

DRINKING WATER SOURCE PROTECTION

ACT FOR CLEAN WATER

Thames-Sydenham and Region Source Protection Committee
Lower Thames Valley Source Protection Area

Proposed
Assessment Report

March 5, 2010

9.0 Data Gaps and Next Steps



UPPER THAMES RIVER
CONSERVATION AUTHORITY



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Thames - Sydenham and Region
c/o Upper Thames River Conservation Authority
1424 Clarke Road, London, ON, N5V 5B9

March 15, 2010

Dear reader

Re: **Lower Thames Valley Proposed Assessment Report posted for comments**

The Thames-Sydenham and Region Source Protection Committee has posted the enclosed report for review and comment by stakeholders. This report is the second draft of the Proposed Assessment Report for the Lower Thames Valley Source Protection Authority. Comments received through the first posting have been considered by the Source Protection Committee and the report has been revised. Comments received in response to this posting will be forwarded with the Proposed Assessment Report to the Ministry of the Environment.

The Proposed Assessment Report for the Lower Thames Valley Source Protection Area represents a significant milestone in the Source Protection Committee’s progress in the completion of the first Source Protection Plans for the Thames-Sydenham and Region. While this Assessment Report contains most of the required information, it is not complete. As a result this Assessment Report identifies the work remaining to complete the Assessment Report for this Source Protection Authority. The Source Protection Committee realizes that this report is a “living document” which will need to be updated and amended. This Assessment Report identifies a number of items which will need to be undertaken before the first Source Protection Plan can be completed. As a result an amended Assessment Report is anticipated prior to completion of the Source Protection Plan for the Lower Thames Valley Source Protection Area.

The Thames-Sydenham and Region Source Protection Committee is also preparing drafts of Assessment Reports for the St. Clair Region and Upper Thames River Source Protection Authorities. These documents will be posted as they reach a point where they can be posted.

We hope that you will take advantage of the open houses being held throughout the region to learn more about this Assessment Report and Source Protection planning. More information on these open houses is available on the web site on the bottom of this letter.

Yours truly,
THAMES-SYDENHAM and REGION

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Lower Thames Valley Source Protection Area Assessment Report

Table of Contents

List of Figures	iv
List of Maps	iv
List of Tables	v
1.0 Introduction and Background	1-1
1.1. Document Overview	1-2
1.2. Clean Water Act Rules and Regulations	1-5
1.2.1. Regulations.....	1-5
1.2.2. Technical Rules	1-6
1.2.3. Local Guidance Documents	1-6
1.2.4. Tables of Drinking Water Threats.....	1-6
1.2.5. Mapping Symbology	1-7
1.2.6. Source Protection Plan.....	1-7
1.3. Source Protection Committee	1-8
1.4. Role of the Conservation Authorities	1-11
1.5. Terms of Reference.....	1-11
1.6. Thames-Sydenham and Region Source Protection Region.....	1-12
1.6.1. Lower Thames Valley Source Protection Area	1-13
1.7. Technical Studies	1-14
1.8. Consultation	1-15
1.9. Schedule	1-16
1.10. Local Acceptance, Approvals and Next Steps	1-17
1.10.1. Engaging First Nations	1-19
1.10.2. Amendments to the Assessment Report.....	1-19
2.0 Watershed Characterization.....	2-1
2.1 Watershed Characterization Report	2-1
2.2 Data Sources.....	2-2
2.3 Components of the Watershed Characterization Report.....	2-3
2.3.1. Watersheds and Subwatersheds.....	2-3
2.3.2. Physical Geography	2-4
2.3.3. Human Geography	2-12
2.3.4. Water Quality.....	2-14
2.3.5. Water Quantity.....	2-16
2.3.6. Drinking Water Systems	2-17
2.4 Data Gaps	2-19
3.0 Water Budget and Water Quantity Stress Assessment.....	3-1
3.1 What is a Water Budget?	3-2
3.2 Components of the Water Budget	3-3
3.2.1. Precipitation.....	3-3
3.2.2. Evapotranspiration.....	3-3
3.2.3. Surface Runoff.....	3-4
3.2.4. Recharge	3-4
3.2.5. Water Use (Demand).....	3-5
3.2.6. Water Budget Summary	3-8
3.3 Phases of Water Budget Work	3-10

