



Terms of Reference (Work Plan)

for

**Development of the Assessment Report & Source Protection Plan:
Lakes Simcoe and Couchiching-Black River Source Protection Area**

by

South Georgian Bay-Lake Simcoe Source Protection Committee

Under the Clean Water Act, 2006

Approved on June 29, 2009

PROGRAM OVERSIGHT

Source Protection Plans, intended to prevent the overuse and contamination of Ontario's drinking water supplies, are being developed by multi-stakeholder Source Protection Committees, formed under the *Clean Water Act*, 2006. Locally, the South Georgian Bay-Lake Simcoe Source Protection Committee is comprised of 22 local stakeholders and a Chair, who are municipal, industry, First Nation and public representatives that act like a Board of Directors, and are responsible for the development of the Terms of Reference (work plan), technical Assessment Reports, and ultimately Source Protection Plans. Details pertaining to each of the Source Protection Committee members are located at <http://www.ourwatershed.ca/committees/spcmembers.php>.

It is the objective of the Source Protection Committee to develop Source Protection Plans that include policies and strategies to protect our drinking water by preventing, reducing or eliminating significant threats to those water resources. Through development of the Source Protection Plans, the role of the Committee is to:

- Ensure that public concerns are heard and taken into consideration;
- Consult with impacted landowners;
- Establish policies based on the best available science and mindful of the precautionary principle;
- Consider all economic impacts; and
- Make decisions that are fair and reasonable through an open and transparent process.

SOURCE PROTECTION COMMITTEE MISSION STATEMENT

The Source Protection Committee exists to ensure an open process is followed in the development of reasonable, science based policies that protect municipal sources of drinking water now and into the future.

NOTE:

The Ministry of the Environment has passed an additional regulation under the Clean Water Act that outline the technical requirements of the Assessment Report. It is anticipated that additional regulations will be drafted to outline the requirements of the Source Protection Plans. These regulations, once finalized may require amendments to be made to this Terms of Reference (Work Plan).

EXECUTIVE SUMMARY

BACKGROUND

The Clean Water Act was introduced by the Ontario Government in 2006. In July 2007, the Act, along with the first five associated regulations, came into effect. The intent of this legislation is to ensure communities are able to protect their municipal drinking water supplies now and in the future from overuse and contamination. These goals are to be pursued through the development of technical Assessment Reports describing vulnerable areas and risks to drinking water, and Source Protection Plans with recommendations regarding land use planning policies and risk reduction strategies.

In order to achieve these Source Protection Plans, Terms of Reference documents have been drafted and are presented in Appendix A in each of the three reports that represent the Source Protection Areas in the South Georgian Bay-Lake Simcoe Source Protection Region. These Terms of Reference documents are essentially the work plans to be followed, and describe the following program details:

1. The technical projects or tasks required to develop an understanding of the vulnerable areas and risks to drinking water sources;
2. The projects or tasks required to develop land use planning policies, risk reduction strategies, and monitoring activities that will be recommended in the source protection plans;
3. Consultation efforts with stakeholders and the public on the development and results of the technical and planning products completed;
4. Whether the tasks from 1, 2 and 3 above will be coordinated by municipalities, source protection / conservation authority staff, or some combination thereof (a partnership); and finally
5. Cost estimates and timelines for task completion.

GEOGRAPHY

The Province has organized the Source Protection Program using watershed boundaries as opposed to municipal boundaries, which is appropriate for a water management exercise given that water flows across municipalities. The South Georgian Bay-Lake Simcoe Source Protection Region is one of 19 watershed areas across the Province. Within the source protection region, there are smaller watershed units that are more manageable and less diverse than the large (>10,000 km²) source protection region. These smaller management units are referred to as Source Protection Areas in the Clean Water Act, and separate products will be established for each. As a result there are three sets of these Terms of Reference documents for the South Georgian Bay Lake Simcoe Source Protection Region. A separate document is drafted for each of:

- The Lakes Simcoe and Couchiching / Black River Source Protection Area;

- The Nottawasaga Valley Source Protection Area; and
- The Severn Sound Source Protection Area.

This document constitutes Draft 2 of the Terms of Reference for the Lakes Simcoe and Couchiching / Black River Source Protection Area. The Terms of Reference documents for the other Source Protection Authorities have been prepared under separate cover.

The Lakes Simcoe and Couchiching / Black River Source Protection Area is comprised of the Lake Simcoe and Black-Severn River watersheds. The municipalities within these watersheds include upper tier, lower tier and single tier municipalities. Municipal drinking water supplies within this Source Protection Area include both surface water (Lake Simcoe, Lake Couchiching, and Little Lake) and groundwater (a series of municipal wells).

TERMS OF REFERENCE / WORKPLAN

PREPARATION

This Draft 2 of the Terms of Reference has been prepared in accordance with the Clean Water Act and Terms of Reference regulation with input from municipal staff regarding the status of relevant technical work, a municipal working group, and a technical working group. This document was prepared using an electronic tool developed by the MOE to ensure consistency between regions across the Province, and to ensure the document contains all required information.

PURPOSE AND ORGANIZATION

The Terms of Reference is a workplan that outlines who will be responsible for specific tasks leading to the Source Protection Plan, how the work will be conducted, when various projects will be finished, and for what cost. The Draft 2 Terms of Reference is organized to outline the following items:

- The technical, planning and communications tasks relevant to the completion of Source Protection Plans (Tasks and Methodology);
- How the task will be completed (Tasks and Methodology);
- Who will take the lead on task coordination, either the municipality, source protection region / conservation authority staff, or some combination thereof (a partnership) (Task Lead);
- When the tasks will be conducted (Timeline); and
- Estimated cost associated with each of the tasks (Budget).

TASKS AND METHODOLOGY

The MOE previously published a series of Draft Guidance Modules, numbered 1 through 7, to assist in the development of the Assessment Report. The Guidance Modules were drafted to provide a level of standardization and consistency across the province in the way in which the technical tasks are completed. *Table 1* summarizes the MOE Draft Guidance Modules. It should be noted that, while these modules are good technical references, they have been formally replaced and are superseded by the Technical Rules: Assessment Report (December 12, 2008).

TABLE 1

Table 1 summaries the tasks within the MOE Guidance Modules by providing a description of each as well as the methodologies utilized.

Module	Tasks	Description	Methodologies
1	Watershed Characterization	A description of the water use and hydrology within the watersheds in the source protection region, including natural characteristics, land uses, water quality, location of municipal drinking water systems and a preliminary list of threats. The development of the Assessment Report will be based on the watershed characterization.	Compile and analyze existing information provided by Conservation Authorities, Municipalities, Provincial Ministries, Federal Departments, and other non-governmental organizations.
3	Wellhead Protection Areas (WHPA) Delineation	A delineation of the location and extent of the vulnerable areas around a drinking water system (WHPAs for groundwater systems and IPZs for surface water systems) in a source protection area. A vulnerability score is applied to the WHPAs and IPZs according to their susceptibility to become contaminated.	Various - including: Regional-scaled, local-scaled, and sub-regional numerical models. Analytical solutions and fixed radius methods were used in data-poor portions of the region.
	Groundwater Vulnerability Ranking		Various - Aquifer Vulnerability Index (AVI) and Intrinsic Susceptibility Index methods. Numerical model estimates of vertical travel time. Hydrogeological assessment.
4	Intake Protection Zones (IPZ) Delineation and Surface Water Vulnerability Ranking	For both groundwater and surface water, this task includes identifying preferential pathways. Some groundwater pathways include quarries, abandoned wells, underground utilities, karst topography, etc. Some surface water pathways include sewers, drainage areas, watercourses, subsurfacing tiling, etc. Essentially these pathways have the potential to allow (contaminated) groundwater and/or surface water to migrate at a faster rate towards the well and/or surface water intake. Highly vulnerable aquifer areas and significant recharge areas are also delineated in this module.	Numerical models. (GEMS or Mike 3 lake models) for surface water.

TABLE 1

Table 1 summaries the tasks within the MOE Guidance Modules by providing a description of each as well as the methodologies utilized.

