

Terms of Reference for St. Clair Region Source Protection Area

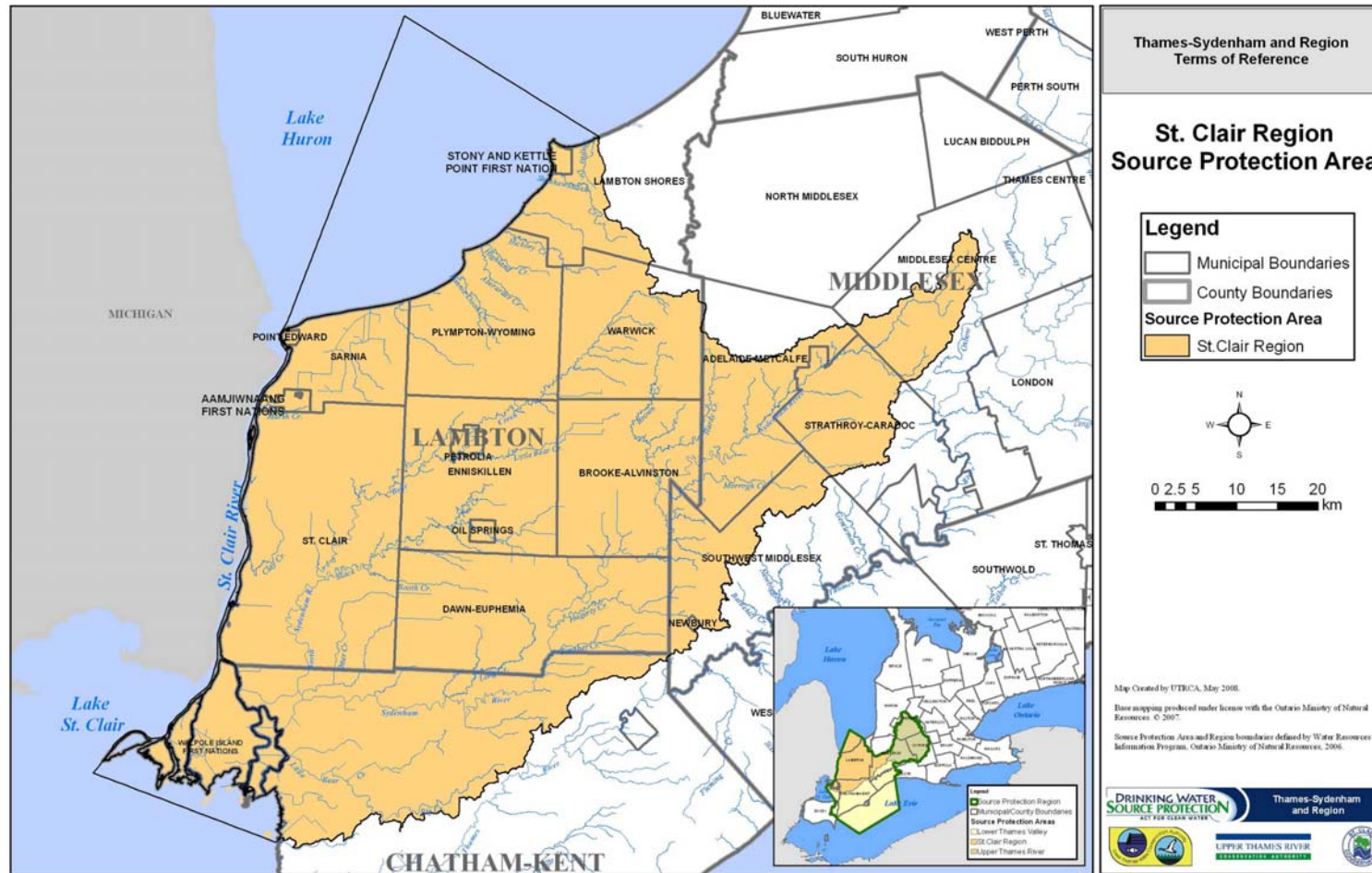
Thames-Sydenham and Region Source Protection Committee