Lower Thames Valley Source Protection Area Assessment Report

3.3.1.	Conceptual Water Budget	3-10
3.3.2.	Tier 1 Water Budget	3-10
3.3.3.	Tier 2 Water Budget	3-10
3.3.4.	Tier 3 Water Budget	3-10
3.3.5.	Peer Review of the Water Budget	3-11
3.4	Water Quantity Stress Assessment.....	3-12
3.4.1.	Uncertainty in the Stress Assessment.....	3-16
3.5	Significant Groundwater Recharge Areas	3-17
3.6	Data Gaps and Next Steps.....	3-19
4.0	Vulnerability Assessment.....	4-1
4.1	Peer Review of Vulnerability Assessment.....	4-2
4.2	Intake Protection Zones	4-3
4.2.1.	Surface Water Vulnerability Assessment Projects	4-3
4.2.2.	Intake Characterization.....	4-4
4.2.3.	IPZ-1 Delineation.....	4-6
4.2.4.	IPZ-2 Delineation.....	4-6
4.2.5.	IPZ-3 Delineation.....	4-11
4.2.6.	Vulnerability Assessment of Intake Protection Zones	4-12
4.2.7.	Uncertainty in Intake Protection Zone delineation	4-15
4.3	Wellhead Protection Areas.....	4-17
4.3.1.	Technical Studies	4-18
4.3.2.	WHPA-A	4-18
4.3.3.	WHPA-B, WHPA-C and WHPA-D	4-19
4.3.4.	WHPA-E and WHPA-F	4-19
4.3.5.	Vulnerability Assessment of the WHPA.....	4-20
4.3.6.	Adjustments to vulnerability to reflect transport pathways.....	4-23
4.3.7.	Uncertainty in the Vulnerability Assessment of WHPA.....	4-24
4.4	Highly Vulnerable Aquifers	4-26
4.5	Significant Groundwater Recharge Areas	4-31
4.6	Data Gaps and Next Steps.....	4-32
5.0	Issues Evaluation	5-1
5.1	What is a Drinking Water Quality Issue?	5-1
5.2	Impact of Identifying an Issue.....	5-6
5.3	Issue Evaluation Methodology	5-6
5.4	Issues Evaluation Technical Studies.....	5-9
5.5	Identified Issues	5-10
5.6	Work Plan.....	5-12
5.7	Data Gaps	5-13
6.0	Conditions Assessment	6-1
6.1	Conditions Assessment Methodology	6-3
6.1.1.	Situations where Conditions may Exist	6-3
6.1.2.	Information Used to Identify Conditions.....	6-5
6.1.3.	Risk Assessment Methodology for Conditions	6-6
6.2	Conditions Assessment Findings	6-7
6.3	Data Gaps and Next Steps for Conditions	6-8
7.0	Threats and Risk Assessment – Water Quality	7-1

Lower Thames Valley Source Protection Area Assessment Report

7.1	Drinking Water Quality Threat Identification and Risk Assessment Methodology.....	7-3
7.1.1.	Prescribed Drinking Water Threats	7-4
7.1.2.	Other Activities	7-12
7.1.3.	Threats Arising from Conditions	7-13
7.1.4.	Threats Arising from Issues.....	7-14
7.1.5.	Local Guidance and Technical Studies	7-14
7.2	Drinking Water Quality Threats and Risk Assessment.....	7-15
7.2.1.	Threats Identified through Mapping of Impervious Surfaces, Managed Lands and Livestock Density	7-16
7.2.2.	Number of Locations of Significant Threats.....	7-17
7.2.3.	Threats in Chatham/South Kent IPZs.....	7-18
7.2.4.	Threats in Highgate Wellhead Protection Areas.....	7-19
7.2.5.	Threats in Ridgetown Wellhead Protection Areas	7-20
7.2.6.	Threats in West Elgin IPZs	7-21
7.2.7.	Threats in Wheatley IPZs	7-22
7.2.8.	Threats in HVA and SGRA.....	7-23
7.3	Tier 2 Risk Assessment.....	7-24
7.4	Data Gaps	7-24
8.0	Great Lakes.....	8-1
8.1	Impact of Considering Great Lakes.....	8-2
8.2	Great Lakes Agreements	8-3
8.2.1.	Great Lakes Water Quality Agreement.....	8-3
8.2.2.	The Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem.....	8-6
8.2.3.	The Lake St. Clair Management Plan.....	8-7
8.2.4.	The Great Lakes Charter and the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement.....	8-8
8.3	Lake Erie Basin Working Group	8-9
8.4	Next Steps for Great Lakes	8-10
9.0	Data Gaps and Next Steps.....	9-1
9.1	Data Gaps	9-1
9.2	Next Steps.....	9-6
Appendices		
Appendix 1 – Maps (bound separately)		
Appendix 2 – Section Summaries (bound separately)		
Appendix 3 – System Summaries (bound separately)		
Appendix 4 – Assessment Report Consultation		
Appendix 5 – Watershed Characterization Summary (bound separately)		
Appendix 6 – Conceptual Water Budget (bound separately)		
Appendix 7 - Assessment Report Checklist		
Appendix 8 – Issues Evaluation Methodology		
Appendix 9 – Issues Evaluation Flagged Parameters		
Appendix 10 – Threats and Risk Assessment		
Appendix 11 – Glossary of Terms and Acronyms		
Appendix 12 - Reference		

