Ministry of the Environment (MOE) Liaison Officer Program Update
Date: May 27, 2010

Note: Please see Appendix 1 for acronym list

Table of Contents

1 Terms of Reference (ToR) ... 1
2 Assessment Reports (AR) ... 1
3 Information management ... 3
4 Recent letters/memos ... 4
5 Environmental Bill of Rights (EBR) Registry postings related to source protection ... 5
  5.1 Draft Source Protection Plan Regulation ... 5
6 Ontario Drinking Water Stewardship Program (ODWSP) ... 5
7 First Nations Drinking Water Systems – Update ... 7
  7.1 First Nations and Capacity Issues ... 7
8 Recent Questions and Answers ... 8
  8.1 Assessment Report – General ... 8
    8.1.1 Question: Assessment Report Consultation Requirements ... 8
    8.1.2 Question: Updated Assessment Report Time Lines ... 8
  8.2 Assessment Report - Determining Vulnerability ... 9
    8.2.1 Question: Technical Rules and Options for Source Vulnerability ... 9
    8.2.2 Question: IPZ3 Delineation and Vulnerability Determination ... 10
    8.2.3 Question: Transport Pathways, HVAs and SGRAs ... 11
  8.3 Assessment Report - Threats and Issues ... 12
    8.3.1 Question: Livestock Density and Managed Land Mapping ... 12
  8.4 Assessment Report - Other ... 13
    8.4.1 Question: Technical Rule 126(5): Sediment Criteria vs. Soil Criteria ... 13
  8.5 Source Protection Plan ... 14
    8.5.1 Question: Risk Management ... 14
9 Updated Questions and Answers ... 14
  9.1 Assessment Report - General ... 14
    9.1.1 Question: Naturally Occurring Issues ... 14
    9.1.2 Question: Approval Process for Use of New Models or Methods ... 16
  9.2 Assessment Report – Watershed Characterization ... 17
    9.2.1 Question: Species at risk in watershed characterization ... 17
    9.2.2 Question: Watershed characterization report - impervious surfaces ... 18
  9.3 Assessment Report – Delineation of IPZs, WHPAs, SGRAs & HVAs ... 19
    9.3.1 Question: IPZ - regulation limit and 120 m setback ... 19
    9.3.2 Question: IPZ delineation and Significant Threats ... 20
    9.3.3 Question: IPZ 3 delineation - when is it necessary? ... 22

9.3.4 Question: Delineating WHPA-C: 5 year vs. 10 year time of travel data 22
9.3.5 Question: GUDI system delineation 23
9.3.6 Question: Exemptions from having to delineate WHPA-E 24
9.4 Assessment Report – Threats and Issues 25
9.4.1 Question: Is E. coli in drinking water an 'issue'? 25
9.4.2 Question: Managed Lands 28
9.4.3 Question: Managed lands and golf courses 28
9.4.4 Question: IPZ on land and issues for river intakes 29
9.4.5 Question: IPZ-3 Modelling for Great Lakes 31
9.5 Assessment Report – Other 33
9.5.1 Question: Species at risk mapping 33
9.5.2 Question: Private wells in SGRAs and WHPAs - included? 34
9.6 Source Protection Plan 35
9.6.1 Question: Plan policies for issues affecting private wells - mandatory? 35
Appendix 1 39

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Date: May 27, 2010

1 Terms of Reference (ToR)

All 19 SPCs have submitted their proposed ToR to the ministry for approval. As of Monday, August 17, 2009 all 38 ToR were approved by the Minister and the decision notices posted to the Environmental Registry.

2 Assessment Reports (AR)

Since the last Program Update note was issued the following proposed ARs have been submitted to the Director of Source Protection Programs Branch (SPPB) for review and approval:

- Proposed AR for the Lower Thames Valley Source Protection Area within the Thames, Sydenham and Region Source Protection Region
- Proposed AR for the Catfish Creek Source Protection Area submitted within the Lake Erie Source Protection Region
- Proposed AR for the Kettle Creek Source Protection Area submitted by the Lake Erie Source Protection Region
- Proposed AR for the Essex Source Protection Area

This brings the total number of submitted proposed ARs to five.

Several draft proposed ARs have been posted or are currently posted for public comment and consultation. Draft proposed AR postings can be accessed from the Conservation Ontario Website at:
http://www.conservationontario.ca/source_protection/otherswpregionsindex.htm

The ministry has established a review process for ARs. Ministry staff will review the submitted ARs and provide a recommendation to the Director for the decision. The final decision on a submitted AR is that of the Director.

When the draft proposed AR is available for public comment on the Source Protection Authority (SPA) website the ministry may take this opportunity to read the AR. In situations where the ministry observes major errors or omissions with the document the ministry may provide comments to the Source Protection Committee (SPC) and SPA. This provides the SPC/SPA an opportunity to make corrections in developing the proposed AR before it is submitted to the Director for a formal decision.

On January 26, 2010 the SPC Program Managers (PMs) were provided with Draft Provincial Tables of Circumstances for reference in AR preparation. April 1, 2010, the Provincial Tables of Circumstances were posted on the MOE website for easy reference. These documents specifically list the circumstances in the Tables of drinking water threats by vulnerable area, vulnerability score, chemical/pathogen/DNAPL, and source water. These lists can be used, along with maps of relevant vulnerability scores, to identify areas where activities are significant, moderate, or low drinking water threats, which is a requirement in the AR. Details on how these Provincial Tables of Circumstances can be used in the assessment report are provided through technical bulletins (refer to listing of new or revised Technical Bulletins below).

The lists will not help meet the requirements around listing circumstances for local threats and these will need to be developed locally and again, linked to maps of relevant vulnerability as one way to satisfy the technical rules. They also do not directly provide the lists of circumstances for significant or moderate threats identified through the issues approach. The UTRCA web site and queries linked to V 7.1.2 of the look up tables can be used to create lists of activities and circumstances that contribute to issue(s) – by exporting based on chemical or pathogen.

