

Summary of Assessment Report Technical Studies¹

The following table presents each type of study along with the purpose. The reader may wish to refer to the Glossary for definitions of some of the terms used below.

Study	Purpose
Watershed Characterization	<ul style="list-style-type: none"> • Describe the natural features, land use, and settlement of the twelve major watersheds, along with the sources of drinking water, water use, water quality, and known water-related problems in Cataraqui Source Protection Area, mainly by using existing information.
Water Budget	<ul style="list-style-type: none"> • Answer four questions: <ul style="list-style-type: none"> – Where is the water? – How does the water move? – What and where are the stresses on the water? – What are the trends? • Conduct more detailed research about specific sources of drinking water as warranted
Groundwater Vulnerability Analysis	<ul style="list-style-type: none"> • Identify and delineate vulnerable areas called “wellhead protection areas” around eligible² supply wells. Assign scores for each area to signify its vulnerability and account for uncertainty. • Identify and delineate other vulnerable groundwater areas on the broader landscape called “highly vulnerable aquifers” and “significant groundwater recharge areas”. Assign scores for each area to signify its vulnerability and account for uncertainty.
Surface Water Vulnerability Analysis	<ul style="list-style-type: none"> • Identify and delineate vulnerable areas called “intake protection zones” around eligible² intake pipes. • Assign scores for each intake and zone to signify its vulnerability and to account for uncertainty.
Threats Inventory and Issues Evaluation	<ul style="list-style-type: none"> • Identify and evaluate “issues” (i.e. documented water quality problems) that have impacted or may impact eligible drinking water sources. • Inventory “pathways” (such as a sewer pipe) along which contaminants could more easily travel to an eligible drinking water source. • Inventory existing and future drinking water “threats” in the vulnerable areas. Calculate a “hazard score” for each threat to prioritize them.
Water Quality Risk Assessment	<ul style="list-style-type: none"> • Rank drinking water threats for each parcel of land in a vulnerable area.
Water Quantity Risk Assessment	<ul style="list-style-type: none"> • Evaluate the longer-term sustainability of eligible² surface water intakes and well supplies in the context of the local watershed, as warranted.
Assessment Report	<ul style="list-style-type: none"> • Summarize all findings about vulnerable areas and risks to eligible² drinking water sources.

Notes:

1. Independent peer reviewers have and will be engaged to ensure the technical work is sound and consistent with Provincial requirements.
2. Eligible drinking water intakes and wells in the Cataraqui Source Protection Area are listed in Appendix ‘C-1’ to these Terms of Reference.

Matters Requiring Consultation with Neighbouring Source Protection Committees and American Agencies

As shown on the map in Appendix 'A', the Cataraqui Source Protection Area is bordered to the west by the Quinte Source Protection Region, to the north by the Mississippi-Rideau Source Protection Region, to the east by the Raisin – South Nation Source Protection Region, and to the south by New York State in the United States of America. At this time we are aware of the following matters that will necessitate consultation with other source protection committees (SPCs) and American agencies:

(1) Shared Municipalities

There is a need for a coordinated approach to communications, information management, technical assessment work, and source protection planning in municipalities that are shared between two or more source protection committees. This approach will build on an established record of open communication and sharing amongst the Eastern Ontario SPCs and conservation authority staff. Six of the twelve municipalities that have area within the Cataraqui also fall into one or more of the adjacent source protection regions. We will strive to coordinate our efforts across watershed boundaries where possible, recognizing that this will facilitate implementation activities by the municipalities.

(2) Information Management

The source protection committees in Eastern Ontario will need to understand how information related to drinking water source protection is being organized and stored by municipalities and source protection authorities who are undertaking assessment and planning work. They will also need to create protocols for sharing it with others in the community. Under the umbrella of legislation and regulations, there may be opportunities to develop shared local approaches to information management.

(3) Regional Groundwater Flow, Significant Recharge Areas, and Vulnerability Mapping

There will be a need to discuss both technical findings and policy recommendations related to groundwater with the neighbouring source protection committees. Groundwater resources in Eastern Ontario may flow between surface watersheds, such that the protection of one aquifer is of common interest to two or more source protection committees. For example, geologic formations in the Cataraqui may recharge groundwater aquifers that supply public and private wells in the Mississippi-Rideau.

Significant groundwater recharge areas are being identified as part of the assessment reports in each source protection area. These occur where there is a high volume of water moving from the surface into the ground at a given location, and the receiving aquifer discharges to a coldwater ecosystem and/or a municipal residential drinking water system. It will be helpful to compare mapping of these features across surface watershed boundaries, and then to either eliminate discrepancies or document a rationale for their existence.

Much of the groundwater in the Cataraqui is considered highly vulnerable to contamination from the surface, owing to the shallow overburden and fractures in the bedrock. There will be a need for the source protection committees in Eastern Ontario, which share this condition, to look at how such aquifers are delineated and protected. There may also be opportunities to share lessons learned with the other source protection committees that face this challenge elsewhere in Ontario.