2009-Feb-09

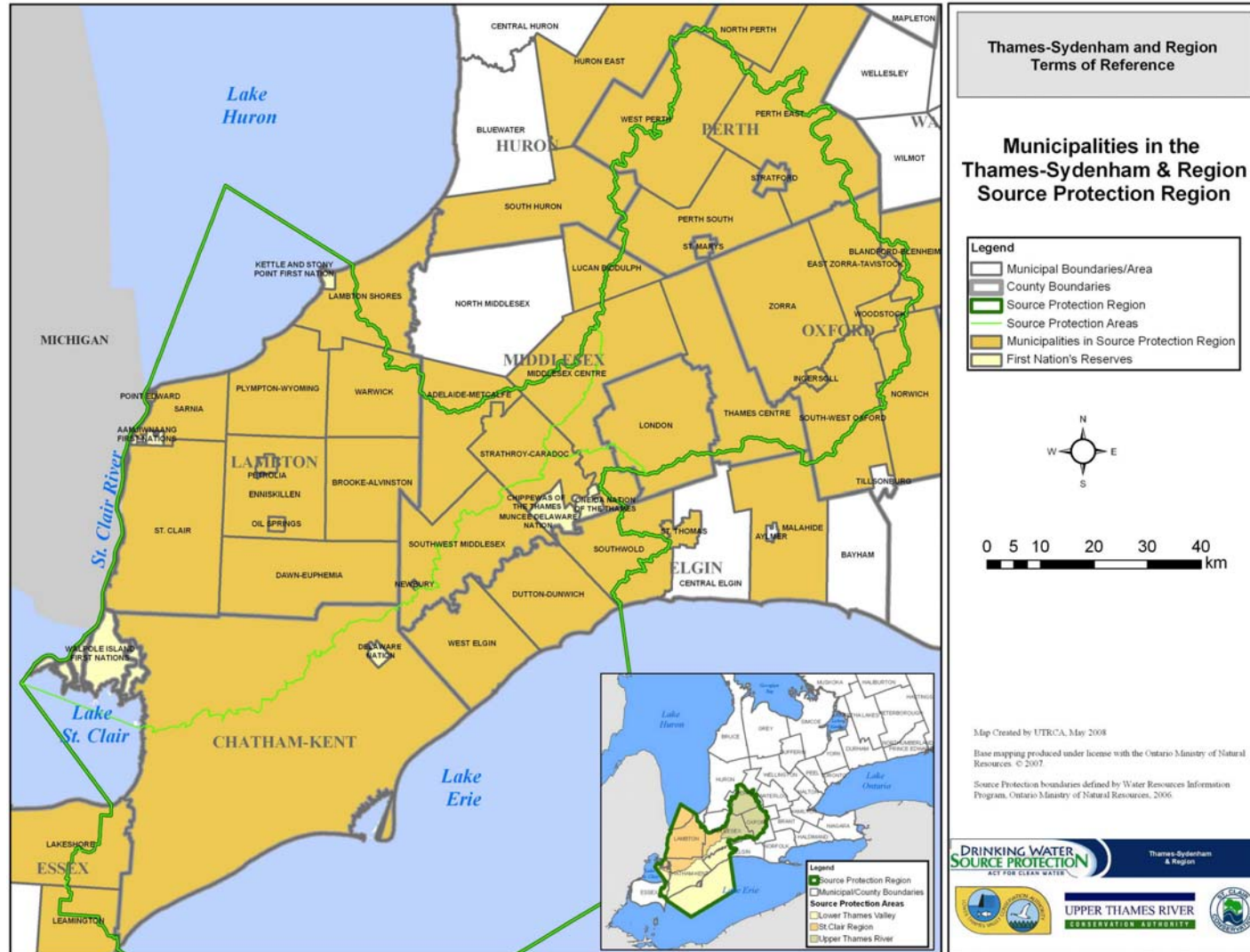
Table of Contents

Map of Source Protection Area.....	3
Map of Source Protection Region.....	4
List of Municipalities Located in the St. Clair Region Source Protection Area.....	5
List of Municipal Residential Drinking Water System(s).....	6
List of Drinking Water System(s) Included by Municipal Council Resolution.....	7
(Not Municipal Residential Drinking Water Systems).....	7
List of Drinking Water Systems Serving Reserve(s).....	7
(Not Municipal Residential Drinking Water Systems).....	7
List of Fully or Partially Exempted Municipal Residential Drinking Water System(s).....	7
List of Drinking Water System(s) Included by Minister of the Environment.....	7
(Not Municipal Residential Drinking Water Systems).....	7
List of Matter(s) that Affect Other Source Protection Committees.....	8
The Work Plan to Complete the Assessment Report.....	10
The Work Plan to Complete the Source Protection Plan.....	12
The Date the Source Protection Plan is to be Submitted to the Minister for Approval by the St. Clair Region Conservation Authority:.....	13
Council Resolution(s) to Include Drinking Water System(s).....	13
Council Resolution(s) to Exempt Municipal Residential Drinking Water System(s).....	13
Detailed Information on Municipal Residential Drinking Water System(s).....	14
Detailed Information on Drinking Water System(s) Included by Municipal Council Resolution.....	16
(Not Municipal Residential Drinking Water Systems).....	16
Detailed Information on Drinking Water System(s) Included by Bands Serving Reserve(s).....	16
(Not Municipal Residential Drinking Water Systems).....	16
Detailed Information on Fully or Partially Exempted Municipal Residential Drinking Water System(s).....	16
Detailed Information on Drinking Water System(s) Included by the Minister of the Environment.....	16
(Not Municipal Residential Drinking Water Systems).....	16
Detailed Work Plan to Complete the Assessment Report.....	17
Detailed Work Plan to Complete the Source Protection Plan.....	24
Summary of Financial Statistics.....	28
Estimated Costs for Tasks by Fiscal Year.....	29
Process Checklist.....	32
Appendix: Full Task Descriptions.....	33

Map of Source Protection Area



Map of Source Protection Region



List of Municipalities Located in the St. Clair Region Source Protection Area

Legal Name of Municipality
Middlesex, County of
Lambton, County of
Chatham-Kent, Municipality of
Adelaide-Metcalfe, Municipality of
Middlesex Centre, Municipality of
Newbury, Village of
Southwest Middlesex, Municipality of
Strathroy-Caradoc, Municipality of
Brooke-Alvinston, Township of
Dawn-Euphemia, Township of
Enniskillen, Township of
Lambton Shores, Municipality of
Oil Springs, Village of
Petrolia, Town of
Plympton-Wyoming, Town of
Point Edward, Village of
Sarnia, City of
St. Clair, Township of
Warwick, Township of

List of Municipal Residential Drinking Water System(s)

Type of System (existing or planned)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Type of Source Water (surface, ground, both)
Existing	210000906	Lambton Area Water Supply System	Lambton Area Water Supply System	Ontario Clean Water Agency	Surface Water
Existing	220002903	Town Of Petrolia Water Treatment Plant	Town of Petrolia	Waterworks Environmental Services Inc.	Surface Water
Existing	220003341	Wallaceburg Water Treatment Plant	Municipality of Chatham-Kent	Chatham-Kent Public Utilities Commission	Surface Water

List of Drinking Water System(s) Included by Municipal Council Resolution (Not Municipal Residential Drinking Water Systems)

Type of System (existing or planned)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Type of Source Water (surface, ground, both)	Title of Council Resolution
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No systems included.

List of Drinking Water Systems Serving Reserve(s) (Not Municipal Residential Drinking Water Systems)

Type of System (existing or planned)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Type of Source Water (surface, ground, both)	Regulation Reference
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No systems included.

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

Type of System (existing or planned)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Type of Source Water (surface, ground, both)	Title of Council Resolution
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No systems exempted.

List of Drinking Water System(s) Included by Minister of the Environment (Not Municipal Residential Drinking Water Systems)

Type of System (existing or planned)	Drinking Water System Number	Drinking Water System Name	Owner	Operating Authority	Type of Source Water (surface, ground, both)
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No systems included.

