



**CATARAQUI SOURCE PROTECTION COMMITTEE**  
**AGENDA FOR MEETING # 34**

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Date: Thursday October 14, 2010  
 Time: 7:00 PM  
 Location: Outdoor Centre, Little Cataraqui Creek Conservation Area  
 1641 Perth Road, Kingston

#	Topic	Leader	Time (min)	Action Item?
1	Roll Call	John Williamson, Chair	5	
2	Adoption of the Agenda			
3	Declarations of Conflict of Interest			
4	Approval of Previous Meeting Minutes from September 9, 2010 (attached)			
5	Business Arising			
6	Delegations			
7	Correspondence (attached)	Rob McRae, Project Manager	10	
(a)	Letter from Susan Goebel, Bioniche Life Sciences Inc. to Chair John C. Williamson, regarding Econiche vaccine, dated September 10, 2010			
(b)	Letter from Claude Cousineau, Chair, and Richard Pilon, Project Manager, Raisin-South Nation Source Protection Region, to John C. Williamson, Chair, regarding draft proposed assessment reports for the Raisin and South Nation source protection areas, dated September 16, 2010			
(c)	Letter from Ian R. Smith, Ontario Ministry of the Environment, to Source Protection Committee Chairs and Project Managers, regarding septic system policies and re-inspection programs, dated October 6, 2010			
<b>8</b>	<b><u>Business/Reports</u></b>			
(a)	Updated Assessment Report for 2011			
(i)	Improvements to Livestock Density Calculations (report attached)	Kimberly Denison, Resource Technician	15	Y
(ii)	Update on Conditions (Work by Sarah Ramey, SP Research Assistant) (report attached)	Christine Woods, SP Planner	15	

#	Topic	Leader	Time (min)	Action Item?
<b>(b) Source Protection Plan Development</b>				
(i)	Key Outcomes: Ontario Ministry of the Environment Workshop, Brockville, October 13 <sup>th</sup>	John Williamson, Chair	15	
(ii)	Draft Table of Contents ( <a href="#">report attached</a> )	Rob McRae, Project Manager	15	Y
(iii)	Policy Evaluation Criteria ( <a href="#">report attached</a> )	Christine Woods, SP Planner	30	Y
9	Sector Updates from the Committee	John Williamson, Chair	15	
10	Announcements or Inquiries ( <a href="#">attached</a> )			
(a)	Notice of Completion from Utilities Kingston – Sewage Infrastructure Master Plan for the City of Kingston Urban Area (September 14, 2010)		5	
11	Motions or Notices of Motion			
12	Questions from the Media			
13	IN CAMERA Session (if required)		5	
14	Next meeting – November 18, 2010			
15	Adjournment			

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

**THE CATARAQUI SOURCE PROTECTION COMMITTEE**  
**MINUTES OF MEETING # 33**

Thursday September 9, 7:00 PM

Kinsmen Community Hall, 400 Stone Street North (Highway 32)  
Town of Gananoque

Note: This meeting was preceded at 5:00 PM with a tour of the Gananoque water treatment plant and intake protection zone for members and staff.

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**Present:**            John C. Williamson, Chair      John Conley (left 9:26 PM)      Rob Cumming  
                         Gary Davison                      Scott Ewart                          Jacques Labelle  
                         Kathleen Laird                      Wendy Lavender                  Richard Lindgren  
                         Chris Mangan-Greene            Nona Mariotti                      Allan McPhail  
                         Alex Palilionis                    Peter Raabe                          Kevin Riley

**Regrets:**            Richard Bresee                      Joan Green                          Jeff Peters  
                         Kim Sytsma

**Staff Present:**    Donna Cellini, Project Secretary  
                         Kimberly Denison, Resource Technician  
                         Holly Evans, Water Quality Specialist (left 8:40 PM)  
                         Rob McRae, Project Manager, Source Water Protection  
                         Karla Maki-Esdon, Communications Coordinator (left 8:12 PM)  
                         Christine Woods, Source Protection Planner

**Guests:**            None

At 7:23 P.M. Chair John C. Williamson, called the meeting to order.

**1) Roll Call and Mileage**

There were 13 voting members present.

**2) Adoption of Agenda**

Moved by:            Gary Davison  
Seconded by:        Chris Mangan-Greene

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

**Carried**

A new Item 7 c) Letter from Ian Smith, Ontario Ministry of the Environment, to Source Protection Committee Chairs and Project Managers, regarding Ontario's Regional Adaptation Collaborative: Source Protection Climate Change Plan (dated August 27, 2010) was added to the agenda.

3) **Declarations of Conflict of Interest**

There were none.

4) **Approval of Cataraqui Source Protection Committee Minutes**

- a) Approval of July 8, 2010 Cataraqui Region Source Protection Committee Minutes

Moved by: Nona Mariotti  
Seconded by: Rob Cumming

**THAT** the minutes of the July 8, 2010 meeting of the Cataraqui Source Protection Committee be approved as circulated.

**Carried**

There was a request to have Kim Sytsma report on the agricultural meeting held recently at the Little Cataraqui Creek Conservation Area at the next meeting Ms. Sytsma attends.

5) **Business Arising**

There were none.

6) **Delegations**

There were none.

7) **Correspondence**

- a) Letter from Ian R. Smith, Ontario Ministry of the Environment, to Chair John C. Williamson and Rob McRae, dated August 4, 2010, regarding a draft planning bulletin: notice when preparation begins.

Rob McRae reminded the members that they are invited to comment on this document before the end of the September. Any comments can be forwarded to Rob McRae or Chair John Williamson and will be compiled and then forwarded to the MOE.

- b) Letter Ian R. Smith, Ontario Ministry of the Environment, to SP Committee Chairs and Project Managers, dated August 31, 2010, regarding guidance on updated assessment reports.

Rob McRae advised the members that this was a request for the project team to submit a work plan to the MOE by October 1<sup>st</sup> (discussed below under Item 8c). There are two ways the Ministry can precede: (1) approve an assessment report and then consider updates by June 2011, and (2) defer approval and ask that all revisions be added be included in an amended proposed assessment report, also by June 2011.

- c) Letter from Ian Smith, Ontario Ministry of the Environment, to Source Protection Committee Chairs and Project Managers, regarding Ontario's Regional Adaptation Collaborative: Source Protection Climate Change Plan; dated August 27, 2010.

Rob McRae advised the members that the MOE is working to link its climate change initiatives with source protection. Mr. McRae advised the members that discussion, training etc will follow as required and that we could work with our adjacent regions/areas on relevant content in the source protection plan.

He also advised the members that he will be attending a related session on November 24<sup>th</sup> and invited the members to share any concerns or questions with him before this meeting.

**8) Business/Reports**

- a) Draft Communications Strategy for Fall 2010 to December 2011 – Karla Maki-Esdon, Communications Coordinator.

Ms. Maki-Esdon presented the SP Committee with a draft communication strategy for fall 2010 until December 2011. It includes four areas of communication needs related to drinking water source protection (overall), stewardship funding, source protection plan development and the updated assessment report.

Ms. Maki-Esdon suggested that social media also be used over the source protection plan development phase, this would include Twitter and a blog on the [www.cleanwatercataraqui](http://www.cleanwatercataraqui.com) website. She also advised the members that e-updates would require circulation within each sector as they become available.