(4a) Lake Ontario – St. Lawrence River Technical Studies and Agreements

The Cataraqui includes portions of the eastern end of Lake Ontario and the upper reaches of the St. Lawrence River. There is a need for the Cataraqui SPC to consult with the Quinte SPC (and others) about matters pertaining to the Lake, and the Raisin-South Nation SPC about matters pertaining to the River. Environmental agencies in New York State will be consulted with regard to our shared interest in Lake Ontario and the St. Lawrence River. This will allow for technical findings about surface water resources to be shared, and for discussions about how proposed source protection policies relate to Great Lakes agreements and targets.

(4b) Bay of Quinte Area of Concern (Quinte Source Protection Committee)

The eastern end of the Bay of Quinte Area of Concern includes area in both the Cataraqui and Quinte. There will be a need for the Committees to work together (and with the Trent Conservation Coalition SPC). Drinking water source protection research and planning may assist the communities around the Bay to achieve the objectives of the Remedial Action Plan for the Area of Concern.

(4c) A.L. Dafoe Drinking Water System (Quinte Source Protection Committee)

The source water for the A.L. Dafoe Drinking Water System in the Town of Greater Napanee is located along the Adolphus Reach of the Bay of Quinte, within the Cataraqui area. The distribution system for the plant serves about 8,500 residents of the adjacent Quinte region. This source water is presently being examined through the Eastern Lake Ontario – Upper St. Lawrence River Intake Protection Zone Study. The Town is involved through its participation on the Technical Advisory Group for the Study. There will be a need to discuss both technical findings and planning recommendations for this source with the Quinte SPC, perhaps as part of broader discussions about source protection in the Bay of Quinte.

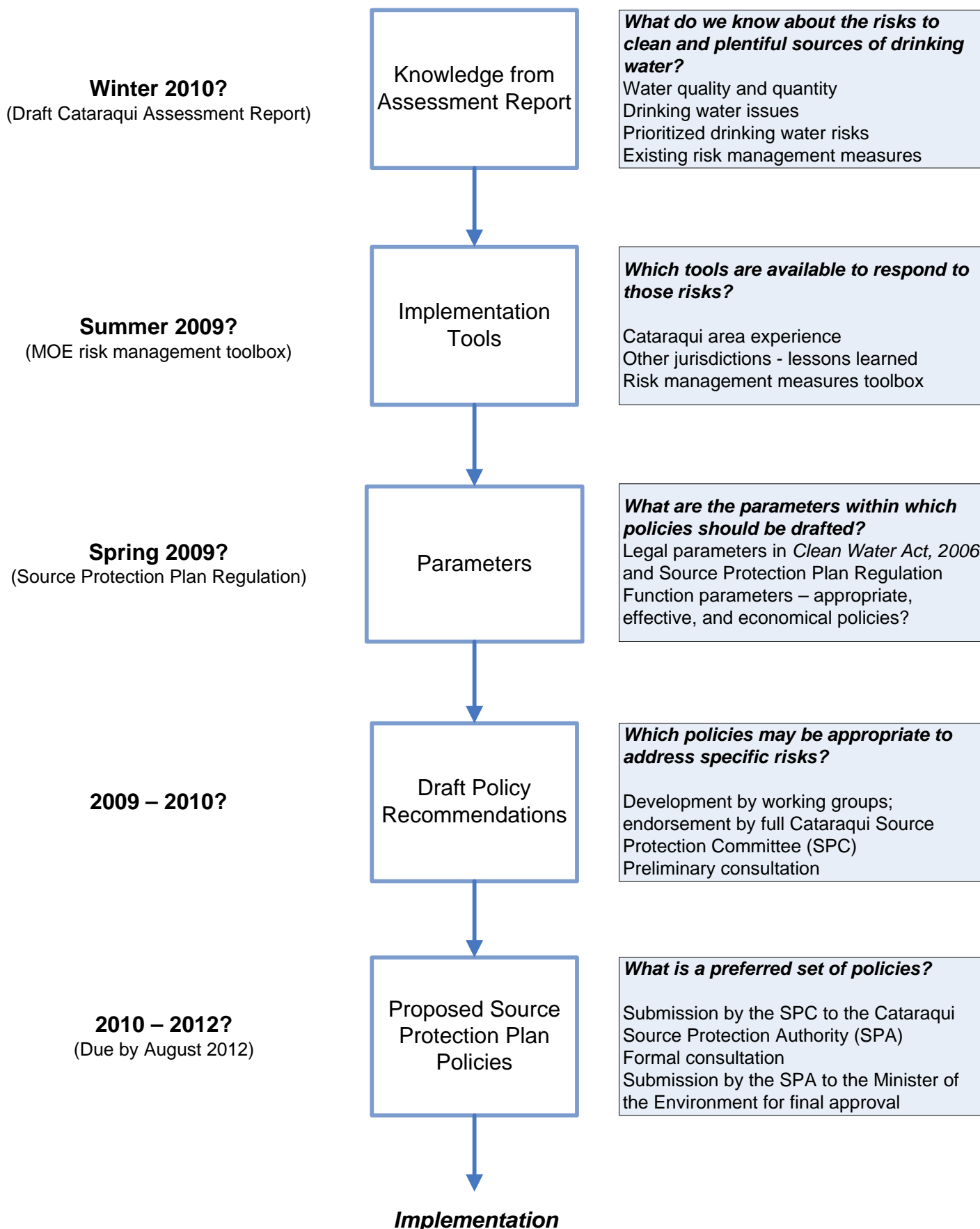
(4d) Emergency Response on the St. Lawrence River (Raisin – South Nation Source Protection Committee)

