AGENDA

Mississippi-Rideau Source Protection Committee (MRSPC)

April 1, 2010
1 pm
Rideau Valley Conservation Authority, Monterey Boardroom
3889 Rideau Valley Drive, Manotick

		Pg.	
1.0	**Welcome and Introductions** a. Agenda Review b. Notice of Proxies c. Adoption of the Agenda (D) d. Declarations of Interest e. Approval of Minutes – March 4, 2010 (D) ► draft minutes attached as a separate document f. Status of Action Items – Staff Report Attached (D) …..……..…… g. Correspondence (D): ……..… 1. Minister of Agriculture re: Response to Well Aware Letter 2. Rural Clean Water Program re: Requesting Letter of Support	 1 4	*Chair Stavinga*
2.0	**Assessment Report Development** – Staff Report Attached ……..…..……. a. Revised IPZ 3 Vulnerability Scoring for *Draft* Surface Water Studies (D): i. Carleton Place Surface Water Study …… ii. Perth Surface Water Study ……..…… iii. Smiths Falls Surface Water Study …….. .. b. *Preliminary Draft* Assessment Report chapter (D): i. Chapter 7 – Climate Change ……..……...…...	27 41 43 45 47	*Staff and Consultants*
3.0	**Draft Source Protection Plan Regulation** – Staff Report Attached (D) …… a. Staff will provide a brief overview of the draft regulation b. Committee will consider draft comments for submission to the Environmental Bill of Rights Registry	59	*Sommer Casgrain-Robertson*
4.0	**2010 MRSPC Meeting Schedule** – Staff Report Attached (D) ……	65	*Sommer Casgrain-Robertson*
5.0	**Community Outreach** – Staff Report Attached (D) …..…… a. Members & staff report on activities since the last meeting b. Discuss upcoming events & opportunities	66	*Chair Stavinga*
6.0	**Other Business**		*Chair Stavinga*
7.0	**Member Inquiries**		*Chair Stavinga*
8.0	**Next Meeting** – May 6, 2010, 7pm Carp Fairgrounds (Agricultural Hall), 3790 Carp Road, Carp 6pm – public "meet and greet"		*Chair Stavinga*
9.0	**Adjournment**		*Chair Stavinga*

(I) = Information (D) = Decision

Delegations wishing to speak to an item on the Agenda are asked to contact Sommer Casgrain-Robertson at 613-692-3571 ext 1147 or sommer.robertson@mrsourcewater.ca before the meeting.

1.0 f) STATUS OF ACTION ITEMS

Date: March 23, 2010
To: Mississippi-Rideau Source Protection Committee
From: Sommer Casgrain-Robertson, Co-Project Manager
Mississippi – Rideau Source Protection Region

Recommendation:

1. That the Mississippi-Rideau Source Protection Committee receive the following report for information.

Staff & Chair Action Items:

	Issue	Action	Lead	Status
1	Ontario Drinking Water Standards	Learn how Ontario establishes and reviews its drinking water standards. Consider recommending that the tritium standard be increased	Mary Wooding Chair Stavinga	**In Progress** Mary will give members an overview of the process Chair Stavinga is preparing a motion for the May meeting.
2	Rural Clean Water Programs	Send a letter to the Provincial government highlighting the value of long-term, province-wide funding for rural clean water programs	Sommer Casgrain-Robertson	**In Progress** See agenda item 1.0f), letter from Rural Clean Water Program
3	Vacant City of Ottawa seat on the MRSPC	Fill the vacancy on the MRSPC	Sommer Casgrain-Robertson	**In Progress** City staff is working to fill the seat.
4	Vacant industry / commercial seat on the MRSPC	Fill a vacancy on the MRSPC	Sommer Casgrain-Robertson	**In Progress** Interviews are being held mid April
5	Ottawa River Watershed Inter-Jurisdictional Committee	Encourage MOE to take the lead role in establishing an Ottawa River watershed inter-jurisdictional committee	Mary Wooding	**In Progress** MOE's March 30 meeting with municipal and MOE representatives from Ontario and Quebec along the Ottawa River has been postponed to April.

Issue		Action	Lead	Status
6	Uranium	MVC and local Health Units work together to raise public awareness about naturally occurring uranium in drinking water	Sommer Casgrain-Robertson & Mary Wooding	**In Progress** Jean-Guy Albert will encourage Health Canada to release the "Uranium and Drinking Water" fact sheet they developed.
7	Geothermal Systems	Determine if geothermal systems should be considered a threat to drinking water sources	Sommer Casgrain-Robertson	**Ongoing** A lot of information has been collected on this topic, including a technical bulletin from MOE.
8	Compensation Models	Staff to collect other compensation models (e.g. Ottawa wetland policy, Alternate Land Use Services).	Sommer Casgrain-Robertson	**In Progress** Staff will build this in to the Source Protection Plan work plan (begin late 2010).

MRSPC Member Action Items:

Issue		Action	Lead	Status
1	Drainage Act is under review	Follow the process to see if it will impact source protection work	Peter McLaren & Richard Fraser	**In Progress** Peter and Richard are following the review and will inform the Committee of any concerns they have.
2	Members were concerned that attendance might be low at Assessment Report open houses and groups who should be involved in the process are not	Members were asked to provide Sommer with contact information for groups they feel should be involved in the process – they will be added to our mailing list.	All Members	**Ongoing**
3	OFEC Conference Calls & Training Sessions	Richard Fraser will provide the MRSPC with updates on OFEC conference calls & training sessions	Richard Fraser	**Ongoing**

4	Community Outreach opportunities	Members to notify Sommer of potential events and opportunities to engage the public about source protection	All members	**Ongoing**

1.0 g) CORRESPONDENCE

Date: March 23, 2010
To: Mississippi-Rideau Source Protection Committee
From: Sommer Casgrain-Robertson, Co-Project Manager
Mississippi – Rideau Source Protection Region

Recommendation:

1. That the Mississippi-Rideau Source Protection Committee provide a letter of support for Rural Clean Water Programs.

Attached Correspondence:

Correspondence From:		Regarding:	Response:
1	Minister of Agriculture – February 25, 2010	The Minister responded to the letter sent by the MRSPC in support of the Well Aware program	None required
2	Rural Clean Water Program	Requesting a letter of support for their programs	Recommend providing a letter of support for Rural Clean Water Programs

Ministry of Agriculture,
Food and Rural Affairs

Office of the Minister
77 Grenville Street, 11th Floor
Toronto, Ontario M7A1B3
Tel: (416) 326-3074
Fax: (416) 326 3083

Ministère de l'Agriculture,
de l'Alimentation et
des Affaires rurales

Bureau de la ministre
77, rue Grenville, 11e étage
Toronto (Ontario) M7A 1B3
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Téléc.: (416) 326 3083

Ontario

Ms. Janet Stavinga
Chair
Mississippi Rideau Source Protection Committee
Mississippi Valley Conservation
Box 599
3889 Rideau Valley Drive
Manotick, Ontario
K4M 1A5

Dear Ms. Stavinga:

Thank you for your letter of January 14, 2010, to my predecessor the Honourable Leona Dombrowsky regarding the Well Aware program. As the newly appointed Minister of Agriculture, Food and Rural Affairs, I am pleased to respond.

The ministries of the Environment and Health and Long-Term Care have regulatory responsibility for the matters outlined in your e-mail. The Ministry of the Environment (MOE) is responsible for the regulation of private water wells under Regulation 903 of the *Ontario Water Resources Act*. MOE also has associated programs in place to address water well issues. The Ministry of Health and Long-Term Care (MOHLTC), through the province's local public health units as part of its Safe Water Program, provides technical assistance to private water well owners.

I note that your e-mail is also addressed to my Cabinet colleagues the Honourable John Gerretsen, Minister of the Environment, and the Honourable Deb Matthews, Minister of Health and Long-Term Care. I trust that they will give consideration to your views.

It may interest you to know that staff from my ministry worked with staff from MOE and MOHLTC to help develop and distribute information packages with regard to private water systems to well owners. To date, over 300,000 packages have been distributed through a variety of groups. You can request a copy of this information kit from your local public health unit.

.../2

Ministry staff also provide technical support to private well owners through initiatives such as the Ontario Environmental Farm Plan, which places a significant focus on farm water well supplies. Environmental Farm Plans have been prepared for over 35,000 farms across Ontario.

Again, thank you for writing.

Sincerely,

Carol Mitchell

Carol Mitchell
Minister of Agriculture, Food and Rural Affairs

c: The Honourable John Gerretsen
The Honourable Deb Matthews

RIDEAU VALLEY
CONSERVATION AUTHORITY

3889 Rideau Valley Drive, P.O. Box 599, Manotick, ON K4M 1A5
tel 613-692-3571 | 1-800-267-3504 | fax 613-692-0831 | www.rvca.ca

A member of Conservation Ontario

February 25, 2010

Chair Janet Stavinga
Mississippi-Rideau Source Protection Committee

Dear Janet,

As you know, the Rideau Valley Conservation Authority has been delivering the Rideau Valley Rural Clean Water Program and the City of Ottawa Rural Clean Water Program for several years (the latter in partnership with Mississippi Valley Conservation and South Nation Conservation). These programs have funded hundreds of water quality protection projects, both on-farm and in the wider rural community. Projects include improved management plans, farm yard and manure storage works, well and septic repairs/improvements, fuel and chemical upgrades, shoreline protection and education activities.

Both of these Rural Clean Water Programs continue to be in high demand. There is a long waiting list for project assistance. In the Rideau Valley program, the high demand coupled with a limited budget has caused the Steering Committee to reduce our 2010 grant from $2000 to $1000 to allow the greatest number of applicants to take advantage of the program.

The new Ontario Drinking Water Stewardship Program (ODWSP) has provided a great alternative for land owner assistance which has relieved some pressure from our over-burdened Rural Clean Water grant programs. Projects traditionally funded through our Rural Clean Water Programs are now transferred to the ODWSP program in eligible areas. In addition, we have been able to offer additional on-site education through this new program using our existing trained staff. As you can appreciate, this dual program delivery by the local Conservation Authorities offers land owners an easy and effective way to complete projects and receive assistance and education conveniently and with minimal confusion.

During our recent Rideau Valley Rural Clean Water Program Annual meeting, our Steering Committee discussed the nature of the relationship between our own program and the new ODWSP. From this discussion, our Steering Committee requested that correspondence be made with the Source Protection Committee:

The Rideau Valley Rural Clean Water Program Steering Committee is seeking a statement of support from the Mississippi-Rideau Source Protection Committee to recognize the value of the Rural Clean Water Program for land owner assistance and on-site or community education outside areas eligible for the ODWSP and in particular, support for well and septic system repair/replacement grants. Although our steering committee recognizes the priority of Best Management Practice assistance near municipal wells and intakes, we are hoping that the Source Protection Committee will offer a statement to the provincial ministries to recognize that there is also value in assisting land owners and businesses who undertake best management practices in areas outside of these ODWSP priority zones.

Our Committee feels that such a statement would give support for our cooperative relationship with partners, stakeholders and to the Community in general. Such a statement of support would also show a consistent message that we are all working together to "put our money where our mouth is", so to speak, in the importance of protecting our surface and ground water resources. In the end, this support would also assist in maintaining the municipal and private sector program support we continue to seek.

Thank you for your consideration in this regard. If you have any questions or wish any further background, please feel free to contact me at 613-258-5425 or by email at martha.bradburn@rvca.ca.

I have also attached a copy of our program's Annual Report for your information.

Yours truly,

Martha Bradburn
Rural Clean Water Program Manager

Cc John Miller
Eleanor Renaud
Brian Stratton and Sommer Casgrain-Robertson

Annual Report
2009

Rideau Valley Rural Clean Water Program
and
Ottawa Rural Clean Water Program
(Rideau Watershed)

February 24, 2010

2009

RV & OTTAWA RURAL CLEAN WATER PROGRAM ANNUAL REPORT

TABLE OF CONTENTS

2009
Annual Report RVRCWP and ORCWP

Objectives

The Rideau Valley Rural Clean Water Program (since 2002) and the Ottawa Rural Clean Water Program in the Rideau watershed (since 2005) are delivered by the RVCA. The aims of these programs are to protect water quality and reduce the likelihood of pollution sources such as chemicals, pathogens and nutrients from reaching surface and groundwater. In addition, these programs assist and educate rural landowners in environmental stewardship of private property.

Activities

There are three components within the Ottawa and RVCA Rural Clean Water Programs:

1) Implementation of the Rideau Valley and City of Ottawa Rural Clean Water Programs
   - Undertake site visits and provide technical assistance and education
   - Process BMP applications

2) Program Promotion/Communications and Education
   - Undertake media releases and publicize program locally
   - Undertake/participate in workshop/information sessions
   - Undertake association, agency and interest groups presentations, offer and receive referrals via other agencies, individuals and associations for education and project assistance.

3) Program/Project Tracking and Monitoring
   - Project monitoring and verification

Program Background, Funding and History

In 2002, the Rideau Valley Conservation Authority launched the Rideau Valley Rural Clean Water Program (RVRCWP), with assistance from the federal AESI (Agriculture Canada) and the provincial Healthy Futures (OMAF) programs. These sponsoring agencies withdrew in 2003 and 2004, respectively. The RVCA has continued to operate the RVRCWP with municipal levy and private sector funding. In 2005, the City of Ottawa also delegated its RCWP to the Conservation Authorities. The MVC, SNC and RVCA share the City's annual budget for delivery of the Ottawa program.

With the delegation of the City of Ottawa Program to the local Conservation Authorities, adjustments were made to consolidate and redistribute the original RVRCWP Steering Committee membership. Our 2009 RVRCWP Steering Committee includes municipal/provincial/federal government, agricultural, not-for-profit and community representatives as follows;

Irv Mazukiewicz- Parks Canada-Rideau Canal Office
Susan Brandum- REAL/Well Aware
Peter Au- RRR
Steve Clarke- OMAFRA
Mark Green (alternate- Nancy Carpenter)- Lanark Leeds Grenville DHU
Bill McNaughton- (ORCWP) Carleton Soil and Crop
Don Patterson- (ORCWP-ORCWC Chair) Ottawa/Carleton OFA
Lise Guevremont- City of Ottawa staff
Eleanor Renaud- Leeds County Federation of Agriculture
Peter McLaren- Lanark County Soil and Crop Association
David Taylor- Friends of the Tay Watershed
Rita Vogel- Leeds County- Environmental Farm Plan
Ruth Vogel- Leeds County Ontario Federation of Agriculture
Kim Weedmark- Grenville EFP and OFA
Jeff Ward- Lanark County Stewardship Council

Cathy Willoughby- RVCA Middle Advisory Board (Chair)
John Miller- RVCA Upper Advisory Board
Rudy Dyck- RVCA staff

Martha Bradburn- RVCA staff (RCWP Manager)

The RVRCWP Steering Committee generally meets once a year to discuss program direction, guidelines and issues.

Since 1999, the *City of Ottawa* program operated with the City's funding and under a separate steering committee. This Committee is formally referred to as the "Ottawa Rural Clean Water Committee". Current committee members for the ORCWP are as follows:

Steve Clarke- (OMAFRA)
Lise Guevremont (as of September, 2008- City of Ottawa Staff)
Chris Kinsley- (WW Centre-U of Guelph- Alfred)
Bill McNaughton- (SCIA-Carleton)
Cathy Willoughby- (LG FOA/RVCA- Member-at-large as of Jan., 2007)
Arlene Ross- (EFP)
Gib Patterson- (Ottawa Stewardship Council, as of December 08)
Don Patterson-ORCWP Committee Chair (October 2007)
John Price- (MVC)
Paul Kehoe- (MOE- alternate for D.Patterson/B.McNaughton on Review Committee as of Jan., 2007)

Ronda Boutz- (SNRC staff)
Brian Anderson (MVC staff)
Martha Bradburn (RVCA staff)

The Ottawa/Rideau Valley Rural Clean Water *Project Review Committee*, comprised of members appointed from both the RV and Ottawa Steering Committees, began to process applications for both the Rideau Valley Program *and* the Ottawa Program in 2005. This smaller group typically meets 4-5 times over the field season to address grant applications.

Two separate sets of program Guidelines are still used;

1) the "Rideau Valley Rural Clean Water Program Guidelines" *outside* the City of Ottawa
2) the City of Ottawa RCWP "Operating Guidelines" (and "Applicant Guide") *within the City.*

The RVCA's Land Owner Resource Centre (LRC) fields inquiries and registers applicants for the two Rural Clean Water Programs. The LRC also directs referrals to other programs as appropriate.

South Nation Conservation is our administrative lead/coordinating office for the City Program. The RVCA continues to receive and address approximately 50-60% of the project files for the City program, with the remaining 40-50% of applications split between the South Nation and Mississippi "city" watersheds.

Both Programs in the Rideau watershed are delivered by a total of 1.75 staff (3 part time "on-call" field staff, Program Manager and one part time administrative assistant).

Applications outside the Rideau watershed in the City of Ottawa are addressed by their review committees and staff at South Nation and Mississippi Conservation.

Program Activity Summary

The program and project statistics of both the RVRCWP and City of Ottawa Program are condensed on the following tables:

Table 1- RVRCWP- Summary of BMP Projects by Project Type (2009)

Table 2- OTTAWA RCWP- Summary of BMP Projects By Project Type (2009).

