DRINKING WATER
SOURCE PROTECTION
Our Actions Matter

Halton-Hamilton
Source Protection
Region

SPC Meeting
October 9, 2018

Diane Bloomfield, Manager

Halton-Hamilton Source Protection Story Map

- Story Map is an interactive web based map, that uses a 'Story' to present information in a visually appealing way
- Widely used by other Conservation Authorities, Conservation Ontario, and news outlets such as CBC, Toronto Star and CTV News to present data
- Outreach to the public about Source Protection, as easy as providing a link
- All input is welcome!
- 2018 Canadian Winter Olympic Medalists: https://esrica-marketing.maps.arcgis.com/apps/MapJournal/index.html?appid=6983a5f77e1f464b877d76ba8a8e7a12
- 2018 Watershed Report Card through Conservation Ontario: http://stateofontariowatersheds.ca/
- Conservation Halton Marsh Monitoring Results: https://camaps.maps.arcgis.com/apps/MapJournal/index.html?appid=2efe2c3ba26d42cabbfe1cc096db262f

Section 36 Work Plan

Municipal Meetings Summary

Municipal On-line Survey

- Are policies easy to understand by staff and the public?
  - Public receive assistance during consultation with municipal staff
  - Finding the relevant policy can be a challenge but policies are easy to understand
  - A geo reference or municipal reference in the side bar would help with the interpretation of the policies as to where they apply
  - A plain language guide or additional detail in an appendix would help new staff
  - Policies translated to OP policies and zoning by-law regulations clearly
  - Need to explain C/S policies better
  - Have heard concerns over possible new wells in existing farmland
- Are the policies effective at protecting sources of drinking water?
  - Yes for municipal supplies

Municipal On-line Survey

- Are there challenges for you to implement the plan policies, or within timelines for development application review?
  - challenges when implementing more than one source protection plan
  - no concerns with development application review
  - funding needed for agricultural community to prepare and implement risk management plans
- Where can we improve the policies?
  - additional policy needed to allow greater ability to screen out development applications from requiring a Section 59 notice
  - there are issues with the Act and Tables of Circumstances as well
    - DNAPL circumstances, moderate threat activities in close proximity of a well, private wells
- Are there areas where the policies work well?
  - the requirement for a disclosure report was a good idea as it helps fill the gaps

Municipal On-line Survey

- Any updates or new topics required for the assessment reports or new policy areas needed?
  - Assessment reports need to be updated to include:
    - the Guelph-Guelph/Eramosa Township Tier 3 work
    - Campbellville water increasing trend in chloride concentrations
    - contaminated sites in vulnerable areas
    - blue-green algae concerns
    - marinas
  - A link for HVAs and SGRAs (key hydrologic areas) from the assessment reports/plan to provincial policy documents and provide guidance
  - Need for improved information sharing and communications for
    - spills in Lake Ontario
    - blue-green algae tracking in Lake Ontario
    - spills reported to Spills Action Centre in vulnerable areas

Municipal On-line Survey

- Additional training or communication materials needed?
  - additional ongoing training would be appreciated by some, particularly when plan updates occur
  - additional education and outreach is important – prefer consistent messaging
- Are there quality and/or quantity concerns due to climate change?
  - yes, possibly
  - blue-green algae
- Any new issues or concerns re source water quality?
  - Campbellville chloride concentrations
  - glue-green algae
- Any new issues due to water quantity declines?
  - no

Municipal Meeting Summary

- Meetings were held September 6, 2018 facilitated by Ruth Victor
- Well-based meeting – held at Milton Town Hall, 9 am to 11 am
  - Attendance – 15
  - from Milton, Halton Region, Hamilton, County of Wellington
    - Planners
    - Source protection staff
    - Building officials
    - SPC members
- Lake-based meeting – held at Halton Region office, 1:30 pm to 3:30 pm
  - Attendance – 19
  - from Halton Region, Hamilton, Oakville, Burlington, Peel Region
    - Planners
    - Source protection staff
    - Water operators
    - Public works
    - SPC members