She also mentioned to the SP Committee was that the CRCA staff are willing to do presentations to local organizations upon request.

Rob Cumming asked to be advised of any landowners that are being approached regarding potential drinking water threats in his sector and to be added as a contact person on any letters going out to industrial businesses.

**Resolution CSPC 19-10**

Moved by: Gary Davison  
Seconded by: Chris Mangan-Greene

**BE IT RESOLVED THAT** the Cataraqui Source Protection Committee adopt the Communications Strategy Fall 2010 to December 2011(dated August 20, 2010).

**Carried**

- b) Ontario Drinking Water Stewardship Program: Priorities for Early Response – Holly Evans, Water Quality Specialist

Holly Evans advised the members of the upcoming phase in provincial stewardship funding called the Early Response program. This program is targeted at the resolution of existing significant drinking water threats. The deadline for applications for this funding from MOE is September 30<sup>th</sup> 2010, and a decision is anticipated in December 2010. If funds are approved for the Cataraqui area, then program delivery would occur from February 2011 until August 2012.

Ms. Evans led a discussion about how the members could consider prioritizing the funding for the Cataraqui area and the method of distributing the funds. She explained that some types of drinking water threats are more prevalent in local vulnerable areas. Suggested priority threat types related to fuel storage and handling, on-site wastewater treatment and storage systems, handling and storage of a dense non-aqueous liquid and solvent storage were proposed; these can be resolved using measures endorsed by the MOE, and are likely to generate community interest. However, if the funding is not utilized for projects related the priority types, then it can be reallocated to other existing significant threats. She also noted that since private wells may act as transport pathways (for pollution) around the Miller Manor Apartments in Mallorytown, they can also be addressed under the Early Response program.

As requested by the MOE, it was agreed that an *ad-hoc* committee would be assembled to review applications under the program. The ad-hoc committee would have two representatives from the Source Protection Committee and one representative from the Cataraqui Source Protection Authority.

Wendy Lavender advised the members that there is a total of seven million dollars available for distribution throughout 2010/11.

### Resolution CSPC 20-10

Moved by: Nona Mariotti  
Seconded by: Kevin Riley

**BE IT RESOLVED THAT** the Cataraqui Source Protection Committee supports the prioritization of Early Response applications under the Ontario Drinking Water Stewardship Program related to fuel storage and handling, on-site wastewater treatment and storage systems, handling and storage of a dense non-aqueous liquid, solvent storage, and wells in the Miller Manor Wellhead Protection Area in the Cataraqui area;

**AND THAT** Chris Mangan-Greene and Kathleen Laird shall represent the SP Committee on an *ad-hoc* review committee for the program.

**Carried**

- c) Updated Assessment Report for 2011 – Kimberly Denison, Resource Technician and Rob McRae, Project Manager

Kimberly Denison advised the members that no comments were received on the Proposed Assessment Report from July 2010. The Source Protection Authority will consider it at their meeting on September 22<sup>nd</sup>.

Ms. Denison updated the members on the various technical findings to be put in the Updated Assessment report and the possible time line to discuss and receive these findings before the June 2011 deadline. It was suggested that the Assessment Report Sub-committee do a preliminary review of a draft document in the month of December as they had with all previous drafts. Other members were offered an opportunity to join the Assessment Report Sub-committee; however, it will remain as Chair John C. Williamson and Wendy Lavender (*ex-officio*), Mayor John Conley, Robert Cumming, Richard Lindgren, Chris Mangan-Greene, and Nona Mariotti.

It was suggested that all the changes be highlighted so that the updated items can be reviewed by the Committee members.

Rob McRae described the draft work plan for the updated assessment report that staff had prepared for submission by October 1<sup>st</sup>.

Richard Lindgren suggested that the covering letter should acknowledge that the 125 plus comments on the Draft Assessment report were addressed and therefore no further comments were received.

**Resolution CSPC 21-10**

Moved by: Kathleen Laird  
Seconded by: Rob Cumming

**BE IT RESOLVED THAT** the Cataraqui Source Protection Committee endorses the Work Plan for an Updated Assessment Report: Cataraqui Source Protection Area (2011), prepared by Cataraqui Region Conservation Authority staff and dated September 2, 2010

**AND THAT** staff are requested to submit the work plan to the Ontario Ministry of the Environment on or before October 1, 2010

**Carried**

d) Source Protection Planning

- i. Amendments to Ontario Regulation 287/07 – Wendy Lavender, Ontario Ministry of the Environment

Wendy Lavender a presentation for the SP Committee on amendments to Regulation 287/07 that were approved in July 2010 [note: the presentation will later be posted on the members' only page of the [www.cleanwatercataraqui.ca website](http://www.cleanwatercataraqui.ca)]. She indicated that the due date for completion of all of the plans is August 2012, which is five years from the appointment of the first SP committee chair.

- ii. Considerations – Rob McRae, Project Manager

Rob McRae provided a short presentation highlighting some things the SP Committee Members should consider as they move forward from the foundation sessions into the roundtables. Mr. McRae advised the members that there would be a great deal of sharing with other to help reduce workloads and to ensure that where appropriate, a consistent message and practice is followed throughout the province. He also reminded the members that water quality will be the focus of the local plan given that the Tier 3 Water Budget at Sydenham did not identify any water quantity stress. Mr. McRae indicated that given the few existing (or likely) significant-ranked drinking water threats, there will be time and resources available for the SP Committee to also address many moderate and low-ranked threats.

- iii. Future Drinking Water Threats – Christine Woods, Source Protection Planner

Christine Woods gave a presentation regarding the emergence of drinking water threats in the future. She reminded the members that the Ontario *Clean Water Act, 2006* and O. Reg. 287/07-General require that source protection plans include policies on activities that are or would be significant drinking water threats. It can also include policies about moderate and low-ranked drinking water threats.

Ms. Woods suggested that the SP Committee focus their efforts on the most commonly occurring threats and also focus each roundtable on those existing and future threats that are most relevant to the vulnerable area under discussion. It was noted that under the *Act*, there must be broad polices to ensure even the oddest future activity could not emerge (e.g. a farm in downtown Kingston).

**9) Sector Updates from the Committee**

There were none.

**10) Announcements or Inquiries**

- a) Premiers' Water Charter endorsed in August 2010.
- b) Rob McRae commented on the high level of co-operation given to the CRCA staff in preparing the tour earlier in the evening.

**11) Motions/Notice of Motion**

There were none.

**12) Opportunity for Questions from the Media**

There were no questions.

**13) IN CAMERA Session**

This was not required.

**14) Next Meeting**

Next meeting of the SP Committee: October 14, 2010  
7:00 PM Regular Meeting  
General Purpose Room, Outdoor Centre  
Little Cataraqui Creek Conservation Area, Kingston

**15) Adjournment**

The meeting adjourned at 10:10 P.M. on a motion by Kevin Riley.

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John C. Williamson, Chair

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Rob McRae, Project Manager



Our strength is innovation. Our commitment is to improving the quality of life.  
Notre force, c'est l'innovation. Notre engagement, c'est d'améliorer la qualité de la vie.