Module	Tasks	Description	Methodologies
5	Issues Evaluation	The identification and description of drinking water quality issues, inventory of threats and assessment of the hazards in vulnerable areas (WHPAs and IPZs).	Water quality trends and adverse impact analysis of raw water.
	Issues Assessment	Threats are defined as activities or conditions that have the potential to harm the quality or quantity of water that is or may be used as a source of drinking water. Threats and issues that require further assessment are conducted to determine if they represent a significant threat to a drinking water source. In which case, a policy in the source protection plan would be required to reduce or eliminate the threat.	
	Threats Inventory		Assessment of existing information regarding potential contaminant sources.
	Hazard Ranking		MOE has evaluated the potential hazard associated with various generic land uses.
6	Water Quality Risk Assessment Based on Threats	Identify threats in Wellhead Protection Areas and Intake Protection Zones based on the regulated Tables of Drinking Water Threats and classify the threats in terms of their potential to affect municipal drinking water source as significant, moderate, or low based on the vulnerability scores of each WHPA and IPZ.	Database calculation (vulnerability x hazard) scoring.
		In the event that a potential threat to drinking water supplies that is not considered in the Tables of Drinking Water Threats is identified, the Source Protection Committee shall request that these threats be evaluated using the risk assessment methodology outlined in the Technical Rules: Assessment Report. The outcome of this evaluation will be a classification of additional threat(s) to municipal drinking water sources as significant, moderate, or low.	
	Water Quality Risk Assessment in Significant Groundwater Recharge Areas	The level of risk that an identified threat represents is determined and included on a map based on a vulnerability of high, medium, or low for significant groundwater recharge areas.	Site scale assessment per MOE guidance to refine hazard ranking and risk assessment.
	Water Quality Risk Assessment in Highly Vulnerable Aquifers	There is also a map of highly vulnerable aquifers based on high, medium, or low vulnerability. If a significant threat is found, a policy in the source protection plan would be required to address it.	
			Assess existing information regarding potential contaminant sources. The MOE is proposing a semi-quantitative approach to evaluate drinking water threats to water quality in the delineated vulnerable areas.

TABLE 1

Table 1 summaries the tasks within the MOE Guidance Modules by providing a description of each as well as the methodologies utilized.

Module	Tasks	Description	Methodologies
7	Conceptual Water Budget	A description of the overall flow system dynamics for each watershed in the source protection area taking into consideration surface water and groundwater features, land cover (e.g. proportion of urban vs. rural uses), human-made structures (e.g. dams, channel diversions, water crossings) and water takings.	Compile and analyze existing information provided by Conservation Authorities, Municipalities, Provincial Ministries, Federal Departments, and other non-governmental organizations.
	Tier 1 Water Budget	A quantification of the various components of the hydrological cycle and estimation of water quantity stresses on a subwatershed basis. Significant recharge areas are estimated within this process.	Analyses using available monitoring data.
	Tier 2 Water Budget	In those subwatersheds where a quantity stress is identified, a Tier 2 Water Budget analysis involves using more sophisticated methods to estimate water supply and demand. This process also results in refining the delineation of significant recharge areas.	Numerical Modeling methods.
	Tier 3 Water Budget - Water Quantity Risk Assessment	If determined necessary from a Tier 2 Water Budget, this process examines the long-term viability of specific municipal water supplies.	Advanced numerical modeling.
No number associated with these tasks.	Coordinating and Supporting	Administrative support, staffing, management support, and training necessary to provide project coordination for the Assessment Report and Source Protection Plan components and direct support to the Source Protection Committee.	Per MOE guidance.
	Communication Initiatives	Local area engagement, outreach and creation of communications products that support the Assessment Report and Source Protection Plan processes.	Per MOE guidance.
	Information Management	Conduct overall data management, data sharing agreements, standards, mapping, software, maintenance and data upgrading for continual improvement.	Per MOE guidance.

TASK LEADS

Of the municipalities within the Lakes Simcoe and Couchiching / Black River Source Protection Area, the following municipalities have stated an interest in leading the development of Assessment Report components:

- The City of Kawartha Lakes;
- The City of Barrie;
- The Regional Municipality of Durham (i.e. groundwater supplies); and
- The Regional Municipality of York (i.e. groundwater supplies).

The remaining municipalities within the Lakes Simcoe and Couchiching / Black River Source Protection Area are participating in the Source Protection Plan development in various capacities, with the South Georgian Bay Lake Simcoe-Source Protection Region coordinating development of the Assessment Report and Source Protection Plan. These municipalities include:

- The Town of Bradford West-Gwillimbury (Simcoe County);
- The Town of Innisfil (Simcoe County);
- The Township of Oro-Medonte (Simcoe County);
- The Township of Ramara (Simcoe County);
- The Township of Severn (Simcoe County);
- The Town of New Tecumseth (Simcoe County);
- The Town of Bracebridge (District Municipality of Muskoka);
- The Town of Gravenhurst (District Municipality of Muskoka);
- The Township of Georgian Bay (District Municipality of Muskoka);
- The Township of Lake of Bays (District Municipality of Muskoka);
- The Township of Muskoka Lakes (District Municipality of Muskoka);
- District Municipality of Muskoka;
- The City of Orillia;
- United Townships of Dysart, Dudley, Harcourt, Guilford, Harburn, Bruton, Havelock, Eyre and Clyde (Haliburton County);
- The Township of Algonquin Highlands (Haliburton County);
- The Township of Minden Hills (Haliburton County);
- The Township of Brock (Regional Municipality of Durham);
- The Township of Scugog (Regional Municipality of Durham);
- The Township of Uxbridge (Regional Municipality of Durham);
- The Town of Aurora (Regional Municipality of York);

- The Town of East-Gwillimbury (Regional Municipality of York);
- The Township of King (Regional Municipality of York);
- The Town of Newmarket (Regional Municipality of York);
- The Town of Whitchurch-Stouffville (Regional Municipality of York);
- The Town of Georgina (Regional Municipality of York);
- The Regional Municipality of Durham (i.e. surface water supplies); and
- The Regional Municipality of York (i.e. surface water supplies).

The estimated costs for the Lakes Simcoe and Couchiching-Black River Source Protection Area and the estimated total cost is presented in Table 3.

Tasks for Assessment Report Completion	Estimated LSC-BR SPA Subtotal	ESTIMATED REGIONAL SUBTOTAL
Coordinating and supporting projects for the assessment report	\$ 1,619,000	\$ 4,857,000
Undertaking communications initiatives for the assessment report	\$ -	\$ -
Information management for the assessment report preparation	\$ -	\$ -
Undertaking a watershed characterization	\$ 30,100	\$ 90,300
Completing a conceptual water budget	\$ 193,600	\$ 580,800
Conducting a Tier 1 water budget analysis	\$ 43,800	\$ 131,400
Conducting a Tier 2 water budget analysis (for those subwatersheds identified as stressed in Tier 1 analysis)	\$ 327,000	\$ 679,000
Conducting a Tier 3 Water Budget - Water Quantity Risk Assessment	\$ 2,395,000	\$ 2,395,000
Delineating and applying vulnerability scores to Highly Vulnerable Aquifer areas	\$ -	\$ -
Delineating and applying vulnerability scores for Significant Recharge Areas	\$ -	\$ -
Identifying issues, inventorying threats and assessing hazards in Significant Recharge Areas	\$ 66,700	\$ 200,100
Peer review of the Highly Vulnerable Aquifer Areas and Significant Recharge Areas	\$ 33,300	\$ 99,900
Planned wells and associated Assessment Report tasks.	\$ 58,400	\$ 58,400
Planned surface water intake and associated Assessment Report tasks.	\$ 60,000	\$ 60,000
Delineating and applying vulnerability scores for Intake Protection Zones	\$ 431,200	\$ 588,600
Delineating and applying vulnerability scores to Wellhead Protection Areas	\$ 378,000	\$ 882,900
Identifying issues, inventorying threats and assessing hazards in Wellhead Protection Areas or Intake Protection Zones	\$ 588,200	\$ 1,403,500
Identifying threats in Wellhead Protection Areas and Intake Protection Zones based on the regulated Tables of Drinking Water Threats and classifying them	\$ 358,700	\$ 699,400
Risk assessment in the event that a potential threat is not considered in the Tables of Drinking Water Threats. The SPC shall request that this assessment be conducted	\$ 615,000	\$ 1,100,000
Refine Wellhead Protection Areas for GUDI systems	\$ 140,000	\$ 290,000
ESTIMATED TOTAL COSTS - ASSESSMENT REPORT TASKS	\$ 7,338,000	\$ 14,116,300

Tasks for Source Protection Plan Completion	Estimated Subtotal	ESTIMATED REGIONAL SUBTOTAL
Coordinating and supporting projects for the source protection plan (SPP)	\$ 1,200,000	\$ 3,600,000
Undertaking communications initiatives for the source protection plan	\$ -	\$ -
Undertaking an impact assessment to evaluate the social, economic and environmental impacts of proposed policies and risk reduction strategies.	\$ 150,000	\$ 325,000
Policy development to address existing drinking water threats and risks	\$ 133,300	\$ 399,900
Policy development for managing vulnerable areas	\$ -	\$ -
Establishing timelines for policy implementation	\$ -	\$ -
ESTIMATED TOTAL COSTS - SOURCE PROTECTION PLAN TASKS	\$ 1,483,300	\$ 4,324,900
ESTIMATED TOTAL COSTS	\$ 8,821,300	\$ 18,441,200

PUBLIC COMMENT

The first draft of the Terms of Reference / workplan was posted in early May and comments were received until July 4th, 2008. This document has been revised to reflect the Source Protection Committee's consideration of the comments submitted.