Table 3- RVRCWP- Summary of BMP Projects By Municipality (2009)

Table 4- OTTAWA RCWP- Summary of BMP Projects By Municipality (2009).

Table 5- BMP 2009 funding in the Rideau Valley By Subwatershed for the RV *and* Ottawa programs

Table 6- Historical Funding Summary- RVRCWP (2002-2009)

Table 7- Historical Funding Summary- City of Ottawa in the Rideau Watershed, 2005-2009 (delegation of the Ottawa program to local CA's took place in 2005)

Table 8- Combined 2002-2009 Total Grants Approved and Project Value for RV and Ottawa Programs (in Rideau Watershed)

Table 9- RVRCWP and ORCWP Grants Approved and Paid in 2009

RVRCWP and ORCWP 2009 Delivery

A **total** of 139 applications were reviewed by our combined Ottawa- RVRCWP Project Review Committee in 2009 (including 13 applications from 2008, resubmitted for completion in 2009 – 6 in the Ottawa Program for $27,500.00 and 7 in the RVRCWP for $14,387.50).

Thus, 126 new applications were reviewed and approved in 2009 (63 in ORCWP and 63 in RVRCWP).

A total of 132 applications were approved for funding in 2009, including the re-approved projects from 2008. There were no denials or deferrals in the RV program area, but 6 denials and one deferral in the City program area.

Total Combined grant allocation in 2009 in the Rideau watershed (inside and outside the City) including the 2008 re-approved projects= $203,857.76

Inside Ottawa:

69 applications were reviewed for the City (including the 6 resubmissions from 2008) with grants allocated to 62 projects.

Of this total review set of 69, there were:
- 6 denials, 2 of which have been appealed.
- 1 deferral due to over allocation and date of application submission

2009 Total grant allocation approved *within the City of Ottawa* = $103,844.50. Of this amount, there are 3 grants not yet paid (1 manure storage, 2 milkhouse wash water management), pending completion in 2010. In addition, due to the shared funding situation with the other CA's and project budget constraints, 6 of our projects (farm, well and septic projects) within the City of Ottawa cannot be paid until 2010.

As of December 31, 2009, the City program has paid out approximately $70,237.69, on 53 completed projects.

The Ottawa Program **ceased review of applications submitted after June 19 and ceased to** *accept* **applications in mid September, as directed by the Ottawa Rural Clean Water Committee. As 2009 was the last year for the**

Ottawa delivery term (2005-09), all applicants post September 18, 2009 were placed on a contact list pending 2010 program decisions. It has been confirmed that the City has approved a one-year extension of the Program in the amount of $250,000.00. This funding will address a portion of the waiting and contact lists.

The Ottawa program review continues in 2010. The City proposes to redesign programming for 2011 towards alternate delivery and assistance mechanisms.

The waiting list remains long enough in Ottawa for 2010 that project funds are already spoken for if most of the landowners registered for projects come forward with their applications.

RVRCWP (Outside Ottawa):

70 projects were reviewed in 2009 (including 7 resubmissions from 2008).

There were no denials or deferrals in the RVRCWP however, 2 applications were withdrawn from the RVRCWP as the applicants were ultimately funded through other programs. 3 other projects have been withdrawn upon request by the applicants.

Of the 63 new projects approved in the RVRCWP, 2 have not been completed as of December 31, 2009.

The grant allocation for the RVRCWP in 2009 was $100,013.26. With invoice and associated grant payment adjustments, the final grant allocation was $89,566.47.

Total cumulative allocation for projects since inception of the RVRCWP in 2002 is $513,736.13 on 413 projects.

Total project value for the RVRCWP since 2002 is $2,038,937.95.

Total combined RCWP grants (2002-08 RV and 2005-09 Ottawa) is $955,851.80 on 754 projects.

Total project value (2002-09 RV and 05-09 Ottawa) is $7,643,406.46.

The 2009 expenditure and revenue summary for RV and Ottawa Programs is contained in Appendix 1**.**

Figure 1 (Ottawa and RV RCWP Project Sites and Relative Water Sampling Locations) shows the distribution of:

- RCWP project sites (by project type) 2002-2009 for RV and 2005-2009 for Ottawa
- Surface water quality sampling locations (provincial monitoring).

In addition to applications processed via the RVRCWP for water quality improvement work, co-operation with other Stewardship, Regulatory, Planning and LRC staff has resulted in referrals to other programs including the EFP, RV tree planting programs, RV Shoreline Naturalization Program, neighbouring Clean Water Programs, DU, the new Ontario Drinking Water Stewardship Program (ODWSP), RVCA and MNR Stewardship Councils.

Various consultants and contractors continue to be instrumental in program activity referral and success.

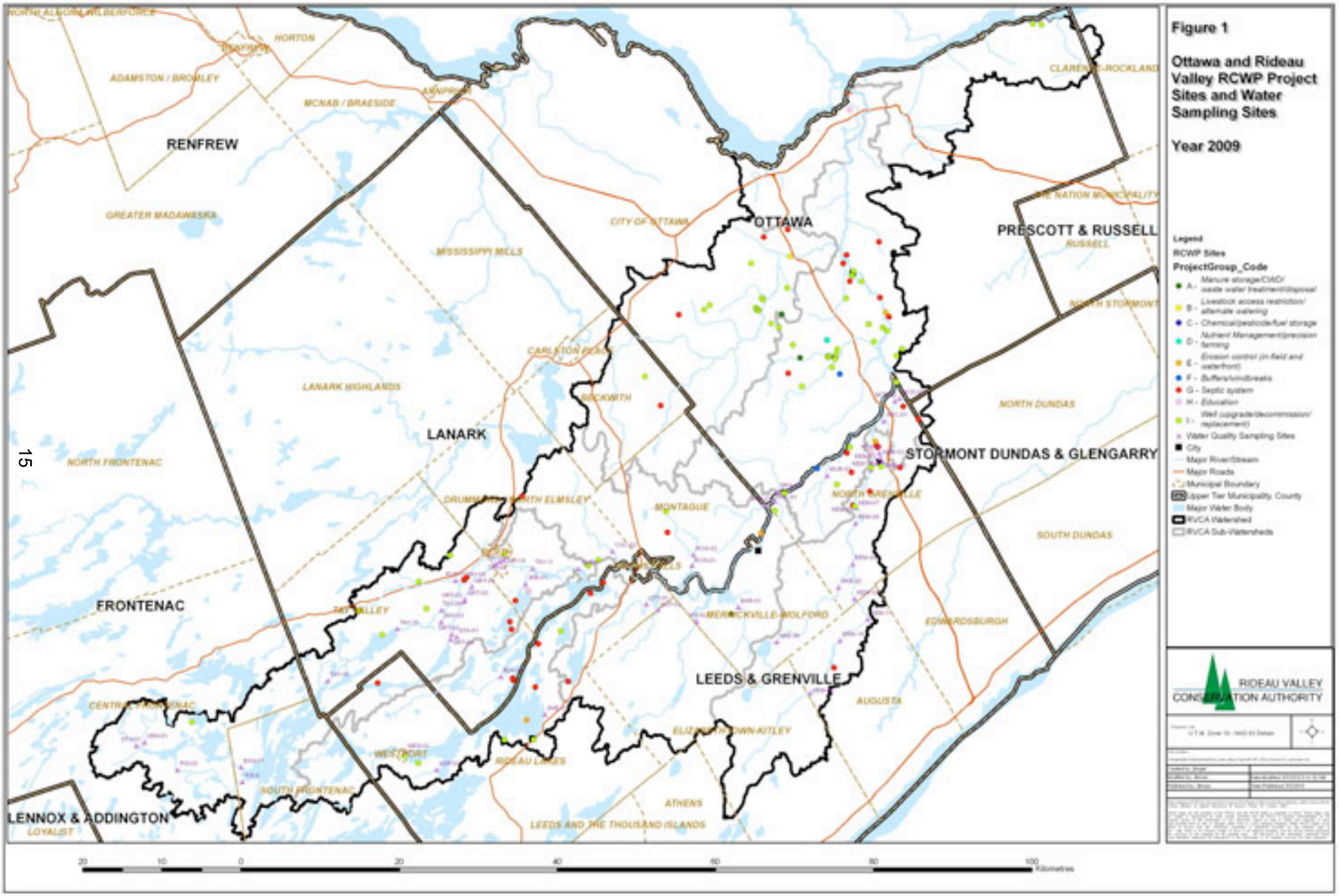
Figure 1
Ottawa and Rideau Valley RCWP Project Sites and Water Sampling Sites
Year 2009
RENFREW
OTTAWA
PRESCOTT & RUSSELL
LANARK
STORMONT DUNDAS & GLENGARRY
FRONTENAC
LEEDS & GRENVILLE
LENNOX & ADDINGTON
Legend
RCWP Sites
ProjectGroup_Code
Water Quality Sampling Sites
City
Major River/Stream
Major Roads
Municipal Boundary
Upper Tier Municipality, County
Major Water Body
RVCA Watershed
RVCA Sub-Watersheds
RIDEAU VALLEY CONSERVATION AUTHORITY
Kilometres

RIDEAU VALLEY RURAL CLEAN WATER PROGRAM

Summary of BMP Projects by *Project Type*

January- December 2009

Project Type	Projects Reviewed	Projects Approved	Grant Dollars Approved	Grant Dollars Paid	Total Project Cost
A Surface & Wash Water Disposal or Treatment/CWD/Runoff Mgt	1	1	$4,387.50	$4,387.50	$36,600.00
B Livestock Restriction from Water/Alternate Watering	0	0	0	0	0
C Fertilizer/Chemical/ Pesticide/ Fuel Storage and Handling	0	0	0	0	0
D Nutrient Management Plan	0	0	0	0	0
E Erosion Control/Grassed Waterways	3	3	$9,646.50	$7,922.30	$36,601.40
F Buffers and Windbreaks	1	1	$78.75	$78.75	$105.00
G Septic System Repair	30	30	$59,885.53	$56,490.54	$311,548.49
H Education Initiative	3	3	$1,802.75	$1,624.65	$4,932.86
I Well Upgrade	18	18	$8,445.85	$6,946.35	$23,040.18
I Well Decommission	10	10	$8366.38	$6,116.38	$11,067.50
I Well Replacement	4	4	$7,400.00	$6,000.00	$18,531.00
MS Manure Storage	0	0	0	0	0
RES Cropping Practices (residue)	0	0	0	0	0
PREC Precision Farming	0	0	0	0	0
Other	0	0	0	**0**	0
TOTAL	**70**	**70**	**$100,013.26**	**$89,566.47**	**$442,426.43**

- A total of 70 projects were reviewed (including 7 resubmits), all of which were approved for 2009.
- Taxes are excluded
- RVRCWP does not offer grants for manure storage, cropping practices or precision farming.

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TABLE 2

OTTAWA RURAL CLEAN WATER PROGRAM
(Delivered by RVCA)
Summary of BMP Projects by *Project Type*

January- December 2009

Project Type	Projects Reviewed	Projects Approved	Grant Dollars Approved	Grant Dollars Paid	Total Project Cost
A Surface & Wash Water Disposal or Treatment/CWD/Runoff Mgt	2	2	$10,000.00	0	$219,093.00
B Livestock Restriction from Water/Alternate Watering	1	1	$4,579.88	$3,690.95	$4,516.79
C Fertilizer/Chemical/ Pesticide/ Fuel Storage and Handling	0	0	0	0	0
D Nutrient Management Plan	0	0	0	0	0
E Erosion Control/Grassed Waterways	1	1	$3,000.00	$3,000.00	$9,550.00
F Buffers and Windbreaks	2	2	$2,300.00	$2,060.00	$2,060.00
G Septic System Repair	19	15	$29,587.50	$25,587.50	$260,969.50
H Education Initiative	0	0	0	0	0
I Well Upgrades	33	30	$14,454.00	$13,776.12	$44,301.65
I Well Decommission	5	5	$4,423.12	$2,123.12	$5,075.50
I Well Replacement	2	2	$4,000.00	$4,000.00	$10,564.00
MS Manure Storage	2	2	$30,000.00	$15,000.00	$1,568,000.00
RES Cropping Practices (residue)	0	0	0	0	0
PREC Precision Farming	2	2	$1,500.00	$1,000.00	$3,648.50
Other	0	0	0	**0**	0
TOTAL	**69**	**62**	**$103,844.50**	**$70,237.69**	**$2,127,778.94**

- A total of 69 projects were reviewed (including 6 resubmits), of which 62 were approved, 6 were denied (3 septic, 3 wells) and 1 was deferred (septic).
- Taxes are excluded.

TABLE 3

RIDEAU VALLEY RURAL CLEAN WATER PROGRAM

Summary of BMP Projects by *Municipality*

January-December 2009

Municipality	% of Area in W Shed	Projects Reviewed	Projects Approved	Grant Dollars Approved	Grant Dollar Paid	Total Project Cost
Athens	1	0	0	0	0	0
Augusta	23	1	1	$2,000.00	$2,000.00	$8,988.00
Beckwith	60	2	2	$3,000.00	$2,000.00	$21,275.84
Central Frontenac	20	1	1	$500.00	$500.00	$1,175.00
Drummond/North Elmsley	62	8	8	$10,430.13	$10,430.63	$47,929.88
Elizabethtown-Kitley	59	0	0	0	0	0
Merrickville/Wolford	100	1	1	$4,387.50	$4,387.50	$36,600.00
Montague	100	2	2	$5,646.50	$5,646.50	$18,926.40
North Dundas	1	1	1	$2,000.00	$2,000.00	$9,050.00
North Grenville	73	23	23	$32,381.50	$30,703.40	$136,117.86
Perth	100	1	1	$500.00	0	$1,645.00
Rideau Lakes	50	17	17	$24,263.13	$18,538.94	$107,254.15
Smiths Falls	100	1	1	$500.00	$500.00	$1,947.00
South Frontenac	15	0	0	0	0	0
Tay Valley	66	12	12	$14,404.50	$12,859.50	$51,517.30
Westport	100	0	0	0	0	0
	TOTAL	**70**	**70**	**$100,013.26**	**$89,566.47**	**$442,426.43**

- A total of 70 projects were reviewed (including 7 resubmits), of which all were approved.
- Taxes are excluded.

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TABLE 4

OTTAWA RURAL CLEAN WATER PROGRAM
(Delivered by RVCA)
Summary of BMP Projects by *Municipality*

January-December 2009

Municipality (pre-amalgamation)	% Area in W/Shed	Projects Reviewed	Projects Approved	Grant Dollars Approved	Grant Dollars Paid	Total Project Cost
Cumberland	36	4	3	$2,662.50	$2,662.50	$24,625.00
Gloucester	59	3	2	$4,000.00	$2,000.00	$44,445.00
Goulbourn	89	13	13	$10,319.00	$8,441.12	$36,706.75
Kanata	6	0	0	0	0	0
Nepean	94	8	7	$29,879.88	$23,750.95	$284,346.79
Osgoode	17	6	5	$7,987.50	$7,987.50	$45,435.00
Ottawa	83	0	0	0	0	0
Rideau	100	35	32	$48,995.62	$25,395.62	$1,692,220.40
West Carleton	1	0	0	0	0	0
	TOTAL	**69**	**62**	**$103,844.50**	**$70,237.69**	**$2,127,778.94**

- A total of 69 projects were reviewed (including 6 resubmits) of which 62 were approved, 6 were denied (3 septic, 3 wells), 1 was deferred.
- Taxes are excluded.

TABLE 5

OTTAWA AND RIDEAU VALLEY RURAL CLEAN WATER PROGRAM

Summary of Projects by Sub Watershed
In the Rideau Watershed
2009

SUB WATERSHED	TOTAL AREA (km sq)	PROJECTS APPROVED	GRANT DOLLARS APPROVED	GRANT DOLLARS PAID	TOTAL PROJECT COST
Jock River (including Ottawa 2005-06)	578	22	$43,198.88	$34,192.07	$342,329.38
Kemptville Creek	460	11	$18,750.00	$17,592.15	$80,697.86
Lower Rideau River	759	51	$77,561.87	$51,461.87	$1,853,759.40
Middle Rideau River	828	8	$15,358.50	$15,359.00	$84,245.39
Ottawa River East	263	3	$2,662.50	$2,662.50	$24,625.00
Ottawa River West	121	1	$552.75	$532.50	$710.00
Rideau Lakes	450	19	$26,868.76	$21,144.57	$100,724.19
Tay River	797	17	$18,904.50	$16,859.50	$83,114.15
	TOTAL	**132**	**$203,857.76**	**$159,804.16**	**$2,570,205.37**

- As of 2007 the former Lower Rideau Sub Watershed has been divided into the following Sub Watersheds: Lower Rideau, Ottawa River East and Ottawa River West.

