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## Thames – Sydenham and Region Source Protection Committee

Please be advised that a meeting of the Thames-Sydenham and Region Source Protection Committee has been called for the following time. If you are unable to attend please contact Erin Carroll at 519-245-3710x 46.

**Meeting Date:** December 11, 2009

**Meeting Time:** 9:00 am to 3:00 pm

**Meeting Location:** St. Clair Conservation Authority Boardroom

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### ***Proposed Agenda***

<b>Item</b>	<b>Time</b>
1. Chair's Welcome	9:00
2. Adoption of the Agenda	
3. Delegations	
4. Minutes From the Previous Meeting	
5. Declaration of Conflict of Interest	
6. Business arising from the minutes	
a. Wallaceburg IPZ-2	
b. Wheatley IPZ-2	
c. Tier 1 Water Budget	
d. Assessment Report Summaries	
7. Business	11:00
a. Impervious, Managed Land and Livestock Density	
b. Threats tables	
Lunch	12:00
c. Maps	12:30
d. Assessment Report Sections	1:30
i. Background	
ii. Issues Evaluation	
iii. Threats and Risk Assessment	
8. Information	
9. In Camera Session	
10. Other business	
11. MOE Liaison report	
12. Members report	
13. Adjournment	3:00

SPC MEETING MINUTES  
FRIDAY DECEMBER 11, 2009  
Meeting #21

Bob Bedggood, Chair of the Source Protection Committee called the meeting to order at 9:00 a.m. on Friday, December 11, 2009 at the St. Clair Region Conservation Authority Boardroom. The following members and staff were in attendance:

**Members:**

Bob Bedggood	Earl Morwood
Murray Blackie (Liason)	Sheldon Parsons
Dean Edwardson	Richard Philp
Brent Clutterbuck	Darrell Randell
Pat Donnelly	Jim Reffle (Liason)
Paul Hymus	Charles Sharina
Carl Kennes	Pat Sobeski
Joe Kerr	Joe VanOverberghe
Doug McGee	John Van Dorp
Valerie M'Garry	Teresa McLellan (MOE-Provincial Liaison)
Marg Misek-Evans	

**Regrets:**

Pat Feryn	Don McCabe
James Maudsley	Joe Salter

**Staff:**

Rick Battson  
Steve Clark  
Ralph Coe  
Erin Carroll  
Chitra Gowda  
Mark Helsten  
Brian McDougall  
Linda Nicks  
Garish Sankar  
Chris Tasker  
Jason Wintermute



1) Chair's Welcome

Bob Bedggood welcomed the Committee.

2) Adoption of the Agenda

Moved by Joe VanOverberghe -seconded by John Van Dorp

*“resolved that the agenda be approved as distributed.”*

**CARRIED.**

3) Delegations

None

4) Minutes from the Previous Meeting

*Corrections*

- Suggested re-wording pump capacity is up to 66,000 gallon per minute on specific pumped drains (Nov. 13, pp. 5).
- Need to correct spelling of Paul Hymus' name and separate Dean and Paul, (Nov. 13, pp. 3).
- The motion should read “moved by Charles Sharina-seconded by *Dean Edwardson*.” (Nov. 20, pp. 4).
- Surficial *geography* should read surficial *geology* (Nov. 20, pp. 5, 10).
- Third line, change “however *the* are a few things” to “*there*” (Nov. 20, pp.6).
- “The table is not yet completed yet”, remove second yet (Nov. 20, pp.6).
- On the 19<sup>th</sup> the meeting was at the Gemini centre (Nov. 20, pp.11).

moved by Derrell Randell–seconded by Joe Kerr

*“resolved that the minutes of November 13 be approved with changes discussed”*

**CARRIED.**

moved by Charles Sharina–seconded by Dean Edwardson

*“resolved that the minutes of November 20<sup>th</sup> , including the notes of the 19<sup>th</sup> , be approved with the changes discussed”*

**CARRIED.**



5) Declaration of Conflict of Interest

No conflict of interest was identified.

