



**Thames-Sydenham and Region
Source Protection Region**

Assessment Report Consultation Plan

June 10, 2011

Table of Contents

1	Background.....	3
2	Purpose.....	4
3	Consultation Overview	4
4	Target Audiences.....	7
4.1	Municipalities which do not include lands within vulnerable areas	7
4.2	Municipalities which include jurisdiction within vulnerable areas.....	7
4.3	Land owners within vulnerable areas.....	7
4.4	Landowners that are or could be a significant risk.....	7
4.5	First Nations	7
4.6	General Public.....	7
5	Approaches to Consultation.....	8
5.1	Phase 1 – July – October, 2009.....	8
5.1.1	Municipalities which do not include lands within a vulnerable area	8
5.1.2	Municipalities which include jurisdiction within a vulnerable area.....	8
5.1.3	Land owners within a vulnerable area.....	8
5.1.4	First Nations (not within a vulnerable area).....	8
5.1.5	General Public.....	8
5.2	Phase 2 – September –November, 2009.....	9
5.2.1	Municipalities which do not include a vulnerable area	9
5.2.2	Municipalities which include jurisdiction within a vulnerable area.....	9
5.2.3	Land owners within a vulnerable area:.....	9
5.2.4	Landowners that are or could be a significant risk	9
5.2.5	First Nations not a vulnerable area	9
5.2.6	General Public.....	9
5.3	Phase 3 – December 2009 – March 2010	9
5.4	Phase 4	10
5.5	Use of Website	10
5.6	Distribution of Report and Other Materials.....	10
6	Appendices	11

List of Tables

Table 1 - Assessment Report technical studies.....	3
Table 2 - Consultation phases	4

List of Figures

Figure 1 - Consultation plan overview.....	6
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1 Background

The Clean Water Act requires the completion of Assessment Reports which will contain the science on which the Source Protection Plan will be based. These reports will identify vulnerable areas, assess the vulnerability of those areas, identify water quality issues related to the water sources and assess the risks to the water systems. General Regulation 287/07 under the Clean Water Act requires consultation on the Assessment Report.

Work on the components of the Assessment Report (AR) is being undertaken by various leads through partnerships involving system operating authority and CA staff. The following table summarizes the various projects and the systems included in those projects. It is generally anticipated that the work on the systems within a project will be completed together and this will determine when the work from a system can begin the peer review and consultation processes. Peer review involves the review of the work for technical completeness and whether it meets provincial rules and guidance. It is generally accepted that only the vulnerability assessment requires peer review due to the highly technical nature of this work. Upon completion of the peer review, stakeholder consultation on the delineation and vulnerability assessment of the vulnerable areas can be initiated. When the other components of the Assessment Report are complete consultation on those parts can be initiated. The regulations also require that the specific consultation be undertaken on the draft and proposed Assessment Reports.

Table 1 - Assessment Report technical studies

Ground-water		Surface Water	
Projects	Systems	Projects	Systems
Perth	Stratford St Marys West Perth -Mitchell Perth East -Shakespeare (& Milverton)* Perth South - St Pauls, Sebringville*	Essex Chatham Kent	Wallaceburg Wheatley South Chatham Kent/Chatham
London- Middlesex	City of London - Fanshawe, Hyde Park Thames Centre - Thorndale, Dorchester Kilworth Heights Subdivision, Melrose, Mount Brydges Birr	West Elgin	West Elgin
Oxford	Woodstock, Innerkip Ingersoll, Beachville-Loweville Mount Elgin* Embros, Lakeside* Thamesford Tavistock, Hickson-King*	Southern Lake Huron	LAWSS* Petrolia*
Chatham- Kent	Ridgetown Highgate		
GUDI Studies	St. Marys Oxford (Thamesford, Woodstock) City of London (Fanshawe) Thames Centre (Dorchester) Middlesex Centre (Kilworth Heights Subdivision) Chatham-Kent (Highgate)	IPZ-3 Studies	LAWSS, Petrolia Wallaceburg, Wheatley, Erie Beach West Elgin Lake St. Clair intakes (Essex Region SPA)

Municipalities identified with an asterisk (*) include vulnerable areas from water systems in neighbouring municipalities
Note: Milverton is outside of the TSR SP Region but included in the technical study

The Assessment Reports are to be submitted to the MOE one year from the approval of the Terms of Reference (April 20, 2010). MOE has accepted that it is unlikely that all work on the Assessment Report will be completed by the due date in the larger and more complex regions. They have therefore accepted that some components of the Assessment Report will be identified as data gaps at the time of submission of the first Assessment Report. There is an expectation that work would continue on those gaps in parallel with work on the Source Protection Plans. The remaining aspects would be expected to be submitted sufficiently in advance of the due date of the Source Protection Plan to allow for the approval of that work prior to the completion of the Source Protection Plan. Those aspects of the Assessment Report which we expect cannot be completed prior to the submission of the Assessment Report are identified in Phase 4 in the following table.

Due to the size and complexity of the AR it is not adequate to await its completion prior to initiation of consultation. Instead, a phased approach to consultation is proposed and described in the consultation plan. This Consultation Plan outlines the planned consultation on the Assessment Report in the Thames-Sydenham and Region.

2 Purpose

This consultation plan is intended to:

- Describe the consultation on the vulnerability assessment work including vulnerability zones (the lines on the map); Issues and Threats; Risk Assessment; and Tier 1 Water Budget.
- Meet the requirements of the Clean Water Act and related regulations and rules.
- Allow adequate opportunity for stakeholder input into the technical work comprising the Assessment Report.
- Increase the local community awareness of the Source Protection Planning process

3 Consultation Overview

In order to allow for adequate stakeholder engagement in the development of the Assessment Report a phased approach to consultation is planned. These phases allow multiple opportunities for stakeholders to be involved in the consultation process. The phases will allow multiple times and locations to be involved. The phases align with the availability of technical reports. The phases are also intended to target local information at the local communities. The 4 phases of consultation are described in the following table

Table 2 - Consultation phases

Phase	Description	Anticipated consultation
1. Vulnerability Assessment (Draft)	<ul style="list-style-type: none"> • WHPA –A, B, C, D delineations • IPZ -1, 2 delineations • Vulnerability scores • List of activities which would be threats with a given vulnerability score 	<ul style="list-style-type: none"> • Dependant on completion of work by consultants • Dependant on completion of peer review including possible revisions as a result of peer review comments • Local targets (systems or groups of nearby systems) • Municipal information packages
2. Issues and Threats (Final Draft)	<ul style="list-style-type: none"> • Vulnerable areas from previous consultation • HVA, SGRA • IPZ3 (preliminary) 	<ul style="list-style-type: none"> • Local targets • Municipal consultation

	<ul style="list-style-type: none"> • Issues • Conditions • Significant Risks (preliminary) 	
3. Assessment Report	<ul style="list-style-type: none"> • Proposed draft containing all aspects of the Assessment Report except for those identified in Phase 4 below. 	<ul style="list-style-type: none"> • Regional open houses/public meeting • Internet posting and notices • Municipal and First Nations consultation required
4. After submission of the first Assessment Report	<ul style="list-style-type: none"> • Tier 3 Water Budget – SGRA Vulnerability Assessment • Significant Risks - Refinements based on site specific Risk Assessment • IPZ 3 vulnerability assessment • GUDI based WHPAs (WHPA E and F) • Prior to completion of SP Plan 	<ul style="list-style-type: none"> • Consultation on the additional components • Consultation on the proposed AR – required regional open houses/ public meeting • Municipal and First Nations consultation required