TABLE 6

RIDEAU VALLEY RURAL CLEAN WATER PROGRAM
Historical Summary
2002 – 2009

Year	# Projects Approved	Amount of Grant Approved	Total Project Cost
2002	11	$20,027.54	$56,190.27
2003	75	$91,795.78	$240,514.54
2004	72	$72,168.14	$281,365.45
2005	56	$59,849.98	$271,803.58
2006	37	$42,441.98	$164,289.93
2007	42	$51,182.26	$256,472.97
2008	55	$76,257.19	$325,874.78
2009	70	$100,013.26	$442,426.43
TOTAL	**418**	**$513,736.13**	**$2,038,937.95**

TABLE 7

OTTAWA RURAL CLEAN WATER PROGRAM
Historical Summary
2005 – 2009

Year	# Projects Approved	Amount of Grant Approved	Total Project Cost
2005	76	$75,277.20	$394,642.20
2006	65	$81,311.36	$430,768.86
2007	71	$85,802.16	$559,958.95
2008	62	$95,880.45	$2,091,319.56
2009	62	$103,84.50	$2,127,778.94
TOTAL	**336**	**$442,115.67**	**$5,604,468.51**

TABLE 8

COMBINED RV & OTTAWA RURAL CLEAN WATER PROGRAMS
Historical Summary
2002 – 2009

# Projects Approved	Amount of Grant Approved	Total Project Cost
754	**$955,851.80**	**$7,643,406.46**

TABLE 9

RIDEAU VALLEY & OTTAWA RURAL CLEAN WATER PROGRAMS

Grants Approved and Paid
2009

Program	# Projects Reviewed	# Projects Approved	Total Grants Approved	# Projects Paid	Total Grants Paid	Total Project Cost
Rideau Valley	70	70	$100,013.26	63	$89,566.47	$442,426.43
Ottawa	69	62	$103,844.50	53	$70,237.69	$2,127,778.94
TOTAL	**139**	**132**	**$203,857.76**	**116**	**$159,804.16**	**$2,570,205.37**

- There are 2 RVRCWP projects which were not completed for 09.
- There are 5 RVRCWP projects which were withdrawn/abandoned.
- There are 3 Ottawa projects which were not completed for 09 and 1 deferral (all of these are to be resubmitted in 2010).
- There are 6 Ottawa projects which are completed, but will not be paid out until 2010 due to over allocation of project budget and date of application submission.

Program Promotion/Communications and Information Transfer

The RVRCWP brochure and the general "Financial and Technical Assistance for Rural Landowners of Eastern Ontario" (2008 version), are in circulation throughout both program areas. As well, these quick information brochures were distributed to Municipal and provincial offices, local agricultural retail outlets and farm groups, contractors, storefronts and non-profit organizations (CSW, Well Aware, and Lake Associations).

The Ottawa Program brochure is distributed by the South Nation Office. RVCA also circulates to selected farm retail outlets and contractors within the Rideau watershed. Brochures and program notification are also displayed at the RVCA office.

Both program and project information are on the RVCA website (www.rideauvalley.ca) and available for pick-up, mail or fax from the LRC or program staff. Staff of the RVCA regulatory, planning, stewardship and source water protection departments refer potential applicants to the program.

Our Steering and Review Committee members continue to be active in "getting the word out" into the community.

It is worth noting that contractors, particularly in the Ottawa program, have been co-operative and instrumental in connecting potential applicants to the programs. The septic and well contractors, along with friends/neighbours have been recorded as the chief referral agents to the programs. Referrals are received from the Well Aware Program (Lanark, Leeds, Grenville area) in 2008 in the Rideau Valley program outside the City. We will continue to accept the Well Aware "Guided Self Assessment" in place of the Healthy Home Guide when received in the Well Aware program area. Both Program areas received some referrals as a result of the septic re-inspection programs and/or via the septic approval authorities.

There were no press releases for either the City RCWP or the RV RCWP in 2009, due to the limited grant and marketing budget and over subscription to both the City and RV Programs, particularly Ottawa. This does complicate the delivery to some extent, particularly in Ottawa, where applicants are ineligible if their application is submitted more than 2 business days after the work has been started. Long waiting lists for funding and the limited grant budget make the usefulness of a press release debatable as the promotion would result in even more applicants on the waiting lists.

In 2009, staff attended local forums and/or offered program information to publicize the Program as follows:

- February 09 Crops Day- U of G- Kemptville College
- February 09 Dairy Day- U of G- Kemptville College
- February 09 Woodlot Conference- U of G- Kemptville College
- Cottage and Home Show- Ottawa
- Ottawa Valley Farm Show- Ottawa
- Grenville Cattlemen's Association meeting
- The Art of Being Green (Lanark)
- Friends of the Tay Watershed Annual Meeting and Information Night
- Welcome Wagon (North Grenville/Merrickville-Wolford, south Ottawa)
- Otty Lake Association- AGM
- Lake Links-Perth
- Eastern Ontario Catholic School Board- Environmental Certification program
- EOWRC Well and Septic workshop (east Ottawa)
- Royal LePage Realtors (Manotick)

The "Cash In On Conservation" display and the "Funding Sources for On-Farm and Rural Water Quality Protection" brochure (all-program grants and technical assistance referral pamphlet) were both designed to allow for multiple partner use in Eastern Ontario. Along with the RVRCWP brochure and ORCWP brochure, these remain our main program advertising tools.

There have been many opportunities over the last seven years for the RVRCWP to partner with other groups (SNC, City of Ottawa and the balance of our municipal partners, MVC, "Friends of" groups, Well Aware, EFP/OSCIA, OFA, ACAF, Ducks Unlimited, school groups, 4-H, Cottage Associations, Parks Canada, MNR Stewardship, ODWSP and other RV departments). The use of the display, our program brochures and the "Financial and Technical Assistance" brochures at events has proved to be efficient. We will continue to co-operate with other groups and agencies, particularly those with similar assistance programs.

In 2009, the RVRCWP did not receive any outside funding for project or administrative support. See Appendix 2 for an historical list of sponsors. One of our major sponsors, OMYA has indicated an interest in extending funds in the future, for projects in the Tay watershed. Staff is following up (January, 2010).

A Note Regarding the Ontario Drinking Water Stewardship Program:

RVCA is the lead CA for the Mississippi-Rideau Source Protection Program delivery for the Ministry of the Environment. There is overlap in the RCWP's and the ODWSP in so far as programming and delivery are concerned. Wells, septic and waterfront projects are part of all three programs at the current time.

Site work and land owner grants for the Ontario Drinking Water Stewardship Program (ODWSP) in the Rideau watershed are currently processed by the Rural Clean Water Program staff (though the ODWSP applications are not subject to Review Committee consideration).

Since mid September 2009, 12 applications in the Rideau watershed have been addressed in the 2 year time of travel zones on behalf of the provincial grant program. Project delivery and administration time for the ODWSP has been charged to the Source Water Protection budget.

RVCA/Mississippi-Rideau Source Protection staff has submitted a proposal for the next round of ODWSP funding (2010-11). To date, there has been no announcement as to the approval of that funding.

Phosphorous Loading in the Rideau Valley Watershed 2009

At year end 2009, the RVRCWP undertook to calculate P loading reduction in the Rideau watershed outside the City of Ottawa, using the same protocol and unit rates as the South Nation (and City of Ottawa). The South Nation has had a phosphorous reduction program in place for several years.

P reduction was calculated at 110 Kg as a result of our 63 projects in the RVRCWP area.

Ottawa phosphorus reduction measurements for 2009 are not yet available.

What's in Store for RCWP's in 2010

1) The RVCA's Landowner Resource Centre is the point of contact and referral for the Programs. The LRC handles first contact and project registration for the RCWP's. This arrangement will continue in 2010.

2) As of year end 2009, we have approximately 51 Rideau Valley potential projects (there are 95 Ottawa potential projects). We expect the lists will continue to grow. Our first 2010 review meeting will be in the spring. Again in 2010, the annual grant budget may be depleted quickly for both the Rideau Valley and City programs.

3) We will continue to contact/follow up "best fit" corporations in 2010 for possible project support. We have contacted/submitted proposals to 8 potential private sector sponsors with funding requests in 2009, with no positive responses as yet.

4) Limited program promotion and marketing for the RVRCWP will continue in 2010, as follows:

- Circulation of program information may be enclosed with local "EFP" workshop information and local OFA distributions, on a request basis (our local OSCIA reps who deliver the COFSP make an effort to pass on our information).

- RVRCWP staff will forward the usual notification to local contractors/approval agencies, municipalities, contractors and associations to update program availability and information (as the City "lead", SNC has this task for the City program).

- The Well Aware Program- RCWP will continue to operate a reciprocal referral service in Lanark Leeds and Grenville.

- Speaking engagements will generally be limited to "by request only". We have already been asked to speak to the upcoming 2010 Ottawa septic installers meeting and EFP sessions.

- Septic approval authority referrals (LLG DHU, KF DHU, OSSO, Tay Valley Township, Rideau Lakes Township), through approval and re-inspection programs.

5) There will be some attention given to the ODWSP as it appears there will be continued overlap, project splitting and referrals between the RCWPs and the ODWSP (in the 2 year time of travel and surface intake areas).

6) It is expected that the distribution of projects will continue to hold the same pattern next year. We may see additional farm projects coming to RCWP if the COFSP is over-subscribed. As confirmed at the 2009 Steering Committee annual meeting, the RVRCWP the grant limit amount will continue to be $5000.00 per property.

7) Shoreline planting BUFFER grant applications- as our waiting list is extensive, we continue to refer non-permit projects to the "other" shoreline planting programs including the RVCA Tree Planting Program and the Shoreline Stewardship Program. There is new staff and budget for this "other" shoreline planting program. The Shoreline Stewardship Program operates separately from the Rural Clean Water Program, solely for buffer planting on small waterfront properties, for shoreline planting which does not require a permit.

8) Well and septic grants are anticipated to be in demand again in 2010. Since septic grants are consuming 60% of our project budget, the Steering Committee gave consideration to the following options to best distribute what funds we have;

a) lower the grant rate for septic repair/replacement
b) limit septic grant to waterfront property (outside the 100 m intake or two year time of travel wellhead protection zones)
c) cease grant for septic projects
d) cease funding for *other* projects types in favour of maintaining septic grants

The Steering Committee directed that the **septic grant be reduced from the current $2000.00 to $1000.00 for applications submitted after December 31, 2009 to allow for the greatest number of applicants to take advantage of the RCWP grants.** This is the only operational change for 2010.

9) Project signage- Staff has received a recent estimate for posting "conservation partner" signage for RV projects ($7/sign +post cost on large bulk order). Staff will pursue some leads for 2010 for partnering on stewardship signs.

10) Further to the Steering Committee directive, RCWP staff will forward a note to the Mississippi-Rideau Source Protection Committee to communicate the need for support and co-operation of programming in areas outside the ODWSP area for valuable BMP's by land owners.

11) Specifically regarding the Ottawa RCWP, the City has extended the Program funding for 2010 only.
The City has committed a total of $250,000.00 ($219,000.00 incentive grants) for the 2010 season to reduce the extensive waiting list.

12) In the meantime, the Ottawa Rural Clean Water Program Review continues. City staff has indicated that there is intent to cease well and septic grants through this program, perhaps to be resurrected in some form as a separate program. It is also proposed that farm projects be directed away from the RCWP and into existing farm programs (COFSP and SARFIP). These proposed changes for 2011 would effectively limit the Rural Clean Water grant program to shore line (erosion and planting) projects and education.

These proposals are preliminary**.** Conservation Authority RCWP staff from South Nation, Rideau and Mississippi are meeting with the City in early 2010.

13) We are considering a work shop or information session in 2010 to inform the public of the assistance opportunities available in the Rideau watershed through the RVCA and our partners.

Appendix 1

Rideau and Ottawa Rural Clean Water Program
2009 Expenditure and Revenue Summary

31-Dec-09

Final Expenditures

Account	RVRCWP	Ottawa RCWP	Combined total
Program Delivery and Administration	$69,197	$43,392	$112,588
Committee expenses	$2,888	$650	$3,538
Communications	$169	$940	$1,109
Field Inspectors	$7,660	$7,671	$15,331
Total Program Delivery	**$79,915**	**$52,652**	**$132,567**
Payments to Landowners (NOTE 1, 2)	**$89,715**	**70,238**	**$159,953**
To Year End	**$169,630**	**$122,890**	**$292,520**

Expenditures to year end Grand total	**$169,630**	**$122,890**	**$292,520**

Final Revenue

Levy	$182,000	$0	**$182,000**
Fundraising **(NOTE 3)**	$0	$0	**$0**
Ottawa/SNC transfer	$0	$92,966	**$92,966**
Ledger (carried from 2008) **(NOTE 4)**	$27,316		**$27,316**
Revenue total	**$209,316**	**$92,966**	**$302,282**

Difference (see NOTE 5)	**$39,686**	**-$29,924**	**$9,762**

NOTES

1. From end of December 2009 RVCA general ledger

2. Ottawa payments to landowners are difficult to forecast because all 3 CA's are "first come first served"

3. No successful fund raising in 2009

4. Other revenue - carried from 2008 for landowner incentive grants

5. Surplus $9,762 will carry forward to pay out approved projects in 2010

2.0 Assessment Report Development

Date: March 23, 2010
To: Mississippi-Rideau Source Protection Committee
From: Sommer Casgrain-Robertson, Co-Project Manager
Mississippi – Rideau Source Protection Region

Recommendation:

1. That the Mississippi-Rideau Source Protection Committee amend the IPZ 3 vulnerability scoring in the following draft studies and their summaries:
   - **Carleton Place Surface Water Study**
   - **Perth Surface Water Study**
   - **Smiths Falls Surface Water Study**

Recommendation:

2. That the Mississippi-Rideau Source Protection Committee approve the following chapter for inclusion in the *preliminary draft* Assessment Report:
   - **Chapter 7 – Climate Change**

April 1, 2010 – MRSPC Meeting
The MRSPC will consider revised IPZ 3 vulnerability scoring for the following three *draft* studies and their summaries: surface water studies for Carleton Place, Perth and Smiths Falls. Revised methodology is highlighted below and revised maps are attached to this staff report. These studies and summaries were received as *draft for public consultation* by the Committee at their March 4 meeting. Once finalized, the *draft* studies will be presented to the Mississippi Valley and Rideau Valley Source Protection Authorities in April. Copies will be provided to relevant municipalities and posted for public review and comment. Three public open houses will also be held in Carleton Place, Perth and Smiths Falls in late April.

Proposed Revision to IPZ 3 Vulnerability Scoring (see highlighted section)

Assigning the Area Vulnerability Factor:

The first step in the evaluation of surface water vulnerability is to assign an 'area vulnerability factor', or **B**, for each intake protection zone. As shown in Table 1, B must be a whole number (no decimal points), and ranges from 1 to 10, with 10 being most vulnerable.

- **IPZ-1**: This zone is closest to the intake and encompasses the area of water and land to which the intake is most vulnerable. It is assumed that if contaminants were released within IPZ-1 they would not be diluted or filtered before reaching the intake, therefore, the area vulnerability factor for IPZ-1 is always **10**.

- **IPZ-2**: Under the provincial Technical Rules, the area vulnerability factor for IPZ-2 can be 7, 8, or 9. One score must be assigned to the whole zone and the following factors must be taken into consideration:

  1) *Percentage of area of IPZ-2 that is land.* This factor reflects the potential for a spill to occur that may impact the intake.

  2) *The land cover, soil type, permeability of the land and the slope of the land.* This factor reflects the potential for overland water flow into the zone.

  3) *The hydrological and hydrogeological conditions.* This factor reflects the extent of the transport pathways that may exist in the zone.

  JFSA weighted each of these three criteria, and assigned a final area vulnerability score (B) for the Carleton Place and Perth IPZ-2 as 9 and the Smiths Falls IPZ-2 as 8. Further information is provided below.

- **IPZ-3**: For intake protection zone 3, more than one area vulnerability factor can be assigned, based on the above critieria and the distance from the intake. Factors 2 and 3 from above, plus proximity to the intake were used to determine the area vulnerability factors in this zone. According to the provincial Technical Rules, no factor can be higher than the one assigned to IPZ-2. For Carleton Place and Perth B for IPZ-2 was set equal to 9, therefore B for IPZ-3 ranges from **1** to **8**. For Smiths Falls B for IPZ-2 was set equal to 8, therefore B for IPZ-3 ranges from **1 to 7**.

The MRSPC will also review a *preliminary draft* Assessment Report chapter: Chapter 7 (Climate Change). The Committee will provide comments and feedback that will be incorporated into the *preliminary draft* Assessment Report that will be reviewed and considered by the Committee at their June 3 meeting.

March 4, 2010 – MRSPC Meeting
The MRSPC reviewed three *preliminary draft* Assessment Report chapters: Chapter 1 (Introduction), Chapter 4 (Drinking Water Quality Threats and Issues Approach) and 5 (Groundwater Sources). The Committee provided comments and feedback that will be incorporated into the *preliminary draft* Assessment Report that will be reviewed and considered by the Committee at their June 3 meeting.

The MRSPC also reviewed three *preliminary draft* studies and their summaries: surface water studies for Carleton Place, Perth and Smiths Falls. They received them as *draft* for public consultation subject to staff discussing with the consultants why wetlands and woodlots were given a vulnerability score of 1 in IPZ 3 regardless of distance from the intake. Staff had a discussion with the consultants who decided to revise the scoring in IPZ 3 and present revised *preliminary draft* studies and summaries to the Committee at their April 1 meeting.

February 4, 2010 – MRSPC Meeting
The MRSPC reviewed a preliminary draft Assessment Report chapter: Chapter 2 (Watershed Characterization). The Committee provided feedback that will be incorporated into the *preliminary draft* Assessment Report that will be reviewed and considered by the Committee at their June 3 meeting.

