

AGENDA

Source Protection Committee Meeting No. SPC-03-2021

Meeting No. 3, Zoom Video Conference

December 16, 2021

1:00 P.M. to 4:00 P.M.

MEMBERS:

Lynn Dollin, Chair

Municipal

Katie Thompson
 Kyle Mitchell
 Andy Campbell
 Jeff Hamelin
 Stan Wells
 Scott Lister
 Chris Gerrits

Economic/Development

Colin Elliott
 David Ketcheson
 David Ritchie
 John Hemsted
 Rick Newlove
 Jessica Neto
 Amanda Kellett

Public Sector

Tom Kurtz
 Bob Duncanson
 Peter Dance
 Geoff Allen
 David Greenwood
 Cate Root
 Stephanie Hobbs

First Nations

Sharday James
 n/d
 n/d
 n/d
 n/d
 n/d

Liaisons

Simcoe Muskoka District Health Unit
 Lake Simcoe Region Conservation Authority
 Severn Sound Environmental Association
 Nottawasaga Valley Conservation Authority
 Ministry of the Environment, Conservation and Parks

Christina Wieder
 Ben Longstaff
 Julie Cayley
 Doug Hevenor
 Elizabeth Forrest

Staff

Bill Thompson, LSRCA
 Mike Wilson, LSRCA
 Shelley Fogelman, LSRCA minutes

Ryan Post, NVCA
 Melissa Carruthers, SSEA
 Mystaya Touw, LSRCA

Guests

Beata Golas, Durham Region
 Mike Takeda, GeoProcess Research
 Chris Neville, S.S. Papadopoulos & Associates

MEETING AGENDA:

I. WELCOME & OPENING REMARKS

II. ROLL CALL

III. ACKNOWLEDGEMENT OF INDIGENOUS TERRITORY

IV. DECLARATION OF PECUNIARY INTEREST

V. APPROVAL OF THE AGENDA

(Pages 1 - 6)

RECOMMENDED: THAT the agenda for the December 16, 2021 meeting of the Source Protection Committee be approved

VI. ADOPTION OF MINUTES

(Pages 7 - 18)

RECOMMENDED: THAT the minutes of the March 31, 2021 meeting of the Source Protection Committee be approved as circulated.

VII. ANNOUNCEMENTS

(a) Chair Dollin

(b) Ministry of Environment, Conservation and Parks (MECP)

(c) Other

VIII. DELEGATIONS

There are none.

IX. PRESENTATIONS

(a) Proposed Amendment to Wellhead Protection Area - Cannington

(Pages 24-30)

Presented by: Beata Golas, P. Geo and Mike Wilson, P. Geo.

RECOMMENDED: THAT Staff Report No. SPC-2021-03-01 be received for information; and

FURTHER THAT the Source Protection Committee agree that the proposed revisions to the Cannington wellhead protection area mapping and assessment report are advisable.

(b) Proposed Amendment to Wellhead Protection Area - Sunderland (Pages 31-37)

Presented by: Beata Golas, P. Geo. and Mike Wilson, P. Geo

RECOMMENDED: THAT staff report number SPC-2021-03-02 be received for information; and

FURTHER THAT the Source Protection Committee agree that the proposed revisions to the Sunderland wellhead protection area mapping and assessment report are advisable.

(c) 2020 Annual Progress Reporting

Presented by: Beth Forrest, Ministry of Environment, Conservation and Parks

RECOMMENDED: THAT the presentation from Beth Forrest on the 2020 annual progress reporting summary be received for information

(d) Risk Management Plan Update (Pages 38-40)

Presented by: Bill Thompson, Lake Simcoe Region Conservation Authority

RECOMMENDED: THAT staff report number SPC-2021-03-03 regarding an update on progress on negotiating Risk Management Plans be received for information; and

FURTHER THAT SPA staff be directed to seek an additional two-year extension on the deadline for risk management plan completion

(e) DNAPL Policy Review (Pages 41-46)

Presented by: Mike Wilson, P. Geo., Lake Simcoe Region Conservation Authority

RECOMMENDED: THAT staff report number SPC-2021-03-04 regarding proposed new DNAPL prohibition policies be received for information; and

FURTHER THAT The Source Protection Committee endorse the removal of policy DNAPL-2 which prohibits the Future handling and storage of DNAPLs, in any quantity, where they would be a significant drinking water threat;

AND FURTHER THAT The Source Protection Committee endorse the addition of two new DNAPL policies: a RMP policy for the future handling and storage of DNAPLs in a quantity less than 617 L and a prohibition policy for the future handling and storage of DNAPLs in a quantity greater than or equal to 617 L;

AND FURTHER THAT staff be directed to incorporate the new policy text as part of the forthcoming amendment to the Source Protection Plan, under Section 36 of the Clean Water Act

(f) Source Protection Region Update

Presented by: Bill Thompson, Lake Simcoe Region Conservation Authority

RECOMMENDED: THAT the Source Protection Region update provided by Bill Thompson be received for information.

X. ADOPTION OF ITEMS NOT REQUIRING SEPARATE DISCUSSION

RECOMMENDED: THAT the recommendations as set forth in the items not requiring separate discussion be approved, and staff be authorized to take all necessary actions to affect those recommendations.

XI. DETERMINATION OF ITEMS REQUIRING SEPARATE DISCUSSION

(Reference page 5 of Agenda Items)

XII. CONSIDERATION OF ITEMS REQUIRING SEPARATE DISCUSSION

XIII. OTHER BUSINESS

XIV. CLOSED SESSION

XV. NEXT MEETING AND ADJOURNMENT

RECOMMENDED: THAT the date of the next meeting of the Source Protection Committee be determined by Doodle Poll; and

FURTHER THAT the December 16, 2021 meeting of the Source Protection Committee be adjourned at 4:00 p.m.

AGENDA ITEMS:

1. Correspondence (Pages 19-23)

- Letter to Chair W. Emmerson dated March 30, 2021 from Ministry of Environment, Conservation and Parks
- Signed Minister’s letter to Chair W. Emmerson and Chair L. Dollin dated June 14, 2021 from Ministry of Environment, Conservation and Parks
- Ministry of Environment, Conservation and Parks – Email Staffing Announcement: Director, Conservation and Source Protection dated June 18, 2021

2. Staff Reports

(a) Proposed Amendment to Wellhead Protection Area – Cannington (Pages 24-30)

RECOMMENDED: THAT Staff Report No. SPC-2021-03-01 be received for information; and

FURTHER THAT the Source Protection Committee agree that the proposed revisions to the Cannington wellhead protection area mapping and assessment report are advisable.

(b) Proposed Amendment to Wellhead Protection Area – Sunderland (Pages 31-37)

RECOMMENDED: THAT staff report number SPC-2021-03-02 be received for information; and

FURTHER THAT the Source Protection Committee agree that the proposed revisions to the Sunderland wellhead protection area mapping and assessment report are advisable.

(c) 2020 Annual Progress Reporting

(d) Risk Management Plan Update (Pages 38-40)

RECOMMENDED: THAT staff report number SPC-2021-03-03 regarding an update on progress on negotiating Risk Management Plans be received for information; and

FURTHER THAT SPA staff be directed to seek an additional two-year extension on the deadline for risk management plan completion.

(e) DNAPL Policy Review

(Pages 41-46)

RECOMMENDED: **THAT** staff report number SPC-2021-03-04 regarding proposed new DNAPL prohibition policies be received for information; and

FURTHER THAT The Source Protection Committee endorse the removal of policy DNAPL-2 which prohibits the Future handling and storage of DNAPLs, in any quantity, where they would be a significant drinking water threat;

AND FURTHER THAT The Source Protection Committee endorse the addition of two new DNAPL policies: a RMP policy for the future handling and storage of DNAPLs in a quantity less than 617 L and a prohibition policy for the future handling and storage of DNAPLs in a quantity greater than or equal to 617 L;

AND FURTHER THAT staff be directed to incorporate the new policy text as part of the forthcoming amendment to the Source Protection Plan, under Section 36 of the Clean Water Act.

(f) Source Protection Region Update

Source Protection Committee (SPC)
Minutes of Meeting SPC-02-2021
March 31, 2021 – 1:30 p.m. to 4:30 p.m.
Zoom Video Conference

Members:

Lynn Dollin, Chair

Municipal	Economic/Development	Public Sector	First Nations
Don Goodyear	Colin Elliott	Tom Kurtz	
Kyle Mitchell	David Ketcheson	Stephanie Hobbs	
Andy Campbell	David Ritchie	Geoff Allen	
Jeff Hamelin	John Hemsted	Cate Root	
Stan Wells	Rick Newlove	David Greenwood	
Katie Thompson			

Liaisons:

Simcoe Muskoka District Health Unit	Christina Wieder
Lake Simcoe Region Conservation Authority	Ben Longstaff
Nottawasaga Valley Conservation Authority	Doug Hevenor
Severn Sound Environmental Association	Melissa Carruthers
Ministry of the Environment, Conservation and Parks	Tea Pesheva

Staff:

Bill Thompson, LSRCA
 Tavis Nimmo, Durham Region
 Mike Wilson, LSRCA
 Steven Holden, Barrie
 Stephanie Sabean, Barrie
 Melissa Carruthers, SSEA
 Shelley Fogelman, minutes, LSRCA

Guests:

Scott Lister, York Region
 Mike Rawn, Clearview Township
 Devin Hannan, Golder Associates
 Ryan Post, NVCA
 Kamran Khurshid, New Tecumseth

Regrets:

Sharday James; Debbie Korolnek; Bob Duncanson; Larry Slomka

I. WELCOME & OPENING REMARKS

Chair Dollin welcomed everyone to the meeting; advised some members had to leave early so may have to reorder agenda to accommodate.

II. ROLL CALL

Bill Thompson carried out a roll call. Stan Wells agreed to hold proxy for Colin Elliott; John Hemsted agreed to hold proxy for Dave Ritchie, both of whom left meeting at 2:00 p.m., but returned later in the meeting Chair noted agenda could stand as presented.