Thames-Sydenham and Region Source Protection Assessment Report Consultation Plan

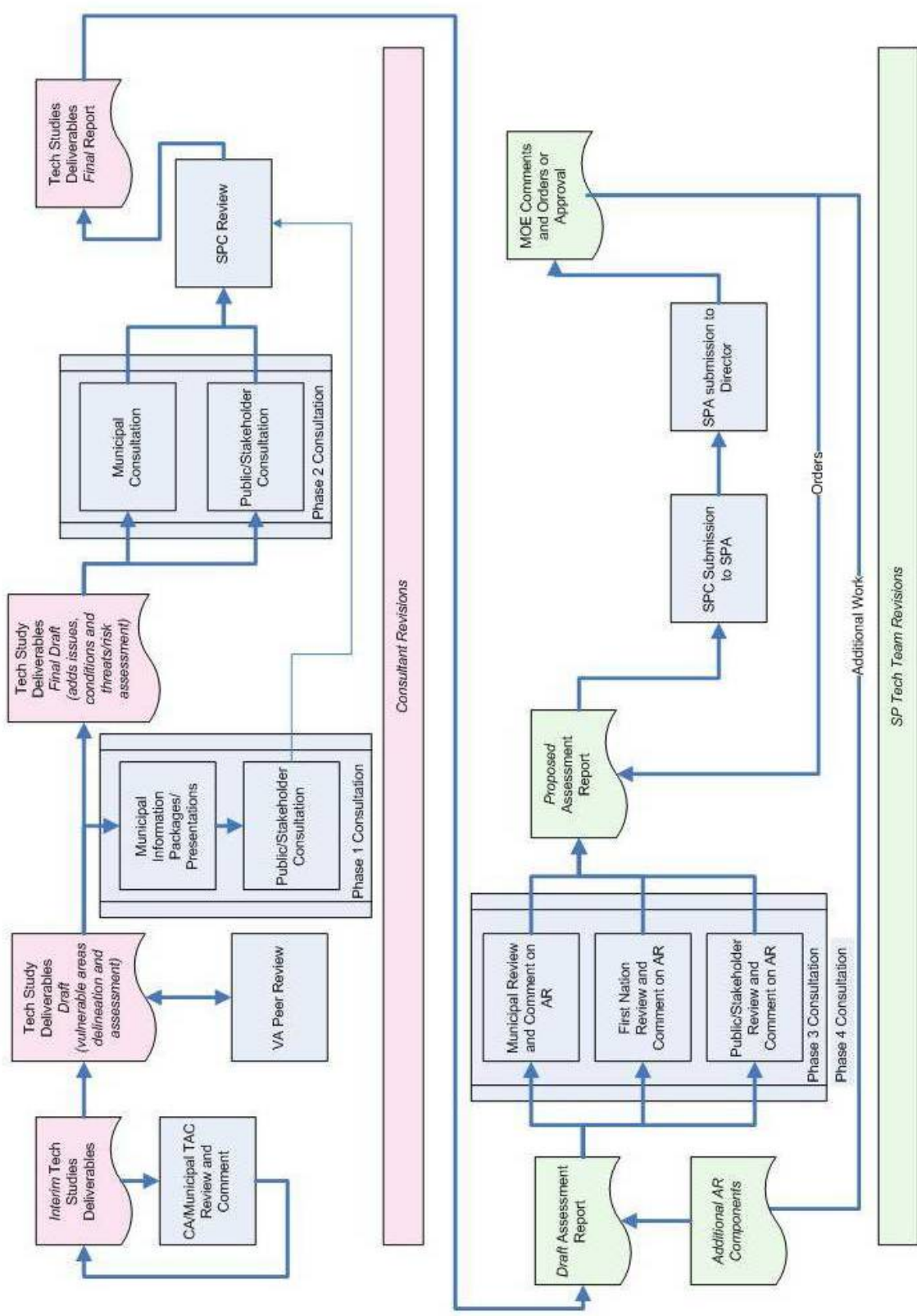


Figure 1 - Consultation plan overview

4 Target Audiences

4.1 Municipalities which do not include lands within vulnerable areas

While these municipalities are not directly impacted by some aspects of the Source Protection planning process, it is important to maintain a flow of information to ensure they understand the process and the scope of the impacts in the region. Information will be made available to these municipalities on a regular basis. The focus on the municipalities outside of vulnerable areas will be on the process and to work ahead.

4.2 Municipalities which include jurisdiction within vulnerable areas

These municipalities need to be kept current and engaged with the Source Protection planning Process. Their participation will include all four phases of the consultation process. Significant effort will be focused on engaging those communities containing Wellhead Protection Areas (WHPA) and Intake Protection Zones which are likely to be the focus of many of the policies of the Source Protection Plans.

4.3 Land owners within vulnerable areas

These landowners may or may not be impacted by the Source Protection planning process. They will be included in all four phases of consultation. The early phases of the consultation are intended to allow these landowners to determine how closely they should remain involved in the Source Protection Planning process.

4.4 Landowners that are or could be a significant risk

At this point, these landowners have not been identified. They will be included in consultation in phase 1 as they are within the vulnerable areas. Specific efforts will be made to directly engage them in Phase 2 and 3 of the consultation. The regulation requires that landowners who are known to be involved in an activity which poses a significant risk to municipal drinking water source be contacted as part of the consultation on the Assessment Report.

4.5 First Nations

At this point, no First Nation Systems are part of the Source Protection Plan. Efforts will continue to involve First Nations in initiating technical studies. Once a system is identified, formal consultation on the vulnerability assessment will commence. Until this time, First Nation Communities will be kept informed of the Source Protection planning process.

4.6 General Public

The general public outside of vulnerable zones will be kept informed about the Source Protection planning process. It is important that all landowners have an opportunity to understand the process and to determine that, in fact, their properties lie outside of a vulnerable zone and therefore, are not directly impacted by this process.

5 Approaches to Consultation

5.1 Phase 1 – September 2009 – August 2010

Phase I involves consultation on the identification of vulnerable areas and a general overview of threats and issues. The key messages to be communicated will include details regarding the planning process to date, local vulnerable areas and scores, the science behind the vulnerability mapping and the next steps.

5.1.1 Municipalities which do not include lands within a vulnerable area

- distribution of updates and other printed material
- invitations to public meetings held throughout the region

5.1.2 Municipalities which include jurisdiction within a vulnerable area

- letter and package of information to municipality which includes maps of vulnerable areas
- meeting with municipal staff/council as required

5.1.3 Land owners within a vulnerable area

- A series of public meetings will be held as outlined in Appendix C. The meetings will each be held from 3:00 – 7:00 as an open house format. A 10 minute presentation will be available throughout the meeting as required.

5.1.4 First Nations (not within a vulnerable area)

- general distribution of tabloid
- public meetings

5.1.5 General Public

- invitation through newspapers for public meeting
- media articles
- general distribution of tabloid
- response to requests for information/presentations

5.2 Phase 2 – November 2009 – August 2010

Phase 2 Consultation involves the results of issues evaluation, threats assessment and the Tier 1 Water Budget. The key messages to be communicated will include details regarding the planning process to date, how threats are determined, the science behind the threats assessment and the next steps.

5.2.1 Municipalities which do not include a vulnerable area

- distribution of updates and other printed material
- invitations to public meetings held throughout the region

5.2.2 Municipalities which include jurisdiction within a vulnerable area

- letter and package of information to municipality which includes maps of vulnerable areas
- meeting with municipal staff/council as required

5.2.3 Land owners within a vulnerable area:

- A series of public meetings will be held as outlined in Appendix C. The meetings will each be held from 3:00 – 7:00 as an open house format. A 10 minute presentation will be available throughout the meeting as required.

5.2.4 Landowners that are or could be a significant risk

- direct mail followed with a kitchen table meetings with any landowner who is a significant risk, when information becomes available

5.2.5 First Nations not a vulnerable area

- general distribution of tabloid
- public meetings

5.2.6 General Public

- invitation through newspapers for public meeting
- media articles
- general distribution of tabloid
- response to requests for information/presentations

5.3 Phase 3 – August 2010

Phase Three involves the formal consultation for the draft proposed Assessment Report includes public meetings held throughout the region, as shown in Appendix C. These sessions are timed to satisfy the requirements of the regulation. Dates are set based on the previous consultation phases and completion of technical studies. The key messages communicated include details regarding the process for establishing the

Assessment Report and the consultation that has taken place to date. Additional local consultation was undertaken as required.

5.4 Phase 4 – June 2011

Phase four involves consultation of parts of the Assessment Report which were not available when the proposed AR was consulted on. Location and dates of consultation are based on a due date for the updates. This is in June 2011.

Phase 4 will include local consultation on those aspects of the Assessment Report that have a local impact. Consultation is mainly on the updates and amendments to the Assessment Report. There will also be a general Source Protection Area focus similar to that undertaken in phase three above.

5.5 Use of Website

The website www.sourcewaterprotection.on.ca will be used extensively for the purpose of extending the consultation beyond the public meetings. A description of the process, vulnerability maps and scores, materials used in the consultation as well as the draft assessment report will be available on-line. The web site will describe options for submitting comments as well as the ability to provide comments on-line. Comments collected through the consultation will be posted on the web site as well as forming part of the submission to the MOE with the proposed Assessment Report.

5.6 Distribution of Report and Other Materials

The web site will include access to interactive mapping products through a geoportal. It will also include the availability of documents. The web site will be promoted as the primary method of accessing the documents and mapping products. CDs will also be made available to those who request them. Printed copies of the reports will be made available for review at CA offices and at the public meetings. Various summary products will be available for the public at the public meetings.

