearing expansion is nearing completion; • Detailed design work has begun. Strum has been engaged to do the work; | |
| <p>Q: <i>Will the development follow the LUB? If they are in the Water Protection Overlay (WP) they will have to follow those bylaws. (BG)</i></p> | |
| <p>A: East Hants Engineers have been looking at solutions to avoid impacting the Pockwock watershed area. They want to allow activity that may have an impact on the water supply, so they are trying to figure out engineering solutions to mitigate/avoid such impacts.</p> <ul style="list-style-type: none"> • There has been push-back about the boundary; the EH planning department needs clear answers to be able justify development in the area; <ul style="list-style-type: none"> ○ RG could not glean the required information from the files she had access to, which required Halifax Water to fill in the gaps; • highway exposure is always popular with developers; they will want to build close to the highway; • wetlands are being identified to address our concerns about wet areas in the vicinity of the development; • there is mostly high ground with no direct watercourses; the only issue is the bedrock and the runoff. Once it is properly covered up there shouldn't | |

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| <p>be an issue from the slate in the area;</p> <ul style="list-style-type: none">• Halifax Water has monthly water quality data that EH may access if desired;• the municipal zoning in the area is as-of-right; it is NSE's responsibility to ensure the developer is following the regulations with respect to the slate;<ul style="list-style-type: none">○ NSE is not concerned about digging up the slate, it is concerned about its disposal;○ Also of concern is blasting slate and the runoff subsequent to that;• Recommend the municipality provide an information package to developers/landowners when lots are sold, so that they understand the type of geology they are building on and what additional regulations they may need to consider;• EH does not give blasting permits and neither does NSE. Labour is involved in that. <p>Q: <i>What is the Committee's recommendation? (BG)</i> A: Create a package together for EH to give to the landowner/developer that creates awareness of where they are and what the potential risks are to Pockwock's source water. (BG/DU)</p> <p>Action: Committee to ask EH whether they can provide an information package for the municipality to give to landowners to educate them about the issues that could affect the water quality of the Pockwock watershed.</p> <p>6. <i>Education and Awareness Update</i></p> <ul style="list-style-type: none">• Nothing to report other than the signage.• If we did something for the landowners then that would be something. <p>Action: Send SWEPS' survey to TO.</p> <p>7. <i>Election of Officers – October 2020</i></p> <p>8. <i>Next Meeting – September 12, 2019</i></p> <p>9. <i>Adjournment 12:00 pm</i></p> <p><i>Respectfully Submitted by AM</i></p> | <p><u>Action</u></p> <p>AM</p> <p>AM</p> |
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