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

Source Protection Committees Affected	Source Protection Area	Description of Matter
Ausable Bayfield-Maitland Valley SPC	Ausable Bayfield-Maitland Valley Source Protection Region	The Lake Huron Primary Water Supply System (LHPWSS) services parts of the Municipalities of Middlesex Centre, Lucan-Biddulph and Strathroy-Caradoc in the St Clair Region SPA of the Thames-Sydenham and Region SPR. The Water Treatment Plant is located north of the community of Grand Bend on Lake Huron, in the Ausable Bayfield-Maitland Valley Source Protection Region. Although the work will be undertaken by the Ausable Bayfield-Maitland Valley (ABMV) SPR, consultation with the Thames-Sydenham and Region SPR and the supplied municipalities within the Thames-Sydenham and Region SPR needs to be undertaken in developing the Assessment Report and Source Protection Plan as they relate to this supply.
Ausable Bayfield-Maitland Valley SPC	Ausable Bayfield-Maitland Valley Source Protection Region	A number of municipalities are shared with the Ausable Bayfield-Maitland Valley Source Protection Region: the Township of Adelaide Metcalfe, the Municipality of Middlesex Centre, the Township of Warwick and the Municipality of Lambton Shores. A coordinated approach to technical studies and source protection planning policies must be considered. Consultation on consistent policies within these shared municipalities needs to be considered.
Ausable Bayfield-Maitland Valley SPC	Ausable Bayfield-Maitland Valley Source Protection Region	The two bands Kettle and Stony Point form one First Nation, the Kettle and Stony Point First Nation. The reserve for Stony Point (in transition from former Camp Ipperwash) is within the the ABMV SPR, but the reserve for Kettle Point is about 1 km outside the ABMV SPR in the Thames, Sydenham & Region Source Protection Committee. Given the jurisdictional complexities outside of this process, they may wish to work with one SPR as the lead. The anticipated resolution from Band Council should indicate which SPR they would like to work with.
Ausable Bayfield-Maitland Valley SPC	Ausable Bayfield-Maitland Valley Source Protection Region	The Minister may direct a Source Protection Authority to prepare and submit a report on any matter relating to the use of the Great Lakes as a source of drinking water or to assist another Source Protection Authority in preparing a report. In addition, the Minister may establish targets relating to the use of the Great Lakes as a source of drinking water for one or more source protection areas that contribute water to the Great Lakes. There will be a need to consult with the ABMV SPR on Great Lakes issues.
Ausable Bayfield-Maitland Valley SPC	Ausable Bayfield-Maitland Valley Source Protection Region	Water Budget work needs to consider groundwater flow into and out of each region. Consultation with neighbouring regions will be required to ensure that groundwater flow between regions is consistently represented in the water budget products of each region.
Ausable Bayfield-Maitland Valley SPC	Ausable Bayfield-Maitland Valley Source Protection Region	Edge matching of map products, of the Assessment Report and SP Plan, such as Significant Groundwater Recharge Areas and Highly Vulnerable Aquifers need to be

		undertaken. Consultation on the methods employed and products produced will be necessary.
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The Work Plan to Complete the Assessment Report

By Source Protection Area/ Drinking Water System Name	Task	Assigned Lead(s)	Estimated Completion Date	Estimated Cost
St. Clair Region Source Protection Area	Delineating and applying vulnerability scores to HVAs	Upper Thames River Conservation Authority	2008-Dec-31	
St. Clair Region Source Protection Area	Identifying issues, inventorying threats and assessing hazards in HVAs	Upper Thames River Conservation Authority	2009-Jun-01	
St. Clair Region Source Protection Area	Assessing risks in HVAs	Upper Thames River Conservation Authority	2009-Aug-01	
St. Clair Region Source Protection Area	Applying vulnerability scores to SGRAs	Upper Thames River Conservation Authority	2008-Dec-01	
St. Clair Region Source Protection Area	Identifying issues, inventorying threats and assessing hazards in SGRAs	Upper Thames River Conservation Authority	2009-Jun-01	
St. Clair Region Source Protection Area	Assessing risk in SGRAs Review past work to check consistency with other technical studies. WHPA will be re-modelled based on updated pumping rates and vulnerability assessment will be completed.	Upper Thames River Conservation Authority	2009-Aug-01	
St. Clair Region Source Protection Area	Delineating and applying vulnerability scores to WHPAs or IPZs	Upper Thames River Conservation Authority	2009-Jun-01	
St. Clair Region Source Protection Area	Delineating and applying vulnerability scores to WHPAs or IPZs	St. Clair Region Conservation Authority	2009-Jun-30	\$248,500
St. Clair Region Source Protection Area	Identifying issues, inventorying threats and assessing hazards in WHPAs or IPZs	St. Clair Region Conservation Authority	2009-Jun-30	\$104,000
St. Clair Region	Assess risk in WHPAs or IPZs	St. Clair Region Conservation	2009-Jun-30	\$70,000

Source Protection Area		Authority		
Municipal Residential Drinking Water Systems				
Wallaceburg Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Essex Region Conservation Authority	2008-Mar-31	
Wallaceburg Water Treatment Plant	Identifying issues, inventorying threats and assessing hazards in WHPAs or IPZs	Essex Region Conservation Authority	2009-Jun-30	
Wallaceburg Water Treatment Plant	Assess risk in WHPAs or IPZs	Essex Region Conservation Authority	2009-Oct-31	
Wallaceburg Water Treatment Plant	Update technical studies to meet Assessment Report Rules an Regulation	Essex Region Conservation Authority	2009-Oct-31	
Drinking Water Systems By Municipal Resolution				
Drinking Water Systems By Band Resolution				
Fully or Partially Exempt Drinking Water Systems				
Drinking Water Systems Included By Minister				

The 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
St. Clair Region Source Protection Area	Policy development to address drinking water threats (where required and/or permissible in Act/Regs)	Source Protection Committee	2012-Aug-20	
St. Clair Region Source Protection Area	Policy development for monitoring (where required, advisable and/or permissible in Act & Regs)	Source Protection Committee	2012-Aug-20	
St. Clair Region Source Protection Area	Policy development for Great Lakes elements (where required/permissible in Act & Regs)	Source Protection Committee	2012-Aug-20	\$65,000
St. Clair Region Source Protection Area	Establishing timelines for policy implementation	Source Protection Committee	2012-Aug-20	
St. Clair Region Source Protection Area	Consultation on the overall proposed source protection plan	Source Protection Committee	2012-Jul-31	
Municipal Residential Drinking Water Systems				
Drinking Water Systems By Municipal Resolution				
Drinking Water Systems By Band Resolution				
Fully or Partially Exempt Drinking Water Systems				
Drinking Water Systems Included By Minister				

The Date the Source Protection Plan is to be Submitted to the Minister for Approval by the St. Clair Region Conservation Authority:

2012-Aug-20

Council Resolution(s) to Include Drinking Water System(s)

No systems included.

Council Resolution(s) to Exempt Municipal Residential Drinking Water System(s)

No systems exempted.