New or revised Technical Bulletins:

- Water Budget and Water Quantity Risk Assessment Tier 2 Subwatershed Stress Assessment and Tier 3 Local Area Risk Assessment Surface Water Drought Scenarios (April 2010)
- Provincial Tables of Circumstances: Understanding the provincial tables (March 2010)
- Provincial Tables of Circumstances (March 2010)
- Threats Assessment and Issues Evaluation (March 2010)

Technical bulletins completed and sent to PMs in previous Program Updates:

- Burial of Animals on Farms as a Drinking Water Threat (Deadstock Disposal) (December 2009)
- Methodology for Calculating Percentage of Managed Lands and Livestock Density for Land Application of ASM, NASM and Commercial Fertilizers (December 2009)
- Earth (Geothermal) Energy Systems (November 2009)
- Climate Change and the Director's Technical Rules (August 2009)
- Groundwater Road Map (July 2009)

- Surface Water Road Map (July 2009)
- Delineation of IPZ-3, Using the Event Based Approach (EBA) (July 2009)
- Water Budget and Water Quantity Risk Assessment Tier 2 Subwatershed Stress Assessment Groundwater Drought Scenarios (July 2009)
- Addressing Transportation Threats (April 2009)
- Delineation of Significant Groundwater Recharge Areas (April 2009)

All approved technical bulletins are posted on the MOE web site at http://www.ene.gov.on.ca/en/water/cleanwater/cwa-technical-rules.php

3 Information management

- An email from Source Protection Programs Branch dated March 24, 2010 was sent to all SPC Program Managers to advise them that a searchable Electronic Certificates of Approval (eCofA) Library is now publicly available. Additional information on this topic and access to the searchable web site was provided. http://internetdev.ene.gov.on.ca/en/business/mofa/index.php

- As part of the branch information management (IM) data collection strategy, AR Executive Summaries were requested to be completed by all SPAs; these continue to be returned to the branch for compilation. The first submissions were based on the best available data and may not be complete as many ARs are still being developed and are in draft stages. As of May 27, 2010 there have been 35 AR Executive Summary Tables submitted to SPPB, leaving three remaining to be submitted. Reviews and discussions with the SPAs are ongoing to clarify outstanding issues from the reports.

  As of May 27, 20 of 38 SPAs have provided SPPB with a report of identified threats and more reports are expected shortly. Thus far the top significant threats identified have been:
    1. Septic systems
    2. Combined sewer discharges
    3. Fuel handling
    4. Fuel storage
    5. Application of agricultural source materials (ASM)
    6. Storage of ASM

  A provincial summary of Threats information from the first round of AR Executive Summary Tables was presented to the Chairs on May 4, 2010 at the Chairs Meeting.

The data collected will be used to help inform future policy and programs decisions regarding source water protection, promote basic literacy on the source protection program in Ontario, and set the stage for more detailed data collection from the SPAs.

- A conference is being held on June 1, 2010 in Sudbury for members of the GIS community involved with source water protection.

4 Recent letters/memos

- Email sent from Paul Heeney, dated May 18, 2010, distributed to all SPC Chairs and PMs providing information on a new proposed piece of legislation known as the Water Opportunities Act.
- Email from Ian Smith, dated May 14, 2010, distributed to all SPC Chairs and PMs advising that the proposed target date for completion of the survey questions related to the proposed training of persons undertaking activities described in Part IV of the Clean Water Act (i.e. Persons Entering Property; Risk Management Officials; Risk Management Inspectors; and Persons with Qualifications) has now been extended to June 17, 2010.
- Email from Heather Malcolmson, dated May 7, 2010, distributed to all PMs providing clarification on the different threat counts between the Provincial Tables of Circumstances and the Upper Thames River Conservation Authority (UTRCA) web site.
- Letter from Ian Smith, dated April 30, 2010, addressed to PMs and SPC Chairs concerning the roles and responsibilities of persons undertaking activities described in Part IV of the Clean Water Act (i.e. Persons Entering Property; Risk Management Officials; Risk Management Inspectors; and Persons with Qualifications). The letter also described the ministry's proposed training initiatives for these individuals and gave program partners the opportunity to provide their initial feedback on the proposed training programs via an on-line survey.
- Email from Ian Smith, dated April 19 2010, distributed to SPC Chairs and PMs providing information on pharmaceuticals and personal care products and source water protection.
- Email from Paul Heeney, dated April 13, 2010, distributed to SPC Chairs and PMs providing an Interim Progress Report (2007-2010) and Executive Summary (2007-2010) for the ODWSP.
- Email from Heather Malcolmson, dated April 1, 2010, distributed to all PMs advising that all technical bulletins on threats and the provincial tables are now

posted on the MOE web site (refer to listing of new or revised Technical Bulletins above).

- Memorandum from Heather Malcolmson, dated February 23, 2010, sent to all PMs introducing a guidance document entitled "Water Quantity Threats Ranking Scenarios Guidance Document" (memo included a copy of the document). The guidance document contains a threats ranking methodology, which has been developed to evaluate threats using the Tier 3 water budget models. This methodology will be part of the overall risk management evaluation process for water quantity threats.

5 Environmental Bill of Rights (EBR) Registry postings related to source protection

5.1 Draft Source Protection Plan Regulation

MOE posted a draft regulation to support the development and implementation of Source Protection Plans (SPPs) under the Clean Water Act (CWA), 2006 on the EBR website www.ebr.gov.on.ca, # 010-8766 on January 25, 2010, for a 60-day public comment period. Under the Act, regulations must be developed to enable SPCs to complete the SPPs required by the Act. The purpose of posting the draft regulation proposal was to stimulate discussion on the development, content, and implementation of SPPs so that the ministry can use the results of the discussion in finalizing the SPP regulation. All input received during the comment period will be considered during the development of the final regulation on SPPs, anticipated to be available in mid-2010. The EBR comment period closed March 26, 2010.

Draft SPP Regulation Consultations

The MOE organized multi-stakeholder discussion sessions on the draft SPP regulation. SPC Chairs, PMs, and representatives of SPCs, industry, municipal, agricultural, and environmental non-governmental organizations were invited to participate. The session locations were Kingston, Milton, Sudbury, Toronto and London. A videoconference was also held with stakeholders in Thunder Bay.

