



CATARAQUI SOURCE PROTECTION COMMITTEE

AGENDA FOR MEETING

Date: Thursday July 8, 2010
Time: 7:00 PM***
Location: Little Cataraqui Creek Conservation Area (General Purpose Room, Outdoor Centre)
1655 Perth Road (Division Street), Kingston

*** This meeting will be preceded by a barbeque supper at 5:30 PM in the West Hall of the Outdoor Centre for the SP Committee members, staff, and invited guests.

1. Roll Call
2. Adoption of the Agenda
3. Declarations of Conflict of Interest
4. Approval of Previous Meeting Minutes from June 10, 2010 (attached)
5. Business Arising
6. Delegations
7. Correspondence
 - a. Letter from the Hon. John Gerretsen MPP, Ontario Minister of the Environment, to Chair John C. Williamson, regarding publication of a Draft Assessment Report, dated June 21, 2010 (attached);
 - b. Letter from Ian R. Smith, Ontario Ministry of the Environment, to Lauren Forrester, Cataraqui Region Conservation Authority, regarding approval to assess drinking water threats along transportation corridors, dated June 21, 2010 (previously circulated);
 - c. Letter from Ian R. Smith, Ontario Ministry of the Environment, regarding amendments to Ontario Regulation 287/07, dated June 22, 2010 (attached);
 - d. Survey of source protection committee members – Hugh Simpson, Ontario Ministry of Agriculture and Food / University of Waterloo (to be circulated).
8. Business/Reports
 - a. Source Protection Planning
 - i. Status of Proposed Amendments to Ontario Regulation 287/07 – John C. Williamson, Chair / Ontario Ministry of the Environment (update)

- ii. Outcomes from the Test Policy Roundtable on June 22nd
 - 1. Sue Cumming, Cumming + Company (report attached)
 - 2. Members' perspective – Alex Palilionis, Public Representative (update)
 - iii. Proposed Next Steps for Source Protection Plan Development – Holly Evans, Water Quality Specialist and Christine Woods, Source Protection Planner (report attached; presentation)
- b. Publication of a Proposed Assessment Report in 2010
- i. Proposed Assessment Report – Kimberly Denison, Resource Technician and Rob McRae, Project Manager (report attached; presentation)
 - ii. Assessment Report Subcommittee Recommendation – Nona Mariotti, Lake Association Representative
 - iii. Publication logistics – Rob McRae, Project Manager (presentation)
- c. Updated Assessment Report for 2011: Technical Study Update – Sean Watt, Water Resources Engineer (presentation)
9. Sector Updates from the Committee
10. Announcements or Inquiries
11. Motions or Notices of Motion
12. Opportunity for Questions from the Media
13. IN CAMERA Session (if required)
14. Adjournment

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

THE CATARAQUI SOURCE PROTECTION COMMITTEE
MINUTES OF MEETING # 31

Thursday June 10, 7:00 PM

General Purpose Room, Outdoor Centre, Little Cataraqui Creek Conservation Area,
1641 Perth Road Glenburnie, Ontario

Present: John C. Williamson, Chair John Conley Rob Cumming
Scott Ewart (arr. 7:53 PM) Joan Green Jacques Labelle
Kathleen Laird Wendy Lavender Richard Lindgren
Chris Mangan-Greene Nona Mariotti Allan McPhail
Alex Palilionis Peter Raabe Kim Sytsma

Regrets: Richard Bresee Gary Davison Jeff Peters
Kevin Riley

Staff Present: Donna Cellini, Project Secretary
Holly Evans, Water Quality Specialist
Rob McRae, Project Manager, Source Water Protection
Christine Woods, Source Protection Planner

Guests: None

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; one absent member assigned a proxy prior to the meeting; an additional member later joined the meeting before any voting was required.

2) **Adoption of Agenda**

Moved by: John Conley
Seconded by: Nona Mariotti

THAT the Cataraqui Source Protection Committee members adopt the meeting agenda as amended, after adding correspondence item 7 (c).

Carried

3) **Declarations of Conflict of Interest**

There were none.

4) Approval of Cataraqui Source Protection Committee Minutes

- a) Approval of May 13, 2010 Cataraqui Region Source Protection Committee Minutes

Moved by: Nona Mariotti
Seconded by: Chris Mangan-Greene

THAT the minutes of the May 13, 2010 meeting of the Cataraqui Source Protection Committee be approved as circulated.

Carried

5) Business Arising

There were none.

6) Delegations

There were none.

7) Correspondence

- a) Letter from Max Christie, Chair, Quinte Region Source Protection Committee, and Keith Taylor, Project Manager, Source Water Protection, Quinte Source Protection Region, to Cataraqui Source Protection Area (*et al*), regarding the posting of a Draft Proposed Assessment Report, dated May 20, 2010.

Chair John Williamson commented that he had attended a related open house in Madoc on June 9th and it was well attended and very informative.

- b) Electronic mail letter from Ian R. Smith, Director, Source Protection Programs Branch, Ontario Ministry of the Environment, to Source Protection Committee Chairs, regarding Accessible Standards for Customer Service (Ontario Regulation 429/07), dated May 27, 2010.

Chair John Williamson advised the SP Committee that all members must complete this training on or before June 30, 2010.

- c) Letter from Ian R. Smith, Director, Source Protection Programs Branch, Ministry of the Environment, to Sean Watt, Water Resources Engineer, Cataraqui Region Conservation Authority, regarding approval of adding Water Softeners as a local drinking water threat under rule 119 of the technical rules.

Rob McRae advised the SP Committee that Ian Smith approved the request to add conditioning salt (from water softeners) as a local drinking water threat under Rule 119 of the Technical Rules: Assessment Report (MOE, 2009).

8) Business/Reports

a) Update on Ongoing Technical Studies – Sean Watt, Water Resources Engineer

A staff report regarding progress of three ongoing studies had been circulated with the agenda package. The studies were: Sydenham Tier 3 Water Budget; Eastern Lake Ontario – Upper St. Lawrence River Intake Protection Zone Study (Intake Protection Zone 3); and Joyceville and Pittsburgh Institutions Intake Protection Zone Study.

Rob McRae advised the SP Committee that Mr. Watt would be attending a future SP Committee meeting and providing further details on this report.

There was a request for a list of the modeling sites/locations used for the Intake Protection Zone study on Eastern Lake Ontario and the Upper St. Lawrence River. Mr. McRae indicated this would be delivered to the SP Committee members at or before the July 8th meeting.

b) Next Steps for Source Protection Plan Development

i. Committee Goals and Objectives for the Source Protection Plan and Beyond

The Chair and Project Manager asked the SP Committee to think about the direction the SP Committee should go in the future; they will ask the SP Committee at a future date their thoughts on this.

Wendy Lavender also advised the SP Committee that all source protection areas/regions have submitted their three year budget forecasts to the MOE and they are currently being reviewed.

ii. Groundwater Working Group – Alex Palilionis, Public Representative

Alex Palilionis updated the SP Committee on the recent Groundwater Working Group (GWWG) meeting. He advised that he had circulated a report regarding road salt to the GWWG and indicated that he would be happy to circulate it to the Surface Water Working Group (SWWG).

Holly Evans indicated that the draft meeting notes from the May 28th GWWG were in the member's folders. She asked that they please review the notes and provide comments as well as note their specific actions to be completed.

iii. Surface Water Working Group – Christine Woods, Source Protection Planner

Christine Woods provided an update to the SP Committee on the recent Surface Water Working Group (SWWG) meeting and thanked Joan Green for her informative presentation on septic systems.

iv. Staff updates – Holly Evans, Water Quality Specialist and Christine Woods, Source Protection Planner

The SP Committee was advised that the CRCA has posted a summer job ad for the role of research assistant to Ms. Evans and Ms. Woods. The deadline for applications was noon on Tuesday, June 15th, 2010. The SP Committee was encouraged to circulate the ad to anyone they thought would be interested in this position.

The registration deadline for the test roundtables was to end shortly and the June 24th date did not have enough people registered to warrant proceeding. The SP Committee members that were planning to attend this event were asked to check their calendars and see if they could attend the June 22nd session. There would be a formal announcement before the end of the day on June 15th advising if the session on the 24th will be cancelled or rescheduled.

Ms. Woods advised the SP Committee that based on some recent findings that they might need to revisit the details of the roundtable process and this will be presented at the July SP Committee meeting.

Ms. Woods announced that the MOE has released the draft Water Quality Risk Management Measures Catalogue and it can be found at: <http://maps.thamesriver.on.ca/rmc>. This database is in constant change and will be added to and amended as necessary. Ms. Woods also gave a brief description on how to use the database.

c) Assessment Report – Rob McRae, Project Manager

i. Summary of Comments Received on the Draft Assessment Report

Rob McRae Advised the SP Committee of the quantity of comments received and how the CRCA staff will be addressing them.

Mr. McRae also advised the SP Committee that Kimberley Denison, *Resource Technician*, would be coordinating the revisions to the Draft Assessment Report, and ensuring all comments are reviewed and if appropriate acknowledged/illustrated in the Proposed Assessment Report.

ii. Looking ahead to the Proposed Assessment Report

Mr. McRae mapped out a timeline that would allow for publication of the Proposed Assessment Report on July 21, 2010. There was much discussion regarding Highly Vulnerable Aquifers and Mr. McRae advised the SP Committee that approval for the method that was used has yet to be received and the eastern SP areas/regions and Dillon Consulting Ltd. are collaborating on a rational document to be provided to the MOE. He was optimistic that the July 21st publication date could be met.

iii. Updated Assessment Report: Scope and Timing

Mr. McRae updated the SP Committee on the anticipated scope and proposed timing of the Updated Assessment Report. He ensured that they were aware of Section 19(1) of the *Clean Water Act, 2006* stating that: "If, after the Director approves an assessment report and before a proposed source protection plan is submitted... ..the source protection committee becomes aware that the assessment report is no longer accurate or complete... ..the source protection committee shall submit an updated assessment report to the source protection authority".

Resolution CSPC 16-10

Moved by: Kathleen Laird

Seconded by: Kim Sytsma

WHEREAS the forthcoming initial assessment report for the Cataraqui Source Protection Area does not include all of the technical findings that will be available for consideration in the initial source protection plan;

THEREFORE BE IT RESOLVED THAT the Cataraqui Source Protection Committee shall publish an updated assessment report for the Cataraqui Source Protection Area in 2011, in accordance with the timeline set out in the report of the Project Manager (dated June 3, 2010)

Carried

9) Sector Updates from the Committee

It was mentioned that a new company in Kingston, to be located at Innovation Park, is going to be investigating E-coli and other sources of contamination in drinking water and perhaps the SP Committee should find out more about them and if any of their data could be shared.

10) Announcements or Inquiries

There were none.

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) Serve-Ability: Transforming Ontario's Customer Service

The SP Committee members that have completed this training through another venue were reminded to advise Donna Cellini when and where (via email) and were excused from the training session. There were many attempts to complete the training but the Internet was not running smoothly. Chair John Williamson therefore requested that the remaining SP Committee members please complete the training on their own via Internet at either home or office and advise Donna Cellini when complete.