Detailed Information

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	220003341	Wallaceburg Water Treatment Plant	Municipality of Chatham-Kent	Chatham-Kent Public Utilities Commission	Surface Water	0
Number of Surface Water Intakes	Comments					
1	<p>The Chatham-Kent intake at Wallaceburg, located in the St. Clair Region SPA and is included under the Essex Region Conservation Authority (ERCA) led technical study. The intake feeds the Wallaceburg Water Treatment Plant.</p> <p>The ERCA led study also includes two Lower Thames Valley (LTV) SPA surface water intakes at Wheatley and Erie Beach. Stantec Consultants are conducting the study.</p> <p>The costs of the ERCA led study for these three intakes are shown in the Lower Thames Valley SPA Terms of Reference.</p>					

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	210000906	Lambton Area Water Supply System	Lambton Area Water Supply System	Ontario Clean Water Agency	Surface Water	0
Number of Surface Water Intakes	Comments					
1	<p>The Lambton Area Water Supply System (LAWSS) is owned by the joint board which has members from the municipalities that it supplies: City of Sarnia, Township of St. Clair, Town of Plympton-Wyoming, Village of Point Edward, Township of Warwick, Municipality of Lambton Shores</p>					

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	220002903	Town Of Petrolia Water Treatment Plant	Town of Petrolia	Waterworks Environmental Services	Surface Water	0

Number of Surface Water Intakes	Comments
1	'Town Of Petrolia (Bright's Grove) Water Treatment Plant' is the official name of the system.

Detailed Information on Drinking Water System(s) Included by Municipal Council Resolution

(Not Municipal Residential Drinking Water Systems)

No systems included.

Detailed Information on Drinking Water System(s) Included by Bands Serving Reserve(s)

(Not Municipal Residential Drinking Water Systems)

No systems included.

Detailed Information on Fully or Partially Exempted Municipal Residential Drinking Water System(s)

No systems exempted.

Detailed Information on Drinking Water System(s) Included by the Minister of the Environment

(Not Municipal Residential Drinking Water Systems)

No systems included.

Detailed Work Plan to Complete the Assessment Report

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Delineating and applying vulnerability scores to HVAs	Upper Thames River Conservation Authority	2008-May-01	2008-Dec-31
Comments		Defined Geographic Area		Estimated Cost
<p>Intrinsic Susceptibility Index scores have been completed through past groundwater studies across the region. The mapping products from these separate county based studies have been compiled into a single mapping product, however there are issues with conflicting scoring at areas of overlap. This was to be expected as each study relied on the interpretation of data from within their study area. Near the edges of the study area different interpolation and extrapolations results should be expected based on the use of different data points near the boundaries. The work proposed under this task includes the mapping of ISI, based on the same methodologies employed in the groundwater studies, but utilizing a single data set across the entire region. Based on this scoring HVA will be delineated and vulnerability will be scored for these areas.</p> <p>Costs for this task have been included in the Upper Thames Region SPA Terms of Reference (since it is the lead on this study) and also include costs for the Lower Thames Valley SPA. Total costs are estimated to be \$29,000.</p>		Thames-Sydenham and Region Source Protection Region including the LTVSPA, SCRSPA and the UTRSPA.		

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Identifying issues, inventorying threats and assessing hazards in HVAs	Upper Thames River Conservation Authority	2008-Oct-01	2009-Jun-01
Comments		Defined Geographic Area		Estimated Cost
<p>Once delineated these areas will be assessed for the general nature of the types of threats contained in the areas. All threats which could result in a significant risk will be inventoried. Current guidance suggests a vulnerability score of 6 for these areas. As such it is not anticipated that significant risks will be identified in these areas. General types of land use in these areas will be characterized to the extent necessary to develop appropriate policies for these</p>		Thames-Sydenham and Region Source Protection Region including the LTVSPA, SCRSPA and the UTRSPA.		

<p>types of threats in HVAs.</p> <p>Issues in these areas will be identified through the analysis of monitoring wells and municipal wells in the general areas as well as through discussions with the local health units who may be able to rely on interpretation of private well information.</p> <p>Issues may be considered in determining whether certain types of threats need to be inventoried in the area, however no allowance has been made in this task for a detailed inventory of such threats.</p> <p>Costs for this task have been included in the Upper Thames Region SPA Terms of Reference (since it is the lead on this study) and also include costs for the Lower Thames Valley SPA. Total costs are estimated to be \$40,000.</p>		
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By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Assessing risks in HVAs	Upper Thames River Conservation Authority	2009-Apr-01	2009-Aug-01
Comments		Defined Geographic Area		Estimated Cost
<p>Based on vulnerability scores and general threats characterization in the HVAs, possible risk scores will be assessed.</p> <p>Costs for this task have been included in the Upper Thames Region SPA Terms of Reference (since it is the lead on this study) and also include costs for the Lower Thames Valley SPA. Total costs are estimated to be \$42,000.</p>		Thames-Sydenham and Region Source Protection Region including the LTVSPA, SCRSPA and the UTRSPA.		

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Applying vulnerability scores to SGRAs	Upper Thames River Conservation Authority	2008-Oct-01	2008-Dec-01
Comments		Defined Geographic Area		Estimated Cost
<p>SGRAs will be defined through the Water Budget work. The vulnerability of these areas will be assessed based on Director's Rules and guidance. ISI scores are available for WHPAs as well as the regional ISI scores developed through the HVA delineation project. These results will need to be compared and the most appropriate scoring applied to the SGRA. It will be important that</p>		Thames-Sydenham and Region Source Protection Region including the LTVSPA, SCRSPA and the UTRSPA		

<p>the vulnerability score associated with these areas be consistent with those parts of the WHPA which are part of the SGRA.</p> <p>Costs for this task have been included in the Upper Thames Region SPA Terms of Reference (since it is the lead on this study) and also include costs for the Lower Thames Valley SPA. Total costs are estimated to be \$15,000.</p>		
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By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Identifying issues, inventorying threats and assessing hazards in SGRAs	Upper Thames River Conservation Authority	2008-Oct-01	2009-Jun-01
Comments		Defined Geographic Area		Estimated Cost
<p>Once delineated these areas will be assessed for the general nature of the types of threats contained in the areas. All threats which could result in a significant risk will be inventoried. Current guidance suggests a vulnerability score of 6 for these areas. As such it is not anticipated that significant risks will be identified in these areas. General types of land use in these areas will be characterized to the extent necessary to develop appropriate policies for these types of threats in SGRAs.</p> <p>Issues in these areas will be identified through the analysis of monitoring wells and municipal wells in the general areas as well as through discussions with the local health units who may be able to rely on interpretation of private well information.</p> <p>Issues may be considered in determining whether certain types of threats need to be inventoried in the area, however no allowance has been made in this task for a detailed inventory of such threats.</p> <p>Costs for this task have been included in the Upper Thames Region SPA Terms of Reference (since it is the lead on this study) and also include costs for the Lower Thames Valley SPA. Total costs are estimated to be \$50,000.</p>		Thames-Sydenham and Region Source Protection Region including the LTVSPA, SCRSPA and the UTRSPA		