John Williamson  
Cataraqi Stewardship Council  
P.O. Box 160,  
Glenburnie, Ontario  
K0H 1S0

C.R.C.A.	
File No.	Sept 17/10
Original for	John Williamson
Copies to:	
File No.	SPP 4-0

September 10, 2010

Re: Canadian innovation reduces *E. coli* O157:H7 risk in drinking water

Dear Source Water Drinking Committee Member(s),

This letter is to advise you about a novel Canadian technology to help reduce the risk of illness from contaminated drinking water.

*E. coli* O157:H7 is a strain of bacteria that is widespread within the cattle population. This specific strain of *E. coli* often resides in the intestines of cattle with no ill effects to their health or performance. When shed in the feces however, the bacteria all too often contaminates meat, produce, ground water and the environment, which represents a serious public health risk to Canadians.

Approximately 100,000 cases of human infection with the *E. coli* O157 organism are reported each year in North America. Between two per cent and seven per cent of infected individuals develop hemolytic uremic syndrome (HUS), a disease characterized by kidney failure (in recent outbreaks, this percentage has risen to as high as 16 per cent). Five per cent of HUS patients die, many of these children and senior citizens whose kidneys are more sensitive to damage.

We recognize that the objective of the Ontario Clean Water Act is to ensure we have access to safe and reliable drinking water. In regions populated with cattle there is a risk of *E. coli* O157 contamination. This risk can now be managed by vaccinating cattle.

Named *Econiche*™, the vaccine against *E. coli* O157 is the world's first commercially available vaccine designed to reduce the colonization and shedding of *E. coli* O157 into the environment. This vaccine is administered to beef and dairy cattle to decrease the amount of *E. coli* O157 that enters the environment and poses a risk to humans through food, water or direct contact.

For more information on this innovative risk reduction tool and its relevance to your source drinking water control program, please call 1-800-265-5464 ext. 1323 or email [Susan.Goebel@Bioniche.com](mailto:Susan.Goebel@Bioniche.com).

Sincerely,

Susan Goebel  
*E. coli* Project Manager

**Bioniche Life Sciences Inc.**

P.O. Box 1570, 231 Dundas Street E. Belleville, Ontario, Canada K8N 5J2  
Telephone: (613) 966-8058 • Facsimile: (613) 966-4177  
[www.Bioniche.com](http://www.Bioniche.com)



G.R.C.A.

Date  
Rec'd

*Sept. 20/10*

Original  
for

Copies  
to

File  
No:

*4-0  
SAP 5-4*

September 16, 2010

Mr. John Williamson  
Chair  
Cataraqui Source Protection Committee  
c/o Cataraqui Region Conservation Authority  
P.O. Box 160  
Glenburnie, Ontario  
K0H 1S0

**SUBJECT: Draft Proposed Assessment Report available for Public Comment**

Dear Mr. Williamson,

The Raisin-South Nation Source Protection Committee wishes to thank you for your Source Protection Committee's ongoing participation with us in the municipal drinking water source protection process. We appreciate the keen interest and participation demonstrated by both Committee members and Source Protection staff. Your assistance in sharing data with us has played a key role in helping us to prepare this region's two Draft Proposed Drinking Water Assessment reports.

**We are now seeking public input into these draft documents.**

From now until October 15, 2010, copies of the draft report are available for viewing and commentary on our website at [www.yourdrinkingwater.ca](http://www.yourdrinkingwater.ca) and at our region's two Conservation Authority offices: **South Nation Conservation and Raisin Region Conservation Authority.**

Six public meetings will be held throughout September and in October to discuss Source Water Protection and the Assessment Report. Technical experts, committee members and municipal representatives will be available to answer questions or concerns and receive input. *(Please see attached Ad for public meeting schedule and Draft Proposed Assessment Report release).*

For more information on the *Draft Proposed Assessment Report* or the Drinking Water Source Water Protection Program, please contact our Communications Specialist, Karen Cooper at 1-866-938-3611 (ext. 247) or via e-mail at [kcooper@rrca.on.ca](mailto:kcooper@rrca.on.ca).

It is always a pleasure to work together with you to protect Eastern Ontario municipal drinking water supplies.

Claude Cousineau,  
Chair, Source Protection Committee

Richard E. Pilon, P.Eng.  
Project Manager



## A Series of Public Meetings We Want *Your* Input on Local Drinking Water

### Draft Proposed Assessment Reports for the Raisin-South Nation Region

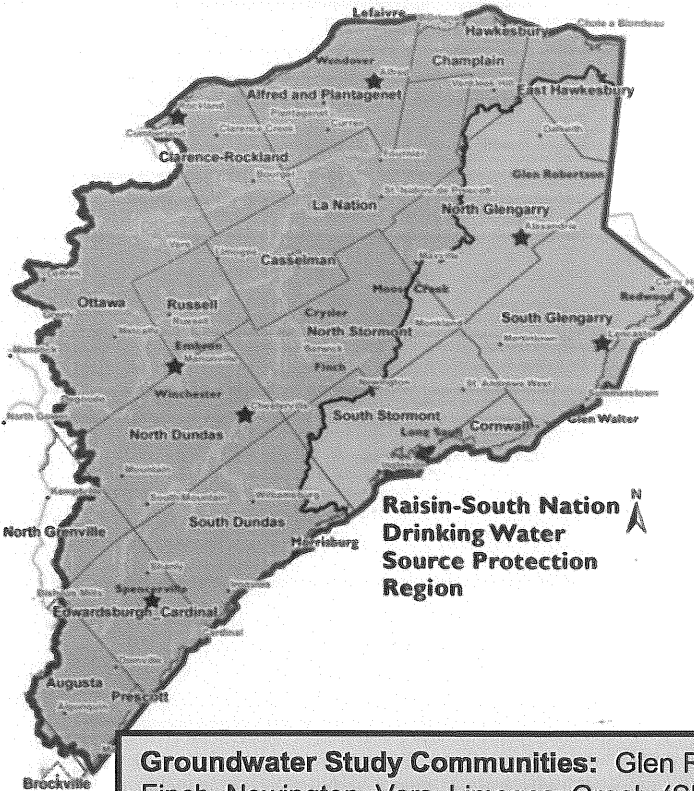
You are invited to read and comment on the Draft Proposed Assessment Reports for the Raisin-South Nation Source Protection Region.

This proposed draft report was prepared under the Ontario Clean Water Act by the Raisin-South Nation Source Protection Committee.

Publication of these two Reports is an important step in developing a Drinking Water Source Protection Plan for both the Raisin Region and South Nation Source Protection Areas. We are seeking your input on protecting this most valuable natural resource.

### The Draft Proposed Assessment Report

- Identifies vulnerable areas where drinking water sources might face risk of contamination
- Assesses possible threats to drinking water in vulnerable areas



**Raisin-South Nation  
Drinking Water  
Source Protection  
Region**

**Groundwater Study Communities:** Glen Robertson, Redwood Estates, Chrysler, Moose Creek, Finch, Newington, Vars, Limoges, Greely (Shadow Ridge), Embrun / Marionville, Winchester, Chesterville, and Spencerville (Bennett St.)