The entire Cataraqui area ultimately drains to the St. Lawrence River downstream of Brockville, at the boundary of the Raisin – South Nation Source Protection Region. Acute contamination from spills poses a risk to downstream communities such as Maitland and Prescott. The issue of spills to source water is presently being considered through the Eastern Lake Ontario – Upper St. Lawrence River Intake Protection Zone Study. There will be a need to consider existing agreements, policies, and emergency response plans, and to discuss technical findings and planning recommendations with the Raisin – South Nation Source Protection Region. Agencies in New York State may also be interested in discussing this topic. The SPCs will transfer their knowledge about spills to municipalities and other authorities who are responsible for emergency response.

(5) Coordinated Approach to Plan / Policy Development

The Cataraqui Source Protection Committee will work with the adjacent SPCs (and others across Ontario) to share our draft source protection plan policies. For example, we will work together to assess the costs and benefits of various policy alternatives for addressing a risk. Sharing draft policies will help to collectively save time and effort and will likely result in clearer and more effective source protection plans. It will also assist municipalities that fall into two or more source protection areas by contributing to common policy approaches for risks that occur in more than one area.

Conceptual Framework for Source Protection Planning Cataraqui Source Protection Area



Responsibility for Administering Assessment and Planning Work

The preparation of the Assessment Report and Source Protection Plan for the Cataraqui Source Protection Area will be coordinated by the Cataraqui Source Protection Committee (SPC) over the next five years. The SPC will be supported by other public bodies who will administer the preparation of draft materials for review by the Committee.

Ontario Regulation 287/07 requires that the Terms of Reference for drinking water source protection indicate which body will be responsible for administering each task. The Cataraqui Source Protection Authority normally performs related administrative functions, with the Cataraqui Region Conservation Authority as its agent. However, under Section 4 of the Regulation, municipalities also have the option of administering tasks that are related to a specific drinking water system.

The Cataraqui SPC consulted with the twelve municipalities in the Source Protection Area about the administration of tasks; the table below reflects their interest at this time for the Cataraqui Source Protection Authority to perform this function.

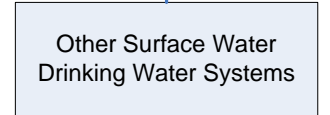
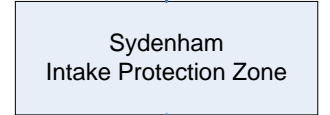
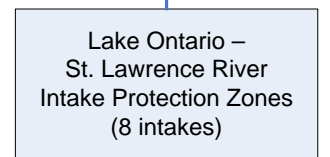
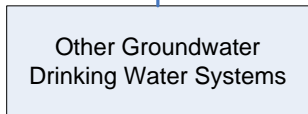
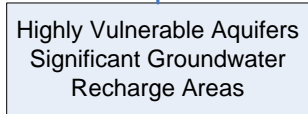
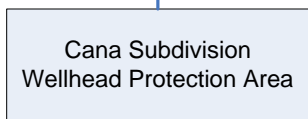
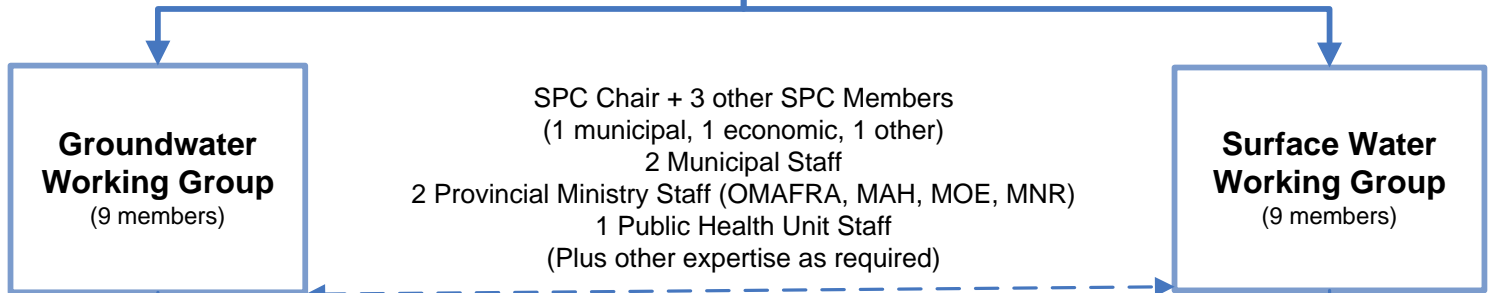
Document	Task	Administering Body¹
<i>Assessment Report</i>	Remaining technical and risk assessment work	Cataraqui Source Protection Authority
	Public consultation on technical findings and risk assessment	Cataraqui Source Protection Authority
	Assessment Report compilation	Cataraqui Source Protection Authority
<i>Source Protection Plan</i>	Policy development	Cataraqui Source Protection Authority
	Public consultation on draft policies	Cataraqui Source Protection Authority
	Source Protection Plan compilation	Cataraqui Source Protection Authority