6 Appendices

Appendix A – LTVSPA Assessment Report Consultation Schedule

Appendix B – SCRSPA Assessment Report Consultation Schedule

Appendix C – UTRSPA Assessment Report Consultation Schedule

Note: When included as part of the Assessment Report for a Source Protection Area only the appropriate schedule is included

Appendix C – UTRSPA Assessment Report Consultation Schedule

Table 3 Upper Thames River Source Protection Area Phase 1 and Phase 2 Consultation Schedule

No.	PHASE 1 Meeting Date	PHASE 2 Meeting Date	Meeting Location	IPZ/WHPA	# of parcels in IPZ-1 or WHPA A	# of parcels in IPZ-1 and 2 or WHPA- A, B, C, D	Methods of Notification
1	Oct. 21, 2009 3:00 – 7:00	Nov. 24, 2009 3:00 – 7:00	Sherwood Branch library, Meeting Room A, Sherwood Forest Mall, 1225 Wonderland Rd. North, London (Phase 1); St. Aidan's Anglican Church at 1246 Oxford St. West, London (Phase 2)	Fanshawe*	7	9	ad in paper website
				Hyde Park	7	3084	ad in paper direct mail website
				Birr	15	18	ad in paper direct mail website
				Melrose	18	34	ad in paper direct mail website
2	Nov. 24, 2009 3:00 – 7:00	Nov. 24, 2009 3:00 – 7:00	St. Aidan's Anglican Church 1246 Oxford St. West, London	Kilworth Heights *	3	60	ad in paper direct mail website
3	Sept. 29, 2009 3:00 – 7:00	Nov. 25, 2009 3:00 – 7:00	Rotary Complex, Tim Taylor Lounge, 353 McCarthy Rd, Stratford	Stratford	130	1530	ad in paper direct mail website
				Shakespeare	24	24	ad in paper direct mail website
				Sebringville	18	32	ad in paper direct mail website
				St. Pauls	17	17	ad in paper direct mail website
4	Sept. 30, 2009 3:00 – 7:00	Nov. 26, 2009 3:00 – 7:00	West Perth Public Library, Meeting Room, 105 St. Andrew St., Mitchell	Mitchell	54	453	ad in paper direct mail website
5	May 4, 2010 3:00 – 7:00	May 4, 2010 3:00 – 7:00	Embro Legion 138 Huron St., Embro	Embro	28	109	ad in paper direct mail website
6	May 5, 2010 3:00 – 7:00	May 5, 2010 3:00 – 7:00	Tavistock & District Recreation Centre, Arena Hall 1 Adam St., Tavistock	Lakeside	13	20	ad in paper direct mail website
				Tavistock	29	1127	ad in paper direct mail website

No.	PHASE 1 Meeting Date	PHASE 2 Meeting Date	Meeting Location	IPZ/WHPA	# of parcels in IPZ-1 or WHPA A	# of parcels in IPZ-1 and 2 or WHPA- A, B, C, D	Methods of Notification
7	May 12, 2010 3:00 – 7:00	May 12, 2010 3:00 – 7:00	Thorndale Public Library, Meeting Room 21790 Fairview Rd., Thorndale	Thorndale	27	90	ad in paper direct mail website
8	May 13, 2010 3:00 – 7:00	May 13, 2010 3:00 – 7:00	Dorchester Arena, Lions Room 2066 Dorchester Rd., Dorchester	Dorchester*	8	471	ad in paper direct mail website
9	May 18, 2010 3:00 – 7:00	May 18, 2010 3:00 – 7:00	Thamesford Library, Beaty Room, 165 Dundas St., Thamesford	Thamesford	26	108	ad in paper direct mail website
				Beachville	10	103	ad in paper direct mail website
10	May 19, 2010 3:00 – 7:00	May 19, 2010 3:00 – 7:00	Ingersoll Town Hall, Council Chambers, 130 Oxford St., Ingersoll	Ingersoll	68	2279	ad in paper direct mail website
11	May 31, 2010 3:00 – 7:00	May 31, 2010 3:00 – 7:00	Woodstock Community Complex, Goff Hall, 381 Finkle St., Woodstock	Woodstock Wells 6, 7 & 9	44 (Total for all Woodstock Supply wells)	5223	ad in paper direct mail website
12	June 2, 2010 3:00 – 7:00	June 2, 2010 3:00 – 7:00	Innerkip Community Centre & Library 695566 Oxford Road 5, Innerkip	Hickson	13	82	ad in paper direct mail website
				Innerkip	3	66	ad in paper direct mail website
13	June 28, 2010 3:00 – 7:00	June 28, 2010 3:00 – 7:00	Mount Elgin & District Community Centre 333204 Plank Line, Mount Elgin	Mount Elgin	29	86	ad in paper direct mail website
14	July 5, 2010 3:00 – 7:00	July 5, 2010 3:00 – 7:00	Woodstock Community Complex, Goff Hall, 381 Finkle St., Woodstock	Woodstock Supply Wells located in South-West Oxford Township	44 (Total for all Woodstock Supply wells)	459	ad in paper direct mail website
15	July 29, 2010 3:00 – 7:00	July 29, 2010 3:00 – 7:00	Community Centre Hall, Pyramid Recreation Centre,	St. Marys*			ad in paper direct mail website

No.	PHASE 1 Meeting Date	PHASE 2 Meeting Date	Meeting Location	IPZ/WHPA	# of parcels in IPZ-1 or WHPA A	# of parcels in IPZ-1 and 2 or WHPA- A, B, C, D	Methods of Notification
			317 James St., S., St. Marys				
16	August 4, 2010 3:00 – 7:00	August 4, 2010 3:00 – 7:00	Community Centre Hall, Pyramid Recreation Centre, 317 James St., S., St. Marys	St. Marys*			ad in paper direct mail website

*GUDI systems

Table 4 Upper Thames River Source Protection Area Phase 3 Consultation Schedule

No.	PHASE 3 Meeting Date	Meeting Location	IPZ/WHPA	Methods of Notification
1	August 9, 2010 3:00 – 7:00	Stratford Rotary Complex, Community Hall D, 353 McCarthy Road, Stratford	All UTRSPA WHPA	ad in paper direct mail website
2	August 12, 2010 3:00 – 7:00	Woodstock Community Complex, Goff Hall, 381 Finkle Street, Woodstock	All UTRSPA WHPA	ad in paper direct mail website
3	August 16, 2010 3:00 – 7:00	Dorchester Arena, Community Centre Auditorium, 2066 Dorchester Rd., Dorchester	All UTRSPA WHPA	ad in paper direct mail website

Table 5 Upper Thames River Source Protection Area Phase 4 Consultation Schedule

No.	PHASE 4 Meeting Date	Meeting Location	IPZ/WHPA	Methods of Notification
1	July 25, 2011 3:00 – 7:00	Thamesford Library, Beaty Room, 165 Dundas Street, Thamesford	All UTRSPA WHPA	ad in paper direct mail website
2	July 27, 2011 3:00 – 7:00	Pyramid Rec. Centre, community Centre Hall (1/3 Hall), 317 James Street S., Town of St. Marys	All UTRSPA WHPA	ad in paper direct mail website
3	July 28, 2011 3:00 – 7:00	Dorchester Arena, Community Room 1, 2066 Dorchester Rd., Dorchester	All UTRSPA WHPA	ad in paper direct mail website