15) Next Meeting

Next meeting of the SP Committee: July 8, 2010

5:30 PM Appreciation/Celebration BBQ
West Hall, Outdoor Centre
Little Cataraqui Creek Conservation Area,
1641 Perth Road Glenburnie, Ontario

7:00 PM Regular Meeting
General Purpose Room, Outdoor Centre

16) Adjournment

The meeting adjourned at 10:00 P.M. on a motion by Alex Palilionis.

John C. Williamson, Chair

Rob McRae, Project Manager



JOHN GERRETSEN, MPP

Kingston and The Islands

June 21, 2010

Cataraqui Source
Protection Committee
P.O. Box 160
Glenburnie, ON K0H 1S0

ATTENTION: JOHN C. WILLIAMSON
CHAIR

CRCA
Date Rec'd: <u>June 25</u>
Original for: <u>Steve → Robm / John W</u>
Copied to:
File No:

Dear Mr. Williamson:

Thank you for your letter dated April 21, 2010, enclosing a copy of your Draft Assessment Report for local drinking water source protection activities under the Ontario *Clean Water Act, 2006*. I sincerely apologize for the lengthy delay in responding to you.

I regret that I was unable to attend your meeting on Thursday, May 13, 2010. I appreciate being kept up-to-date with the Committee's work on this important project and look forward to hearing from you in the future.

Thank you for keeping in touch.

Yours truly,

John Gerretsen, M.P.P.
Kingston and The Islands

/ew

Ministry of
the Environment

Source Protection Programs
Branch

8th Floor
2 St. Clair Ave. West
Toronto ON M4V 1L5

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

June 21, 2010

Ms. Lauren Forrester
Cataraqui Region Conservation Authority
1641 Perth Road, P.O. Box 160
Glenburnie, Ontario K0H 1S0

Dear Ms. Lauren Forrester,

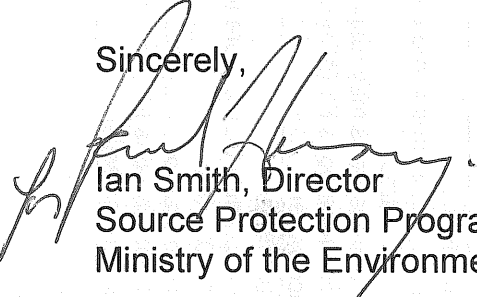
C.R.C.A.	
Date Rec'd	June 24 2010
Original for	Wolly
Copies to:	
File No:	

We are in receipt of your letter dated March 10, 2010, which requests the Director's opinion regarding the addition of transportation of specified substances along corridors as a local drinking water threat.

In accordance with my authority under Rule 119, 120, or 121, I hereby provide the following Director's opinion for the hazard rating for the activity and circumstance as per the attached table. The activity, circumstances, and hazard ratings are approved for local threats in the Cataraqui Source Protection Area.

A copy of this letter along with your rationale for the inclusion of these 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 Heeny, 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	C, C1, D	IPZ-1,2,3, WHPA-E	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.			8 - 9	8	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.	10	10				
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) / Metolaxyl / 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	7.2 – 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	7.2 – 9	---	4.8 – 6.4	---
1. The transportation of a DNAPL.	10	2 – 10	7.2 – 9	---	4.8 – 6.4	---
2. A spill of the DNAPL may result in the presence of Vinyl chloride or another DNAPL that could degrade to vinyl chloride in groundwater or surface water.	10	2 – 10	7.2 – 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 Chloroform 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 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

From: Evans, Pat (ENE) [mailto:Pat.Evans@ontario.ca] **On Behalf Of** Smith, Ian (ENE)
Sent: Wednesday, June 23, 2010 11:54 AM
Subject: Clean Water Act - Reg 287/07 amendments for source protection plans

**Ministry of
the Environment**

Source Protection Programs
Branch
8th Floor
2 St. Clair Ave. West
Toronto ON M4V 1L5

**Ministère de
l'Environnement**

Direction des programmes de
protection des sources
8^e étage
2, avenue St. Clair Ouest
Toronto (Ontario) M4V 1L5



June 22, 2010

Greetings,

I am pleased to announce that the Ministry of the Environment has now finalized the regulation in support of the development and implementation of source protection plans under the *Clean Water Act, 2006*. The goal of the Act is to protect existing and future sources of drinking water, as part of an overall commitment to human health and the environment. The development of regulations to enable local source protection committees to complete their respective source protection plans is required by the Act.

The requirements for source protection plans are set out as amendments to the General Regulation (O. Reg. 287/07) under the Act, and will come into effect July 1, 2010. These amendments follow a public consultation process that included a policy discussion paper posted on the Environmental Bill of Rights' Environmental Registry (EBR) website in June 2009, and a draft regulation posted on the EBR in January 2010. All comments provided in writing and at multi-stakeholder discussion sessions and focus groups were taken into consideration and were helpful in finalizing the regulatory amendments.

We wish to thank all those who took the time to provide their input on the proposals. I believe that the contribution of our partners will strengthen the protection of drinking water sources in Ontario and result in a source protection framework that is beneficial to everyone living in source protection areas.

Informational fact sheets will be forwarded to you following this notification. The fact sheets will also be posted on the ministry's website www.ontario.ca/cleanwater. The regulation itself is currently posted under "Source Law" on the [e-Laws website](#). The consolidated version of O. Reg. 287/07 will be posted on e-Laws in the near future. We look forward working with you and source protection committees, municipalities, and other stakeholders as we continue to implement the Clean Water Act and the recent amendments.

If you have any questions, please contact Debbie Scanlon, Senior Drinking Water Program Advisor, at (416) 212-8839 or Debbie.Scanlon@ontario.ca.

Sincerely,

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

c: Conservation Ontario
Ministry of Natural Resources
Ontario Ministry of Agriculture and Rural Affairs
Ministry of Municipal Affairs and Housing
Keith Willson, Manager, Source Protection Programs Branch, MOE
Katie Fairman, Supervisor, Source Protection Programs Branch, MOE
Debbie Scanlon, Source Protection Programs Branch, MOE

Cataraqui Source Protection Area

Test Roundtable for Bath Intake Protection Zone **Feedback Report** **Executive Summary**



June 2010

Executive Summary

Feedback Report on the Bath Intake Protection Zone Test Roundtable

1. Context for the Test Roundtable

On June 22, 2010 a Test Roundtable was held with Municipal and Health Unit staff on the Bath Intake Protection Zone (IPZ). The session was held at the Outdoor Centre at the Little Cataraqui Creek Conservation Area from 9:00 a.m. to 2:00 p.m. Fifteen staff from municipalities and KFL&A Public Health attended together with SP Committee members, CRCA staff and the facilitator Sue Cumming of Cumming+Company. The Test Roundtable was planned to evaluate the format and process, and to identify improvements prior to commencing with the Policy Roundtables. Advance planning for the Test Roundtable was influenced by the desire to:

- Establish a comfortable environment for all to participate;
- Use presentation materials that convey information in a way that is understandable;
- Use a format that promotes a high degree of discussion and builds on the input throughout the roundtable utilizing small and large group discussions to confirm and seek input;
- Create a sufficient level of advance material to inform the discussion and stimulate input;
- Keep the discussion at a high level while incorporating enough detail to develop a clear understanding of the policy intent and direction from participants on ways to conduct the policy roundtables.
- Communicate with participants and audiences before, during and after the roundtables.

A week in advance of the Test Roundtable a *Round Table Participant Guide to Source Water Protection Planning* was mailed to those invited to attend. The Participant Guide intended as a short primer included information on the process for developing a Source Protection Plan, and descriptions of drinking water issues and threats. Descriptions of the policy roundtables and proposed policy tools were included. Specific information relating to the Bath IPZ and selected drinking water threats to the Bath Intake (some of which were fictional for the purpose of the Test Roundtable) and Interim Policy Evaluation Criteria were included.

Sue Cumming facilitated the workshop discussion with significant opportunity for individuals to share ideas through table discussions. Key points and ideas for consideration were noted through table breakouts and overall group discussion. Key messages were assembled by the facilitator and highlighted at the end of each discussion questions.

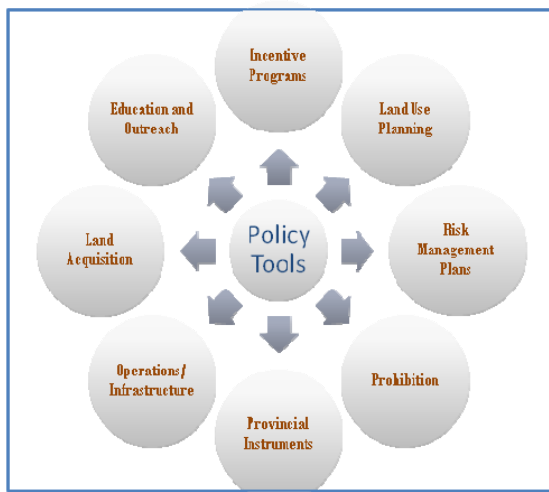
The Test Roundtable was organized with Opening Remarks by Committee Chair John Williamson. This was followed by the introduction of participants and identification of expectations of each for the Test Roundtable. CRCA Staff Holly Evans and Christine Woods provided short presentations on the policy tools and approaches that may be considered and how these would be evaluated using the interim evaluation criteria adopted the Cataraqui

Source Protection Committee on May 13, 2010 for use on an interim basis. Following each mini presentation, small group discussions were held focused around key questions. A number of communication materials were used at the workshop, the first being a discussion booklet which each person was provided with to assist with the table discussions. The second was an evaluation form for recording ideas about the information and process of conducting the Test Roundtable. Both of these were collected and included in the Test Roundtable Feedback Report.

2. Developing Policy Ideas for Fictional Threats

The Policy Roundtables that will be held in each vulnerable area (IPZ, wellhead protection area, and highly vulnerable aquifers and significant groundwater recharge areas) will be focused to develop ideas for dealing with drinking water threats in each area. For the Test Roundtable discussion, the following four fictional threats were identified for the purpose of using these to brainstorm on possible policy ideas: application, handling and storage of agricultural source material; stormwater management; septic systems; and transportation corridors. Working first

on their own and then within each group, participants responded to the following discussion questions:



1a) For the 4 fictional threats identified which of the policy tools you think would address these threats?

1b) What preliminary policy ideas do you have?

1c) Are there other policy tools that are not shown here that you think should be considered?

Yes _____ No _____ please describe

The discussion was lively and provided significant input on how the process could be used for the

Policy Roundtables. The full Feedback Report contains extensive input on the discussion and policy input developed for the fictional threats. There is support for using the “poster format” of having tables rotate around a series of drinking water threats placing ideas on poster flipcharts and then rotating to the next topic to add their points and finally returning the where they started to review the input provided by each successive group. The recording process was great for learning and interacting with each other. People liked the activity level, the opportunity for involvement and for building on ideas. The approach of mini-presentations as lead into discussion areas was effective. There is support for using the same approach of mixing people up (similar to Test Roundtable) to have a diverse discussion at each table.