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Assessing risk in SGRAs Review past work to check consistency with other technical studies.	Upper Thames River Conservation Authority	2009-Apr-01	2009-Aug-01

	WHPA will be re-modelled based on updated pumping rates and vulnerability assessment will be completed.		
Comments		Defined Geographic Area	Estimated Cost
Costs for this task have been included in the Upper Thames Region SPA Terms of Reference (since it is the lead on this study) and also include costs for the Lower Thames Valley SPA. Total costs are estimated to be \$42,000.		Thames-Sydenham and Region Source Protection Region including the LTVSPA, SCRSPA and the UTRSPA	

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Delineating and applying vulnerability scores to WHPAs or IPZs	Upper Thames River Conservation Authority	2008-Oct-01	2009-Jun-01
Comments		Defined Geographic Area	Estimated Cost	
It is anticipated that the Director's Rules will require the delineation, vulnerability assessment and Risk Assessment of IPZ3 (or other methodologies for assessing risks resulting from issues or concerns outside of IPZ1 & 2) for intakes on Lake St Clair and the Wallaceburg intake. Delineation and applying vulnerability scores for IPZ3 related to the Lake St Clair and Wallaceburg intakes will be completed according to the requirements of the Director's Rules. The MISED models developed through the past work will be used to identify areas, outside of the original model scope (developed to delineate IPZ2), which can contribute risks to the intakes. The models will be combined and improved to include discharges from the major rivers which may contribute risks to the intakes. Watercourses available in Conservation Authority and provincial data sets will be utilized to delineate the IPZ3 within the contributing watersheds. The modelling will be used as an indicator of areas more vulnerable (more likely to contribute risks) than others within the delineated IPZ3 and vulnerability scores will be assigned accordingly. Costs for this task have been included in the Upper Thames Region SPA Terms of Reference (since it is the lead on this study) and also include costs for the Lower Thames Valley SPA. Total costs are estimated to be \$95,000.	Wallaceburg intake in the St. Clair Region SPA as well as intakes in the Essex Region SPA on Lake St. Clair. IPZ3 will include the Thames and Sydenham Watersheds as well as smaller tributaries which drain directly into the St. Clair River and Lake St. Clair.			

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source	Delineating and applying vulnerability scores to	St. Clair Region Conservation Authority	2006-Apr-01	2009-Jun-30

Protection Area	WHPAs or IPZs			
Comments		Defined Geographic Area		Estimated Cost
<p>The funded amount includes \$60,000 to refine the IPZs based on additional data collection and model refinement. Southern Lake Huron Surface Water Technical Study led by the St. Clair Region Conservation Authority, study conducted by R.V. Anderson.</p> <p>Proposed costs are estimates of the updates and further work required to ensure the technical studies meet the Director's Technical Rules posted on the Ministry of Environment Environmental Bill of Rights Registry in June 2008. The scope of this task may change as a result of changes to the rules from those posted.</p>		<p>The two intakes studied are Lake Huron raw water intake to the Petrolia Water Treatment Plant and Lake Huron (at the mouth of the St. Clair River) raw water intake to the Lambton Area Water Supply System (LAWSS).</p>		\$248,500

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Identifying issues, inventorying threats and assessing hazards in WHPAs or IPZs	St. Clair Region Conservation Authority	2006-Apr-01	2009-Jun-30
Comments		Defined Geographic Area		Estimated Cost
<p>Southern Lake Huron Surface Water Technical Study led by the St. Clair Region Conservation Authority, study conducted by R.V. Anderson.</p> <p>Proposed costs are estimates of the updates and further work required to ensure the technical studies meet the Director's Technical Rules posted on the Ministry of Environment Environmental Bill of Rights Registry in June 2008. The scope of this task may change as a result of changes to the rules from those posted.</p>		<p>The two intakes studied are Lake Huron raw water intake to the Petrolia Water Treatment Plant and Lake Huron (at the mouth of the St. Clair River) raw water intake to the Lambton Area Water Supply System (LAWSS)</p>		\$104,000

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Assess risk in WHPAs or IPZs	St. Clair Region Conservation Authority	2006-Apr-01	2009-Jun-30
Comments		Defined Geographic Area		Estimated Cost
<p>Southern Lake Huron Surface Water Technical Study led by the St. Clair Region Conservation Authority, study conducted by R.V. Anderson.</p> <p>Proposed costs are estimates of the updates and further work required to ensure the technical studies meet the Director's Technical Rules posted on the</p>		<p>The two intakes studied are Lake Huron raw water intake to the Petrolia Water Treatment Plant and Lake Huron (at the mouth of the St. Clair River) raw water intake to the Lambton Area Water Supply System (LAWSS).</p>		\$70,000

Ministry of Environment Environmental Bill of Rights Registry in June 2008. The scope of this task may change as a result of changes to the rules from those posted.		
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By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Wallaceburg Water Treatment Plant	Delineating and applying vulnerability scores to WHPAs or IPZs	Essex Region Conservation Authority	2005-Apr-01	2008-Mar-31
Comments		Defined Geographic Area		Estimated Cost
Costs estimates on this task are included in the Lower Thames Valley SPA ToR, along with those for the Chatham-Kent intakes (Wheatley and Erie Beach), as the project, led by Essex Region CA, includes these 3 intakes. The total funded cost for this task for the Wallaceburg, Wheatley and Erie Beach intakes is \$376,000.		Wallaceburg intake work is combined with the work undertaken on Wheatley and Erie Beach intakes in the Lower Thames Valley SPA as well as the intakes in the Essex Region SPA.		

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Wallaceburg Water Treatment Plant	Identifying issues, inventorying threats and assessing hazards in WHPAs or IPZs	Essex Region Conservation Authority	2005-Apr-01	2009-Jun-30
Comments		Defined Geographic Area		Estimated Cost
Costs estimates on this task are included in the Lower Thames Valley SPA ToR, along with those for the Chatham-Kent intakes (Wheatley and Erie Beach), as the project, led by Essex Region CA, includes these 3 intakes. The total funded cost for this task for the Wallaceburg, Wheatley and Erie Beach intakes is \$143,000.		Wallaceburg intake work is combined with the work undertaken on Wheatley and Erie Beach intakes in the LTVSPA as well as the intakes in Essex Region SPA.		