III. DECLARATION OF PECUNIARY INTERESTS

None.

IV. APPROVAL OF AGENDA

No amendments were noted.

RESOLVED: **THAT** the agenda for the March 31, 2021, meeting of the Source Protection Committee (SPC) be approved as presented.

Moved: John Hemsted

Seconded: Rick Newlove

CARRIED

V. ADOPTION OF MINUTES

Requested that, on page 13 the name Dave Ketcheson be changed to Colin Elliott. Move Cate Root’s name to Public Sector list.

RESOLVED: **THAT** the minutes of the February 17, 2021 meeting of the Source Protection Committee be approved as amended and circulated.

Moved: Stan Wells

Seconded: Andy Campbell

CARRIED

Tea Pesheva asked that the following further comments to her remarks regarding S.34 (page3 of February 17, 2021 minutes) be noted in minutes of March 31, 2021 meeting, as follows:

“Section 34s are locally initiated amendments, typically those with some urgency, including those that ensure new or changing municipal sources of drinking water are protected, include important information not available at the time the plan was first

SPC Meeting March 31 2021

approved, address new or changing land uses or infrastructure that impact vulnerable area mapping or scores, and ensure policy implementation issues are addressed.

Prior to conducting public consultation for locally initiated amendments under section 34, the Clean Water Act (CWA) requires the SPA to obtain a municipal council resolution from each municipality affected by the amendments. Following the consultation process, the SPA then works on updating Source Protection Plan and the Assessment Report. The S.36 is a review of the Plan as required under the legislation, which is as a result of a Minister’s order given to the SPA for specific changes that need to be done or that it remains current.”

VI. ANNOUNCEMENTS

Chair: Noted that Keley Katona is moving on; has accepted position at MMAH. Susan Ecclestone will be Acting; has been in role before so is familiar with program.

Tea P. Noted announcement regarding permanent replacement for Ms. Katona will be made by Deputy Minister following recruitment process. Chairs’ meeting was held February 24; presentations were insightful and helpful to management providing a great overview of program. New Director to meet individually with each Chair at some future date.

VII. DELEGATIONS

There were none.

VIII. PRESENTATIONS

(a) Source Protection Region Update – Bill Thompson, Lake Simcoe Region Conservation Authority

Regular update regarding work staff has been doing between meetings and a forecast of the year to come.

Education & Outreach – shout out to M. Carruthers of SSEA – created virtual training event for municipalities in her area; attended by 19 municipal staff.

Plan Amendments – S.34 & 36 amendments remain a major focus for staff’s work. Two different amendments: S.36 review is comprehensive review of how well the plan is working; updated every few years. Issues previously brought to committee include DNAPLs and salt risk management plans; bigger issue are the Directors’ Technical Rules for which a number of changes have been proposed. Most important proposed changes are around the circumstances when an activity can be considered a significant threat; when activities

become a significant threat policies need to be in place. When/if amendments are approved, will lead Committee through process to ensure the policies in the plan are still the right ones.

S.34 more issue/topic specific amendments. For committee most likely to be additions/changes to drinking water systems. Will continue to bring updates to committee; important update on York Region file re: proposed twinning of well – moving forward. Noted there are other files that will be brought to the committee as/when required.

SPC Membership – Members appointed to committee with 5 year term; Bill is working with Chair to speak with members appointed in 2016 whose terms are coming up; interest expressed by some to reapply to continue on the committee.

2021 Committee Meetings – Committee can expect two or three more meetings this year; difficult to predict timing; will follow up with Chair.

RESOLVED: **THAT** the presentation regarding the Source Protection Region Update by Bill Thompson be received for information.

Moved: Rick Newlove

Seconded: Kyle Mitchell

CARRIED

(b) Proposed Amendment – Township of Clearview-Ryan Post, Nottawasaga Valley Conservation Authority and Devin Hannan, Golder Associates

Presentation provided an overview to proposed amendment to an existing well and a proposed Klondike well in Stayner, in Township of Clearview. Noted that Mike Rawn from Township of Clearview is in attendance at this meeting.

Stayner population growth to be significant within next 15 years. Existing wells in Stayner are comprised of two well fields; in Assessment Report has three wells but should be four; well four needs to be integrated into Assessment Report. The new well (Klondike Wellfield) will contain four wells, three in production, one which will be standby. Presentation rationale/objective is to ask committee to agree that amendments to the Plan are advisable.

Stayner Well 4 – drilled in 2009 incorporated into the amended Permit to Take Water (PTTW); needs to be incorporated into Source Protection Plan (SPP) and the associated Assessment Report. Three tests to determine whether well should be included in Assessment Report – Location, Screen Depth (where water comes from), PTTW (impacts groundwater modelling used to delineate wellhead protection areas (WHPA). There are

no additional drinking water threats or anticipated policy changes required. Changes in mapping are essentially “bookkeeping” amendment.

Klondike Park Wellfield – Devin Hannan, Golder Associates

Identified key reports, publicly available, regarding work done in area. Work on area for Klondike Wellfield began in 2018. Township of Clearview requested work because of anticipated significant increases in water supply demand and need to locate other sources of groundwater; best site on Klondike Park Road, northeast of Stayner.

Site is almost center of Wasaga Beach model as starting point (2004). Noted there are 24 private wells in area 20 of which will have no adverse effects, a water level monitoring program will be initiated at the other 4; no significant drinking water threats were found nor are any anticipated.

The WHPA-A is entirely within property owned by the Township of Clearview; no landowners will be affected, and no significant drinking water threats exist. Therefore, no policy change is required. Notice to this effect has been provided to the municipality.

Questions/Comments:

- Stan W. To confirm mapping – proposed wellfield is at the northeast corner of Sunnydale Concession 12 and Klondike Park Road – correct?

- Stan W. Are source protection officials within the Town of Wasaga Beach fully aware of this proposal?

- Mike R. Yes.

- Geoff A. Where does population data come from?

- Mike R. That data is described in Burnside’s report; I think the 28,000 is the ultimate build out for Stayner.

- Geoff A. Will the remainder of property be protected, or left as agricultural?

- Mike R. No plans at this point to develop or allow development; most likely to remain as farmland.

- Cate R. Is the aquifer the same as the ones being used by the four wells in Stayner?

- Devin H. Yes it is the same aquifer; there are several kilometers separating the zone of influences between the two wells and their aquifer properties are bound to change; the aquifer transmissivity under the Klondike Park Road is not expected to be the exact same as the power line and, in fact, it is not.

- Cate R. Is there a standard to the number of livestock before it becomes a concern?
- Ryan P. In technical rules published in 2010 outline methodology that is used to delineate the percent managed lands or livestock density; there's a standard approach that we used for models here and all other wellhead protection areas across the province. The agricultural threats are not applicable to zones outside the WHPA A; based on land ownership and geographic extent of WHPA A the threats are zero.
- Cate R. Is there a number of animals per acre?
- Ryan P. It's based on nutrient units, so would be based on the type and number of livestock.
- Devin H. If nutrient units are greater than one it would be a concern, but this is well under the threshold.
- Dave K. You mentioned that using the MDD vastly expanded the capture zones; why is there a sudden departure or why there's a significant difference between the ADD and MDD simulations?
- Devin H. First of all, we never actually simulated the MDD – that was a speculative number. Based on previous modelling we would see a proportionately larger draw down. The MDD, if ever reached, would be within a very short timeframe and usually the taking is much less than that.
- Dave K. Would it be reasonable to say that if MDD is considered it would expand the capture zone by a factor of two?
- Devin H. Without further modelling, that would be a good guess. Capture zones are based on a very long-term water use over the course of decades – and you would never see an MDD for a 25 year period non stop so the ADD is technically much more justifiable.
- Andy C. Will the wellfield be expanded in the future for additional capacity?
- Devin H. Currently undertaking the follow up to the initial work. We expect to design the wells in the next month or so and see how much they make. If they meet what they are supposed to do, I'm not sure that there would be a plan to put more wells in.
- Mike R. Clearview has an agreement with the Town of Wasaga Beach for taking sewage through the Town to the sewage treatment plant; there are no plans to extend

the wellfield. The target requested for the well capacity is to match the existing sewage capacity.

Stan W. When we look forward to increased populations – this will be a very busy area in the next 20 years.

Tom K. Am I right in saying that the orange block (on map in presentation) to the right of the WHPA is a landfill? So in the unexpected event that it is decided to increase the well capacity on that site, the WHPA would probably extend into that landfill, right?

Devin H. Yes, there is a possibility of that. I would just say there is no drinking water threat and there is no intent to increase the pumping. These are the WHPAs with the uncertainty analysis built in.

Mike R. There’s a pipe running through Stayner; the Township is often asked why we aren’t connecting to it? The well is quite east of Stayner. Costs are one issue; one of the most significant issues is business in Stayner; if we could separate supply from wells it would save the businesses.

RESOLVED: THAT staff report number SPC-2021-02-03 regarding Source Protection Plan and Assessment Report Update – Amendment to Township of Clearview be received for information; and

AND FURTHER THAT the South Georgian Bay Lake Simcoe Source Protection Committee agree that the proposed amendments to the Source Protection Plan and the Clearview Chapter of the Nottawasaga Valley Assessment Report are advisable.

Moved: Kyle Mitchell

Seconded: Andy Campbell

CARRIED

(c) 2020 Annual Report – Mike Wilson, Lake Simcoe Region Conservation Authority

Primary goal of Annual Reporting is to determine whether the assessment of threats to drinking water supplies have been reduced through the implementation of the Source Protection Plan. A review of the reports which have to be submitted to the Province. Noted that with 15 months to the submission deadlines, 119 Risk Management Plans (RMP) remain to be completed. To date, 19 have been completed; as of December 31, 2020 87 RMPs are in progress (communication has taken place between landowner and RMO) – lower than previous years, but a strong number considering impacts/restrictions of COVID 19, leaving
SPC Meeting March 31 2021

approximately 32 RMPs that have not been started. Presentation reviewed status of each of the municipalities – RMPs that are due/in progress, not yet started or not required. Total RMPs completed is 251 across the Source Protection Region. Provided a table of 22 prescribed drinking water threats. As of December 31, 2020 89% of the threats that existed at the time of SPP approval have been addressed through policy implementation.

