



CATARAQUI SOURCE PROTECTION COMMITTEE
AGENDA FOR MEETING # 36

Date: Thursday December 9, 2010
 Time: 7:00 PM **
 Location: Outdoor Centre, Little Cataraqui Creek Conservation Area
 1641 Perth Road, Kingston

** Please note: this meeting will be preceded by a seasonal event in the West Hall for SP Committee members and participating CRCA source protection staff (5:30 PM).

#	Topic	Leader	Time (min)	Action Item?
1	Roll Call and Notice of Proxies	John Williamson, Chair	15	
2	Adoption of the Agenda			
3	Declarations of Conflict of Interest			
4	Approval of Previous Meeting Minutes from November 18, 2010 (attached)			
5	Business Arising			
6	Delegations			
7	Correspondence (attached)			
(a)	Letter from Ian Smith, Director, Source Protection Programs Branch, Ontario Ministry of the Environment, to Rob McRae, Project Manager, regarding the transportation of chemicals along corridors as a local drinking water threat, dated November 19, 2010			
(b)	Letter from Janet Stavinga, Chair, and Sommer Casgrain-Robertson, Co-Project Manager, Mississippi-Rideau Source Protection Region, to Chair John C. Williamson (<i>et al</i>), regarding the posting of Proposed Assessment Reports for the Mississippi-Rideau Source Protection Region, dated November 30, 2010			

#	Topic	Leader	Time (min)	Action Item?
8	<u>Business/Reports</u>			
(a) Source Protection Plan Development				
(i)	Initial Evaluation of Source Protection Policy Tools for each Drinking Water Threat Type (report attached)	Holly Evans, WQ Specialist	80	
(ii)	Key Drinking Water Threats for Discussion at Each Policy Roundtable (report attached)	and Christine Woods, SP Planner	15	Y
(iii)	Status of Source Protection Plan Development – Eastern Ontario Source Protection Areas/Regions (report attached)	Rob McRae, Project Manager	5	
(b) Updated Assessment Report for 2011				
(i)	Proposed Addition: Local (Non-Prescribed) Drinking Water Threats - Conditioning salt - Transport of chemicals (along corridors) (report attached)	Kimberly Denison, Resource Technician	20	Y
(ii)	Status of Updated Assessment Report (report attached)	Rob McRae, Project Manager	10	
9	Sector Updates from the Committee	John Williamson, Chair	10	
10	Announcements or Inquiries		5	
11	Motions or Notices of Motion		5	
12	Questions from the Media			
13	IN CAMERA Session (if required)			
14	Next meeting – January 20, 2011			
15	Adjournment			

Please inform Donna Cellini, Project Secretary at (613) 546-4228 ext. 248 or via e-mail at dcellini@cataraquieregion.on.ca if you will not be able to attend the meeting.

Delegations wishing to speak to the Source Protection Committee are asked to contact Rob McRae, Project Manager at (613) 546-4228 ext. 224 or via e-mail at robmcrae@cataraquieregion.on.ca.

THE CATARAQUI SOURCE PROTECTION COMMITTEE
MINUTES OF MEETING # 35

Thursday November 18, 7:00 PM

General Purpose Room, Outdoor Centre
Little Cataraqui Creek Conservation Area, Kingston

Present: John C. Williamson, Chair John Conley Rob Cumming (left at 8:45 PM)
Gary Davison Scott Ewart Joan Green
Jacques Labelle Kathleen Laird Wendy Lavender
Richard Lindgren Chris Mangan-Greene Nona Mariotti
Allan McPhail Alex Palilionis Jeff Peters
Peter Raabe Kevin Riley Kim Sytsma

Regrets: Richard Bresee

Staff Present: Donna Cellini, Project Secretary
Kimberly Denison, Resource Technician
Rob McRae, Project Manager, Source Water Protection
Sean Watt, Water Resources Engineer (left at 8:47 PM)

Guests: Janet Noyes, XCG Consultants Ltd. (left at 7:50 PM)

At 7:07 P.M. Chair John C. Williamson, called the meeting to order.

1) **Roll Call and Mileage**

There were 14 voting members present.

2) **Adoption of Agenda**

The agenda was amended through the addition of correspondence items 7 a) Letter from Claude Cousineau, Chair, Raisin-South Nation Source Protection Committee, and Richard Pilon, Project Manager, Raisin-South Nation Source Protection Region, 7 b) Letter from Ian Smith, Director, Source Protection Programs Branch, Ministry of the Environment, and 7 c) Letter from Ian Smith, Director, Source Protection Programs Branch, Ministry of the Environment.

Moved by: Kim Sytsma
Seconded by: Nona Mariotti

THAT the Cataraqui Source Protection Committee members adopt the meeting agenda as amended.

Carried

3) **Declarations of Conflict of Interest**

There were none.

4) Approval of Cataraqui Source Protection Committee Minutes

- a) Approval of October 14, 2010 Cataraqui Region Source Protection Committee Minutes

Moved by: Scott Ewart
Seconded by: Peter Raabe

THAT the minutes of the October 14, 2010 meeting of the Cataraqui Source Protection Committee be approved as circulated.

Carried

5) Business Arising

Nona Mariotti asked if a comparison between identified significant drinking water threats and projects funded under the Ontario Drinking Water Stewardship Program had yet been completed by the staff team. Project Manager Rob McRae indicated that this information was not yet available but that it would be shared with the members shortly through electronic mail correspondence.

6) Delegations

There were none.

7) Correspondence

- a) Letter from Claude Cousineau, Chair, Raisin-South Nation Source Protection Committee, and Richard Pilon, Project Manager, Raisin-South Nation Source Protection Region to Chair John C. Williamson (dated November 4, 2010) announcing the posting of the Raisin Region and South Nation Proposed Assessment Reports.

Chair John Williamson let the members know that comments are welcome until December 3, 2010 on these proposed assessment reports.

- b) Letter from Ian Smith, Director, Source Protection Programs Branch, Ministry of the Environment to Chair John C. Williamson and Project Manager Rob McRae (dated November 12, 2010), inviting the Cataraqui Source Protection Area to review and comment on one of eight bulletins being prepared about prescribed instruments that source protection committees may need in order to draft source protection policies.
- c) Letter from Ian Smith, Director, Source Protection Programs Branch, Ministry of the Environment, to Chair John C. Williamson and Project Manager Rob McRae (dated November 15, 2010), inviting the Cataraqui Source Protection to review and comment on two more of eight bulletins being prepared about prescribed instruments that source protection committees may need in order to draft source protection policies.

Rob McRae commented on both correspondence item b) and c) and the draft bulletins and suggested that the members review them and provide comments to him on or before November 25th. He indicated that this would allow the draft comment letter (circulated to the members prior to the meeting) to be finalized and sent to the Ministry before the comment deadline of November 30th.

8) Business/Reports

- a) Overview of Findings: Joyceville and Pittsburgh Institutions Intake Protection Zone Study, Janet Noyes, XCG Consultants Ltd.

Ms. Noyes updated the members on the results from the technical study that XCG Consultants Ltd. has completed at the Joyceville and Pittsburgh Institutions. This work was completed outside of the umbrella of the Ontario *Clean Water Act, 2006* with federal funding; however, it did follow all of the technical requirements under the *Act*. She advised the members that the study has been guided by a technical advisory group and gone through a peer review.

Rob McRae thanked Janet and the team at XCG Consultants Ltd. for completing the study on time, on budget, and in-scope. He also commented that the destination of these findings is still unknown as Correctional Services Canada has not yet clearly indicated if / how it would like to proceed with policy development for the intake protection zone.

- b) Updated Assessment Report for 2011

- i. Improvements to Eastern Lake Ontario – Upper St. Lawrence River Intake Protection Zone 2 (Inland Components), Kimberly Denison, Resource Technician

Ms. Denison presented the improved transport pathway identification for the updated assessment report. It resulted in proposed changes to the inland extent of the intake protection zones at A.L. Dafoe (Napanee), Bath, Brockville, Fairfield (Amherstview) and Sandhurst Shores. She advised the members that these improvements have been reviewed by a technical advisory group and that their suggestions for the presentation of the findings will be incorporated into the draft proposed updated assessment report.

Resolution CSPC 25-10

Moved by: Richard Lindgren
Seconded by: Jacques Labelle

BE IT RESOLVED THAT the Cataraqui Source Protection Committee receives the updated information on transport boundaries, and the revised extent of selected intake protection zones, that are outlined in the report of the Resource Technician (dated November 10, 2010) for consideration in preparing the updated Cataraqui Assessment Report and the Cataraqui Source Protection Plan.

Carried

- ii. Event-based Drinking Water Threats in the Eastern Lake Ontario –Upper St. Lawrence River Intake Protection Zone 3, Sean Watt, Water Resources Engineer

Mr. Watt updated the members on the Eastern Lake Ontario – Upper St. Lawrence River Intake Protection Zone 3 findings and let them know that the findings had been discussed in early November by a technical advisory group. He noted that the work had resulted in some useful knowledge for municipalities. Mr. Watt also noted that the findings were constrained by a lack of data and uncertainties that prevented the identification of related significant drinking water threats. Further research could improve this approach in subsequent planning cycles. He also noted comments from the technical advisory group on the details of the related technical report would be incorporated prior to its inclusion into the draft proposed updated assessment report.