Lower Thames Valley Source Protection Area Assessment Report

List of Figures

Figure 1-1 Source Protection planning schedule overview	1-17
Figure 2-1 Federal Lands in and around the Lower Thames Valley SPA	2-14

List of Maps

Map 1-1	Thames-Sydenham & Region Source Protection Region
Map 1-2	Lower Thames Valley Source Protection Area
Map 1-3	Drinking Water Systems
Map 1-4	Areas of Settlement
Map 2-1	Population Density
Map 3-1	Thames-Sydenham & Region Source Protection Region
Map 3-2	Average Precipitation Distribution
Map 3-3	Average Evapotranspiration Distribution
Map 3-4	Mean Annual Infiltration
Map 3-5	Surface Water Potential for Stress
Map 3-6	Groundwater Potential for Stress
Map 4-1	Vulnerability Overview Intake Protection Zones and Wellhead Protection Areas
Map 4-2	Chatham/South Kent Intake Protection Zone (IPZ)
Map 4-3	Wheatley Intake Protection Zones (IPZ)
Map 4-4	West Elgin Intake Protection Zones (IPZ)
Map 4-5	Highgate Wellhead Protection Area (WHPA)
Map 4-6	Ridgetown Wellhead Protection Area (WHPA)
Map 4-7	Highly Vulnerable Aquifers (HVA)
Map 4-7a	Aquifer Vulnerability
Map 4-8	Significant Groundwater Recharge Areas (SGRA)
Map 4-9	Significant Groundwater Recharge Areas (SGRA) Vulnerability
Map 7-1	Impervious Surface Area within Wellhead Protection Areas and Intake Protection Zones
Map 7-2a	Wheatley, West Elgin and Chatham / South Kent Percent Managed Land
Map 7-2b	Ridgetown and Highgate Percent Managed Land
Map 7-3a	Wheatley, West Elgin and Chatham / South Kent Livestock Density
Map 7-3b	Ridgetown and Highgate Livestock Density
Map 7-4	Chatham/South Kent Areas Where Activities Are or Would be Drinking Water Threats
Map 7-5	Highgate Areas Where Activities Related to Pathogens, Chemicals or Dense Nonaqueous Phase Liquids (DNAPL) Are or Would be Drinking Water Threats
Map 7-6	Ridgetown Areas Where Activities Related to Pathogens, Chemicals or Dense Nonaqueous Phase Liquids (DNAPL) Are or Would be Drinking Water Threats
Map 7-7	West Elgin Areas Where Activities Are or Would be Drinking Water Threats
Map 7-8	Wheatley Areas Where Activities Are or Would be Drinking Water Threats