Sixteen of the 22 threats are typically managed through the RMP tool; they are Agriculture, Commercial Fertilizer and DNAPL threats. Provided a review of municipalities who are in the process of or need to update their Official Plans to include Sourcewater Protection.

Noted that January 2022 is MECP deadline to complete the second round of septic inspections; has been impacted by COVID and inability to conduct inspections. Reviewed impacts and potential issues regarding RMPs and septic inspections in light of the pandemic and the restrictions it has imposed.

Next Steps – Staff will continue to bring progress reports to the committee; may request another review of the RMP deadline taking into account the restrictions/limitations imposed by COVID 19.

Recommended that committee agree to a satisfactory rating.

Questions/Comments:

- Lynn D. Every year that we’ve reported out it’s always been satisfactory – is that correct?
- Mike W. That’s correct.
- Geoff A. Why do we want to remain at satisfactory? Is it possibly because we don’t want the added pressure of progressing well and may slipping back to satisfactory?
- Mike W. We could say progressing well/on target. May consider that now there is a new deadline, which is 15 months out, we may be on target.
- Lynn D. If it was just progressing well, without the “on target” I’d be more comfortable.
- Tom K. Why is Georgina not required? Do they not have any municipal systems?
- Lynn D. They have one surface water intake and it’s way out so there’s no significant drinking water threat.
- Cate R. Similar question to Tom’s regarding Tay – I would think that runoff water would be a concern?

- Melissa C. The circumstances aren't great enough for those septic systems to be considered significant drinking water threats.
- Cate R. Indicated that in fact 87 reports have actually been started and I would echo that we're well on our way if that's the case.
- Lynn D. If Tay was on the shores of Lake Simcoe rather than Georgian Bay, everybody within 100 m of the water would have to a septic inspection because of the Lake Simcoe Protection Plan.
- Katie T. From the RMO perspective while we're making progress on all the policies, it is challenging to close RMP files with the inability to go onsite. If bumping us up will take away any option for another possible extension I would advise against it.
- David K. I think we've been ripped off, because COVID 19 has brought the ability of RMO's to do their work to a standstill. Therefore, I'd suggest we go to MECP and saying let's stop the clock until COVID's over. We need direction from the Ministry that says to put RMPs on hold, so lives aren't endangered (due to COVID).
- Stan W. I think this committee should be directing staff to send a letter to MECP to ask for suspension; not just a safety issue but if we try to force the issue to go on sites, we lose the potential for cooperation. I am supportive of the satisfactory recommendation, but I would like to suggest that a letter goes to the Ministry to extend the deadline.
- Bill T. I have spoken with Tea and other staff at the Ministry and they're fully understanding of the RMO's situation; there isn't a pressure to meet the deadline, there's simply the process to report annually. I think the Ministry would accept a revision to the deadline, if the committee decides that.
- Rick N. I think satisfactory is the rating because of the concerns and delays in completing some RMOs because of COVID 19.
- Lynn D. I would rather say satisfactory and then do better, than disappoint.
- David G. I agree with Rick's comment; Mike made comment that there is some innovative virtual work taking place; if we accept satisfactory rating I'd hope to see more innovation taking place.

Lynn D. Lake Simcoe Protection Plan is currently receiving comments from the public. Many comments talked about more consistency, funding for septic inspections. If there are changes to the LSPP that make changes to the septic inspection would that be separate from the Sourcewater inspections in the WHPA?

Ben L. We are still in conversation with the Province; continue to work towards consistency.

Lynn D. When we talk about numbers (in presentation), but in other parts of presentation talk about percentages. Out of the 19 regions, ours has more than half of the drinking water systems. For example, 98% in a smaller region is a much different number than 98% in our region; I believe (presentation) should show numbers in brackets after a percentage to clarify.

Lynn D. Did we land on whether we want to send a letter saying “stop the process”. I’m a little concerned with what that would do with our RMPs.

Rick N. I would move we accept satisfactory, but could we put a reason in brackets, i.e., as a result of COVID 19, to explain?

Lynn D. Could we amend the recommendation, Bill?

Bill T. The report card (in presentation) – at top of page we pick the rating and at bottom is explanation for choice, so some wording can be added there.

RESOLVED: THAT staff report number SPC-2021-02-02 regarding the annual report on plan implementation be received for information; and

FURTHER THAT the SPA staff be directed to rate progress as “Satisfactory”;

AND FURTHER THAT the Source Protection Committee utilize section II of the Annual Report to comment on the progress made to date, as described in the Issues section, making reference to COVID 19.

Moved: Geoff Allen

Seconded: Stan Wells

CARRIED

(d) Proposed Amendment – Township of Mulmur – Ryan Post, Nottawasaga Valley Conservation Authority

Simple well replacement in Township of Mulmur. Original inspection showed corrosion in well necessitating well replacement. Relied on three tests – location, screen depth and permit to take water– to determine if it’s a simple replacement or if it will impact delineation of wellhead protection areas. Comparison of PTTW from existing to new well – no change in water extraction rates for this well; based on that wellhead protection area will not be changed. No new significant drinking water threats identified and no policy changes anticipated.

Questions/Comments:

David K. Is there a reason why the well screen corroded out?

Ryan P. I’m not aware of the reason why that would happen. RJ Burnside did the review and made the determination.

RESOLVED: THAT staff report number SPC-2021-02-04 regarding Assessment Report Update-Mulmur Chapter be received for information; and

FURTHER THAT the South Georgian Bay Lake Simcoe Source Protection Committee agree that the proposed amendments to the Source Protection Plan and the Mulmur Chapter of the Nottawasaga Valley Assessment Report are advisable;

AND FURTHER THAT staff be directed to incorporate these changes as part of the forthcoming amendment to the Source Protection Plan, under Section 36 of the *Clean Water Act*.

Moved: John Hemsted

Seconded: Kyle Mitchell

CARRIED

Correspondence Received:

Chair noted a letter was written by LSRCA Chair Emmerson to Minister Yurek; a response has been received and will be included in agenda of next meeting.

IX. ADOPTION OF ITEMS NOT REQUIRING SEPARATE DISCUSSION

There were none.

RESOLVED: THAT the recommendations as set forth in the items not requiring separate discussion be approved, and staff be authorized to take all necessary actions to affect those recommendations.

Moved: Rick Newlove

Seconded: Stan Wells

CARRIED

X. DETERMINATION OF ITEMS REQUIRING SEPARATE DISCUSSIONS

None.

XI. OTHER BUSINESS

Dave K. There's a committee report on comments proposed to the Canada Water Agency. (Item 1(a) on Agenda).

Lynn D. We've already approved it, but if anyone has any questions or comments.

Colin E. It looks like a bureaucratic bonanza; discussions on how it will affect agriculture in Ontario are still to come.

XII. Next Meeting and Adjournment

Date currently unknown; staff will send a Doodle Poll to members.

RESOLVED: THAT the SPC meeting of March 31, 2021 be adjourned at 3:47 p.m.

Moved: Colin Elliott

Seconded: Don Goodyear

CARRIED

357-2021-713

March 30, 2021

Mr. Wayne Emmerson
Chairman and CEO, Regional Municipality of York
Chair, Lakes Simcoe and Couchiching/Black River Source Protection Authority Email:
wayne.emmerson@york.ca

Dear Mr. Emmerson:

Thank you for your emailed letter to Minister Yurek regarding the annual reporting requirements for source water protection under the *Clean Water Act, 2006*. I am pleased to respond on behalf of the Minister.

We value the accomplishments of source protection authorities and their municipal partners in protecting Ontario's sources of drinking water. In reviewing your most recent annual progress report, we were pleased to learn that over 230 risk management plans are already in place within the South Georgian Bay Lake Simcoe Source Protection Region.

Annual reporting for source protection fulfils several purposes including to:

- Demonstrate progress made in implementing source protection plans;
- Satisfy monitoring policy reporting obligations in local source protection plans, the *Clean Water Act, 2006* and Ontario Regulation 287/07;
- Provide compliance oversight;
- Contribute to the summary on source protection included within the Minister's annual report prepared under the *Safe Drinking Water Act, 2002*;
- Respond to requests for information; and
- Corroborate responses to any related program area audits.

Each year, the Conservation and Source Protection Branch assesses the annual reporting information and looks for ways to improve reporting. Our ministry is committed to reducing administrative burden and will look for further opportunities to address the concerns you raised, including when looking at any regulatory changes in the future.

...2

Mr. Wayne Emmerson Page
2.

Thank you again for bringing forward your concerns and for your ongoing efforts in protecting sources of drinking water in Ontario.

Sincerely,

Keley Katona

Keley Katona
Director, Conservation and Source Protection Branch

c: Lynn Dollin, Chair, South Georgian Bay Lake Simcoe Source Protection Committee
Mariane McLeod, Chair, Nottawasaga Valley Source Protection Authority
Steffen Walma, Chair, Severn Sound Source Protection Authority

Ministry of the Environment,
Conservation and Parks

Office of the Minister

777 Bay Street, 5th Floor
Toronto ON M7A 2J3
Tel.: 416-314-6790

June 14, 2021

Ministère de l'Environnement, de la Protection de la nature et des
Parcs

Bureau du ministre

777, rue Bay, 5^e étage
Toronto (Ontario) M7A 2J3
Tél. : 416.314.6790



357-2021-1581

Wayne Emmerson, Chair
Lake Simcoe Region Conservation
Authority
120 Bayview Parkway, Box 282
Newmarket, ON L3Y 3W3

Lynn Dollin, Chair
South Georgian Bay-Lake Simcoe Source
Protection Committee
120 Bayview Parkway
Newmarket ON L3Y 3W3

Dear Mr. Emmerson and Ms. Dollin,

I'm pleased to inform you that the Ministry of the Environment, Conservation and Parks has completed its review of your proposed amendments to the South Georgian Bay Lake Simcoe Source Protection Plan developed under the *Clean Water Act, 2006*, affecting York Region's Aurora and Newmarket wellfields.