Test Roundtables Materials including the Participant Guide and Discussion Booklet were well received and easy to use. Suggestions for some additional information to be included for the Policy Roundtables will be incorporated. A primer was recommended on Provincial legislative instruments and federal legislation and how these could affect/effect the drinking water threats. For the different IPZs, some examples of policy ideas is recommended and to have participants

build on these. The Test Roundtable confirmed that the discussion of Policy Ideas and the format and materials used is effective and is recommended with some modification for use in the Policy Roundtables.

3. Evaluating Policy Ideas

Evaluation criteria will be used to compare and rank policy alternatives. The tables in the participant guide (pages 19 to 21) included: *criteria, considerations to make and scales of measurement*. Participants were asked to respond to the following questions. For this part of the discussion, participants remained seated and worked first individually and then as a group to develop key feedback on the following questions.

- a) *What comments do you have on these criteria? Are they clear? Are there other criteria that you would like to see considered?*
- b) *What comments do you have on the considerations noted?*
- c) *How clear are the scales of measurement?*
- d) *What changes (if any) would you recommend?*

Working at their tables, participants were asked to select one of the fictional policy threats and one policy idea and to do a test evaluation using one of the criteria. The purpose of this was to determine feedback on the evaluation process and how it could be applied with the view as to whether this would be something attempted through the policy roundtables.

Feedback on the criteria is that they are simple/concise, clear and applicable and cover an appropriate range of topics. The scoring proposed 3-2-1 – is seen as easy to apply. Some modifications suggestion include: showing criteria all on one page, renaming *scale* to *suitability*, combining *net cost/benefit* to *net value*. Most participant's recommend that the Policy Roundtables should be organized to have discussion on the evaluation criteria but not on the actual evaluation of policy ideas. It was felt that more time, more upfront detail and resource people at each table would be needed for this part of the discussion. There is preference for the "rotating poster stations" approach utilized for the discussion on Policy ideas as opposed to sitting down at tables. The Test Roundtable confirmed that the Policy Roundtable discussion should be focused more on input on the criteria and not on undertaking the actual evaluation of ideas suggested. A number of suggestions for how to improve this discussion will be incorporate for the Policy Roundtables.

4. Suggestions for organizing and conducting the Policy Roundtables

A key aim of the Test Roundtable was to explore the approach used for developing policy ideas so as to reflect on what changes may be needed to ensure that the Policy Roundtables would be effective. An Evaluation Form was completed by Test Roundtable Participants and the detailed responses are included in the Full Feedback Report. Overall, the majority of the Test Roundtable Participants rated the session as 8 out of 10 and found it to be effective.

Participants were asked to discuss the outreach and communication for the Policy Roundtables through responding to four key questions as noted in the following:

- a) *What ideas do you have for getting people interested in attending the community roundtables?*
- b) *What do you think are the hot topics that could draw people out?*
- c) *What questions would you want to learn the answers to through the community roundtables?*
- d) *What other suggestions do you have?*

An extensive outreach program is recommended to seek participation from the general public with suggestions of utilizing municipal contacts as key source of outreach and intelligence gathering on potential participants. Focused outreach is suggested for business and agricultural community, landowners and other key stakeholders.

Suggestions included creating an event focus for the roundtables and identifying other reasons having information displays, tying in with community events, offering day care (to attract under 40 age group and families), offering free passes and other incentives. All agree that it is important to attract a diverse group of interests to the roundtables and once there to mix people at the tables to provide for the discussion of different viewpoints.

Consistent communication materials are recommended identifying key audiences and key messages for each. Using plain language to describe what Source Water Protection is – what are drinking water threats is seen as important for communicating the importance of participating at the Roundtables. Communicating messaging on Drinking Water Threats through television and radio – with advertising through - TV, radio, internet, face book, newspaper and direct mail to landowners is recommended.

Recommendations and Next Steps

The following are facilitator recommendations for moving forward with the ideas, comments and suggestions from the Test Roundtable.

1. Make available Full Feedback Report to Test Roundtable Participants.
2. Develop communication strategy specific to the Policy Roundtables incorporating suggestions for reaching audiences through a range of media sources, and simplified messaging. Create plain language messaging to describe the purpose and expected outcomes from each Policy Roundtable.
3. Investigate local municipal contacts for raising awareness of the Policy Roundtables with a broad spectrum of audiences. Focus on youth, young families and targeted stakeholders in each IPZ. Seek commitment from local municipal staff for sourcing potential participants and identify contact lists and materials (letters, notices, posters) for advertising roundtables.
4. Undertake needed outreach building on the ideas for attracting interest and attendance learned through the test roundtable to create a “buzz” about the Policy

- Roundtables. Research and inventory events being undertaken where information about the Policy Roundtables can be promoted.
5. Review schedule for the two (2) roundtables planned for September and consider adjusting timeline to hold these in January/February once communication strategy and outreach inventory and program are complete.
 6. Refine the Policy Roundtable Discussion themes and materials based on the input received at the Test Roundtable including:
 - a) Identify several examples of policy ideas for each of the policy tools identified to use in the roundtable discussions to stimulate discussion.
 - b) Refine Policy Tools description to include Land Securement (Land acquisition, land trusts, stewardship and other mechanism for implementation)
 - c) Continue developing material on understanding provincial policy instruments and applicability of federal legislation addressing Drinking Water Threats.
 - d) Clarify and refine assessment criteria description.
 7. Refine roundtable tools – Participant Guide, Mini Presentations, Discussion Booklet and Evaluation Form to address comments and suggestions noted.
 8. Conduct informant interviews with businesses, agricultural operators and other identified groups to test communication materials prior to finalization.

THE CATARAQUI SOURCE PROTECTION COMMITTEE
REPORT

To: Cataraqui Source Protection Committee

Date: June 30, 2010

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

Files: SPP 4-0, 8

RE: PROPOSED NEXT STEPS FOR SOURCE PROTECTION PLAN DEVELOPMENT

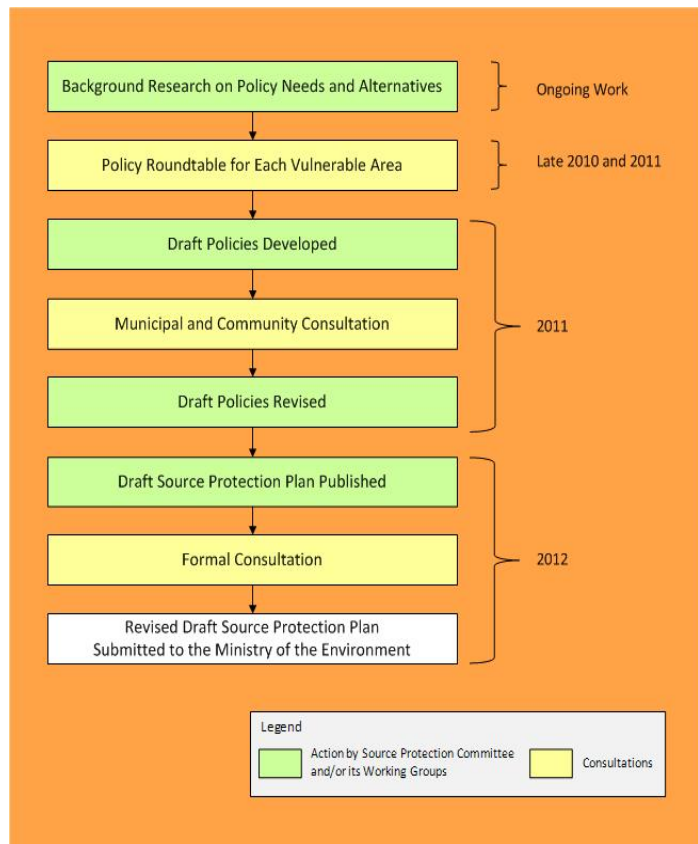
Staff of the Cataraqui Region Conservation Authority seek direction from the Cataraqui Source Protection Committee (SP Committee) on the proposed next steps for developing a source protection plan. Our report includes a proposed revised timeline for the plan development process, and a new short-term focus for the working groups.

Background

In January 2010 the SP Committee approved a framework for the source protection planning process (Resolution CSPC 01-10). The flow chart to the right illustrates the approved framework.

It was stressed at that time that the details associated with the framework, including the timeline and forms of consultation, would likely change over time and with experience.

Since January our approach to the process has been influenced by factors such as the timing of the initial and updated assessment reports, the timing of amendments to Ontario Regulation 287/07, the upcoming municipal elections, and the test policy roundtable that was held in June. That event was held to assess the format of the roundtables and to gather input from our municipal and health unit colleagues.



Staff continue to feel that the overall framework is sound, and we are looking forward to working with the SP Committee on a successful process. This report recommends modifications that will strengthen the framework.

Proposed Revisions to the Timeline

Staff recommend that our focus during fall 2010 shift from hosting policy roundtables to preparing background information on a Cataraqui-wide basis. We would maintain our momentum on development of the plan, while ensuring that we are truly prepared to discuss policies in the roundtable forums. This change would mean that the policy roundtables would commence in January 2011 instead of September 2010.

The following reasons are provided for this change:

- 1) **Municipal elections.** The upcoming municipal elections and resulting down-time for elected officials would impact their abilities to participate fully in the roundtables.
- 2) **Need for background research.** There are many similarities in the existing and future drinking water threats for all of the vulnerable areas. It is in our best interest to complete background research and at a minimum identify general relationships between the drinking water threats and policy options in advance of the first roundtables. This will foster general consistency in throughout the source protection area and permit the SP Committee and staff the time necessary to compile the information and have necessary discussion at working group meetings.
- 3) **Additional findings.** There are a number of draft and updated assessment report findings that will not be available until fall 2010 that should be addressed at the roundtables, including conditions (historical activities), activities associated with the intake protection zone 3 for the Eastern Lake Ontario – Upper St. Lawrence River systems, and activities associated with conditioning salts and transportation corridors (recently-approved ‘local’ drinking water threat types).
- 4) **Provincial inputs.** The amendments to O. Reg. 287/07 – General Regulation about developing source protection plans have only recently been approved. The Ontario Ministry of the Environment has indicated that the amended regulation will come into effect on July 1, 2010. Guidance documents, training, and the complete Water Quality Risk Management Measures Catalogue are anticipated this summer and fall.
- 5) **Communications strategy.** An integral part of source protection plan development is communications and consultation. A forthcoming Communications Strategy (fall 2010) will outline how to raise public awareness about the planning process and to recruit people to attend the roundtables.
- 6) **Community contacts.** Time is needed to make community contacts for roundtable participation is needed.

- 7) **Plan outline.** The framework envisions that the draft source protection plan will be written throughout the process rather than at the end of it. Therefore the outline for the document should be in place in the fall 2010.

A proposed (revised) timeline for plan development and a process chart are attached to this report. They continue to allow the SP Committee to meet the February 2012 deadline for the publication of a draft source protection plan.