Municipal Meeting Discussions

- Background
  - how the policies were developed
  - Minister's order
  - On-line survey results
- Gaps identified in assessment reports
- Policy implementation challenges
- Changes to program, Technical Rules, Tables of Circumstances
- New Rule 95.1 – assessment of new vulnerability scores in IPZs
- New road salt methodology
- New liquid hydrocarbon pipeline threat activity
- Assessment tool being developed to include potential impacts from climate change on drinking water quality

Section 36 Work Plan Overview

Work Plan

- Followed MECP guidance on what to include
- Consideration of nine factors
  1. Environmental monitoring results
  2. Growth and infrastructure changes
  3. Council resolutions
  4. Policy effectiveness
  5. Implementation challenges
  6. Technical rule changes
  7. Agricultural prohibitions outside of WHPA-A
  8. Specific plan approval direction from Minister
  9. Other local considerations
- entire assessment reports, plan and explanatory document require review

Work Plan

- Source protection staff in collaboration with municipal and conservation authority staff can do the work
- Work to start April 1, 2019 and be completed by March 31, 2021
  - i.e. 2 years
- Highlighted some work that is ongoing or will be done that will not be included in this section 36 update
  - Hamilton's Freelton municipal well water taking increase
  - Halton Region's Cedarvale model update

Table 1: Work plan for necessary reviews, assessments and document updates for the Halton Region and Hamilton Region Source Protection Areas

Task No.	Task Description	Work Description	Applicable Document	Lead by SPAs in Consultation With	Timeframe
1	Review and amendments to make the documents current and easily understood	1. Update base mapping on all figures	ARs, SPP, ED		2019/20
		2. Update references to acts, regulations, policies, etc.	ARs, SPP, ED		2019/20
		3. Prepare a manual for the plan that clearly outlines the requirements placed on each implementing body by plan policies	SPP	Implementing bodies	Early 2021
		4. Reformat documents to be compliant with the *Accessibility for Ontarians with Disabilities Act, 2005*	ARs, SPP, ED		2019/20
		5. Add clarity to the effect of the policies	SPP		2019/20
		6. Remove reference to the Walkers Line well field if decommissioned during the review period	ARs		2020/21

2	Amendments to make the documents compliant	1. Update documents to align with revisions to the Technical Rules and the Tables of Drinking Water Threats regarding circumstances and chemicals of concern	ARs, SPP, ED		2019/20
3	Liquid hydrocarbon pipelines	1. Add as a prescribed threat and remove local threat	ARs, SPP, ED		2020/21
		2. Identify threat locations and assess significance following re-assessments to vulnerability scores of intake protection zones	ARs, SPP, ED	Pipeline owners	2020/21
		3. Refine the modelled scenarios for the event-based modelled areas of the local threat to tie to the new prescribed threat assessment	ARs, SPP	Pipeline owners	2020/21
4	Campbellville well field	1. Analyze water quality data and determine the need for an issue contributing area	Halton AR	Halton Region	2019/20
		2. If so, update mapping and complete a threats assessment.	AR, SPP	Halton Region	2019/20

5	Guelph-Guelph/Eramosa wellhead protection area for water quantity	1. Add mapping and text, and source protection committee to discuss policies to address future threat activities.	AR, SPP	Township of Puslinch, County of Wellington, City of Guelph	2020/ 2021
6	Technical Assessments	1. Update managed lands and livestock density maps as needed based on changes in land use. If changes are made, a re-assessment of agricultural threat activities in these areas.	AR		2019/ 2020
		2. Use Technical Rule 95.1 to re-asssess the vulnerability scores of the Lake Ontario intake protection zones. If significant threats are possible, undertake a threats assessment.	AR, SPP, ED	Halton Region and the City of Hamilton, landowners	2019/ 2020
		3. Identify conditions that could be impacting drinking water sources. If identified, include in source protection plan.	AR, SPP	Munipalities	2020/ 2021