To ensure that the quality of Ontario's municipal drinking water sources continue to be protected in the Lakes Simcoe and Couchiching/Black River Source Protection Area, I approve the amendments pursuant to section 34 of the *Clean Water Act, 2006*. These amendments will take effect on the day a notice of this decision is posted to the Environmental Registry.

I appreciate the dedication of the local municipalities, source protection authorities and all our partners and stakeholders for their work and contributions to these amendments.

Protecting Ontario's water resources for future generations is a key commitment in our Made-in-Ontario Environment Plan and the province looks forward to continuing to work with you on this commitment.

Sincerely,

Jeff Yurek Minister

Enclosure

From: [Dong, Joyce \(MECP\)](#) on behalf of [Stuart, Chloe \(MECP\)](#)
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Subject: Staffing Announcement - Director, Conservation and Source Protection
Date: June 18, 2021 9:28:31 AM

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Good morning,

I am pleased to announce that **Kirsten Corrigal** was the successful candidate in the competition for the **Director, Conservation and Source Protection** in the Land and Water Division, effective June 28, 2021.

Kirsten joined MECP in 2019 as Manager, Special Projects, to lead a comprehensive review and subsequent legislative changes related to the Endangered Species Act. In 2020, she became the Manager of Species at Risk Recovery Section in the Land and Water Division where she has been providing leadership to a large team of professionals with a broad-ranging portfolio. This has included leading a large and complex regulatory proposal, working to establish a new Crown agency, delivering a \$4.5M annual Species at Risk Stewardship Transfer Payment Program and implementing recovery planning for species at risk.

Prior to coming to MECP, Kirsten had varying leadership roles with the Ministry of Natural Resources and Forestry and the Ministry of Energy, Northern Development and Mines. This included species at risk and biodiversity policy, forest policy, forest tenure modernization and forest management. One of her proudest professional accomplishments was negotiating Ontario's first-ever forestry resource revenue sharing agreements with First Nations.

Kirsten brings extensive experience in environmental policies and programs, as well as an inclusive approach to team building and drive toward a collective vision.

Kirsten calls Peterborough home, where she is married with two teenaged kids. She regularly shares her home office with the moist spoiled family member, her dog Rosie. When she is not working, she is actively scouting out new trails to run or hike,

walking her dog and looking forward to rejoining the Peterborough Singers.

I look forward to welcoming her to the Divisional Leadership Team. Please join me in congratulating Kirsten on her new role.

I would like to thank Susan Ecclestone for expertly taking on this additional portfolio and leading the branch over the past three months. Susan and Kirsten will work together to ensure a smooth transition, and Kirsten is looking forward to meeting many of you in the days and weeks to come.

Thank you. Have a nice day.

Chloe

Chloe Stuart
ADM, Land and Water Division
Ministry of the Environment, Conservation and Parks



Source Protection Committee Meeting

Staff Report Number: SPC-2021-03-01
Agenda Item Number: IX (a)
To: South Georgian Bay Lake Simcoe Source Protection Committee
From: Mike Wilson, P. Geo. Source Water Protection Hydrogeologist
Date: December 16, 2021
Subject: **Source Protection Plan and Assessment Report Update
Updated Wellhead Protection Areas for the Cannington Well
Supply**

Recommendations: **THAT** Staff Report No. SPC-2021-03-01 be received for information; and
FURTHER THAT the Source Protection Committee agree that the proposed revisions to the Cannington wellhead protection area mapping and assessment report are advisable.

Purpose of Staff Report:

The purpose of this Staff Report is to provide the Source Protection Committee (SPC) an overview of proposed changes to the Wellhead Protection Areas for the Cannington Well Supply, resulting from a proposed addition of wells MW9 and MW10 and the decommissioning of well MW6, and to seek the agreement of the Source Protection Committee that the amendments are advisable.

Background:

The Region of Durham owns and operates the municipal water supply system and municipal wellfields servicing the Urban Area of Cannington, in northern Brock Township. The Cannington Drinking Water Supply currently includes five active wells, one above ground standpipe (reservoir), and approximately 13.6 kilometres of water main, serving approximately 2,100 people (R.V Anderson Associates Inc., 2018).

One of the wells servicing this community, Well MW6, was deactivated in 2012, and decommissioned in 2016, due to water quality issues. More recently the Regional Municipality of Durham has drilled two new municipal supply wells (MW9 and MW10) to provide additional water supply capacity for this community. Before water can be provided to the public from the

new wells, they must be incorporated into the South Georgian Bay Lake Simcoe Source Protection Plan. The technical work, including delineation of wellhead protection areas (WHPAs) and vulnerability and uncertainty analysis, have been completed by S.S. Papadopoulos & Associates Inc. (SSP&A) and GeoProcess Research Associates (GeoProcess) as part of a larger modelling exercise Durham Region has undertaken.

Characterization and understanding of the underlying hydrologic and hydrogeologic systems form the foundation of source protection planning and the assessment of risk to groundwater resources. Given the complexity of these systems, the Region identified the need for an up-to-date, unified, regionally extensive suite of numerical modeling tools to represent the hydrologic and groundwater flow systems extending across the Region of Durham. Therefore, in 2018 the Regional Municipality of Durham retained S.S. Papadopoulos & Associates Inc. and GeoProcess Research Associates to develop a new hydrologic and hydrogeologic numerical model and to assist with the delineation of wellhead protection areas and vulnerability assessments. The construction and calibration of the suite of numerical models – collectively referred to as the Durham 2021 Model – is documented in GeoProcess Research Associates/S.S. Papadopoulos & Associates (2021b). The Durham 2021 Model comprises three model domains: a three-dimensional geologic model, a distributed hydrologic (runoff) model, and a three-dimensional numerical groundwater flow model. As part of the technical work, staff at Durham Region also retained WSP Canada Inc. (formerly GENIVAR, who prepared the previous threats assessment in 2010) to update the threats assessment and provide total impervious surface area, percent managed lands, and livestock density mapping for the updated WHPAs. These studies capture the addition of the two new Cannington wells and the removal of well MW6.

Following completion of this technical work, the Source Protection Authority (SPA) can initiate amendments under Section 34 of the Act, when the SPA and SPC are of the opinion that an update is advisable. After SPC review, the proposed amendments are taken for pre-consultation to all bodies responsible for implementing them, to Councils at all affected Municipalities for endorsement, and finally to the public with a 35-day online consultation period. Public consultation is expected to occur in March 2022, after which Lake Simcoe Couchiching/Black River Source Protection Authority staff will submit the proposed amendments to the Minister of Environment, Conservation and Parks for approval.

Upon plan approval from the Minister, the Assessment Report formally becomes part of the Plan, and all existing policies will apply to the updated wellhead protection areas. The Regional Municipality of Durham is aware of policy implementation obligations and has been in communication with the Township of Brock, who are aware of the technical study and policy implications.

Issues:

As part of the technical work to incorporate the new Cannington wells (MW9 and MW10) and remove well MW6, Durham Region completed the update to their regional three-dimensional, numerical groundwater flow model in 2021. Updates to the model better reflect the current state of knowledge of the regional stratigraphy in Durham Region and are more representative of observed hydrogeological data, and of the current conceptual understanding of the areas

around the municipal wellfields. This work vastly improves upon the 2007 local-scale model used previously to delineate the current Cannington WHPAs (JHL, 2007) and the regional-scale Durham model developed in 2013. The Durham 2021 model is constructed within a single unified regionally extensive framework that accommodates both local-scale assessments around municipal wellfields and larger scale modelling of regional features and flow systems on the watershed or multi-watershed scale.

There are both important similarities and differences between the current (JHL, 2007) and proposed (GeoProcess and SSP&A, 2021a) WHPAs (Figure 1). The general direction of groundwater flow implied by the WHPAs are similar for both the Arena and Gravel Pit wellfields. The WHPAs for the Gravel Pit Wellfield currently in the Assessment Report extend further south from the municipal production wells than the proposed updated WHPAs do. The current 25-year time-of-travel capture zone extends more than 1000 m further south than is predicted with the proposed analyses. The current capture zone for the Arena Wellfield extends significantly further south and east than is predicted with the proposed analyses. It is also noted that WHPA-B of the Arena Wellfield extends significantly up gradient from wells MW4 and MW8 as predicted with the proposed analysis, when compared to the current WHPA. The vulnerability scores within the Cannington WHPAs have changed because of the model update (Figure 2). Areas with the highest vulnerability score (10) are distributed more variably throughout the WHPA-B for the Arena Wellfield and areas with vulnerability score 10, associated with wells MW3, MW2 and MW7 of the Gravel Pit Wellfield, don't extend as far south when delineated with the proposed model.

An update to the assessment of potential drinking water threats to the Cannington Well Supply was undertaken to reflect the new WHPA and vulnerability scores. The methodology and approach taken for the threats assessment exercise was the same as that followed by GENIVAR (2010) for the original Cannington Well Supply. After considering the number of significant threat activities that have already been identified as being managed by the Durham Region Risk Management Official, since the effective date of the source protection plan, there are now twenty-eight (28) threat activities that have potential to be significant drinking water threats on twenty-three (23) land parcels for the Gravel Pit Wellfield and seventeen (17) threat activities that have the potential to be significant drinking water threats on twelve (12) land parcels associated with potential threats in the Arena Wellfield. There are twenty three (23) new on-site sewage system (septic) threat properties associated with the Gravel Pit Wellfield and eight (8) new on-site sewage system (septic) threat properties and two (2) Agricultural-based threat properties associated with the Arena Wellfield. These new threats are on properties that were not previously affected by the South Georgian Bay Lake Simcoe Source Protection Plan.