6) Business arising from the minutes

a) Wallaceburg IPZ-2

An update on the Wallaceburg IPZ-2 was provided by Brian Mc Dougall. Brian started with an overview of the area covered by original modelling (i.e., high flows on the Sydenham and flow on the Chenal Ecarte) followed by maps including additional model runs (e.g., ten year return low-flow).

*Key points*

- New modeling pushed the upstream extent north another 900m (now 3.1-3.2 kms upstream of intake on the Chenal)
- Johnston Channel (the channel that flows south from the Chenal) captures a portion of the flows, limiting the extent upstream.
- Consultants are still looking for additional information on the Townline Drain, additional pump schemes, and working on new areas to the north.
- Brian estimates 10-15 days for refinements after all new information is attained.
- Information from Walpole Island is still outstanding.

A question was raised as to whether the Johnson could jam with ice (thus reducing its flow) and if so, what is the effect on the Chenal Ecarte? Brian volunteered to do some research on the occurrence of ice jams.

b) Wheatley IPZ-2

Chris updated the group on Wheatley IPZ-2. In the past there has been some SPC discussion around how to capture transport pathways, specifically, whether entire parcels should be included or other methodologies employed. Maps from the assessment report which illustrated the ERSPA revisions were used to illustrate the changes based on the new methodology employed by the ERSPC.

*Map revisions:*

- ERCA has now rounded things out based on travel time.
- Cross hatched area on Lower Thames Valley Source Protection Area maps represents the IPZ on ERSPA's side.

These changes do not effect the TSR SPC decision.



Chris is unsure how these zones can be dealt with through the Tier 2 risk assessment. He is also interested to hear whether Source Protection policies can address the similar issue of transport pathways that are later decommissioned or otherwise found to be not affecting the vulnerability.

*Map correction*

- Correct re-current spelling error: *hashed* to *hatched*.

7) Business

a) Impervious, Managed Land and Livestock Density

*Impervious Surface Area*

This map is complete for vulnerable areas in IPZs and WPAs with a vulnerability score greater than 4.5 and 6 respectively. Impervious surface only calculated where it is needed to assess threats. SGRAs and HVAs with a score of 6 still need to have the percent impervious estimated - these calculations will be a data gap in the Assessment Report and updated in the amended report.

*Road Salt*

SPC members asked about calcium chloride application (which is applied in the summer to keep the dust down). Further questions were raised about the application of brine (salt in solution). Whether or not it is covered by MOE's rules, the public will raise these questions. After some discussion it was suggested that brine (salt in solution) would be included, whereas road salt alternatives (e.g., beat juice alternative or other non-salt alternatives) would not. It was identified that a similar question related to brine extracted through oil exploration and extraction was previously submitted to MOE with no response.

*Percent Managed Lands Maps*

Jason provided an overview of how Percent Managed Lands maps were generated, explaining use of a similar scoring method as for Impervious Surface Area maps. Green pixels in aerial photographs were used to determine agricultural (e.g., cropland and pasture) and non-agricultural managed lands (e.g., residential lawns) where they had not been previously digitized. Marshes, woodlots, ponds, etc., were screened out. It was clarified that this calculation was to determine chemical threats (i.e., nutrients from agricultural source material and commercial fertilizers)—not threats related to pathogens.

*Livestock Density*

Nutrient units per acre were estimated based on aerial photos and the identification of livestock which was classified by farm operation type (e.g., livestock, dairy, poultry, etc.). Initial screening was completed using MPAC data. Nutrient units were based on the size of the livestock barn. The denominator of the calculation, per acre, is generated from the percent of agricultural managed land maps. It is assumed that any nutrients generated within the zone are applied to the land within the zone as per provincial guidance on the calculations. In LTVSPA, there were not many livestock



operations in the vulnerable areas which needed to be considered. Livestock Density maps may not generate any significant threats in this sub-region.