Proposed Improvements to the Process

The following changes are proposed to improve the source protection planning process during the next two years:

- 1) The test roundtable that was held in June allowed CRCA staff and the facilitator (Cumming + Company) to assess the roundtable format. Refinements will be made before starting the policy roundtables. This eliminates the need to go through the entire planning process for one vulnerable area before starting on the rest of them (as was planned prior to going ahead with the test roundtable).
- 2) There will be multiple drinking water threat-themed full SP Committee (joint working group) meetings in the fall 2010 to discuss all applicable threats and policy options (see below).
- 3) There may be opportunities to combine the roundtables for intake protection zones that have similar characteristics, types of threats, and potential policies (for example, Kingston Central and Point Pleasant; A.L. Dafoe and Sandhurst Shores).
- 4) As we move through the plan development process, the working groups may determine that it will not be necessary to hold the third working group meeting for each vulnerable area.
- 5) One presentation will be made to each municipal council about the draft policies for all the vulnerable areas in its jurisdiction near the end of the plan development process, but prior to the formal (legislated) consultation on the draft plan. Other updates and general presentations during the process will ensure that municipal councils are engaged in the process.
- 6) In addition to the policy roundtables, other forms of consultation will be used throughout the planning process. For example, draft policies for a given vulnerable area could be posted on the Internet for public review and comment for a period of say 21 days. The details on these consultations will be presented to the SP Committee as part of the Communications Strategy this fall.
- 7) A shared policy development approach will be negotiated for the Picton Intake Protection Zone 3b and the Westport Wellhead Protection Area 'D' with the neighbouring source protection committees.

New Short-term Focus for the Working Groups

As indicated above, there appear to be many similarities in the existing and future drinking water threats for all of the vulnerable areas. Staff therefore recommend that the full SP Committee meet as one group at special meetings during the fall to consider these threats and the policy options. This approach will enable well-informed discussions, eliminate duplication of effort and will ensure consistency. The Groundwater and Surface Water Working Groups would return to their individual meeting schedules once the roundtables commence.

Notices of Commencement

Section 19 of the amended O. Reg. 287/07 – General Regulation requires that source protection committees send notices of commencement to each municipality in their source protection area / region as work on a source protection plan is beginning. The source protection committee must also send notices of commencement to every person believed to be engaged in an activity that is or would be a significant drinking water threat.

Recommendation

BE IT RESOLVED THAT the Cataraqui Source Protection Committee proceed with the next steps for the source protection plan development, in accordance with the recommendations and timeline set out in the report of the Source Protection Planner and Water Quality Specialist (dated June 30, 2010).

Respectfully submitted,

Christine Woods, MCIP, RPP
Source Protection Planner

Holly Evans
Water Quality Specialist

Attachment 1: Proposed Updated Plan Development Timeline (dated June 30, 2010)

Attachment 2: Proposed Source Protection Plan Development Process (dated June 30, 2010)

Cataraqui Source Protection Area
Drinking Water Source Protection

Attachment 1: Proposed Updated Plan Development Timeline

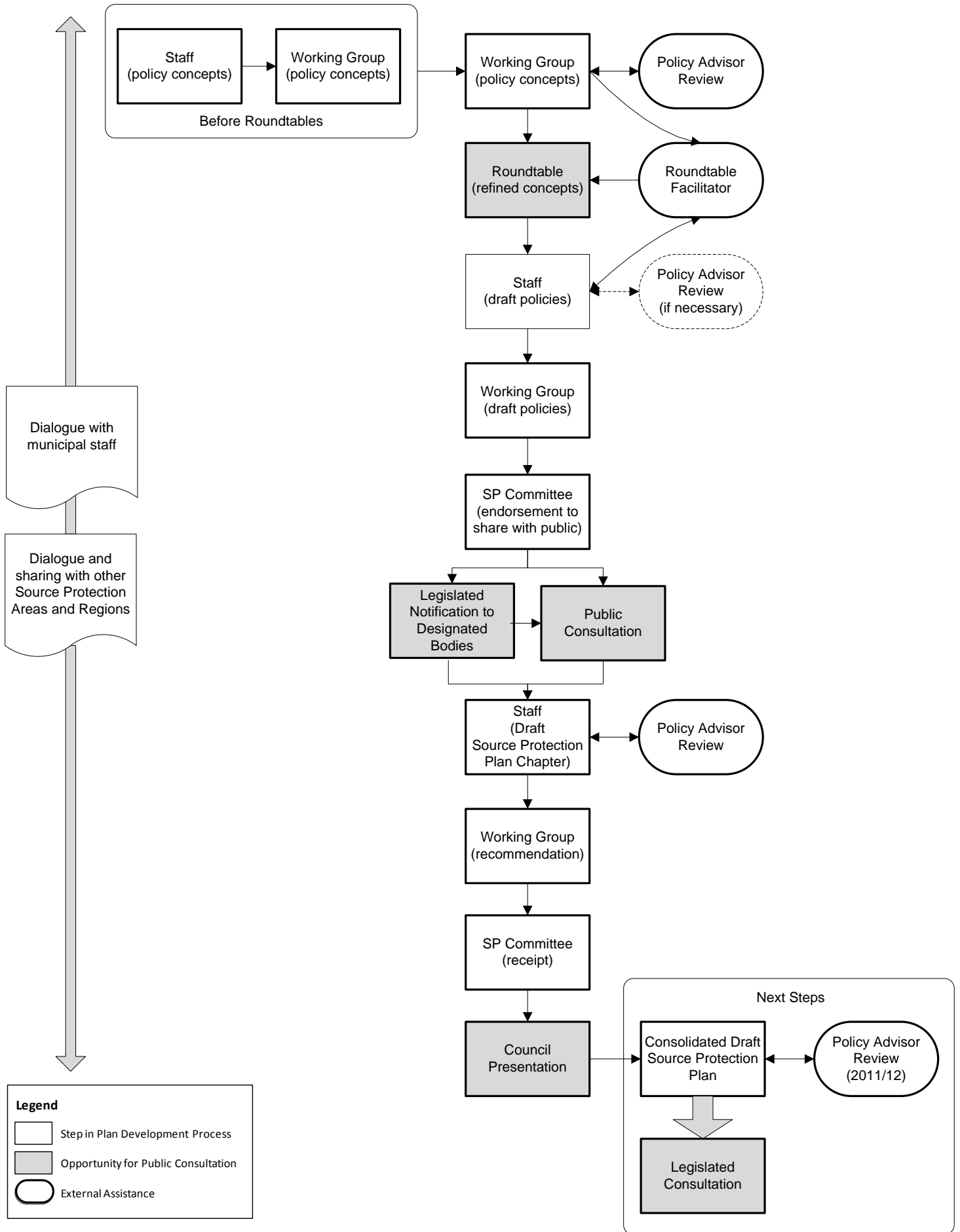
June 30, 2010

Meeting and Roundtable Topics	2010 / 2011								2011 / 2012											
	Aug 10	Sep 10	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	July 11	Aug 11	Sep 11	Oct 11	Nov 11	Dec 11	Jan 12	Feb 12	Mar 12
Special SP Committee meetings:																				
review drinking water threats and initial policy ideas (meeting 1)	SPC																			
review drinking water threats and initial policy ideas (meeting 2)		SPC																		
review drinking water threats and initial policy ideas (meeting 3)			SPC																	
review drinking water threats and initial policy ideas (meeting 4)				SPC																
1 Bath, Loyalist (S)					WG	RT	WG	SPC1	PC	WG	SPC2								M	
2 Miller Manor Apartments, Front of Yonge (G)					WG	RT	WG	SPC1	PC	WG	SPC2						M			
3 Gananoque (S)						WG	RT	WG	SPC1	PC	WG	SPC2					M			
4 Cana Subdivision, Kingston (G)						WG	RT	WG	SPC1	PC	WG	SPC2					M			
5 Sandhurst Shores, Greater Napanee (S)							WG	RT	WG	SPC1	PC		WG	SPC2					M	
6 Kingston Central and Point Pleasant, Kingston (S)									WG	RT	WG	SPC1	PC	WG	SPC2		M			
7 Lansdowne, Leeds and Thousand Islands (G)								WG	RT	WG	SPC1		PC	WG	SPC2		M			
8 HVAs and SGRAs, Area-wide (G)						WG	WG	RT		RT		RT	WG	SPC1/PC	WG	SPC2	M	M		
9 A.L. Dafoe, Greater Napanee (S)								WG	RT	WG	SPC1		PC	WG	SPC2				M	
10 Brockville (S)										WG	RT			WG	SPC1/PC	WG	SPC2	M		
11 Fairfield, Loyalist (S)													WG	RT/WG	SPC1/PC	WG	SPC2	M		
12 Sydenham, South Frontenac (S)											WG		RT	WG	SPC1/PC	WG	SPC2	M		
Draft Source Protection Plan																				DRAFT
Number of meetings and events	1	1	1	1	2	4	4	5	4	5	5	2	3	4	2	2	1		1	
Number of decision topics for SP Committee	0	0	0	0	0	0	0	2	2	1	4	3	0	2	6	1	3		1	

Legend

- (G) groundwater system
- (S) surface water system
- WG working group meeting
- RT policy roundtable
- PC public consultation
- SPC1 first review of draft policies by the SP Committee
- SPC2 second review of draft policies by the SP Committee
- M municipal council presentation
- DRAFT** publication of draft Source Protection Plan

Attachment 2: Proposed Source Protection Plan Development Process Cataraqui Source Protection Area June 30, 2010



THE CATARAQUI SOURCE PROTECTION COMMITTEE

REPORT

To: Cataraqui Source Protection Committee

Files: SPP 4-0, 6

From: Kimberly Denison, Resource Technician
Rob McRae, Project Manager, Source Water Protection

Date: June 30, 2010

RE: PROPOSED ASSESSMENT REPORT

This staff report seeks direction from the Cataraqui Source Protection Committee (“SP Committee”) to publish a Proposed Assessment Report: Cataraqui Source Protection Area (July 2010).

Background

The revised date for submitting an initial assessment report for the Cataraqui Source Protection Area to the Ontario Ministry of the Environment (MOE) is October 12, 2010. Resolution CSPC 15-10 directs Cataraqui Region Conservation Authority (CRCA) staff to work with the Assessment Report Subcommittee toward the publication of a ‘Proposed’ version of the document in July 2010.

Discussion

Proposed Response to Comments Received on the Draft Assessment Report

Approximately 125 comments on the Draft Assessment Report required attention in the Proposed version. Over the past two months we have worked diligently to prepare additional/revised text, maps, and tables to address the comments, and we have consulted with MOE staff on many of their comments. The responses to more complex comments were discussed by the Assessment Report Subcommittee on June 14th.

A detailed table that describes the proposed response to each comment is included in digital (PDF) format as **Attachment # 1**. The Assessment Report Subcommittee has asked that the table be shared with others to demonstrate how each comment was carefully considered. An earlier ‘working’ version of the table was circulated to the SP Committee on June 21st.

We have consulted with the City of Kingston and Loyalist Township staff about their comments. We expect to receive confirmation prior to July 8th that all of those comments have been addressed to the satisfaction of municipal staff.