Finally, staff are of the opinion that the changes to the WHPAs and vulnerability scoring will not require any changes to Source Protection Plan policies. The existing source protection plan policies will sufficiently protect the updated Cannington Well Supply.

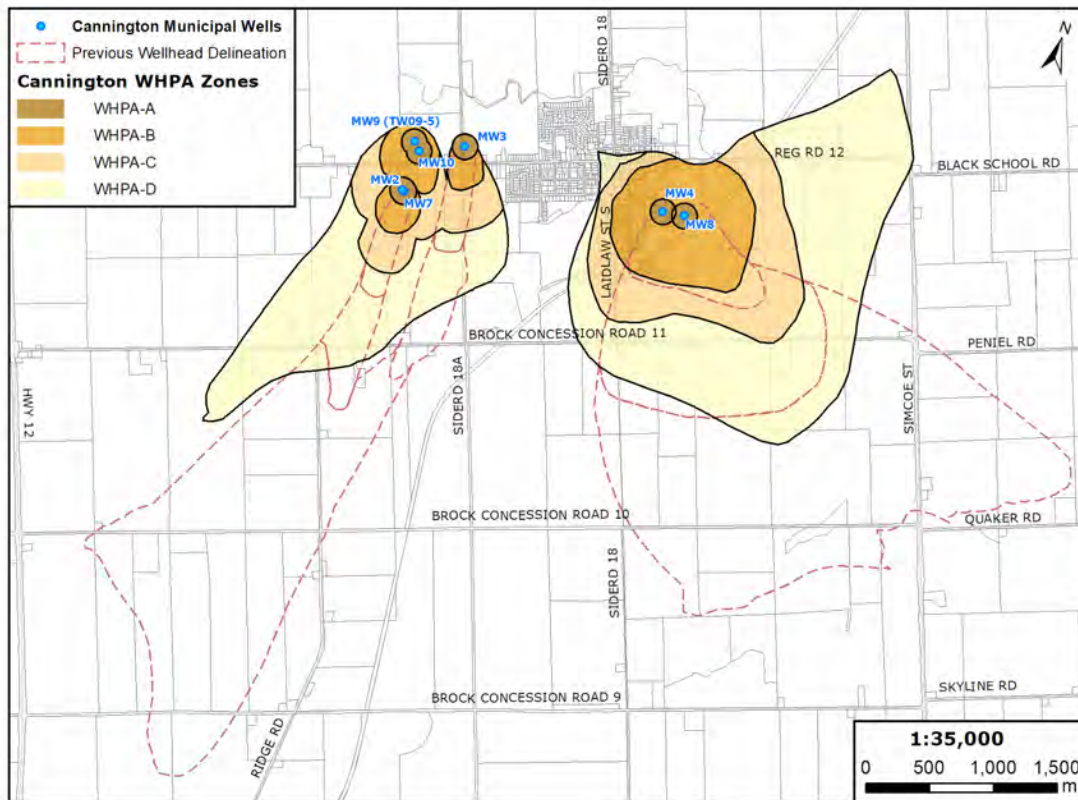


Figure 1: Wellhead Protection Areas for Cannington Wells



Figure 2: Vulnerability Scores for Cannington WHPAs

Summary:

The Regional Municipality of Durham is proposing to revise wellhead protection area boundaries and vulnerability scores for the Cannington Well Supply, to allow the incorporation of two new municipal wells (MW9 and MW10) into the water supply system, and to account for the decommissioning of well MW6. SPA staff have drafted an updated Regional Municipality of Durham chapter in the Assessment Report that incorporates the new technical work and accounts for the new wells.

Recommendation:

RECOMMENDED **THAT** Staff Report No. SPC-2021-03-01 be received for information; and
FURTHER THAT the Source Protection Committee agree that the proposed revisions to the Cannington wellhead protection area mapping and assessment report are advisable.

Prepared by:

Mike Wilson, P. Geo.

Source Water Protection Hydrogeologist

Recommended by:

Bill Thompson

Project Manager, South Georgian Bay Lake Simcoe Source Protection Region

References:

GeoProcess Research Associates Inc / S.S. Papadopoulos & Associates, Inc., 2021b, Groundwater Model Construction and Calibration Report, Groundwater Modelling Update to Meet Source Protection Requirements, Region of Durham/ORMGP, Draft.

GeoProcess Research Associates Inc / S.S. Papadopoulos & Associates, Inc., 2021a, Cannington Municipal Water Supply System – Local Wellfield Characterization Reporting. Groundwater Modelling Update to Meet Source Protection Requirements, Region of Durham, Draft.

Jagger Hims Limited (JHL), 2007, Community of Cannington source water protection, updated wellhead protection areas, prepared for the Region of Durham Works Department.

R.V. Anderson Associates Limited, 2018, Provision of Additional Water Supply Capacity for the Community of Cannington in the Township of Brock – Class Environmental Assessment Addendum – Final. Prepared for the Regional Municipality of Durham.

WSP, 2021, Assessment of Drinking Water Threats, Cannington Water Supply, The Regional Municipality of Durham, Draft.

Source Protection Committee Meeting

Staff Report Number: SPC-2021-03-02

Agenda Item Number: IX (b)

To: South Georgian Bay Lake Simcoe Source Protection Committee

From: Mike Wilson, P. Geo., Source Water Protection Hydrogeologist

Date: December 16, 2021

Subject: **Source Protection Plan and Assessment Report Update
Updated Wellhead Protection Areas for the Sunderland Well
Supply**

Recommendations:

THAT staff report number SPC-2021-03-02 be received for information; and

FURTHER THAT the Source Protection Committee agree that the proposed revisions to the Sunderland wellhead protection area mapping and assessment report are advisable.

Purpose of Staff Report:

The purpose of this Staff Report is to provide the Source Protection Committee (SPC) an overview of proposed changes to the Wellhead Protection Areas for the Sunderland Well Supply, resulting from the addition of the emergency well TW17-3 (MW3), and to seek the agreement of the Source Protection Committee that the amendments are advisable.

Background:

The Region of Durham owns and operates the Sunderland municipal water supply system, which services approximately 1,573 people (as of 2018) in the community of Sunderland in Brock Township. At the time the Assessment Report was written, the Sunderland municipal water supply system consisted of two wells, MW1 and MW2.

In May 2017, the Regional Municipality of Durham took well MW2 offline due to the degradation of raw water quality that inhibited the effectiveness of the existing water treatment system. Despite attempts to rehabilitate the well and restore the water quality, the ultraviolet transmittance (UVT) remained below the acceptable limit required to ensure adequate levels of disinfection. With the Sunderland community thus relying on only one water

supply well, the Region of Durham was granted an Emergency Declaration Order from the Ministry of the Environment and Climate Change on April 10, 2018. This Order exempted them from having to conduct a Class Environmental Assessment study for the new emergency well and from the requirement to include the new well in the Assessment Report prior to it going into service. To compensate for the water supply issues at MW2, the Region initiated an emergency groundwater exploration program, which resulted in the construction of a new water supply well (MW3) in the Sunderland Drinking Water System. The new well is operating under the amended permit to take water (PTTW) 4812-BJ4M7K and was connected to the Sunderland Drinking Water System in 2021. The Region of Durham recognizes the importance of including the new well in the Source Protection Plan as this will provide the best protection for Sunderland's drinking water now and into the future. The technical work, including delineation of wellhead protection areas (WHPAs) and vulnerability and uncertainty analysis, have been completed by S.S. Papadopoulos & Associates Inc. (SSP&A) and GeoProcess Research Associates (GeoProcess) as part of a larger modelling exercise Durham Region has undertaken.

Characterization and understanding of the underlying hydrologic and hydrogeologic systems form the foundation of source protection planning and the assessment of risk to groundwater resources. Given the complexity of these systems, the Region identified the need for an up-to-date, unified, regionally extensive suite of numerical modeling tools to represent the hydrologic and groundwater flow systems extending across the Region of Durham. Therefore, in 2018 the Regional Municipality of Durham retained SSP&A and GeoProcess to develop a new hydrologic and hydrogeologic numerical model and to assist with the delineation of wellhead protection areas and vulnerability assessment. The construction and calibration of the suite of numerical models – collectively referred to as the Durham 2021 Model – is documented in GeoProcess and SSP&A (2021b). The Durham 2021 Model comprises three model domains: a three-dimensional geologic model, a distributed hydrologic (runoff) model, and a three-dimensional numerical groundwater flow model. As part of the technical work, staff at Durham Region also retained WSP Canada Inc. (formerly GENIVAR, who completed the previous threats assessment in 2010) to update the threats assessment and provide total impervious surface area, percent managed lands, and livestock density mapping for the updated WHPAs (WSP, 2021). These studies capture the addition of the emergency well (MW3) as part of the Sunderland Drinking Water System.

Following completion of this technical work, the Source Protection Authority (SPA) can initiate amendments under Section 34 of the Act, when the SPA and SPC are of the opinion that an update is advisable. After SPC review, the proposed amendments are taken for pre-consultation to all bodies responsible for implementing them, to Councils at all affected Municipalities for endorsement, and finally to the public with a 35-day online consultation period. Public consultation is expected to occur in March 2022, after which Lake Simcoe Couchiching/Black River Source Protection Authority staff will submit the proposed amendments to the Minister of Environment, Conservation and Parks for approval.

Upon plan approval from the Minister, the Assessment Report formally becomes part of the Plan, and all existing policies will apply to the updated wellhead protection areas. The Regional Municipality of Durham is aware of policy implementation obligations and has been in

communication with the Township of Brock, who are aware of the technical study and policy implications.