### Questions

- It was asked whether government livestock (e.g., geese in parks) were taken into account. They are not considered as they are not housed in barns, and therefore are not included in the analysis.
- It was pointed out that the Highgate livestock density map was missing. It was explained that there are no livestock operations in the zone and therefore maps were not generated.
- There was a question about the Ridgetown map and why are all three WHPAs are shaded similarly when there are no livestock operations at two of them. It was explained that the mapping was done on a system basis. In many cases the zones overlap and cannot be done separately. Thus, the entire WHPA-A is treated as one combined area as per the guidance. There are no livestock operations around the two southerly wells, there are only farms in the upper one. In this case, Sheldon asked, are the maps telling the right story? Chris explained that the map tells the circumstance around activity and is not an indication of whether the threat is actually there. It is the threat assessment that would identify how many livestock operations are in each area and even then they are not mapped. It might be useful to have some explanation included on the map that these are screening maps.

### Percent Managed Lands/ Impervious Surface Area/Livestock Densities Map Corrections

- For map 7.1, the green layer should be clipped to the waterline.
- Zeros to be removed from legend, eight decimal points suggests an inflated level of accuracy.
- Shades of colors too similar to discriminate between (e.g., shades of green) – intensity may need to be altered.
- Suggestion: for livestock density maps, there should be a different color to differentiate where there are zero livestock operations
- Why is Delaware not listed?
- Character 2 will be converted to North arrow, pdf conversion error.

### b) Assessment Report Maps

#### Map 1-1

- First Nations are to be shaded rather than outlined, so that it is cleaner looking, assuming there is no mapping symbology that prevents this change.

#### Map 1-2

- No comments/revisions

#### Map 1-3

- North branch of the Sydenham does not flow to Otter Creek, missing loop.
- On the legend South is missing, should read: Chatham *South* Kent intake.
- Elgin area primary listed twice.

- Wheatley and Stoney point color are too hard to distinguish.
- Tried to capture as best possible the areas serviced (does not mean they are settlement areas). It is not a comprehensive list; there are lots of areas in-between (e.g., Hamlets). Went through this at the Watershed Characterization stage, do not want a different map.
- Triangles and circles do not work, because the viewer has to work too hard to understand. Change the circles to triangles. There will be another version of this map in the appendices with the other symbology.
- Rondeau Bay, Rondeau Estates and other map labels overlap.

*Map 1-4:*

- Remove *proposed*, check this on other maps.
- It was pointed out that Iona is serviced by West Elgin, Iona Station serviced by Elgin Area Primary
- Shedden is spelt wrong.
- Change title to “Designated Areas of Settlement.”
- Some designated areas of settlement in CK are not on the map, Chitra will follow-up with land-use planners.
- Correct the location of Mitchell’s Bay.

*Map 4-1*

- Properly show the cross-hatching on the Wheatley intake.
- Protection spelt wrong on the title.
- Change to Essex SWPR to SWPA.
- Why is Delaware Nation in bold, and not the others?
- London should be bolded to the same level of Lambton and Chatham.
- Add all First Nation labels, whether or not they are outside the Lower Thames.
- There was some discussion about other municipalities which should be shown on the maps (Pain Court). Decided to leave the map the way it is with larger cities and those with wells labeled.

*Map 4-2*

- Defined radius and storm-sewershed needs to be more distinct.
- Add blue line through shoreline for consistency

*Map 4-3*

- Need to either add a separate scale bar or make maps the same scale, preferably the same scale, for easier comparison.

*Map 4-4*

- For the emergency intake, need to indicate on the map there is an existing data gap
- It was noted that there is less detail in the West Elgin map, staff are going back to the consultants to make it similar to the others.
- The wording “*from lake*” questioned but will be left the way it is.

*Map 4-5*

- Highgate is highlighted red, there needs to be an explanation in the key.

*Map 4-7, 4-8 and 4-9*



Chris explain that map 4-7, 4-8 and 4-9 were peer reviewed December 10. The reviewers were quite happy with the science behind the maps although some improvements to the report will be made.