Comments on the revised Terms of reference / workplan are invited between the posting (August 15th, 2008) and the **closing date of September 26, 2008**.

Please forward formal comments c/o;

Source Protection Program
Lake Simcoe Region Conservation Authority
120 Bayview Parkway, Box 282
Newmarket, ON
L3Y 4X1

Comments can also be:

- faxed to - 905-853-5881 (attention Source Protection Program)
- OR
- emailed to – swp@lsrca.on.ca

Please see www.ourwatershed.ca for further details.

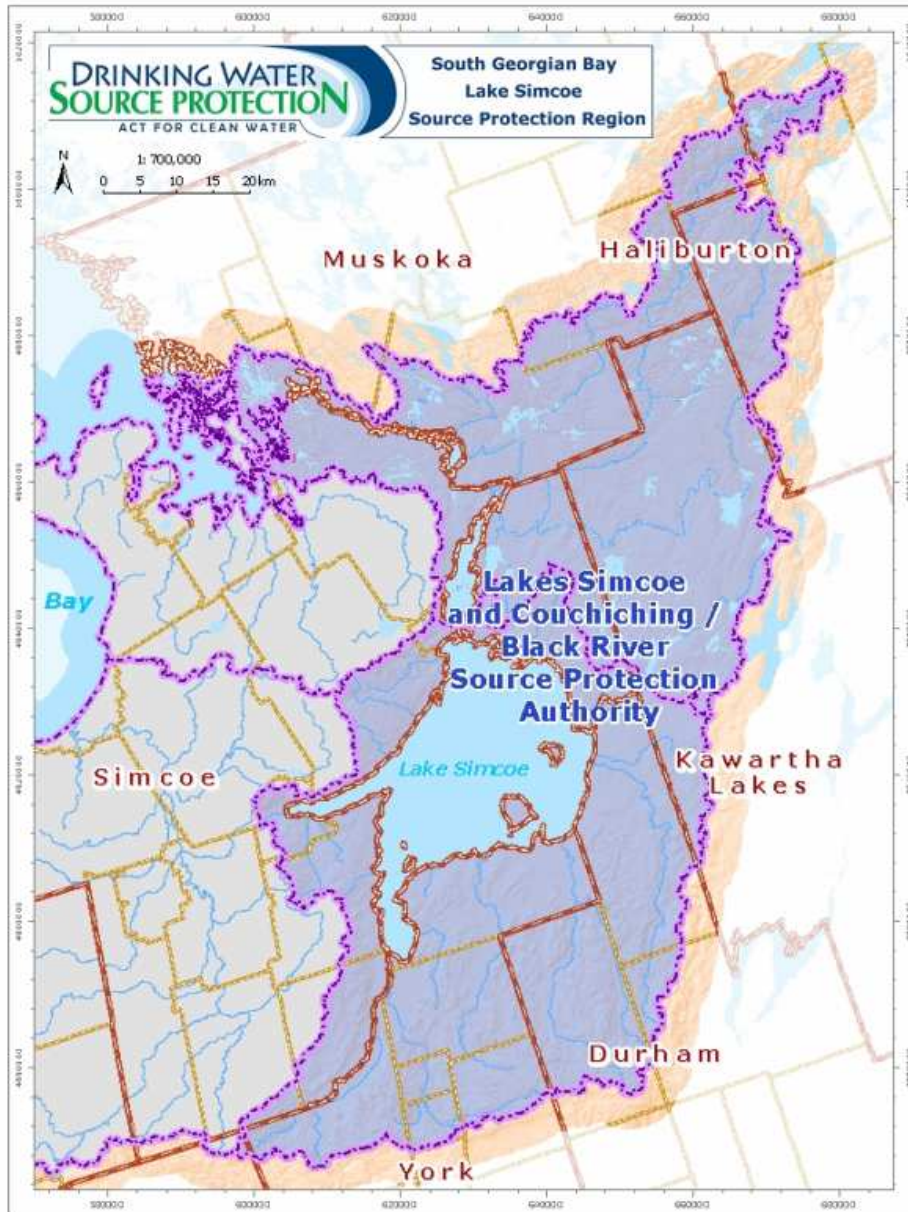
APPENDIX A

The following pages constitute the formatted version of the Terms of Reference / Workplan that was generated using the provincial template.

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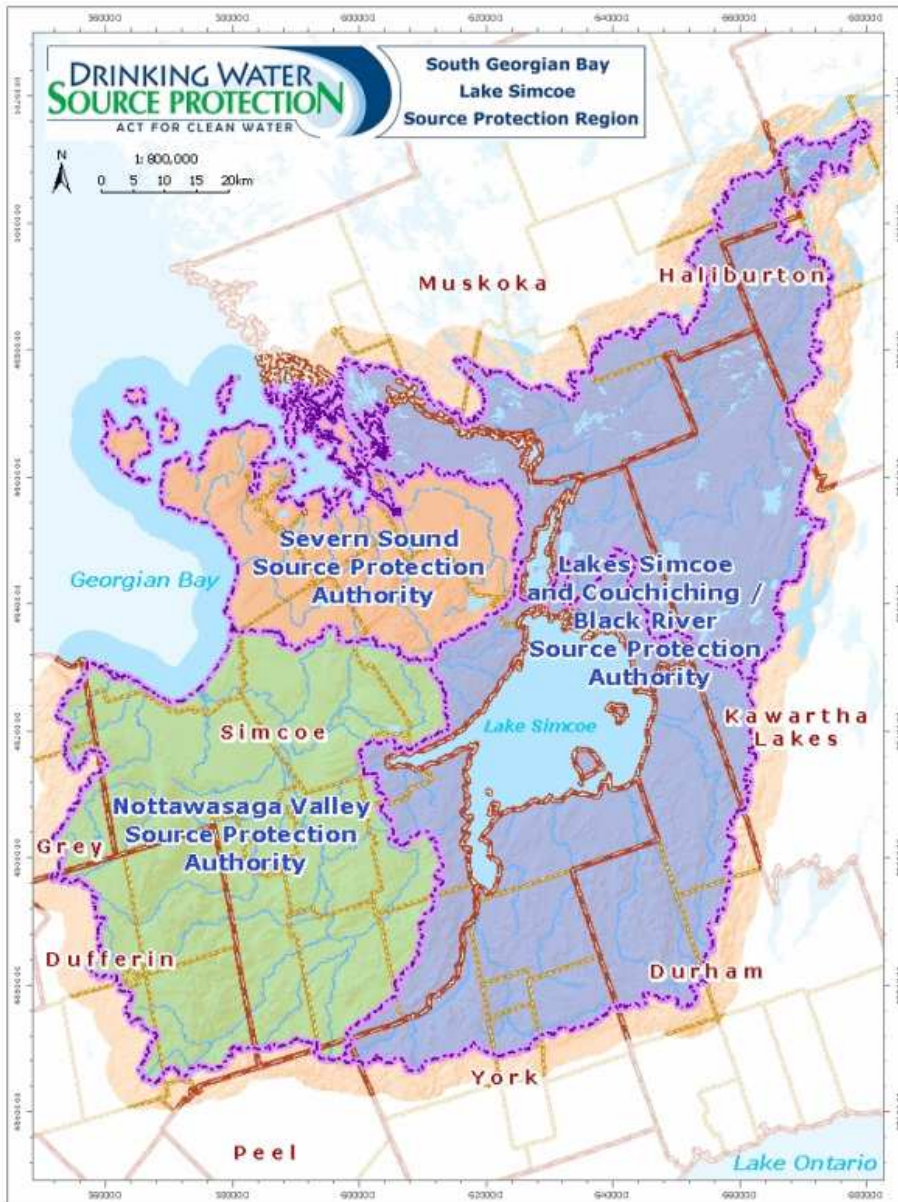
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Regional Municipality of Durham	
City of Barrie	
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Map of Source Protection Area



This map illustrates the Lakes Simcoe and Couchiching / Black River Source Protection Authority in relation to the South Georgian Bay Lake Simcoe Source Protection Region.