Notes:

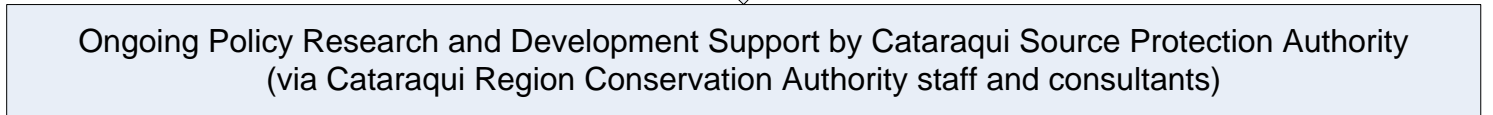
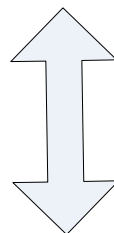
1. The Township of Leeds and the Thousand Islands has indicated that it may elect to administer tasks at a future date.

Proposed Working Groups Structure Cataraqui Source Protection Committee

Note: The number, composition, and mandate of the working groups is subject to change as the planning process evolves. The intent of the Cataraqui Source Protection Committee (SPC) is to receive knowledge and ideas from local communities for consideration in the source protection planning process.



Each working group would be responsible for preparing draft recommendations related to the topics shown. They would report their findings and recommendations to the SPC, which would consider how to incorporate them into the Source Protection Plan. The working groups would host public events (such as roundtables) where other stakeholders could provide input. The SPC might also choose to form other working groups to discuss an individual topic or location.





Cataraqui Source Protection Area

Appendix F-4 to Cataraqui Terms of Reference (June 30, 2008)

Proposed Timeline for Assessment Report and Source Protection Plan^{1,2}

Task / Input	Assessment			Planning		
	2008	2009	2010	2011	2012	
Assessment Report Regulation and Director's Rules		Reg Rules				
Proposed Terms of Reference		DUE approval				
Proposed Assessment Report			DUE approval			
Source Protection Regulation and Risk Management Toolbox		Reg Tools				
Review of Existing Legislation, Policies, and Programs						
Proposed Source Protection Plan						DUE approval
Implementation, Monitoring, Reporting, and Review/Updating						

Notes:
 1. This timeline is based on the expected dates for release of regulations and standards by the Ontario government.
 2. The due dates for each document are based on Ontario Regulation 285/07 (Time Limits).

Appendix F-5 to Cataraqui Terms of Reference (June 30, 2008)

Drinking Water Source Protection

Summary of Proposed 2009/10 - 2012/13 Budget Estimates^{1,2}

Operating and Administrative Activities

Business Plan Section	2008/09	2009/10	2010/11	2011/12	2012/13	Total 2009/10 - 2012/13
	<i>Business Plan / Estimate</i>	<i>Estimate</i>	<i>Estimate</i>	<i>Estimate</i>	<i>Estimate</i>	<i>Estimate</i>
7.2.1.1 Coordinating and Supporting	\$512,500	\$461,000	\$368,200	\$383,500	\$163,900	\$1,376,600
7.2.1.2 Source Protection Committee	\$49,250	\$65,800	\$77,200	\$54,600	\$28,000	\$225,600
7.2.1.3 Formal Consultation, Communication, and Outreach	\$23,500	\$20,600	\$22,100	\$21,200	\$25,600	\$89,500
7.2.1.4 Information Management	\$4,000	\$4,100	\$4,200	\$4,300	\$1,900	\$14,500
7.2.1.5 Pilot Studies	\$50,000	\$0	\$0	\$0	\$0	\$0
7.2.1.6 Other Tasks for SPP	\$0	\$90,200	\$100,900	\$103,400	\$47,600	\$342,100
Subtotal	\$639,250	\$641,700	\$572,600	\$567,000	\$267,000	\$2,048,300

Technical Activities³

Business Plan Section	2008/09	2009/10	2010/11	2011/12	2012/13	Total
7.2.2.1 Water Budget and Water Quantity Risk Assessment	\$195,850	\$0	\$0	\$0	\$0	\$0
SUBTOTAL	\$195,850	\$0	\$0	\$0	\$0	\$0
7.2.2.2 Surface Water Vulnerability Analysis	\$45,000	\$0	\$0	\$0	\$0	\$0
7.2.2.3 Groundwater Vulnerability Analysis ⁴	\$195,000	\$0	\$0	\$0	\$0	\$0
7.2.2.4 Threat Inventory and Issues Evaluation	\$71,500	\$0	\$0	\$0	\$0	\$0
7.2.2.5 Water Quality Risk Assessment	\$30,000	\$195,600	\$86,900	\$0	\$0	\$282,500
Subtotal⁵	\$341,500	\$195,600	\$86,900	\$0	\$0	\$282,500

TOTAL	\$1,176,600	\$837,300	\$659,500	\$567,000	\$267,000	\$2,330,800
--------------	--------------------	------------------	------------------	------------------	------------------	--------------------

Notes:

1. The Cataraqui SPC intends to submit a draft Source Protection Plan to the MOE by August 20, 2012. Additional planning-related costs (e.g. final revisions, communication) will be incurred after that date.
2. Values in out years reflect potential inflation and salary & benefit adjustments.
3. Does not include assessment or planning work on drinking water systems that may be elevated into the scope of work under Sections 8 and 10 of the Ontario *Clean Water Act, 2006*.
4. Value for 2008/09 reflects approved Business Plan plus other requested technical study funds.
5. Additional MOE technical funds may be requested during 2008/09.