**Surface Water Study Communities:** Casselman, Alexandria, Lancaster, Glen Walter, Cornwall, Long Sault, Morrisburg, Cardinal, Prescott, Hawkesbury, Lefebvre, Wendover, and Rockland

### Public Meetings

<b>Lancaster</b>	<b>Sept. 22<sup>nd</sup></b> (1 - 4 pm; 6 - 9 pm) at Cooper Marsh
<b>Alexandria</b>	<b>Sept. 23<sup>rd</sup></b> (1 - 4 pm; 6 - 9 pm) at Alexandria Curling Club 138 Main St. North
<b>Embrun</b>	<b>Sept. 28<sup>th</sup></b> (1 - 4 pm; 6 - 9 pm) at Arena d'Embrun Arena
<b>Alfred</b>	<b>Sept. 30<sup>th</sup></b> (1 - 4 pm; 6 - 9 pm) Campus d'Alfred Guelph University
<b>Chesterville</b>	<b>Oct. 5<sup>th</sup></b> (1 - 4 pm; 6 - 9 pm) Royal Canadian Legion
<b>Spencerville</b>	<b>Oct. 7<sup>th</sup></b> (1 - 4 pm; 6 - 9 pm) Spencerville Mill

### See the Report:

Draft Proposed Assessment Report copies are available through:

- The internet at [www.yourdrinkingwater.ca](http://www.yourdrinkingwater.ca)
- Raisin Region Conservation Authority
- South Nation Conservation
- Municipal Offices

### Submit all Comments in Writing:

**Website:** [www@yourdrinkingwater.ca](http://www@yourdrinkingwater.ca)

**Fax:** 613-938-3221

**Mail:** *Richard Pilon,*  
*Project Manager*

c/o Raisin Region Conservation Authority  
18045 Cty Rd. 2, Cornwall, ON K6H 5T2

**Deadline for Comments: October 15, 2010**

for information call Karen 1-866-938-3611 (ext 247)

**Ministry of  
the Environment**

Source Protection Programs  
Branch

14<sup>th</sup> Floor  
40 St. Clair Ave. West  
Toronto ON M4V 1M2

**Ministère de  
l'Environnement**

Direction des programmes de protection  
des sources

14<sup>e</sup> étage  
40, avenue St. Clair Ouest  
Toronto (Ontario) M4V 1M2



ENV1117IT-2010-228

October 6, 2010

**MEMORANDUM**

**TO:** Source Protection Committee Chairs  
Source Protection Project Managers

**FROM:** Ian Smith, Director  
Source Protection Programs Branch

**RE:** **On-site sewage (septic) systems – Changes to the Ontario Building Code, and what it means for Ontario's *Clean Water Act***

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The provincial government recently passed two regulations that have an impact on on-site sewage (septic) systems. First, Ontario Regulation 287/07 (O.Reg. 287/07) under the *Clean Water Act, 2006* was amended to set out the requirements of a source protection plan to address threats to drinking water. Second, O.Reg. 350/06 under the *Building Code Act, 1992* was amended to set out the requirements for septic system maintenance and inspection programs. The purpose of this memo is to clarify these requirements and to address the questions and concerns of source protection committees about the Building Code changes and the *Clean Water Act, 2006*. It also includes source protection plan policy considerations related to this drinking water threat. Additional policy development support will continue to be provided to committees subsequent to this memorandum.

**Ontario Regulation 287/07 (General) under the *Clean Water Act***

The *Clean Water Act* and this regulation set out the requirements for the content of a source protection plan and enable tools to address threats to drinking water. However, the regulation limits the tools available for policies that address septic systems. Initially, there was some confusion that this limit on the tools available meant that septic systems had been removed from the list of prescribed drinking water threats. The list of prescribed drinking water threats for the purpose of the *Clean Water Act, 2006* are set out in Section 1.1 of O.Reg. 287/07 and the recent amendments to this regulation did not change the list of prescribed threats. Sewage, including septic systems, remains a

prescribed threat. Where sewage systems are identified as significant drinking water threats in the local assessment report, writing policies in the source protection plan to address these threats is mandatory.

The recent amendments to O. Reg. 287/07 state that the tools enabled under Part IV of the *Clean Water Act, 2006* may not be applied to threats related to sewage and waste facilities (section 19.4). This means that source protection committees can not include policies in their source protection plans that rely on prohibition (under section 57 of the Act), risk management plans (s. 58) or restricted land uses (s. 59) to address these threats. They must still set out policies as set out later in this memo, using other tools that are available.

### **Ontario Regulation 350/06 (Building Code) – under the Building Code Act**

Septic systems continue to be subject to the requirements of the Building Code. The recent amendments to the Building Code provide tools to address septic systems as a threat to drinking water. Septic systems in designated areas (described below) are now required to be inspected, maintained, and replaced or upgraded where necessary, to ensure they continue to protect drinking water. The Building Code regulation was also amended to support the implementation of the Lake Simcoe Protection Plan. The regulation establishes mandatory on-site sewage system maintenance inspection programs to be administered by principal authorities<sup>1</sup> in designated areas. The regulation also governs discretionary maintenance inspection programs that principal authorities may establish in non-designated areas.

#### Mandatory Septic Inspection Program

For the *Clean Water Act, 2006*, the mandatory inspection program will be required for designated areas. Designated areas are those areas where septic systems are, or would be, a significant drinking water threat as identified in approved assessment reports. Septic systems can only be a significant drinking water threat in certain parts of wellhead protection areas and intake protection zones. These are vulnerable areas identified near groundwater wells or surface water intakes that are subject to the *Clean Water Act, 2006* (mostly municipal drinking water systems). Source protection plans must address all significant drinking water threats, including septic systems. Most of the septic inspection provisions of O. Reg. 350/06 come into force on January 1, 2011. The effective date for inspections required under the *Clean Water Act, 2006* will depend on the approval date of the local assessment report. Inspections must be completed within five years of the approval of the assessment report.

For Lake Simcoe, mandatory inspections will also be required in designated areas. The designated areas are initially certain areas located within 100 metres of the Lake Simcoe shoreline, eventually extending to the balance of land located within 100 metres of the Lake Simcoe shoreline, and to land located within 100 metres of other lakes and permanent streams in the Lake Simcoe watershed. For the Lake Simcoe areas, there

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<sup>1</sup>Principal authorities as defined in section 1(1) of the *Building Code Act, 1992*, include: municipalities, planning boards, local health unit, a conservation authority, or the Crown.

are different effective dates for different areas, with some areas having effective dates as late as January 1, 2016.

In the designated areas where inspections are mandatory, each on-site sewage system will be inspected once every five years. Systems will be inspected to ensure they are functioning properly. If the inspection shows that the system is failing, the Building Code provides the authority to require upgrades or replacements. The Ministry of Municipal Affairs and Housing has been invited to speak in more detail about the septic inspection program at an upcoming meeting of the Chairs.

#### Discretionary Septic Inspection Program

Amendments to the Building Code also provide principal authorities the discretion to establish maintenance inspection programs for on-site sewage systems outside of the areas designated through the *Clean Water Act* or the Lake Simcoe Protection Plan. Details of the discretionary (optional) maintenance inspection programs, including the scope of application or the frequency of inspections, are not prescribed in the regulation. Principal authorities will have the flexibility to determine these aspects of the program themselves.

#### **Implementation and Enforcement**

Both the mandatory and discretionary programs would be enforced by principal authorities under the Building Code. The enforcement of the maintenance and inspection programs will be fully funded by the principal authority responsible for the designated areas. However, enforcement bodies may charge fees to recover the costs of the inspection programs.