Issues:

As part of the technical work to incorporate the new Sunderland well (MW3), Durham Region updated their regional three-dimensional, numerical groundwater flow model in 2021. Updates to the model better reflect the current state of knowledge of the regional stratigraphy in Durham Region and are more representative of observed hydrogeological data, and of the current conceptual understanding of the areas around the municipal wellfields. This work vastly improves upon the 2003 local-scale model used previously to delineate the current Sunderland WHPAs (JHL, 2003) and the regional-scale Durham model developed in 2013. The Durham 2021 model is constructed within a single unified regionally extensive framework that accommodates both local-scale assessments around municipal wellfields and larger-scale modelling of regional features and flow systems on the watershed or multi-watershed scale.

The WHPA for the Sunderland emergency well MW3 was delineated by GeoProcess and SSP&A (2021a) using the Durham 2021 model. The MW3 WHPA was delineated assuming the permitted rate of 864 m³/day for the MW3 well (as per PTTW No. 4812-BJ4M7K).

The wellhead protection area (WHPA) delineations for WHPA-B, -C, and -D are derived from the 2-, 5- and 25-year travel times, respectively for well MW3 as shown in Figure 1. The WHPA-A zone corresponding to the 100 m radius around the supply well is also shown. The MW3 WHPA delineations radiate out primarily to the west, north and southwest towards till uplands that separate the Beaver River and Vrooman Creek (a western branch of the Beaver River). The eastern extents of the WHPA-B and -C are coincident with one another, extending slightly past the WHPA-A (100-m radius), while the WHPA-D extends an additional 150 m to the east towards Highway 7/12. The results of the wellfield vulnerability scoring for the new Sunderland well MW3) are shown in Figure 2. The variation of vulnerability scores closely follows the progression of the WHPAs, with areas within the WHPA-A assigned the highest vulnerability score of 10 and areas within the WHPA-D assigned the lowest scores of 2. This is due to the effective confinement of the Thorncliffe Aquifer by the overlying Newmarket Till, which results in long surface-to-well travel times and therefore a uniformly low vulnerability level assigned across the MW3 capture zone.

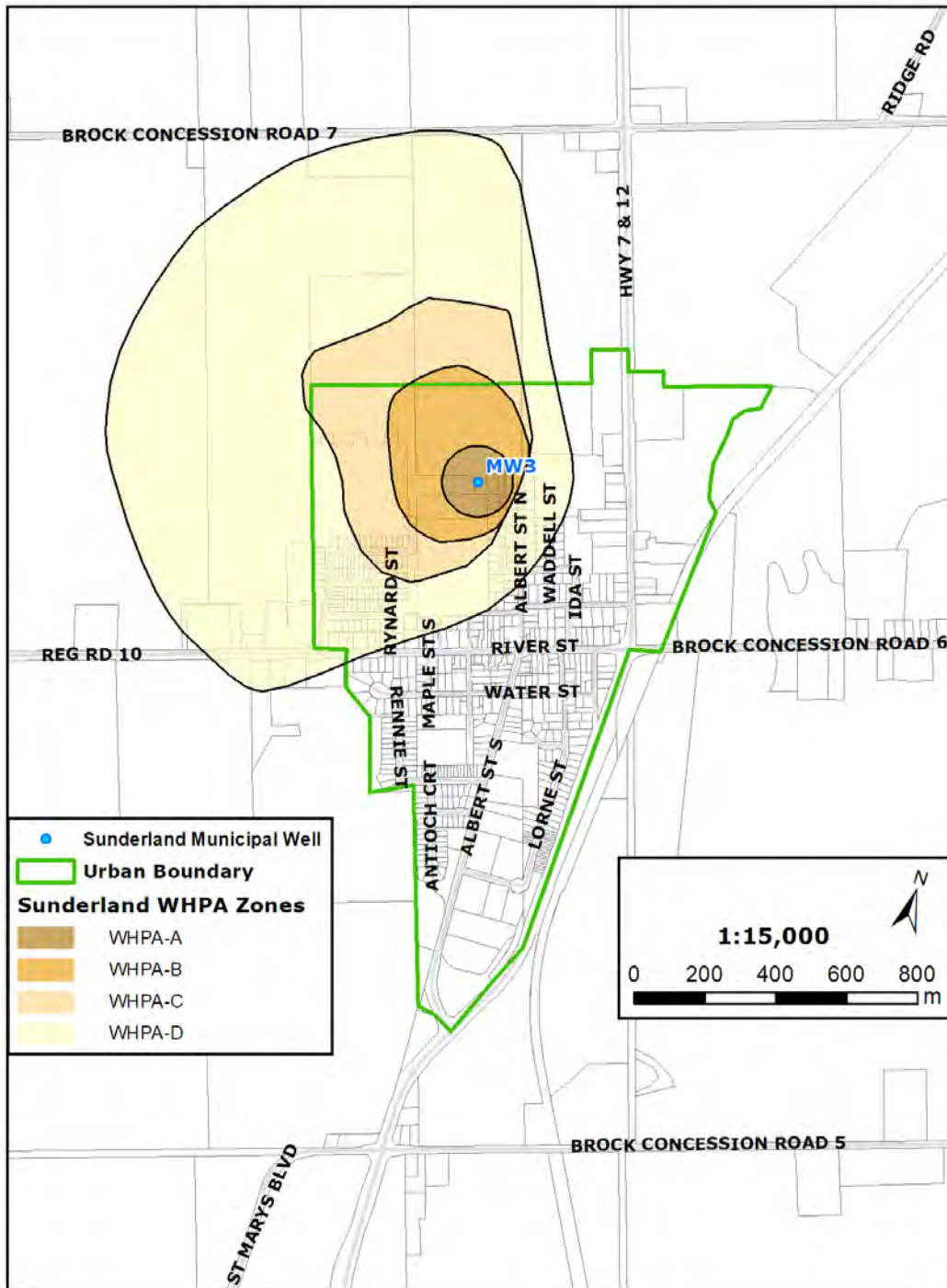


Figure 1: Wellhead protection areas for Sunderland wells

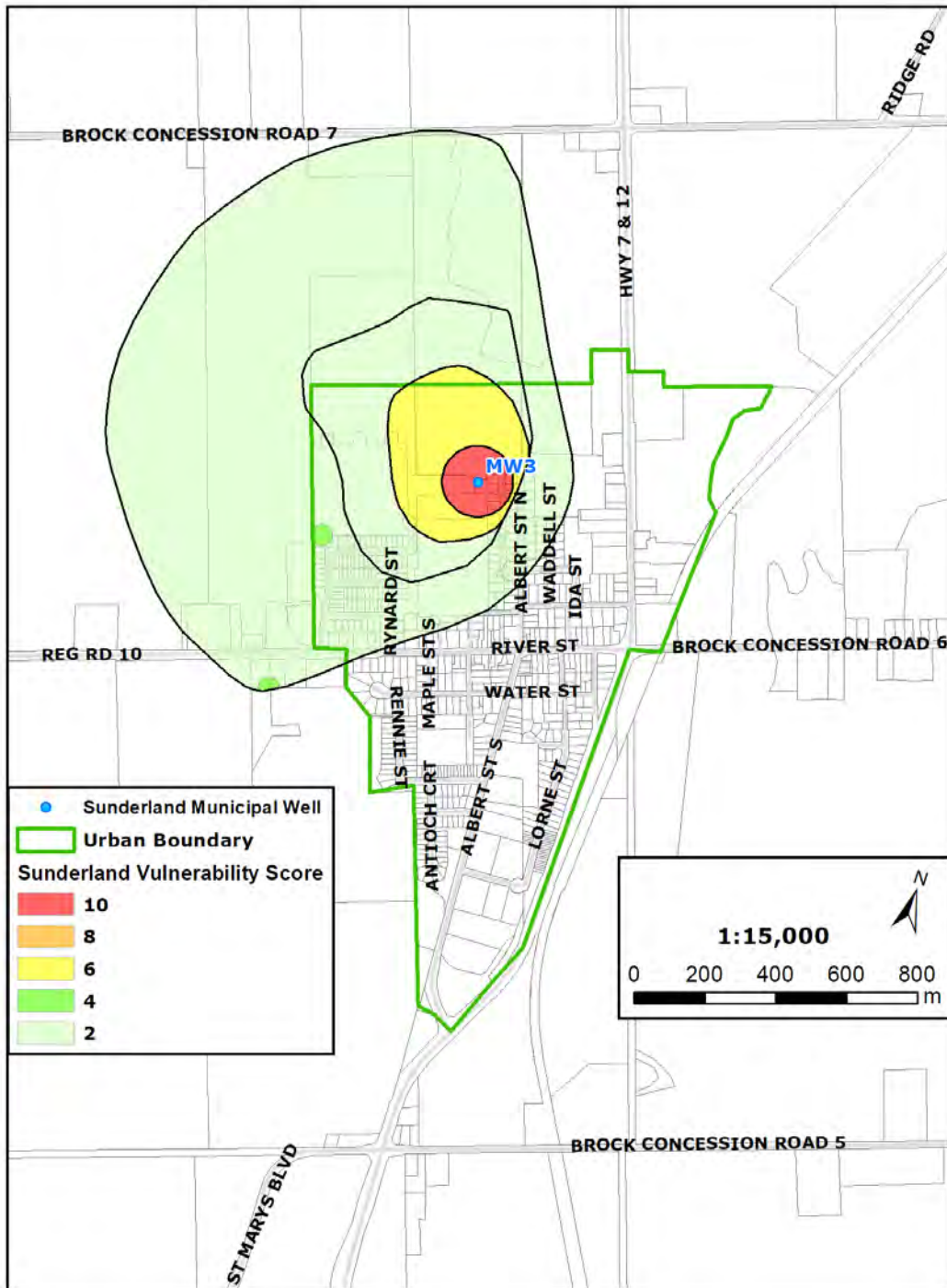


Figure 2: Vulnerability Scores for the Sunderland MW3 WHPA

An update to the assessment of potential drinking water threats to the Sunderland Well Supply was undertaken to reflect the new WHPA and vulnerability scores (WSP, 2021). The methodology and approach taken for the threats assessment exercise was that same as that followed by GENIVAR (2010) for the original Sunderland Well Supply. The desktop threat assessment considered information provided by the Durham Region Risk Management Official to identify parcels where threat activities may already be addressed by Source Protection Plan policies. The threat assessment identified five (5) threat activities that have potential to be significant drinking water threats on four (4) land parcels in WHPA-A/B.