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Wallaceburg Water Treatment Plant	Assess risk in WHPAs or IPZs	Essex Region Conservation Authority	2006-Apr-01	2009-Oct-31
Comments		Defined Geographic Area		Estimated Cost
Costs estimates on this task are included in the Lower Thames Valley SPA ToR, along with those for the Chatham-Kent intakes (Wheatley and Erie Beach), as the project, led by Essex Region CA, includes these 3 intakes. The total funded cost so far for the Wallaceburg, Wheatley and Erie Beach intakes is \$35,000. The total proposed cost for work yet to be done is \$55,500.		Wallaceburg intake work is combined with the work undertaken on Wheatley and Erie Beach intakes in the Lower Thames Valley SPA as well as the intakes in Essex Region SPA.		

By Drinking Water System Name	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
Wallaceburg Water Treatment Plant	Update technical studies to meet Assessment Report Rules an Regulation	Essex Region Conservation Authority	2008-Apr-01	2009-Oct-31
Comments		Defined Geographic Area		Estimated Cost
<p>Update technical studies to meet MOE proposed new guidance, may include updates to consider identified technical uncertainties and data gaps. Does not include items related to the delineation of IPZ 3 which is included in a separate task.</p> <p>Costs estimates on this task are included in the Lower Thames Valley SPA ToR, along with those for the Chatham-Kent intakes (Wheatley and Erie Beach), as the project, led by Essex Region CA, includes these 3 intakes. Estimated costs are \$157,500.</p>		<p>Wallaceburg intake work is combined with the work undertaken on Wheatley and Erie Beach intakes in the Lower Thames Valley SPA as well as the intakes in Essex Region Source Protection Area.</p>		

Detailed Work Plan to Complete the Source Protection Plan

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Policy development to address drinking water threats (where required and/or permissible in Act/Regs)	Source Protection Committee	2010-Jan-01	2012-Aug-20
Comments		Defined Geographic Area		Estimated Cost
<p>In considering policies to include in the Source Protection Plan the SPC will consider the Clean Water Act and its Regulations, Rules and other provincial guidance. The SPC will also consider the types of policies being implemented in neighbouring regions. Criteria will be developed by the SPC to compare risk management measures and policies to be included in the Source Protection Plan. These criteria will be consistent with the SPC's mission statement and guiding principles including the principal of being "fair and reasonable". In developing these policies, the SPC will have regard for the financial impact on those affected including normal business or standard practices and expectations for existing situations. The policies may also consider the cost of the change, any ongoing or repetitive costs, long term impacts and any impacts on productive capacity or competitive advantage. Both existing and new programs, opportunities, financial instruments, and education and outreach policies and programs will be considered. Where there are water quantity threats to drinking water sources included in the ToR the SPC will need to consider policies to address those threats. More general policies related to water conservation may also be considered by the SPC in developing the policies to be included in the Source Protection Plan.</p> <p>The staff and SPC costs associated with this task are included with the task related to coordinating and supporting projects associated with the Source Protection Plan. This task will require extensive consultation with stakeholder groups which has been included in the task related to undertaking communications initiatives for the Source Protection Plan.</p>		All three Source Protection Areas (SPAs) of the Thames-Sydenham and Region Source Protection Region: Upper Thames River SPA, Lower Thames Valley SPA and St. Clair Region SPA		

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source	Policy development for monitoring (where	Source Protection Committee	2009-Apr-01	2012-Aug-20

Protection Area	required, advisable and/or permissible in Act & Regs)		
Comments		Defined Geographic Area	Estimated Cost
<p>The SPC will consider existing monitoring programs of the CAs, municipalities, province and stakeholder groups and develop specific monitoring programs for the Source Protection Plan. These monitoring programs should include programs which will monitor the effectiveness of the plan on issues identified in the Assessment Report as well as emerging issues related to drinking water sources, and Great Lakes Targets. Monitoring programs will be considered to evaluate compliance with the Source Protection Plan including Risk Management Plans and Municipal Planning alignment with the policies included in the Source Protection Plan. Municipal monitoring and reporting programs will be considered to ensure that the municipalities within the region with regard to their implementation of the Plan. The monitoring programs included in the Source Protection Plan will facilitate the requirement in the Clean Water and Regulations to report to the Province on the source protection planning.</p>		<p>All three Source Protection Areas (SPAs) of the Thames-Sydenham and Region Source Protection Region: Upper Thames River SPA, Lower Thames Valley SPA and St. Clair Region SPA</p>	

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Policy development for Great Lakes elements (where required/permissible in Act & Regs)	Source Protection Committee	2009-Jan-01	2012-Aug-20
Comments		Defined Geographic Area	Estimated Cost	
<p>The Clean Water Act includes the ability of the Minister of the Environment to set Great Lakes targets for watershed. The Source Protection Plan must assist in achieving those Great Lakes targets. Further guidance from the MOE is expected. It is also required that the Source Protection Plan consider Great Lakes Agreements. It is assumed that consultation with other regions draining into each of the Great Lakes that the watershed of the TSR drain into will be required. As well, consultation will be required with Provincial and Federal organizations with responsibilities under the Great Lakes Agreements.</p> <p>Although the scope of the work associated with this task is largely unknown, an allowance for work associated with this task, for both staff and SPC, are included with the task related to coordinating and supporting projects associated with the Source Protection Plan. The estimated cost included in this tasks and a similar task in the LTVSPA include the additional cost of</p>		<p>All three Source Protection Areas (SPAs) of the Thames-Sydenham and Region Source Protection Region: Upper Thames River SPA, Lower Thames Valley SPA and St. Clair Region SPA</p>	\$65,000	

consultation.		
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By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Establishing timelines for policy implementation	Source Protection Committee	2009-Apr-01	2012-Aug-20
Comments		Defined Geographic Area		Estimated Cost
<p>The staff and SPC costs associated with this task are included with the task related to coordinating and supporting projects associated with the Source Protection Plan.</p> <p>In developing policies for the Source Protection Plan timelines for the implementation of those policies must be established. In developing these timelines the SPC will consult with the municipalities and other stakeholders. The SPC will apply its guiding principles, including the principal of being fair and reasonable, to establishing those timelines. In establishing the timelines the SPC also needs to meet the requirements of the Act and its Rules and Regulations.</p>		<p>All three Source Protection Areas (SPAs) of the Thames-Sydenham and Region Source Protection Region: Upper Thames River SPA, Lower Thames Valley SPA and St. Clair Region SPA</p>		