Map of Source Protection Region



This map illustrates the three Source Protection Areas in the South Georgian Bay Lake Simcoe Source Protection Region. These are:

- Lakes Simcoe and Couchiching / Black River;
- Nottawasaga Valley; and
- Severn Sound.

List of Municipalities within the Lakes Simcoe and Couchiching / Black River Source Protection Area

This section lists the Municipalities located within the Lakes Simcoe and Couchiching / Black River Source Protection Area and whether they are upper tier, lower tier or single tier. Lower tier municipalities are a part of a higher level of municipal or upper tier government such as a county, region or district. A single tier municipality exists when there is only one level of municipal government in an area.

Legal Name of Municipality and Tier	
CITY OF BARRIE	(single tier)
CITY OF KAWARTHA LAKES	(single tier)
CITY OF ORILLIA	(single tier)
COUNTY OF HALIBURTON	(upper tier)
TOWNSHIP OF ALGONQUIN HIGHLANDS	(lower tier)
UNITED TOWNSHIPS OF DYSART, DUDLEY, HARCOURT, GUILFORD, HARBURN, BRUTON, HAVELOCK, EYRE AND CLYDE	(lower tier)
TOWNSHIP OF MINDEN HILLS	(lower tier)
COUNTY OF SIMCOE	(upper tier)
TOWN OF BRADFORD WEST-GWILLIMBURY	(lower tier)
TOWN OF INNISFIL	(lower tier)
TOWN OF NEW TECUMSETH	(lower tier)
TOWNSHIP OF ORO-MEDONTE	(lower tier)
TOWNSHIP OF RAMARA	(lower tier)
TOWNSHIP OF SEVERN	(lower tier)
DISTRICT MUNICIPALITY OF MUSKOKA	(upper tier)
TOWN OF BRACEBRIDGE	(lower tier)
TOWNSHIP OF GEORGIAN BAY	(lower tier)
TOWN OF GRAVENHURST	(lower tier)
TOWNSHIP OF MUSKOKA LAKES	(lower tier)
TOWNSHIP OF LAKE OF BAYS	(lower tier)
REGIONAL MUNICIPALITY OF DURHAM	(upper tier)
TOWNSHIP OF BROCK	(lower tier)
TOWNSHIP OF SCUGOG	(lower tier)
TOWNSHIP OF UXBRIDGE	(lower tier)
REGIONAL MUNICIPALITY OF YORK	(upper tier)
TOWN OF AURORA	(lower tier)
TOWN OF EAST GWILLIMBURY	(lower tier)
TOWN OF GEORGINA	(lower tier)
TOWNSHIP OF KING	(lower tier)
TOWN OF NEWMARKET	(lower tier)
TOWN OF WHITCHURCH-STOUFFVILLE	(lower tier)

List of Municipal Residential Drinking Water System(s)

This section presents details pertaining to all the specific existing groundwater and surface drinking sources by listing the owner, operating authority drinking water system number, system name, number of wells for groundwater, number of intake cribs for surface water and the source of the water. There are a few groundwater systems that are referred to as GUDI systems, which is groundwater under direct influence of surface water (*note* * GUDI = groundwater under direct influence of surface water). Intake cribs are offshore structures that collect water from a surface water body.

Type of System	Owner	Operating Authority	Drinking Water System Number	Drinking Water System Name	Number of Wells	Number of Intake Cribs	Type of Source Water
Existing	CITY OF BARRIE	CITY OF BARRIE	220001192	BARRIE WELL SUPPLY	14 (11 in LS-BR SPA & 3 in NVSPA)	0	Groundwater
Planned					1	0	Groundwater
Planned					0	1	Surface water
Existing	CITY OF KAWARTHA LAKES	CITY OF KAWARTHA LAKES	220008131	WESTERN TRENT-PALMINA WELL SUPPLY	2	0	Groundwater (GUDI)
Existing		ONTARIO CLEAN WATER AGENCY	210001077	WOODVILLE WELL SUPPLY	3	0	Groundwater (GUDI)
Existing	CITY OF ORILLIA	CITY OF ORILLIA	220001183	ORILLIA WATER SUPPLY SYSTEM	3 (2 in LS-BRSPA & 1 in SSSPA)	1	Surface and Groundwater
Existing	TOWN OF BRADFORD-WEST GWILLIMBURY	TOWN OF BRADFORD-WEST GWILLIMBURY	210000684	BRADFORD \ BONDHEAD DISTRIBUTION & SUPPLY WELLS	7	0	Groundwater
Existing	REGIONAL MUNICIPALITY OF YORK	REGIONAL MUNICIPALITY OF YORK	220002440	AURORA WELL SUPPLY	6	0	Groundwater
Existing			220004046	HOLLAND LANDING WELL SUPPLY	2	0	Groundwater
Existing			220006543	MOUNT ALBERT WELL SUPPLY	2	0	Groundwater
Planned					1	0	Groundwater
Existing			260001955	QUEENSVILLE (YORK REGION) WELL SUPPLY	4	0	Groundwater

Type of System	Owner	Operating Authority	Drinking Water System Number	Drinking Water System Name	Number of Wells	Number of Intake Cribs	Type of Source Water
Existing	REGIONAL MUNICIPALITY OF YORK	REGIONAL MUNICIPALITY OF YORK	220002413	NEWMARKET WELL SUPPLY	6	0	Groundwater
Existing			220008658	BALLANTRAE-MUSSELMANS WELL SUPPLY	2	0	Groundwater
Existing			260002213	ANSNORVELDT WELL SUPPLY	2	0	Groundwater
Existing			220004901	SCHOMBERG WELL SUPPLY	2	0	Groundwater
Planned					1	0	Groundwater
Existing			260026156	GEORGINA WATER TREATMENT PLANT	0	1	Surface Water
Existing			210003280	KESWICK WATER TREATMENT PLANT	0	1	Surface Water
Existing	TOWN OF INNISFIL	TOWN OF INNISFIL	220007472	ALCONA WATER TREATMENT PLANT	0	1	Surface Water
Existing			220006909	GOLDCREST WELL SUPPLY	2	0	Groundwater
Existing			220005072	GOLF HAVEN WELL SUPPLY	2	0	Groundwater
Existing			220005081	INNISFIL HEIGHTS WELL SUPPLY	2	0	Groundwater
Existing			220006204	STROUD WELL SUPPLY	3	0	Groundwater
Existing	REGIONAL MUNICIPALITY OF DURHAM	REGIONAL MUNICIPALITY OF DURHAM	220004929	BEAVERTON WATER TREATMENT PLANT	0	1	Surface Water
Existing			220000745	CANNINGTON WELL SUPPLY	6	0	Groundwater (GUDI)
Existing			220004910	SUNDERLAND WELL SUPPLY	2	0	Groundwater (GUDI)
Existing			220000763	UXBRIDGE WELL SUPPLY	3	0	Groundwater
Existing	DISTRICT MUNICIPALITY OF MUSKOKA	DISTRICT MUNICIPALITY OF MUSKOKA	260001669	PORT SEVERN WATER TREATMENT PLANT	0	1	Surface Water
Existing	TOWNSHIP OF ORO-MEDONTE	TOWNSHIP OF ORO-MEDONTE	220007454	CANTERBURY SUBDIVISION WELL SUPPLY	2	0	Groundwater