Finally, SPA staff are of the opinion that the changes to the WHPAs and vulnerability scoring will not require any changes to Source Protection Plan policies. The existing source protection plan policies will sufficiently protect the updated Sunderland Well Supply.

Summary:

The Regional Municipality of Durham is proposing to revise wellhead protection area boundaries and vulnerability scores for the Sunderland Well Supply, to allow the incorporation of one new municipal well (MW3) into the water supply system. SPA staff have drafted an updated Regional Municipality of Durham chapter in the Assessment Report which incorporates the new technical work and accounts for the new well.

Recommendation:

RECOMMENDED **THAT** Staff Report No. SPC-2021-03-02 be received for information; and
FURTHER THAT the Source Protection Committee agree that the proposed revisions to the Sunderland wellhead protection area mapping and assessment report are advisable.

Prepared by:

Mike Wilson, P. Geo.

Source Water Protection Hydrogeologist

Recommended by:

Bill Thompson

Project Manager, South Georgian Bay Lake Simcoe Source Protection Region

References:

GeoProcess Research Associates Inc / S.S. Papadopoulos & Associates, Inc., 2021b, Groundwater Model Construction and Calibration Report, Groundwater Modelling Update to Meet Source Protection Requirements, Region of Durham/ORMGP, Draft.

GeoProcess Research Associates Inc / S.S. Papadopoulos & Associates, Inc., 2021a, Sunderland Municipal Water Supply System – Local Wellfield Characterization Reporting. Groundwater Modelling Update to Meet Source Protection Requirements, Region of Durham, Draft.

Jagger Hims Limited (JHL), 2003, Village of Sunderland wellhead protection program numerical model development. Prepared for the Region of Durham Works Department.

WSP, November 1, 2021, Assessment of Drinking Water Threats, Sunderland MW3, The Regional Municipality of Durham, Draft.

Source Protection Committee Meeting

Staff Report Number: SPC-2021-03-03

Agenda Item Number: IX (d)

To: South Georgian Bay Lake Simcoe Source Protection Committee

From: Bill Thompson

Date: Dec 16, 2021

Subject: **Update on progress on negotiating Risk Management Plans**

Recommendations:

THAT staff report number SPC-2021-03-03 regarding an update on progress on negotiating Risk Management Plans be received for information; and

FURTHER THAT Source Protection Authority staff be directed to seek an additional two-year extension on the deadline for risk management plan completion.

Purpose of Staff Report:

The purpose of this Staff Report is to provide an update to the Source Protection Committee on progress made on negotiating Risk Management Plans in the South Georgian Bay Lake Simcoe Source Protection Region, including delays caused by the COVID pandemic.

Background:

Risk Management Plans (RMPs) are one of the primary tools used to manage significant drinking water threats under our Source Protection Plan. Risk Management Plans are intended to apply a site-specific, collaborative, approach to managing these threats, wherein a Risk Management Official negotiates mutually acceptable risk management measures with persons (e.g., farmers or business owners) undertaking the activity which is deemed a significant risk. Risk Management Plans have been identified as a tool to address as many as 16 of the 21 threats in our Source Protection Plan.

When the Source Protection Plan was approved, it was estimated that as many as 700 RMPs might be required. The Source Protection Committee (SPC) opted to give Risk Management Officials (RMO) five years (i.e., to July 2020) to establish all required RMPs.

Issues:

Unfortunately, as RMP negotiation progressed, it became clear that the process of establishing Risk Management Plans was more time consuming than originally anticipated. The 2019 Annual Report to the Minister finally highlighted the difficulty in achieving the timelines set. By the end of 2019, 54 RMPs had been successfully negotiated, and a further 497 were confirmed to be unnecessary through Risk Management Officials (RMOs) meeting with landowners or businesses. However, 140 remained to be completed, with only six months remaining within the timeframe.

The majority of RMPs required in our Region are negotiated with farmers or small business owners. These sectors have intense demands on their time and negotiating a risk management plan is often not their top priority. However, RMOs have worked hard to engage with stakeholders and build strong working relationships with them. RMOs have been successful in educating landowners living and working in these sensitive areas about source water protection principles. It has been reported by RMOs that agricultural-based risk management plans have taken an average of 22 months to complete; RMPs with industrial or commercial clients have taken significantly longer.

Further complicating matters was a lack of clarity RMOs felt about how to address DNAPL threats. RMOs in our Region often found it a difficult process to determine if a particular material constituted a DNAPL or not and sought further direction from the Ministry on a number of occasions, which led to a delay in initiating these negotiations in early years.

As a result of these challenges, and the successes seen despite this heavier than anticipated workload, Source Protection Authority (SPA) staff proposed to extend the timeline for RMP negotiation for two years, to July 2022. This proposal, as presented in Staff Report SPC-2020-01-01, was approved by the Source Protection Committee at its April 30, 2020 meeting and by the Ministry of the Environment, Conservation and Parks in July 2020.

Unfortunately, the request for extension was submitted when the COVID pandemic had just begun. At the time, SPA staff expected that the pandemic would be relatively short-lived and would only interfere with RMO operations for a matter of weeks or months. In reality however, public health restrictions came into place in March 2020 and are currently proposed to be phased out in March 2022; essentially the full two-year extension provided.

During the pandemic, mandated closures of businesses, work from home requirements, and re-assignment of some staff to other duties led to delays in RMP negotiation. In some cases, RMOs refrained from contacting small business owners during much of the shut down, in recognition of the unprecedented stresses businesses have been under during this time.

Risk Management Officials have been able to negotiate Risk Management Plans during this period, albeit at a lower rate than in previous years. Between Jan 2020 and July 2021, 35 threats were addressed in our Source Protection Region, through either RMP negotiation or threat verification, however 105 remain.

SPA staff are proposing an additional two-year extension on the deadline for RMP negotiation, to July 1, 2024, to allow RMOs to ramp up RMP negotiation in a post-COVID work environment. While some uncertainty remains as to how “business as usual” the next two years will be, RMOs within our Source Protection Region are confident that a two-year extension will be sufficient to complete the remaining workload.

Summary:

Risk Management Officials continue to negotiate Risk Management Plans, however the extent of the COVID-19 pandemic, and associated public health restrictions, have significantly slowed the pace of RMP negotiation. As a result, we do not appear to be on pace to have all RMPs negotiated by July 1, 2022. SPA staff recognize that these delays were outside of the control of Risk Management Officials and are proposing an additional two-year extension on the RMP deadline.

Recommendation:

RECOMMENDED **THAT** staff report number SPC-2021-03-03 regarding an update on progress on negotiating Risk Management Plans be received for information; and

FURTHER THAT Source Protection Authority staff be directed to seek an additional two-year extension on the deadline for risk management plan completion

Prepared by:

Bill Thompson

Project Manager, Source Water Protection



Source Protection Committee Meeting

Staff Report Number: SPC-2021-03-04

Agenda Item Number: IX (e)

From: Mike Wilson, P. Geo., Source Water Protection Hydrogeologist,
Lake Simcoe Region Conservation Authority

Date: December 16, 2021

Subject: **Proposed amendment to policy DNAPL-2 (prohibition policy)**

Recommendation: **THAT** staff report number SPC-2021-03-04 regarding proposed new DNAPL prohibition policies be received for information; and

FURTHER THAT The Source Protection Committee endorse the removal of policy DNAPL-2 which prohibits the Future handling and storage of DNAPLs, in any quantity, where they would be a significant drinking water threat;

AND FURTHER THAT The Source Protection Committee endorse the addition of two new DNAPL policies: a RMP policy for the future handling and storage of DNAPLs in a quantity less than 617 L and a prohibition policy for the future handling and storage of DNAPLs in a quantity greater than or equal to 617 L;

AND FURTHER THAT staff be directed to incorporate the new policy text as part of the forthcoming amendment to the Source Protection Plan, under Section 36 of the Clean Water Act.

Purpose of Staff Report:

The purpose of Staff Report No. SPC-2021-03-04 is to provide the South Georgian Bay Lake Simcoe Source Protection Committee (SPC) with an overview of the threat to drinking water sources associated with the handling and storage of dense non-aqueous phase liquids (DNAPLs); a review of the challenges encountered through implementing the DNAPL policies; and an outline of two proposed DNAPL policies (for future threats) to replace the current DNAPL-2 policy.

Background:

Dense non-aqueous phase liquids (DNAPLs) are hazardous liquids that are denser than water, will not easily dissolve in water, and are very difficult to remove when spilled as they sink below

the water table and penetrate deep into the groundwater system. Examples of DNAPLs include 1,4-Dioxane, Tetrachloroethylene (also known as Perchloroethylene or PERC), Trichloroethylene, Vinyl Chloride, and Polycyclic Aromatic Hydrocarbons.

South Georgian Bay Lake Simcoe Source Protection Plan policies apply where the handling and storage of DNAPL is a significant drinking water threat. Any amount of DNAPL is considered a significant threat within a wellhead protection area (WHPA) A, B or C and within an Intake Protection Zone (IPZ) or WHPA-E (a wellhead protection area for a well under the direct influence of surface water) with a vulnerability score of 10.

The legally binding policies in the South Georgian Bay Lake Simcoe Source Protection Plan that apply to the handling and storage of DNAPLs are policies DNAPL-1 and DNAPL-2. The policy DNAPL-1 requires a Risk Management Plan to be completed for the handling and storage of DNAPL that was already occurring prior to the approval of the Source Protection Plan (i.e., Existing threats). Policy DNAPL-2 requires prohibition of any proposed handling and storage of DNAPLs occurring after the Plan approval date (i.e., Future threats). Based on 2020 annual reporting, 264 DNAPL threats requiring a risk management plan have been identified within the source protection region, with 54 of those threats still to be addressed.