Resolution CSPC 26-10

Moved by: Rob Cumming
Seconded by: Kim Sytsma

BE IT RESOLVED THAT the Cataraqui Source Protection Committee receive the findings of the report titled “Intake Protection Zone – 3 Discharge Concentration Modeling Report for Consideration of Significant Threats” (circulated November 10, 2010) and presented by Sean Watt, Water Resources Engineer.

Carried

iii. Update on Conditions, Rob McRae, Project Manager

Mr. McRae advised the members that the staff team has been making some headway in scaling down the number of locations with possible conditions that were presented at the October meeting. The staff suggestion was to focus on the areas in which conditions (if found) could result in the identification of significant drinking water threats. It was indicated that this would be pursued by a Queen’s University graduate student already working with the staff team.

Kathleen Laird had assisted the staff in contacting some colleagues at Queen’s University and Royal Military College. The RMC colleague had participated in research on the Kingston Inner Harbour. Dr. Laird asked the members if they would be interested in having a presentation by her colleague at a future meeting. It was agreed this would be of interest.

c) Source Protection Plan for 2012

i. Update on Source Protection Plan Development, Rob McRae, Project Manager

Mr. McRae reminded the members of the process for plan development. He presented the proposed locations and dates for 12 policy roundtables, and indicated that venues were already being reserved. He advised that information about a policy web forum would be shared with the members via electronic mail.

Members were asked to: (1) provide staff with the names of persons or groups who should be invited to roundtables in their area / sector, and (2) start thinking about which roundtables they may wish to attend (noting that two or three members (plus the Chair) should attend each event, and that each member may wish to attend at least one event).

Resolution CSPC 27-10

Moved by: Kevin Riley
Seconded by: Scott Ewart

BE IT RESOLVED THAT BE IT RESOLVED THAT the Cataraqui Source Protection Committee proceed with the next steps for source protection plan development, in accordance with the report of the Source Protection Planner and Water Quality Specialist (dated November 10, 2010).

Carried

- ii. Notice of Commencement / Letters to Landowners with Significant Drinking Water Threats, Rob McRae, Project Manager

Mr. McRae reviewed two options in his staff report for contacting landowners about the commencement of source protection plan development: (A) send letters to those landowners with existing significant drinking water threats or (B) also send letters to those landowners with properties where significant drinking water threats could emerge in the future. After some discussion it was agreed that the staff would proceed with option (A) but that they would also consult the local municipalities to see if there are any pending applications or known intentions to build in the relevant areas and ensure that associated landowners also receive a notification letter.

Resolution CSPC 28-10

Moved by: Kim Sytsma
Seconded by: Gary Davison

BE IT RESOLVED THAT the Cataraqui Source Protection Committee endorses the distribution of a notice of commencement and letter to landowners with identified existing significant drinking water threats (as presented by the Project Manager on November 18, 2010) and invites their participation in the development of the local source protection plan.

Carried

9) Sector Updates from the Committee

There were none.

10) Announcements or Inquiries

- a) Nona Mariotti suggested that for the Christmas social the members consider supporting an initiative whereby she and Ms. Mangan-Greene would provide a meal for a reasonable cost (\$10.00 per person). It was agreed this would work better than a potluck supper as everyone is busy this time of year.
- b) Chair John Williamson congratulated the recently re-elected municipal officials and wished them a good term.

11) Motions/Notice of Motion

There were none.

12) Opportunity for Questions from the Media

There were no questions.

13) IN CAMERA Session

This was not required.

14) Next Meeting

Next meeting of the SP Committee: December 9, 2010

5:30 PM Christmas Social
West Hall, Outdoor Centre

7:00 PM Regular Meeting
General Purpose Room, Outdoor Centre
Little Cataraqui Creek Conservation Area, Kingston

15) Adjournment

The meeting adjourned at 9:50 P.M. on a motion by Kim Sytsma.

John C. Williamson, Chair

Rob McRae, Project Manager

Ministry of
the Environment

Source Protection Programs
Branch

14th Floor
40 St. Clair Ave. West
Toronto ON M4V 1M2

Ministère de
l'Environnement

Direction des programmes de protection
des sources

8^e étage
2, avenue St. Clair Ouest
Toronto (Ontario) M4V 1L5



Log: ENV1174IT-2010-148

November 19, 2010

Mr. Rob McRae
Catawaqui Region Source Protection Authority
1641 Perth Road, P.O. Box 160
Glenburnie Ontario K0H 1S0

Dear Mr. McRae,

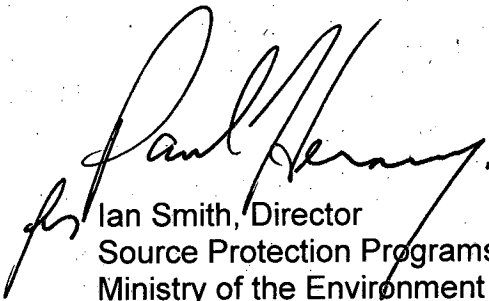
This letter is to update the letter previously sent to you, dated June 21, 2010, which provided the Director's opinion regarding the addition of transportation of specified substances along corridors as a local drinking water threat.

Please note that there was an error in the June 21, 2010 letter with respect to the hazard rating for vinyl chloride. The circumstance relating to the transportation of a DNAPL containing vinyl chloride is a moderate threat in IPZ 1, 2, 3 and WHPA-E with a vulnerability score between 7 and 9.

Please see the attached table with the correct hazard rating for vinyl chloride.

A copy of this letter along with your rationale for the inclusion of the local threats must be included in your assessment report.

Sincerely,



Ian Smith, Director
Source Protection Programs Branch
Ministry of the Environment

c: Keith Willson, Manager, Source Protection Approvals
Paul Heeney, Manager, Source Protection Implementation
Heather Malcolmson, Manager, Source Protection Planning
Katie Fairman, Supervisor, Source Protection Implementation
Peter Rider, Senior Drinking Water Program Advisor, Source Protection Planning
Wendy Lavender, Liaison Officer, CRCA, Source Protection Implementation

TABLE 1. ACTIVITY, CIRCUMSTANCE, AND HAZARD RATING

Activity	Vulnerability Score to produce a Significant DWT		Vulnerability Score to produce a Moderate DWT		Vulnerability Score to produce a Low DWT	
	IPZ-1,2,3, WHPA-E	WHPA-A, B, C, C1, D	IPZ-1,2,3, WHPA-E	WHPA-A, B, C, C1, D	IPZ-1,2,3, WHPA-E	WHPA-A, B, C, C1, D
FUELS						
1. The transportation of liquid fuel. 2. The fuel is transported in a quantity that is more than 2,500 litres. 3. A spill of the fuel may result in the presence of Petroleum Hydrocarbons F1 (nC6-nC10) in groundwater or surface water.			9 – 10	10	5.6 – 8.1	6 – 8
1. The transportation of liquid fuel. 2. The fuel is transported in a quantity that is more than 2,500 litres. 3. A spill of the fuel may result in the presence of Petroleum Hydrocarbons F2 (>nC10-nC16) / F3 (>nC16-nC34) / F4 (>nC34) in groundwater or surface water.			9 – 10	10	6 – 8.1	6 – 8
1. The transportation of liquid fuel. 2. The fuel is transported in a quantity that is more than 2,500 litres. 3. A spill of the fuel may result in the presence of BTEX in groundwater or surface water.			8 – 10	8 – 10	5.4 – 7.2	6
1. The transportation of liquid fuel. 2. The fuel is transported in a quantity that is more than 250, but not more than 2,500 litres. 3. A spill of the fuel may result in the presence of BTEX in groundwater or surface water.			9 – 10	10	6 – 8.1	6 – 8
1. The transportation of liquid fuel. 2. The fuel is transported in a quantity that is more than 250, but not more than 2,500 litres. 3. A spill of the Petroleum Hydrocarbons may result in the presence of Petroleum Hydrocarbons F1 (nC6-nC10) in groundwater or surface water.			10	10	6.3 – 9	8
1. The transportation of liquid fuel. 2. The fuel is transported in a quantity that is more than 250, but not more than 2,500 litres. 3. A spill of the Petroleum Hydrocarbons may result in the presence of Petroleum Hydrocarbons F2 (>nC10-nC16) in groundwater or surface water.			10	10	7 – 9	8