6 Ontario Drinking Water Stewardship Program (ODWSP)

The ODWSP, established by the CWA, 2006 (the "Act"), provides financial assistance to eligible persons and groups interested in taking immediate actions to protect their sources of municipal drinking water supplies.

- $7 million in financial assistance was available in 2009/10 for the following key areas:
  - Education and Outreach
  - Special Projects, and
  - Early Actions

- There were two application periods available for the 2009/10 ODWSP:
  - The first application period ended September 15, 2009 → 65 applications were submitted with a total ask of approximately $12M
  - The second and final application period ended on December 15, 2009 → 34 applications were submitted with a total ask of approximately $4.3M

- Thirty-six (36) applications were approved for grants from the first round, including 10 early actions applications by Conservation Authorities (CAs) and the Ontario Federation of Agriculture (OFA), which totalled a little more than $3 million in grants. Transfer payment agreements have been signed by both parties for all of the approved applications.

- Sixteen (16) grants were approved from the second round applications. Four CAs are receiving top-ups to Early Actions grants previously awarded, due to local demand. Transfer Payment agreements have been generated and signed off by both parties for all 16 grants.
- A status update on the ODWSP was provided at the May 4-5, 2010 SPC Chairs meeting.
- Changes will be made to the ODWSP in 2010-11 to focus on addressing significant drinking water threats (SDWTs) that are identified in ARs and to those individuals and businesses that agree to take early measures to respond to the identified significant threats and to reduce the risk to our drinking water sources. A new ODWSP component, called Early Response (ER), was officially launched in April 2010. As a result, the December 15th closing date for the second application period was the last opportunity to apply for Early Actions and Education and Outreach funds. More than $6 million in Early Actions funds are with the CAs across the province, providing landowners access to those funds until December 2010.
- The proposed rollout for the Early Response program is as follows:
  - MOE to prepare ER program materials (application form and guidance) in consultation with Conservation Ontario (CO) and CA – April/May 2010
  - MOE to seek expressions of interest in delivering an ER program from CA General Managers – May/June 2010

  - Issue application form to lead CAs – July 2010
  - Post Special Projects Request for grant proposals – July 2010
  - Application period closes – end of September 2010
  - MOE reviews applications and makes decisions on ER and Special Projects funding – December 2010
- For funding information contact SourceProtectionFunding@ontario.ca

7 First Nations Drinking Water Systems – Update

- The ministry received two Band Council resolutions, from Kettle and Stony Point First Nation (KSPFN) and Six Nations of the Grand River to include their drinking water systems in the SPP process.
- Regulation 287/07 was amended on Feb. 22, 2010 to include the drinking water systems for Six Nations of the Grand River, and KSPFN
- For Six Nations, the specific details regarding technical work, roles and responsibilities, etc. are addressed in a transfer payment agreement. We anticipate a similar agreement for the Kettle system but we are still in early stages of negotiations.
- MOE staff will be giving an introductory level presentation on source protection at the Wahnapitae First Nation on June 14.

7.1 First Nations and Capacity Issues

- FN have indicated that they require capacity funding in order to effectively participate in the overall Source Protection (SP) planning process.
- SPPB has capacity funding available, via an application process, in the amount of $10K annually to FN with reserves in a source protection area to enable participation in the overall SP planning process.
- The application forms, a guidance document about how to complete the application form, and a Grant Funding Agreement template are posted on our website. In October 2009, the ministry wrote to all FN reserves in source protection areas informing them of the availability of capacity funding and directing them to the website for the application form.
- We have not received any applications to date, although we have received a great deal of interest.

8 Recent Questions and Answers

The following questions were raised and answered between March 13, 2010 and May 27, 2010.

8.1 Assessment Report – General

8.1.1 Question: Assessment Report Consultation Requirements

In the course of the consultation process for the draft proposed assessment report, we were made aware of a number of errors and omissions. What should one consider to determine whether the SPA and SPC has met the intent of the consultation requirements of the Clean Water Act?

Response:
Additional consultation is required if the additional technical information would impact the general public, particularly those residents who reside in any of the areas identified as vulnerable, and/or those people involved in activities determined as significant, moderate or low threats. This does not necessarily mean that there is an additional 35 day consultation period but other methods to notify those directly impacted by the changes would be sufficient. Consider how the SPC/SPA will document/reflect this additional work in the submission to the Director that outlines how the consultation requirements were met.

It is important to keep in mind that all affected property owners should have already been contacted and given appropriate notice and adequate time to provide comments on the draft assessment reports. Notwithstanding, if it has been determined that the additional technical information would not result in new impacts/cost, or would have no increase in potential negative impacts on residents/ stakeholders, then the objective or value of a second round of public consultation should be balanced against time, cost and other related factors involved in the re-posting exercise.

8.1.2 Question: Updated Assessment Report Time Lines

What are the timelines for SPCs to prepare and submit updated assessment reports?

Response:
The legislation does not stipulate timelines for SPCs to prepare and submit updated ARs. In other words, there are no future compliance dates set for which SPCs must

prepare and submit an updated AR. There are, however, certain provisions to be aware of which may result in the SPC preparing an updated AR in the future.

Section 19 of the CWA speaks to updated ARs, and specifies that SPCs shall submit an updated AR to the SPA if the SPC becomes aware that the AR is no longer accurate or complete. Thus, the SPCs have a legal responsibility to identify the need to prepare an updated AR. It is worth noting that the ministry has allowed certain technical components of the first AR(s) for an SPC to be completed as part as an updated AR prior to the submission of an SPC's first SPP. Section 18 of the General Regulation (287/07) has additional provisions related to updating ARs. Remember, the CWA S22 (2) also requires that the SPP must contain the most recently approved AR. Therefore, in order to consult on the SPP, if the SPC is planning on updating the AR, then sufficient time must be allowed for Ministry review and approval of the updated AR when setting SPP consultation dates. The critical date for submission of an updated assessment report to the Director for review and decision is no later than June, 2011. (Please refer to the Director's June 29, 2009 memo to SPC Chairs and PMs for further details on the timelines for submitting an updated AR).