Lower Thames Valley Source Protection Area Assessment Report

List of Tables

Table 1-1 SPC members and representation.....	1-10
Table 1-2 SPC Mission Statement and Guiding Principles.....	1-11
Table 1-3 Municipalities in the LTVSPA.....	1-13
Table 1-4 First Nations of the LTVSPA.....	1-13
Table 1-5 Summary of planned LTVSPA Assessment Report Consultation.....	1-16
Table 2-1 Watershed Characterization Report Data Sources.....	2-2
Table 2-2 Distribution of Wetlands and Woodlands within the LTVSPA.....	2-5
Table 2-3 Fish Sampling Results from Drain Classification Project in the LTVSPA.....	2-7
Table 2-4 Habitat and Temperature Assessments in the Lower Thames Valley SPA.....	2-8
Table 2-5 Population Density of Municipalities in the Lower Thames Valley SPA Watershed.....	2-13
Table 2-6 First Nations in the Lower Thames Valley SPA and their Populations.....	2-13
Table 2-7 Municipal Drinking Water Systems Serving the Lower Thames Valley Source Protection Area.....	2-18
Table 2-8: Watershed Characterization Data Gaps relevant to the Lower Thames Valley Source Protection Area.....	2-20
Table 3-1 Water demand in the LTVSPA (m ³ /day).....	3-8
Table 3-2 Water budget summary (m ³ /day).....	3-9
Table 3-3 potential for stress based on <i>percent water demand</i> under current and future municipal water demand.....	3-14
Table 3-4 Surface water potential for stress based on Tier 1 stress assessment.....	3-15
Table 3-5 Groundwater potential for stress based on Tier 1 stress assessment (Average Annual Conditions).....	3-15
Table 3-6 Groundwater potential for stress based on Tier 1 stress assessment (Maximum Monthly Conditions).....	3-15
Table 3-7 Criteria for Significant Groundwater Recharge Areas.....	3-18
Table 3-8 Data gaps related to Water Budget and Water Quantity Stress Assessment.....	3-20
Table 4-1 Technical Studies on Vulnerability Assessment.....	4-4
Table 4-2 Intake Characteristics.....	4-5
Table 4-3 Summary of Vulnerability Score of Intakes.....	4-14
Table 4-4 Uncertainty Analysis for the Chatham/South Kent Intake, Wheatley Primary and Emergency Intakes.....	4-16
Table 4-5 Uncertainty Analysis for the West Elgin Intakes.....	4-16
Table 4-6 WHPA vulnerability scoring (Technical Rules).....	4-22
Table 4-7 WHPA vulnerability scores in LTVSPA.....	4-22
Table 4-8 Vulnerability Assessment Data Gaps Relevant to the Lower Thames Valley SPA.....	4-32
Table 5-1: Schedule 1 Parameters (from O. Reg. 169/03 of the Safe Drinking Water Act, 2002) and their Treated Drinking Water Quality Standards.....	5-2
Table 5-2 Schedule 2 Parameters (O. Reg. 169/03 of the Safe Drinking Water Act, 2002) and their Treated Drinking Water Quality Standards.....	5-3
Table 5-3 Schedule 3 Parameters (O. Reg. 169/03 of the Safe Drinking Water Act, 2002) and their Treated Drinking Water Quality Standards.....	5-4
Table 5-4 Table 4 Parameters (from the Technical Support Document for the Ontario Drinking Water Standards, Objectives and Guidelines, MOE 2006) with their Treated Drinking Water Aesthetic Objectives and Operational Guidelines.....	5-5
Table 5-5 Technical Studies on Drinking Water Quality Issues Evaluation.....	5-9

Lower Thames Valley Source Protection Area Assessment Report

Table 5-6 Drinking Water Quality Issues Identified in the Lower Thames Valley Source Protection Area	5-11
Table 5-7 : Work Plan for Identification of an Area and Activity Contributing to an Issue	5-12
Table 6-1 Technical Studies on Drinking Water Threats and Risk Assessment	6-3
Table 6-2 Threat Level Determination for Conditions	6-7
Table 7-1 Technical Studies on Drinking Water Threats and Risk Assessment	7-2
Table 7-2 Activities Prescribed as Drinking Water Threats	7-4
Table 7-3 Threat Level Determination.....	7-6
Table 7-4 Chemical Hazard Scorings for Various Combinations of Percentage of Managed Lands and Livestock Densities.....	7-11
Table 7-5 : Number of Locations of Significant Drinking Water Threats	7-17
Table 7-6 Levels of Threats Related to Pathogens and Chemicals in the Chatham/South Kent IPZs.....	7-19
Table 7-7 Number of Locations of Significant Threats in the Highgate WHPAs	7-19
Table 7-8 Levels of Threats Related to Pathogens, Chemicals and DNAPLs in the Highgate WHPAs.....	7-20
Table 7-9 Number of Locations of Significant Threats in the Ridgetown WHPAs.....	7-21
Table 7-10 Levels of Threats Related to Pathogens, Chemicals and DNAPLs in the Ridgetown WHPAs.....	7-21
Table 7-11 Levels of Threats Related to Pathogens and Chemicals in the West Elgin IPZs.....	7-22
Table 7-12 Levels of Threats Related to Pathogens and Chemicals in the Wheatley IPZs.....	7-23
Table 7-13 Levels of Threats Related to Pathogens, Chemicals and DNAPLs in HVAs and SGRAs	7-24
Table 9-1 Work Plan to fill Data and Analysis Gaps	9-2