An internal draft version of the Proposed Assessment Report is enclosed for review prior to the July 8th meeting. The three volumes of the document are included as PDF files on members’ USB data keys. The text components of the document have been left in ‘track-changes’ mode so that the improvements are visible. Staff can provide access to printed materials upon request. We will continue to review the document for minor interpretation, referencing, and typographical errors prior to the meeting.

Key Improvements

The key improvements made to the document since April 2010 are outlined in summary table format in **Attachment # 2**. As previously indicated to the SP Committee, a majority of the comments asked that the report

provide additional detail about the data, assumptions, and methods used in the research. In making improvements and adding details, staff have attempted to maintain the readability of the document.

Highly Vulnerable Aquifers

Detailed technical work was required on just one section of the report: the assessment of aquifer vulnerability in Chapter 5. In response to MOE comments on this section, CRCA staff undertook the following tasks:

- (1) We convened a series of teleconferences with the conservation authority hydrogeologists across eastern Ontario in order to discuss data, assumptions, methods, and findings related to aquifer vulnerability;
- (2) Dillon Consulting Ltd. was re-engaged to assist the Cataraqui, Mississippi-Rideau, and Quinte Source Protection Areas / Regions with our common challenge;
- (3) Dillon and eastern Ontario staff assembled research and case study evidence in support of our assumptions, methods, and findings (i.e. that fractured bedrock is intrinsically vulnerable, and thus there are extensive highly vulnerable aquifers in our source protection areas / regions).

The MOE accepted the evidence in the context of its Intrinsic Susceptibility Index (2002 Amendment) method. Ministry staff indicated that the work would comply with the Technical Rules: Assessment Report (MOE, 2009), provided that appropriate caveats and evidence are included in the assessment reports.

- (4) Specific to the Cataraqui area, Dillon and CRCA staff revisited the Groundwater Vulnerability Analysis Report: Cataraqui Source Protection Area (Dillon, 2008) to ensure that our analyses and maps were consistent with the 2002 Amendment.

One extra step was required to follow the 2002 Amendment. The Intrinsic Susceptibility Index values at the water wells were interpolated (smoothed out across the map) and then overlain with the surficial geology (i.e. soils/rock) map. The interpolation was filtered to remove situations where only one or two wells were influencing the result (proposed Map 5-1d is **Attachment # 3**).

Consistent with earlier findings, the final map shows a broad extent of highly vulnerable aquifers, with ‘pockets’ of medium vulnerability (proposed Map 5-1e is **Attachment # 4**). These ‘pockets’ fit with our knowledge of the Cataraqui area, and include areas with relatively deeper overburden such as the vicinity of Adolphustown, the Cataraqui River valley, the swath of land between Charleston Lake and Lansdowne, and the foot of Hay Bay.

The intensive effort to resolve the aquifer vulnerability comments over the past two months has been worthwhile. While the overall finding has not changed substantially, the need to obtain Director’s approval for an alternate method has been avoided. The resulting analyses and maps are more consistent with our neighbouring regions, defensible in the planning process, and reflective of on-the-ground conditions. Staff therefore recommend that the revised content be included in the Proposed Assessment Report.

Next Steps

The next step in the legislated process is to submit the Proposed Assessment Report to the Cataraqui Source Protection Authority. Section 16 of the Ontario *Clean Water Act, 2006* also requires that this version be posted on the Internet for 30 days, with an invitation to submit comments to the SP Authority. Copies are to be circulated to each municipality.

Pending a decision by the SP Committee to publish the document, this is the anticipated timeline for the Proposed Assessment Report in 2010:

Date	Meeting / Milestone	Activity
Wednesday July 21 st	Potential posting day	
Friday August 20 th	Potential 30-day comment due date	
Thursday September 9 th	SP Committee meeting	Consideration of comments
Wednesday September 15 th	SP Authority agenda package	Report and comments
Wednesday September 22 nd	SP Authority meeting	Receipt of comments, approval of proposed version?
Tuesday October 12 th	Due date for submission to the MOE	

Recommendation

WHEREAS the Ontario *Clean Water Act, 2006* and its regulations and rules prescribe requirements for the development and approval of assessment reports;

AND WHEREAS a proposed report for the Cataraqui Source Protection Area has been developed in accordance with those requirements;

THEREFORE BE IT RESOLVED THAT the Cataraqui Source Protection Committee approves the submission of the Proposed Assessment Report: Cataraqui Source Protection Area (July 2010) to the Cataraqui Source Protection Authority, and the concurrent publication of the document for public review and comment, as outlined in the presentation by CRCA staff on July 8, 2010.

We look forward to discussing this topic with you at the July meeting.

Respectfully submitted,

(original signed by)

(original signed by)

Kimberly Denison
Resource Technician

Rob McRae MCIP, RPP
Project Manager, Source Water Protection

W/attachments (all items are as proposed by CRCA staff, and dated June 30, 2010):

- (1) Cataraqui Source Protection Area: Draft Assessment Report: Summary of Responses to Comments Received (digital copy only)
- (2) Key Improvements in the Proposed Assessment Report (July 2010)
- (3) Map 5-1d Aquifer Vulnerability Assessment: Overlay of ISI (Interpolation) and Surficial Geology
- (4) Map 5-1e Highly Vulnerable Aquifers

Draft Assessment Report: Summary of Responses to Comments Received

(Revised June 30, 2010)

DRAFT for Cataraqui SP Committee Review

#	Section / Map	Comment (Paraphrased)	Author	MOE #	MOE Ranking			Extent Addressed in Proposed AR			Proposed Response to Comment (As of June 30, 2010)
					Leg	Rec	Sug	Full	Part	No	
Volume I - General Comments											
1		Include more technical information in the document (i.e. methods, assumptions, rationales).	Conservation Ontario					✓			On June 10th the Cataraqui SP Committee endorsed an approach through which some clear language was added to Volume I and digital copies of supporting technical reports was added as Appendix 'L' (Volume III).
2		Check the document for the use of drinking water system names that are consistent with the approved Terms of Reference.	MOE	G-1				✓			Drinking water systems have been named according to the approved Terms of Reference. In most cases, the drinking water system will go by its location (example: James W. King (Gananoque) but where appropriate "well supply" or "water treatment plant" has been added to represent the full drinking water system name. Subdivision (as in Cana) has been removed from this well supply name and is only used when discussing the community location in Kingston and in report names where "Cana Subdivision" has been used in the proper title.
3		Ensure that limitations are discussed for each section of the report.	MOE	G-3				✓			Limitations are discussed in each section of the report.
4		Remove recommendations for the source protection plan.	MOE	G-6				✓			The response is based on a discussion between CRCA and MOE staff on June 10th. Sections 9.2 and 9.3 have been removed from the document, along with text in Chapters 5 and 6.
5		For each section related to Issue Evaluation, indicate that the issues identified meet the tests in Technical Rule 114.	MOE	T-4				✓			Issues identified for each system meet the tests in Technical Rule 114 where exceedances are based on parameters listed in Schedule 1,2 or 3 of the Ontario Drinking Water Quality Standards or Table 4 of the Ontario Drinking Water Standards, Objectives and Guidelines. It has been clarified in the 'Issues' discussion for each system, that issues present meet the tests in rule 114 of the Technical Rules and a work plan for future identification of issue contributing areas is referenced in Appendix "E-3".
Preface / Summary											
6	Summary	Ensure that the summary is consistent with any changes made to the parent document that result from the comments below.	Cataraqui SP Committee Chair					✓			The summary has been updated as improvements have been made in the parent report.
Chapter 1 - Introduction											
7	1.4	Add a table listing the 12 municipal residential drinking water systems in the Cataraqui area.	MOE	G-2				✓			A table has been added to Chapter 1 listing the 12 municipal residential drinking water systems present in the Cataraqui area.
Chapter 2 - Cataraqui Source Protection Area											
8	2.1.4	Add text to clarify the status of the Environmental Assessment of water supply options for Marysville on Wolfe Island.	MOE	G-4				✓			Text has been added to clarify the status of the establishment of a municipal residential water supply for the community of Marysville system on Wolfe Island. The environmental assessment is incomplete and there is not a "planned" system as defined by the Ontario <i>Clean Water Act, 2006</i> at the time of publication of this Assessment Report. Mention has been made that an intake protection zone study could be prepared for the intake if a system is planned on the Island.
9	2.2.1	Remove "water budget implications" from the final sentence.	MOE	G-7				✓			The phrase "water budget implications" has been removed from the document.
10	2.2.1.1	Reduce the duplication of content between Chapters 2 and 5.	MOE	G-5				✓		✓	The content regarding geology and groundwater is applicable and helpful to the reader in both chapters. The Chapter 2 content provides a high-level introduction to these topics.
11	2.2.2	Add a paragraph about pharmaceuticals and personal care products to the discussion about ambient water quality.	Cataraqui SP Committee Chair					✓			A paragraph has been added to subsection 2.2.2 to discuss the likely occurrence of pharmaceuticals, PCPs, antibiotics, antibacterial agents and endocrine disruptors in our lakes, streams and rivers.

Draft Assessment Report: Summary of Responses to Comments Received

(Revised June 30, 2010)