Appendix G to Cataraqui Terms of Reference (June 30, 2008)¹: Detailed Work Plan Information

Work Plan to Complete the Assessment Report

By Source Protection Area/ Drinking Water System Name	Task	Assigned Lead(s)	Estimated Completion Date	Estimated Cost
Cataraqui Source Protection Area	Coordinating and supporting projects for the assessment report	Cataraqui Source Protection Authority	2010-Mar-31	\$2,053,590.00
Cataraqui Source Protection Area	Undertaking communications initiatives for the assessment report	Cataraqui Source Protection Authority	2010-Mar-31	\$59,669.80
Cataraqui Source Protection Area	Information management for the assessment report preparation	Cataraqui Source Protection Authority	2010-Mar-31	\$82,351.18
Cataraqui Source Protection Area	Undertaking a watershed characterization	Cataraqui Source Protection Authority	2008-Mar-31	\$26,225.48
Cataraqui Source Protection Area	Conducting a conceptual water budget	Cataraqui Source Protection Authority	2007-Mar-30	\$155,596.14
Cataraqui Source Protection Area	Conducting a tier 1 water budget analysis and stress assessment	Cataraqui Source Protection Authority	2008-Jun-30	\$160,726.00
Cataraqui Source Protection Area	Conducting a tier 2 water budget analysis and stress assessment	Cataraqui Source Protection Authority	2008-Dec-31	\$195,850.00
Cataraqui Source Protection Area	Delineating and applying vulnerability scores to HVAs	Cataraqui Source Protection Authority	2010-Mar-31	\$145,673.58
Cataraqui Source Protection Area	Identifying issues, inventorying threats and assessing hazards in HVAs	Cataraqui Source Protection Authority	2009-Jan-30	\$20,000.00
Cataraqui Source Protection Area	Assessing risks in HVAs	Cataraqui Source Protection Authority	2009-Jul-31	\$0.00
Cataraqui Source Protection Area	Applying vulnerability scores to SGRAs	Cataraqui Source Protection Authority	2010-Mar-31	\$0.00
Cataraqui Source Protection Area	Identifying issues, inventorying threats and assessing hazards in SGRAs	Cataraqui Source Protection Authority	2009-Jan-30	\$0.00
Cataraqui Source Protection Area	Assessing risk in SGRAs	Cataraqui Source Protection Authority	2009-Jul-31	\$0.00
Cataraqui Source Protection Area	Identifying issues, inventorying threats and assessing hazards in WHPAs or IPZs	Cataraqui Source Protection Authority	2009-Jan-30	\$87,330.00

¹ An "Other Assessment Report Preparation Task" has been removed from this version in accordance with Cataraqui Source Protection Authority Resolution CSPA 004-09 (March 25, 2009).

Cataraqui Source Protection Area	Assess risk in WHPAs or IPZs	Cataraqui Source Protection Authority	2009-Jul-31	\$300,674.00
Cataraqui Source Protection Area	Consultation on the overall proposed assessment report	Cataraqui Source Protection Authority	2010-Mar-31	\$20,500.00
Cataraqui Source Protection Area	Other Assessment Report Preparation Task: Operation of the Cataraqui Source Protection Committee.	Cataraqui Source Protection Authority	2010-Mar-31	\$133,781.71
Cataraqui Source Protection Area	Other Assessment Report Preparation Task: Additional Tier 2 water quality risk assessment research on specific threats that may pose a high risk and for which there is a high level of uncertainty, concurrent with work on the Source Protection Plan.	Cataraqui Source Protection Authority	2011-Mar-31	\$50,000.00
Municipal Residential Drinking Water Systems				
A.L. Dafoe Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Aug-29	\$32,656.00
Sydenham Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Dec-31	\$24,520.00
Sandhurst Shores Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Aug-29	\$32,656.00
Point Pleasant Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Aug-29	\$32,656.00
Miller Manor Apartments Well Supply	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2009-Jun-30	\$65,000.00
Lansdowne Well Supply	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Dec-31	\$133,100.00
Kingston Central Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Aug-29	\$32,656.00
James W. King Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Aug-29	\$32,656.00
Fairfield Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Aug-29	\$32,656.00
Cana Well Supply	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2009-Jun-30	\$65,000.00

Brockville Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Aug-29	\$32,656.00
Bath Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Aug-29	\$32,656.00
Sydenham Water Treatment Plant	Identifying issues, inventorying threats and assessing hazards in WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Oct-31	\$83,070.00
Sydenham Water Treatment Plant	Assess risk in WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Dec-31	\$41,850.00