6	Technical Assessments	4. Refine the modelled scenarios used for the bulk fuel storage and the off-loading of fuel from ships threat activities to lake source water with the assistance of conservation authority staff.	AR, SPP	Suncor Energy	2019/2020
		5. If significant threats are not possible within intake protection zones based on the Technical Rule 95.1 re-assessment, then consult on the need for additional intake protection zone threes. If the need is identified, these will be delineated based on existing in-lake modelling results and inland flows from the conservation authorities.	AR, SPP	Conservation Authorities, municipalities	2019/2020
		6. Review transport pathways in wellhead protection areas and their influence on the vulnerability of the source water. Alter scoring as necessary and reassess threat activities in those areas.	AR, SPP	Municipalities	2020/2021
		7. Use the new assessment tool for climate change impacts to source water quality, if adopted by the MECP, and refine threats assessment accordingly.	AR	Halton Region and the City of Hamilton water operators	2020/2021
		8. Undertake a high level assessment of the water budget components used for the Tier 1 water budget assessment and propose an update, if warranted, to MECP.	AR	Municipalities	In discussion with MECP
		9. Redelineate the intake protection zone two for Hamilton's Woodward intakes using current available data and amend mapping.	AR	City of Hamilton, Hamilton CA	2019/2020
		10. Use the new road salt methodology to assess the risk that road salt application poses to drinking water sources in the region. Request its use if deemed advisable and not adopted by the MECP. Revise mapping as needed.	AR, SPP, ED	Municipalities	2020/2021

7	Threats Assessment Updates	1. Source protection committee to discuss additional concerns raised through consultation for potential research, stakeholder engagement, and identification as significant threat activities.	AR, SPP, ED	Municipalities, stakeholders, landowners	2020/ 2021
		2. Assess threats in highly vulnerable aquifers and significant groundwater recharge areas and link these vulnerable areas to other provincial policy documents.	AR	Municipal planners	2019/ 2020
		3. Source protection committee will discuss the need for additional local threats, including the transportation of hazardous goods through vulnerable areas. If threats are identified, MECP approval will be sought.	AR, SPP, ED	Municipalities, stakeholders, landowners	2020/ 2021

8	Policy Amendments	1. Source protection committee will review policies not implemented by the end of 2019/2020 fiscal year for potential action.	SPP, ED	Implementing bodies	2020/ 2021
		2. Source protection committee will revise policy G-2 to meet the intent of the Township of Puslinch's request.	SPP	Municipal Risk Management Officials	2020/ 2021
		3. Source protection committee will discuss new policies regarding the sharing of information and communications around spills in vulnerable areas and blue-green algae tracking in Lake Ontario.	SPP, ED	City of Hamilton, Halton Region	2020/ 2021
		4. Source protection committee will review policies with implementation timeframes and amend for periodic reviews and updates, as needed.	SPP		2020/ 2021
		5. Source protection committee will review all policies in the plan for current applicability and add, replace, amend or remove policies as required by work outlined in Tasks 1 through 7.	SPP		2020/ 2021

Next Steps

- Comment deadline – October 18, 2018
- Finalize document – October 19, 2018
- Staff report for SPA Boards to Scott October 22, 2018
- Hamilton Region SPA meeting – November 1, 2018
- Halton Region SPA meeting – November 22, 2018
- Submission to MECP by November 30, 2018