DRAFT for Cataraqui SP Committee Review

#	Section / Map	Comment (Paraphrased)	Author	MOE #	MOE Ranking			Extent Addressed in Proposed AR			Proposed Response to Comment (As of June 30, 2010)
					Leg	Rec	Sug	Full	Part	No	
12	2.3	Correct the population of Loyalist Township to read 15,062 (Census of Canada, 2006). Correct the value in Appendix 'C', Table 6.	Loyalist Township					√			The population of Loyalist Township is reflected in the text as the third most populated municipal jurisdiction in the CSPA with just over 15,000 residents. The correct population value (Census of Canada, 2006) in Appendix 'C', Table 6 has also been revised from 20,894 to 15,062.
13	2.3	Clarify the methods used to define managed lands and livestock density. Refer to maps for each topic for each vulnerable area (and sub-area) required by the Technical Rules.	Conservation Ontario, MOE	LM-1				√			Methods used to define managed lands and livestock density have been described in section 2.3.2.2. Maps have been referenced.
14	2.3	Add a paragraph about the emergence of wind farms and other green energy installations in the Cataraqui area.	Cataraqui SP Committee Chair					√			A paragraph has been added to subsection 2.3.2.3 to reflect on green energies emerging in our watersheds, including the 86 wind turbine power installation on Wolfe Island. Wind power generation is also discussed in section 2.1.4: Amherst Island and Frontenac Islands.
Chapter 3 - Water Budgets											
15	3.2	Add maps / supporting text for groundwater recharges and discharges and for stream gauging stations.	MOE	WB-2, 4					√		There is no data available for groundwater recharges and discharges. MOE staff acknowledged this data gap in correspondence dated June 8th. The stream flow gauging stations have been shown on Map 3-1.
16	3.2.2.1	Revisit the method used to estimate actual water withdrawals from the municipal water treatment plants.	Loyalist Township					√			It has been clarified that actual water withdrawals from municipal water treatment plants have been used in the Assessment Report wherever possible; these are shown in the right hand column of Table 3-1: Municipal Treatment Plant Withdrawal Volumes.
17	3.2.2.1	In the Conceptual Water Budget, account for Loyalist Township taking water from Lake Ontario and returning it to an inland waterbody (Bayview Bog).	Loyalist Township							√	No revisions are required. The local transfer of water is not part of the provincially-prescribed method for conceptual water budgets.
18	3.2.2.1	Remove "Village of Bath" and replace with "Bath".	Loyalist Township					√			"Village of Bath" has been replaced with "Bath".
19	3.2.2.1	Explain why 24,855 wells were used in the Conceptual Water Budget, while 15,469 wells were used to assess aquifer vulnerability in Chapter 5.	City of Kingston					√			Specific wells were chosen depending on the quality of the information provided from the well location and the application use. This rationale is added to Chapter 5 in the paragraph directly after Table 5-3.
20	3.3	Add text to explain which data were missing at Tier 1 for the Miller Manor Apartments, and who decided that further research would not be completed.	Conservation Ontario							√	It has been explained that localized water budget work was unable to be completed for the Miller Manor Apartments at Mallorytown (Township of Front of Yonge), as there are no data available for analysis (water supply, water demand, Permit to Take Water values, etc.).
21	3.4	Add maps / supporting text to show Tier 2 subwatershed stress levels.	MOE	WB-2				√			Maps 3-4 and 3-5 and supporting text have been added to show Tier 2 subwatershed stress levels.
22	3.5	Clarify that the Tier 3 Water Budget for the Sydenham area will not be ready for the initial AR.	MOE	G-9				√			It has been clarified in the document that the Tier 3 Water Budget for Sydenham will not be included in the initial Assessment Report.
23	3.5	For the Sydenham Tier 3 Water Budget: add the estimated start and completion dates for the overall study, and for: data compilation and modelling, risk assessment, final reporting.	MOE	WB-1				√			Text has been added to section 3.5 to state that the Tier 3 work commenced in January 2010 and is expected to be completed by September 2010. The data compilation, modelling, and risk assessment tasks were completed by spring 2010, and the reporting task is being completed during summer 2010. It is anticipated that the findings for the Tier 3 exercise for Sydenham will be included in an updated edition of the Assessment Report that will be published in 2011.
24	3.6	Remove recommendations for future water budget work outside of the DWSP initiative.	MOE	G-8				√			All recommendations regarding future water budget work outside of the provincial source protection initiative have been removed.
Chapter 4 - Source Water Quality Issue Evaluation and Threat Inventory											
25		Revise the title of the chapter to "Source Water Quality Issue Evaluation and Threat Assessment".	MOE	T-1				√			The title has been revised to "Source Water Quality Issue Evaluation and Threat Assessment"
26	4.2	Correct the definition of "issue".	MOE	T-7				√			The correct definition of "issue" has been defined in reference to the Technical Rules: Assessment Report (MOE, 2009).
27	4.2	Correct "Appendix F-1" to "Appendix F".	MOE	T-8				√			Appendix "F-1" has been corrected to Appendix "F".
28	4.3	Explain how drinking water threats relate to the past, present, and future.	MOE	T-9				√			Drinking water threats have been explained in relation to the past, present and future. A separate bullet is indicated for each tense.

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29	4.3	Clarify the meaning of activities that "would be" drinking water threats	Conservation Ontario					✓			The meaning of "activities" has been clarified in the text and described "as "would be" a threat if it emerged in the future and the underlying vulnerability score was high enough for it to be listed in the Tables of Drinking Water Threats (MOE, 2009) as a significant, moderate, or low threat".
30	4.3	Correct the Ontario <i>Clean Water Act, 2006</i> requirements for drinking water threats.	MOE	T-10				✓			The Ontario <i>Clean Water Act, 2006</i> requirements for drinking water threats has been corrected in the text.
31	4.3.1	Reference the tests in Technical Rule 114 in Chapter 4.	MOE	T-4				✓			Reference has been made in the text to the tests in Technical Rule 114.
32	4.3.3.1	Check the reference number for the drinking water threat example.	MOE	T-2				✓			The reference number for the example in subsection 4.3.3.1 has been changed from #478 to #277.
33	4.3.3.1	Revise the reference to Appendix 'G' to explain its purpose.	MOE	T-11				✓			The reference to Appendix "G" has been revised and its purpose has been detailed.
	4.3.4	Additional text is required in the report to explain how to interpret the information in Appendix H and the applicable circumstances	MOE	T-5				✓			Reference to Appendix 'H' has been added to the Assessment Report to explain how to interpret the information presented in the tables.
Chapter 5 - Groundwater Sources											
34	5.1.2	Confirm MOE approval for a proposed alternate method to define highly vulnerable aquifers.	Conservation Ontario, MOE	GW-4,5				✓			A rationale statement and a letter of expert opinion regarding fractured bedrock environments have been prepared for MOE review. A teleconference with the Ministry occurred on June 24 to resolve this item. The MOE indicated on June 25 that approval for an alternate method was not required, since the work is considered to be within the scope of the <i>Technical Rules: Assessment Reports</i> (MOE, 2009). The findings related to HVAs have been augmented to ensure consistency with the MOE direction.
35	5.1.2.2	Indicate the period of record for the data used from the Water Well Information System. Add text to indicate that some of the wells used/shown on maps may not longer be in use.	City of Kingston					✓			In subsection 5.1.2, the limited data present for the MOE water well records has been discussed as well as the timeframe for the well record that are used for this Assessment Report. Text has been added to indicate that mapping of wells in the Cataraqui region may include abandoned and decommissioned wells.
36	5.1.2.4	Remove the term "significant" when discussing the drinking water threat maps related to highly vulnerable aquifers.	MOE	T-3				✓			The term "significant" has been removed when discussing the drinking water threat maps related to highly vulnerable aquifers.
37	5.1.3.2	Assess/discuss the presence/extent of significant groundwater recharge areas on the Frontenac Axis.	MOE	GW-11					✓		No revisions to the significant groundwater recharge mapping have been completed for the proposed Assessment Report. The mapping of significant groundwater recharge areas has been conducted in accordance with one of the prescribed methods (Technical Rule 44(1)).
38	5.1.3.2	Remove the reference to Maps 5-9 and 5-10.	MOE	WB-3				✓			Reference to Maps 5-9 and 5-10 has been removed from assessment report.
39	5.1.3.4	Remove the term "significant" when discussing the drinking water threat maps related to significant groundwater recharge areas.	MOE	T-3				✓			The term "significant" has been removed when the drinking water threat maps related to significant groundwater recharge areas are discussed in the Assessment Report.
40	5.x	Explain "limited GUDI assessment".	MOE	GW-12				✓			Text has been added to subsection 5.2.2.2 to explain that the assessment was based on existing data and in accordance with provincial standards.
41	5.x	Confirm that vulnerability scoring in each wellhead protection area fully considered the movement of water through the bedrock.	MOE	GW-8				✓			Text has been added to the report.
42	5.2.2.2	Explain the shape of the Cana Subdivision wellhead protection area 'E'.	MOE	GW-2				✓			The WHPA 'E' delineation at the Cana Well Supply is explained in subsection 5.2.2.2. It was assumed for the delineation of WHPA 'E' that the point of interaction between surface water and groundwater was the point at which WHPA 'A' intersected with the watercourse 30 metres to the south of the well.
43	5.2.2.3	Indicate that the vulnerability scoring at the Cana Subdivision wellhead protection area was evaluated locally, separate from the Area-wide evaluation.	MOE	GW-6				✓			Text has been added to the report to explain that the groundwater vulnerability mapping was assessed locally for each WHPA in the Cataraqui area.
44	5.2.2.5	In considered permitted land uses in the Cana Subdivision Wellhead Protection Area, refer to the new City of Kingston Official Plan (2009) rather than the Township of Pittsburgh Official Plan.	City of Kingston					✓			The new City of Kingston Official Plan (2009) was in fact referenced. The reference for the 2008 consolidation of the zoning by-law for the former Township of Pittsburgh has been corrected to read "City of Kingston, 2008."

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45	5.2.3.2	Explain the shape of the Lansdowne wellhead protection area.	MOE	GW-1		Yellow		Green			Text has been added to the report to explain how the WHPA was delineated, leading to its relatively concentric shape.
46	5.2.3.2	Explain the absence of a wellhead protection area 'E' at Lansdowne.	MOE	GW-3	Red			Green			Text has been added to Chapter 5 to address these comments.
47	5.2.3.3	Explain why the Lansdowne wellhead protection area has a high vulnerability, given the depth of the wells.	MOE	GW-7	Red			Green			
48	5.2.4.3	Justify the increase in the vulnerability scoring due to transport pathways at the Miller Manor Apartments wellhead protection area.	MOE	GW-9	Red			Green			
49	Various	Remove the list of drinking water threats from each drinking water system.	Conservation Ontario							Green	These lists add value by providing the reader with a summary of the existing activities that are drinking water threats at each location.
49a	Various	Enhance the justification for the uncertainty ratings in Chapter 5.	MOE	GW-10	Red			Green			Text has been added to the report regarding the uncertainty levels.
Chapter 6 - Surface Water Sources											
50	6.1	In Table 6-3, for Bath, update the annual actual volume to 640,400 m ³ and the maximum daily value to 7,515 m ³ .	Loyalist Township					Green			Table 6-3 has been updated. New data for Bath also changes Table 3-1: annual actual volume changed from 620,000 to 640,000 m ³ . The maximum daily value has been changed from 3,200 to 7,515 m ³ .
51	6.1	In Table 6-3, for the Kingston Central and Point Pleasant drinking water systems, obtain updated "population served" estimates from Utilities Kingston and clarify that the numbers relate to residential, commercial, industrial, and institutional customers.	City of Kingston					Green			No change to the values is required at this time. Staff have discussed 'population served' estimates with both Utilities Kingston and City of Kingston planning department staff. Both parties agree on the numbers used in the Draft Assessment Report (April 2010) at this time.
52	6.x	Under the "Threat Inventory" subsection for each intake, the text regarding IPZ 3 (event-based approach) should indicate that the findings will be included in an updated version of the Assessment Report.	Cataraqui SP Committee					Green			Text has been updated to indicate that findings of the event-based approach (IPZ 3) will be included in an updated version of the Assessment Report.
53	6.2.1	Add text to discuss the limitations and uncertainty of the Great Lakes IPZs, and explain the open areas of water between some IPZs and the shoreline.	MOE	SW-6	Red			Green			Text has been added to reflect the limitations and uncertainty of the Great Lakes IPZs in section 6.2.1. In addition, text has been added to explain that the IPZs were not extended (by hand) to the nearest shoreline, owing to the already conservative nature of the IPZ flow modeling.
54	6.2.1	Provide the wind speed(s) and direction(s) that were used to delineate the Great Lakes IPZs.	MOE	SW-7	Red			Green			Delineation details for the Great Lakes IPZs are explained in the Centre for Water and the Environment, Queen's University report entitled "Delineation of Intake Protection Zones in the CRCA Jurisdiction - Modeling Approach". This report has been added to Appendix 'L'.
55	6.2.1	Explain which on-land setback(s) were used for each IPZ, and if they were measured from the highwater mark.	MOE	SW-1	Red			Green			The on-land setbacks have been explained in the text for each IPZ.
56	6.2.1	Explain the flow conditions that were used to determine the time-of-travel in transport pathways.	MOE	SW-10	Red			Green			The flow conditions that were used to determine the time-of-travel in transport pathways has been explained for IPZ 2 in subsection 6.2.1.
57	6.2.1	Explain how the transport pathways were included for each Great Lakes IPZ-2.	MOE	SW-11		Yellow		Green			Detail has been added to the text to explain how transport pathways were included for each Great Lakes' IPZ 2. Table 6-4: Transport Pathways by Intake' has been added to inform the reader of the types of transport pathway that were included at each intake.
58	6.2.1	Change the map reference from "5-58" to 6-58".	Loyalist Township, MOE	SW-12		Yellow		Green			The map reference has been corrected.
59	6.2.1	In the context of IPZ-3 delineation, remove the term "harm" and replace it with "deterioration...".	MOE	SW-14		Yellow		Green			"Harm" has been replaced with "Deterioration".
60	6.2.1	The text regarding IPZ 3 modelling by the Lake Ontario Collaborative (including the potential movement of tritium) should indicate that the work is still in progress.	Credit-Toronto-Central Lake Ontario Source Protection Region, MOE	T-6		Yellow		Green			The text has been revised in consultation with the Lake Ontario Collaborative.
61	6.2.2	Correct the permitted vulnerability scoring ranges in the text to reflect the Technical Rules: Assessment Report.	MOE	SW-17	Red			Green			Staff have entered the corrected vulnerability scoring ranges in accordance to the <u>Technical Rules: Assessment Report</u> (MOE, 2009).