Activity	Vulnerability Score to produce a Significant DWT		Vulnerability Score to produce a Moderate DWT		Vulnerability Score to produce a Low DWT	
	IPZ-1,2,3, WHPA-E	WHPA-A, B, C, C1, D	IPZ-1,2,3, WHPA-E	WHPA-A, B, C, C1, D	IPZ-1,2,3, WHPA-E	WHPA-A, B, C, C1, D
FUELS						
1. The transportation of liquid fuel.			10	10	6.4 – 9	8
2 The fuel is transported in a quantity that is more than 250, but not more than 2,500 litres.						
3. A spill of the Petroleum Hydrocarbons may result in the presence of Petroleum Hydrocarbons F3 (>nC16-nC34) / F4 (>nC34) in groundwater or surface water.						
PESTICIDES						
1. The transportation of pesticides.			8 - 10	8 - 10	5.4 - 7.2	6
2. The total mass of all materials transported that contain the pesticide, in any form including liquid or solid, is more than 2,500 kilograms.						
3. A spill of the pesticide or material containing the pesticide may result in the presence of Atrazine / Dicamba / Dichlorophenoxy Acetic Acid (D-2,4) / Dichloropropene-1,3 in groundwater or surface water.						
1. The transportation of pesticides.			9 - 10	10	6 - 8.1	6 - 8
2. The total mass of all materials transported that contain the pesticide, in any form including liquid or solid, is more than 2,500 kilograms.						
3. A spill of the pesticide or material containing the pesticide may result in the presence of Glyphosate / Metolachlor or s-Metolachlor in groundwater or surface water.						
1. The transportation of pesticides.			10	10	4.9 – 7.2	6
2. The total mass of all materials transported that contain the pesticide, in any form including liquid or solid, is more than 2,500 kilograms.						
3. A spill of the pesticide or material containing the pesticide may result in the presence of MCPA (2-methyl-4-chlorophenoxyacetic acid) / Mecoprop in groundwater or surface water.						
1. The transportation of pesticides.			9 - 10	10	5.6 – 8.1	6 - 8
2. The total mass of all materials transported that contain the pesticide, in any form including liquid or solid, is more than 2,500 kilograms.						
3. A spill of the pesticide or material containing the pesticide may result in the presence of MCPB (4-(4-chloro-2-methylphenoxy) butanoic acid) / Metalaxyl / Pendimethalin in groundwater or surface water.						

Activity	Vulnerability Score to produce a Significant DWT		Vulnerability Score to produce a Moderate DWT		Vulnerability Score to produce a Low DWT	
	IPZ-1,2,3, WHPA-E	WHPA-A, B, C, C1, D	IPZ-1,2,3, WHPA-E	WHPA-A, B, C, C1, D	IPZ-1,2,3, WHPA-E	WHPA-A, B, C, C1, D
DNAPLS						
1. The transportation of a DNAPL.	10	2 – 10	8 – 9	---	4.9 – 7.2	---
2. A spill of the DNAPL may result in the presence of Dioxane-1,4 in groundwater or surface water.	10	2 – 10	7.2 – 9	---	4.8 – 7	---
1. The transportation of a DNAPL.	10	2 – 10	7 – 9	---	4.8 – 6.4	---
2. A spill of the DNAPL may result in the presence of one or more Polycyclic Aromatic Hydrocarbons (PAHs) / Tetrachloroethylene (PCE) / Trichloroethylene in groundwater or surface water.	10	2 – 10	7 – 9	---	4.8 – 6.4	---
ORGANIC SOLVENTS						
1. The organic solvent is transported in a container.	10	10	7 – 9	8	4.8 – 6.4	6
2. The quantity of organic solvent transported is more than 2,500 litres.	10	10	7.2 – 9	8	4.8 – 7	6
3. A spill of the solvent may result in the presence of Carbon Tetrachloride in groundwater or surface water.	10	10	8 – 9	8	4.9 – 7.2	6
1. The organic solvent is transported in a container.	10	10	8 – 9	8	5.4 – 7.2	6
2. The quantity of organic solvent transported is more than 2,500 litres.	10	10	8 – 9	8	5.4 – 7.2	6
3. A spill of the solvent may result in the presence of Methylene Chloride (Dichloromethane) in groundwater or surface water.	10	10	8 – 9	8	5.4 – 7.2	6
1. The organic solvent is transported in a container.	10	10	8 – 9	8	5.4 – 7.2	6
2. The quantity of organic solvent transported is more than 2,500 litres.	10	10	8 – 9	8	5.4 – 7.2	6
3. A spill of the solvent may result in the presence of Pentachlorophenol in groundwater or surface water.	10	10	8 – 9	8	5.4 – 7.2	6

DRINKING WATER SOURCE PROTECTION

ACT FOR CLEAN WATER

Mississippi-Rideau
Source Protection Region



Mississippi Valley
Conservation



Date: November 30, 2010

To: Mr. Max Christie, Chair, Quinte Source Protection Committee
Mr. Claude Cousineau, Chair, Raisin-South Nation Source Protection Committee
Mr. John Williamson, Chair, Cataraqui Source Protection Committee

RE: **PROPOSED ASSESSMENT REPORTS – REQUEST FOR COMMENTS**

Dear Neighbouring Source Protection Committees,

We are pleased to inform you that our *Proposed* Assessment Reports have been posted for public review and comment. We invite your Source Protection Committees to review our Reports and provide comments by **Monday, December 20, 2010**. This is our formal notice under Ontario Regulation 287/07.

An electronic copy of our Reports is included with this letter. You can also find our Assessment Reports on our website at www.mrsourcewater.ca.

We look forward to working with your Committees in the coming year as we develop Source Protection Plan policies.

Please contact Sommer Casgrain-Robertson at 613-692-3571 or 1-800-267-3504 ext. 1147, or by email at sommer.roberson@mrsourcewater.ca, with any questions or comments.

Sincerely,

A handwritten signature in cursive script that reads "Janet Stavinga".

Janet Stavinga
Chair
Mississippi-Rideau Source Protection Committee

A handwritten signature in cursive script that reads "Sommer Casgrain-Robertson".

Sommer Casgrain-Robertson
Co-Project Manager
Mississippi-Rideau Source Protection Region

Cc: Neighbouring Project Managers

Attachments: - *Proposed* Assessment Reports (on DVD)

THE CATARAQUI SOURCE PROTECTION COMMITTEE

REPORT

To: Cataraqui Source Protection Committee

Date: December 2, 2010

From: Holly Evans, Water Quality Specialist
Christine Woods, Source Protection Planner

Files: SPP 4-0, 8

RE: INITIAL EVALUATION OF SOURCE PROTECTION POLICY TOOLS FOR EACH DRINKING WATER THREAT TYPE

This report provides the Source Protection Committee (SP Committee) with information on general relationships between drinking water threats and policy tool options.

The policy directions described below are based on member discussion at the four planning foundation sessions and an initial evaluation by staff of policy ideas. A formal recommendation (resolution) is not put forward in this report, since the directions will require further refinement by the working groups and the SP Committee. Also, it is anticipated that additional and alternative ideas will emerge at the roundtables. However, an important outcome of the December meeting will be a general consensus on these overall directions as we prepare for the public phase of plan development.

Background

The intent of this report is to foster discussion and agreement among the members on the path forward to addressing specific vulnerable areas. The policy directions should provide a general level of consistency to the policy ideas that will be developed for each vulnerable area, and can be tailored where appropriate. It is worth noting that many of the prescribed drinking water threats either are not applicable to the Cataraqui Source Protection Area, occur in isolated locations, or only occur in the highly vulnerable aquifers (HVA) and significant groundwater recharge areas (SGRA) where they are low-ranked threats.

Discussion

The attached table provides an overview of the policy tools that would likely be suited for each type of drinking water threat. Where there is a diamond on the table, it means that the tool appears to apply well to the type of drinking water threat. Additional details are provided below. For policy tool definitions please refer to Tab 1 in your Planning Reference Material binder.

The following numbered sections identify key points for each of the policy tools, as well as questions for the SP Committee members to think about in preparation for the upcoming meeting.

1. Education and Outreach

The focus of education and outreach programs should be on drinking water threats that impact many people or a large area. Therefore, it may not be appropriate for all types of threat. This type of policy tool should likely always be used where there is a policy that requires action, especially where it impacts current practices. Where possible, these programs should be offered in partnership with existing organizations and/or programs.

Programs should combine related drinking water threats. Four potential groupings include:

- agriculture (in partnership with the Ontario Soil and Crop Improvement Association),
- business/industry (in partnership with industry groups and chambers of commerce),
- “Living in the Country” for rural non-farm residents (in partnership with Well Aware), and
- “Urban Water Protection” (in partnership with the municipality and/or utility and/or local environmental group).

An agricultural program could include:

- Best management practices (BMP) and voluntary nutrient management strategies and plans
- DNAPLs and organic solvents (promote hazardous waste days)
- An update to the (voluntary) Environmental Farm Plan to include information about drinking water source protection

A business and industry program could include:

- Road salt/snow storage BMPs (per the existing “Smart about Salt” model)
- Presentations and fact sheets about BMPs for businesses that use these chemicals
- Training on proper installation of sediment and erosion control measures
- Promotion of the existing Clean Marine Program
- BMPs and pollution prevention – through the regional industry groups
- Information about vulnerable areas for fuel distributors and retail franchise owners

A “Living in the Country” program could include:

- Septic system BMPs
- Don’t use abandoned mines on private property as landfills
- Conditioning salts BMPs
- Road salt/snow storage BMPs
- DNAPLs and organic solvents (promote hazardous waste days)
- Pesticides – promote integrated pest management
- Fertilizer BMPs – “right amount, right time”
- Waste disposal diversion options (what, when, where)
- Stickers on fuel oil tanks to identify what to do in the event of a spill

An “Urban Water Protection” program could include:

- “Don’t pour it down the drain” campaign
- The local delivery of the existing Yellow Fish program
- Educational signs at stormwater management facilities
- Pesticides – promote integrated pest management
- Fertilizer BMPs – “right amount, right time”
- Stickers on fuel oil tanks to identify what to do in the event of a spill

Question 1: What do the members think about encouraging municipalities to work together to coordinate education/outreach and incentive programs for source water protection (i.e. by employing one full-time person)?