Type of System	Owner	Operating Authority	Drinking Water System Number	Drinking Water System Name	Number of Wells	Number of Intake Cribs	Type of Source Water
Existing	TOWNSHIP OF ORO-MEDONTE	TOWNSHIP OF ORO-MEDONTE	220006936	CEDAR BROOK SUBDIVISION WELL SUPPLY	2	0	Groundwater
Existing			220006703	HARBOURWOOD WELL SUPPLY	2	0	Groundwater
Existing			220004135	MAPLEWOOD ESTATES WELL SUPPLY	1	0	Groundwater
Existing			220005198	SHANTY BAY WELL SUPPLY	3	0	Groundwater
Existing	TOWNSHIP OF RAMARA	TOWNSHIP OF RAMARA	220012724	BAYSHORE VILLAGE SUBDIVISION WELL SUPPLY	3	0	Groundwater
Existing			210001273	BRECHIN & LAGOON CITY WATER TREATMENT PLANT	0	1	Surface Water
Existing			220007141	DAVY DRIVE SUBDIVISION WELL SUPPLY	3	0	Groundwater
Existing			220007132	PARK LANE SUBDIVISION WELL SUPPLY	1	0	Groundwater
Existing			220010681	SOUTH RAMARA WATER TREATMENT PLANT	0	1	Surface Water
Existing			220010690	VAL HARBOUR SUBDIVISION WELL SUPPLY	3	0	Groundwater
Existing	TOWNSHIP OF SEVERN	TOWNSHIP OF SEVERN	220005161	WASHAGO WATER TREATMENT PLANT	0	1	Surface Water
Existing			220010654	SANDCASTLE ESTATES WATER TREATMENT PLANT	0	1	Surface Water
Existing			220005152	SEVERN ESTATES WELL SUPPLY	1	0	Groundwater
Existing		ONTARIO CLEAN WATER AGENCY	260061958	WEST SHORE WATER TREATMENT PLANT	0	1	Surface Water

The Clean Water Act requires the inclusion of Municipal Residential Drinking Water Systems in the Source Protection Planning process, where the vulnerability of the water supply and risks to it is assessed. The Clean Water Act also allows for a variety of systems that are not Municipal Residential Systems to be included either by the choice of Municipal or First Nations councils, and for

systems to be excluded from the process if they are due to be decommissioned within a reasonable time frame. This page of the Terms of Reference describes the systems that are to be included and/or omitted from the process for the reasons listed.

List of Drinking Water System(s) Included by Municipal Council Resolution

(Not Municipal Residential Drinking Water Systems)

None included to date

List of Drinking Water Systems Serving Reserve(s)

(Not Municipal Residential Drinking Water Systems)

None included to date

List of Fully or Partially Exempted Municipal Residential Drinking Water System(s)

None included to date

List of Drinking Water System(s) Included by Minister of the Environment

(Not Municipal Residential Drinking Water Systems)

None included to date

List of Matter(s) that Affect Other Source Protection Committees

The following section identifies matters within the South Georgian Bay Lake Simcoe Source Protection Region that could affect neighbouring Source Protection Committees / Source Protection Regions and vice versa, which require some collaboration between source protection staff and Source Protection Committees.

Source Protection Committees Affected	Source Protection Area	Description of Matters
Credit Valley, Toronto and Region, Central Lake Ontario Source Protection Committee	Central Lake Ontario Source Protection Area	Significant recharge areas - Consultation regarding methods to ensure products are similar and allow for edge matching of mapping products.
		Highly vulnerable aquifers - Consultation regarding policies to ensure that they are in place and acceptable to both source protection committees as well as allow for edge matching of mapping products.
	Toronto and Region Source Protection Area	Aurora well supply well head protection area abuts the watershed boundary of Credit Valley, Toronto and Region, Central Lake Ontario Source Protection Region. Ensure that consultation takes place to develop policies acceptable to both source protection committees and that technical work and communications are aligned.
		Significant recharge areas - Consultation regarding methods to ensure products are similar and allow for edge matching of mapping products.
		Highly vulnerable aquifers - Consultation regarding policies to ensure that they are in place and acceptable to both source protection committees as well as allow for edge matching of mapping products.
		Stouffville well supply - wells #5 and #6, well head protection area in Credit Valley, Toronto and Region, Central Lake Ontario Source Protection Region extends into South Georgian Bay-Lake Simcoe Source Protection Region. Consultation regarding policies to ensure that they are in place and acceptable to both source protection committees as well as to allow for edge matching of mapping products.
		Uxville water supply well head protection area in Credit Valley, Toronto and Region, Central Lake Ontario Source Protection Region extends into South Georgian Bay-Lake Simcoe Source Protection Region. Consultation regarding policies to ensure that they are in place and acceptable to both source protection committees as well as allow for edge matching of mapping products.
		Through partnership agreements with the City of Toronto and the Region of Peel, water is supplied from York Region Production wells and Lake Ontario Water Treatment Plants to the Town of Aurora. This is considered to be a cross-regional issue that will necessitate consultation.

Source Protection Committees Affected	Source Protection Area	Description of Matters
Trent Conservation Coalition Source Protection Committee	Kawartha-Haliburton Source Protection Area	Cannington well supply well head protection area extends into Trent Conservation Coalition Source Protection Region. Ensure that consultation takes place to develop policies acceptable to both source protection committees and that technical work and communications are aligned.
		Woodville well head protection area extends into the Trent Conservation Coalition Source Protection Region. Ensure that consultation takes place to develop policies acceptable to both source protection committees and that technical work and communications are aligned.
		Significant recharge areas - Consultation regarding methods to ensure products are similar and allow edge matching for mapping products.
		Highly vulnerable aquifers - Consultation regarding policies to ensure that they are in place and acceptable to both source protection committees as well as allow for edge matching of mapping products.
		Woods of Manilla well head protection area, (the main production well in Trent Conservation Coalition Source Protection Region) extends into the South Georgian Bay-Lake Simcoe Source Protection Region. Consultation regarding policies to ensure that they are in place and acceptable to both source protection committees as well as allow for edge matching of mapping products.
		Greenbank well supply well head protection area in Trent Conservation Coalition extends into South Georgian Bay-Lake Simcoe Source Protection Region. Consultation regarding policies to ensure that they are in place and acceptable to both source protection committees as well as allow for edge matching of mapping products.
		The Trent-Severn Waterway periodically directs water from Balsam Lake (in the Kawartha-Haliburton Source Protection Authority) into the Lake Simcoe watershed. This will need to be considered when mapping Intake Protection Zone 3 for the Trent River and Lake Simcoe.

The Work Plan to Complete the Assessment Report:

Assigned Lead - Lakes Simcoe & Couchiching / Black River SPA with support from Nottawasaga Valley and Severn Sound SPAs

This section presents the components of the Assessment Report that will be led by the Lakes Simcoe and Couchiching/Black River Source Protection Area with support from the Nottawasaga Valley and Severn Sound Source Protection Areas. The tasks, costs for work completed or in progress, estimated costs for remaining work components (rounded to the nearest \$100); start date and estimated completion date are presented below. The estimated costs may need to be revised following the enactment of the Assessment Report regulation.

ASSESSMENT REPORT: WATERSHED-WIDE TASK DESCRIPTION Assigned Lead: Lakes Simcoe & Couchiching / Black River SPA with support from Nottawasaga Valley and Severn Sound SPAs	Costs for work completed or In Progress	Estimated Costs for remaining work components	Start Date & Estimated Completion Date
Coordinating and supporting projects for the assessment report. Undertaking administrative support, staffing, management support, and training necessary to provide project coordination for the Assessment Report components and direct support to the source protection committee. The SPC operating funds are included in these costs.	\$819,000	\$800,000	
Undertaking communications initiatives for the assessment report. Consultation on the overall proposed assessment report. Meeting the legislative and regulatory requirements on the consultation and submission process of the proposed Assessment Report as per regulation. (Local area engagement, outreach and creation of communications products that support the Assessment Report process).	Included in coordination costs above.		2005-Jan-1 to 2009-Sep-30
Information management for the assessment report preparation. Conducting overall data management, data sharing agreements, standards, mapping, software and maintenance.			
Undertaking a watershed characterization. Identifying and describing the hydrologic characteristics of the watersheds in the source protection area.	\$30,100	\$ -	2005-Jan-1 to 2008-Jun-30
Completing a conceptual water budget. Describing the overall flow system dynamics for each watershed in SPA taking into consideration SW and GW features, land cover (e.g. proportion of urban vs. rural uses), human-made structures (dams, channel diversions, water crossings) and water takings.	\$193,600	\$ -	2005-Jan-1 to 2008-Mar-31
Conducting a Tier 1 water budget analysis. Using simple methods, quantifying available water supply and demand using available information and assessing potential water quantity stress.	\$43,800	\$ -	2007-Dec-1 to 2008-Jul-31