As described in the Explanatory Document, the Source Protection Committee resolved to use a combination of Risk Management Plan and Prohibition policies as the most effective way to manage DNAPL threats to sources of drinking water with minimal impact on business owners.

The Source Protection Region is currently undergoing a review of the Source Protection Plan as required by the Minister of Environment Conservation and Parks under section 36 of the Clean Water Act. The intent of this review is, in part, to address any policy implementation challenges that have come to light since plan approval. In developing the workplan for this plan review, Source Protection staff were made aware of several challenges in implementing policy DNAPL-2 (the prohibition of future handling and storage of DNAPLs), as outlined below.

Issues:

RMOs from across the province have identified a common challenge in implementing DNAPL policies: “any amount” of DNAPLs is considered a significant drinking water threat in areas where policies apply. DNAPLs are an especially toxic group of hazardous liquid, and it is estimated that even small quantities, if spilled, have the potential to create large plumes that can contaminate drinking water sources. Pankow and Cherry (1996) provide an example of a chlorinated solvent (DNAPL) plume within a sand and gravel aquifer in San Jose, California that spans more than 4 km in length, and has a volume of 5 billion litres, that contains less than 1 standard drum (205 L) of pure-phase DNAPL. It is evidence like this from contaminated sites across North America that make it extremely difficult to select an appropriate volume threshold below which risk management plan and prohibition policies do not apply.

However, Risk Management Officials and Source Protection Authority staff from the South Georgian Bay Lake Simcoe Source Protection Region have provided the Source Protection Committee with some valuable insight into strategies for managing DNAPL threats. Key findings are summarized below:

- Experiences in negotiating Risk Management Plans to date have found that very few businesses have chlorinated solvents or “pure” DNAPLs in significant volumes. RMOs within the Region are most often finding DNAPLs, or products potentially containing DNAPLs, that are less than 25 L in volume.
- There have been cases where businesses using DNAPLs, have started operating in vulnerable areas without the RMO being made aware of it. In these cases, the “Future” threat activity should have been prohibited. These businesses “slipped through the cracks” because existing municipal processes used to flag new threat activities are not comprehensive.
- As directed by the SPC, staff investigated whether municipal Change of Use Permits could serve as a flag for new businesses potentially using hazardous liquids and planning to open in a vulnerable area. Results of that investigation show that, if this process worked, the RMO would be alerted early and could prohibit the activity before the business incurred much expense. However, as SPA staff demonstrated to the Source Protection Committee at the December 1, 2020 meeting, the Change of Use process is not commonly triggered, or is likely to be triggered after a new use has already started and is not likely adequate to capture future DNAPL threats. Specifically, the Change of Use process is only triggered if a change results in a different occupancy classification (e.g., business/personal services to mercantile or residential) or hazard index, which is primarily based on combustibility and not environmental health or spill threat.
- At the December 1, 2020 meeting, the SPC learned that implementing a prohibition for DNAPLs is extremely difficult because the business (or business activity) cannot be prohibited, but certain products (DNAPLs) used by the business can be prohibited. Therefore, constant oversight to ensure DNAPLs are not being used or stored is required for a prohibition. In contrast, if the Risk Management Plan tool is used, risk management measures are put in place (i.e., secondary containment, spills response, training, etc.) for threat activities regardless of the products being used. This would, in essence, eliminate the threat of DNAPLs without constant oversight from the RMO and be a strong tool to protect municipal drinking water sources.
- The Risk Management Plan tool is fairer to business owners and allows the RMO to develop a positive, ongoing relationship with them and an opportunity to continue to educate them about the threat posed by DNAPLs.
- The SPC agreed that the Risk Management Plan is the preferred tool. However, it was clearly stated that the SPC want to keep a prohibition policy in place in case it’s required in the future to stop any business proposing to store large volumes of DNAPL where it would be a significant drinking water threat. The SPC suggested that perhaps a DNAPL volume threshold could be added to the prohibition policy statement so that large volumes of DNAPL storage would be prohibited in the future.

The South Georgian Bay Lake Simcoe Source Protection Committee has elected not to have a minimum volume threshold for RMP policies to manage the handling and storage of DNAPLs. However, the Committee has expressed a desire to have a maximum volume threshold for DNAPLs, whereby the future handling and storage of DNAPLs above this volume threshold would be prohibited where the activity is a significant drinking water threat. This maximum volume threshold would ensure large quantities of DNAPLs are not stored close to municipal water supply wells or surface water intakes, where they would be a SDWT in the future. To put this another way, businesses that handle and store large quantities of DNAPLs would not be permitted to locate their business close to a municipal well or surface water intake in the future.

Upon receiving this direction from the SPC, SPA staff set a goal of determining a maximum volume threshold for future prohibition of DNAPLs that will both protect drinking water and minimize negative impact on business. To achieve this goal, we researched other legislation that regulates the handling and storage of DNAPLs, and we interviewed businesses known to use pure-phase DNAPL in order to understand their concerns.

Details regarding other legislation regulating the handling and storage of DNAPLs are listed below:

- Tetrachloroethylene (PERC) and Trichloroethylene (TCE) are the only DNAPLs that are regulated and have a volume threshold associated with their handling and storage.
- Environment and Climate Change Canada regulates the use of Tetrachloroethylene and Trichloroethylene through the Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations, and the Solvent Degreasing Regulations.
- The purpose of the Tetrachloroethylene Regulations is to reduce PERC releases to the environment. These reductions are met by requiring more efficient dry-cleaning machines, by minimizing spills of PERC, and by managing the collection and disposal of residue and wastewater that contain PERC. These regulations also gather information to monitor the import of PERC for all uses.
- If a business uses PERC for dry cleaning, it is required to report under subsection 14(b) of the Tetrachloroethylene Regulations by April 30th of each year.
- The purpose of the Solvent Degreasing Regulations is to significantly reduce (by 65%) the consumption of TCE and PERC. An allowance system sets limits on the quantities of TCE and PERC that can be used each year, based on historical uses of these substances by the users. Allowance holders can retire their allowance or transfer it to other users. Sellers and users of TCE and PERC are required to submit annual reports to Environment Canada.
- If a business uses more than 1000 kg (617 L) per year of TCE or PERC for solvent degreasing it is required to report under subsection 7(a) of the Solvent Degreasing Regulations by January 30th of each year.

- All of the risk management measures employed through the Tetrachloroethylene and Solvent Degreasing Regulations are measures that could be used by an RMO in implementing a risk management plan policy under the South Georgian Bay Lake Simcoe Source Protection Plan.

Key facts and concerns from users and distributors of PERC are summarized below.

- The Executive Director of Canadian Fabricare Association (originally Dry Cleaners & Launderers Institute of Ontario) indicated that Dry Cleaners are highly regulated and that members of the Association would appreciate if source water protection Plan policies aligned with Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations.
- The Dry Cleaning industry is committed to environmental protection. Startup dry cleaning businesses no longer use PERC. Dry cleaners choose environmentally friendly cleaning agents that are now available to them.
- EXTOX Industries is an environmentally conscious, hazardous waste disposal company out of Mississauga, that specializes in source reduction and the recycling of chlorinated waste solvents. A Chemical Engineer from EXTOX informed staff that PERC-based dry-cleaning machines are being phased-out in Ontario. He estimates less than half of the dry cleaners in Ontario still use PERC.
- Pure-phase PERC is only stored in the machines. PERC-contaminated waste may be stored on-site for a limited time, in steel barrels.
- EXTOX imports PERC from Japan and Europe in 205 L standardized (the container meets a specific safety standard) stainless steel drums. They also distribute PERC to dry cleaners through a closed-loop system that delivers PERC straight to the dry cleaning machine with no liquid or vapour leaks.
- EXTOX delivers to a dry-cleaning business that uses the most PERC per year in Ontario and that volume is two to three 205 L steel drums per year (or a maximum of 615 L per year).

Summary:

Policy DNAPL-2 in the South Georgian Bay Lake Simcoe Source Protection Plan prohibits the future handling and storage of any amount of dense non-aqueous phase liquids where it would be a significant drinking water threat. Implementers of this policy have demonstrated several weaknesses in this policy (as noted above) and suggest the Risk Management Plan tool would be more protective of our drinking water sources. The SPC supports the use of the Risk Management Plan tool for future threats but also wishes to have a prohibition policy for businesses that propose to handle and/or store large quantities of DNAPL where it would be a SDWT.

SPA staff recommend replacing the current DNAPL-2 prohibition policy with two new DNAPL policies for future threats: a RMP policy for the future handling and storage of DNAPLs in a

quantity less than 617 L; and a prohibition policy for the future handling and storage of DNAPLs in a quantity greater than or equal to 617 L. These proposed policies allow the RMO the great advantage of negotiating a RMP for the vast majority of future DNAPL threats while providing them the option of prohibiting the handling and storage of large quantities of DNAPL in the future, on the rare occasion where that is needed.

Recommendation: **THAT** staff report number SPC-2021-03-04 regarding proposed new DNAPL prohibition policies be received for information; and

FURTHER THAT The Source Protection Committee endorse the removal of policy DNAPL-2 which prohibits the Future handling and storage of DNAPLs, in any quantity, where they would be a significant drinking water threat;

AND FURTHER THAT The Source Protection Committee endorse the addition of two new DNAPL policies: a RMP policy for the future handling and storage of DNAPLs in a quantity less than 617 L and a prohibition policy for the future handling and storage of DNAPLs in a quantity greater than or equal to 617 L;

AND FURTHER THAT staff be directed to incorporate the new policy text as part of the forthcoming amendment to the Source Protection Plan, under Section 36 of the Clean Water Act.

Prepared by:

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Recommended by:

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References:

Pankow, J.F. and Cherry, J.A. (1996) Dense Chlorinated Solvents and Other DNAPLs in Groundwater: History, Behavior and Remediation; Waterloo Press, Ontario