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62	6.2.2	Correct the reference from Appendix 'I' to Appendix 'J'.	MOE	SW-20				✓			Appendix 'I' has been corrected to Appendix 'J'.
63	6.2.2	Explain the "description" column regarding vulnerability scoring in Table 6-4.	MOE	SW-18				✓			The description column in the Table 6-4 (now Table 6-6) has been replaced with the possible ranges for each vulnerability score. The 'high/medium/low' description of vulnerability scoring has been removed from the Summary and Chapter 6 since it is not part of the provincially-prescribed method.
64	6.2.3.2	Provide a technical rationale for the downstream portion of the IPZ-1 at Brockville.	MOE	SW-4				✓			A technical rationale has been provided in subsection 6.2.3.2.
65	6.2.3.2	Confirm that the Area Vulnerability factor for the Brockville IPZ-2 was based only on its extent in Ontario.	MOE	SW-16				✓			The text now confirms that the Area Vulnerability factor for Brockville IPZ 2 includes only its extent in Ontario.
66	6.2.3.3	Provide a technical rationale for the downstream portion of the IPZ-1 at James W. King (Gananoque).	MOE	SW-4				✓			A technical rationale has been provided in subsection 6.2.3.3.
67	6.2.3.5	Clarify whether additional threats were identified based on sanitary sewers, storm sewers, or both.	Loyalist Township					✓			All systems that have a sewer network in Chapters 5 & 6 have been changed and are identified as "sanitary and storm sewer networks".
68	6.2.3.5	The last paragraph about "Future Activities" around the Bath intake (regarding official plan updates) should more clearly indicate that a small portion of the IPZ falls within Greater Napanee.	Cataraqui SP Committee					✓			The text now indicates that "Changes to the official plan could impact activities occurring in the portion of IPZ 2 that falls within the Town of Greater Napanee".
69	6.3	For the Picton intake: add the classification of the intake and the vulnerability scoring for all IPZs.	MOE	SW-5				✓			The classification and vulnerability scores for the Picton Intake have been added to the document. The scoring is represented on Map 6-60.
70	6.3.4	Revise the discussion related to the Picton IPZ 3 (i.e. data, limitations).	MOE	SW-13				✓			A new section 6.2.4 (Great Lakes) has been added to the report and existing sections 6.3.4 (Picton) and 6.4.4 (Sydenham) have been revised.
71	6.4.2	Explain how IPZ-2 was delineated at Sydenham.	MOE	SW-8				✓			An explanation of the IPZ 2 delineation for Sydenham is now included at section 6.4.2 based on the work by XCG Consultants Ltd.
72	6.4.2	Confirm that the division of Sydenham IPZ 3 into 'a' and 'b' components is permissible under the MOE Technical Rules.	Conservation Ontario					✓			The division of Sydenham IPZ 3 'a' and 'b' is permissible under Technical Rule # 90.
73	6.4.3	Provide the details behind the vulnerability scoring at Sydenham.	MOE	SW-15				✓			The method applied for determining the scoring of the area vulnerability factor and the source vulnerability factor, and the resultant findings, are now detailed in section 6.4.3 of the Assessment Report.
74	6.4.4	Revise the discussion of limitations for the Sydenham IPZs.	MOE	SW-13				✓			The discussion of limitations has been revised and augmented in section 6.4.2.
75	Various	Remove the list of drinking water threats from each drinking water system.	Conservation Ontario							✓	These lists add value by providing the reader with a summary of the existing activities that are drinking water threats at each location.
Chapter 7 - Climate Change											
Chapter 8 - Topics for Additional Research											
76	8.1	"Data gap" means missing information that affects the conclusions of the report. This needs to be reflected in the Glossary and Appendix 'K'.	MOE at SP Committee Chairs' meeting	G-12				✓			"Data gap" has been re-defined in Chapter 8 and the glossary. A revised Appendix 'K' now distinguishes between data gaps and topics that will benefit from continuous improvement.
77	8.3	Delete subsection. Remove all suggestions for future research outside of the Ontario <i>Clean Water Act, 2006</i> .	Conservation Ontario, MOE	G-11				✓			Revisions made to Intake Protection Zone subsections to improve clarity for the reader. All suggestions for future research outside of the Ontario Clean Water Act, 2006 have been removed (Summary, Chapters 3 and 8).
Chapter 9 - Key Findings and Considerations for the Source Protection Plan											
78	9.1.3	Make the key findings text about HVAs and SGRAs consistent with the conclusions in Chapter 5.	Cataraqui SP Committee Chair					✓			The key findings about HVAs and SGRAs listed in section 9.1.3 are now consistent with the conclusions in Chapter 5.
References											

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Glossary											
79		Add or revise "data gap", "DNAPL", and "organic solvent"; review the document for other technical terms that should be defined.	Cataraqui SP Committee Chair					✓			Terms have been added to the Glossary, including those recommended and "tolerance".
Volume II (Maps)											
80	All	Revise a legend item on all maps to read "Towns/Villages/Hamlets" instead of "Towns".	City of Kingston					✓			The revisions have been made.
81	All	Remove the "Kingston" town point from all maps.	City of Kingston					✓			The revisions have been made to all of the maps.
82	2-7	Confirm the scoring for surface water quality ('F') in the vicinity of Amherstview.	Loyalist Township					✓			The scoring of surface water quality in the vicinity of Amherstview has been confirmed.
83	2-9	Revisit the inclusion of Potter's Dam (Millhaven Creek, Odessa) as a municipal water control structure.	Loyalist Township							✓	No revisions are required at this time. Potter's Dam remains in the ownership of Loyalist Township and it continues to act as a weir (one type of water control structure).
84	2-10	Delete the blue points showing municipal water supply wells at Harewood and Brooklands in Loyalist Township.	Loyalist Township					✓			The wells have been removed from the map. See also Comments # 85 and # 86 below.
85	2-10	Consult with Loyalist Township staff regarding the information used to create Map 2-10.	Loyalist Township					✓			Based on input from the municipalities about the inaccuracy of Map 2-10, all of the drinking water systems other than those in the municipal residential class were removed from the map. The location and classification of all other system types are data gaps for the initial Assessment Report.
86	2-10	Consult with City of Kingston staff regarding the information used to create Map 2-10.	City of Kingston					✓			
87	2-10	Use the MOE symbol for wells on Map 2-10. Ensure that the Symbology is followed on all maps.	MOE	G-10				✓			Detailed direction was obtained from MOE staff on June 8. New symbols can be created where an SP Committee wishes to show additional information on a map.
88	2-17	Consult with Loyalist Township staff regarding the information used to create Map 2-17 (Areas of Settlement).	Loyalist Township					✓			CRCA staff met with Loyalist Township staff on June 14. The map has been updated to ensure that the areas of settlement are correct within the municipality.
89	2-17	Revise the Urban Boundary in the City of Kingston using the version in the new City of Kingston Official Plan.	City of Kingston					✓			CRCA staff contacted the City of Kingston and obtained a digital copy of the correct Urban Boundary, which has been included on the revised map. These data were obtained through a data sharing agreement between the City and the CRCA.
90	2-18	Add maps for impervious area for each vulnerable area, as required by the Technical Rules.	MOE	LM-2				✓			Maps have been added to Volume II.
91	2-19	Scope the Per cent Managed Lands map to the approved HVA and SGRA layers.	Cataraqui SP Committee Chair					✓			The maps have been scoped to reflect the HVA and SGRA findings.
92	2-x	Add maps for managed lands for each vulnerable area (and sub-area) required by the Technical Rules.	MOE	LM-1				✓			Maps have been added to Volume II.
93	2-20	Scope the Livestock Density map to the approved HVA and SGRA layers.	Cataraqui SP Committee Chair					✓			The maps have been scoped to reflect the HVA and SGRA findings.
94	2-20	Explain the livestock density value for the vicinity of Amherstview.	Loyalist Township					✓			This has been addressed in the text of Chapter 2, and through discussions with the municipality.
95	2-x	Add maps for livestock density for each vulnerable area (and sub-area) required by the Technical Rules.	MOE	LM-1				✓			Maps have been added to Volume II.
96	3-x	Add maps / supporting text for groundwater recharges and discharges.	MOE	WB-2						✓	No revisions are required at this time. MOE staff acknowledged this data gap in correspondence dated June 8th.