Section 36 of the CWA speaks to the Minister's authority to set the date for whole plan review by Order. When the Minister approves a SPP, he/she will specify a date by which a review of the SPP must begin. As the preparation of a SPP is based on the AR, SPCs will be required to review their ARs (and possibly prepare updated ARs) and possibly their ToRs in order to meet the Minister's date and conditions for the SPP review.

8.2 Assessment Report - Determining Vulnerability

8.2.1 Question: Technical Rules and Options for Source Vulnerability

Why do the technical rules provide two options for source vulnerability (0.9 or 1.0)? What is the MOE's rationale for only providing two options (why not more) and for providing those two options (so close together numerically)?

Response:
The Source Vulnerability Factor (Vfs) is determined using the factors set out in Rule 95, which include the intake depth, the intake distance from shoreline and any history of water quality problems. These factors consider how large the water body and the dilution capacity of the water body surrounding the intake and its watershed.

The minimum Vfs score is 0.5 and the maximum Vfs score is 1.0 based on the intake type classification which is a function of water body characterisations and behaviours. For larger water bodies such as Great Lakes or Connecting Channels, the potential of a contaminant reaching the intake is much smaller as compared to the potential of a contaminant reaching the intake for smaller water bodies such as Inland Rivers. That means dilution capacity, for example, for smaller water bodies is lower than for larger water bodies which indicates higher vulnerability for the intake. The higher the vulnerability is, the higher the Vfs should be. The depth and distance of an intake can be merged together to represent a water cross section area; water cross section area = Depth of the intake measured from water elevation x Distance of the intake measured from the shoreline.

The water cross section area for Inland River intakes, Type C intakes, is quite small, if not the smallest, as compared to water cross section areas of intakes that are located in Great Lakes, Connecting Channels or Inland Lakes. Therefore, the Vfs for Type C intakes has a range of scores with higher values representing the higher source vulnerability factor. Since the water cross section area for Type C intakes might be the smallest, in general, the Vfs score for Type C should be the highest score. In view of this, two Vfs scores are allowed under the rules, 0.9 and 1.0. Knowing that the water cross section area of most inland river intakes is similar but not exactly the same, two options were provided. The rules allow the SPC to choose 0.9 and 1.0 with an expectation that smaller cross section areas would get a score of 1 and larger areas would get a score of 0.9.

8.2.2 Question: IPZ3 Delineation and Vulnerability Determination

One factor in determining a vulnerability score for an area is the ‘distance to intake; therefore, the total length of the IPZ 3 area will be critical in determining the scores. This may result in each IPZ 3 having a unique length – and thus a short IPZ 3 will have much different scores than a longer IPZ 3. Can MOE technical staff please provide additional technical clarification?

Response:
Assessing the score for an area vulnerability factor can be determined by considering the factors in Rule 94 (1-4). Factors prescribed in Rule 92(4) speak about the proximity of IPZ-3 to the intake. The proximity factor is a means to compare distances measured from areas within the IPZ-3 to the intake. The comparison is intended to be a relevant comparison of different distances of the areas within the IPZ-3. Generally, the shorter the distance of an area within IPZ-3 (the faster contamination may be transported to the intake), the higher the score value for the proximity factor.

Also, an IPZ-3 can be divided into sub-IPZ-3s. So, the proximity factor together with other factors, such as land cover, soil permeability, transport pathways etc., should be considered in evaluating the area vulnerability factor for each sub-IPZ-3. Weighting the factors prescribed in Rule 92(1-4) depends on professional judgment and local information of the area. That is why the Rules do not prescribe a specific factor that should overrule other factors. For example, one may have a sub-IPZ-3 that is close to the intake, i.e. high value of proximity factor, but the area characterisations of this sub-IPZ-3 (e.g. high soil permeability, less transport pathways etc) may lead to a lower final area vulnerability score. That means the final area vulnerability factor for each sub-IPZ-3 is not based solely on the proximity factor.

An IPZ-3 may be scored as whole, i.e. one zone with one score, or if it is divided into sub-IPZ-3s, each sub-IPZ-3 is scored separately. The area vulnerability factor score of an IPZ-3 or sub-IPZ-3s can not be greater than the area vulnerability factor for the IPZ-2. The criteria used for dividing an IPZ-3 into sub-IPZ-3s and the rationale behind determining the final area vulnerability score for each sub-IPZ-3 should be documented in the assessment report as required by Rule 92.

8.2.3 Question: Transport Pathways, HVAs and SGRAs

Under the technical rules, can transport pathways be identified for HVAs and SGRAs in addition to WHPAs? If transport pathways can be identified, do they increase the vulnerability score? Does the entire area of the SGRA get bumped up or is it determined somehow in relation to the footprint of the pathway itself?

Response:
For HVAs, the short answer is that you cannot consider transport pathways. Transport pathways are not a factor in HVAs since these areas are already of high groundwater vulnerability and, inherently, the groundwater vulnerability cannot be increased. In other words, high vulnerability areas cannot be increased in rank (there is no ‘extra-high’ vulnerability), so scores do not change in these areas.

For SGRAs, based on the current Technical Rules, there is no requirement to consider transport pathways for groundwater, i.e., areas of low or moderate groundwater vulnerability or SGRAs. Where transport pathways are considered, Rules 39 to 41 stipulate how they are to be applied and what factors to consider in assessing them.

When determining the area that has a resulting increase in vulnerability ranking due to the presence of transport pathways, consideration must be given to the area potentially affected or impacted hydrogeologically by the pathway. This determination ultimately requires professional judgement (e.g. must be done by a qualified professional – P. Eng. or P. Geo.) and must be justified and clearly documented in the AR as to why and how the area has been increased in vulnerability ranking and geographically delineated.

Where transport pathways are determined to be a factor to increase vulnerability only the vulnerability ranking can be increased (low to moderate, low to high, moderate to high vulnerability). The vulnerability score increases only as a direct result of the increase in rank. For SGRAs, if the vulnerability ranking is to be increased, it is only for the pathway itself, not for the footprint of the entire SGRA where the pathway is contained.