The MRSPC also reviewed and provided feedback on a preliminary list of topics for inclusion in Chapter 8 (Data Gaps and Topics for Additional Research). MOE then held a conference call with Committee Chairs in March and clarified that content outside of what is required to be included in an Assessment Report cannot be included in the Report because the Director would not be able to approve it. Staff has concluded that Chapter 8 will have to be limited to Assessment Report Data Gaps and a separate document will need to be developed to document outstanding issues, concerns and topics for additional research. This additional document will not form part of the Assessment Report.

January 7, 2010 – MRSPC Meeting
The MRSPC reviewed *preliminary draft* surface water studies and summaries for Britannia and Lemieux Island (the City of Ottawa's intakes on the Ottawa River). They received them as *draft* for public consultation. They were presented to the Rideau Valley and Mississippi Valley Source Protection Authorities in January and March respectively. The study summaries were posted on the web site for public review and comment and two public open houses are being held on March 22 (Tom Brown Arena) and March 31 (Ron Kolbus Lakeside Centre).

December 3, 2009 – MRSPC Meeting
The MRSPC reviewed a *preliminary draft* Assessment Report chapter: Chapter 3 (Water Budget). The Committee provided feedback that will be incorporated into the *preliminary draft* Assessment Report that will be reviewed and considered by the Committee at their June 3 meeting.

November 5, 2009 – MRSPC Meeting
The MRSPC reviewed a *preliminary draft* study and summary that provided:

- An estimated inventory of existing land use activities that pose a potential significant threat to municipal groundwater source water; and
- A list of known documented groundwater quality issues.

This study and summary was approved as *draft* for public consultation and was presented to the Mississippi Valley and Rideau Valley Source Protection Authorities on December 2 and November 26 respectively. It will be circulated to municipalities for their review and comment. Notices will also be sent to property owners where a land use activity has been identified as a potential significant threat once a public consultation schedule has been finalized for the *draft* Assessment Report.

September 3, 2009 – MRSPC Meeting
The MRSPC reviewed *preliminary draft* studies and summaries that provided a Conceptual Water Budget (regional scale), Tier 1 Water Budget (subwatershed scale) and review of Climate Change knowledge. The Committee approved them as *draft* for public consultation. The summaries were presented to the Mississippi Valley and Rideau Valley Source Protection Authorities on September 16 and 24 respectively and will be circulated to municipalities for their review and comment. Summaries were posted on the web site for public review and comment.

July 9, 2009 – MRSPC Meeting
The MRSPC reviewed *preliminary draft* studies and summaries identifying Highly Vulnerable Aquifers and Significant Groundwater Recharge Areas at the regional

scale and approved them as *draft* for public consultation. They were presented to the Mississippi Valley and Rideau Valley Source Protection Authorities on September 16 and August 27 respectively and have been circulated to municipalities for their review and comment. Study summaries were also posted on the web site for public review and comment.

June 4, 2009 – MRSPC Meeting
The MRSPC reviewed *preliminary draft* municipal groundwater studies and summaries for Almonte, Munster, Richmond (King's Park) and Westport and approved them as *draft* for public consultation. Copies of the *preliminary draft* summaries were provided to all relevant municipalities and source protection authority members in advance of the meeting. The approved *draft* study summaries were presented to the Rideau Valley and Mississippi Valley Source Protection Authorities on June 25 and July 15 respectively. Study results were then presented to the public at three open houses in late July: Richmond/Munster (July 20), Westport (July 21), and Almonte (July 22). Summaries are also posted on the web site for public review and comment.

May 7, 2009 – MRSPC Meeting
The MRSPC reviewed *preliminary draft* municipal surface water studies and summaries for Carleton Place, Perth and Smiths Falls. They chose to continue their deliberations at a later meeting following a technical briefing in late August with MOE staff and the study consultants (see March 4, 2010 meeting).

April 2, 2009 – MRSPC Meeting
The MRSPC reviewed *preliminary draft* municipal groundwater studies and summaries for Carp, Kemptville and Merrickville and approved them as *draft* for public consultation. These studies and their summaries were provided to municipalities and presented to the Mississippi Valley and Rideau Valley Source Protection Authorities on April 15 and 23 respectively. Study results were then presented at public open houses in Carp (June 8), Merrickville (June 10) and Kemptville (June 11). The summaries are also posted on the web site for public review and comment.

Background

Source Protection Committees are required to produce Assessment Reports. These reports will map local sources of drinking water, determine how vulnerable they are to contamination and overuse, and identify what land uses and activities pose a risk. Committees will then use this science to develop Source Protection Plans because they will know where source protection policies are needed and what risks those policies need to address.

The Mississippi-Rideau Source Protection Committee (MRSPC) must develop two Assessment Reports: one for the Mississippi watershed, and one for the Rideau watershed.

The Assessment Reports will contain the following components (underlining means the study has been approved as *draft* for public consultation by the MRSPC):

- Watershed Characterization
- Water Budget
- Vulnerable area delineation

    - Significant Groundwater Recharge Areas
    - Highly Vulnerable Aquifers
    - Wellhead Protection Areas for:
        - Almonte, Carp, Kemptville, Lanark (future planned system), Merrickville, Munster Hamlet, Richmond (King's Park subdivision) and Westport
    - Intake Protection Zones for:
        - Carleton Place, Ottawa (Britannia & Lemieux Island), Perth and Smiths Falls
- Prescribed Threats Summary
- Inventory of existing Issues and Significant Threats for groundwater
- Inventory of existing Issues and Significant Threats for surface water
- Climate Change Review

Due Date
Proposed Assessment Reports are due to the MOE one year after Terms of Reference are approved. Source Protection Committees submit *proposed* Assessment Reports to their Source Protection Authorities, who in turn submit them to MOE for approval.

Terms of Reference were approved for the Mississippi Valley Source Protection Area on February 5, 2009, therefore, a *proposed* Assessment Report for the Mississippi watershed must be submitted to MOE by February 5, 2010. Terms of Reference were approved for the Rideau Valley Source Protection Area on March 16, 2009, therefore, a *proposed* Assessment Report for the Rideau watershed must be submitted to MOE by March 16, 2010.

Staff hope to combine the two Assessment Reports into one document for the purposes of public consultation because:

- Much of the information is regional and would be repeated in both versions;
- Many municipalities are shared between the Mississippi and Rideau watersheds and it would be onerous for them to review and comment on two stand alone documents;
- It is more convenient for the public and cost effective if both Assessment Reports undergo public consultation at the same time.

This means both Assessment Reports would have to have been completed by February 5, 2010.

The MRSPC requested a due date extension for a number of reasons (finalized Techincal Rules were delayed by the Province, technical studies were delayed by concerns raised by the Committee, more time was needed for effective public consultation). The MOE granted the extension meaning a *proposed* Assessment Report must now be submitted to MOE by **September 21, 2010**.

Future Amendment Required
The *proposed* Assessment Report that will be submitted by September 21, 2010, will not contain information about the future municipal drinking water system planned for Lanark Village. This information will be identified as a data gap and included in a revised Assessment Report submitted in 2011. Since it is a self contained study, and

pertains to a municipal system that does not currently supply people with drinking water, it seemed appropriate to submit it as a future amendment.

Detailed Work Plan and Timeline
The following work plan and timeline breaks the process of developing Assessment Reports into three phases.

Phase 1:
- Completion of background technical studies
- SPC, SPA, municipal and public review of draft findings
- Development of *preliminary draft* Assessment Report chapters
- SPC review of *preliminary draft* chapters

Phase 2:
- Consolidation of chapters into a *preliminary draft* Assessment Report
- SPC review, amendment and approval as "draft for public consultation"
- SPA, municipal and public consultation on the *draft* Assessment Report

Phase 3:
- SPC review of public comments received on *draft* Assessment Report
- Development of *proposed* Assessment Report
- Public consultation on the *proposed* Assessment Report
- Submission of the *proposed* Assessment Report to MOE for approval

Phase 1 Technical Studies

Staff and consultants have been developing background technical studies for a couple of years now. These studies began based on draft technical guidance from MOE and are now being finalized to meet the approved Technical Rules. These studies contain the scientific information the MRSPC needs to complete Assessment Reports.

In spring 2008, a *preliminary draft* Watershed Characterization Report and *preliminary draft* Conceptual Water Budget (based on MOE's draft guidance) were presented to the MRSPC. These studies are currently being updated to meet the final approved Technical Rules and will be brought back to the MRSPC as outlined below.

Once technical studies are completed, and in many cases peer reviewed:
- Staff will develop a summary outlining the study's purpose, methodology and findings (some studies will be grouped into one summary).
- The summary will be presented to the MRSPC for review and possible amendment (the technical study will be provided on CD).
- The summary will be presented to the Source Protection Authorities, then circulated to municipalities, and then the public for review.
  - Summaries will be posted on the web site for comment
  - 11 public open houses will be held.
  - Each open house will focus on the local municipal drinking water system (wellhead protection area or intake protection zone) and provide an overview of regional information as available.
  - Full technical studies will be available to anyone on CD

- Everyone will be encouraged to provide feedback and traditional and local knowledge at this early stage so it can be considered when the *preliminary draft* Assessment Reports are being developed.

Staff will develop a *preliminary draft* Assessment Report in collaboration with our neighbouring source protection regions to be consistent where possible.
Individual *preliminary draft* chapters will be brought to the MRSPC for review and comment as soon as they are produced. Chapters will be amended to reflect MRSPC feedback and will be compiled into a *preliminary draft* Assessment Report.

Carp, Kemptville and Merrickville

Municipal Drinking Water Systems (groundwater)

Month	Task	Timeline
March 2009	Golder complete Wellhead Protection Area Studies	**Completed** Early March
	Staff complete Threats Summary	**Completed** Early March
	Staff develop study summaries (reviewed by municipal technical staff)	**Completed** March 16
April 2009	MRSPC review *preliminary draft* study summaries & technical studies (CD). Provide to municipalities before the meeting.	**Completed** April 2
May 2009	Send *draft* study summaries & technical studies (CD) to municipalities with invitation to attend open house	**Completed** May 21
	Advertise three open houses (Carp, Kemptville and Merrickville) and comment period	**Completed** May 21
	Send an open house invitation to every property in an area that could score significant threat	**Completed** May 22 - 25
	SPAs review study summaries	**Completed** April 15 & 23
	Make study summaries available at MVC & RVCA offices for public review	**Completed** May 22
June 2009	Hold Open houses for municipal staff & council (afternoon session) and public (evening session)	**Completed** June 8, 10 & 11
February 2010	Post study summaries on web site	**Completed** mid February
	Collect comments on study summaries	**Completed** mid February
	Staff compile comments received on technical study findings	**Completed** March 3
	Staff prepare *preliminary draft* AR chapter	**Completed** February 24
March 2010	MRSPC review summary of public comments and *preliminary draft* AR Chapter	**Completed** March 4

Almonte, Munster, Richmond (King's Park), and Westport
Municipal Drinking Water Systems (groundwater)

Month	Task	Timeline
May 2009	Malroz complete Wellhead Protection Area Study for Westport; Intera / Golder complete other three studies	**Completed** Early May
	Staff complete Threats Summary	**Completed** Early March
	Staff develop study summaries (reviewed by municipal technical staff)	**Completed** May 19
June 2009	MRSPC review *preliminary draft* study summaries & technical studies (CD). Provide to municipalities before the meeting	**Completed** June 4
July 2009	Send *draft* study summaries & technical studies (CD) to municipalities with invitation to attend open house	**Completed** July 7
	Advertise three open houses (Almonte, Richmond and Westport) and comment period	**Completed** July 10
	Send an open house invitation to every property in an area that could score a significant threat	**Completed** July 7
	SPAs review study summaries	**Completed** June 25 & July 15
	Make study summaries available at MVC & RVCA offices for public review	**Completed** July 16
	Hold public Open Houses	**Completed** July 20, 21 & 22
February 2010	Post study summaries on web site	**Completed** mid February
	Collect comments on study summaries	**Completed** mid February
	Staff compile comments received on technical study findings	**Completed** March 3
	Staff prepare *preliminary draft* AR chapter	**Completed** February 24
March 2010	MRSPC review summary of public comments and *preliminary draft* AR Chapter	**Completed** March 4

Significant Groundwater Recharge Areas & Highly Vulnerable Aquifers

Month	Task	Timeline
June 2009	Intera / Golder complete studies	**Completed** Early June
	Staff complete Threats Summary	**Completed** Early June
	Staff develop study summaries (reviewed by municipal technical staff)	**Completed** Mid June
July 2009	MRSPC review *preliminary draft* study summaries & technical studies (CD).	**Completed** July 9

Month	Task	Timeline
	Send *draft* study summaries & technical studies (CD) to municipalities for review	**Completed** July 29
August 2009	SPAs review study summaries	**Completed** August 27 & Sept 16
February 2010	Post study summaries on web site	**Completed** mid February
	Staff prepare *preliminary draft* AR chapter	**Completed** February 24
March 2010	MRSPC review *preliminary draft* AR Chapter	**Completed** March 4

Conceptual and Tier 1 Water Budget & Climate Change Review

Month	Task	Timeline
August 2009	Staff, Intera & Delcan complete Tier 1 Water Budget and staff revise Conceptual Water Budget. Jacqueline Oblak complete Climate Change Review	**Completed** August 14
	Staff develop summaries	**Completed** August 18
September 2009	MRSPC review technical studies (CD) and summaries	**Completed** September 3
	SPAs review summaries	**Completed** September 24
November 2009	Staff prepare *preliminary draft* Water Budget AR chapter	**Completed** November 16, 2009
December 2009	MRSPC review *preliminary draft* Water Budget AR Chapter	**Completed** December 3
February 2010	Post study summaries on web site	**Completed** February
March 2010	Send summaries to municipalities for review and comment	**Completed** March
	Staff prepare *preliminary draft* Climate Change AR chapter	**Completed** March 23
April 2010	MRSPC review *preliminary draft* Climate Change AR Chapter	April 1

Groundwater Issues and Significant Threats Inventory

Month	Task	Timeline
October 2009	Dillon complete Threats & Issues Inventory for groundwater	**Completed** Early October
	Staff develop study summary (reviewed by municipal technical staff)	**Completed** October 20
November 2009	MRSPC review study summaries & technical studies (CD). Provide to municipalities before the meeting.	**Completed** November 5

Month	Task	Timeline
	SPAs review study summaries	**Completed** November 26 & December 2
February 2010	Post study summary on web site	**Completed** February
	Staff prepare *preliminary draft* AR chapter	**Completed** February 23
March 2010	MRSPC review *preliminary draft* AR chapter	**Completed** March 4
	Send study summaries to municipalities for review	**Completed** March

Watershed Characterization Report

Month	Task	Timeline
Spring 2008	Staff complete Watershed Characterization report	**Completed** March 2008
	MRSPC review *preliminary draft* technical study	**Complete** March, May and June 2008
January 2010	Staff complete Watershed Characterization report revisions and *preliminary draft* AR chapter	**Completed** January 23
February 2010	MRSPC review technical study revisions and *preliminary draft* AR chapter.	**Completed** February 4

Britannia & Lemieux Island (Urban Ottawa)

Municipal Drinking Water Systems (surface water)

Month	Task	Timeline
Winter 2009	Baird complete Intake Protection Zone Study	**Completed** December 21
	Staff complete Threats Summary	**Completed** April 2009
	Staff develop study summary (reviewed by municipal technical staff)	**Completed** December 22
January 2010	MRSPC review study summay & technical study (CD). Provide to relevant municipalities before the meeting.	**Completed** January 7
February 2010	Work with City of Ottawa staff to organize open houses	**Completed** February
	Advertise open houses (urban Ottawa) & comment period	**Completed** March
	SPAs review study summary	**Completed** January 28 & March 24
	Post study summary on web site and make available at MVC & RVCA offices for public review	**Completed** February
March 2010	Hold public open houses	March 22 & 31

Month	Task	Timeline
	Collect comments on study summaries	April 16
	Staff compile comments received on technical study findings and prepare *preliminary draft* AR chapter	April
	MRSPC review summary of public comments and *preliminary draft* AR Chapter	May 6

Carleton Place, Perth and Smiths Falls

Municipal Drinking Water Systems (surface water)

Month	Task	Timeline
April 2009	J.F. Sabourin complete Intake Protection Zone Studies	**Completed** April 2009
	Staff complete Threats Summary	**Completed** April 2009
March 2010	J.F. Sabourin revise Intake Protection Zone Studies	**Completed** March 22
	Staff revised study summaries (reviewed by municipal technical staff)	**Completed** March 23
April 2010	MRSPC review revised *preliminary draft* study summaries & technical studies (CD). Provide to municipalities before the meeting.	April 1
	Send *draft* study summaries & technical studies (CD) to municipalities with invitation to attend open house	April
	Advertise three open houses (Carleton Place, Perth and Smiths Falls) and comment period	April
	Send an open house invitation to every property in an area that could score significant threat	April
	SPAs review study summaries	April
	Post study summaries on web site and make available at MVC & RVCA offices for public review	April
	Hold public open houses	April
	Collect comments on study summaries	April
	Staff compile comments received on technical study findings and prepare *preliminary draft* AR chapters	April
May 2010	MRSPC review summary of public comments and *preliminary draft* AR Chapter	May 6

Surface Water Issues and Significant Threats Inventory

Month	Task	Timeline
April 2010	Dillon complete Threats & Issues Inventory for surface water	April 2010
	Staff develop study summary (reviewed by municipal technical staff)	April 2010
May 2010	MRSPC review technical study and *preliminary draft* AR chapter.	May 6
	Send technical study to municipalities for review	May 2010
	SPAs review study summaries	May 2010
	Post study summary on web site	May 2010

Phase 2 *Draft* Assessment Reports

Staff will compile all *draft* Assessment Report chapters into a *preliminary draft* Assessment Report. The MRSPC will review all public comments received on individual technical studies and will consider them when developing a *draft* Assessment Report for public consultation.