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97	3-x	Add maps / supporting text to show Tier 2 subwatershed stress levels.	MOE	WB-2				√			Maps 3-4 and 3-5 and supporting text have been added to show the Tier 2 subwatershed stress levels.
98	4-1	Update the Vulnerable Areas map to show the approved HVA and SGRA layers.	Cataraqui SP Committee					√			The maps have been scoped to reflect the HVA and SGRA findings.
99	5-1	Revise aquifer vulnerability maps. Explain why HVAs are shown where municipal water service is provided in the City of Kingston.	City of Kingston, MOE	GW-4,5				√			The text and mapping related to highly vulnerable aquifers has been revised (see Comment # 34 above). An explanation has been added to indicate that aquifer vulnerability is assessed for both serviced and unserved locations.
100	5-4 to 5-7	Remove the term "significant" from the drinking water threat maps related to highly vulnerable aquifers.	MOE	T-3				√			"Significant" has been removed from the drinking water threat maps relating to highly vulnerable aquifers.
101	5-9	Remove this map.	MOE	WB-3				√			The map has been removed as well as references within the text.
102	5-10	Remove this map.	MOE	WB-3				√			The map has been removed as well as references within the text.
103	5-12 to 5-15	Remove the term "significant" from the drinking water threat maps related to significant groundwater recharge areas.	MOE	T-3				√			The term 'significant' has been removed from all related maps.
104	5-17	Add a note to indicate that the vulnerability scoring at the Cana Subdivision wellhead protection area was evaluated locally, separate from the Area-wide evaluation.	MOE	GW-6				√			A note has been added to the map.
105	5-25	Add a note to indicate that the vulnerability scoring at the Lansdowne wellhead protection area was evaluated locally, separate from the Area-wide evaluation.	MOE	GW-6				√			A note has been added to the map.
106	5-33	Add a note to indicate that the vulnerability scoring at the Miller Manor Apartments wellhead protection area was evaluated locally, separate from the Area-wide evaluation.	MOE	GW-6				√			A note has been added to the map.
107	5-41	Add a note to indicate that the vulnerability scoring at the Westport wellhead protection area was evaluated locally, separate from the Area-wide evaluation.	MOE	GW-6				√			A note has been added to the map.
108	6-x	Consider consolidating the maps related to each drinking water system.	City of Kingston							√	The type and format of the maps has been specified by the MOE.
109	6-x	Colour the in-water portion of each IPZ-2 the same as the on-land portion, per the Symbology.	MOE	SW-2				√			A note has been added to each map explaining that all lands and waters that lay within an IPZ boundary line form part of that zone, including water. The boundary line on relevant maps has been extended to encompass the water.
110	6-x	Use one of the prescribed setbacks when an IPZ meets an island.	MOE	SW-3				√			Detailed direction was obtained from MOE staff on June 8, and the maps have been revised accordingly.
111	6-30	Revisit the extent of the IPZ-2 for Fairfield based on new areas of development.	Loyalist Township							√	Due to time and process constraints, the initial Assessment Report reflects information that was available at the completion of the component technical studies. Recent changes in land use will be reflected in updated versions of the document.
112	6-37	Revisit the extent of the IPZ-2 for Bath based on new areas of development.	Loyalist Township							√	Recent changes in land use will be reflected in updated versions of the document.
113	6-51	Consider the presence of tile drains and ditches as transport pathways around the IPZ-2 for Sandhurst Shores.	MOE	SW-9						√	Transport pathways related to tile drainage are not included in this version of the Assessment Report and are represented as a data gap. This is explained in 6.2.1 of the report.
Volume III (Appendices)											
114	'C', Table 6	Correct the population of Loyalist Township to read 15,062 (Census of Canada, 2006). Correct the value in Appendix 'C', Table 6.	Loyalist Township					√			The population has been changed from 20,853 to 15,062 in Appendix 'C', Table 6 and population density has in turn been revised from 62 to 45 people/km ² .
115	'C', Table 7	Add the per centage impervious area for each of the four wellhead protection areas.	MOE	LM-2				√			Table 'C' has been revised to reflect the per centage impervious area for each of the four wellhead protection areas.

Cataraqui Source Protection Area

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116	'E'	Clarify why organic nitrogen is listed as an issue for the source water at Bath, yet there are no exceedances recorded.	Loyalist Township					✓			There was an error in the Draft Assessment Report document, exceedances of organic nitrogen had in fact occurred in the untreated source water at Bath. Appendix 'E' has been clarified and corrected accordingly.
117	'E-3'	Consult with Loyalist Township staff about the proposed issue contributing area sampling locations for the Bath and Fairfield (Amherstview) intake protection zones.	Loyalist Township					✓			Appendix 'E-3' has been updated to include proposed issue contributing area sampling locations for the Bath and Fairfield IPZs. This revision appears in the introductory paragraph of Appendix 'E-3'. Loyalist Township staff will be informed when future sampling will occur.
118	G'	Update Appendix 'G' to reflect the most recent version of the Tables of Drinking Water Threats (MOE, November 2009).	Cataraqui SP Committee Chair					✓			Appendix 'G' reflects the November 2009 version of the Tables.
119	'G'	Check the IPZ-2 vulnerability scores at Fairfield (Table 9) and Bath (Table 10).	Loyalist Township					✓			Correct vulnerability scores for the Bath and Fairfield IPZ 2 (6.3 in both cases, see Table 6-4) are correctly referenced throughout all volumes of the report.
120	'H'	The number of drinking water threats should be refined based on input from landowners about the activities that are occurring on their properties.	Cataraqui SP Committee Chair					✓			Threat enumerations are correct for each system based on recent information received from landowners. The totals in the Summary and Chapters 5, 6, and 9 have all been updated.
120a	H'	Appendix 'H' and the related text in Chapters 5 and 6 should include both the number of parcels with drinking water threats and the number of threats.	MOE (following the comment window)					✓			Enumeration of the number of threats per parcel has been completed for each system as one parcel can have multiple threats present. The total threats have been added to the summary table for each system in Appendix "H" and a summary table has been added to the Assessment Report for each system in Chapters 5 and 6.
121	'H'	Explain the meaning of "PDWT". Reformat the tables in Appendix 'H'.	Conservation Ontario					✓			The definition of "PDWT" has been added to the meta data spreadsheet of Appendix H in reference to the MOE, 2008.
122	'H'	Remove the column for "negligible" drinking water threats from each table.	MOE	T-5				✓			"Negligible" is removed from Appendix 'H' as well as within the document.
123	'J'	Add text explaining the method used to determine source vulnerability factors at each Great Lakes intake.	MOE	SW-19				✓			Text has been added to Appendix 'J' to explain the method used to determine source vulnerability for each intake. Table J-7: Analysis of Intake Characteristics has been created and added to the appendix to summarize the scoring approach and factors relating to the specific intakes.
124	'J'	Ensure that the uncertainty level of the vulnerability scoring is discussed in this appendix.	MOE	SW-20				✓			The uncertainty level of the vulnerability scoring is discussed in Chapter 6 and Appendix 'J'.
125	'K'	The appendix needs to distinguish between data gaps and long-term information needs for continuous improvement.	Conservation Ontario, MOE	G-12				✓			Data gaps in reference to the Technical Rules are detailed in Appendix 'K-1' for the Assessment Report. Opportunities for continuous improvement (i.e. data concerns and limitations) are listed in Appendix 'K-2'. Additional gaps and/or concerns that may arise will be addressed in future versions of the Assessment Report.

Summary of Key Improvements in the Proposed Assessment Report (July 2010)

The table below describes some of the key improvements that were made between the publication of the Draft Assessment Report: Cataraqui Source Protection Area (April 2010) and the compilation of the June 30th internal version of the Proposed Assessment Report: Cataraqui Source Protection Area (July 2010).

Component	Topic	Paraphrased Comment	Key Improvement
All Chapters	Technical Findings	Provide more detail for the reader about the methods, assumptions, and limitations of the technical work.	Clear language text has been added in many sections to provide the reader with more information, while maintaining the readability of the document. In addition, a new Appendix 'L' in Volume III includes the key technical studies that were used to develop the initial assessment report.
Chapter 1	Drinking Water Systems	Add a table listing the twelve municipal residential drinking water systems in the Cataraqui Source Protection Area.	A table has been added to Chapter 1 listing each of the systems that are included in the approved Terms of Reference for the Cataraqui area (2009).
Chapter 2; Volume II maps	Drinking Water Systems	Confirm the accuracy of the data used to prepare the 'drinking water systems' map in Chapter 2.	Only municipal residential drinking water systems are shown on the revised map, owing to municipal comments about the low accuracy of the data for other types of systems. The text has been revised to discuss the presence of the other systems across the Cataraqui area.
Chapter 2; Volume II maps	Livestock Density, Managed Lands, Impervious Surfaces	Add maps to the report to show these features within each of the defined vulnerable areas.	Maps have been added to Chapter 2 to satisfy this provincial requirement.
Chapter 3; Volume II maps	Stream Gauging Stations	Add a map to show the stream gauging stations in the Cataraqui area.	A map has been added to Chapter 3 to satisfy this provincial requirement.
Chapter 5; Volume II maps	Highly Vulnerable Aquifers	Confirm that the approach used for delineating highly vulnerable aquifers is acceptable to the MOE.	Source protection area/region staff from across eastern Ontario, assisted by Dillon Consulting Ltd., engaged in extensive discussions with the MOE. It was concluded that the approach used is within the bounds of the Technical Rules: Assessment Report (MOE, 2009). Content has been added to the report for clarity and consistency with the eastern Ontario approach.

Component	Topic	Paraphrased Comment	Key Improvement
Chapter 6	Intake Protection Zones (Brockville, Gananoque)	Provide a technical rationale for the downstream portions of intake protection zone 1 (IPZ 1) at Brockville and James W. King (Gananoque).	Text has been added to Chapter 6 to further clarify that the model of water flows in those areas, which was calibrated to measured field data, found that water can move upstream towards Lake Ontario under sustained east wind conditions. Therefore, downstream areas were included in the IPZ 1s.
Chapter 6; Volume II maps	Intake Protection Zones (islands)	Use one of the prescribed setbacks when an intake protection zone meets an island.	The maps associated with Chapter 6 now reflect the interpretation of MOE staff regarding the application of the prescribed setbacks.
Chapter 6; Volume II maps	Intake Protection Zones (transport pathways)	Explain how stormsewers and transport pathways were included in each of the intake protection zones on Lake Ontario and the St. Lawrence River.	A table has been added to Chapter 6 to describe which of stormsewers, ditches, streams, and rivers were added to the initial delineation of the intake protection zone. Text has also been added to explain the calculations used to add these pathways and associated drainage areas.
Chapter 6	Intake Protection Zones (Sydenham)	Explain how intake protection zone 2 (IPZ 2) was delineated at Sydenham.	Text has been added to Chapter 6 to describe the use of existing and new field data and a hydrodynamic model (by XCG Consultants Ltd.) for this purpose. To delineate IPZ 2, XCG estimated where and how quickly water moves through Sydenham Lake under different winds.
Chapters 5 and 6; Appendix 'H'	Drinking Water Threats	Improve the clarity of the findings for drinking water threats, including the enumeration of existing activities in surface water intake protection zones and wellhead protection areas.	The document now reports the number of drinking water threats in each vulnerable area, as well as the number of land parcels affected. In addition, summary tables have been added for each WHPA and IPZ in Chapters 5 and 6, respectively.
Chapters 5, 6, and 9	Source Protection Plan	Remove considerations for the source protection plan from the Assessment Report.	Section 9.2 and similar text in Chapters 5 and 6 has been removed from the document.
Chapter 8; Appendix 'K'	Data Gaps	Distinguish between 'data gaps' (i.e. the lack of sound data prevented completion of analyses) and 'areas for continuous improvement'.	Appendix 'K' now makes a clear distinction between these topics, as required by the MOE.