8.3 Assessment Report - Threats and Issues

8.3.1 Question: Livestock Density and Managed Land Mapping

If a SPC does not have enough time to complete the livestock density and managed land mapping for the proposed AR, can it be cited as a data gap and submitted in an updated AR? In addition, livestock density and managed land mapping is very time consuming and difficult to verify. Could the Ministry please provide some direction on how to complete this required task?

Response:
The Director's Technical Rule 16(10) requires that one or more maps be developed showing the livestock density for each area referred to in sub rule 16 (9), i.e. (a) significant ground water recharge areas (SGRAs), (b) highly vulnerable aquifers (HVA)s; (c) (i) to (ix) wellhead protection areas (WHPAs) and intake protection zones (IPZs). A number of methods are available to undertake this work. In one approach, municipal property assessment corporation (MPAC) data is used to estimate nutrient units (NU) based on the square footage of the barn (using aerial photography) in lieu of actual animal numbers. This method provides an estimation of the number of animals located in the barns.

The Ministry understands the challenges with estimating the livestock density values for your HVA, SGRA and IPZ-3 since these vulnerable areas span over the entire source protection area. However, it is still a requirement under Rule 16(9) to identify the livestock density for locations within each HVA, SGRA, and IPZ 3 where the vulnerability score is high enough for agricultural source material (ASM), non-agricultural source material (NASM) or commercial fertilizers to be either a significant, moderate or low threat. If the SPC can show that the livestock density would be low enough that even with a score of 6 the activities would not be threats in some areas, they would not have to include the map in those areas. When we say the activity can be a threat, this means a low, moderate or significant threat, not just a significant threat.

The Director does not have the legislative authority to approve a proposed assessment report (AR) that does not have this information included or cited that it is not included as a result of a data gap. This mapping is important as the SPC can not write any policies around threats relating to ASM, NASM or commercial fertilizer applications without the maps. This would preclude any moderate or low threat policies in the HVAs and SGRAs as well.

Other SPCs have asked the Ministry the same question with regards to mapping livestock density within HVAs and SGRAs. A technical bulletin was developed based on input from the Lake Erie SPA staff that provides guidance on developing these maps. In addition, Jayme Campbell and Jeff Lee from the Niagara Peninsula Conservation Authority have developed some "aggregated mapping" methods for % managed lands and livestock density for HVAs and SGRAs. The attachments include their methodology and draft maps (Note, the attachment in question was provided to all SPCs; it is not appended to this document). For additional information or clarification on Niagara's assumptions and mapping please contact Jayme Campbell or Jeff Lee.

8.4 Assessment Report - Other

8.4.1 Question: Technical Rule 126(5): Sediment Criteria vs. Soil Criteria

With regard to technical rule 126(5) and the identification of conditions based on the results of sediment sampling is it more appropriate to compare contaminant concentrations in sediments to soil criteria, rather than to sediment criteria as stated in the rule as soil criteria are more relevant for use in an assessment of human health impact?

Response:
Upon further review of sub-rule 126(5) of the technical rules we agree there are cases where other standards are more appropriate for the identification of conditions. For example, where a site specific risk assessment has been completed and the use of soil criteria instead of sediment criteria was deemed appropriate, then it may be more appropriate to use soil standards. Based on the technical rules, if an

SPC feels alternative standards should be used, the SPC/CA would have to apply to the director for the use of an alternative method under rule 15.1.

8.5 Source Protection Plan

8.5.1 Question: Risk Management

Can municipalities delegate responsibility to SPAs or Health Units for Interim Risk Management Officials/Inspectors?

Response:
The short answer is yes. Under Section 48(1) of the CWA the council can enter into an agreement with a board of health, planning board or SPA for enforcement of this Part (Part 4 which includes interim RMP). If an agreement is in effect the board of health, planning board or SPA has jurisdiction for the enforcement of this Part in the municipality with respect to the activities identified in the agreement and shall appoint a RMO and RMI as are necessary for that purpose

9 Updated Questions and Answers

The following questions and answers were updated between March 13, 2010 and May 27, 2010.

9.1 Assessment Report - General

9.1.1 Question: Naturally Occurring Issues

How does a SPC deal with issues that are naturally occurring or partially anthropogenic and non-anthropogenic?

Response:
THIS RESPONSE WAS REVISED ON APRIL 23, 2010

NEW RESPONSE:
Naturally occurring parameters can be identified as an issue within the draft AR. The technical rules will not allow the committee to identify an Issue Contributing Area (ICA) for naturally occurring issues as it does not meet the tests in Rule 114 and therefore, the issue will not move forward in the AR. It is important to note that if an issue does not meet the tests in rule 114, the AR must document the issue as per rule 115.1 (list the parameters of concern and an explanation of the nature of the issue and the possible cause of the issue). But this does allow the committee to

identify issues that the public is concerned about and ensure they are documented. If a parameter is determined to be linked to both anthropogenic and non-anthropogenic sources a SPC could identify the parameter as an issue and an ICA must be delineated and threats identified as per rule 115. SPP policies must be developed to address the human activities on the landscape that contribute to that issue. SPP policies must be developed to address the human activities on the landscape that contribute to the issue ONLY when the activities are identified in an approved AR as significant drinking water threats. If they are moderate or low threats, then the development of SPP policies are optional.

OLD RESPONSE (posted on February 12, 2010):
Naturally occurring parameters can be identified as an issue within the draft assessment report. The technical rules will not allow the committee to identify an issue contributing area (ICA) for naturally occurring issues as it does not meet the tests in Rule 114 and therefore, the issue will not move forward in the assessment report. It is important to note that if an issue does not meet the tests in rule 114, the assessment report must document the issue as per rule 115.1 (list the parameters of concern and an explanation of the nature of the issue and the possible cause of the issue). But this does allow the committee to identify issues that the public is concerned about and ensure they are documented. If a parameter is determined to be linked to both anthropogenic and non-anthropogenic sources a SPC could identify the parameter as an issue and an ICA must be delineated and threats identified as per rule 115. Source protection plan policies must be developed to address the human activities on the landscape that contribute to that issue.