Question 2: Are the generalized programs shown above logical? If not, why?

2. Incentive Programs

Financial incentives could be used to help manage all types of drinking water threats; however, a stable, guaranteed source of funding for this purpose has not yet been identified. It is suggested that any incentive program be developed to get the most benefit for source water by prioritizing by risk management measure.

As with education and outreach, this type of policy tool should be used where there is a policy that requires action, especially where it impacts current practices. Where possible, these programs should be offered in partnership with existing organizations and/or programs.

All incentive-related policies could include the caveat that they are “pending the availability of funding”. Ideas about incentives that could be offered include:

- Money to address problems identified through septic re-inspection
- Fuel – remove underground storage tanks and change them to above ground storage tanks (this would address significant drinking water threats in WHPAs)
- DNAPLs and organic solvents – Business Water Quality Program (similar to existing Rural Water Quality Programs) to fund changes to business practices such as storage, secondary containment, employee training
- Agriculture – buffer program (surface water) – low applicability in wellhead protection areas (WHPA) and intake protection zones (IPZ) due to existing urban and rural non-farm land uses in these vulnerable areas.
- Outdoor confinement area – rural water quality program funding BMPs
- Snow storage/road salt – encourage federal program for municipal salt management plans, however, it seems unlikely since the preparation of these plans is voluntary.
- Stormwater management – retrofit sumps, eavestroughs, rain barrels (this is not associated with a significant drinking water threat)

- Wastewater – disconnect illegal connections (this is not associated with a significant drinking water threat)
- Conditioning salts – upgrade to metered systems

Question 3: Should incentive programs only address significant drinking water threats? What would be the impact of this approach?

Question 4: What drinking water threats are priorities for an incentive program?

Question 5: Would you be comfortable with recommending incentive programs if they are written to be implemented pending availability of funding?

3. Municipal Operations and Infrastructure

Municipalities are obligated under the *Clean Water Act* to ensure that their business and by-laws do not conflict with significant threat policies and designated Great Lakes policies. More broadly, the public sector can demonstrate leadership by reducing specific risks to a source of drinking water by implementing best practices when and wherever possible. The following ideas for this policy tool are categorized based on the level of effort and/or cost that might be required by the municipality (high, moderate, low).

High level of effort and/or cost:

- Wastewater – inflow/infiltration reduction program, separate combined sewers and other measures to redirect sewage overflows, modify sewer use by-laws to require pollution prevention programs (to produce cleaner effluent).

Moderate level of effort and/or cost:

- Annual infrastructure inspections should include on-site sewage systems, chemical/fuel handling and related storage facilities with the necessary maintenance, repairs or upgrades to follow in a timely fashion.
- Review department practices and procedures involving fuel, DNAPLs and organic solvents, and implement BMPs where appropriate (including staff training).
- Design new public works facilities (with road salt and/or snow storage) in accordance with Transportation Association of Canada BMPs.
- Increase number of household hazardous waste days and improve communication about disposal options (municipal and otherwise).
- Develop septage management plans to be able to accept hauled sewage at sewage treatment plants, and work together to develop alternative treatment facility options if necessary.
- Stormwater management – regularly inspect sediment and erosion control at construction sites, target any contributing activities for drinking water issues.

- Hire a fire prevention officer to deal with fuel requirements, like secondary containment, that are not covered by TSSA regulations but are covered in the Ontario Fire Code.
- Prepare or update emergency response plans for spills along transportation corridors.

Low level of effort and/or cost:

- Implement BMPs for water softeners in municipal facilities.
- Execute agreements with municipalities and farmers who lease municipal-owned land to ensure that BMPs are followed for the application, handling and storage of agricultural source material and non-agricultural source material , and for outdoor livestock areas (pasture and grazing land).
- Develop and/or update salt management plans taking into consideration vulnerable areas.
- Evaluate existing and/or new de-icing facilities at municipal airports for potential impacts on sources of drinking water.
- Review waste management program to maximize waste diversion using any number of methods.
- Develop corporate policies about the application of non-agricultural source material that go beyond the *Nutrient Management Act* requirements (i.e. recognize vulnerable areas regardless of municipality; adjacent landowner notification).
- Do not locate new municipal marinas near intakes, and participate in the Clean Marine Program.
- Do not construct new arterial roads in WHPAs and IPZs wherever possible.

4. Prescribed Provincial Instruments

Although there are few significant drinking water threats in the Cataraqui Source Protection Area that are associated with a prescribed instrument, the applicable provincial ministries should be encouraged to review the prescribed instruments associated with moderate and low drinking water threats as appropriate.

- Where guidelines support the protection of drinking water sources, issue certificates of approval that are consistent with the guidelines rather than have regard for them.
- Prioritize inspections (i.e. consider significant drinking water threats within the risk management matrix).
- Take extra care in the review of applications for activities in or near WHPAs and IPZs (i.e. verify application information through site inspection).
- Require stormwater quality targets other than for sediment; and require monitoring and reporting on the function of stormwater management facilities as conditions in certificates of approval.
- Require the final wastewater effluent to contain concentrations of substances below minimum detection limits for those substances in the Tables of Drinking Water Threats.
- Industrial sewage – require monitoring for specific parameters; and separation between outfalls and intakes based on modeling.

5. Land Use Planning

This policy tool is only effective where an activity can be linked to a specific land use.

- Encourage municipalities to prohibit new development associated with waste and sewage that are significant drinking water threats since these activities cannot be prohibited using Part IV of the *Clean Water Act*.
- The municipality may also be encouraged to prohibit land uses associated with moderate and low-ranked drinking water threats in WHPAs and/or IPZs that are associated with a high risk (i.e. gas stations, land uses involving organic solvents in a WHPA, bulk fuel plants and fuel distributors, marinas). It may be necessary to discuss this approach outside of the *Clean Water Act*, which does not enable policies that have the effect of prohibiting moderate or low drinking water threats.
- Prohibit land uses that require on-site sewage systems where the system would be a significant drinking water threat.
- Require specific zoning for public works facilities that handle and store road salt and/or snow (i.e. do not permit as-of-right), and do not permit them in WHPA or SGRA.
- Require stormwater management for all development and require retrofits for re-development.
- Encourage new wastewater treatment facilities to be located outside of the most vulnerable areas (i.e. out of WHPA A and B), and maintain adequate separation distance between outfalls and surface water intakes.
- For *Planning Act* applications involving industries that would discharge sewage, require disclosure of effluent content to determine if and what level of drinking water threat would be. Encourage the prohibition of industries that would result in significant drinking water threats.
- Prohibit the storage of fertilizer and pesticides within a specified distance to surface water in an IPZ or well in a WHPA, based on requirements in Ontario Regulation 267/03.
- If the manufacturing, processing, wholesale storage of chemicals such as fertilizer, pesticides, DNAPLs and organic solvents and fuel is currently not permitted municipalities should continue to prohibit them so that the level of risk is not increased.
- Structures associated with outdoor confinement areas that are not regulated by O. Reg. 267/03 should be required to meet setbacks based on this regulation (BMPs)
- Do not permit oil to be used as a source of heat where it is a significant drinking water threat through site plan control, development and subdivision agreements.

6. Risk Management Plans

Risk management plans cannot be applied to activities involving waste or sewage. It is suggested that this policy tool be used to manage certain existing and future “would be” activities that are significant drinking water threats if they are not prohibited. We note that there are relatively few existing situations where this tool would likely be employed. Risk management plans could be required for the following significant drinking water threats:

- The application and storage of agricultural source material and non-agricultural source material, and outdoor confinement areas if the activity is not regulated by the Ontario Regulation 267/03 under the *Nutrient Management Act*. The risk management plans would be based on the requirements of the regulation and best management practices.
- Confirm the use of BMPs for lands used for the pasturing and grazing of livestock.
- A risk management plan for the handling and storage of DNAPLs and organic solvents could include matters such as making physical changes to storage facilities, and documenting an employee training program.
- Fertilizer storage, pesticide application and storage – if not prohibited.
- Conditioning salts – how to do this since a building permit is not required?
- The handling and storage of fuel associated with a heat source (i.e. home heating) – require annual inspection by certified technician and send to risk management official
- The handling and storage of fuel associated with gas stations – any results from annual monitoring required under O. Reg. 217 should be submitted to the risk management official.

Question 6: Given that the risk management plan tool may have limited applicability for selected drinking water threats and vulnerable areas, who might be responsible for overseeing its implementation?

7. Prohibition of Existing Activities

Existing activities that are significant drinking water threats can be prohibited under the *Clean Water Act*. Prohibition cannot be applied to activities involving waste or sewage. The *Act* also does not enable policies that have the effect of prohibiting moderate or low drinking water threats.

It is suggested that existing significant drinking water threats in the Cataraqui Source Protection Area could likely be managed through risk management plans or existing prescribed instruments since they appear to be addressed by the existing safety net, at this time. This approach would need to be monitored to ensure that the threat continues to be managed; prohibition may be considered in the future as a last resort if management is not effective.

Question 7: Does the SP Committee wish to use prohibition for existing significant drinking water threats?