Work Plan to Complete the Source Protection Plan

By Source Protection Area/ Drinking Water System Name	Task	Assigned Lead(s)	Estimated Completion Date	Estimated Cost
Cataraqui Source Protection Area	Coordinating and supporting projects for the source protection plan (SPP)	Cataraqui Source Protection Authority	2012-Aug-20	\$915,600.00
Cataraqui Source Protection Area	Undertaking communications initiatives for the source protection plan	Cataraqui Source Protection Authority	2012-Aug-20	\$47,000.00
Cataraqui Source Protection Area	Information management for source protection plan preparation	Cataraqui Source Protection Authority	2012-Aug-20	\$10,400.00
Cataraqui Source Protection Area	Policy development to address drinking water threats (where required and/or permissible in Act/Regs)	Cataraqui Source Protection Authority	2012-Aug-20	\$85,525.00
Cataraqui Source Protection Area	Policy development for monitoring (where required, advisable and/or permissible in Act & Regs)	Cataraqui Source Protection Authority	2012-Aug-20	\$85,525.00
Cataraqui Source Protection Area	Policy development for Great Lakes elements (where required/permissible in Act & Regs)	Cataraqui Source Protection Authority	2012-Aug-20	\$85,525.00
Cataraqui Source Protection Area	Establishing timelines for policy implementation	Cataraqui Source Protection Authority	2012-Aug-20	\$85,525.00
Cataraqui Source Protection Area	Consultation on the overall proposed source protection plan	Cataraqui Source Protection Authority	2012-Aug-20	\$21,900.00
Cataraqui Source Protection Area	Other Source Protection Plan Preparation Task: Operation of the Cataraqui Source Protection Committee.	Cataraqui Source Protection Authority	2012-Aug-20	\$159,800.00

Detailed Information on Municipal Residential Drinking Water System(s)

Drinking Water System Type (planned or existing)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Source Water Type (surface, ground, both)	Number of Wells
Existing	220002226	A.L. Dafoe Water Treatment Plant	Town of Greater Napanee	Greater Napanee Utilities	Surface Water	0
Number of Surface Water Intakes	Comments					
1	This drinking water system is supplied by source water in the Cataraqui Source Protection Area but serves residents in the adjacent Quinte Source Protection Region.					

Drinking Water System Type (planned or existing)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Source Water Type (surface, ground, both)	Number of Wells
Existing	220002217	Bath Water Treatment Plant	Loyalist Township	Loyalist Township	Surface Water	0
Number of Surface Water Intakes	Comments					
1						

Drinking Water System Type (planned or existing)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Source Water Type (surface, ground, both)	Number of Wells
Existing	220001263	Brockville Water Treatment Plant	City of Brockville	City of Brockville	Surface Water	0
Number of Surface Water Intakes	Comments					
1	This water system provides treated water for the Elizabethtown-Kitley Distribution System (DWS # 220007777).					

Drinking Water System Type (planned or existing)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Source Water Type (surface, ground, both)	Number of Wells
Existing	220006053	Cana Well Supply	City of Kingston	Utilities Kingston	Groundwater	1
Number of Surface Water Intakes	Comments					
0						

Drinking Water System Type (planned or existing)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Source Water Type (surface, ground, both)	Number of Wells
Existing	220009229	Fairfield Water Treatment Plant	Loyalist Township	Loyalist Township	Surface Water	0
Number of Surface Water Intakes	Comments					
1						

Drinking Water System Type (planned or existing)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Source Water Type (surface, ground, both)	Number of Wells
Existing	220001254	James W. King Water Treatment Plant	Town of Gananoque	Town of Gananoque	Surface Water	0
Number of Surface Water Intakes	Comments					
1						

Drinking Water System Type (planned or existing)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Source Water Type (surface, ground, both)	Number of Wells
Existing	220001860	Kingston Central Water Treatment Plant	City of Kingston	Utilities Kiingston	Surface Water	0
Number of Surface Water Intakes	Comments					
1						

Drinking Water System Type (planned or existing)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Source Water Type (surface, ground, both)	Number of Wells
Existing	210001022	Lansdowne Well Supply	Township of Leeds and the Thousand Islands	Ontario Clean Water Agency	Groundwater	2
Number of Surface Water Intakes	Comments					
0						

Drinking Water System Type (planned or existing)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Source Water Type (surface, ground, both)	Number of Wells
Existing	260006958	Miller Manor Apartments Well Supply	United Counties of Leeds and Grenville	United Counties of Leeds and Grenville	Groundwater	1
Number of Surface Water Intakes	Comments					
0	This 17 unit residential apartment building is located in Mallorytown, Ontario in the Township of Front of Yonge.					

Drinking Water System Type (planned or existing)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Source Water Type (surface, ground, both)	Number of Wells
Existing	220001851	Point Pleasant Water Treatment Plant	City of Kingston	Utilities Kingston	Surface Water	0
Number of Surface Water Intakes	Comments					
1	The name of this facility was recently changed from: Kingston West Water Treatment Plant.					

Drinking Water System Type (planned or existing)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Source Water Type (surface, ground, both)	Number of Wells
Existing	220003877	Sandhurst Shores Water Treatment Plant	Town of Greater Napanee	Greater Napanee Utilities	Surface Water	0
Number of Surface Water Intakes	Comments					
1						

Drinking Water System Type (planned or existing)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Source Water Type (surface, ground, both)	Number of Wells
Existing	260069290	Sydenham Water Treatment Plant	Township of South Frontenac	Utilities Kingston	Surface Water	0
Number of Surface Water Intakes	Comments					
1	This system came into operation in summer 2006.					