Upper Thames River Source Protection Area Assessment Report

Summary of Consultation and Comments

Generic Description of Commenter	No.	Comment	Response	Status
CA Staff	1	In the Systems Summaries under Threats and Risk Assessment, I noticed the format for Table 2: number of locations where significant threats would occur is different for the Oxford systems. The Oxford table's include the system name (which was helpful), and the vulnerability scores. The Middlesex and Perth tables don't have the system name nor vulnerability scores but do include the type of threat (chemical, pathogen DNAPLS).	System summary information obtained from Oxford in a form that is consistent with other system summaries.	DONE
CA Staff	2	2 areas we may want to change are changing the font color for main headings Appendix 2 and Appendix 3 - the links do not start until after this title. Also List of maps in sections are not linked as in the St. Clair report.	Will consider different ways of showing the linked text when creating the new CD.	
CA Staff	3	Map 3-4, Colour range for legend category 450 to 500. Very light pink to the point that some monitors don't show, Map 7-1-14, Contents show Mount Elgin but map is Mt Elgin – either needs to be consistent or a period after Mt, Map 7-2-14, Same as Above, Map 7-3-21, Same as above except St Marys	Adjust color scheme in Map 4-3. Map 7-1-14 title to be changed to 'Mount Elgin' not 'Mt Elgin', and same for list of maps. Also make sure 'St. Marys' is used not 'St Marys'.	DONE
Town of St. Marys Staff	4	Map in the System summary for St Marys has a Beachville label in the activities related to chemical map.	Correct the map label	DONE
CA Staff	5	A calculation error was observed in the managed lands of Woodstock rural WHPA-C. Update the managed lands mapping for this system. The change in calculation affects the map, but not the threats counts. There were no additional significant threats therefore no additional letters needed to be sent.	Update the Woodstock rural wells managed lands map	DONE
CA Staff	6	Include maps on Percent Impervious, Managed Land and Livestock Density for HVA and SGRA	Create and include these maps in the proposed AR	DONE
CA Staff	7	Need to remove the "O. Reg. 385/08, s. 3." reference from all significant threats tables		DONE
CA Staff	8	The Vulnerability Score for Shakespeare was revised between the time the Impervious Surfaces, Managed Lands and Livestock Density maps were started and when the Draft Proposed Assessment Report was posted. This change was not caught before posting. These maps will be updated to reflect the revised Vulnerability Scores. This change removed the need to map a portion of the WHPA-C. It did not alter the Impervious Surface mapping, nor the Managed Land and Livestock Density categories in the WHPA-A and B. Consequently, this change is not anticipated to alter the significant threat counts.	Due to the change in the Shakespeare WHPA vulnerability layer after creating the Percent Impervious, Managed Land and Livestock Density mapping, these maps will have to be revised.	DONE
CA Staff	9	The Impervious Surface mapping for Oxford County had one inconsistency when compared to Middlesex and Perth. Oxford County did not include private driveways in the calculations whereas the other 2 counties did. This was noted on the maps themselves but not in the report text. The maps for Oxford will be revised to match the methodology applied to the systems in Middlesex and Perth. Revisions to the report text should not be required. This is not anticipated to alter the significant threat counts.	Impervious surface mapping for all Oxford systems to be revised	DONE
CA Staff	10	Some of the Managed Land maps for Oxford County in the Draft Proposed Assessment Report differ from those submitted by the County in their Technical Reports. Upon review of the differences, it was noted that under most circumstances, the differences were a matter of interpretation of which lands were managed. The pAR managed lands mapping for Oxford County should be revised to be consistent with Oxford's technical report mapping.	Managed Lands mapping for Oxford systems (where differences in interpretation are observed) to be revised	DONE
CA Staff	11	It was identified that the livestock density lands pAR mapping was not consistent in some areas with that submitted by Oxford. This is largely attributed to the windsheid survey undertaken by Oxford in developing the mapping. The pAR livestock density mapping for Oxford County should be revised to be consistent with Oxford's technical report mapping.	Livestock Density mapping for Oxford systems (where differences in interpretation are observed) and methodology text in section 7 to be revised	DONE
Proofreader	12	Editorial corrections to be made to sections	Make editorial corrections	DONE
Proofreader	13	Editorial corrections to be made to section summaries 1,2,3,4,5,7,8	Make editorial corrections	DONE
Proofreader	14	Editorial corrections to be made to system summaries	Make editorial corrections	DONE
CA Staff	15	The header in the appendices report needs to be corrected - the "s" is missing from "Thames."	Make editorial corrections	DONE
Proofreader	16	Editorial corrections to be made to maps	Make editorial corrections	DONE
CA Staff	17	We need to replace the label 'Zorra-Tavistock' with 'East Zorra-Tavistock' on the AR maps.	Make editorial corrections	DONE
CA Staff	18	On pg 2 of the section summary 1 under the discussion of the CWA at the bottom of left hand column, it says that the regulations have not yet been introduced. They have now been introduced. In the Glossary, the following links are worth checking as they either didn't link, were to a French site, or didn't seem to give explanation to the glossary term: AOC, DNAPLS, LaMP, PCBs.	Revise last paragraph on page 2 of section summary 1 to read: "Recently, the province has amended O. Reg. 287/07 by providing requirements for the preparation and implementation of source protection plans". Links repaired in glossary.	DONE

Generic Description of Commenter	No.	Comment	Response	Status
CA Staff	19	When viewing Melrose WHPA-A map 4-1-6 I noticed that the WHPA-A was round when looking at the map. When looking at the wells there is a separation between them (about 15 metres). Since this is the case the WHPA-A should be slightly oblong. Same applies to the Kilworth-Komoka system.	Make correction in Melrose and Kilworth-Komoka maps (vulnerability, threats, livestock density, managed lands, impervious)	DONE
CA Staff	20	In Section 9, grammatical change on last paragraph, line six should read "the Director in the approval" versus "it's."	Make editorial corrections	DONE
CA Staff	21	Delete 'believed to be' replace with 'is' or 'are' in Flagged Parameters appendix	Make editorial corrections	DONE
CA Staff	22	In the Flagged Parameters appendix, Thorndale well ecoli found to be caused by a transport pathway: Amount of verbiage on this to be reduced and will add references to the discussions with operators since technical report. Page 9-2 table lists iron is titled Komoka wells in first column and shows Birr on second column, needs to be changed.	Make editorial corrections	DONE
CA Staff	23	The Thorndale WHPA-A needs to be corrected to be a 100 m circle rather than the 200 m circle. The vulnerability, threats, livestock density, managed lands and impervious layer mapping will need to be revised. The threats counts are not affected since the consultant did the threats analysis based on a correct WHPA-A.	Make correction in Thorndale maps (vulnerability, threats, livestock density, managed lands, impervious)	DONE
CA Staff	24	Chris had Ryan create table of contents for the draft CD versions of the system and section summaries, and inserted page numbers in the pdf files for those two appendices. We should do the same for the printed versions (and the CD's again).	Add table of contents to system and section summaries in the InDesign files. Add page numbers (1 of XX) to the Acrobat files once fully assembled.	
CA Staff	25	Since there was the potential for overlapping WHPAs from different Systems, the impervious surface calculations were performed on a System basis. Associated with each grid cell on the map are separately stored values of every system. The largest value of percent impervious was supposed to be copied into another field for display on a unified map. However, Stratford and St Marys were completed after the decision to use individual WHPA maps rather than a unified map. Consequently, that field was not updated. However the map templates were still displaying that field. As a result, Stratford and St Marys maps included in the assessment report were displaying the values from before the Stratford and St Marys updates.	Revise Stratford and St. Marys impervious surfaces maps	DONE
CA Staff	26	As a result of comments received from the peer reviewers staff presented alternative representations of the SGRA to peer reviewers for their input. The peer reviewers supported a revised SGRA product which removed the area identified as fluvial deposits from those which were previously proposed as the SGRA. It is important to note that this results in an overall reduction in the area identified as SGRA and does not add any areas not previously included in the SGRA. It is recommended that the Assessment Report be revised to be consistent with the SGRA mapping accepted by the peer reviewers which will be included in this final T2WB report. Also at the recent peer review meeting the peer reviewers accepted that the groundwater and surface water model calibration in the Middle Thames was adequate for the stress calculations in the T2WB. Although this does not require a change in the results from the work, references in the Assessment Report to the Middle Thames calibration should be revised to reflect the additional calibration work.	revise SGRA mapping to reflect the peer review accepted T2WB work. Revise description of the calibration of the Middle Thames to reflect the additional analysis of the calibration of this subwatershed.	DONE
CA Staff	27	On the Impervious Surfaces and Managed Lands / Livestock Density mapping that the outlines on the maps were inconsistent. In some cases the outlines were the WHPAs clipped to Vulnerability >=6 and in some cases it was the Vulnerability Layer clipped to Vulnerability >= 6. Since the calculations were performed on a WHPA basis, I think it more appropriate to use the WHPA outlines. Therefore, all maps were made consistent by using the WHPA outlines.	Revise all impervious, managed lands and livestock density maps so that the outlines are to the WHPA with vulnerability score greater than 6.	DONE
MOE	28	On page 5-9, Section 5.4 Issues Evaluation Technical Studies, the second sentence refers to 23 well supply systems. This appears to be a typo based on the number of systems described in other chapters and should be changed to 22. It is recommended to be consistent in the AR.	Sentence revised.	DONE
MOE	29	On page 6-2, top of page reference to Map 4-1 should be 4-1-1 through 4-1-23.	Sentence revised.	DONE
MOE	30	References to "Golder and Associates" should read "Golder Associates"	Reference revised	DONE
MOE	31	On page 4-8, 4.3.2 WHPA-A: The last line should read "4-1-1 to 4-1-22".	Sentence revised.	DONE
MOE	32	All maps must clearly show the municipal wells, well numbers, and well field names so that reference to the text of the report is clear.	Maps are edited to show well numbers and well field names on the groundwater vulnerability frames in Maps 4-1-1 to 4-1-23 because these frames show well locations.	DONE
MOE	33	Municipal wells must be clearly shown on a map. The Tavistock, Thamesford and Woodstock wells can not be distinguished from each other on the maps	Maps edited by decreasing well symbol size, to help differentiate between wells.	DONE
MOE	34	Map 4-1-11 Ingersoll: The adjusted groundwater vulnerability discussed in the text is not reflected on the map	Transport pathway adjustment is now shown on map. Text is revised to indicate the correct vulnerability category adjustment.	DONE