New MECP Annual Reporting Requirements

Source Protection Authority Annual Reporting

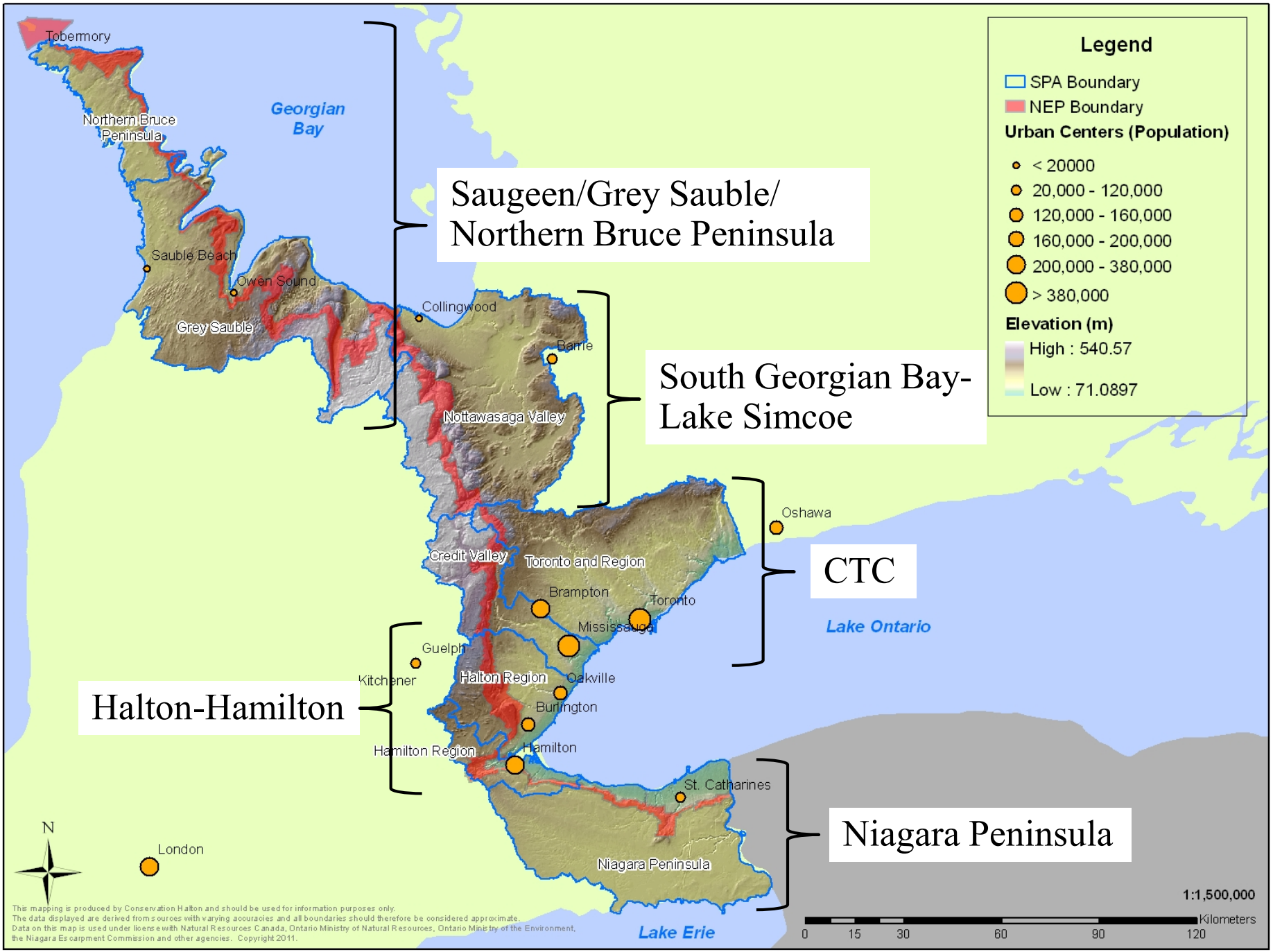
- MECP will be releasing an electronic annual reporting database
- To date we've received an excel supplemental form without the guidance document
- Report will be for the 2018 calendar year
- Submission by May 1st, 2019
  - public-facing annual progress report
  - electronic annual progress reporting database

Source Protection Authority Annual Reporting

What has changed? Not much!

- Removed abbreviations and acronyms!!!!
- Removed some optional questions
- Removed provincial reporting since a database was released in 2017 for them
- Removed questions on source protection integration into municipal business processes
- Must now report implementation status of significant threat policies for legally binding and non-binding effect
- Now report counts for the reporting year and cumulative since plan took effect
- Now have to list municipalities and their official plan and zoning by-law conformity exercise status
- Provided response list to a few questions (may not work)

Source Protection News



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NEC Staff Meeting

- Held in Georgetown on September 18, 2018
- Three source protection regions attended:
  - Halton-Hamilton
  - CTC
  - Saugeen, Grey Sauble, Northern Bruce Peninsula
- Three municipalities attended:
  - Halton Region
  - Town of Halton Hills
  - Peel Region
- 15 staff from both offices of NEC attended
- Presentations included:
  - brief source protection program overview
  - local source protection plan policies
  - Niagara Escarpment Plan – policies and process
  - Halton Region process