ORIGINAL RESPONSE
Naturally occurring parameters can be identified as an issue within the draft assessment report. The technical rules will not allow the committee to identify an issue contributing area (ICA) for naturally occurring issues as it does not meet the tests in Rule 114 and Rule 115 and therefore, the issue will not move forward in the assessment report. It is important to note that if any issue does not meet the tests in rule 114, they must document the issue as per rule 115.1 (list the parameters of concern and an explanation of the nature of the issue and the possible cause of the issue). But this does allow the committee to identify issues that the public is concerned about and ensure they are documented. If a parameter is determined to be linked to both anthropogenic and non-anthropogenic sources a SPC could identify the parameter as an issue and an ICA must be delineated and threats identified as per rule 115 developed to address the human activities on the landscape that contribute to that issue.

9.1.2 Question: Approval Process for Use of New Models or Methods

What is the approval process for using new models or methods not listed in the Technical Rules?

Response:
UPDATE TO THE FIRST PARAGRAPH OF THE ANSWER AS OF MAY 12TH 2010:

Under the amended technical rules, an SPC can use an alternate method or approach for gathering information or for performing a task that departs from the method or approach prescribed in the rules if they describe the rational for the departure, get director approval, and show the method or approach is equal to or better than the method or approach in the technical rules.

ORIGINAL ANSWER:

Within the technical rules the Director may accept an alternate method for assessing groundwater vulnerability under section 37(5) or delineation of vulnerable areas under section 42(5). The following process should be followed in requesting the Director's acceptance of alternate methods.

1. The SPC/SPA should submit a formal request through the Liaison Officer (LO). This request shall contain the following information:

    a) A clear indication of which section of the technical rules the new method is required for – assessing groundwater vulnerability under section 37(5) or delineation of vulnerable areas under section 42(5)
    b) Description of the method being proposed
    c) Rationale for the alternate method that is not already permitted in the technical rules under sections 37(1 through 4) and 42(1 through 4)
    d) Where the request is for an alternate method used under section 37(5), in addition to the above requirements the request shall also include an explanation of how this method satisfies requirements under sections 38 (assignment of vulnerability) and 83 (associated vulnerability scoring).

2. If the LO receives a formal request that does not have the above information as required they shall work with the SPC/SPA to obtain all the necessary information. Note: (d) above is only required for requests under section 37(5) of the technical rules.

3. MOE staff may follow up with the SPC/SPA for additional information to inform a recommendation to the Director.
4. The SPC chair will receive a letter with the Director's decision, including any requirements within the Assessment Report as per this decision.

9.2 Assessment Report – Watershed Characterization

9.2.1 Question: Species at risk in watershed characterization

Rule 16(7) states that the watershed characterization must contain information on "species within the source protection area that are on the Species at Risk in Ontario List as defined in the Endangered Species Act, 2007 and the locations of their habitats." Does the following approach meet this requirement?

1) Listing all species identified at risk in the MNR rare species occurrence data (http://nhic.mnr.gov.on.ca/MNR/nhic/species/shapefile.cfm) that are within the source protection area, using data for the past 20 years only.

2) Mapping the location of observations of the species, assuming this gives a general indication of where their habitats are located (rather than provide the location of all their potential habitats within the watershed).

Response:
ANSWER UPDATED AS OF MAY 13TH 2010 AS FOLLOWS:

The technical rules were amended to read that the assessment report should contain information on species at risk only where the SPC feels the information is necessary. The method of providing this information should be in compliance with any regulations governing the provision of species at risk information.

ORIGINAL ANSWER:

Yes, this approach appears reasonable. It is likely that there will be little to no discussion or text on this section of the watershed characterization chapter - it could be limited to a list or table and map of general areas where these species are located. In order to comply with the Endangered Species Act, 2007, only general locations are shown, not specific habitat areas.

9.2.2 Question: Watershed characterization report - impervious surfaces

Rule 16(11) states the following:

16. The following elements shall be included in a characterization of a watershed:

    11) The percentage of total impervious surface areas within each square kilometre of vulnerable areas.

a) Does this mean within vulnerable areas only? Does that include IPZ 1, 2 and 3 (what if the work for IPZ 3 has not yet been done?), and all WHPAs to the 25 year TOT?
b) What is impervious for this case – does it matter if asphalt is hot or cold laid? Are compacted gravel roads considered impervious as there will be some amount of runoff from these surfaces as well? Will railbeds count? – they are highly compacted gravel areas that have runoff. Do shipping piers and docks count? Do private residences count in the calculation too? Roofs? Driveways (Cement? Asphalt? Paving stones? Compacted gravel?)? Other?
c) At one of the training sessions we were told that "impervious surfaces" means the roads where road salt CAN be applied, which would include all roads and parking lots. Would it be sufficient for the impervious surface map to merely map all roads that the municipality and MTO apply road salts to?
d) Can high resolution photography be used to make polygons of these areas in order to calculate the percentage?
e) Will this data be presented in a map format or will text be suitable to convey this figure?

Response:

UPDATE AS OF MAY 11TH 2010 TO PARTS (A) AND (B) OF THE RESPONSE:

a) Yes, this includes all vulnerable areas - all IPZs, WHPAs, HVAs and SGRAs.
b) The purpose of the impervious surface mapping is to map areas where road salt is or can be applied. Therefore, professional judgement and local knowledge are required to determine which areas to include. If there are impervious surfaces where road salt is not applied, these areas can be left out of the mapping. Discussing this with other project managers may provide some insight as to how other regions are handling this task. Justification for the method/approach you decide to use must be documented in the assessment report.
c) Yes, this is an option for mapping these surfaces.
d) Yes. Provide justification/documentation for the method/approach used.

e) It would likely be easiest to present this data in map format.

ORIGINAL ANSWER:

a) Yes, this includes all vulnerable areas – all IPZs, WHPAs, HVAs and SGRAs. If vulnerable areas are not yet delineated, you can create the km^2 grid starting in the areas already delineated and undertake the density calculations in these areas. When the new areas are delineated, extend the grid out into the new areas and determine the density in the new grid areas.
b) The purpose of the impervious area mapping is to map areas where road salt is or can be applied. Therefore, professional judgement and local knowledge are required to determine which areas to include. If there are impervious surfaces where road salt is not applied, these areas can be left out of the mapping. Discussing this with other project managers may provide some insight as to how other regions are handling this task. Justification for the methodology you decide to use should be documented in the report.
c) Yes, this is an option for mapping these surfaces.
d) Yes. Provide justification for the methodology used.
e) It would likely be easiest to present this data in map form.