- Distinguish the colors of green on 4-9
- London label to be enlarged in relation to other cities

#### Map 7-4

- IPZ-2 not in the legend.
- Re-current error of incorrect title to be removed from all maps.
- “Technical Memorandum” needs to be on the same line as the rest of the text.

#### Map 7-5

- Chris explained that in WHPA-C even if the vulnerability score is as low as four, eliminating all other threats, DNAPLs are still significant.
- Update to the same as Highgate.

#### Map 7-6

This map was scored using SWAT which makes for different scoring than ISI

- *Hickon Rd.* should be *Hickson Rd.*, which is likely resulting from source data having errors – a difficult problem to correct.
- Differences need to be distinguished better.
- Title “vulnerability where threats can occur,” should be re-worded back to the original MOE wording “areas where activities are or would be a threat” to avoid confusion.

#### Map 7-7

- Remove scores from right-hand map

#### Map 7-8

- The scores are reversed for IPZ1 and IPZ2 (both legend and map).
- Take the score off the green; the group decided that the vulnerability scores on the threats maps should be removed, since the colors can be misleading.
- Title of the table should be re-worded to “activities where chemical or pathogen activities are or would be significant, moderate, or low risks.”

### c) Tier 1 Water Budget

Mark Helsten presented to clarify questions around SGRAs and the occurrence of hard edges between subwatersheds. Mark also pointed out inconsistencies in the supply and demand side of the Surface Water Stress Assessment have been removed. In the Upper Thames basin there are no surface watersheds that are showing more than low potential for stress. The watersheds in the other two regions have not changed much.

There are significant potential for stress in the watersheds up along the lakes and St Clair River, but the water being taken is not likely coming from the immediate watershed, but is being drawn back up the streams from the great lakes (an artifact of uncertainties around permit locations). Some of the permits that are taking water from the St. Clair and other Great Lakes systems have been removed from the calculation where it was likely that they were drawing from the lakes. It is suspected that



additional permits are also doing this but they cannot be removed (from the calculation of demand) without further investigation to determine the site conditions where the withdrawals are occurring.

The committee inquired if the maps include industrial use of water for the purpose of cooling? Mark explained that, to his knowledge, there are no industrial permits used in the stress calculations as they have been filtered out because they draw from the St Clair River.

Members pointed out that there should be a way to factor for water that isn't actually taken such as when water is retained during the spring and is slowly released throughout the year – thus emulating a natural system. Mark and Chris explained the consumptive factor accounts for the different uses of the water (e.g., the consumptive factor for conservation only accounts for evaporation). The map indicates whether or not there is a moderate/significant/low potential for stress.

Because, in these areas, if drinking water supply is not affected, further analysis will not be done by Source Protection. If shown that drinking water was affected, the analysis would be broken down further.

Concern was raised that this informed committee is struggling to grasp the information. What is going to happen when this information goes public? A good explanation will be needed. It was pointed out that these maps are going out to the public, not by themselves, but as part of a larger technical document.

There is a distinct delineation (hard edges) between some of the sub-watershed boundaries. Mark showed the tables of the recharge estimates and explained how this happens. A calculation of estimated recharge is made based on the base flow in streams in 32 separate watersheds in the region. This is distributed across each of the sub-watersheds using an infiltration model which uses soils, land use and slope to determine relative recharge for an area. At each of 6 larger watersheds, annual recharge is estimated using the base flow for the larger sub-watershed. The comparison is then made between the recharge in the smaller sub-watershed and the recharge calculated in the larger watersheds to determine whether an area is a Significant Groundwater Recharge Area. In the Sydenham there is a definite distinction between the upper parts of the watershed which contributes all of the base flow to the watershed while the lower parts add little additional baseflow.

#### d) Assessment Report Summaries

Comments from the previous meeting were incorporated into the summaries, and then they were edited for clarity and appearance. There is still considerable editing to be done (including revisions by the proofreader). Please email comments/ revision to Authority staff as soon as possible.