Generic Description of Commenter	No.	Comment	Response	Status
MOE	35	Map 4-1-17 Woodstock: The adjusted groundwater vulnerability discussed in the text is not reflected on the map. Only two of three are currently identified.	Transport pathway adjustment is now shown on map. Text is revised to indicate the correct vulnerability category adjustment.	DONE
MOE	36	Map 4-1-19 Sebringville: The report indicates that no transport pathways have been identified, but one is shown on the map. This inconsistency should be corrected.	Map is correct. Text is revised.	DONE
MOE	37	4-1-21 St. Marys: The legend for transport pathways is unclear where it states "Increased on Level". Any change in the groundwater vulnerability based on a transport pathway (at least 25 are shown) must be documented and explained in the text (only 3 are discussed).	Transport pathway adjustment is now shown on map. Text is revised to indicate the correct vulnerability category adjustment.	DONE
MOE	38	Watershed Characterization Maps: These maps are shown at a scale that includes the entire Source Protection Region, which reduces the visibility of the subject Source Protection Area. (e.g. Maps 3, 18 and all others at this scale). Ensure that the maps meet the requirements in technical rule 12 for sizing as much as possible.	WCR was completed for the entire Thames watershed, and scale reflects that.	No change.
MOE	39	On page 2-27, Table 2-4 includes the Lake Huron Primary Water Supply System and the Elgin Area Water Supply System as being systems "serving the Upper Thames River SPA, however, the footnotes indicate that both systems are located outside the Upper Thames River SPA. It is not clear why these systems were included in the table. If they do serve some of the population, then the details should be included.	Footnote to the table is revised to indicate that the systems serve the UTRSPA. Text below table still indicates that areas within the UTRSPA are served by these systems.	DONE
MOE	40	The AR indicates that this work will be complete in time to include in the proposed AR. The draft proposed AR can only be changed to address comments received in the consultation period. No new information can be added to the proposed AR without an appropriate level of consultation. If new information is to be added to the proposed AR that is not based on comments received in on the draft proposed AR then the SPC should ensure the public and those impacted by the changes have an additional level of consultation so that they are afforded ample opportunity to review the new information. For example the SPC may want to notified those impacted by the new information as they would have been for the draft proposed AR consultation period.	Duplicate of comment 54. Text revised to indicate that this work has not been completed. Therefore this work will be included in an amended AR. Work is noted as a data gap in Section 3.6 and in Section 9.	DONE
MOE	41	The statement that indicates the results of the Tier 3 are contingent upon availability of data and funding should be removed. The comments on funding are irrelevant.	Text revised in section 3.4.1. General Note in section 9 left in place.	DONE
MOE	42	On page 2-29, Table 2-5 (Watershed Characterization Data Gaps) under the heading Water Quality, there is an entry titled Municipal groundwater well physical and chemical data. The physical data is not a data gap as should be in the First Engineer's Reports.	Text revised to indicate that long term data was not available.	DONE
MOE	43	Section 2.0 Watershed Characterization 1a) Page 2-4 Geography, Physiography and Soil Types: "...over which lies the overburden rock formation." A point of clarification, overburden is not a rock formation. 1b) Page 2-5 Topography, Hydrology and Hydrogeology: This section does not provide enough information on these areas given the SPA relies almost solely on groundwater. There should be documentation on the aquifers, water tables and pertinent groundwater flows, regionally and locally for the SPA. 1c) Page 2-20 Municipal Groundwater System Water Quality: This section should clearly reference the standards to which the water quality is being compared (e.g. O. Reg. 169, O. Reg. 170, etc.).	Text to be revised.	DONE
MOE	44	Section 4.3.5 Vulnerability Assessment of the WHPA: Where appropriate and beneficial, text in this section relevant to specific wells and/or well fields should reference the appropriate Map, specifically when discussing WHPA delineation and vulnerability scoring	Map references added.	DONE
MOE	45	Wells should be numbered on the WHPA maps so that references in the text can be related to the map.	Maps are edited to show well numbers and well field names on the groundwater vulnerability frames in Maps 4-1-1 to 4-1-23 because these frames show well locations.	DONE
MOE	46	Where adjustments are made to the groundwater vulnerability within WHPAs, the AR should document the initial and final vulnerability ranking (e.g. from low to medium) and the final groundwater vulnerability should be clearly shown on the associated map.	Text and maps revised	DONE
MOE	47	For Woodstock, on page 4-20, the third bullet is unclear. The bullet references well 9+, which is not defined, and suggests that smoothing of contacts between areas of different vulnerability is related to transport pathways. First, what is the connection between an adjustment related to transport pathways and smoothing of lines. Second, what is the justification for smoothing out the vulnerability lines. The comment professional judgement requires that the AR explain the factors considered in making this judgement.	Text revised. Sentence on transport pathway in Well 9 WHPA is separated from the vulnerability smoothing sentence, as they are not related. Additional clarification in professional judgement on contact smoothing is provided in Section 4.3.5.	DONE
MOE	48	Page 4-21: Justification should be provided for the selection of a 50 metre buffer around wells as transport pathways.	More details are added to the justification provided under Perth Wells in Section 4.3.5.	DONE

Generic Description of Commenter	No.	Comment	Response	Status
MOE	49	Page 4-22: The text for the St. Marys water supply discusses the presence of three (3) private wells within WHPA-B and that the groundwater vulnerability has been increased based on the presence of these wells. However, the related map shows at least 19 wells in WHPA-B and 3 three wells in each of WHPAs C and D. This inconsistency should be corrected and the justification provided for a 50 m buffer around the wells as transport pathways.	Text revised to describe transport pathways	DONE
MOE	50	Page 4-22: The text for Sebringville indicates that transport pathway features have not yet been located and are not included. However, map 4-1-19 shows an area of increased vulnerability. This inconsistency should be corrected.	Map is correct. Text is revised.	DONE
MOE	51	Page 4-23: For Stratford, a number of private wells are identified as transport pathways resulting in an increase in the groundwater vulnerability. The justification for the increase should be provided. Given there is a municipal monitoring well nearby, a clarification as to why there was no increase associated with that well is recommended.	Text revised. Joe Salter provided info that the municipal monitoring well is inspected weekly as per PTTW. Monitoring well is not considered a transport pathway.	DONE
MOE	52	Page 4-25: "...the vulnerability scoring of these vulnerable areas will be assessed using the methodologies described in the surface water vulnerability section above." The reference pertains to the WHPA E and WHPA-F, yet these areas have not been delineated. It would be more appropriate to suggest that when these areas are delineated, the vulnerability score will be assessed based on the method above.	Text revised.	DONE
MOE	53	MOE has identified activities in the SPA that may have an impact on groundwater vulnerability. In Ingersoll. A number of active below-water quarries that expose aquifers. The sizes of the quarries are relatively large - their impacts to groundwater need to be assessed in the vulnerability assessment and the associated threats that could potentially be occurring at these sites; within HVA and SGRA, not in WHPA. Location: east of Ingersoll. Section in AR: Zorra. -New application in 2010 for a below-water gravel pit that will expose the overburden aquifer; likely within HVA and SGRA, not WHPA. Location: Lot 22, Concession 5, Zorra, County of Oxford.	Oxford confirmed it is not in the WHPA. No adjustments have been made to vulnerability of SGRA. No adjustments can be made to HVAs.	No change.
MOE	54	1a) The Tier 2 Water budget and stress assessment presented in the AR is not complete as it does not comply with the following TR. Drought scenarios are missing as required in TR 34(2d and e) and 35(2f and g). As stated in the AR on pages 3-15 "Drought scenarios have yet to be completed and will be incorporated into a subsequent version of this Assessment Report." Conclusions on Tier 2 do not represent the complete analysis.	Duplicate of comment 40. Text revised to indicate that this work has not been completed. Therefore this work will be included in an amended AR. Work is noted as a data gap in Section 3.6 and in Section 9.	DONE
MOE	55	2a) Section 3.3.2 introduces the Tier 1 water budget and indicates that there are 32 subwatersheds in the Thames Sydenham and Region. The technical rules require that the subwatersheds in each source protection area be identifies, meaning the report must show that there are 11 in the Upper Thames Region source protection area. 2b) Section 3.3.3 introduces the Tier 2 water budget. The technical rules require that the AR document how many subwatersheds (5) in the source protection areas were evaluated at the Tier 2 scale within the boundaries of the Upper Thames Region source protection area	Text revised to indicate the number of subwatersheds in the UTRSPA and the number considered in the Tier 2 work.	DONE
MOE	56	3a) Table 3.6: The table summarizes the groundwater stress assessments for both Tier 1 and Tier 2 evaluations. It would be helpful to have separate tables that show the results of the Tier 1 stress assessment (both surface water and groundwater) (as per technical rule 21) and the results of the Tier 2 stress assessment (groundwater only) (as per technical rule 23) 3b) Map 3-6: It would be helpful to separate this map into two maps – one map showing the Tier 1 stress assessment and a second map showing the Tier 2 stress assessment. Given the requirements of the technical rules, and the consultation requirements, it may be difficult for a reader to understand the different between the two stress levels with the maps combined.	Discussed with MOE. Text added to clearly describe how the results are discussed and demonstrate that the analysis was undertaken and documented in 2 separate reports.	DONE
MOE	57	It would be helpful to have a separate SGRA delineation map and a SGRA groundwater vulnerability map.	Maps 4-2-1 and 4-2-2 provide this info	No change.
MOE	58	MOE has identified a site of historical contamination that may be considered by the SPC in their threats assessment: Woodstock. There was an historical underground storage tank leakage site in the late 90's. Petroleum hydrocarbon related subsurface contamination still exists as of 2010. Impacts include free product LNAPL, soil contamination, and relatively large groundwater plume; within HVA and SGRA, not in WHPA. Location: 16 Ingersoll Road, Woodstock	Add information into Section 6 and summary 6. Would be considered during conditions assessment work	DONE
MOE	59	On page 6-7, Section 6.2, third paragraph, there is mention of a spill at the Mitchell municipal well supply. There is no description of what the product spilled was. If this information is available, it would be helpful to include this additional information, so it is consistent with the other descriptions in this section and how this relates to the threats assessment.	Text in section 6 and summary 6 is revised based on additional limited information available. AR already indicates that further investigation required.	DONE
MOE	60	On page 4-1, the second paragraph references tables for IPZs. There are no IPZs within the Upper Thames River SPA. It is suggested that this is changes to ensure consistent message throughout the AR.	Text is revised.	DONE
MOE	61	It would be helpful for the reader if the tables on pages 3-17 made reference to the Provincial Table of Circumstances (on each table), since the provincial tables provide more detail. This is a local decision on including this reference.	The Provincial Table of Circumstances are the MOE threats tables. These are referred to in Section 7 and in the Appendix 10, threats tables.	No change.
MOE	62	Section 3.0 Water Budget and Water Quantity Stress Assessment Page 3-20: "...SGRAs which are coincident with Highly Vulnerable Aquifers (HVA), will receive a vulnerability score of 6 which can result in a moderate threat, while activities in other SGRAs cannot result in water quality threats due to the vulnerability score being 4 or less." This statement is incomplete as areas with a vulnerability score of 6 may have moderate or low drinking water threats.	Text is revised.	DONE