8. Prohibition of Future Activities

Future activities that would be significant drinking water threats can also be prohibited under the *Clean Water Act* as well as through land use planning. Prohibition under Part IV of the Act cannot be applied to activities involving waste or sewage, and no policy may have the effect of prohibiting moderate or low drinking water threats.

It is suggested that the best way to address a future activity that would be a significant drinking water threat is to not allow the activity to become established. This approach is suggested for those activities that pose the greatest risk to the quality of source water (e.g. handling and storage of DNAPLs in a wellhead protection area), and those activities that are unlikely to occur in the future in a specific vulnerable area (e.g. a national airport in a village). Prohibition would not be feasible for specific activities for which there is no public sector approval (e.g. new water softener system or home heating oil tank).

The following activities that would be significant drinking water threats should be prohibited:

- handling and storage of road salt
- storage of snow
- handling and storage of DNAPLs and organic solvents
- national airports
- handling and storage of fertilizer
- application, handling and storage of pesticides
- handling and storage of fuel associated with gas stations, bulk plants, fuel distributors

9. Restricted Land Uses

This tool is automatically used if either or both of the prohibition and risk management plan policy tools are used. Specific land uses that could involve an activity that would be a significant drinking water threat can be flagged in a municipality's official plan and zoning by-law.

10. Land Securement

Under the *Clean Water Act*, municipalities or source protection authorities can acquire land through purchase, lease, or expropriation in order to protect a source of drinking water. Some SP Committee members have suggested that land securement should be used as a last resort to manage a threat. However, municipalities should be encouraged to develop a land purchasing policy, particularly for lands within WHPA A and B where there is the greatest risk to the source water.

Question 8: Does the SP Committee wish to use land securement as a last resort to manage a threat?
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11. Other Policies

The source protection plan may include other policies about establishing stewardship programs, specifying and promoting best management practices, establishing pilot programs, governing research, among other matters.

- Septic system re-inspection program will be required for vulnerable areas where they are significant drinking water threats by 2016. Encourage the municipalities to expand program to all WHPAs and IPZs, then phase in entire municipality.
- Research:
 - research on rural lot sizing and well – septic separation distances (modeling for fractured rock systems)
 - What is gained by on-site sewage advanced treatment systems in our environment?
 - Stormwater management – research effectiveness of existing treatment options with attention to cold weather function; develop more natural stormwater management techniques to more completely deal with contaminants.
 - Best approaches for water softener backwash disposal
- Private well testing in conjunction with rural lot sizing research.
- Encourage provincial opportunity to increase capacity for hazardous material disposal.
- Spill prevention plans to include water treatment plant operator contact information
- Updating spill prevention and spill contingency plans or emergency response plans for spills along transportation corridors (e.g. CN, Spills Action Centre).
- Fertilizer storage facilities to have containment plans for spills and contaminated fire-response water.
- Road signs at the boundary of IPZs and WHPAs for emergency responders so water treatment plant operators can be advised, and consideration given to containing contaminated fire-response water, and additional post-incident monitoring can be prioritized in those areas

12. Monitoring without Action

It may be appropriate to monitor certain drinking water threats without taking action during the first planning cycle.

- Include issues contributing area for road salt and conditioning salts at Cana Subdivision and Miller Manor WHPA.
- Monitor the integrity of the sewage lagoon liner in Lansdowne.
- Encourage the Technical Standards and Safety Authority to monitor the effectiveness of its program (i.e. legislation and implementation).
- Keep track of the number of local marinas enrolled in the Clean Marine program.
- Water treatment plants near a land use with the potential to impact the drinking water source should test for related contaminants.
- Prioritize monitoring of abandoned gas stations for potential contamination (WHPAs, then IPZs, then the rest of the area).

Summary of Questions

Staff look forward to active discussion with the SP Committee about the proposed policy directions. The following list summarizes the questions posed throughout the report:

1. What do the members think about encouraging municipalities to work together to coordinate education/outreach and incentive programs for source water protection (i.e. by employing one full-time person)?
2. Are the generalized programs shown above logical? If not, why?
3. Should incentive programs only address significant drinking water threats? What would be the impact of this approach?
4. Which drinking water threats are priorities for an incentive program?
5. Would you be comfortable with recommending incentive programs if they are written to be implemented pending availability of funding?
6. Given that the risk management plan tool may have limited applicability for selected drinking water threats and vulnerable areas, who might be responsible for overseeing its implementation?
7. Does the SP Committee wish to use prohibition for existing significant drinking water threats?
8. Does the SP Committee wish to use land securement as a last resort to manage a threat?

Respectfully submitted,

Original signed by

Holly Evans
Water Quality Specialist

&

Christine Woods, MCIP, RPP
Source Protection Planner

Attachment: Summary Table: Initial Evaluation of Source Protection Policy Tools for Each Drinking Water Threat Type (December 2, 2010)

Approved for circulation RM

Cataraqui Source Protection Area - Source Protection Plan for 2012

DRAFT

Summary Table: Initial Evaluation of Source Protection Policy Tools for Each Drinking Water Threat Type

◆ = the tool appears to apply well to this drinking water threat

#	Drinking Water Threat Type(s)	Education and Outreach					Clean Water Act, 2006 tools					Notes			
		Incentive-Based Program (stewardship)	Municipal Operations and Infrastructure	Prescribed Instrument	Land Use Planning	Risk Management Plan	Prohibition - Existing Activity	Prohibition - Future Activity	Restricted Land Use	Land Securement	Other (e.g. pilot projects, research)				
1A	Application of hauled sewage to land	◆	◆	◆	◆	◆	ineligible					◆			
1B	Tailings from mining operations				◆	◆	ineligible					◆			
1C	Waste disposal sites	◆		◆	◆	◆	ineligible					◆	◆		
2A	Stormwater management	◆	◆	◆	◆	◆	ineligible					◆	◆		
2B	Wastewater treatment facilities and sewer networks	◆	◆	◆	◆	◆	ineligible					◆		◆	Monitoring at Lansdowne lagoons
2C	On-site sewage storage and treatment systems	◆	◆	◆	◆	◆	ineligible					◆	◆	◆	
2D	Industrial sewage	◆	◆		◆	◆	ineligible					◆	◆		
3/4	The application and storage of agricultural source material	◆	◆	◆	◆		◆			◆	◆				
5	The management of agricultural source material (aquaculture)				◆	◆					◆				
6/7	The application, handling, and storage of non-agricultural source material	◆	◆	◆	◆					◆	◆				
8/9	The application, handling, and storage of commercial fertilizer	◆	◆	◆	◆	◆			◆	◆	◆	◆			
10/11	The application, handling, and storage of pesticides	◆	◆	◆		◆	◆			◆	◆	◆	◆		
12/13/14	The application, handling, and storage of road salt and the storage of snow	◆	◆	◆	◆	◆				◆	◆	◆	◆	◆	
NP1	The release of conditioning salt outside of a septic system or sewer	◆	◆	◆			◆			◆	◆	◆	◆	◆	Prohibition of future within IPZ 1s (BR, GAN, Syd) and WHPA 'A' and 'B'
15	The handling and storage of fuel (heating, private locations)	◆	◆	◆		◆	◆			◆	◆		◆		
	The handling and storage of fuel (marinas)	◆		◆		◆					◆		◆		
	The handling and storage of fuel (fuel stations)	◆		◆		◆	◆			◆	◆	◆	◆		
	The handling and storage of fuel (bulk plants / distribution)	◆				◆				◆	◆	◆		Prohibition of future within WHPA 'A' and 'B'	
16/17	The handling and storage of a dense non-aqueous phase liquid and organic solvent	◆	◆	◆		◆	◆			◆	◆	◆	◆		
NP2	The transportation of fuel, pesticides, DNAPLs, and organic solvents	◆		◆							◆	◆			
18	The management of runoff that contains chemicals used in the de-icing of aircraft			◆						◆	◆				
21	Livestock grazing/pasturing and outdoor confinement area/farm animal yard	◆	◆	◆	◆	◆	◆			◆	◆	◆	◆		

THE CATARAQUI SOURCE PROTECTION COMMITTEE

REPORT

To: Cataraqui Source Protection Committee

Date: December 2, 2010

From: Holly Evans, Water Quality Specialist
Christine Woods, Source Protection Planner

Files: SPP 4-0, 8

**RE: KEY DRINKING WATER THREATS FOR DISCUSSION AT EACH POLICY
ROUNDTABLE**

The purpose of this report is to present proposed key topics for discussion at each of the upcoming policy roundtables (“roundtables”). Staff seek direction from the Source Protection Committee members with regard to the proposed topics (see the attached summary table).

The intent of the roundtables is to gather input from people and organizations in the vulnerable areas that could be affected by source protection plan policies. Although the *Clean Water Act, 2006* and Ontario Regulation 287/07 – General require that the plans include policies about all prescribed activities (existing and future), they cannot all be discussed at each event due to time constraints. Fortunately, there will be additional opportunities to provide input on policy ideas throughout the plan development process. These opportunities will include web postings, conversations with key stakeholders, the legislated consultations with implementing agents, municipal council presentations, and public open houses in spring 2012.