ASSESSMENT REPORT: WATERSHED-WIDE TASK DESCRIPTION Assigned Lead: Lakes Simcoe & Couchiching / Black River SPA with support from Nottawasaga Valley and Severn Sound SPAs	Costs for work completed or In Progress	Estimated Costs for remaining work components	Start Date & Estimated Completion Date
Conducting a Tier 2 water budget analysis (for those subwatersheds identified as stressed in Tier 1 analysis). Using complex methods (numerical groundwater and surface water models), refine the estimates of available water supply in each subwatershed, and an appropriate reserve value. Refine the demand estimate through consultation with water users. Finally, re-assess water quantity stress based on the refinements of available supply and demand.	\$ -	\$327,000	2008-May-1 to 2009-Sep-30
Delineating and applying vulnerability scores to Highly Vulnerable Aquifer areas. The Aquifer vulnerability index methodology will be applied to interpreted geological surfaces to delineate vulnerable areas, with consideration of hydraulic setting. The vulnerability ranking is to be completed using methods described in Regulation and Technical Rules: Assessment Report.	Included in Water Budget & coordination costs above.		2007-Jun-1 to 2008-Sep-30
Delineating and applying vulnerability scores for Significant Recharge Areas. Significant recharge areas will be estimated using a simple water balance approach (estimating recharge across a watershed, and designating as significant those portions where 15% above average recharge occurs. This estimation will be refined for those areas where a Tier 2 water budget is completed using the modeling tools developed/refined for those Tier 2 assessments.			2006-Jun-1 to 2009-Mar-31
Identifying issues, inventorying threats and assessing hazards in Significant Recharge Areas and Highly Vulnerable Aquifer Areas. Hazard ranking will be accomplished through the assessment of existing threats data (from municipal, provincial, and federal sources of information); using methods described in Regulation and Technical Rules: Assessment Report.	\$ -	\$66,700	2008-Jun-1 to 2009-May-31
Assess Risk in Significant Recharge Areas and Highly Vulnerable Aquifer Areas.	Included in Identifying Issues & Assessing Hazards costs above.		2008-Jun-1 to 2009-Aug-31
Peer review of the Highly Vulnerable Aquifer Areas and Significant Recharge Areas. A qualified expert will be retained to verify the estimations of Significant Recharge and Vulnerable Aquifer areas.	\$ -	\$33,300	2009-Apr-1 to 2009-Jun-1
Delineating and applying vulnerability scores for Intake Protection Zones. For the intakes in Lake Simcoe and Lake Couchiching, the Intake Protection Zones are delineated using a hydrodynamic model and vulnerability ranking completed using available provincial guidance material (scores assessed based upon proximity to intake and flow conditions). Preferential Pathways will be assessed for the Intake Protection Zones.	\$340,000	\$25,000	2006-Jun-1 to 2009-Jun-30
Delineating and applying vulnerability scores for Intake Protection Zones. For the intake in Little Lake, the Intake Protection Zone is being delineated using a numerical model. Vulnerability ranking will be completed using available provincial guidance material (scores assessed based upon proximity to intake and flow conditions). Vulnerability ranking will be revised based on the final Director's rules. Preferential Pathways will be assessed for the Intake Protection Zones.	\$66,200	Included in delineating costs above.	

ASSESSMENT REPORT: WATERSHED-WIDE TASK DESCRIPTION Assigned Lead: Lakes Simcoe & Couchiching / Black River SPA with support from Nottawasaga Valley and Severn Sound SPAs	Costs for work completed or In Progress	Estimated Costs for remaining work components	Start Date & Estimated Completion Date
Delineating and applying vulnerability scores for Intake Protection Zones. For the planned intake in Kempenfelt Bay to be delineated using a hydrodynamic model and vulnerability ranking completed using available provincial guidance material (scores assessed based upon proximity to intake and flow conditions). Preferential Pathways will be assessed for the Intake Protection Zones.	\$ -	\$60,000	2008-Nov-1 to 2009-Oct 31
Delineating and applying vulnerability scores to Wellhead Protection Areas. For the municipal residential groundwater supplies in Severn, Ramara, Innisfil, Orillia, Oro-Medonte and Bradford-West Gwillimbury, the vulnerability of Wellhead Protection Areas will be assessed using the aquifer vulnerability index methodology (using the vulnerability scores for the municipal aquifer). The Wellhead Protection Areas for the above-noted municipalities were delineated as part of the 2002 Municipal Groundwater Studies, and are thus not included in the cost estimate. Costs are associated with vulnerability scoring of these existing Wellhead Protection Areas.	\$ -	\$80,000	2007-Jun-1 to 2009-Jun-30
Identifying issues, inventorying threats and assessing hazards in Wellhead Protection Areas or Intake Protection Zones. For the Wellhead Protection Areas in Severn, Ramara, Innisfil, Orillia, Oro-Medonte and Bradford-West Gwillimbury, and the Intake Protection Zones in Severn, Orillia, Ramara, York and Durham, a desktop assessment of existing threats data (from municipal, provincial, and federal sources of information) is underway. Also included in this study is an evaluation of existing raw water quality issues. Hazard rankings will be assigned to each threat using methods described in Regulation and Technical Rules: Assessment Report. The Wellhead Protection Areas were delineated as part of the Municipal Groundwater Studies in 2002. The vulnerability scoring will be conducted as indicated in the column to the right.	\$143,500	\$ -	2006-Jun1 to 2009-Mar-31
Identify threats in Wellhead Protection Areas and Intake Protection Zones based on the regulated Tables of Drinking Water Threats and classify the threats in terms of their potential to affect municipal drinking water source as significant, moderate, or low based on the vulnerability scores of each WHPA in Severn, Ramara, Innisfil, Orillia, Oro-Medonte and Bradford-West Gwillimbury, and the IPZ in Severn, Orillia, Ramara, York and Durham.	\$66,200	\$ -	
In the event that a potential threat to drinking water supplies that is not considered in the Tables of Drinking Water Threats is identified, the Source Protection Committee shall request that these threats be evaluated using the risk assessment methodology outlined in the Technical Rules: Assessment Report. The outcome of this evaluation will be a classification of additional threat(s) to municipal drinking water sources as significant, moderate, or low.	\$ -	\$150,000	2009-Apr-1 to 2012-Mar-31

**The Work Plan to Complete the Assessment Report:
Assigned Lead – Regional Municipality of York**

The table below outlines the tasks that the Regional Municipality of York has requested to be the lead for with respect to groundwater supplies. The tasks, costs for work completed or in progress, estimated costs for remaining work components (rounded to the nearest \$100); start date and estimated completion date are presented below. The estimated costs may need to be revised following the enactment of the Assessment Report regulation.

Municipality / Assigned Lead	ASSESSMENT REPORT: MUNICIPALITY-SPECIFIC TASK DESCRIPTION	Costs for work completed or In Progress	Estimated Costs for remaining work components	Start Date & Estimated Completion Date
Regional Municipality of York	Delineating and applying vulnerability scores to all Wellhead Protection Areas. Wellhead Protection Areas were delineated using a regional-scaled numerical model (Modflow). Vulnerability ranking was completed using this numerical modeling tool by estimating travel time from the water table to the municipal well. Geochemical analyses were performed in conjunction with the flow modeling to confirm vulnerability. The final vulnerability ranking will reflect a preferential pathways assessment.	\$70,200	\$ -	2007-Jun-1 to 2009-Mar-31
	Identifying issues, inventorying threats and assessing hazards in Wellhead Protection Areas. Water quality trends and adverse impact analysis of raw water are underway to identify issues. Assessment of threats also underway using existing municipal, provincial and federal information. Hazard rankings to be assigned using the MOE guidance module and database.	\$129,500	\$ -	
	New planned wells in Schomberg and Mount Albert. Delineating, applying vulnerability score, identifying issues, inventorying threats, assessing hazards and risks in the wellhead protection areas.	\$ -	\$ 18,400	2009-Apr-1 to 2010-Mar-31
	Identify threats in Wellhead Protection Areas based on the regulated Tables of Drinking Water Threats and classify the threats in terms of their potential to affect municipal drinking water source as significant, moderate, or low based on the vulnerability scores of each WHPA.	\$54,700	\$ 57,200	2007-Jun-1 to 2009-Mar-31
	In the event that a potential threat to drinking water supplies that is not considered in the Tables of Drinking Water Threats is identified, the Source Protection Committee shall request that these threats be evaluated using the risk assessment methodology outlined in the Technical Rules: Assessment Report. The outcome of this evaluation will be a classification of additional threat(s) to municipal drinking water sources as significant, moderate, or low.	\$ -	\$150,000	2009-Apr-1 to 2012-Mar-31
	Tier 3 Water Quantity Risk Assessment. For the Newmarket, Aurora, Holland Landing, and Sharon groundwater supplies, a site scale investigation into the viability of the wells to supply future water demand will be completed. This assessment will be completed through refinement of the existing numerical modeling tool.	\$ -	\$1,495,000	2008-Oct-1 to 2009-Aug-31

**The Work Plan to Complete the Assessment Report:
Assigned Lead – Regional Municipality of Durham**

The table below outlines the tasks that the Regional Municipality of Durham has requested to be the lead for with respect to groundwater supplies. The tasks, costs for work completed or in progress, estimated costs for remaining work (rounded to the nearest \$100); start date and estimated completion date are presented below. The estimated costs may need to be revised following the enactment of the Assessment Report regulation. The costs for Project Coordination (reporting and meetings) have been incorporated into the first three task costs for costs spent and estimated costs.