Generic Description of Commenter	No.	Comment	Response	Status
MOE	63	Section 7, Page 7-12, Chemical Threats Related to the Use of Land for Livestock Grazing, Pasturing or Outdoor Confinement Area or Farm-Animal Yard. It appears as if the NU/acre calculations for grazing & OCA threats uses the vulnerable area in the denominator. Based on the circumstances in the technical rules, the nutrients generated at an annual rate must be determined by the number of NU on the farm divided by the size of the livestock grazing land or pasturing land.	The denominator used in the calculation is correct. The methodology text will be revised.	DONE
CA Staff	64	Oxford systems significant threat location counts in the AR are to be made consistent with information in the Oxford technical reports regarding sewer line threats. This will not affect consultation of those affected, as the threat was inventoried by the municipality.	Significant threat locations count in the section 7, Oxford system summaries and section summary 7 are revised.	DONE
CA Staff	65	Sewer lines were not reviewed during the threats and risk assessment in the Perth systems studies.	Added as a data gap in Sections 7 and 9.	DONE
CA Staff	66	List of references needs to include Tier 1 and Tier 2 reports, and the Watershed Characterization Report	References added.	DONE

Upper Thames River SPA
Proposed Assessment Report
Summary of Comments

Generic Description of Commenter	No.	Comment
City of London (letter dated Oct. 25, 2010)	1	The City of London acknowledges or recognizes the following: seamless vulnerability assessment mapping, Great Lakes target policies, WHPA-E for Fanshawe wellfield, Risk Management Official considerations, and financial considerations.

Directions received from Ian Smith, Director, Source Protection Programs Branch, Ministry of Environment, as per letter dated May 10, 2011

No.	Direction	Response	Section	Early Notification Letter No.
Updated Task	WHPA-E studies for GUDI systems	<p>As per the Dillon Consulting Ltd March 2011 and April 2011 reports, and the UTRCA April 2011 report, WHPA-Es were delineated and assessed for the Dorchester, Fanshawe, Thamesford, Woodstock rural and St. Marys well supply systems. The systems did not meet Technical Rule 50 (2) and (3) and therefore WHPA-Fs were not delineated. The Kilworth-Komoka wells were decommissioned in October 2010. Therefore the Kilworth-Komoka and Highgate well systems were removed from the list of GUDI studies in the current ARs. (As well, the MOE directed that the workplans for WHPA-E and WHPA-F for the Highgate system not be included in the Lower Thames Valley AR as information available at this time indicates that the system does not meet the test in Technical Rule 49 (3)). The potential drinking water threat levels (based on vulnerability scores) are shown in new maps which are noted in the AR. Managed lands, livestock density and impervious surfaces maps were revised to include WHPA-E.</p>	<p>Section 4.3.1: Table 4-1, Section 4.3.4: text, Section 4.3.5: text and new Table 4-5, Section 4.3.6, Section 4.6: Table 4-6. New WHPA-E Maps 4-1-2a, 4-1-4a, 4-1-16a, 4-1-17a and 4-1-21a. Revised managed lands, livestock density and impervious maps. New WHPA-E potential threat level maps 7-3-2a, 7-3-4a, 7-3-16a, 7-3-17a, 7-3-21a. Sections 7.2.4, 7.2.6, 7.2.17, 7.2.18, 7.2.22, 7.4, Section 9: Table 9-1. System Summaries for Dorchester, City of London, Thamesford, Woodstock and St. Marys: all figures (except Hyde Park), text on WHPA, vulnerability, threats assessment, peer review, and data gaps. Section Summary 4: text in sections on WHPA, Table 1, and data gaps. Section Summary 7: data gaps. Section Summary 9: Table 1. Appendix 1, Appendix 10, Appendix 12, Appendix 13, List of Maps</p>	(NA)
Amended Task	Sewer Threats consideration in Perth County systems	<p>Additional analysis was done to identify chemical and pathogen type threats from sewer lines, related to 'the establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage', for the Perth, Town of St. Marys and City of Stratford well systems. These types of threats were identified in the WHPA-As of the Mitchell, St. Marys, Shakespeare and Stratford systems and is now reflected in the amended AR. This has resulted in an increase in the number of locations of significant threats. This item is now removed from data gaps sections.</p>	<p>Section 7: Table 7-1, Section 7.2.2: Table 7-7, Section 7.2.19: Table 7-27, Section 7.2.21: Table 7-29, Section 7.2.22: Table 7-30, Section 7.2.24: Table 7-32, Section 7.4. Section 9: Table 9-1. Section Summary 7: Table 3 and data gaps section, Section Summary 9: Table 1. Mitchell, St. Marys, Shakespeare, Stratford System Summaries: Table 2. Appendix 12 (list of references)</p>	(NA)

No.	Direction	Response	Section	Early Notification Letter No.
Amended Task	Pasture and livestock confinement area threats consideration	Additional analysis was done to identify threats related to 'the use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard'. Findings: (1) A field visit was made to a property (that spans the Dorchester WHPA-A and WHPA-B) that was already identified in the proposed AR as a significant threat (related to farm activities). The field visit confirmed that the property is not an animal farm. However another property was identified as having animal farm activities (that spans the WHPA-A and WHPA-B). Therefore the count of significant threats for this well system remains the same. (2) Chemical type threats related to this activity are now identified in the rural Woodstock WHPA-B and Ingersoll WHPA-A (one property in each system's WHPA). One property each were identified at the St. Pauls WHPA-A (chemical and pathogen) and St. Marys WHPA-B (pathogen). For these four systems, the properties on which the activities occur were previously identified to have other significant threats occurring.	(2) Section 7: Table 7-1, Table 7-19, Table 7-26, Table 7-30 and Table 7-31. Ingersoll, System Summary: Table 2. Section Summary 7: Table 3. Appendix 12 (list of references).	(NA)
1	Amend the AR to include the assessment of drought scenerios (2 and 10 year) and a quantification of uncertainty for each of the Tier 2 subwatersheds.	The AR is revised to include the drought scenario output from the most recent version of the Tier 2 water budget report. No additional subwatersheds moved forward to a Tier 3 water budget as a result of drought analysis. The quantification of uncertainty for each of the Tier 2 subwatersheds is now provided in the AR	Drought scenarios described in Section 3.4, 3.3.5 (peer review text), Section 3.4.1, Section 3.6 (Table 3-8), Section 9: Table 9-1. Section Summary 3: data gaps text. Section Summary 9: Table 1	1a
2	Amend the AR to include a table that shows all Permit To Take Water (PTTW) water takings, their proposed use, maximum permitted amount and actual taking with relevant Tier 2 information. Additional details for this direction: Although the AR indicates this information can be found in the reference documents, the Water Budget (WB) Technical Reports are not provided on the SPC website for public access. While the AR Checklist notes that the AR Table 3-1 Groundwater use in the UTRSPA should contain the required Tier 2 WB information, a table footnote states the information is only from Tier 1 WB data. The rationale is provided in the text provided in the AR is not adequate in meeting the legislative requirements for the Tier 2 WB.	This information is included as an appendix in the Tier 2 water budget report, and also in the Tier 1, for surface water permits. The T1 and T2 water budget documents will be available on TSR web site. These are referenced in the amended AR. Table 3-1 was recreated using Tier 2 data.	Section 3.2.5; Table 3-1, Appendix 12 (list of references)	2a