9.3 Assessment Report – Delineation of IPZs, WHPAs, SGRAs & HVAs

9.3.1 Question: IPZ - regulation limit and 120 m setback

Rule 68 (2) states "where the area delineated in accordance with subrule (1) abuts land,"

> a) "a setback of not more than 120 metres inland along the abutted land from the high water mark of the surface water body that encompasses the area where overland flow drains into the surface water body" and
> b) "the area of the Regulation Limit along the abutted land".

1. If the Regulation Limit is greater than 120 metres, does one use the Regulation Limit or is it restricted to "a setback of not more than 120 metres"?
2. If no Regulation Limit has been defined, does one use the 120 metre setback?
3. If no modeling has been done in parts of the IPZ 3, could the 120 metre setback just be used, rather than more modeling being completed?

Response:
ANSWER UPDATED AS OF MAY 12TH 2010 AS FOLLOWS:

1. The rule states that one has to use the greater of the CA Reg Limit or area of land that drains into the surface water body measured from the high water mark and the area must not exceed 120 metres.
2. Yes, if no CA Reg Limit has been defined one uses the area of land that drains into the surface water body measured from the high water mark and the area must not exceed 120 metres.
3. Modeling or another method is used under rule 68 to determine the extent of the IPZ-3 for type A and B intakes and certain types of C and D intakes. Rule 68(1) specifically states "within each surface water body" so this is done in water only. For the area determined in such a manner the setbacks need to be added which is the greater of the CA Reg Limit and the area of land that drains into the surface water body measured from the high water mark and the area must not exceed 120 metres.

ORIGINAL ANSWER:

1. Rule 70 (as well as rule 68) is set up so that one must add together the different areas delineated in accordance with each subrule to get the entire IPZ. Specifically, the rule says "…shall be composed of the following areas:" Thus one must add the area delineated under rule 70(1) – the "in water" piece – to the area delineated under subrule 70(2) – the setback piece. 70(2)(a) and (b) is also connected by an "and," so both setbacks (the 120m AND the Regulation Limit, where it exists) must be added as a setbacks. This means that the extent of the IPZ-3 setback will be either the 120m or the Regulation Limit, whichever is greater. The same applies to the setback for IPZ-2 as well.
2. Yes, if no Regulation Limit has been defined, one uses the 120 metre setback.
3. IPZ-3 covers the area that contributes water to the intake. Therefore, in most cases one would not have to use a model to delineate the area – one could use a GIS approach or some other mapping tool to determine this area and then add the setbacks to this. Given this, yes, just the setbacks could be used in the area that contributes water.

9.3.2 Question: IPZ delineation and Significant Threats

Is the clause cutting IPZ-1 from IPZ-2 and IPZ-2 from IPZ-3 still to be deleted from the Technical Rules? (Leaving it means that a ring of "significant threats" could exist outside an area of “no threat”).(pending constitutional law review) (Technical Rules 74 & 75)

Response:
UPDATE AS OF MAY 11TH 2010:

The technical rules have been amended to allow the event based approach to be used to determine if any activity in the in full IPZ could be identified as a significant drinking water threat (SDWT) using this approach.

ORIGINAL ANSWER:

It appears that this question is about Rule 130. This rule as currently worded only applies to activities within an IPZ-3. As per Rule 75, IPZ-3 does not include IPZ-1 or IPZ-2. However, MOE will be seeking direction on amending the rule to allow Rule 130 to apply to all intake protection zones (IPZ-1, IPZ-2, and IPZ-3). The Ministry intends to propose changes to the technical rules to reflect the intent that identifying significant drinking water threats through the modeling approach as specified under Rule 130 can be applied within the full IPZ (IPZ-1, IPZ-2, and IPZ-3). Although we can not confirm that this change will be made as we will need to seek direction and undertake public consultation on this, we have suggested that ongoing technical work evaluate potential threats within the full IPZ. However, please note that the Ministry cannot guarantee that updated Technical Rules will reflect this change.

Relevant Technical Rules:
74. Despite rules 65, 66 and 72, an IPZ-2 shall not include an area of land or water that lies within an IPZ-1.

75. Despite rules 68, 70 and 72, an IPZ-3 shall not include an area of land or water that lies within an IPZ-1 or an IPZ-2.

130. An activity listed as a drinking water threat in accordance with rule 118 or 119 is a significant drinking water threat in an IPZ-3 delineated in accordance with rule 68 at the location where the activity is carried on if modeling demonstrates that a release of a chemical parameter or pathogen from the activity would be transported through the surface water intake protection zone to the intake and result in the deterioration of the water for use as a source of drinking water for the intake.

9.3.3 Question: IPZ 3 delineation - when is it necessary?

If IPZ 1 and 2 on a Great Lakes Intake has no significant threats, only low and moderate, does the Source Protection Area have to complete an IPZ 3 delineation?

Response:

UPDATED ANSWER AS OF MAY 11TH 2010:

Whether or not an IPZ-3 needs to be delineated has no relation to the number of significant, moderate or low drinking water threats in the IPZ-1 and 2.

With respect to the application of Rule 68 around the identification of the IPZ-3 for Type A and B and certain Type C and D systems (this IPZ-3 is referred to as the events-based IPZ-3), the rule is explicit that the IPZ-3 for a system that falls under Rule 68 only has to be delineated if the modeling or other method has been completed and shows that contaminants are transported to the intake during an extreme event.

ORIGINAL ANSWER:

Whether or not an IPZ 3 needs to be delineated has no relation to the number of significant, moderate or low drinking water threats in the IPZ 1 and 2.

With respect to the application of Rule 68 around the identification of the IPZ-3 for Type A and B and certain Type C and D systems (this IPZ-3 is sometimes referred to as the extreme event or modelling IPZ-3), the source protection programs branch has discussed the application of this rule in areas where no modelling has been completed, or where modelling has shown there are no activities that may contribute to an issue. It is MOE's opinion that there is flexibility in the interpretation of the rule and that it is acceptable not to delineate an IPZ-3 where this is the case.