Detailed Work Plan to Complete the Assessment Report

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Coordinating and supporting projects for the assessment report	Cataraqui Source Protection Authority	2005-Jan-03	2010-Mar-31
Comments		Defined Geographic Area		Estimated Cost
We anticipate that the Cataraqui Assessment Report will be due in January 2010. Two additional months may be required to transition into the source protection planning phase.				\$2,053,590.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Undertaking communications initiatives for the assessment report	Cataraqui Source Protection Authority	2005-Jan-03	2010-Mar-31
Comments		Defined Geographic Area		Estimated Cost
				\$59,669.80

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Information management for the assessment report preparation	Cataraqui Source Protection Authority	2005-Jan-03	2010-Mar-31
Comments		Defined Geographic Area		Estimated Cost
				\$82,351.18

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Undertaking a watershed characterization	Cataraqui Source Protection Authority	2005-Jan-03	2008-Mar-31
Comments		Defined Geographic Area		Estimated Cost
				\$26,225.48

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Conducting a conceptual water budget	Cataraqui Source Protection Authority	2005-Jan-03	2007-Mar-30
Comments		Defined Geographic Area		Estimated Cost
				\$155,596.14

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Conducting a tier 1 water budget analysis and stress assessment	Cataraqui Source Protection Authority	2007-Apr-02	2008-Jun-30
Comments		Defined Geographic Area		Estimated Cost
				\$160,726.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Conducting a tier 2 water budget analysis and stress assessment	Cataraqui Source Protection Authority	2008-Jun-02	2008-Dec-31
Comments		Defined Geographic Area		Estimated Cost
				\$195,850.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Delineating and applying vulnerability scores to HVAs	Cataraqui Source Protection Authority	2007-Mar-01	2010-Mar-31
Comments		Defined Geographic Area		Estimated Cost
The work in 2009/10 would include further consideration of highly vulnerable aquifers based on fieldwork and Ontario Geologic Survey mapping of Karst topography.				\$145,673.58

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Identifying issues, inventorying threats and assessing hazards in HVAs	Cataraqui Source Protection Authority	2007-Apr-02	2009-Jan-30
Comments		Defined Geographic Area		Estimated Cost
				\$20,000.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Assessing risks in HVAs	Cataraqui Source Protection Authority	2008-Oct-01	2009-Jul-31
Comments		Defined Geographic Area		Estimated Cost
				\$0.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Applying vulnerability scores to SGRAs	Cataraqui Source Protection Authority	2007-Mar-01	2010-Mar-31
Comments		Defined Geographic Area		Estimated Cost
				\$0.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Identifying issues, inventorying threats and assessing hazards in SGRAs	Cataraqui Source Protection Authority	2007-Apr-02	2009-Jan-30
Comments		Defined Geographic Area		Estimated Cost
				\$0.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Assessing risk in SGRAs	Cataraqui Source Protection Authority	2008-Oct-01	2009-Jul-31
Comments		Defined Geographic Area		Estimated Cost
				\$0.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Identifying issues, inventorying threats and assessing hazards in WHPAs or IPZs	Cataraqui Source Protection Authority	2007-Apr-02	2009-Jan-30
Comments		Defined Geographic Area		Estimated Cost
				\$87,330.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Assess risk in WHPAs or IPZs	Cataraqui Source Protection Authority	2007-Apr-02	2009-Jul-31
Comments		Defined Geographic Area		Estimated Cost
				\$300,674.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Consultation on the overall proposed assessment report	Cataraqui Source Protection Authority	2008-Apr-01	2010-Mar-31
Comments		Defined Geographic Area		Estimated Cost
				\$20,500.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Other Assessment Report Preparation Task: Operation of the Cataraqui Source Protection Committee.	Cataraqui Source Protection Authority	2007-Nov-15	2010-Mar-31
Comments		Defined Geographic Area		Estimated Cost
				\$133,781.71