No.	Direction	Response	Section	Early Notification Letter No.
3	Amend the AR to include a table that presents all the updated water demand values for the Tier 2 Water Budget evaluation for the groundwater component. Additional details for this direction: Although the AR Table 3-3 Water Budget Summary was taken from Tier 1 work because Tier 2 analysis was only completed for groundwater systems, it is still a legislative requirement to summarize the Tier 2 Water Budget values for the groundwater.	Updated groundwater demand values for the Tier 2 Water Budget are included in the Tier 2 water budget report, which will be available on TSR web site. These are referenced in the amended AR. Table 3-3 was updated with new information from the T2 water budget and now describes water budget summaries based on the T2 information for all subwatersheds where T2 work was conducted.	Section 3.2.6: Table 3-3	2b
4	Provide an explanation on how the requirements of Technical Rule 46 were applied for the generation of Map 4-2-1 :Significant Groundwater Recharge Areas" in the proposed AR.	Rule 46 allows professional judgment in determining and defining SGRA areas. The mapping was revised, as allowed under this rule, to remove areas which some water budget peer review members felt were groundwater discharge rather than recharge areas in river valley/flood plain areas. The exercise of overlaying the groundwater vulnerability onto the SGRAs creates "overlay artifacts" or "sliver polygons". This occurs where the boundary of a contiguous groundwater vulnerability area falls close to the boundary of the SGRA. Since the datasets do not perfectly align to each other, the slight gaps and overlaps between the boundaries create small, uniquely valued polygons. In some cases, these polygons will be assigned a Vulnerability Score of 6 (i.e. potential for Low Threats) but have areas less than 1 square meter in size. This should be considered in policy development and/or implementation for these areas.	Section 3.5, Section 4.5 as well as section summaries	2c
5	Amend the AR to separate Tables 3-6 "Groundwater potential for stress (Average Annual Conditions)" and Table 3-7 "Groundwater potential for stress (Maximim Monthly Conditions)" for Tier 1 and Tier 2 results, clearly indicating what boundaries were used for each table. Additional details for this direction: This item is not compliant with the Technical Rules. Given the areas used for Tier 1 and Tier 2 are different, having one table combines different areas and tiers reduces the clarity of the AR.	Tables 3-6 and 3-7 were separated into 3-6a, 3-6b, 3-7a and 3-7b, where 'a' suffix denotes Tier 1 results, 'b' suffix, Tier 2. Results are still only presented for the most advanced analysis (i. e. subwatersheds which moved to Tier 2 do not have the Tier 1 stress assessments included, but rather a reference is made to the Tier 1 water budget report).	Section 3.4: Tables 3-6a, 3-6b, 3-7a, 3-7b.	3

No.	Direction	Response	Section	Early Notification Letter No.
6	Amend the AR to remove references and work plans associated with the confirmation or existing threats (tier 2 risk assessment). Additional details for this direction: References that should be amended include statements on page 7-16, 7-40, and 9-3. As previously communicated, this additional work is considered out of scope for this round of planning as threats verification can be conducted as part of the development of policies in the source protection plan.	The AR is revised to indicate that the tier 2 (site specific) risk assessment, to confirm significant threats, would be conducted while developing source protection plans (2012) if needed.	Section 7.1.5, Section 7.3, Section 9: Table 9-1, Section Summary 7: data gaps, Section Summary 9: Table 1, All system summaries	1b
7	Amend the AR to apply the correct methodology to enumerate threats related to ASM generation and storage. Additional details for this direction: These calculations should be done using parcel specific information. Two different methods were described in the report; one in the introductory section and one in the section that discusses the specific threat. The AR must document clearly what method was used in the actual enumeration of threats. Similar errors were appropriately corrected in the St. Clair and Lower Thames ARs within the Thames-Sydenham and Region Source Protection Region.	The methodology in Section 7.1.1 is revised to better clarify the methods followed in enumerating threats related to 'the storage of agricultural storage material' and 'the use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard'. In determining chemical threats related to 'the use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard', the livestock density calculation is performed on an individual farm parcel rather than the whole of a vulnerable area. This did not result in any changes to maps. It did not result in any additional significant threats.	Section 7.1.1 (subsections 'Mapping of Impervious Area, Managed Lands and Livestock Density', 'Livestock Density', 'Chemical Threats Related to the Use of Land for Livestock Grazing, Pasturing or Outdoor Confinement Area or Farm-Animal Yard', and 'Chemical Threats Related to Agricultural Source Material Storage').	1c
8	Amend the AR to remove the work plan for WHPA E and F delineation and vulnerability assessment for the Kilworth-Komoka Drinking Water System. Additional details for this direction: As per my UAR response letter on December 20, 2010, I understand that the SPC/SPA will not be conducting any further source protection work around the Kilworth-Komoka Subdivision System as it was decommissioned in October 2010. After the Source Protection Plan development is completed, the SPC/SPA must amend the Terms of Reference to address the need to remove this system.	The Kilworth-Komoka wells were decommissioned in October 2010 (information from Municipality of Middlesex Centre). They are therefore removed from the amended AR.	Throughout sections 2 (Table 2-4), 4, 5, 6, 7 and 9, summaries and Maps. The Kilworth-Komoka system summary is removed.	(NA)
9	Amend the AR to remove references to the work plans and further investigation for Conditions Assessment. Additional details for this direction: This includes the reference in Table 9-1 "Work Plan to fill Data and Analysis Gaps". As per my UAR response letter on December 20, 2010, it is my understanding that the SPC will not be proceeding with the work associated with the conditions investigations. The ministry does not expect the SPC/SPAs to conduct a study to identify conditions as it is not necessary to undertake such work for conditions SPC is not aware of or the public has not identified to the SPC.	References to work plans for further investigations towards conditions assessment is removed from the AR.	Section 6.3, Section 9.1: Table 9-1, section summary 6 and 9.	(NA)

No.	Direction	Response	Section	Early Notification Letter No.
10	Amend the AR to remove the workplans for sampling programs to identify issues.	Table 5-7 is moved from Section 5.6 (Work Plan) to Section 5.7 (Data Gaps) to indicate that the source of some of the identified issues is a data gap and how to fill that data gap. Text in Section 5-7 will be added to describe this data gap. Work plans to identify threats related to issues are removed but further clarification is provided: If more information becomes available to the SPC to identify the sources of the issues, and the issues contributing area and activities must be determined, they will be included in a subsequent AR.	Section 5.6: Table 5-7, Section 5.7, Section 7.4, Section 9: Table 9-1. Section Summary 5: data gaps text, Section Summary 7: data gaps text, Section Summary 9: Table 1	(NA)
11	Amend the AR to remove workplans for issues where it has not been determined whether the source of the issues is anthropogenic. Additional details for this direction: Any issues that do not meet the test in Rule 114 are documented as per Technical Rule 115.1. The Rules do not allow that the AR include work plans to investigate issues. The only situation where a workplan is allowed in the Technical Rules related to issues is if an issue is documented as per Rule 115 and the issue contributing area (Technical Rule 115 (3) and the identification of threats (Technical Rule 115 (4) can not be completed. In such a case, a work plan as per Rule 116 is required. Additional details for directions 10 and 11: The work plans includes ones indicated in Table 5.7 :Work Plan for Identification of an Area and Activity Contributing to an Issue" and Table 9-1 "Work Plan to fill Data and Analysis Gaps". The Technical Rules allow or require work plans for specific types of work. The identification of issues or the determination if the issue is anthropogenic or not is not one of the allowed work plans. Any future in	Table 5-7 is moved from Section 5.6 (Work Plan) to Section 5.7 (Data Gaps) to indicate that the source of some of the identified issues is a data gap and how to fill that data gap. Text in Section 5-7 will be added to describe this data gap. Work plans to identify threats related to issues are removed but further clarification is provided: If more information becomes available to the SPC to identify the sources of the issues, and the issues contributing area and activities must be determined, they will be included in a subsequent AR.	Section 5.6: Table 5-7, Section 5.7, Section 7.4, Section 9: Table 9-1. Section Summary 5: data gaps text, Section Summary 7: data gaps text, Section Summary 9: Table 1	(NA)
12	Once the AR is revised based on these directions and before resubmitting the amended AR in accordance with the Act, the Source Protection Authority shall consult with the Source Protection Committee and provide proof thereof with the resubmitted AR.	The Source Protection Authority shall consult with the Source Protection Committee before resubmitting the AR.	NA	(NA)
13	Once the AR is revised based on these directions and before resubmitting the amended AR in accordance with the Act, the Source Protection Authority shall consult with those persons or bodies impacted by the changes in an appropriate manner and consider the consultation requirements in section 18 of the CWA for new information included in the AR that forms part of the updated AR workplan and provide proof thereof with the resubmitted AR.	Consultation as per Section 18 of the CWA will be conducted and documented in Appendix 4.	Appendix 4	(NA)