Municipality / Assigned Lead	ASSESSMENT REPORT: MUNICIPALITY-SPECIFIC TASK DESCRIPTION	Costs for work completed or In Progress	Estimated Costs for remaining work components	Start Date & Estimated Completion Date
Regional Municipality of Durham	Delineating and applying vulnerability scores to all Wellhead Protection Areas. Wellhead Protection Areas were delineated using a numerical flow model (Modflow). Vulnerability ranking was completed using a combination of intrinsic susceptibility and aquifer vulnerability analyses per the MOE guidance module. Preferential Pathways will be included in the final vulnerability ranking.	\$55,400	\$84,800	2007-Jun-1 to 2009-Jun-30
	Identifying issues, inventorying threats and assessing hazards in Wellhead Protection Areas. Water quality trends and adverse impact analysis of raw water are underway to identify issues. Desktop assessment of threats also underway using existing municipal, provincial and federal information. Hazard rankings to be assigned using the MOE guidance module and database.	\$55,400	\$184,900	
	Identify threats in Wellhead Protection Areas based on the regulated Tables of Drinking Water Threats and classify the threats in terms of their potential to affect municipal drinking water source as significant, moderate, or low based on the vulnerability scores of each WHPA.	\$55,400	\$90,900	
	In the event that a potential threat to drinking water supplies that is not considered in the Tables of Drinking Water Threats is identified, the Source Protection Committee shall request that these threats be evaluated using the risk assessment methodology outlined in the Technical Rules: Assessment Report. The outcome of this evaluation will be a classification of additional threat(s) to municipal drinking water sources as significant, moderate, or low.	\$ -	\$140,000	2009-Apr-1 to 2012-Mar-31
	Refine Wellhead Protection Areas to Address Surface Water Influence (GUDI). Wellhead Protection Areas will be revised to include/add an Intake Protection Zone-2 for the surface water body influencing the well (Cannington and Sunderland Well Supply systems).	\$ -	\$100,000	2008-Jun-1 to 2009-Jun-30

**The Work Plan to Complete the Assessment Report:
Assigned Lead – City of Barrie**

The table below outlines the tasks that the City of Barrie has requested to be the lead on. The tasks, estimated costs, start date and estimated completion date are also presented. The tasks, costs for work completed or in progress, estimated costs for remaining work components (rounded to the nearest \$100); start date and estimated completion date are presented below. The estimated costs may need to be revised following the enactment of the Assessment Report regulation.

Municipality / Assigned Lead	ASSESSMENT REPORT: MUNICIPALITY-SPECIFIC TASK DESCRIPTION	Costs for work completed or In Progress	Estimated Costs for remaining work components	Start Date & Estimated Completion Date
City of Barrie	Delineating and applying vulnerability scores to all Wellhead Protection Areas. Wellhead Protection Areas were delineated using a regional-scaled numerical model (Feflow). Vulnerability ranking was completed using hydrogeologic assessment (consideration of geochemistry and geology). The final vulnerability ranking will reflect a preferential pathways assessment.	\$23,600	\$ -	2007-Jun-1 to 2009-Mar-31
	Identifying issues, inventorying threats and assessing hazards in Wellhead Protection Areas. Water quality trends and adverse impact analysis of raw water are underway to identify issues. Assessment of threats also underway using existing municipal, provincial and federal information. Hazard rankings to be assigned using the MOE guidance module and database.	\$60,500	\$ -	
	New planned well. Delineating, applying vulnerability score, identifying issues, inventorying threats, assessing hazards and risks in the wellhead protection area.	\$ -	\$40,000	2008-Aug-1 to 2009-Aug-31
	Identify threats in Wellhead Protection Areas based on the regulated Tables of Drinking Water Threats and classify the threats in terms of their potential to affect municipal drinking water source as significant, moderate, or low based on the vulnerability scores of each WHPA.	\$26,000	\$ -	2007-Jun-1 to 2009-Mar-31
	In the event that a potential threat to drinking water supplies that is not considered in the Tables of Drinking Water Threats is identified, the Source Protection Committee shall request that these threats be evaluated using the risk assessment methodology outlined in the Technical Rules: Assessment Report. The outcome of this evaluation will be a classification of additional threat(s) to municipal drinking water sources as significant, moderate, or low.	\$ -	\$125,000	2009-Apr-1 to 2012-Mar-31
	Tier 3 Water Quantity Risk Assessment. For groundwater supplies, a site scale investigation into the viability of the wells to supply future water demand will be completed. This assessment will be completed through refinement of the existing numerical modeling tool. This task is to be co-managed by the City of Barrie and the South Georgian Bay-Lake Simcoe Source Protection Region.	\$ -	\$900,000	2009-Mar-1 to 2010-Mar-31

**The Work Plan to Complete the Assessment Report:
Assigned Lead – City of Kawartha Lakes**

The table below outlines the tasks that the City of Kawartha Lakes has requested to be the lead on. The tasks, costs for work completed or in progress, estimated costs for remaining work components (rounded to the nearest \$100); start date and estimated completion date are presented below. The estimated costs may need to be revised following the enactment of the Assessment Report regulation.

Municipality / Assigned Lead	ASSESSMENT REPORT: MUNICIPALITY-SPECIFIC TASK DESCRIPTION	Costs for work completed or In Progress	Estimated Costs for remaining work components	Start Date & Estimated Completion Date
City of Kawartha Lakes	Delineating and applying vulnerability scores to all Wellhead Protection Areas. Wellhead Protection Areas are in the process of being refined (previous efforts relied upon analytical solutions). Vulnerability ranking will be completed on the refined WHPA using a combination of intrinsic susceptibility and aquifer vulnerability ranking. The final vulnerability ranking will reflect a preferential pathways assessment.	\$64,000	\$ -	2007-Jun-1 to 2009-Mar-31
	Identifying issues, inventorying threats and assessing hazards in Wellhead Protection Areas. Water quality trends and adverse impact analysis of raw water are underway to identify issues. Assessment of threats also underway using existing municipal, provincial and federal information. Hazard rankings to be assigned using the MOE guidance module and database.	\$14,400	\$ -	
	Identify threats in Wellhead Protection Areas based on the regulated Tables of Drinking Water Threats and classify the threats in terms of their potential to affect municipal drinking water source as significant, moderate, or low based on the vulnerability scores of each WHPA.	\$8,300	\$ -	
	In the event that a potential threat to drinking water supplies that is not considered in the Tables of Drinking Water Threats is identified, the Source Protection Committee shall request that these threats be evaluated using the risk assessment methodology outlined in the Technical Rules: Assessment Report. The outcome of this evaluation will be a classification of additional threat(s) to municipal drinking water sources as significant, moderate, or low.	\$ -	\$50,000	2009-Apr-1 to 2012-Mar-31
	Refine Wellhead Protection Areas to Address Surface Water Influence (GUDI). Wellhead Protection Areas will be revised to include/add an Intake Protection Zone-2 for the surface water body influencing the well (Western Trent-Palmina Well Supply and Woodville Well Supply).	\$ -	\$40,000	2008-Jun-1 to 2009-Jun-30

The Work Plan to Complete the Source Protection Plan

This section presents the components of the Source Protection Plan, which will be led by the Lakes Simcoe and Couchiching/Black River Source Protection Area with support from the Nottawasaga Valley and Severn Sound Source Protection Areas for the entire Source Protection Region. The Source Protection Plan tasks are conducted following the completion of the Assessment Report. The tasks, estimated costs (rounded to the nearest \$100), start date and estimated completion date are presented below. The estimated costs may need to be revised following the enactment of the Source Protection Plan regulation.