#### **Policy Options for Source Protection Plans under the Clean Water Act**

When developing source protection plan policies, source protection committees must ensure they include policies that address all **areas** where a specific drinking water threat could be significant. They will first decide whether to manage or prohibit a specific drinking water threat, and may make different choices to reflect areas where the threat exists today versus where it would be significant if established in the future. There are a number of policy options to address drinking water threats associated with septic systems.

#### Specify Actions

In the areas where septic systems are significant threats, or would be significant threats if established in the future, source protection plan policies could refer to and support the mandatory on-site sewage system maintenance inspection programs that will be required under the Building Code regulation and implemented by principal authorities.

#### Land Use Planning Approaches

Policies that rely on land use planning approaches under the *Planning Act* can be used to address future occurrences of this activity, in areas where septic systems would be significant drinking water threats. *Planning Act* restrictions and permissions apply to land uses, buildings, and structures, regardless of ownership; therefore, these controls

bind future owners, unless an amendment is approved. Many municipalities already address land uses around sources of drinking water.

Where septic systems would be a significant threat if established in the future, a committee could write a policy that directs the municipality to: require specific setbacks or separation distances from municipal intakes and wellheads, ensure that lot sizes are sufficient to meet servicing needs over the long term, and/or prohibit future septic systems in designated areas<sup>2</sup>.

The policy may also include reference to how it would be implemented by the municipality through the *Planning Act*, such as directing the municipality to identify specific areas that would be subject site plan control (section 41 of the *Planning Act*). Site plan control allows a municipality to address the layout of a site when new uses or structures are being established. This gives the municipality more control over the location of any future septic systems. This approach could be used to determine the location of buildings, structures (including septic systems) and other uses in areas where this threat is significant, moderate or low. A site plan would delineate areas where future septic systems would be permitted. These permissions would be registered on the land title.

#### Incentive, Education and Outreach Programs

Many municipalities, in cooperation with local health units and conservation authorities, have already developed educational materials explaining the benefits of a properly functioning septic system and regular system maintenance, including pumping out. Committees may wish to discuss the possibility of drafting policies to direct responsible groups to expand these existing programs, to focus existing incentive programs in vulnerable areas, or suggest other strategies for reaching out to homeowners with septic systems.

#### Monitoring

The source protection plan must also include monitoring policies that track over time the drinking water threat and the policies that address it.

#### **For More Information**

The Ministry of Municipal Affairs and Housing, who is responsible for the administration of the Building Code, have provided some information documents on the recent amendments:

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<sup>2</sup> After a source protection plan is approved, municipalities could conform to these policies by implementing them through the suite of planning tools available under the *Planning Act*; including official plan policies, zoning by-laws, site plan controls, or the development permit system.

News Release: <http://www.obc.mah.gov.on.ca/Page3196.aspx>  
Backgrounder: <http://www.obc.mah.gov.on.ca/Page3197.aspx>  
Building Code Regulation: [http://www.e-laws.gov.on.ca/html/source/regs/english/2010/elaws\\_src\\_regs\\_r10315\\_e.htm](http://www.e-laws.gov.on.ca/html/source/regs/english/2010/elaws_src_regs_r10315_e.htm)  
Questions and Answers: <http://www.obc.mah.gov.on.ca/Page3207.aspx>

A handwritten signature in black ink, appearing to read 'Ian Smith', with a long horizontal flourish extending to the right.

Ian Smith, Director  
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# THE CATARAQUI SOURCE PROTECTION COMMITTEE

## REPORT

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To: Cataraqui Source Protection Committee

Files: SPP 4-0, 6

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

Date: October 7, 2010

### **RE: IMPROVEMENTS TO LIVESTOCK DENSITY CALCULATIONS UPDATED ASSESSMENT REPORT**

This staff report seeks direction from the Cataraqui Source Protection Committee (“SP Committee”) to receive updated information on livestock density.

#### **Background**

Each assessment report must include calculations and mapping of the existing density of livestock (i.e. cattle, poultry, etc.) in vulnerable areas. The findings are reported in nutrient units per acre (NU/acre) since each type of animal is assigned a conversion factor to calculate nutrient units. Livestock density is included in the watershed characterization component of the report, but is applied in the ranking of some drinking water threat circumstances. Initial findings related to livestock density were included in the Proposed Assessment Report: Cataraqui Source Protection Area (July 2010) through Section 2.3.2.2, Maps 2-20(a) through (c), and Appendix ‘C’, Table 8.

#### **Discussion**

Within local wellhead protection areas and intake protection zones, Cataraqui Region Conservation Authority staff compiled the initial livestock density findings using provincial assessment data, aerial photography, and conversion factors taken from the Ontario *Nutrient Management Act, 2002*. This approach was specified by the Ontario Ministry of the Environment for use in the absence of actual livestock data.

Staff have subsequently improved our knowledge of livestock density through field work and landowner contact at locations where there was uncertainty about the findings, and/or in response to input from municipal staff. The field work was conducted by Kimberly Denison, *Resource Technician*, and the calculations and mapping were conducted by Erin Oogarah, *GIS Technician*. Their recommendations are shown in the attached version of Table 8, and described below:

- A.L. Dafoe (Napanee) Intake Protection Zone and Brockville Intake Protection Zone: the values used in the initial report are appropriate, since the farms visited were either reflected in the initial report or the livestock facilities are located far outside of the zone;
- Fairfield (Amherstview) Intake Protection Zone 2: a sheep farm should be added to the enumeration of existing drinking water threats and changes to the livestock density should be recorded on Table 8 in Appendix ‘C’ (the change does not affect the “high” threshold to evaluate the risk of over-application of agricultural source material (ASM));
- Miller Manor Apartments Wellhead Protection Area (‘A’ through ‘D’): a (former) poultry farm should be removed from the enumeration of existing drinking water threats since it is not in use and will not be used

again for agricultural purposes; given that there are no other farms in the area, no livestock density should be reported on Table 8 in Appendix 'C'.

These findings should be reported in the updated assessment report (2011) through changes to the text, maps, and Appendix 'C'.

**Recommendation**

BE IT RESOLVED THAT the Cataraqui Source Protection Committee receives the updated information on livestock density (for selected vulnerable areas) that is outlined in the report of the Project Manager (dated October 7, 2010) for consideration in preparing the updated Cataraqui Assessment Report and the Cataraqui Source Protection Plan.

Respectfully submitted,

*(original signed by)*

Kimberly Denison  
Resource Technician

*(original signed by)*

Rob McRae MCIP, RPP  
Project Manager, Source Water Protection

Attachment: Improved version of Appendix 'C', Table 8 (as proposed, dated October 7, 2010)

## Cataraqui Source Protection Area

## Proposed Improvements to Assessment Report - Appendix 'C', Table 8

Table 8. Per cent managed lands and livestock density in the vulnerable areas of the Cataraqui Source Protection Area.