It is important that the main focus of discussion at the roundtables be those drinking water threats that are prevalent in the subject vulnerable area(s). We recognize that other relevant topics may be raised at the events by participants as part of the discussion. The key drinking water threats that are identified in the attached table were selected by staff based on the following considerations:

- Their highest level of risk: significant, moderate or low, as identified in the Assessment Report and/or through the future threat analysis (September 2010); and
- Existing and past water quality issues, and topics of interest in each community, as identified by municipal staff and community leaders.

Recommendation

BE IT RESOLVED THAT the Cataraqui Source Protection Committee proceed with the key drinking water threats for discussion at each of the policy roundtables set out in the report of the Water Quality Specialist and Source Protection Planner (dated December 2, 2010).

Respectfully submitted,

(original signed by)

Holly Evans
Water Quality Specialist

(original signed by)

Christine Woods, MCIP, RPP
Source Protection Planner

Attachment: Summary of Key Drinking Water Threats for Discussion at Each Policy Roundtable

Approved for circulation _____ RM _____

Attachment: Summary of Key Drinking Water Threats for Discussion at Each Policy Roundtable

Vulnerable Area	Key Drinking Water Threats	Rationale
Cana Subdivision (Kingston Mills)	<ol style="list-style-type: none"> 1) wastewater treatment facilities and sewer networks 2) application, handling and storage of road salt 3) handling and storage of fuel 4) road and rail transportation corridors 	<ol style="list-style-type: none"> 1) is present in WHPA-A, environmental assessment is currently underway for upgrades 2) past contamination 3) can be a significant drinking water threat, is used for home heating/gas station is present 4) Highway 15 and main railway bisects the WHPA
Lansdowne	<ol style="list-style-type: none"> 1) agriculture-related threats (e.g. ASM, NASM, fertilizer, livestock) 2) application, handling and storage of pesticides 3) application, handling and storage of road salt 4) handling and storage of fuel 	<ol style="list-style-type: none"> 1) can be a significant drinking water threat, is present in the WHPA 2) can be a significant drinking water threat, sports fields and agriculture are present 3) moderate drinking water threat, community concern with municipal works yard 4) can be significant, is used for home heating and is at the works yard
Miller Manor (Mallorytown)	<ol style="list-style-type: none"> 1) on-site sewage systems 2) application, handling and storage of road salt 3) handling and storage of fuel 4) road and rail transportation corridors 	<ol style="list-style-type: none"> 1) can be a significant drinking water threat, there are many aging systems in the village 2) contamination has occurred at wells in the area 3) can be a significant drinking water threat, it is used for home heating in the village 4) railway is at the northern edge of the WHPA and a arterial road travels through the WHPA
HVA/SGRA	<ol style="list-style-type: none"> 1) waste disposal sites 2) on-site sewage systems, 3) agriculture-related threats (e.g. ASM, NASM, fertilizer, livestock, pesticides) 4) handling and storage of fertilizer 5) handling and storage of fuel 	<p>The three sessions will cover activities that are rural in nature, and dominate the landscape.</p>
Brockville	<ol style="list-style-type: none"> 1) application, handling and storage of fertilizer and pesticides 2) application, handling and storage of road salt 3) handling and storage of fuel 4) road and rail transportation corridors 	<ol style="list-style-type: none"> 1) The application of fertilizer and pesticide is a common practice for a number of land uses in the area. The application of pesticides has the potential to be a significant drinking water threat. 2) The application of road salt contaminated the groundwater along County Road 2. 3) Oil heating is common in the rural parts of the IPZ, and there are marinas in the IPZ that handle and store fuel. 4) County Road 2 and the St. Lawrence Seaway shipping lane travel through the IPZ.

Vulnerable Area	Key Drinking Water Threats	Rationale
James W. King (Gananoque)	<ol style="list-style-type: none"> 1) stormwater management 2) handling and storage of fuel (marinas) 3) road and marine transportation corridors 	<ol style="list-style-type: none"> 1) A discussion related to stormwater runoff, including the application of fertilizer and road salt is prudent since there is limited stormwater quality control in Gananoque. Stormwater management has the potential to be a significant drinking water threat. 2) There are a number of marinas in the IPZ that handle and store fuel. 3) There are arterial roads throughout the IPZ and the navigation channel crosses the intake.
Sydenham	<ol style="list-style-type: none"> 1) on-site sewage systems 2) agriculture-related threats (e.g. ASM, NASM, fertilizer, pesticides, livestock) 3) development-related threats (e.g. stormwater management, road salt, fuel) 4) road and marine transportation corridors 	<ol style="list-style-type: none"> 1) The entire area is serviced by on-site sewage systems. 2) The surrounding area has numerous agricultural fields; the agriculture-related threats have the potential to be significant drinking water threats. 3) The Rutledge Road corridor is experiencing residential and commercial development pressure, to which a number of threats could apply. 4) There are a number of arterial roads in the IPZ; the intake is located near the outlet of Sydenham Lake.
Kingston Central and Point Pleasant (Kingston West)	<ol style="list-style-type: none"> 1) wastewater treatment facilities and sewer networks 2) handling and storage of fuel 3) handling and storage of DNAPLs and organic solvents 4) road and marine transportation corridors 	<ol style="list-style-type: none"> 1) There are wastewater treatment facility and combined sewer outfalls in or adjacent to the IPZs. 2) There are a number of marinas, industries and institutions in the IPZs that handle and store fuel. 3) There are a number of industries and institutions in the IPZs that handle and store DNAPLs and organic solvents. 4) There are a number of arterial roads travelling through the IPZs, as well as railway spur lines and a ferry service.
Fairfield (Amherstview)	<ol style="list-style-type: none"> 1) stormwater management 2) application, handling and storage of fertilizer and pesticides 3) road, rail and marine transportation corridors 	<ol style="list-style-type: none"> 1) The application of fertilizer and pesticide is a common practice for a number of land uses in the area. 2) Highway 33 and the main railway travel through the IPZ and there is marine traffic associated with nearby marinas. 3) A discussion related to stormwater runoff is prudent since there is limited stormwater quality control in Amherstview.
Bath, A.L. Dafoe (Napanee), Sandhurst Shores	<ol style="list-style-type: none"> 1) stormwater management (Bath) 2) on-site sewage systems 3) agriculture-related threats (e.g. ASM, NASM, fertilizer, pesticides, livestock) 4) handling and storage of fuel 5) road, rail and marine transportation corridors 	<ol style="list-style-type: none"> 1) Stormwater runoff, especially sediment, is a concern in Bath. 2) Outside of the Village of Bath, on-site sewage systems are associated with all land uses. 3) The area is predominantly used for agriculture. 4) Oil heating is common in the rural parts of the IPZs, and there are marinas and industries in the IPZs that handle and store fuel. 5) There are road, rail and marine corridors travelling through the IPZs.

THE CATARAQUI SOURCE PROTECTION COMMITTEE

REPORT

To: Cataraqui Source Protection Committee

Files: SPP 4-0, 8

From: Rob McRae, Project Manager, Source Water Protection

Date: December 2, 2010

**RE: STATUS OF SOURCE PROTECTION PLAN DEVELOPMENT
EASTERN ONTARIO SOURCE PROTECTION AREAS / REGIONS**

This staff report provides information for the Cataraqui Source Protection Committee (“SP Committee”) about the ongoing development of source protection plans in the five source protection areas/regions across eastern Ontario. It sets the context for some potential collaboration between the areas/regions over the next two years.

Background

The terms of reference for drinking water source protection activities in the Cataraqui area (approved May 2009) state that [source protection plan] “policies will be developed in collaboration with the adjacent source protection regions” (page 8). In accordance with this statement, the recent years of technical and communications work have been characterized by a high degree of cooperation and sharing amongst the five easternmost source protection areas/regions (Cataraqui, Mississippi-Rideau, Quinte, Raisin-South Nation, and Trent). While each area/region has a unique setting, and will pursue its own preferred approach to policy development, this tradition has the potential to continue to strengthen our work.

Discussion

To provide some context, the table below lists some of the key characteristics of each source protection area/region:

Source Protection Area / Region	# of Source Protection Areas	# of Source Protection Committee Members	Approximate # of Drinking Water Systems under Consideration
Cataraqui	1	16	12
Mississippi-Rideau	2	16	13
Quinte	3	16	11
Raisin-South Nation	2	16	27
Trent Conservation Coalition	5	22	37

It is important to note that numerous existing significant drinking water threats have been identified within each of the other four eastern Ontario areas/regions. This is largely due to their physical settings.

There are three common elements to policy development across the east:

- (1) The lead source protection authority has been identified as the principal agent for supporting policy development in most cases (as opposed to the municipalities);
- (2) In-house expertise in planning/policy has been retained at each lead source protection authority;
- (3) The source protection committees have determined that extensive consultation on draft policies should occur throughout their development, rather than only at the conclusion of the process.

There are some differences in the details of each policy development approach, as outlined in the table below:

Source Protection Area / Region	Policy Development	Working Groups	Consideration of Moderate and Low –Ranked Threats?
Cataraqui	By vulnerable area	2 (ground, surface water)	Yes
Mississippi-Rideau	By topic	1 (municipal)	Unlikely
Quinte	By topic	1 (municipal) 5 + / - (topic-based)	Selected threat types
Raisin-South Nation	By topic	1 (multi-stakeholder)	Unlikely
Trent Conservation Coalition	By topic	5 (by SP area)	Unlikely

Based on the above information, it appears that the key opportunities for collaboration between the Cataraqui and its neighbours are with respect to:

- Policy development for the A.L. Dafoe (Napanee) Intake Protection Zone (with the Quinte);
- Policy development for the St. Lawrence River / Seaway (with the Raisin-South Nation);
- Overall sharing of policy concepts; and
- Joint communications with shared municipalities.