No.	Direction	Response	Section	Early Notification Letter No.
14	The Source Protection Authority shall include with the resubmitted AR a memo or document outlining the changes made to the AR, as per these directions, including chapter references in the AR where changes were made; and	This table of changes made to the AR will be provided to the MOE with the submission of the AR.	NA	(NA)
15	The AR is to be submitted to the ministry in the form of both a hard copy and electronic version for the ministry's review.	Both hard copy and CD (electronic) will be provided to the MOE.	NA	(NA)

OTHER CHANGES TO UPPER THAMES RIVER PROPOSED ASSESSMENT REPORT

No.	Guideline	Description of Change Made	Section/Appendix Changed	Comment made by
1	Consider revising the AR maps to indicate regional fracturing and karst features where they are considered as factors for assessment of groundwater vulnerability.	There is a lack of comprehensive GID based data to map these features. Text edits have been made to indicate that the uncertainty in bedrock fracture was considered in the WHPA delineation of the Oxford systems, and that higher conductivity values were used in the WHPA delineation of the bedrock wells of Stratford and St. Marys.	Section 4.3.5, Appendix 13, system summaries, section summary 4	MOE Minor Supplemental Comment
2	Consider including include both the percent water demand value and corresponding stress category in the same table for each subwatershed evaluated. This should be done to demonstrate both surface water and groundwater results. This information could be provided in a more direct method even though is provided in Table 3-4 "Potential for stress based on <i>percent water demand</i> under current and future municipal water demand" and Table 3-5 "Surface water potential for stress based on Tier 1 stress assessment" and explained on page 3-16.	Tables 3-5, 3-6a 3-6b, 3-7a and 3-7b now contain both percent water demand and stress category	Table 3-5	MOE Minor Supplemental Comment
3	Consider revising Tables 3-6 "Groundwater potential for stress (Average Annual Conditions)" and 3-7 "Groundwater potential for stress (Maximum Monthly Conditions)" to change the column heading from "Potential for Stress" to "Percent Water Demand" and to add an additional column to include the stress category assigned based on percent water demand value. Although the information required is presented in the AR and meets the legislative requirements, these changes will clarify the AR for the reader and better align the language with the Technical Rules.	Titles are altered from "Potential for Stress" to "Percent Water Demand" and an additional column was added to include the stress category assigned based on percent water demand value in Tables 3-6a 3-6b, 3-7a and 3-7b	Tables 3-6a 3-6b, 3-7a and 3-7b	MOE Minor Supplemental Comment

No.	Guideline	Description of Change Made	Section/Appendix Changed	Comment made by
4	<p>The statement in section 7.1.4 on page 7-15, “According to Rule 131, activities in vulnerable areas that contribute to drinking water quality issues are deemed significant drinking water threats regardless of assigned vulnerability scores”, can be misleading to the reader. It will help clarify the Technical Rules by indicating that this statement only applies to issues in WHPA and IPZ vulnerable areas for systems in the Terms of Reference (ToR). It may also be helpful to indicate that issues are considered moderate drinking water threats when they are linked to a system not identified in the ToR or are located in a HVA/SGRA area.</p>	<p>These clarifications are provided in the AR: According to Rules 114, 115, 131 and 141, activities or conditions that contribute to drinking water quality issues (known to be partially or wholly due to anthropogenic sources), are deemed significant drinking water threats regardless of assigned vulnerability scores. This applies to intake protection zones and wellhead protection areas only, for drinking water systems identified in the Source Protection Area Terms of Reference. Further, issues in HVAs or SGRAs or those linked to a system not identified in the Terms of Reference may lead to the identification of moderate drinking water threats (not significant threats). Systems not identified in the Terms of Reference may be those included in the source protection planning process through municipal council resolution or by the Minister (MOE).</p>	<p>Section 7.1.4, Section 5.2. Appendix 2: Section Summary 5: Impact of Identifying an Issue, Section Summary 7: Threats Arising from Issues.</p>	<p>MOE Minor Supplemental Comment and MOE Early notification no. 4</p>
5	<p>Consider improving the explanations on the processes for threats and risk assessment, including how the approaches changed over time and how that transitions to current approaches. The report contains protocols for threats and risk assessment that are out-of-date and not consistent with the Technical Rules. Some additional text to describe how this analysis has transitioned to align with the Technical Rules and to generate the current AR results will make it easier for the reader to understand the current threats and risk assessment process</p>	<p>In Section 7, the vulnerability scoring approach and the issues based approach are further clarified. A brief description of the events based approach is provided. Links to the MOE Tables of Threats and MOE Tables of Circumstances are provided. It is clarified that the threats and risk assessment was done according to the latest Technical Rules, the Clean Water Act and its regulations, as well as the TSR local guidance document.</p>	<p>Sections 7.1.1 and 7.1.5</p>	<p>MOE Minor Supplemental Comment</p>

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6	Consider the following typographical changes: a. Change the Director's title from "Director of Source Protection Planning" to "Director of Source Protection Programs Branch" on page 1-17. b. Change the description of consultation phases for the draft proposed and proposed from future to past tense in AR Section 1.10. c. Update sentence "Minor changes may be incorporated into report prior to posting the draft proposed Assessment Report for consultation" on page 3-14.	The typographical changes are made in the AR.	Sections 1.10, 3.3.5	MOE Minor Supplemental Comment
7	Issues analysis update: Thamesford issue nitrate to be removed	Nitrate was previously identified in the proposed AR as an issue in the raw (untreated) water of the Thamesford water wells. From the March 2011 Oxford County issues report update for the Thamesford system, nitrate levels in the wells have been decreasing, and since the fall of 2009, they have been consistently below the half MAC (Maximum Acceptable Concentration, for drinking water). The MAC is 10 mg/L for nitrate. It was recommended by Oxford County to remove nitrates as an issue for Thamesford, and this is now reflected in the amended AR.	Section 5.4: Table 5-5, Section 5.5: Table 5-6, Section 5.6: Table 5-7, Thamesford System Summary: Table 1, Section Summary 5: Table 1, Appendix 9 (flagged parameters), Appendix 12 (list of references).	County of Oxford
8	Update AR to include information on the new well in the Dorchester system (Well 3PW-8).	The new Dorchester well 3PW-8 was put into service late summer 2010. The count of wells for the Dorchester system is updated. Pumping rate information (max. annual, avg annual, avg monthly), well screen depths, and source (GUDI) are provided in the current AR. Limited raw water quality data is collected, but for the other municipal wells of the same system, no drinking water quality issues were detected. Note: the planned Oxford wells at Mount Elgin ('Graydon' well) and Woodstock ('Bond' well) are yet to be put into service.	Sections 2.3.6 (Table 2-4), 4.3.4, 4.3.5, Section 5: Table 5-6, Dorchester system summary: system overview, Appendix 9	Municipality of Middlesex Centre

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9	Vulnerability score changes due to modified AVI and SWAT scores and other minor adjustments for Oxford well systems WHPA.	The Aquifer Vulnerability Index (AVI) for most Oxford wells (except Ingersoll and Woodstock, which were assessed using SWAT) were modified to reflect the classification thresholds as specified by the Technical Rules. The previous high vulnerability AVI threshold was increased from 24 to 'less than 30', and the medium vulnerability AVI threshold corresponds to 'greater than or equal to 30 and less than or equal to 80'. The other minor adjustments made to the SWAT and AVI vulnerability mapping included filling minor gaps or misalignments, smoothing areas between different vulnerability categories and removing suspect erroneous well records. There are minor changes in mapping and no changes to vulnerability scoring except for the Ingersoll WHPA-C. In this WHPA, the vulnerability scores were previously 2, 4 and 6; they are now 2 and 6 only. Updated vulnerability and risk assessment identified an additional property as a significant threat and a letter was sent to the landowner. The count of significant threat locations for the Ingersoll WHPA is updated to total of 41 (previously 40).	Section 4.3.1: Table 4-1, Section 4: Table 4-4, Section 7: Table 7-6. applicable System Summaries figures, Oxford system maps in Appendix 1, Section 7: Table 7-19. Section summary 7: Table 3, and Ingersoll System Summary Table 2	County of Oxford
10	Minor editorial	Minor editorial changes to be made throughout the AR to reflect that the current AR is the 'Amended Proposed', pagination, spellings, etc.	Throughout the AR	CA Staff