By Source Protection Area	Task	Assigned Lead(s)	Estimated Start Date	Estimated Completion Date
St. Clair Region Source Protection Area	Consultation on the overall proposed source protection plan	Source Protection Committee	2012-Jan-01	2012-Jul-31
Comments		Defined Geographic Area		Estimated Cost
<p>It is anticipated that the Source Protection Plan Rules and Regulations will have specific requirements to consult on the proposed Source Protection Plan. It is expected that these requirements will be similar to the requirements for the consultation on the proposed Terms of Reference and the proposed requirements for consultation on the Assessment Report (included in the proposed Regulation and Rules on the Assessment Report which have been posted for comments). As the requirements for this consultation are yet unknown the planned activities included in this task will need to be re-evaluated once the Rules and Regulations are in place.</p> <p>It is anticipated that the SPC will be required to post a draft and publish a notice. Advertising costs related to this are included in this task. Although it is expected that a single meeting will be required we have included in this task</p>		<p>All three Source Protection Areas (SPAs) of the Thames-Sydenham and Region Source Protection Region: Upper Thames River SPA, Lower Thames Valley SPA and St. Clair Region SPA</p>		

<p>holding a series of open houses and forums in addition an anticipated requirement to hold a public meeting. Initiatives included on the task related to undertaking communications initiatives related to the Source Protection Plan complement the proposed consultation included in this task.</p> <p>Staff time related to this task has been allowed for in the task related to coordinating and supporting projects for the Source Protection Plan.</p>		
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Summary of Financial Statistics

	Tasks Done by Source Protection Area or Drinking Water System	Estimated Costs for Tasks Under the Assessment Report	Estimated Costs for Tasks Under the Source Protection Plan	Subtotal
Municipal Residential Drinking Water Systems				
	Lambton Area Water Supply System			
	Town Of Petrolia Water Treatment Plant			
	Wallaceburg Water Treatment Plant			
Drinking Water Systems By Municipal Resolution				
Drinking Water Systems By Band Resolutions				
Drinking Water Systems Included By Minister				
Total Estimated Costs		\$422,500	\$65,000	\$487,500

Estimated Costs for Tasks by Fiscal Year

Fiscal Year defined as April 1 to March 31

Drinking Water System Category / Source Protection Area	Tasks	Fiscal Year 04/05	Fiscal Year 05/06	Fiscal Year 06/07	Fiscal Year 07/08	Fiscal Year 08/09	Fiscal Year 09/10	Fiscal Year 10/11	Fiscal Year 11/12	Fiscal Year 12/13
St. Clair Region Source Protection Area										
	Delineating and applying vulnerability scores to HVAs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Identifying issues, inventorying threats and assessing hazards in HVAs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Assessing risks in HVAs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Applying vulnerability scores to SGRAs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Identifying issues, inventorying threats and assessing hazards in SGRAs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Assessing risk in SGRAs Review past work to check consistency with other technical studies. WHPA will be re-modelled based on updated pumping rates and vulnerability assessment will be completed.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Delineating and applying vulnerability scores to WHPAs or IPZs	\$0	\$0	\$176,500	\$0	\$72,000	\$0	\$0	\$0	\$0
	Identifying issues, inventorying threats and assessing hazards in WHPAs or IPZs	\$0	\$0	\$69,000	\$0	\$35,000	\$0	\$0	\$0	\$0
	Assess risk in WHPAs or IPZs	\$0	\$0	\$32,000	\$0	\$38,000	\$0	\$0	\$0	\$0

Terms of Reference

Drinking Water System Category / Source Protection Area	Tasks	Fiscal Year 04/05	Fiscal Year 05/06	Fiscal Year 06/07	Fiscal Year 07/08	Fiscal Year 08/09	Fiscal Year 09/10	Fiscal Year 10/11	Fiscal Year 11/12	Fiscal Year 12/13
Drinking Water Systems by Band Resolution										
Drinking Water Systems Included by Minister										
Fiscal Year Total		\$0	\$0	\$277,500	\$0	\$170,000	\$10,000	\$10,000	\$10,000	\$10,000

Process Checklist

Regulatory Process	Completion Date	Done By
Give a copy of the comments on proposed terms of reference to the source protection committee.	2008-Oct-03	SPAuthority
Give copy of draft proposed ToR to groups created pursuant to Great Lakes Water Quality Agreement & involved in developing/implementing RAPs & LaMPs.	2008-Aug-15	SPCommittee
Make provisions to consider Great Lakes Agreements.	2008-Aug-15	SPCommittee
Make the draft proposed terms of reference available at other locations.	2008-Aug-18	SPCommittee
Make the proposed terms of reference available at other locations.	2008-Oct-17	SPCommittee
Municipal council resolutions have been passed agreeing upon work.	2008-Sep-23	SPCommittee
Notice for consultation on draft proposed ToR includes information on public meeting scheduled at least 21 days after newspaper notice is published.	2008-Aug-15	SPCommittee
Notice for consultation on draft proposed ToR includes requests for comments submitted within 35 days of notice published in the newspaper.	2008-Aug-15	SPCommittee
Notify band Chiefs on the commencement of the terms of reference.	2008-Feb-05	SPCommittee
Notify municipal clerks on the commencement of the terms of reference.	2008-Jan-31	SPCommittee
Post draft proposed terms of reference on Internet.	2008-Aug-15	SPCommittee
Post proposed terms of reference on the Internet for 30 days.	2008-Oct-17	SPCommittee
Provide a copy of draft proposed terms of reference to the clerks of municipalities located in the source protection area.	2008-Aug-15	SPCommittee
Provide a copy of draft to the chiefs of bands whose reserves are located in the source protection area.	2008-Aug-15	SPCommittee
Provide a copy of proposed terms of reference to the chiefs of bands whose reserves are located in the source protection area.	2008-Oct-17	SPCommittee
Provide a copy of proposed terms of reference to the clerks of municipalities located in the source protection area.	2008-Oct-17	SPCommittee
Provide a copy of proposed terms of reference to the source protection authority.	2008-Oct-17	SPCommittee
Provide any unresolved comments from municipalities and bands to the Minister as part of the approval package for the proposed terms of reference.	2008-Dec-17	SPAuthority
Provide any unresolved comments from municipalities and bands to the source protection authority on the draft proposed terms of reference.	2008-Oct-17	SPCommittee
Provide copy of draft proposed ToR to chairs of SPCs who have been listed in table that describes matters that affect other source protection areas.	2008-Aug-15	SPCommittee
Publish newspaper notice to publicly view draft proposed ToR on Internet and at other locations (as determined by the source protection committee).	2008-Aug-15	SPCommittee
Receive comments from the 30 day Internet posting from the public, municipalities, bands, and other stakeholders.	2008-Nov-17	SPAuthority