Drinking Water System	Zone	Per cent Managed Lands	Potential for nutrient application to be causing contamination of drinking water sources	Livestock Density (nutrient units/acre)	Threshold to evaluate the risk of over-application of agricultural source material
Cana	WHPA A	19.2	Low	-	-
	WHPA B	16.0	Low	-	-
	WHPA C	14.4	Low	-	-
	WHPA D	20.2	Low	-	-
	WHPA E	51.1	Moderate	-	-
Lansdowne	WHPA A (Well 1)	0	Low	-	-
	WHPA A (Well 2)	49.0	Moderate	94.1	High
	WHPA B	32.0	Low	19.9	High
	WHPA C	49.6	Moderate	13.8	High
	WHPA D	37.0	Low	4.9	High
	WHPA E	62.1	Moderate	-	-
<b>Miller Manor</b>	WHPA A	56.3	Moderate	<b>51.4</b>	<b>High</b>
	WHPA B	56.6	Moderate	<b>47.7</b>	<b>High</b>
	WHPA C	88.5	Significant	<b>15.1</b>	<b>High</b>
	WHPA D	46.4	Moderate	<b>13.4</b>	<b>High</b>
Brockville	IPZ 1	39.0	Low	-	-
	IPZ 2	28.3	Low	188.0	High
James W. King	IPZ 1	4.6	Low	-	-
	IPZ 2	20.7	Low	12.2	High
Kingston Central	IPZ 1	5.4	Low	-	-
	IPZ 2	18.7	Low	-	-
Point Pleasant	IPZ 1	7.9	Low	-	-
	IPZ 2	32.2	Low	-	-
<b>Fairfield</b>	IPZ 1	40.0	Low	-	-
	IPZ 2	10.2	Low	<b>25.1 33.8</b>	High
Bath	IPZ 1	31.6	Low	-	-
	IPZ 2	26.5	Low	0.6	Moderate
AL Dafoe	IPZ 1	8.2	Low	46.2	High
	IPZ 2	6.5	Low	20.6	High
Sandhurst Shores	IPZ 1	35.7	Low	30.5	High
	IPZ 2	34.1	Low	1.6	High
Sydenham	IPZ 1	7.1	Low	-	High
	IPZ 2	36.7	Low	4.5	High
	HVAs	36.7	Low	0.2	High
	SGRAs	19.2	Low	0.1	High

NU = Nutrient Units

ASM = Agricultural Source Material

WHPA = Wellhead protection area

IPZ = Intake protection zone

# THE CATARAQUI SOURCE PROTECTION COMMITTEE

## REPORT

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To: Cataraqui Source Protection Committee

Date: October 7, 2010

From: Christine Woods, Source Protection Planner

Files: SPP 4-0, 8

### **RE: SUMMARY OF RESEARCH TO-DATE ON CONDITIONS**

This information report updates the Source Protection Committee (SP Committee) on the assessment of possible conditions (past activities that could result in drinking water threats) that have been completed by Cataraqui Region Conservation Authority (CRCA) staff to date as part of the updated assessment report for June 2011.

#### Background

Conditions exist where the bedrock, soil, or water has been contaminated through past activities. An example of a condition is the presence of fuel in the soil underneath a closed gasoline station. If sufficient quantities of certain types of contaminant are present, then the condition may be classified as a drinking water threat.

The Proposed Assessment Report: Cataraqui Source Protection Area (July 2010) includes some initial findings about conditions and indicates that additional findings will be included in an updated version. Sarah Ramey (Research Assistant) was hired this summer on a short-term contract basis by the CRCA to advance our understanding of conditions. Her methods and findings are summarized below. There is an interest to advance the work further within the context of the updated assessment report, and to make recommendations for the next planning cycle.

#### Discussion

The work to-date completes Step 1 in a five step strategy that scopes the problem and sets up more focused research by others in the future. It includes the following steps:

- Step 1. Identify locations in vulnerable areas with known past commercial/industrial activities such as dry cleaners and tanneries where contamination *may* have occurred, and assess what level of drinking water threat they would pose *if established as a condition*;
- Step 2. Scope the list of possible conditions by removing locations from the Step 1 list where:
  - a. A Record of Site Condition or other information is available to indicate that the contamination has been remediated/contained; and/or
  - b. Spills data indicates that the cumulative volume of spills was so minor that it is unlikely to have contaminated the source water; and/or
  - c. The age and type of past activity means that no contaminants of interest were used in the process.

- Step 3. Scope the Step 2 list to those areas within vulnerable areas where a possible condition could result in a significant drinking water threat;
- Step 4. Scope the Step 3 list to those locations where one or more of the contaminants involved in the past activity at the location could be tied to one or more of the tests in Technical Rule 126 (i.e., for wellhead protection areas, did the activity ever use non-aqueous phase liquids?);
- Step 5. Prioritize the Step 4 list to support site-specific research (i.e. soil, rock, and water sampling, analyses) during future planning cycles based on factors such as:
  - a. Are there existing monitoring data available from environmental site assessments or similar reports (if so, then is additional monitoring required?); and/or
  - b. Does the suspected contamination relate to the presence of a related drinking water issue?

### **Step 1 Findings: Identifying Past Activities (completed)**

A variety of sources and approaches were used by Sarah Ramey to identify locations in vulnerable areas with known past commercial/industrial activities where contamination *may* have occurred.

Historic activities were identified through historic atlases, fire insurance plans, city directories, local history books, materials from historical societies, and interviews with knowledgeable individuals. In certain cases, site visits, aerial photographs, and “Google street view” were used to confirm the presence of past activities.

More recent activities were identified using a regulatory database review that was performed by Ecolog ERIS, an environmental database and information service company. These records summarize federal, provincial, and private databases that document occurrences such as spills, abandoned mines and oil wells, pollutant releases, and old waste disposal sites. The records were examined for possible conditions located within intake protection zones (IPZ) and wellhead protection areas (WHPA).

The identified past activities were documented in a spreadsheet, and the locations of the past activities that could be linked to a specific location were mapped to determine where they occurred within the IPZs or WHPAs. The mapping exercise has yet to be completed for Kingston Central.

### **Looking Ahead to Step 3: Assessing the Threat Level of Conditions**

Under Technical Rule 126 in the “Technical Rules: Assessment Report” (MOE, 2009), the level of drinking water threat associated with a condition is usually based on the vulnerability score of the area in which it occurs. Therefore it is possible to assess what level of drinking water threat a past activity would pose *if it was established as a condition*. This preliminary assessment can help to inform the work for steps 2 to 5 that were described above.

In most cases, the following vulnerability scores are associated with the following levels of drinking water threat related to conditions:

- 8 or greater = significant threat
- 6 to less than 8 = moderate threat
- greater than 4 to less than 6 = low threat
- 4 or less = would not produce a threat

The level of drinking water threat a past activity would pose *if it was established as a condition* was assessed using worst case scenario assumptions about possible contamination and the risk score calculated in accordance with the relevant Technical Rules.

The following table provides an overview of the number of possible significant, moderate, and low drinking water threats associated with past activities identified for each vulnerable area based on the assessment described above. Since the Eastern Lake Ontario – St. Lawrence River IPZ-3 was not assigned a vulnerability score, the threat classification of possible conditions occurring in this area was not assessed. Modeling would be required to demonstrate a direct link between these conditions and IPZ-3 in order to be established as drinking water threats.

Area	Possible Conditions resulting in Drinking Water Threats			Total	
	Significant	Moderate	Low		
WHPA	Cana	1	0	0	1
	Lansdowne	0	0	0	0
	Miller Manor	4	5	0	9
	Westport	0	0	0	0
IPZ	Brockville	374	0	0	374
	James W. King	147	0	0	147
	Kingston Central	0	*	*	*
	Point Pleasant	0	2	15	17
	Fairfield	0	23	0	23
	Bath	0	13	0	13
	A.L. Dafoe	0	89	1	90
	Sandhurst Shores	0	0	3	3
	Pictou IPZ-3b	-	-	-	-
	Sydenham	19	0	0	19
<b>Total</b>	<b>545</b>	<b>132**</b>	<b>19**</b>	<b>696**</b>	

\*the assessment for Kingston Central is on-going.