##### *Assessment Reports Summary Edits*

- different background colors look busy and are hard to read (e.g., black on green, white on black).
- Suggestion that color be restricted so that the maps stand out.



- Suggestion that reverse text be removed, to save ink and for ease of reading.
- Lines should be added for the Source Protection Committee membership table.
- Paul Hymus suggested re-wording to remove second aggregate to aggregates/pits and quarries.
- Sheldon Parsons suggested that staff re-visit color schemes and ensure that the text is very legible.

#### e) Threats tables

The threats table will be contained in Appendix 10 of the Assessment Report. *Section 7.0 - Threats and Risk Assessment* and related maps refer to the tables. Once a vulnerability score in a given area is determined, the table can be used to determine whether specific activities have potential for moderate, significant or low threat. Chris explained the meaning of the numbers of the cells and the color scheme. He suggested that the numbers could be replaced with yes/no

#### *Corrections/Edits*

- Black is a large user of printer ink, reduce the use of solid black
- The group agreed that further clarification of the meaning of numbers in the cells is required or they should be removed.
- Remove semicolon in the middle of the word emergency.
- Add the term *risk* or *threat* after moderate/significant/low on the tables on the maps.

#### f) Assessment Report Sections

Background, Issues Evaluation and Threats and Risk Assessment sections were provided to SPC members. The sections are basically a flushed out version of what the group has reviewed before. It was pointed out that Leamington and Lakeshore need to be added to the table with regard to Sheldon's representation.

#### 8) Information

##### *Distribution of Material*

It was posed whether or not the SPC now has all the assessment report sections? Chris responded that next week, a package with compiled material, including technical reports will be mailed to members. The package will include a USB drive and print-outs. Members may be asked to mail back their USBs in exchange for more up-to-date material as it becomes available. Report sections will continue to be emailed as they become available.

##### *Assessment Report Timing*

Bob explained that at the earliest, next Friday, SPC members may have the draft report. It would serve the SPC better if the report is given out bit-by-bit, with a full draft to members for the January



8<sup>th</sup> meeting. Chris would be appreciative if SPC members could pass on comments as soon as possible, so that he can make sure they are dealt with.

#### *Assessment Report Extension*

Request for extension for the St. Clair Assessment Report was mailed. Chris received generally positive feedback, although, the MOE wants some more detail in the work plan. Teresa is helping with the work plan. The Upper Thames letter has not yet gone out, and, as expected, the feedback has not been as positive.

#### *First Nations Report*

First Nations Liaison's update was included in the package that was set out. The deadline for an application for the stewardship program is on Tuesday, December 15<sup>th</sup>. TSR is putting an application for the next round. The First Nations are working on an educational outreach or special projects application in order to move their program forward.

#### *Updated Checklist*

An updated checklist (based on amended rules) was distributed before the meeting.

#### *Meeting Schedule*

January 8<sup>th</sup> next meeting. Bob suggested not canceling the February 19<sup>th</sup> meeting, because the group will have to start to review St. Clair material. April 2 (Good Friday) meeting is re-scheduled to April 9. The following meeting will take place March 12. Joe Kerr indicated he will not likely be able to attend Jan. 8<sup>th</sup>. Members requested new binders for the next meeting.

9) In Camera Session

None

10) Other Business

11) MOE Liaison Report

12) Members Reports

In regards to the status of having First Nations sitting on the Committee, the London District Chief's Chiefs Council is meeting on the 18<sup>th</sup> and will be discussing representation. They are looking for capacity funding to support those representatives.

At the Copenhagen climate change conference, drinking water was one of the hottest issues.



Earl mentioned his well de-commissioning day, at which they found that the contractor who upgraded the well being decommissioned had done a very poor job in upgrading the well and it was good to have it properly decommissioned.

#### Adjournment

There being no further business, the meeting was adjourned at 3:00pm. The next meeting is scheduled for January 8, 2009 at the SCRCA.