Month	Task	Timeline
June 2010	SPC review *preliminary draft* AR. Consider publishing *preliminary draft* AR for public consultation (now *draft* AR)	June 3
	SPC publish *draft* AR on website and make available at MVC and RVCA offices	June 2010
	SPC send copy of *draft* AR to each municipal clerk for comment	June 2010
	SPC send notice of *draft* AR to each person known to be potentially engaging in a significant threat	June 2010
	SPC send copy of *draft* AR to each neighbouring SPC for comment	June 2010
	SPC issue notice* on website, in newspapers and at other locations advising the public of the opportunity to view and comment on the *draft* AR	June 2010
	SPC send copy of *draft* AR to SPAs for comment	June 2010
	SPC receive written comments on *draft* AR	July 2010
July 2010	SPC host 2 public meetings to consult on *draft* AR (one meeting in each Source Protection Area)	June / July 2010
	Staff prepare a summary of comments received on *draft* AR and prepare recommendations about how to address them	July 2010

Phase 3 *Proposed* Assessment Reports

Staff will summarize all comments received on the *draft* Assessment Report during public consultation and make recommendations about how these comments could be addressed. The MRSPC will consider all comments when making final revisions to the *draft* Assessment Report.

The MRSPC will forward their *proposed* Assessment Report to the SPAs and post it for a final public consultation period. SPAs will submit the *proposed* Assessment Report to MOE for review and approval along with any public comments they receive or comments they wish to make.

Month	Task	Timeline
August 2010	SPC review summary of comments received on *draft* AR and staff recommendations for proposed changes Consider submitting revised *draft* AR to SPAs and posting for public consultation (now *proposed* AR)	August 12

Month	Task	Timeline
	Staff prepare *proposed* AR Staff prepare a summary of public comments received on *draft* AR and how they were addressed	August 2010
	SPC publish *proposed* AR on website and make available at MVC and RVCA offices	August 2010
	SPC send copy of *proposed* AR to each municipal clerk for comment	August 2010
	SPC send notice of *proposed* AR to each person known to be potentially engaging in a significant threat	August 2010
	SPC send copy of *proposed* AR to neighbouring SPCs for comment	August 2010
	SPC send notice of *proposed* AR to each person who submitted comments on *draft* AR	August 2010
	SPC issue notice* on website, in newspapers and at other locations advising the public of the opportunity to submit written comments on *proposed* AR to SPAs	August 2010
	SPC submit *proposed* AR to SPAs along with a summary of comments received on the *draft* AR and whether they were addressed in the *proposed* AR	August 2010
September 2010	SPAs receive written comments on *proposed* AR	September 2010
	Staff compile comments received	September 2010
	SPAs submit to the Minister of the Environment: - p*roposed* AR - summary of comments received on *draft* AR and how they were addressed; and - new comments received on *proposed* AR	September 21
October 2010	SPAs provide SPC with copy of comments received on *proposed* AR	October 7
	Minister will review the package and approve *proposed* AR or require SPAs to amend them and resubmit	approval timeline unknown
	Once approved the Minister will publish a notice on the Environmental Bill of Rights Registry	Soon after approval
	SPAs publish *approved* AR on web site and make available at other locations	Soon after approval

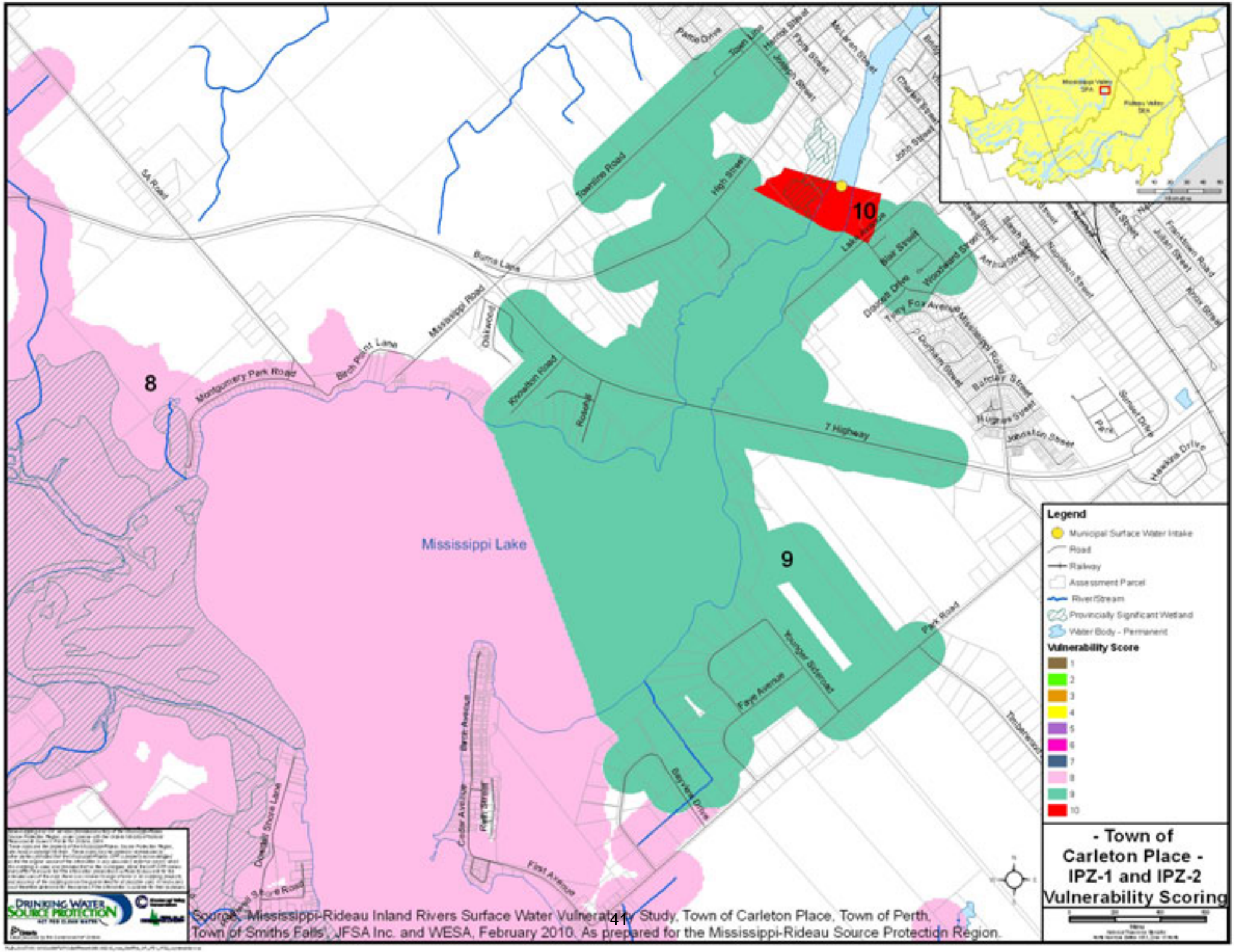
* Notice will specify deadline for public comments, how to submit comments, locations of public meetings and locations where the ARs can be viewed (electronically and in hard copy).

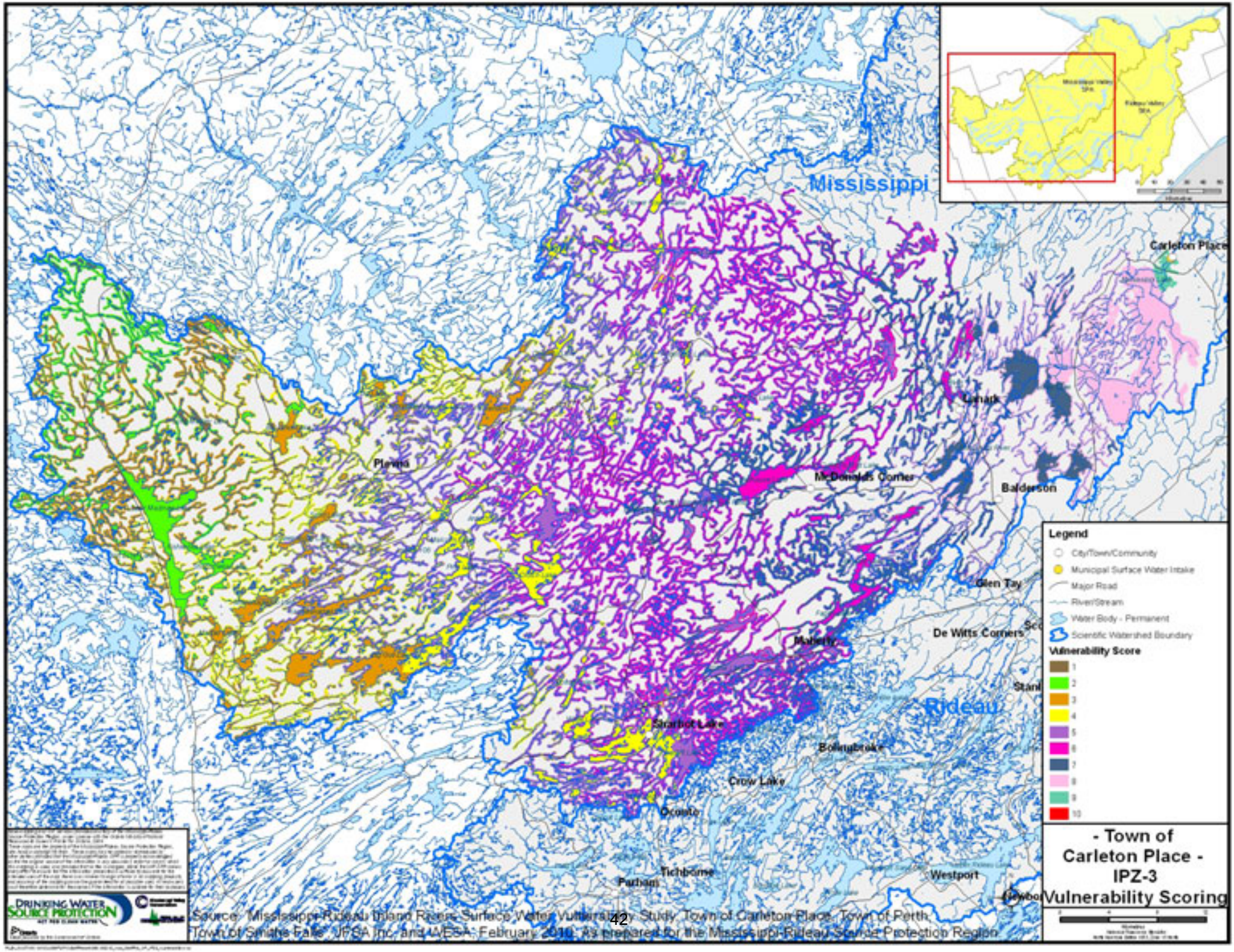
Assessment Reports will be prepared in accordance with:

- *Clean Water Act, 2006*
- Ontario Regulation 287/07 "General" (amended by O.Reg. 386/08)
- *Technical Rules: Assessment Report* (dated December 12, 2008)

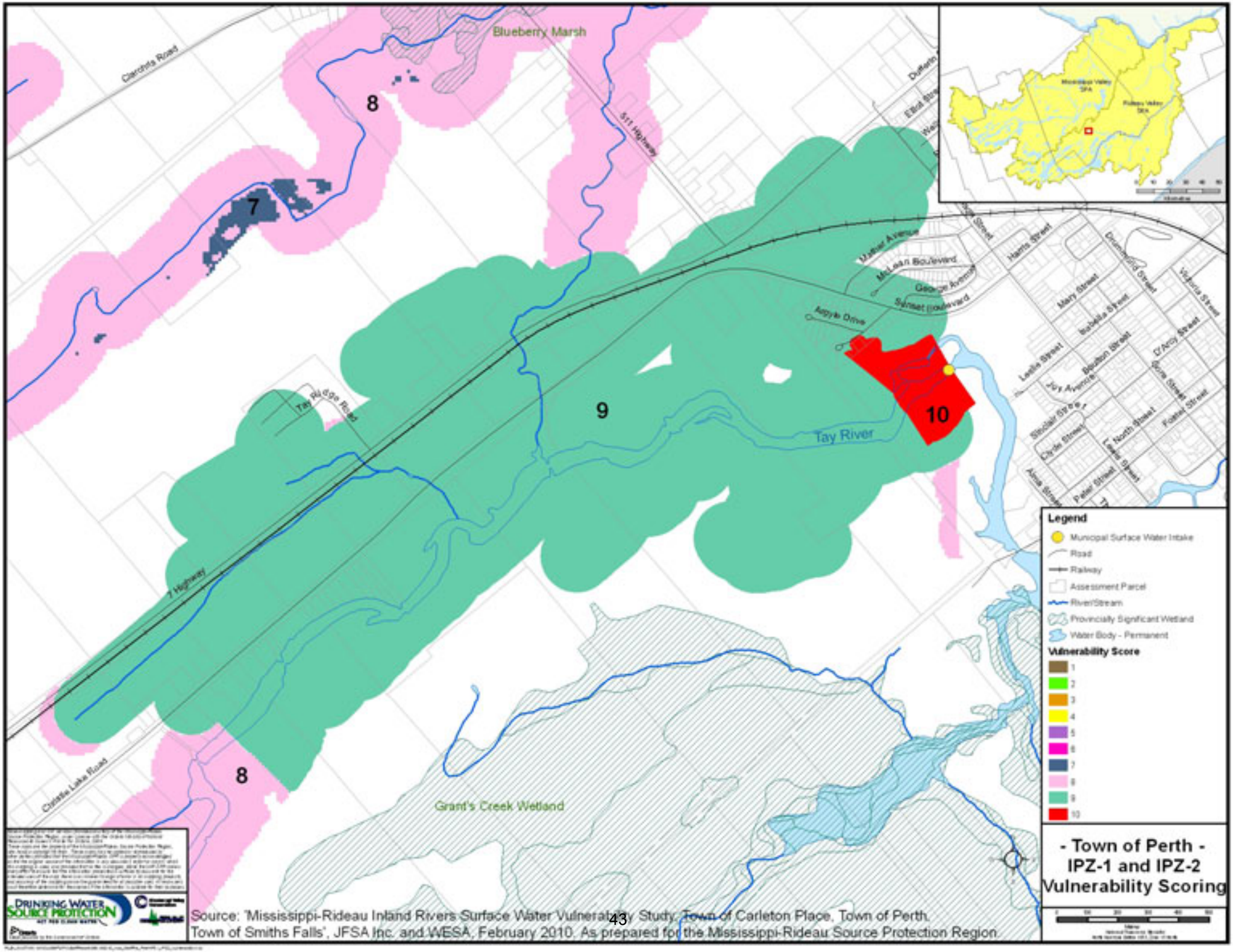
Attachments:

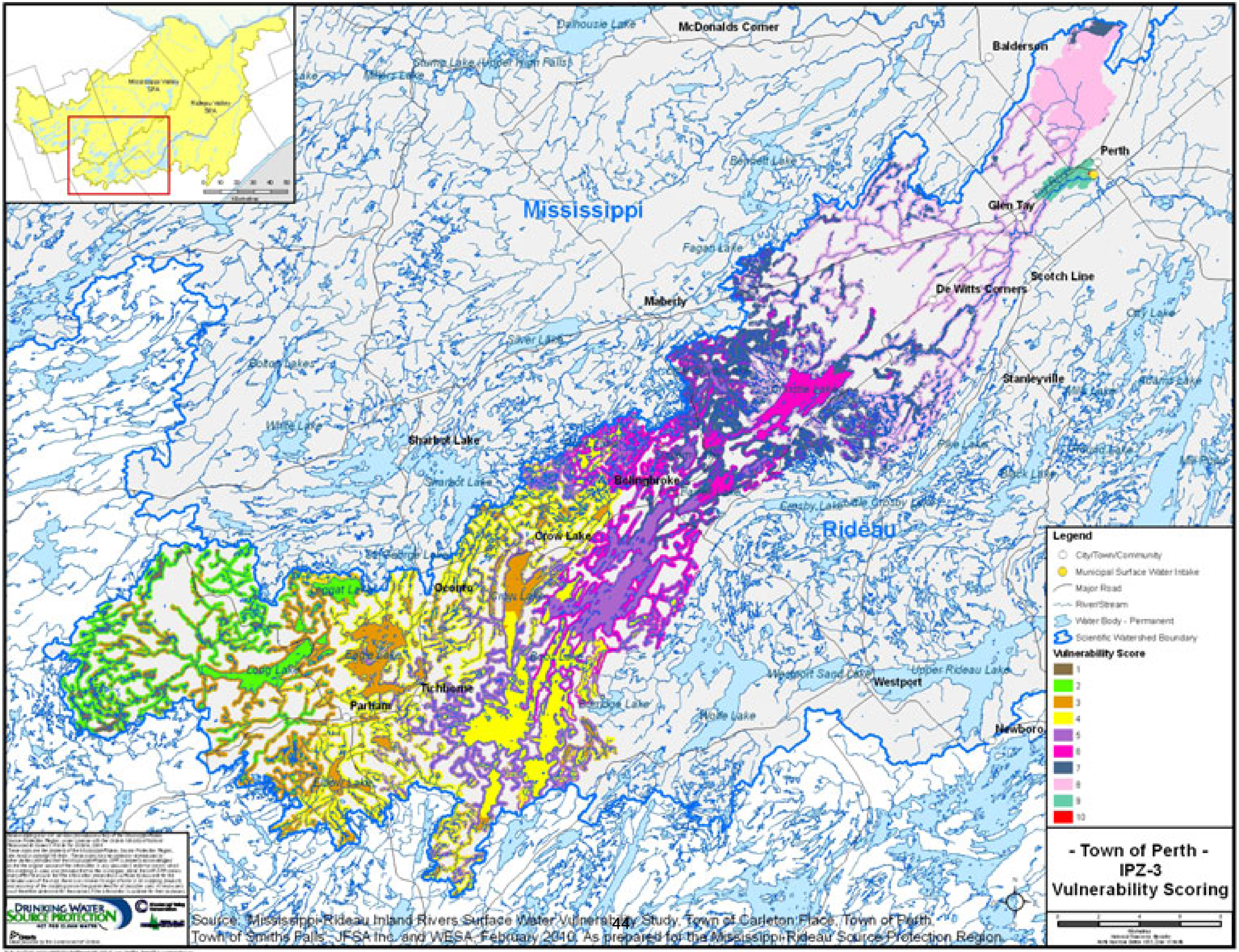
- Revised Vulnerability Scoring maps for the Surface Water Study Summaries for Carleton Place, Perth and Smiths Falls
- *Preliminary draft* Assessment Report Chapter 7


10
8
9
Mississippi Lake
Legend
Municipal Surface Water Intake
Road
Railway
Assessment Parcel
River/Stream
Provincially Significant Wetland
Water Body - Permanent
Vulnerability Score
1
2
3
4
5
6
7
8
9
10
- Town of Carleton Place - IPZ-1 and IPZ-2 Vulnerability Scoring
Source: Mississippi-Rideau Inland Rivers Surface Water Vulnerability Study, Town of Carleton Place, Town of Perth, Town of Smiths Falls, JFSA Inc. and WESA, February 2010. As prepared for the Mississippi-Rideau Source Protection Region.

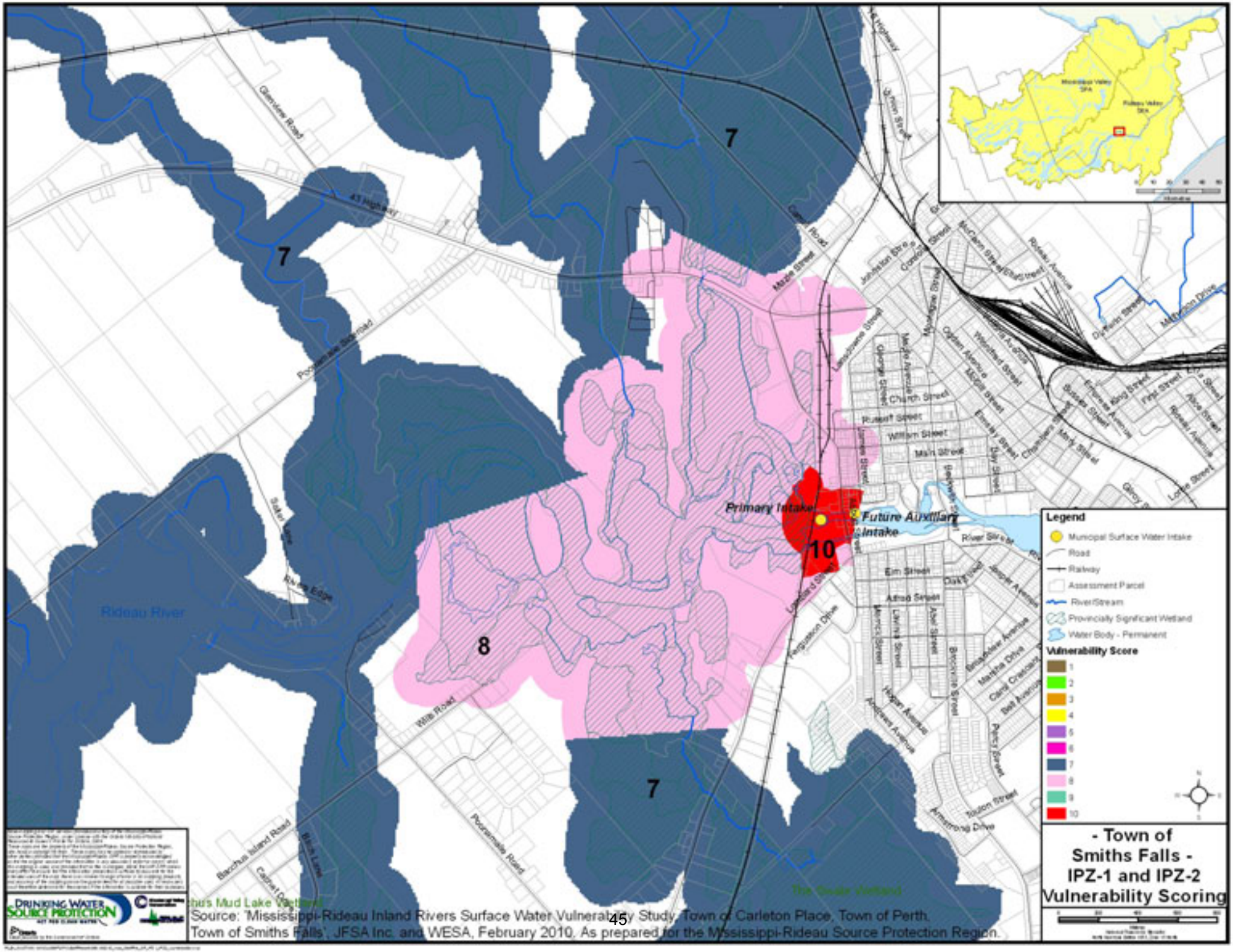


Source: Mississippi-Rideau Inland Rivers Surface Water Vulnerability Study Town of Carleton Place, Town of Perth, Town of Smiths Falls, JFSA Inc. and AMEC, February 2010. As prepared for the Mississippi-Rideau Source Protection Region

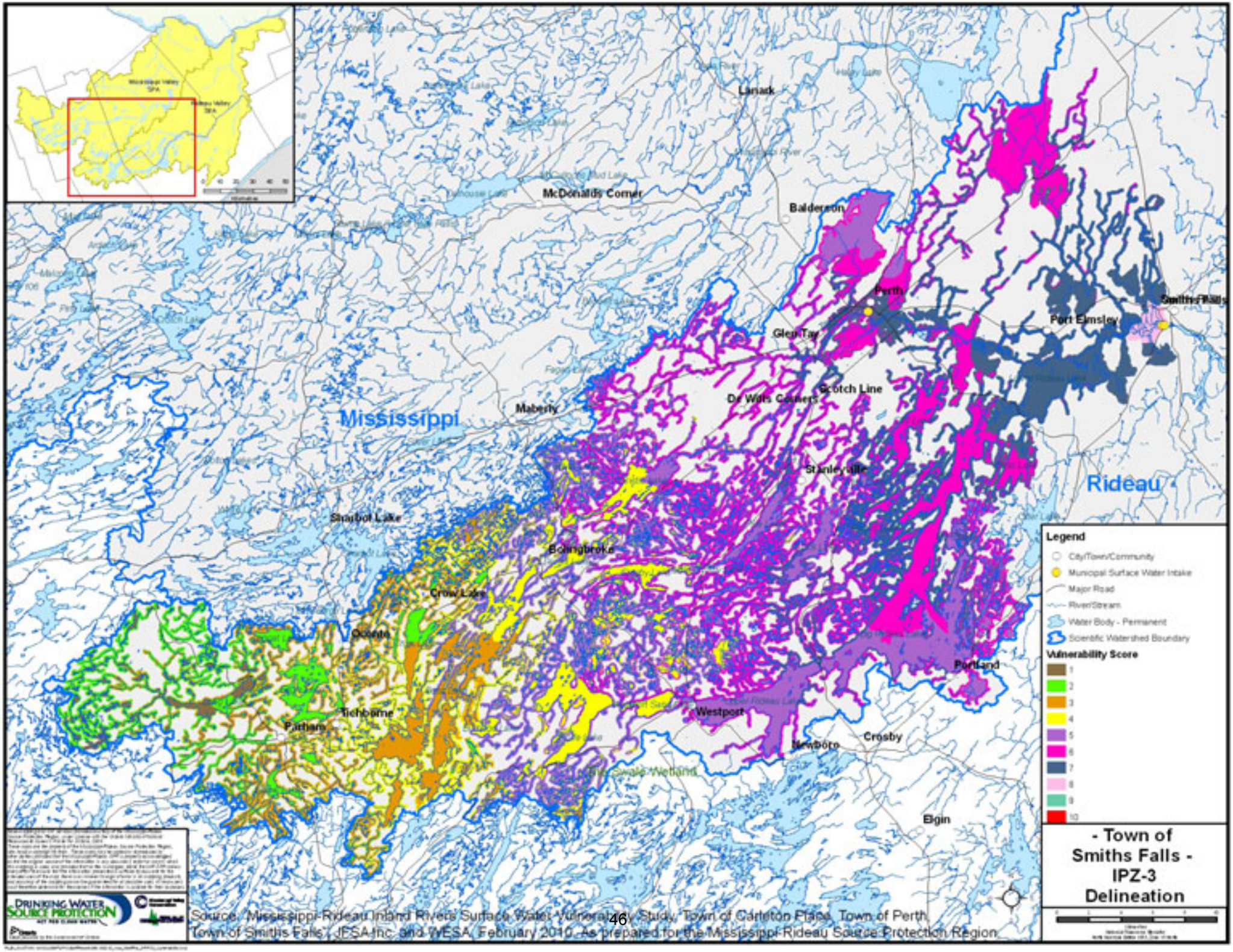

Blueberry Marsh
Clarichs Road
511 Highway
7
8
9
10
Tay Ridge Road
Tay River
7 Highway
Carlisle Lake Road
8
Grant's Creek Wetland
Dufferin Street
Elliot Street
Harris Street
Drummond Street
Victoria Street
Mary Street
Isabella Street
Leslie Street
Poulton Street
D'Arcy Street
Ivy Avenue
Stirling Street
Clyde Street
North Street
Foster Street
Peter Street
Wallace Avenue
McLean Boulevard
George Avenue
Sunset Boulevard
Argyle Drive
Legend
Municipal Surface Water Intake
Road
Railway
Assessment Parcel
River/Stream
Provincially Significant Wetland
Water Body - Permanent
Vulnerability Score
1
2
3
4
5
6
7
8
9
10
- Town of Perth -
IPZ-1 and IPZ-2
Vulnerability Scoring
DRINKING WATER SOURCE PROTECTION
Source: 'Mississippi-Rideau Inland Rivers Surface Water Vulnerability Study, Town of Carleton Place, Town of Perth, Town of Smiths Falls', JFSA Inc. and WESA, February 2010. As prepared for the Mississippi-Rideau Source Protection Region



- Town of Perth -
IPZ-3
Vulnerability Scoring
Legend
City/Town/Community
Municipal Surface Water Intake
Major Road
River/Stream
Water Body - Permanent
Scientific Watershed Boundary
Vulnerability Score
1
2
3
4
5
6
7
8
9
10
Mississippi
Rideau
McDonalds Corner
Balderson
Perth
Glen Tay
Scotch Line
De Witts Corners
Maberly
Stanleyville
Sharbot Lake
Bolingbroke
Crow Lake
Oconto
Tichborne
Parham
Westport
Newboro
Dalhousie Lake
Bennett Lake
Fagan Lake
Silver Lake
Bolton Lakes
White Lake
Long Lake
Upper Rideau Lake
Wolfe Lake
Source: Mississippi-Rideau Inland Rivers Surface Water Vulnerability Study, Town of Carleton Place, Town of Perth, Town of Smiths Falls - JFSA Inc. and WESA, February 2010. As prepared for the Mississippi-Rideau Source Protection Region.



Source: 'Mississippi-Rideau Inland Rivers Surface Water Vulnerability Study, Town of Carleton Place, Town of Perth, Town of Smiths Falls', JFSA Inc. and WESA, February 2010. As prepared for the Mississippi-Rideau Source Protection Region.


Lanark
McDonalds Corner
Balderson
Perth
Glen Tay
Port Elmsley
Smiths Falls
Scotch Line
De Wills Corners
Mississippi
Maberly
Stanleyville
Rideau
Shabot Lake
Bolingbroke
Crow Lake
Oconto
Tichborne
Portland
Westport
Newboro
Crosby
Elgin
Legend
City/Town/Community
Municipal Surface Water Intake
Major Road
River/Stream
Water Body - Permanent
Scientific Watershed Boundary
Vulnerability Score
1
2
3
4
5
6
7
8
9
10
- Town of Smiths Falls - IPZ-3 Delineation
DRINKING WATER SOURCE PROTECTION
Source: Mississippi-Rideau Inland Rivers Surface Water Vulnerability Study, Town of Carleton Place, Town of Perth, Town of Smiths Falls, JFSA Inc. and WESA, February 2010. As prepared for the Mississippi-Rideau Source Protection Region

Chapter 7
Table of Contents

7 Climate Change

This chapter summarizes information that is currently available on climate change at global, regional, and local scales. General information on potential impacts is provided along with discussion on more specific local impacts. Information is available for impacts on water quantity, which is discussed in Chapter 3 in the water budget, and on water quality, which is discussed in Chapters 5 and 6 for groundwater and surface water respectively.

MOE Technical Rules require the inclusion of climate change considerations in two ways; through documenting current climate change information available for the region for the next 25 years, and by considering how climate change may affect results found in the Assessment Report. It should be noted that available information is based on thirty year intervals, both locally and provincially, and that timeline has been included in the following discussions.

For further information on climate change knowledge in the MRSPR please see the Climate Change Technical Report.

7.1 Review of Climate Change Knowledge

Source Protection Planning includes consideration of changing factors which may affect our water resources over time and consideration of changing weather patterns is an important component. Studies indicate that climate change will bring warmer temperatures to the Eastern Ontario region in the next thirty years (and beyond), more so in some seasons than others. This may have a number of implications for the Mississippi-Rideau Source Protection Region (MRSPR).

The challenge is to find specific information at a scale which is useful in developing comprehensive local adaptation strategies. Of the thousands of climate change studies which have been completed in the past two decades, most documents project changes and impacts at a global scale, fewer quantify regional changes and impacts, and very few provide quantitative information on local changes and impacts. Fortunately some local research has been completed which provides quantitative projections and that information has been included in this review.

Table 1 provides historic information on temperature, precipitation, and evapotranspiration (ET) from two stations in the region, one located in the Mississippi watershed and the other in the Rideau watershed.

7.1.1 Global

The International Panel on Climate Change (IPCC) Technical Paper on Climate Change and Water (2008) states that globally;

"Climate warming observed over the past several decades is consistently associated with changes in a number of components of the hydrological cycle and hydrological systems such as: changing precipitation patterns, intensity and extremes; widespread melting of snow and ice; increasing atmospheric water vapour; increasing evaporation; and changes in soil moisture and runoff. There is significant natural variability – on interannual to decadal time-scales – in all components of the hydrological cycle, often masking long-term trends."

Projected changes in global temperatures vary depending on scenarios of high and low atmospheric carbon dioxide concentrations. “The best estimate for the low scenario (B1) is 1.8°C (likely range is 1.1°C to 2.9°C), and the best estimate for the high scenario (A1FI) is 4.0°C (likely range is 2.4°C to 6.4°C)” (IPCC 2007). This refers to increases in annual temperature.

It is widely accepted that winter and night-time temperatures are increasing more than summer and day-time temperatures because of the increases in greenhouse gases which reduce radiative cooling. Globally, minimum temperatures over land are increasing at three times the rate of maximum temperatures. This is being attributed to the increasing possibility of cloud cover which contributes to night time heat retention (Zhang et al. 2000).

7.1.2 Ontario and Southern Canada

Ontario Ministry of Natural Resources (MNR) temperature projections for Ontario as a whole forecast a rise of three to eight degrees over the next century.

Mean annual temperature *ranges* (MTR) across southern Canada (south of 60^{o}N) have decreased between 1900 and 1998 by a range of 0.5-2.0^{o} C (Zhang et al. 2000), consistent with minimum temperatures increasing at a faster rate than maximum temperatures.