SOURCE PROTECTION PLAN: WATERSHED WIDE TASK DESCRIPTION Assigned Lead: Lakes Simcoe & Couchiching / Black River SPA with support from Severn Sound and Nottawasaga Valley SPAs	Estimated Costs	Start Date & Estimated Completion Date
Coordinating and supporting projects for the source protection plan (SPP). Undertaking administrative support, staffing, management support, and training necessary to provide project coordination for the Source Protection Plan components and direct support to the source protection committee. The SPC operating funds are included in these costs.	\$1,200,000	
Undertaking communications initiatives for the source protection plan. Consultation on the overall proposed Source Protection Plan meeting the legislative and regulatory requirements on the consultation and submission process as per regulation (Local area engagement, outreach and creation of communications products that support the Source Protection Plan process).	Included in coordination costs above.	
Undertaking an impact assessment to evaluate the social, economic and environmental impacts of proposed policies and risk reduction strategies. This assessment would likely be undertaken by a consultant and working group to evaluate a range of policy options for consideration as well as aid in the selection process of the most appropriate and feasible strategy.	\$ 150,000	2009-Oct-1 to 2012-Aug-20
Policy development to address existing drinking water threats and risks. A centrally coordinated planning study will be completed to compile and/or develop recommendations regarding best management practices, education initiatives, monitoring strategies, and other means to reduce existing risks identified with due consideration of impacted communities in the Assessment Report. This study will be directed by a planning working group comprised of municipal planners and members of the Source Protection Committee. The working group will consider the number and extent of identified risks relative to proposed risk reduction strategies, as well as forthcoming guidance in Regulation and Directors Rules to ensure that the recommendations included in the Plan can be effectively implemented.	\$133,300	

SOURCE PROTECTION PLAN: WATERSHED WIDE TASK DESCRIPTION Assigned Lead: Lakes Simcoe & Couchiching / Black River SPA with support from Severn Sound and Nottawasaga Valley SPAs	Estimated Costs	Start Date & Estimated Completion Date
<p>Policy development for managing vulnerable areas. A centrally coordinated planning study will be completed to compile and/or develop recommendations regarding land use planning policies to prevent new risks in the vulnerable areas identified in the Assessment Report. This study will be directed by a planning working group comprised of municipal planners and members of the Source Protection Committee. The working group will consider the number and extent of identified risks relative to proposed risk reduction strategies, as well as forthcoming guidance in Regulation and Directors Rules, to ensure that the recommendations can be effectively implemented with due consideration of impacted communities in the Assessment Report.</p> <p>Policy development will be co-managed by the South Georgian Bay-Lake Simcoe Source Protection Region and a planning working group comprised of municipal staff, South Georgian Bay-Lake Simcoe staff and SPC members. This task will involve establishing and maintaining a municipal working group to provide input to the policy development tasks above.</p> <p>Establishing timelines for policy implementation. The Source Protection Plan will include recommendations regarding timelines for implementation, as well as timelines for plan updates per the Regulation and Directors Rules.</p> <p>Policy Development for Great Lakes targets. In the event that the Minister sets water quality targets for Lake Huron, policy development to address those targets will be co-managed by the South Georgian Bay-Lake Simcoe Source Protection Region and a planning working group.</p>	<p>Included in policy development project costs above.</p>	<p>2009-Oct-1 to 2012-Aug-20</p>

Summary of Costs

The following table summarizes the costs presented above for the Assessment Report and Source Protection Plan based on the estimated costs of the tasks lead by the Lakes Simcoe and Couchiching/Black River Source Protection Authority with support from the Nottawasaga Valley and Severn Sound Source Protection Authorities and the estimated costs of the municipally lead tasks.

Tasks for Assessment Report Completion	Estimated Total Costs (Source Protection Authority Lead)	Estimated Total Costs (Municipal Lead)	Subtotal
Coordinating and supporting projects for the assessment report.	\$ 1,619,000	\$ -	\$ 1,619,000
Undertaking communications initiatives for the assessment report.	\$ -	\$ -	\$ -
Information management for the assessment report preparation.	\$ -	\$ -	\$ -
Undertaking a watershed characterization.	\$ 30,100	\$ -	\$ 30,100
Completing a conceptual water budget.	\$ 193,600	\$ -	\$ 193,600
Conducting a Tier 1 water budget analysis.	\$ 43,800	\$ -	\$ 43,800
Conducting a Tier 2 water budget analysis (for those subwatersheds identified as stressed in Tier 1 analysis).	\$ 327,000	\$ -	\$ 327,000
Conducting a Tier 3 water budget analysis - water quantity risk assessment.	\$ -	\$ 2,395,000	\$ 2,395,000
Delineating and applying vulnerability scores to highly vulnerable aquifer areas.	\$ -	\$ -	\$ -
Delineating and applying vulnerability scores for significant recharge areas.	\$ -	\$ -	\$ -
Identifying issues, inventorying threats and assessing hazards in significant recharge areas and highly vulnerable aquifer areas.	\$ 66,700	\$ -	\$ 66,700
Peer review of the highly vulnerable aquifer areas and significant recharge areas.	\$ 33,300	\$ -	\$ 33,300
Planned surface water intake and associated Assessment Report tasks (City of Barrie).	\$ 60,000	\$ -	\$ 60,000
Planned well and associated Assessment Report tasks (City of Barrie and York Region).	\$ -	\$ 58,400	\$ 58,400
Delineating and applying vulnerability scores for intake protection zones.	\$ 431,200	\$ -	\$ 431,200
Delineating and applying vulnerability scores to wellhead protection areas.	\$ 80,000	\$ 298,000	\$ 378,000
Identifying issues, inventorying threats and assessing hazards in wellhead protection areas or intake protection zones.	\$ 143,500	\$ 444,700	\$ 588,200
Identifying threats in Wellhead Protection Areas and Intake Protection Zones based on the regulated Tables of Drinking Water Threats and classifying them.	\$ 66,200	\$ 292,500	\$ 358,700
Risk assessment in the event that a potential threat is not considered in the Tables of Drinking Water Threats. The SPC shall request that this assessment be conducted.	\$ 150,000	\$ 465,000	\$ 615,000
Refine wellhead protection areas for GUDI systems.	\$ -	\$ 140,000	\$ 140,000
TOTAL COSTS - ASSESSMENT REPORT			\$ 7,338,000

Tasks for Source Protection Plan Completion	Estimated Total Costs (Source Protection Authority Lead)	Estimated Total Costs (Municipal Lead)	Subtotal
Coordinating and supporting projects for the source protection plan (SPP)	\$ 1,200,000	\$ -	\$ 1,200,000
Undertaking communications initiatives for the source protection plan	\$ -	\$ -	\$ -
Undertaking an impact assessment to evaluate the social, economic and environmental impacts of proposed policies and risk reduction strategies	\$ 150,000	\$ -	\$ 150,000
Policy development to address existing drinking water threats and risks	\$ 133,300	\$ -	\$ 133,300
Policy development for managing vulnerable areas	\$ -	\$ -	\$ -
Establishing timelines for policy implementation	\$ -	\$ -	\$ -
TOTAL COSTS - SOURCE PROTECTION PLAN			\$ 1,483,300

TOTAL COSTS - SOURCE PROTECTION AREA	\$ 8,821,300
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As presented in the tables above the estimated costs for the completion of the Assessment report are approximately \$7,338,000 and the costs for the completion of the Source Protection Plan are approximately \$1,483,300. In total, to complete both the Assessment Report and Source Protection Plan for the Lakes Simcoe and Couchiching / Black River Source Protection Authority is approximately \$8,821,300.

It is important to state that the regulations for the Assessment Report have been drafted and are currently under review, which may result in revisions for the final version. The regulations for the Source Protection Plan are not yet drafted by the MOE, and as such additional funds may be required in order to adequately protect source water in the Lakes Simcoe and Couchiching / Black River Source Protection Area.

This Terms of Reference was prepared as accurately as possible with the information available at the time of compiling this report in order to meet the timelines prescribed in Ontario Regulation 285/07 - Time Limits under the Clean Water Act. However, amendments may be required to this document based on the contents of the regulations to be drafted.