\*\* the total number of possible conditions does not include data for Kingston Central.

The preliminary assessment, which was based on worst case scenario assumptions, identified more than 700 possible conditions, of which 545 could in theory be significant drinking water threats owing to their location and the underlying vulnerability score.

Again, it should be stressed that this assessment is based on worst case scenario assumptions about possible contamination from past activities. Many of the documented activities may not have resulted in any contamination, or the contamination levels necessary to be considered a drinking water threat under Technical Rule 126. If sampling determines that contaminant levels

are below those outlined, then the number of actual conditions and threats would be drastically reduced.

### **Next Steps**

The next steps are to scope the list of possible conditions (Steps 2 and 3 above), to list to those locations where one or more of the contaminants involved in the past activity at the location could be tied to one or more of the tests in Technical Rule 126 (Step 4), and to prioritize the list to support site-specific research during future planning cycles (Step 5).

Unfortunately there are limited data to confirm the actual presence of contamination in our area. It is therefore suspected that sampling would be required to determine if many of the past activities are conditions that meet the criteria in Technical Rule 126, most of which prescribe certain quantities or volumes of contamination necessary for a drinking water threat to occur. Depending on the location and past activity, sampling data could come from existing brownfield monitoring programs or require targeted sampling. This type of *sampling*, which is required to establish whether a past activity would be considered a condition, is different than the ongoing *monitoring* that would be required if a past activity were to be confirmed as a condition.

CRCA staff will endeavour to complete as many of the steps as possible given the time and resources available for development of the updated assessment report (due June 2011). We welcome input from the SP Committee on the strategy outlined in this report, and the extent to which this aspect of our work should be advanced related to other tasks.

Respectfully submitted,

*(original signed by)*

Christine Woods MCIP, RPP  
Source Protection Planner

Approved for circulation \_\_\_\_\_ RM \_\_\_\_\_

# THE CATARAQUI SOURCE PROTECTION COMMITTEE

## REPORT

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To: Cataraqui Source Protection Committee

Files: SPP 4-0, 8

From: Rob McRae, Project Manager, Source Water Protection

Date: October 7, 2010

### **RE: DRAFT TABLE OF CONTENTS – SOURCE PROTECTION PLAN**

This staff report seeks direction from the Cataraqui Source Protection Committee (“SP Committee”) on the interim use of a draft table of contents for the local source protection plan.

#### **Background**

A draft table of contents for the assessment report was endorsed by the SP Committee in February 2009. It provided a useful framework for the writing of the report, and for discussions with the three adjacent source protection regions. A similar format was used across eastern Ontario, to the benefit of the shared municipalities. Based on this experience, an initial consensus on the draft table of contents for the plan would be helpful at this time.

#### **Discussion**

Staff have prepared a first draft table of contents (attached) based on the legislated content requirements and examples from other areas and regions across Ontario. Consistent with the assessment report, the plan is organized by vulnerable area, so that a resident of an area (e.g. Fairfield) can easily locate relevant policies and maps. Unlike the assessment report, printed copies of the appendices are proposed to be included with the Volume I text.

Given the evolving nature of plan development, the format of the document is also expected to evolve over time. Pending comments from the SP Committee, staff would like to use the first draft table of contents on an interim basis for work planning purposes, and as part of discussions with other areas and regions. Further direction on a refined version would be solicited from the SP Committee in 2011.

#### **Recommendation**

BE IT RESOLVED THAT the Cataraqui Source Protection Committee endorses the use of the Draft Table of Contents – Source Protection Plan: Cataraqui Source Protection Area (2012) (dated October 7, 2010) by Cataraqui Region Conservation Authority staff on an interim basis.

I look forward to discussing this topic with you at the October meeting.

Respectfully submitted,

*(original signed by)*

Rob McRae MCIP, RPP  
Project Manager, Source Water Protection

Attachment: Draft Table of Contents- Source Protection Plan: Cataraqui Source Protection Area (2012) (dated October 7, 2010)

## Draft Table of Contents

### Source Protection Plan: Cataraqui Source Protection Area (2012)

(Prepared by CRCA Staff on October 7, 2010 for review by the Cataraqui Source Protection Committee)

The source protection plan is intended to provide a clear and concise listing of locally-developed policies to address drinking water threats and other matters. Detailed content requirements for the plan are spelled out in the *Clean Water Act, 2006* and Ontario Regulation 287/07. The main Volume I document (estimated at over 200 pages in length) will be supported by detailed appendices, Volume II (map book), and Volume III (Assessment Report).

Requirement Ref	Section	Subsec	Title / Description	Est. Pages
<b>Volume I: Text</b>				
<b>Introductory Items</b>				<b>21</b>
			How to Read This Report	1
			Generic Policy Example	
			Explanatory Note	1
			Summary of Approvals	
			For More Information	
			Acknowledgements	1
			Summary	10
			Reference Table	1
			Table of Contents	2
			List of Maps (Volume II)	2
			List of Tables	1
			List of Appendices	1
			List of Acronyms	1
<b>Chapter 1 – Introduction</b>				<b>11</b>
	1.1		Drinking Water Source Protection in Ontario	1
			Watershed planning	
			Walkerton Inquiry and the Ontario <i>Clean Water Act, 2006</i>	
			Ontario Regulation 287/07 - General	
	1.2		The Source Protection Planning Process	3
			Source protection authorities and committees	
			Terms of reference, assessment reports, and source protection plans	
			Consultation with local communities - see also Appendix 'A'	
	1.3		Scope and Purpose of the Source Protection Plan	4
			Water quality and quantity	
			Vulnerable areas, drinking water issues, and drinking water threats	
Ontario Reg 287/07 (s.22)			Objectives	
			Cataraqui SP Committee Mission Statement	
			Policy evaluation criteria and MOE Water Quality Risk Management Measures Catalogue	
			Explanatory document (reference)	
	1.4		Policy Context for Protecting Water	3
			Federal and provincial approaches	
			Local approaches	
			Available Policy Tools	
<b>Chapter 2 – Cataraqui Source Protection Area - see also Volume III</b>				<b>15</b>
	2.1		Southeastern Ontario Context	2
	2.2		Our Watersheds	3
	2.3		Fractured Bedrock and Shallow Overburden	2
	2.4		Drinking Water Sources and Vulnerable Areas	3
	2.5		Overview of Drinking Water Issues and Threats	5
<b>Chapter 3 – Policies for Area-wide Groundwater Sources</b>				<b>20</b>
	3.1		Highly Vulnerable Aquifers	10
		3.1.1	Overview (Drinking Water System, Context, Vulnerable Area, Issues, and Threats)	
		3.1.2	Policies Regarding Moderate and Low Drinking Water Threats [including monitoring policies]	
			- Transport Pathways	
			- Activities [sorted by land use - agricultural, residential, other]	
			- Conditions	
		3.1.3	Other Policies for Highly Vulnerable Aquifers	
	3.2		Significant Groundwater Recharge Areas	10
			(as above)	
<b>Chapter 4 – Policies for Wellhead Protection Areas</b>				<b>37</b>
	4.1		What is a Wellhead Protection Area?	2
	4.2		Cana Subdivision Wellhead Protection Area (Kingston Mills)	10
		4.2.1	Overview (Drinking Water System, Context, Vulnerable Area, Issues, and Threats)	
		4.2.2	Policies Regarding Significant Drinking Water Threats [including monitoring policies]	
Ontario Reg 287/07 (s.27)			- Transport Pathways	
			- Activities [sorted by land use - agricultural, residential, other]	
			- Conditions	
		4.2.3	Policies Regarding Moderate and Low Drinking Water Threats [including monitoring policies]	
Ontario Reg 287/07 (s.27)			- Transport Pathways	
			- Activities [sorted by land use - agricultural, residential, other]	
			- Conditions	
		4.2.4	Other Policies for the Cana Well Supply	
	4.3		Lansdowne Wellhead Protection Area	10
			(as above)	
	4.4		Miller Manor Apartments Wellhead Protection Area (Mallorytown)	10
	4.5		Westport Wellhead Protection Area	5