7.1.3 Eastern Ontario and the Mississippi Rideau Source Protection Region

Temperature and precipitation forecasting for the 2011-2040 period has been carried out by MNR as part of a province-wide study. Maps from this study may be found on the MNR website for this time period, with the MRSPR partially falling under the Kemptville and Peterborough districts. Separate climate change studies have been conducted by the MVC for the western part of the region in the Mississippi watershed for the thirty year period 2010-2039. For further information on temperature and precipitation changes please see the Climate Change Technical Report.

Temperature Trends

Recent temperature data indicates that Ottawa has experienced an increase in temperatures in the past 50 years with average winter temperatures increasing approximately 1.5^{o} C, spring temperatures increasing approximately 1.0^{o} C and summer temperatures increasing 0.5-0.7^{o} C (Egginton and Lavender 2009). Fall temperatures were the exception, not showing any significant change (Egginton and Lavender 2009). This should be generally applicable to the MRSPR as an indication of the magnitude of change although there will be some variation throughout the region as indicated above.

A number of temperature trends have also been identified for the region by Environment Canada. Significant trends are related to whether the changes over time are statistically relevant. Non-significant trends indicate that there is some change, but during the period measured it is not definitive and could be attributable to other factors.

Historical trends in the number of cold nights in the region show a statistically significant decrease in Ottawa at both the airport and the Experimental Farm (CDA) between 1950 and 2003 as well as outside the region at Haliburton and Belleville (Environment Canada 2005). It appears that this trend will continue as suggested by MVC minimum temperature projections.

The "days with minimum temperature>20° C" category also indicates a significant trend, showing increases in the period 1950-2003 in Ottawa and surrounding climate stations outside the region (Environment Canada 2005). This means there are an increasing number of warm nights each year which remain above 20° C.

There is a non-significant trend in the number of hot days for Ottawa, defined as "days with maximum temperature above thirty degrees" C for the period 1950-2003. There are also non-significant trends in both the number of very warm days, defined as "days with the maximum temperature greater than the 19 percentile" (Environment Canada 2005) and the duration of warm spells (maximum number of consecutive days with maximum temperature > 5° C above normal maximum temperature) for the same period.

Trends in the frequency of cold spells indicates a statistically significant decrease in the "number of 'waves' or 3 consecutive days with minimum temperature < 10th percentile" for the same period in Haliburton (-4.5 days annually) which is located outside the north-western edge of the region.

There was also a non-significant decrease in frequency of cold spells in the Ottawa area for that period. "The "cold wave frequency index" was defined as the number of "waves" or times during the year when there were 3 consecutive days with minimum temperature less than the 10th percentile for that particular time of the year" (Environment Canada 2005).

Temperature Projections

Although there is some variation in specific temperature increases projected, both the MNR and MVC studies project a rise in temperatures in both warm and cold seasons in the range of 0 to 2° Celsius by 2039/2040. Minimum temperatures are forecast to increase at a faster rate than maximum temperatures.

cgcm2 **Projected Temperature Changes**

For the period 2010-2039 (°C/30yr)

Summer	tmax	tmin
June	0.9	0.9
July	1.2	1.5
August	0.9	0.9
average	**1**	**1.1**

Fall	tmax	tmin
Sept	0.9	0.6
Oct	0	0.3
Nov	1.2	0.3
average	**0.7**	**0.4**

Winter	tmax	tmin
December	0.6	1.2
January	2.4	5.1
February	0.9	1.8
average	**1.3**	**2.7**

Spring	tmax	tmin
March	0.3	1.5
April	0.6	1.5
May	2.1	1.2
average	**1**	**1.4**

Mississippi watershed temperature increase projections for end of period 2010-2039. Source: Compiled from data from Kunjikutty and Lehman 2008.

Precipitation Trends

Trend data for Ottawa indicates a statistically significant increase in the number of days with "greater or equal to 95 percentile rainfall," with other stations immediately surrounding the region having non-significant increases in the 1950-2003 period (Environment Canada 2005).

The trend in "highest five day rainfalls", the amount of rain which falls in a five day period, for the same period has a statistically significant increase of 20.5mm in Ottawa (Environment Canada 2005).

Although there is no strong indication of trend at this time, the percentage of precipitation which falls as winter rain or occurs as freezing rain may rise as winter temperatures increase. The trend in the number of freezing rain hours per year shows a small but steady increase (Environment Canada 2005).

Precipitation Projections

Changes in precipitation patterns and amounts may affect the water budget (Chapter 3) and can have implications for the quality and quantity of surface and groundwater. Precipitation is more difficult to predict than temperature and projections have a higher degree of uncertainty.

Fall

MVC data indicates that average fall (September, October, and November) precipitation will increase by 14.1mm each month by 2039.

Winter

Cold weather (October through March) precipitation in the MNR study for the region is forecast to decrease only slightly during the period, between 0 and 10% for most of the region with an area in the north-western section of the region facing a decrease of 10 to 20% (Colombo et al. 2007). MVC data for the same six month period forecasts a monthly average increase of 5mm, in the range of 6-9%.

Spring

MVC data indicates that spring (March, April, and May) average precipitation will decrease monthly by 4.1mm by 2039.

Summer

MNR precipitation projection maps indicate that warm weather precipitation (April through September) will decrease by 0 to 10% in most of the region with increases from 0 to 10% in the area immediately east of Ottawa and for the Perth area. MVC precipitation forecasts are for average increases of 2.0mm for the same period, in the range of 2-3%.

MVC summer (June, July and August) average projections by 2039 for precipitation indicate an average monthly increase of 0.5mm with a decrease in August of 3.3mm offsetting June and July increases of 2.4mm of each.

Changes in Related Factors

Changes in temperature are the basis of other changes in the weather. Locally, increased heating contributes to more intense upward movement of air and when adequate water vapour is present results in cloud formation and rain or sometimes in intense storms which can include high winds.

Higher temperatures may increase potential ET, increasing humidity and making water vapour readily available for cloud formation and precipitation.

Surface water temperatures are also influenced by changes in air temperatures, winds, precipitation amounts, and the availability of solar radiation. Increases in air temperature and solar radiation generally contribute to higher water temperatures.

7.1.4 Secondary Impacts from Projected Changes

Seasonal shifts are forecast under climate change scenarios, with spring conditions beginning earlier, summer conditions extending into spring and fall, and shorter winters, beginning later and ending earlier.

Increased variability in weather patterns is projected. Extreme events include intense rainfalls and thunderstorms with high winds, ice storms, and extended periods of high summer temperatures and drought. These are forecast to occur more frequently.

The region as a whole has a large number of surface water bodies which can make large volumes of water available for ET under the right conditions. Increased potential ET is projected to accompany increases in temperature and this may lower surface water levels and reduce flows in some waterways in the region, especially wide shallow water bodies.

7.2 Potential Impacts on Water Quality and Quantity

Water quantity and quality in the region may be affected under current climate projections. It should be noted that quality and quantity changes, while being discussed separately here, are not exclusive of each other. Changes in quantity will affect contaminant and bacterial concentrations. Water quality decreases when water quantity decreases, when all other factors remain the same.

7.2.1 Water Quantity

Coarse measurement of mean annual precipitation and temperatures only tell part of the story. Distribution of precipitation amounts and types vary significantly daily, monthly and annually with diverse short term results in the amount of overland runoff, surface infiltration, groundwater recharge, ET and streamflow. In the long term changes in precipitation distribution coupled with increased temperatures can potentially affect surface and/or groundwater availability, especially in the traditional summer dry season.

Some surface water features, especially smaller rivers and lakes, are more susceptible to changes in precipitation amounts and patterns. This is especially true where precipitation is the primary source of new water and baseflow is minimal for all or part of the year. These lakes and rivers may also be affected by increased ET as temperatures and winds increase. If average ice-free days increase in the region then this allows increased water flow in non-traditional times (i.e. January and February) and increases potential ET.

Spring freshet (traditionally occurring sometime in the March through May period) is dependent on a combination of snowmelt and rain. Freshet may be reduced in parts of the region and/or may occur earlier as a greater percentage of winter precipitation becomes rain, rather than snow, due to average temperature increases. Increasing temperatures may also increase winter melting periods.

High water and flooding in off-seasons may also occur in some lakes and rivers due to changes in precipitation and snowmelt patterns. Increases in winter and early spring runoff, summer flooding from summer thunderstorms and intense rain events may be an increasing risk over time in traditionally susceptible areas such as floodplains as well as unidentified areas which may not be able to deal with intense rainfall events which have not occurred historically.

Due to natural variability in weather patterns, the region already experiences these types of conditions at times. What appears to be different under climate change projections is the *increased likelihood* that there will be drier hotter summers, an increased percentage of winter precipitation in the form of rain, and a higher chance of severe rainstorms, among other changes.

7.2.2 Water Quality

Similar to quantity issues, if there are currently water quality issues in certain rivers or lakes due to summer low flow conditions, then the frequency and/or severity of these conditions may increase. Increasing air temperatures will increase some surface water temperatures and may create favourable conditions for bacterial and algal growth. Low flow conditions and increased plant growth may decrease dissolved oxygen earlier in the summer season, exacerbated when vegetation dies back and uses oxygen during the aerobic decomposition process.

Groundwater quality may be affected if extreme events such as flooding carry contaminants to areas where they can enter the aquifer, potentially through natural features or human-made transport pathways (see Chapter 5).

7.3 Potential Impacts Related to Source Protection

Until further work is done to quantify climate change and its primary impacts, it is difficult to definitively identify and address secondary and tertiary impacts related to Source Protection.

Current stresses on source water, such as areas where there are currently issues or conditions, may be exacerbated by the increasing frequency of flooding, drought, or other related factors. Water systems which are currently experiencing low stress may show higher stress as temperature and precipitation patterns change.

The water budget (Chapter 3) will change under climate change. Monthly precipitation may change even if annual precipitation shows little change. If temperatures increase then annual ET will likely increase and will be a larger factor in times when ET has historically been relatively low, such as early spring.

The water budget currently identifies one subwatershed which is assigned a moderate groundwater stress and three subwatersheds which are assigned moderate surface water stress levels, none of which have municipal drinking water systems.

7.3.1 Groundwater

Groundwater, with regard to Highly Vulnerable Aquifers, Significant Groundwater Recharge Areas, and Wellhead Protection Areas for the seven municipal wells in the region, is discussed in Chapter 5. Groundwater in many parts of the region is less likely to be impacted by changing air temperatures or amounts and patterns of precipitation. This is especially true for the larger, deep regional aquifers. Regional aquifers are generally under little stress. A large percentage of the water in these aquifers may have been there for decades, or longer.

Water Quantity

Significant Groundwater Recharge Areas

Significant Groundwater Recharge Areas (SGRAs) are defined as areas where the annual groundwater recharge is greater that 55% of the average regional water surplus. Delineation of SGRAs is dependent then on snowmelt and precipitation amounts and patterns, both of which are forecast to change.

There is currently high uncertainty associated with SGRA delineation. As work continues to improve this, it is important to incorporate climate change projections for precipitation changes in volume and patterns. At some point in the future it may be necessary to revisit the SGRA definition.

SGRAs have a maximum assigned vulnerability score of 6 so changes in SGRA delineation due to incorporating climate change projections will not affect the number of significant threats.

As discussed in the water budget in Chapter 3, one subwatershed, "Rideau River at Ottawa", showed a moderate groundwater stress under current and future demand scenarios. This is based on historic data and is primarily due to commercial permits to take water. Further information is required to determine whether this stress will increase in the future under projected climate change scenarios.

Smaller, shallower aquifers, such as those used for private wells, which have a high dependency on regular annual precipitation and have little storage capacity, are more susceptible in the shorter term to the projected changes of higher temperatures, increased ET (which may decrease soil moisture and reduce recharge), and increased risk of extended periods of drought.

Water Quality

If the frequency of heavy precipitation events increases as projected, the risk of contamination related to flooding of traditional and non-traditional areas and associated movement of contamination into shallow aquifers through infiltration also increases.

Highly Vulnerable Aquifers

Much of the region has been identified as Highly Vulnerable Aquifers (HVA). The specific delineations of these areas may change under climate change scenarios as precipitation patterns change, but due to the extensive coverage of the MRSPR that is currently HVA changes are not expected to be extensive. The uncertainly level for HVA delineation on a local scale is currently high and as refinement of the HVAs is carried out in the future, consideration of climate change impacts should be included in this delineation.

For the purpose of this report, changes in HVA delineation would not affect the final threats, as HVAs are assigned a vulnerability score of 6 so cannot be considered significant threats.

Wellhead Protection Areas

The Wellhead Protection Area (WHPA) delineation is determined through Time of Travel, as discussed in Chapter 5. If precipitation patterns change they can affect groundwater in three key ways;

- Reduction of recharge due to projected reduction in summertime precipitation

- Reduction of recharge due to increased percentage of precipitation occurring as overland flow, and decreased infiltration, during heavy rain events
- Increased risk of contamination in floodplains as flooding risk increases in these areas, if they are also aquifer recharge areas

Decreased recharge could increase the area that supplies water to the municipal well, which in turn would require the increase of the WHPA.

Impervious Surfaces

Areas in the region where there is a large percentage of impervious surfaces may affect groundwater. Winter road salt usage may change in any given year as temperatures increase closer to the freezing point. Periods of higher than freezing temperatures will reduce salt requirements, temperatures around freezing increase risks of freezing rain and the associated need for increased use of road salt. If the salty water infiltrates into the ground it can decrease groundwater quality, while if it runs off surface water quality may be affected.

Climate change has the potential to increase (or decrease) the influence of road salt and other contaminants on HVAs, SGRAs, and WHPAs.

Transport pathways

Some areas which are not currently considered transport pathways or would be transport pathways only under extreme conditions may have a changing status under climate change projections. The role of each transport pathway is somewhat unique and the level of risk should be considered using climate change projections.

The changing importance of transport pathways may be illustrated through considering specific examples, or scenarios. An example is an improperly sealed well casing. During periods of intense rainfall, water pools around the casing and runs along the casing into the aquifer, providing a pathway for surface contamination. Historically this may have occurred very infrequently, but under projections of increased frequency of extreme events such as intense rainfalls this could become a significant occurrence.

7.3.2 Surface Water

As discussed in Chapter 6 the region has five drinking water intakes, two in the larger Ottawa River and three in smaller inland waterways.

Water Quantity

IPZ delineation is based on Time of Travel (ToT). If seasonal changes occur in flow characteristics due to changing temperature and precipitation patterns which in turn affect ToT, IPZ delineation could increase or decrease accordingly.

As discussed above, if surface water quantity is reduced in some seasons it can result in increases in contaminant concentration. Modifications to IPZ delineation may be required to ensure protection of the drinking water quality at the water intake. Low flows may also affect mixing in some waterways.

If an increased risk of severe flooding occurs and floodplain delineation is modified to address this, then the IPZ-2 will require similar delineation changes.

IPZ-3 delineation is event-based in the Ottawa River. If precipitation events become more severe and/or more frequent there may be a need to modify IPZ-3 delineation to address the increased areas that may feed contaminants into the waterways.

Water Quality

Earlier springs and warmer air and water temperatures, resulting in increased bacterial and aquatic plant growth, may decrease water quality to a larger extent than occurs currently.

Transport Pathways

Surface transport pathways which do not currently play a significant role in increasing water volumes or decreasing ToT may, in the future, become more important if precipitation patterns change.

Transport pathways may serve to dilute contaminant concentrations in waterways during rain events as they decrease the ToT for precipitation to reach the waterways, increasing the volume of water and in some circumstances decreasing contaminant concentrations which may be present.

Transport pathways may decrease the amount of water infiltrating into the soil and recharging groundwater as they encourage runoff. If contaminants are present this may actually serve to reduce the amount of contaminant entering groundwater under certain circumstances.

An increase in heavy rain events may flush contaminants from further distances into transport pathways which then would carry the contaminants into waterways.

The large number of scenarios on the possible role of transport pathways which are possible illustrates the complexity of determining problems and priorities.

Impervious Surfaces

Areas with a high percentage of impervious surfaces will be affected by rapid snowmelt and rain events. These areas are designed to drain surfaces quickly and will add volume to local waterways in periods which may already be experiencing high water levels.

As discussed above in Section 7.3.1, impervious surfaces may decrease water quality due to the use of road salt which then runs off into waterways.

7.4 Summary

Trend data for the region indicates that some changes in temperature and precipitation patterns have occurred over the past fifty years. Temperature and precipitation are projected to continue to change in the MRSPR during the next thirty years. There is some variation in specific temperature increases projected but MNR and MVC studies indicate a rise in temperatures in both warm and cold seasons in the range of 0 to 2^{o} Celsius by 2040. Minimum temperatures are forecast to increase at a faster rate than maximum temperatures.

Weather variability is projected to increase, with increased frequency of weather extremes and events.

Water budget changes associated with climate change include changes in monthly precipitation and increases in ET.

The impacts of changes in temperature and precipitation have the potential to impact water quality and quantity to varying degrees in the region. This may in turn affect delineation of SGRAs, HVAs, and WHPAs as well as modifying the impact of transport pathways on vulnerability scoring. More information is required to determine specific impacts in the region and their importance to Source Protection Planning.

7.5 References

Intergovernmental Panel on Climate Change (IPCC). 2007. Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf. Accessed: March 2010.

Kunjikutty, Sobhalatha, and Paul Lehman. 2008. Fish, Fisheries, and Water Resources: Adapting to Ontario's Changing Climate. Subproject 4: Water Management Responses to Climate Change.