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Other Assessment Report Preparation Task:	Cataraqui Source Protection Authority	2010-Apr-01	2011-Mar-31
Comments		Defined Geographic Area		Estimated Cost
Additional Tier 2 water quality risk assessment research on specific threats that may pose a high risk and for which there is a high level of uncertainty, concurrent with work on the Source Protection Plan.				\$50,000.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
A.L. Dafoe Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2006-Mar-01	2008-Aug-29
Comments		Defined Geographic Area		Estimated Cost
				\$32,656.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Sydenham Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2006-Mar-01	2008-Dec-31
Comments		Defined Geographic Area		Estimated Cost
				\$24,520.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Sandhurst Shores Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2006-Mar-01	2008-Aug-29
Comments		Defined Geographic Area		Estimated Cost
				\$32,656.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Point Pleasant Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2006-Mar-01	2008-Aug-29
Comments		Defined Geographic Area		Estimated Cost
				\$32,656.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Miller Manor Apartments Well Supply	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Jun-02	2009-Jun-30
Comments		Defined Geographic Area		Estimated Cost
				\$65,000.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Lansdowne Well Supply	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2006-Mar-01	2008-Dec-31
Comments		Defined Geographic Area		Estimated Cost
				\$133,100.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Kingston Central Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2006-Mar-01	2008-Aug-29
Comments		Defined Geographic Area		Estimated Cost
				\$32,656.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
James W. King Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2006-Mar-01	2008-Aug-29
Comments		Defined Geographic Area		Estimated Cost
				\$32,656.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Fairfield Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2006-Mar-01	2008-Aug-29
Comments		Defined Geographic Area		Estimated Cost
				\$32,656.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cana Well Supply	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2008-Jun-02	2009-Jun-30
Comments		Defined Geographic Area		Estimated Cost
				\$65,000.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Brockville Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2006-Mar-01	2008-Aug-29
Comments		Defined Geographic Area		Estimated Cost
				\$32,656.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Bath Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Cataraqui Source Protection Authority	2006-Mar-01	2008-Aug-29
Comments		Defined Geographic Area		Estimated Cost
				\$32,656.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Sydenham Water Treatment Plant	Identifying issues, inventorying threats and assessing hazards in WHPAs or IPZs	Cataraqui Source Protection Authority	2006-Apr-03	2008-Oct-31
Comments		Defined Geographic Area		Estimated Cost
				\$83,070.00

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Sydenham Water Treatment Plant	Assess risk in WHPAs or IPZs	Cataraqui Source Protection Authority	2006-Apr-03	2008-Dec-31
Comments		Defined Geographic Area		Estimated Cost
				\$41,850.00

Detailed Work Plan to Complete the Source Protection Plan

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Coordinating and supporting projects for the source protection plan (SPP)	Cataraqui Source Protection Authority	2010-Apr-01	2012-Aug-20
Comments		Defined Geographic Area		Estimated Cost
				\$915,600.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Undertaking communications initiatives for the source protection plan	Cataraqui Source Protection Authority	2010-Apr-01	2012-Aug-20
Comments		Defined Geographic Area		Estimated Cost
				\$47,000.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Information management for source protection plan preparation	Cataraqui Source Protection Authority	2010-Apr-01	2012-Aug-20
Comments		Defined Geographic Area		Estimated Cost
				\$10,400.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Policy development to address drinking water threats (where required and/or permissible in Act/Regs)	Cataraqui Source Protection Authority	2009-Apr-01	2012-Aug-20
Comments		Defined Geographic Area		Estimated Cost
				\$85,525.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Policy development for monitoring (where required, advisable and/or permissible in Act & Regs)	Cataraqui Source Protection Authority	2009-Apr-01	2012-Aug-20
Comments		Defined Geographic Area		Estimated Cost
				\$85,525.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Policy development for Great Lakes elements (where required/permissible in Act & Regs)	Cataraqui Source Protection Authority	2009-Apr-01	2012-Aug-20
Comments		Defined Geographic Area		Estimated Cost
				\$85,525.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Establishing timelines for policy implementation	Cataraqui Source Protection Authority	2009-Apr-01	2012-Aug-20
Comments		Defined Geographic Area		Estimated Cost
				\$85,525.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Consultation on the overall proposed source protection plan	Cataraqui Source Protection Authority	2010-Apr-01	2012-Aug-20
Comments		Defined Geographic Area		Estimated Cost
				\$21,900.00

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Cataraqui Source Protection Area	Other Source Protection Plan Preparation Task: Operation of the Cataraqui Source Protection Committee.	Cataraqui Source Protection Authority	2010-Apr-01	2012-Aug-20
Comments		Defined Geographic Area		Estimated Cost
				\$159,800.00

Summary of Financial Statistics

	Tasks Done by Source Protection Area or Drinking Water System	Estimated Costs for Tasks Under the Assessment Report²	Estimated Costs for Tasks Under the Source Protection Plan	Subtotal
	Cataraqui Source Protection Area	\$3,491,968	\$1,496,800	\$4,988,768
Municipal Residential Drinking Water Systems				
	A.L. Dafoe Water Treatment Plant	\$32,656		\$32,656
	Bath Water Treatment Plant	\$32,656		\$32,656
	Brockville Water Treatment Plant	\$32,656		\$32,656
	Cana Well Supply	\$65,000		\$65,000
	Fairfield Water Treatment Plant	\$32,656		\$32,656
	James W. King Water Treatment Plant	\$32,656		\$32,656
	Kingston Central Water Treatment Plant	\$32,656		\$32,656
	Lansdowne Well Supply	\$133,100		\$133,100
	Miller Manor Apartments Well Supply	\$65,000		\$65,000
	Point Pleasant Water Treatment Plant	\$32,656		\$32,656
	Sandhurst Shores Water Treatment Plant	\$32,656		\$32,656
	Sydenham Water Treatment Plant	\$149,440		\$149,440
Total Estimated Costs³		\$4,165,758	\$1,496,800	\$5,662,558

² An "Other Assessment Report Preparation Task" (estimated at \$50,000) has been removed from this version in accordance with Cataraqui Source Protection Authority Resolution CSPA 004-09 (March 25, 2009).

³ Ibid.