Requirement Ref	Section	Subsec	Title / Description	Est. Pages
<b>Chapter 5 – Policies for Surface Water Intake Protection Zones</b>				<b>65</b>
	5.1		What is an Intake Protection Zone?	2
	5.2		Brockville Intake Protection Zone	10
		5.2.1	Overview (Drinking Water System, Context, Vulnerable Area, Issues, and Threats)	
		5.2.2	Policies Regarding Significant Drinking Water Threats [including monitoring policies]	
			- Transport Pathways	
			- Activities [sorted by land use - agricultural, residential, other]	
			- Conditions	
		5.2.3	Policies Regarding Moderate and Low Drinking Water Threats [including monitoring policies]	
			- Transport Pathways	
			- Activities [sorted by land use - agricultural, residential, other]	
			- Conditions	
		5.2.4	Other Policies for the Brockville Intake	
	5.3		James W. King Intake Protection Zone (Gananoque)	10
			(as above)	
	5.4		Kingston Central Intake Protection Zone	5
		5.4.1	Overview	
		5.4.2	Policies Regarding Moderate and Low Drinking Water Threats [including monitoring policies]	
			- Transport Pathways	
			- Activities [sorted by land use - agricultural, residential, other]	
			- Conditions	
		5.4.3	Other Policies for the Kingston Central Intake	
	5.5		Point Pleasant Intake Protection Zone (Kingston West)	5
			(as above)	
	5.6		Fairfield Intake Protection Zone (Amherstview, Odessa, and Vicinity)	5
	5.7		Bath Intake Protection Zone	5
	5.8		A.L. Dafoe Intake Protection Zone (Napane)	5
	5.9		Sandhurst Shores Intake Protection Zone	5
	5.10		Picton Intake Protection Zone	3
	5.11		Sydenham Intake Protection Zone	10
			(per Brockville and Gananoque)	
<b>Chapter 6 – Other Policies for the Cataraqui Area</b>				<b>8</b>
Ontario Reg 287/07 (s.26(4))	6.1		Education and Outreach for Other Drinking Water Sources [groundwater/surface water]	2
Ontario Reg 287/07 (s.26(6))	6.2		Spill Prevention and Contingency Plans	3
Ontario Reg 287/07 (s.26(1))	6.3		Research	3
<b>Chapter 7 – Monitoring Climate Change</b>				<b>7</b>
	7.1		Climate Change in Ontario	2
Ontario Reg 287/07 (s.26(5))	7.2		Recommendations for Monitoring	5
<b>Chapter 8 – Implementation</b>				<b>10</b>
	8.1		Administration of the Plan - see also Appendix 'D'	3
	8.2		Matters Shared with Neighbouring Jurisdictions	2
			Mississippi-Rideau Source Protection Region	
			Quinte Source Protection Region	
			Raisin-South Nation Source Protection Region	
			New York State	
	8.3		Implementation Schedule - see also Appendix 'E'	2
	8.4		Reporting	1
	8.5		Considerations for Future Planning Cycles	2
<b>References</b>				<b>10</b>
<b>Glossary</b>				<b>10</b>
<b>PAGE COUNT</b>				<b>214</b>
<b>Appendices</b>				
From Chapter 1	A		Summary of Consultation	3
From Chapters 3 - 7	B		Summary of Significant Drinking Water Threat Policies, by Municipality	15
From Chapters 3 - 7	C		Summary of Policies, by Policy Tool [ e.g. education and awareness programs]	10
From Chapter 8	D		Summary of Roles and Responsibilities [sorted by organization]	10
From Chapter 8	E		Overall Implementation Schedule [Gantt chart]	2
<b>PAGE COUNT</b>				<b>40</b>
<b>Volume II: Maps (pages tbd)</b>				
<b>Volume III: Assessment Report: Cataraqui Source Protection Area (June 2011 update)(DVD) (required by CWA s.22(2)(1))</b>				

# Notice of Study Completion

## Sewage Infrastructure Master Plan for the City of Kingston Urban Area

Utilities Kingston has developed a Sewer Infrastructure Master Plan for the City of Kingston Urban Area to identify the necessary infrastructure required to provide conveyance and treatment capacity for sanitary sewage up to 2026. The Master Plan scope also included a comprehensive update to the Pollution Control Plan (PCP), related specifically to the mitigation of impacts due to combined sewer overflows (CSO's), with a goal of identifying the necessary steps to achieve "virtual elimination" of CSO's in the long term.

The recommended plan includes a number of measures to address growth, including increased pumping station and sanitary sewer trunk sewer capacity at various locations in the City and an expansion to the Cataraqui Bay Wastewater Treatment Plant. With respect to mitigation of CSO's, sewer separation in the older part of the City centre is the primary component of the recommended plan, with additional site specific measures and programs aimed at further reducing overflows.

The study is being conducted in accordance with the requirements for Master Plans, following Phases 1 and 2 of the Municipal Class Environmental Assessment (October 2000, as amended in 2007). The Sewage Infrastructure Master Plan has been completed and by this Notice is being placed in the public record for review.

The Sewage Infrastructure Master Plan and Pollution Control Plan Update documents are available for review at the following locations:

Utilities Kingston Website	<a href="http://www.utilitieskingston.com/Water/SewerPlan.aspx">http://www.utilitieskingston.com/Water/SewerPlan.aspx</a>
Utilities Kingston	85 Lappan's Lane (contact Technical Services)
City Hall	216 Ontario Street (go to Clerk's Department)
Central Library Branch	130 Johnson Street (ask at front desk)

Comments on this information should be directed to:

Ryan Matthews, P.Eng. Principal Project Manager CH2M HILL Canada Limited 1101 Prince of Wales Drive, Suite 330 Ottawa, Ontario K2C3W7 Tel: 613-723-0233 ext. 242	Michael Fischer, P.Eng. Utilities Engineer Utilities Kingston 85 Lappan's Lane Kingston, ON K7L 4X7 Tel: 613-546-1181 ext. 2356
or by email to Project Email Address: <a href="mailto:SewageMasterPlan@UtilitiesKingston.com">SewageMasterPlan@UtilitiesKingston.com</a>	

This Notice Published: September 14, 2010.