Appendix: Full Task Descriptions

Subject Area	Task Name	Full Task Description
Assessment Report Preparation	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.
Assessment Report Preparation	Undertaking communications initiatives for the assessment report	Local area engagement, outreach and creation of communications products that support the assessment report process.
Assessment Report Preparation	Information management for the assessment report preparation	Conducting overall data management, data sharing agreements, standards, mapping, software and maintenance.
Assessment Report Preparation	Undertaking a watershed characterization	Identifying and describing watersheds in the source protection area. May include water quality analysis and peer review for water quality analysis. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Conducting a conceptual water budget	Describing 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. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Conducting a tier 1 water budget analysis and stress assessment	Conducting a tier 1 water budget analysis, stress assessment, and delineation of significant groundwater recharge areas. May also include the identification of water quantity concerns and an analysis of uncertainty. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Conducting a tier 2 water budget analysis and stress assessment	If determined necessary from a tier 1 water budget analysis and stress assessment, conducting a tier 2 water budget analysis and stress assessment, and refining the delineation of significant groundwater recharge areas. May also include the identification of water quantity concerns and an analysis of uncertainty. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Conducting a tier 3 water budget analysis and water quantity risk assessment	If determined necessary from a tier 2 water budget analysis and stress assessment, conducting a tier 3 water budget analysis and water quantity risk assessment. May include identifying significant, moderate and low water quantity threats. May also include consultation with property owners/residents/stakeholders impacted by a significant drinking water threat scoring and an analysis of uncertainty. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Delineating and applying vulnerability scores to HVAs	Delineating the location and extent of highly vulnerable aquifers in the source protection area and applying vulnerability scores. An uncertainty analysis may be included in this task. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.

Assessment Report Preparation	Identifying issues, inventorying threats and assessing hazards in HVAs	Listing and describing drinking water quality issues, inventorying threats and assessing hazards (including uncertainty analysis) in the highly vulnerable aquifers. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Assessing risks in HVAs	Identifying any significant, moderate, low, and negligible drinking water threats, undertaking an issues evaluation, and analysing uncertainty in highly vulnerable aquifers. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Applying vulnerability scores to SGRAs	Applying vulnerability scores to significant groundwater recharge areas in the source protection area (delineated in the water budget process). Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Identifying issues, inventorying threats and assessing hazards in SGRAs	Listing and describing drinking water quality issues, inventorying threats and assessing hazards (including uncertainty analysis) in the significant groundwater recharge areas. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Assessing risk in SGRAs	Identifying any significant, moderate, low, and negligible drinking water threats, undertaking an issues evaluation, and analysing uncertainty in significant groundwater recharge areas. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Delineating and applying vulnerability scores to WHPAs or IPZs	Delineating the location and extent of the vulnerable area around a drinking water system (wellhead protection areas for drinking water systems using groundwater or intake protection zones for drinking water systems withdrawing from surface water) in the source protection area and applying a vulnerability score. Uncertainty analysis and peer review may be required. In addition, consultation with property owners/residents/stakeholders affected by the delineation and scoring for these two vulnerable areas may be required. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Identifying issues, inventorying threats and assessing hazards in WHPAs or IPZs	Listing and describing drinking water quality issues, inventorying threats and assessing hazards (including uncertainty analysis) in wellhead protection areas and/or intake protection zones. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Assess risk in WHPAs or IPZs	Identifying any significant, moderate, low, and negligible drinking water threats, undertaking an issues evaluation, and analysing uncertainty in wellhead protection areas or intake protection zones. Consultation may be required with stakeholders impacted by significant drinking water threats scoring. Consultation with adjacent source protection areas or regions may also be required for shared Great Lakes drinking water issues. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Consultation on the overall proposed assessment report	Meeting the legislative and regulatory requirements on the consultation and submission process of the proposed assessment report. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report		If required, add other tasks to complete the assessment report. Describe in detail.

Preparation		
Source Protection Plan Preparation	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.
Source Protection Plan Preparation	Undertaking communications initiatives for the source protection plan	Local area engagement, outreach and creation of communications products that support the source protection plan process.
Source Protection Plan Preparation	Information management for source protection plan preparation	Conducting overall data management, data sharing agreements, standards, mapping, software and maintenance.
Source Protection Plan Preparation	Policy development to address drinking water threats (where required and/or permissible in Act/Regs)	Policy development to address drinking water threats (where required and/or permissible in the Act and source protection plan regulation). Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.
Source Protection Plan Preparation	Policy development for monitoring (where required, advisable and/or permissible in Act & Regs)	Policy development for monitoring activities (where required, advisable and/or permissible in the Act and source protection plan regulation), including determining who is responsible for implementing these policies. Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.
Source Protection Plan Preparation	Policy development for Great Lakes elements (where required/permissible in Act & Regs)	Policy development for Great Lakes associated elements (where directed by the Minister and required or permissible in the Act and source protection plan regulation), including monitoring policies to assist in implementing and determining the effectiveness of achieving Great Lake target(s) policies, determining who is responsible for implementing those policies, and determining the need to identify any of these policies as "designated Great Lakes policies". Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.
Source Protection Plan Preparation	Establishing timelines for policy implementation	Establishing timelines for policy implementation after all policies for the SPP are developed, giving consideration to the policies developed, key players affected, capacity for implementation, the assessed risks, and natural, social, and economic considerations, including local community interests/needs. Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.
Source Protection Plan Preparation	Consultation on the overall proposed source protection plan	Consultation and submission process of the overall proposed source protection plan. Details on how to conduct the consultations on the overall proposed source protection plan will be provided in the Source Protection Plan regulation and guidance document when they are developed.
Source Protection Plan Preparation		If required, add other tasks to complete the source protection plan. Describe in detail.