Climate Change and Drinking Water Quality

- Series of three meetings and a webinar to roll out draft guidance document and assessment tool
- Source protection authority, municipal and MECP staff attended
- Presentations:
  - overview of source protection program
  - Project goals
  - Overview of the guidance
  - Walk through of the assessment tool
  - Case study
- Group discussions to gather feedback on first impressions and usefulness
- Next steps
  - Comments received will be discussed by project team and guidance and tool finalized for submission to MECP by November 30

IJC Media Release – July 10, 2018

- Bi-national poll on Great Lakes – Great Lakes Water Quality Board
- Survey – 4,250 respondents from 8 Great Lakes states and Ontario

Highlights

- 88% feel it is essential to protect the Great Lakes
- Individual responsibility is important 80% - including careful disposal down the drain, conserving water
- >50% believe there are too few regulations to protect the lakes

Q4. "Can you tell me why you think that the Great Lakes need to be protected?"

PROTECTION: COMBINED MULTIPLE RESPONSES	Percent
Drinking/household water	19%
Valuable resource	18%
Don't know	17%
One of the few sources for fresh water	8%
For the fish/fishing	7%
Our health	6%
For recreational purposes (swimming, boating)	5%
Important for the ecosystem/environment	5%
For the wildlife	5%
Good for the economy	3%
Important for the future	3%
From development (residential, commercial, pipelines, etc.)	2%
For future generations/children/grandchildren	2%
It's the right thing to do/it's needed	1%
Historic significance	<.5%

Drinking water source –
21% Great Lakes, 19% unknown, 3% municipal water treatment plant

"How much of an impact do you feel that each of the following have on the environmental health and water quality of the Great Lakes? Please use a scale from one no negative impact at all to five a very negative impact."

IMPACT AREAS	1-No impact and 2-low negative	3-Neutral	4-high negative and 5-extreme negative	Don't know
Q5. Climate change/Global warming	15%	11%	73%	1%
Q6. Flooding	16%	12%	70%	2%
Q7. Nuclear waste	17%	11%	68%	4%
Q8. Loss of wetlands	15%	13%	67%	5%
Q9. Manure or animal waste runoff	20%	13%	66%	1%
Q10. Municipal wastewater runoff	14%	11%	74%	1%
Q11. The impact of heavy rainstorms	14%	13%	72%	1%
Q12. Algae blooms	13%	9%	76%	2%
Q13. Invasive species such as zebra and quagga mussels, Asian carp	11%	8%	80%	1%
Q14. The petroleum industry, such as pipelines, drilling, fracking	14%	11%	73%	2%

CBC News · Posted: May 23, 2018 4:18 PM ET

U.S. Consul General Juan Alsace organized a tour for U.S. and Canadian environmental experts – they visited Hamilton Harbour

- John Stark, freshwater conservation director for The Nature Conservancy in Ohio stated “Your worst algal bloom could be what you deal with all the time”
- He cited climate change and an increase in powerful downpours that lead to runoff
- He suggests using data to identify plots of farmland where people are actually losing money, then trying to convince farmers not to plant or fertilize there to cut down on the amount of phosphorus that will leach into area waters
- Other ideas - public education about what people have to lose if their water becomes toxic and using artificial intelligence and satellite imaging to track blooms when they do occur

From Bert: OFA Commentary August 3, 2018

Ontario farmers take proactive approach to phosphorus reduction

By Louis Roesch Director, Ontario Federation of Agriculture

- Thames River Phosphorus Reduction Collaborative (PRC)
- New Federal Funding - five on-farm test sites in southwestern Ontario
  - farms of different agricultural practices and soil types
  - collect real-time data on phosphorus and nitrogen loss into waterways
  - monitor and evaluate the effectiveness of phosphorus removal technologies at the edge of agricultural fields and in municipal drains that collect agricultural runoff

Next Meeting

- December 11, 2018, 1:30 pm to 4:30 pm
- Guest Presentation – Ryan Wheeler, Shearwater Environmental Emergency Solutions Inc. (Consultant for Sun-Canadian, TNPI)
  - Help us understand what a credible scenario is for a pipeline release of hydrocarbon to the environment