9.0 Data Gaps and Next Steps

The development of Assessment Reports is required by the Clean Water Act, the related regulations and the *Technical Rules: Assessment Report*. Together these documents outline the materials which are required in the Assessment Reports. The Clean Water Act and the regulations also outline the process for developing, consulting on, submitting, and revising the Assessment Reports.

Through information from various technical studies, the Assessment Report must identify and assess *vulnerable areas*, evaluate drinking water quality *issues*, and identify and assess *threats* to the sources of drinking water. This section of the Assessment Report describes the known data gaps in the technical studies conducted, the plans to fill the gaps and the next steps in the *Source Protection Planning* process.

9.1 Data Gaps

The different types of data gaps summarized in this section relate to the availability of information and the timing of Provincial guidance updates, such as the *Technical Rules*.

The *Technical Rules: Assessment Report* identifies many of the requirements of the Assessment Report. For some of these requirements, the *technical rules* allow for the submission of a work plan if the information necessary to complete the item is not available. These items include work related to threats contributing to *issues*, Tier 3 Water Budget, *Wellhead Protection Area-E (WHPA-E)* and *WHPA-F* associated with *Groundwater Under Direct Influence (GUDI)* of surface water systems and *Intake Protection Zone-3 (IPZ-3)*.

Other gaps identified throughout the Assessment Report are a result of information or guidance not being available, or not available in time, to be included in the Assessment Report. In other

Lower Thames Valley Source Protection Area Assessment Report

cases, the analysis required to include the item in the Assessment Report could not be completed in time to be included.

Table 9-1 provides the work plan to fill the identified gaps in the Lower Thames Valley Source Protection Area Assessment Report. This Table identifies the gap, provides a description of the gap and its current status, lists the steps to be undertaken in the work plan to fill the gap, and provides the anticipated work plan completion date. It is important that this information be completed in a timely fashion so that it is available to the Source Protection Committee for use in developing the *Source Protection Plan*. The *Source Protection Plan* is required to be submitted in August 2012. Filling of the data gaps in early 2011 to be included in an Assessment Report submitted in mid 2011 will allow for the materials to be available to the Source Protection Committee for the development of the *Source Protection Plan*.

Table 9-1 Work Plan to fill Data and Analysis Gaps

Gap	Description	Work Plan	Planned Completion Schedule
Managed Land and Percent Impervious	<ul style="list-style-type: none"> ▪ Methodologies to calculate the percent of managed lands and impervious surfaces were refined by the province only in October 2009 ▪ Timing of the methodology refinements permitted the calculations and mapping of the percent of managed land and the impervious surfaces in the IPZs and WHPAs ▪ Timing of the methodology refinements did not, however, allow for the assessment of risks associated with activities related to these calculations 	<ul style="list-style-type: none"> ▪ Provide mapping to the consultants to update threats inventories based on the activity circumstances associated with these calculations ▪ Amend tables counting locations of significant threats ▪ Utilize this information in site-specific (Tier 2) risk assessment ▪ Include work in amended Assessment Report 	Spring 2010
Livestock Density	<ul style="list-style-type: none"> ▪ Methodologies were refined by the province only in October 2009 ▪ Previous methodology had significant flaws and was not appropriate for use in areas where census consolidated subdivisions were considerably larger than the vulnerable areas to be assessed ▪ New methodology requires considerable effort to enumerate livestock type and densities and was not possible to be completed in time for the submission of the Assessment Report 	<ul style="list-style-type: none"> ▪ Identify livestock facilities and calculate capacity based on floor area ▪ Determine livestock type through MPAC land use data, field truth as necessary through site-specific (Tier 2) risk assessment ▪ Undertake risk assessment of threat to which this data is related ▪ Include in amended Assessment Report 	Spring 2010