Ontario Ministry of Natural Resources. 2009. Climate Change and Ontario. http://www.mnr.gov.on.ca/en/Business/ClimateChange/index.html. Accessed: March 2010.

Table 1
Monthly Average Climate Data for Drummond Centre and Kemptville 1954-2003.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Drummond Centre (MVC)													
Precipitation (mm)	61	55	59	65	73	76	75	77	81	74	80	71	848
Snow water equivalent (mm)	42	38	30	9	1	0	0	0	0	2	16	44	181
Rainfall (mm)	19	17	29	57	72	76	75	77	81	72	64	27	667
Temperature (°C)													
Min.	-15	-14	-7	0	7	11	13	12	8	2	-3	-10	0
Max.	-4	-3	4	12	20	24	27	26	20	13	5	-2	12
Mean	-10	-9	-2	6	13	18	20	19	14	8	1	-6	6
Potential ET[1]	0	1	6	33	82	116	135	112	71	34	10	1	602
Kemptville (RVCA)													
Precipitation (mm)	61	60	63	72	78	79	84	81	85	77	80	77	898
Snow water equivalent (mm)	42	37	36	11	0	0	0	0	0	3	18	45	192
Rainfall (mm)	25	20	34	64	75	80	85	84	83	74	65	34	722
Temperature (°C)													
Min.	-14	-14	-10	-3	4	10	13	13	10	5	0	-8	1
Max.	-5	-4	0	8	16	22	26	26	22	17	9	0	11
Mean	-9	-9	-5	3	10	16	19	19	16	11	5	-4	6
Potential ET[1]	0	1	6	32	82	115	132	108	70	34	10	1	591

1. All values are measured except for potential ET. Potential ET is calculated (Thornthwaite and Mather).

3.0 Draft Source Protection Plan Regulation

Date: March 23, 2010
To: Mississippi-Rideau Source Protection Committee
From: Sommer Casgrain-Robertson, Co-Project Manager
Mississippi – Rideau Source Protection Region

Recommendation:

1. That the Mississippi-Rideau Source Protection Committee approve the following comments for submission to the Environmental Bill of Rights Registry, Registry Number 010-8766 (Regulatory Components to Support the Development and Implementation of Source Protection Plans under the Clean Water Act 2006).

Background

Once technical assessment reports are completed next spring, the Mississippi-Rideau Source Protection Committee must develop source protection plans by August 2012. These plans will contain policies (e.g. incentives, land use restrictions, monitoring) to address drinking water threats and protect source water.

To enable source protection committees to develop source protection plans a regulation must be issued under the Clean Water Act. The MOE posted a Discussion Paper for public comment last summer outlining proposed requirements for the content and preparation of source protection plans. Many local municipalities along with the MRSPC and the Rideau Valley and Mississippi Valley Source Protection Authorities submitted comments. MOE considered the feedback they received on the discussion paper when developing a draft regulation that was posted in January for a 60 day comment period ending March 26, 2010.

Staff and some MRSPC members participated in a MOE consultation session on the draft regulation on February 19, 2010. Staff used feedback from this session, plus comments developed by other regions, to draft the following comments.

General Support

1. **Create An Enabling Regulation** – We strongly support the 'open' approach to developing source protection plans that has been proposed in the draft regulation. It is essential that the Source Protection Plan regulation be an enabling regulation that acts as a floor rather than a prescriptive one that acts as a ceiling. The overall proposed approach to developing source protection plans sets reasonable parameters for consistency while allowing the integration of local knowledge and expertise from municipalities, source protection committees and the public.

2. **Collect Climate Data** – We strongly support the ability to include Plan policies specifying actions to ensure data on climate conditions in an area is gathered on an ongoing basis.

3. **Protect Private Source Water** – We strongly support the ability to include Plan policies governing incentive and education/outreach programs pertaining to non-Terms of Reference drinking water systems (e.g. private wells and intakes). However, it should also be permissible to include policy recommendations pertaining to the protection of non-Terms of Reference systems that municipalities could consider implementing through their planning process. Perhaps this would qualify as a Strategic Action Policy.

4. **Strategic Action Policies** – It is our understanding that Strategic Action policies do not have legal effect under the CWA but can include non-binding policies about local matters that are not identified as drinking water threats in an assessment report but that would in general ensure that the objectives of the source protection plan are achieved. We strongly support this type of policy and it should work to recognize the role that SPCs can play in raising awareness of, and filling gaps between, emergency response protocols for spills along transportation corridors (e.g. highways, railways, and shipping lanes) and at facilities. For example, a SPC may want to review emergency response plans and make sure that the link is there to protect drinking water sources as well as adequate communications between agencies / municipalities and other jurisdictions in case of a spill in a vulnerable area.

5. **Exempt Risk Management Plans** – We support the ability of the Risk Management Official to exempt on a case-by-case basis, holders of other prescribed instruments from requiring a risk management plan if the holder can demonstrate that existing instrument provisions address the drinking water threat of concern (avoid regulatory overlap). However, Section 19.37 should be revised to provide the risk management official the option to refuse the notice and require a risk management plan if the prescribed instrument is insufficient to address the drinking water threat and will not be updated in a timely manner.

6. **Early Notification and Consultation** – We strongly support notifying municipalities and potentially affected property owners early in the planning process and providing opportunities for early consultation. This will help ensure that key stakeholders and property owners are engaged early in the process and involved in the development of the Plan. However, early engagement should not be regulated. Most regions undertake early engagement because it is a best practice, and it works best when the process is fluid and responsive to local needs. Early engagement efforts also vary from region to region depending on their size, complexity, and staffing resources.

7. **Written Rationale for Policies** – We support the requirement to provide rationale for Plan policies. It is necessary for transparency and accountability to all parties affected by and responsible for implementing Plan policies, as well as providing important information to the Minister when approving a Plan and to bodies handling appeals. However, the documentation of rationale should not be prescribed. It should be left to the discretion of the source protection committee to decide how much rationale they embed in the plan versus what they provide in other documents. Rationale will be documented in a variety of ways and to varying levels for each policy decision through staff reports, meeting minutes, and a separate rationale document. It is not appropriate to include detailed rationale for each

policy in the Plan itself, Plans should include high-level preamble that notes the principles used in the policy development process, as is done in municipal official plans and the Provincial Policy Statement.

8. **Plan Corrections and Amendments** – We strongly support the ability to make minor editorial clarifications and corrections to proposed and approved Source Protection Plans (with agreement from the source protection committee) without requiring approval of the Minister or public consultation. When plans are being amended it is very important that source protection committees be able to focus their consultation efforts on the part of their region that is affected by the proposed amendment.

Outstanding Concerns

9. **No Limits on Policy Approaches** – If source protection plans are to be "locally developed", then the regulation should place as few limitations as possible on the use of policy approaches to address drinking water threats. Municipalities, source protection authorities and committees, the province, First Nations, agricultural, industrial, commercial and environmental sectors, and the public must be able to evaluate all available options and determine the most appropriate approach based on local needs, conditions and principles.

10. **Long-Term Provincial Funding** – The province has generously funded the source protection planning initiative through its first three phases (terms of reference, assessment reports and source protection plans). There also needs to be stable long-term provincial funding through the final three phases (implementation of the Plan, monitoring of Plan policies and review and updating of the Plan) as these final phases will determine the overall success or failure of source protection planning in Ontario.

11. **Report on Instrument Conformity** – It will be essential to ensure that all provincial personnel who issue or amend instruments have been fully informed about differing source protection plan policies across the province, that they understand and support their new obligation to utilize instruments to satisfy source protection plan objectives, and that they consistently include adequate conditions across the province. If the onus is on the crown to ensure prescribed instruments conform to Source Protection Plan policies then there needs to be a reporting mechanism by which the crown can demonstrate to local Source Protection Committees that conformity is occurring and is effectively addressing drinking water threats.

12. **No Prescribed Lists** – A list of specific instruments or provisions of the Planning Act should not be prescribed in regulation because there is the risk that one will be missed. Instead the regulation should simply declare all documents issued under existing legislation are prescribed instruments for use under the Clean Water Act and "any provisions under the Planning Act" are prescribed for use under the Clean Water Act.

13. **Instrument Training Required** – Before instruments can be relied on as policies to address drinking water threats, municipalities and source protection committees

will require a substantial amount of information and training from the MOE about what instruments exist, who administers them, how they are administered, who will develop the additional conditions to address drinking water threats, and how those conditions will be implemented, enforced and monitored. This information should be in guidance or perhaps in an “Instruments Catalogue” and must form part of the training provided to Source Protection Committees and municipalities once the regulation is finalized.

14. **Risk Management Guidance Required** – A guidance document, or the Risk Management Catalogue being developed by the MOE, should include information about land use activities for which there are no know risk mitigation strategies (short list of activities that may have to be addressed through prohibition), information from industry experts about how to mitigate threats (e.g. inefficient for each region to bring in a fuel storage expert), and an evaluation of how each risk management measure listed in the catalogue has been received by various sectors and how successful its implementation has been (was the policy embraced and readily implemented or did it meet opposition and was difficult to implement).

15. **Municipalities Can Go Beyond Plan Policies** – The Clean Water Act does not limit municipalities from using their powers under the Planning Act to direct or limit land use to protect their municipal sources of drinking water in advance of source protection plans. Similarly, the Clean Water Act will not limit municipalities from using these same powers to direct or limit land use more stringently than their local source protection plan to protect their municipal sources of drinking water. The draft regulation should in no way hinder this municipal ability.

16. **Conditional Zoning Needs Regulation** – Municipal staff indicated that recent Planning Act amendments created a new tool called conditional zoning. They feel this new tool would be very useful in addressing drinking water threats. To have this tool available, the Ministry of Municipal Affairs and Housing needs to write a regulation enabling its use. MOE must ensure that this happens in time for conditional zoning to be used as a policy option in source protection plans.

17. **Amending OPs and Zoning By-laws Quickly** – There is concern about how long it will take municipalities to amend their official plans and zoning by-laws to conform with, and have regard for, source protection plan policies. It is recognized that the five year official plan review process is rigorous and requires substantial time and resources. There should be a way to expedite official plan and zoning by-law amendments that are conforming, and having regard for, source protection plan policies.

18. **Appeal Process** – If a section of an official plan or zoning by-law that is conforming to a source protection plan is appealed, that appeal should be handled by the Environmental Review Tribunal as an appeal of a source protection plan policy, not the Ontario Municipal Board as an appeal of an official plan or zoning by-law.

19. **Must Allow Other Approaches** - It is very important that the regulation allow other policy approaches to be used to address drinking water threats. This will allow any

missed, innovative or locally unique policy approaches to be integrated into source protection plans.

20. **Authority Granted under Other Legislation** – There is a lot of existing legislation that provides instruments and powers that would be useful in addressing drinking water threats (e.g. Municipal Act, Federal Fisheries Act). It is important to allow the use of all instruments, not just provincial, to mitigate threats. This could be especially helpful when trying to address federally owned land and/or federally controlled activities (e.g. airports). It is understood that provincial legislation cannot be enforced on federal lands or activities.

21. **Land Acquisition & Municipal Infrastructure and Operations** – The regulation does not identify two Policy approaches discussed in the Clean Water Act: (1) land purchase, lease, or expropriation and (2) municipal infrastructure and operations. The first tool is enabled by Section 92 of the *Act*, which grants land acquisition powers to municipalities and source protection authorities for the purpose of implementing a source protection plan. The second tool could be beneficial in situations where improvements or modifications to municipal works (e.g. deepening municipal well casing) or changes in operations protocols (e.g. road salt application rates) would be an effective way to address a threat or multiple threats. It is understood that municipal works and operations by-laws are bound to conform to significant threat policies. **Provincial Funding** – There should be a substantial provincial grant program that municipalities can apply to for funding to cover the cost of land purchase, lease or expropriation and improved or modified municipal works and operations.

22. **Monitoring as a Policy Approach** – Monitoring may effectively address some threats and should be recognized as a Plan policy option to address drinking water threats.

23. **Broad Spectrum of Monitoring Objectives** –The regulation should allow a broad spectrum of monitoring policies. Monitoring should be able to encompass water quality and quantity measurements if appropriate. Limitations should not be placed on what can be monitored as part of a Plan.

24. **Do not Describe Monitoring Activities** – Monitoring policies should outline their objective and desired results, but should not be required to include details about specific monitoring activities. This information may not be know in time to meet source protection plan deadlines and flexibility will allow the persons or body responsible for implementing a monitoring policy to undertake it in the most efficient and cost effective manner (a detailed policy outlining how the monitoring must be done could limit the ability to use new technologies or methods as they become available). Also monitoring activities may need to be altered or changed if they are not achieving the objectives of the policy; this should not require a plan amendment.

25. **Building Strong Municipal Partnerships** – Municipal engagement and buy-in during the development of source protection plans will be a prerequisite for success. We strongly encourage the MOE to work closely with the Ontario Ministry of Municipal Affairs and Housing and the Association of Municipalities of Ontario to

help raise municipal understanding of, and support for, the process. These efforts would complement our local and regional presentations to councils and staff.

4.0 2010 MRSPC Meeting Schedule

Date: March 23, 2010
To: Mississippi-Rideau Source Protection Committee
From: Sommer Casgrain-Robertson, Co-Project Manager
Mississippi – Rideau Source Protection Region

Recommendation:

1. That the Mississippi-Rideau Source Protection Committee approve the following meeting schedule for the remained of 2010:
    - **Thursday, May 6**
        - 7pm (meet & greet at 6pm), Carp
    - **Thursday, June 3**
        - 7pm (meet & greet at 6pm), Smiths Falls
    - **Thursday, August 12**
        - 7pm (meet & greet at 6pm), Kemptville
    - **Thursday, September 2**
        - 7pm (meet & greet at 6pm), Lanark Village
    - **Thursday, October 7**
        - 1pm, RVCA
    - **Thursday, November 4**
        - 1pm, RVCA
    - **Thursday, December 2**
        - 1pm, RVCA

Background
It is proposed that the MRSPC meet every month in 2010, except for July when the Draft Assessment Report is going through public consultation. When the meeting schedule is posted a footnote will be included informing the public that under rare circumstances meetings may be relocated or cancelled so people are encouraged to visit the website or contact staff to confirm meeting details.

If approved, the finalized 2010 MRSPC Meeting Schedule will be:
- Circulated to all MRSPC and Source Protection Authority members;
- Posted on our website; and
- Advertised in our monthly Chair's newspaper column and next Quarterly Update.

5.0 Community Outreach

Date: March 23, 2010
To: Mississippi-Rideau Source Protection Committee
From: Sommer Casgrain-Robertson, Co-Project Manager
Mississippi – Rideau Source Protection Region

Recommendation:

1. That the Mississippi-Rideau Source Protection Committee receive the following report for information.

Background
Staff and MRSPC members participate in many different community outreach activities that raise awareness and promote the source protection planning process. These activities include information booths at events, presentations at meetings and articles in newsletters and local papers. It is important that staff and members keep each other informed about the activities they are involved in so that we can coordinate our participation and prepare appropriate materials in advance. This includes coordinating with our neighbouring regions for meetings and events that cover Eastern Ontario.

Past Activities
Members & staff are asked to give a verbal update on any other activities that took place in the past month related to source protection.

1. *MOE Chairs Conference Call*
    - March 9 (Brian, Sommer and Chair Stavinga participated)
2. *Regional Youth Water Symposium*
    - March 9, University of Ottawa (Chair Stavinga and Patricia Larkin attended)
3. *Ontario Woodlot Association, Lower Ottawa Valley Chapter AGM*
    - March 13, (Janet Presented)
4. *Ottawa IPZ Open Houses*
    - March 22, Tom Brown Arena (staff and Members attended)
    - March 31, Ron Kolbus Lakeside Center (staff and Members attended)
5. *Mississippi Valley Source Protection Authority Meeting*
    - March 24, Almonte (Sommer presented)
6. *Envirothon – "Protecting Our Groundwater" presentation*
    - March 23, Carleton Place High School (Sommer presented)
    - March 25, Perth High School (Sommer presented)
7. *Maple Grove Elementary School Water Awareness Assembly*
    - March 26, Lanark (Members attended)
8. *OFA Consultation Session on Draft Source Protection Plan Regulation*
    - March 29 & 30, Kempenfelt Centre south of Barrie (Members attended)

Upcoming Activities
Members & staff are asked to give a verbal update about any other activities they know about in the coming months related to source protection.

1. *MOE Chairs Conference Call*
    - April 12 (Sommer, Brian and Chair Stavinga will participate)
2. *Project Managers Conference Call*
    - April 14 (Sommer and Brian participating)
3. *Mississippi Valley Source Protection Authority Meeting*
    - April 21, Almonte (Sommer presenting)
4. *Rideau Valley Source Protection Authority Meeting*
    - April 22, Manotick (Sommer presenting)
5. *Ottawa Eco-Stewardship Fair*
    - April 24, RA Centre in Ottawa (Sommer will have a booth)
6. *Ontario Water Works Association/Ontario Municipal Water Association Joint Annual Conference & Trade Show*
    - May 3, Windsor (Chair Stavinga attending)
7. *Quarterly Chairs Meeting*
    - May 4 & 5, Windsor (Chair Stavinga attending)