It appears that there may be fewer opportunities for collaboration on:

- Highly vulnerable aquifers and significant groundwater recharge areas;
- The Picton Intake Protection Zone 3(b) (Quinte); and
- The Westport Wellhead Protection Area (Mississippi-Rideau).

This is because the other source protection committees may or may not develop policies for the moderate and low-ranked drinking water threats in those vulnerable areas.

Respectfully submitted,

(original signed by)

Rob McRae MCIP, RPP
Project Manager, Source Water Protection

THE CATARAQUI SOURCE PROTECTION COMMITTEE

REPORT

To: Cataraqui Source Protection Committee

Date: December 2, 2010

From: Kimberly Denison, Resource Technician

File: SPP 4-0, 6

RE: LOCAL DRINKING WATER THREATS APPROVED FOR THE CATARAQUI SOURCE PROTECTION AREA

This staff report provides information for the Cataraqui Source Protection Committee (“SP Committee”) regarding our assessment of the two approved local drinking water threats: (1) transport of substances and (2) conditioning salts. This report does not put forward an overall recommendation (resolution). Formal direction on the above-noted topics will be requested as part of your review of an internal draft of the updated assessment report in early 2011.

Background

In the spring of 2010, the SP Committee expressed concern about activities not included in the list of drinking water threats in Ontario Regulation 287/07. In response, the SP Committee made requests to the Ontario Ministry of Environment (MOE) for the addition of two non-prescribed (local) drinking water threats that occur in the Cataraqui Source Protection Area: the discharge of water conditioning salts from water softeners (outside of septic systems and sewers) and the transportation of potentially harmful ‘specified’ substances along corridors within vulnerable areas. These types of threats were approved by the Ministry on June 8, 2010 and June 21, 2010, respectively.

Discussion

Part A: Transportation of Specified Substances

Within the prescribed list of drinking water threats, the storage and handling of specified substances has been recognized to pose a risk to the quality of municipal drinking water sources. The rationale to expand the list of drinking water threats to include their transport is based on the risk posed by spills, which would similarly affect the quality of our drinking water sources. The specified substances include certain types of fuel, pesticides, dense non-aqueous phase liquids (DNAPLs), and organic solvents. The MOE approval is limited to their transport within intake protection zones (IPZs) and wellhead protection areas (WHPAs).

What is a Corridor?

While the approval does not limit our consideration to “where” the transport is occurring, in practice our attention should be focused on transportation corridors along with the substances being carried.

According to the CRCA letter to the MOE requesting this local threat type, corridors include: provincial highways, county and local roads, railways, ferries, navigation channels and the St. Lawrence Seaway.

Corridors in the CSPA

In the Cataraqui Source Protection Area, all of the wellhead protection areas (WHPAs) and intake protection zones (IPZs) contain highways. There are also railway lines (including spur lines to industrial facilities) that run through four of the twelve vulnerable areas. The St. Lawrence Seaway shipping lane runs through the Brockville IPZ. Established boating channels are corridors in the St. Lawrence River

and Lake Ontario, notably in the James W. King (Gananoque) IPZ, Kingston Central IPZ, and the Bath IPZ. In addition, there is industrial shipping to and from the Lafarge port in Bath. The table below indicates presence or absence of corridors related to the marine, railway and road system in each vulnerable area.

Type of Transportation Corridor by System

Drinking Water System	Marine	Rail	Road
Cana (Kingston Mills)		√	√
Lansdowne			√
Miller Manor (Mallorytown)			√
Brockville	√		√
James W. King (Gananoque)	√		√
Kingston Central*			√
Point Pleasant (Kingston West)		√	√
Fairfield (Amherstview)		√	√
Bath**	√	√	√
A.L. Dafoe (Napanee)**		√	√
Sandhurst Shores			√
Sydenham			√
*Includes ferry to Wolfe Island, ** Includes spur lines			

Inclusion of the Transportation of Specified Substances on Corridors within the Updated Proposed Assessment Report

Prior to the approval of this local threat type, the transport of chemicals could only be addressed in the forthcoming source protection plan using a clause in the Ontario Regulation 287/07.

The MOE approval allows for the classification of this activity as either a significant, moderate or low drinking water threat. The rating is dependent on the location of the corridor (vulnerability score), the type of substance, and the volume or mass of the substance. From a policy perspective, this appears to mean that:

- (1) Our consideration for transport is not limited to the highways, railway lines, and shipping lanes specified in the Regulation; and
- (2) A greater diversity of policy tools (beyond the spill prevention, spill contingency and emergency response plans specified in the Regulation) can also be used to address and/or monitor the threat.

To consider the transportation of specified substances, it is a challenge to know what is being transported, what volume is being transported, and where is it being transported to. According to Transport Canada there is a wide variety of chemicals transported daily along Highway 401 and the railway mainline through the Cataraqui Source Protection Area. Therefore, a specific enumeration of the transportation of specified substances, type and volume, would be impossible. In our opinion it is reasonable to assume that some or all of these substances would be transported along provincial highways (Highways 401, 15 and 33), major arterial roads (e.g. County Road 2), railway lines, shipping lanes, and other corridors throughout the CSPA.

What Specific Substances are Approved for Inclusion in the Updated Proposed Assessment Report?

The MOE approval (June 21, 2010) identifies the approved activities, circumstances and hazard ratings for this local threat. A spill resulting from the transport of certain types of fuel, pesticides, DNAPLs and organic solvents could threaten the safety of drinking water sources. Please refer to the attached Table 1 for a list of the specified substances that could produce a significant, moderate or low drinking water threat.

Related Significant Threats in the CSPA

Based on potential spills, a significant rating can only be achieved for a spill of pesticides (specifically MCPA and Mecoprop), DNAPLs and/or organic solvents, and only within a WHPA. A spill of any of the three within WHPA 'A' and WHPA 'B' for Cana, Lansdowne and Miller Manor would represent a significant threat to the drinking water source. A spill of a DNAPL within WHPA 'C' or 'D' at those locations would represent a significant threat to the drinking water source. (Please refer to the attached Table 2 for the significant, moderate and low occurrence by vulnerable area).

Part B: The Discharge of Water Conditioning Salts from Water Softeners

The inclusion of water conditioning salts from water softeners as a local drinking water threat was approved by the MOE on June 8, 2010. Similar to the transportation of substances on corridors, the MOE provided the activity, circumstances and the hazard ratings that determined the significant, moderate and low ratings for this local drinking water threat.

Inclusion Rationale

The rationale for the considering water conditioning salts from water softeners as a local threat to our drinking water quality is associated with their contribution of sodium and chloride to surface water and/or ground water. High sodium intake is recognized as a factor leading to high blood pressure posing a health risk for stroke, heart disease and kidney disease. High chloride levels can impart a salty taste to drinking water representing an aesthetic concern. Both sodium and chloride levels for the CSPA are currently high and are increasing throughout our watershed.

The prevalent use of water softeners in the CSPA is a response to our "hard" water. The CSPA typically has hard water due to the abundance of calcium and magnesium naturally occurring in sedimentary rocks and groundwater. Although hardness is not a drinking water issue, it is an operational concern where the accumulation of hard minerals produces scale buildup in plumbing and appliances. Water softeners are used to "soften" water by exchanging hard minerals (calcium and magnesium) for "softer" minerals (sodium or potassium attached to chlorides). This process requires continual maintenance and replenishment of new salts to bind the hard minerals. The flushing of residual salts with the hard minerals is termed "backwash".

The Ministry approval of the use of water softeners as a local drinking water threat relates directly to the discharge of the backwash (containing salts) outside of septic systems and sewers. The approval outlines the circumstances and hazard ratings used to produce the risk scores for each drinking water intake and wellhead. Please refer to the attached Table 3 which details where the operation or backwash from a water softener is or would be a drinking water threat according to the Ministry approval.

Related Significant Threats in the CSPA

Knowledge regarding private water softener usage and in turn the backwash discharge destination is limited. Therefore, staff have made the assumption that water softener use can occur everywhere in the Cataraqui Source Protection Area. The tables providing the circumstances and hazard ratings for this activity indicate that a significant drinking water threat could occur in IPZ 1 for Brockville, James W. King (Gananoque) and Sydenham and in WHPA 'A' and 'B' for Cana, Lansdowne and Miller Manor.

Recommended Additions to the Draft Proposed Updated Assessment Report (Winter 2011)

Staff recommend that the following items be added to the report:

- (1) New text will be added to Chapters 4, 5 and 6 in Volume I;
- (2) The relevant maps in Volume II will be refined (such as labeling railway spur lines to specific locations and adding recognized boating lanes) and inset tables will be updated to reflect the locations where the local threats will be significant, moderate or low; and
- (3) The appendices in Volume III will updated to reflect the local threats (e.g. Appendix 'F') and the request and response letters will be added as Appendix 'H-2'.

I look forward to your questions and comments during the next meeting on December 9th.