Lower Thames Valley Source Protection Area Assessment Report

Table 9-1 Work Plan to fill Data and Analysis Gaps

Gap	Description	Work Plan	Planned Completion Schedule
IPZ-2 for West Elgin Emergency Intake	<ul style="list-style-type: none"> ▪ The West Elgin emergency intake may be remediated, including a possible change in depth and distance from the shore. Hence IPZ-2 for this intake is yet to be delineated and scored ▪ The modelling needed to delineate the emergency intake IPZ-2 and the vulnerability assessment will be considered in future technical work along with the consideration of the possible reconfiguration of the emergency intake 	<ul style="list-style-type: none"> ▪ Work with the Municipality of West Elgin and Ontario Clean Water Agency, the project administrators, in determining the timing of the possible reconfiguration ▪ Proceed with work on hydro-dynamic modelling for the current intake configuration upon discussion with the Municipality ▪ Peer review the IPZ-2 ▪ Consult on the IPZ-2 and threats work ▪ Update the assessment report for vulnerability assessment and threats work 	2011*
Better drainage information	<ul style="list-style-type: none"> ▪ Better drainage information to refine IPZ-2 transport pathways and storm sewersheds 	<ul style="list-style-type: none"> ▪ Obtain better drainage information determined through a site-specific (Tier 2) Risk Assessment ▪ Adjustments may be made to IPZ-2 transport pathways and storm sewersheds 	2011*
IPZ-3 for Lake Erie Intakes	<ul style="list-style-type: none"> ▪ Gap is allowed in <i>technical rules</i>, provided the work plan is included to fill the gap and included in an amended Assessment Report submitted 	<ul style="list-style-type: none"> ▪ Continue working with Essex Region Source Protection Authority and its Source Protection Committee to consider extent of IPZ-3 along shoreline ▪ Consider wind events and conditions to be used as the "extreme event" ▪ Delineate extent of contributing subwatersheds with the offshore IPZ-3 ▪ Review land use within the areas to determine if containment specific modelling is required 	2011*
Edge matching of HVA and SGRA with neighboring regions	<ul style="list-style-type: none"> ▪ Edge matching of HVA and SGRA with neighboring regions is to be completed in order to form seamless mapping between source protection regions 	<ul style="list-style-type: none"> ▪ This work will be considered when neighboring regions' HVA and SGRA maps are complete ▪ Methodologies will be determined in consultation with the neighbouring regions once the extent of the challenges are known. 	Dependent on when neighboring regions complete HVA and SGRA maps

Lower Thames Valley Source Protection Area Assessment Report

Table 9-1 Work Plan to fill Data and Analysis Gaps

Gap	Description	Work Plan	Planned Completion Schedule
Lake Erie Lake-wide Issues	<ul style="list-style-type: none"> ▪ Regions with drinking water systems using Lake Erie as a source have met together with the system operators to consider lake-wide issues ▪ Group will meet again once Assessment Reports have been completed so that issues have been identified ▪ Potential to establish a more formal working group to consider lake-wide issues if warranted 	<ul style="list-style-type: none"> ▪ Continue to collaborate with other regions ▪ Participate in next meeting and working group if established 	2011*
Conditions Assessment	<ul style="list-style-type: none"> ▪ MOE data delivered to consultants, but not all consultants have reviewed or considered it ▪ A few potential conditions have been identified which require further investigation 	<ul style="list-style-type: none"> ▪ Have consultants review and report on data distributed by MOE ▪ Request same data for the rest of the vulnerable areas ▪ Investigate potential conditions ▪ Submit report to Source Protection Committee for consideration ▪ Include in amended Assessment Report if appropriate 	2011*
Threats Contributing to Issues	<ul style="list-style-type: none"> ▪ Issues have been identified ▪ In many cases further investigation needs to be undertaken to determine if activities may be contributing to these issues or if they are entirely naturally occurring ▪ Identify issues contributing activities and areas where activities are impacting the issues 	<ul style="list-style-type: none"> ▪ Investigate issues to determine if affected by activities undertaken in vulnerable areas ▪ Assess and delineate issues contributing area ▪ Determine prescribed drinking water threats contributing to the issue ▪ Consider if other activities are contributing to the issue ▪ Amend Assessment Report to include results of this work if appropriate 	2011*
Impact of Climate Change	<ul style="list-style-type: none"> ▪ Little work related to climate change in the Lower Thames Valley Source Protection Area ▪ Work undertaken in Upper Thames River Source Protection Area although focused more on flooding and infrastructure than on water supply ▪ Impact on source water protection is unknown 	<ul style="list-style-type: none"> ▪ Revisit this section following the completion of this section in the Upper Thames River Source Protection Area Assessment Report to determine the relevance to the Lower Thames Valley Source Protection Area ▪ Amend Assessment Report if warranted 	To be determined
Site-specific (Tier 2) Risk Assessment	<ul style="list-style-type: none"> ▪ Risk assessment has been undertaken through desktop with windshield surveys only ▪ Significant threats need to be reassessed with more detailed local knowledge 	<ul style="list-style-type: none"> ▪ Undertake survey of possible significant threats using survey developed in Lake Erie Source Protection Region ▪ Update significant threat counts and threats inventories based on information collected ▪ Assess requirement for site visits and undertake where necessary ▪ Amend Assessment Report as necessary 	2011*