Respectfully submitted,

(Original signed by)

Kimberly Denison
Resource Technician

W/attachments (3)

Approved for circulation RM

Table 1 - Specified Substances and Quantities based on MOE approval (June 21, 2010)

<u>Fuels (250 L to 2500 L, more than 2500 L):</u> <ul style="list-style-type: none">• Petroleum hydrocarbons F1 to F4• BTEX (benzene, toluene, ethylbenzene, and xylene)	<u>Pesticides (more than 2500 kg):</u> <ul style="list-style-type: none">• Atrazine• Dicamba• Dichlorophenoxy Acetic Acid (2,4-D)• Dichloropropene-1,3• Glyphosate• MCPA (2-methyl-4-chlorophenoxyacetic acid)• MCPB (4-(4-chloro-2-methylphenoxy)butanoic acid)• Mecoprop• Metalaxyl• Metolachlor or s-Metolachlor• Pendimethalin
<u>DNAPLs:</u> <ul style="list-style-type: none">• Dioxane-1,4• Polycyclic Aromatic Hydrocarbons (PAHs)• Tetrachloroethylene (PCE)• Trichloroethylene• Vinyl chloride	
<u>Organic Solvents (more than 2500 L):</u> <ul style="list-style-type: none">• Carbon tetrachloride• Chloroform• Methylene chloride (Dichloromethane)• Pentachlorophenol	

Table 2 - Level of Drinking Water Threat Associated with Transportation of Specified Substances based on MOE approval (June 21, 2010)

Vulnerable Area		V.S.	Drinking Water Threat Rating		
			Significant	Moderate	Low
Cana Subdivision (Kingston Mills), Lansdowne, Miller Manor (Mallorytown)	WHPA A, B	10	DNAPL Organic solvent Pesticide	Organic solvent Pesticide Fuel	n/a
	WHPA C	8	DNAPL	Organic solvent Pesticide Fuel	Pesticide Fuel
	WHPA D	6	DNAPL	n/a	Organic solvent Pesticide Fuel
	WHPA E*	7	n/a	DNAPL Organic solvent	DNAPL Organic solvent Pesticide Fuel
Brockville, Gananoque, Sydenham	IPZ 1	9	n/a	DNAPL Organic solvent Pesticide fuel	Fuel
	IPZ 2	8.1	n/a	DNAPL Organic solvent Pesticide fuel	Pesticide Fuel
	IPZ 3a**	6.3	n/a	n/a	DNAPL Organic solvent Pesticide Fuel
Kingston Central	IPZ 1	6	n/a	n/a	DNAPL Organic solvent Pesticide Fuel
	IPZ 2	4.8	n/a	n/a	DNAPL Organic solvent
Point Pleasant (Kingston West)	IPZ 1	6	n/a	n/a	DNAPL Organic solvent Pesticide Fuel
	IPZ 2	4.2	n/a	n/a	n/a
Fairfield (Amherstview), Bath	IPZ 1	7	n/a	DNAPL Organic solvent	DNAPL Organic solvent Pesticide Fuel
	IPZ 2	6.3	n/a	n/a	DNAPL Organic solvent Pesticide Fuel
A.L. Dafoe (Napanee), Sandhurst Shores	IPZ 1	7	n/a	DNAPL Organic solvent	DNAPL Organic solvent Pesticide Fuel
	IPZ 2	5.6	n/a	n/a	DNAPL Organic solvent Pesticide Fuel

Notes: V.S. means vulnerability score, * WHPA E in Cana Subdivision and Lansdowne only, ** IPZ 3a in Sydenham only.

Table 3 – Conditioning Salts from Water Softeners - Applicable Drinking Water Threats in the CSPA

Vulnerable area	System	Vulnerability Score	MOE Tables of Drinking Water Threats		
			Significant	Moderate	Low
Cana Subdivision	WHPA A, B	10	✓	✓	✓
	WHPA C	8	n/a	✓	✓
	WHPA D	6	n/a	n/a	✓
	WHPA E	7	n/a	n/a	✓
Lansdowne	WHPA A, B	10	✓	✓	n/a
	WHPA C	8	n/a	✓	✓
	WHPA D	6	n/a	n/a	✓
	WHPA E	7	n/a	n/a	✓
Miller Manor	WHPA A, B	10	✓	✓	n/a
	WHPA C	8	n/a	✓	✓
	WHPA D	6	n/a	n/a	✓
HVA/SGRA		6	n/a	n/a	✓
Brockville	IPZ 1	9	✓	✓	✓
	IPZ 2	8.1	n/a	✓	✓
Gananoque	IPZ 1	9	✓	✓	✓
	IPZ 2	8.1	n/a	✓	✓
Sydenham	IPZ 1	9	✓	✓	✓
	IPZ 2	8.1	n/a	✓	✓
	IPZ 3a	6.3	n/a	n/a	✓
Kingston Central	IPZ 1	6	n/a	n/a	✓
	IPZ 2	4.8	n/a	n/a	✓
Point Pleasant	IPZ 1	6	n/a	n/a	✓
	IPZ 2	4.2	n/a	n/a	n/a
Fairfield	IPZ 1	7	n/a	✓	✓
	IPZ 2	6.3	n/a	n/a	✓
Bath	IPZ 1	7	n/a	✓	✓
	IPZ 2	6.3	n/a	n/a	✓
A.L. Dafoe	IPZ 1	7	n/a	✓	✓
	IPZ 2	5.6	n/a	n/a	✓
Sandhurst Shores	IPZ 1	7	n/a	✓	✓
	IPZ 2	5.6	n/a	n/a	✓

THE CATARAQUI SOURCE PROTECTION COMMITTEE

REPORT

To: Cataraqui Source Protection Committee

Files: SPP 4-0, 6

From: Rob McRae, Project Manager, Source Water Protection

Date: December 2, 2010

**RE: STATUS OF UPDATED ASSESSMENT REPORT
CATARAQUI SOURCE PROTECTION AREA**

This staff report provides information for the Cataraqui Source Protection Committee (“SP Committee”) about the ongoing development of an updated assessment report for the 12 watersheds in the Cataraqui area.

Background

A work plan for the updated assessment report was submitted to the Ontario Ministry of the Environment (MOE) in September 2010. A “draft proposed” version of the updated report must be posted for 30 days of public review and comment in either February or March 2011. This will allow a “proposed” version to be ready in time for the provincial submission date of June 2011.

Discussion: Current Status of Content

The table below lists the status of each content-related item in the work plan:

Topic	SP Committee Agenda Item	Status at December 2, 2010	
Livestock density	October 2010	√	Received by the SP Committee
Sydenham Tier 3 Water Budget	January 2011		Work in progress by XCG Consultants Ltd. of Kingston
Lansdowne Wellhead Protection Area	January 2011		Work in progress by Intera Engineering Ltd. of Ottawa
Drinking water threat enumeration (overall counts)	January 2011		Work in progress by CRCA staff
Conditioning salt	December 2010		To be discussed
Conditions	October 2010 January 2011		Work in progress by CRCA staff
Transportation corridors	December 2010		To be discussed
Eastern Lake Ontario – Upper St. Lawrence River Intake Protection Zone 2	November 2010	√	Received by the SP Committee
Eastern Lake Ontario – Upper St. Lawrence River Intake Protection Zone 3	November 2010	√	Received by the SP Committee
Joyceville and Pittsburgh Institutions Intake Protection Zone Study	November 2010	X	Will not be included in the update (note: Terms of Reference were not amended)

Despite various challenges, our overall progress on the update is satisfactory, and we remain ‘on-track’ to meet the MOE due date. In addition to working on the new and improved content, staff have compiled a master list of the necessary updates to each section/map/appendix within the three volume report.

Discussion: Path Forward

Staff recommend that the decision on when to post a “draft proposed” version be made at the January meeting. It appears that a March 2011 posting will be appropriate, in accordance with the ‘path forward’ below:

December 2010

- Water budget peer review team and technical advisory group meetings / Ontario Ministry of Natural Resources clearance on the Sydenham Tier 3 Water Budget and the Lansdowne Wellhead Protection Area findings;
- Final site visits for existing drinking water threats;
- Final enumeration of existing significant drinking water threats;
- Scoping of locations with possible conditions; and
- Report writing and editing.

January 2011

- Scoping of locations with possible conditions;
- Report writing and editing;
- Staff reports to the SP Committee (13th);
- SP Committee discussion of the remaining content items (20th); and
- First Assessment Report Subcommittee meeting, to discuss key questions of content and formatting.

February 2011

- Report writing and editing;
- Circulation of an internal draft to the SP Committee (3rd);
- Discussion of the internal draft by the SP Committee (10th); and
- Second Assessment Report Subcommittee meeting (if needed, to follow-up on SP Committee comments).

March 2011

- Circulation of a revised internal draft to the SP Committee (3rd);
- Discussion, approval to post from the SP Committee (10th); and
- Posting for 30 days of public review and comment (commencing by the 22nd).

This timing would lead to the public open house being held in April, revisions being made to the document in April and May, and a “proposed” version being submitted to the Cataraqui Source Protection Authority (and subsequently the MOE) in June.

I look forward to addressing any related questions from the SP Committee at the December meeting.

Respectfully submitted,

(original signed by)

Rob McRae MCIP, RPP
Project Manager, Source Water Protection