Lower Thames Valley Source Protection Area Assessment Report

Table 9-1 Work Plan to fill Data and Analysis Gaps

Gap	Description	Work Plan	Planned Completion Schedule
Inland takings drawing from Great Lakes	<ul style="list-style-type: none"> ▪ Determine Inland takings that draw from Great Lakes 	<ul style="list-style-type: none"> ▪ Confirm location and watercourse conditions related to water takings near Lake Erie and Lake St. Clair ▪ Recalculate percent water demand ▪ Reassess potential for stress in these areas ▪ Update Assessment Report only if warranted ▪ This work would be dependant on other programs as the potential stress does not impact drinking water systems included in the Terms of Reference, however if updated information becomes available future Assessment Reports should be updated to reflect that information 	Subsequent Assessment Report, dependant on other programs
Improved understanding of water use	<ul style="list-style-type: none"> ▪ Use actual water use data in water budget work 	<ul style="list-style-type: none"> ▪ Obtain actual water use data from all significant water users through the PTTW reporting system ▪ Requires reassessment after sufficient data has been reported, perhaps when Assessment Report requires future update ▪ This work would be dependant on other programs as the potential stress does not impact drinking water systems included in the Terms of Reference, however if updated information becomes available future Assessment Reports should be updated to reflect that information 	Subsequent Assessment Report, dependant on other programs
WHPA-E and F	<ul style="list-style-type: none"> ▪ Delineation and vulnerability assessment of WHPA-E and F (if required) for Highgate ▪ If WHPA-E and F are delineated Threats and Risk Assessment to be carried out 	<ul style="list-style-type: none"> ▪ Municipality discussing GUDI status of Highgate with MOE ▪ Determine if Highgate requires a WHPA-E based on whether surface water has the effect of decreasing the time of travel to the well ▪ Work to be undertaken with other GUDI systems in the Thames-Sydenham and Region. 	Late 2010

*Dependent upon submission of the amended Assessment Report

9.2 Next Steps

Prior to the submission of the Assessment Report to the Director, the Clean Water Act identifies consultation requirements. The required consultation is part of a more comprehensive consultation plan being conducted in the Thames-Sydenham and Region involving local and regional consultation on the draft proposed and the proposed Assessment Report, and the technical work that has informed it. See Section 1 - Introduction and Background for more information on the Assessment Report consultation process. Once consultation is complete and the Source Protection Committee has considered input received through the consultation, the Assessment Report is submitted to the Director (Ministry of Environment) for approval. The Director can approve the Assessment Report or request amendments to it. Amendments which the Director requests will not require consultation.

Following submission of the Assessment Report, work will continue on filling the data gaps discussed above. That work will require amendments to the Assessment Report which will also be consulted on. The amended Assessment Report will then be submitted to the Director for approval.

The Source Protection Committee has identified that the Assessment Report is, in fact, a living document which will require periodic amendments and updates. Review and update of the Assessment Report will be required as identified in the Clean Water Act. The period of the review will be determined by the Director in its approval of the Assessment Report. Aside from the required review of the Assessment Report, the Source Protection Committee has the ability to amend the Assessment Report at such time when it becomes aware that the material in the Assessment Report has an effect on the *Source Protection Plan* developed. Any amendments to the Assessment Report will require consultation of those affected by the amendments.