9.3.4 Question: Delineating WHPA-C: 5 year vs. 10 year time of travel data

Where WHPA-C (five year time of travel zone) and WHPA-C1 (10 year time of travel zone) have both been delineated prior to April 30, 2005, how should one interpret Technical Rules 47 and 48? Which zone should be identified in the assessment report?

Response:
UPDATED ANSWER AS OF MAY 13TH 2010:

The technical rules state that if a 5 year zone has been delineated, then it does not matter when the 10 year was delineated, you must use the 5 year zone.

ORIGINAL ANSWER:

While the Rules attempted to address the situation of 5 versus 10-year Time of Travels, they did not effectively address the situation where both were delineated prior to the reference date of April 30, 2005. The Rules do NOT, however, allow for both to be used. This discrepancy will be clarified as part of the amendment of the Rules. The intent of Rules 47 and 48 was to use a 5-year TOT for WHPA-C but, where it hadn't been delineated and a 10 year TOT had, then a 10-year TOT for WHPA-C1 could be used in lieu of a 5-year TOT. This was communicated in the training around the WHPA zones over the past two years. To be consistent with the intent of the rules, where both are available the 5-year TOT should be used and the 10-year TOT be removed.

9.3.5 Question: GUDI system delineation

There evidence from pump testing of a particular well which suggests that a portion of the recharge is coming from an adjacent creek. However it appears to be the case that only under extreme pumping (such as during this pump test) would water ever be drawn from the creek. MOE drinking water inspectors have never seen raw water data to suggest a GUDI situation. The question is, in this situation, should the vulnerable areas be delineated as GUDI or not?

Response:
UPDATED AS OF MAY 13TH 2010 WITH THE FOLLOWING ADMINISTRATIVE CHANGE TO THE TEXT OF THE ANSWER:

The requirement to delineate WHPAs for GUDI is based solely on the registered source of the water by the Safe Drinking Water Act. Only if it is registered as 'GUDI' or 'GUDI with effective in-situ filtration' do they need to do WHPA-E, unless Rule 49(3) applies.

ORIGINAL ANSWER:

The requirement to delineate WHPAs for GUDI is based solely on the registered source of the water by the Safe Drinking Water Act. Only if it is registered as 'GUDI' or 'GUDI with effective in-situ filtration' do they need to do WHPA-E, unless Rule 49(c) applies.

9.3.6 Question: Exemptions from having to delineate WHPA-E

Do all GUDI wells have to have a WHPA-E delineated for them? Are WHPA-Es required for GUDI wells with insitu filtration or wells where the municipality just didn't bother to get the study done to prove it wasn't GUDI because they already had appropriate treatment?

Response:

UPDATED AS OF MAY 12TH 2010 WITH THE ADDITION OF THE FOLLOWING TEXT:

Where a WHPA-E is required, but the information necessary to delineate this cannot readily be ascertained, as per Rule 50.1, the assessment report shall include a plan for ascertaining the information and an estimate of the date by which the assessment report shall be updated to include this information.

ORIGINAL ANSWER:

There are several cases in which a WHPA-E is not required:

- If you can show that the water body is not hydrogeologically connected to the well, don't delineate the WHPA-E.
- If the nearest water body does not circumvent the normal groundwater flow (wouldn't make a contaminant get to the intake in less time than through the groundwater), then you don't need to delineate the WHPA-E.

One needs to look at each scenario and think about the threats to see what is most appropriate to do.
Unless the above noted "exemptions" apply, a WHPA-E must be delineated. In situ filtration does not reduce chemical contaminants, and all those designated GUDI (even if the municipality suspects it isn't a GUDI well) must have the WHPA-E delineated.

No director approval is required for the above “exemptions” for delineating WHPA-E, however the SPC and peer reviewers must be satisfied that the exemption makes sense and must document this in the assessment report.

9.4 Assessment Report – Threats and Issues

9.4.1 Question: Is E. coli in drinking water an ‘issue’?

There are surface water intakes which contain some E.coli. Are there any guidelines beyond what is in the Technical Rules as to what levels would be considered significant?

Response:

UPDATED ANSWER AS OF MAY 13TH 2010:

The technical rules do not define what deterioration of water quality means, leaving it to the SPC and the body responsible for the drinking water system to make this decision.

A source protection committee (SPC) must first decide if something is an issue. There are a number of factors the committee can consider when determining if something is an issue.

For drinking water systems with treatment requirement, committees can consider the following:

1. Does the drinking water system have treatment capacity to deal with the raw water quality problem? If yes, then it may be advisable to continue to do so without formally noting it as a drinking water issue in the AR.
2. Could the raw water quality problem affect the capacity of the system in the future to address it (e.g., future system overload)? If yes, then it may be advisable to include the problem as a formal drinking water issue in the AR.
3. Is the raw water quality problem unsustainable at present (e.g., routine boil water advisories)? If yes, then it may be advisable to include the problem as a formal drinking water issue in the AR.

For drinking water systems without treatment, the committees can consider the following:

1. Can the raw water quality problem be dealt with outside of the Clean Water Act? (e.g., through the Environmental Protection Act, Ontario Water Resources Act Regulation 903 (Wells), future Building Code Act amendments related to septic system maintenance, etc). If yes, then it may be advisable to deal with the problem without formally noting it as a drinking water issue in the AR.
2. The workload consequences and possible policy consequences of including the issue:
    - Area contributing to the issue must be identified in the AR (see Rule 114(3) of the director’s technical rules).
    - Threats contributing to the issue are identified in the AR (see Rule 114(3) of the director’s technical rules) and rated as “significant threats”.
    - Policies to address these significant threats must be included in the source protection plan.
    - Future regulations will govern the use of policy implementation options.

It is also very advisable to speak to the drinking water system operator who will in many cases have the best knowledge of raw water quality at the system.

ORIGINAL ANSWER:

Firstly, there is not any absolute water quality threshold that makes something an issue. The technical rules simply don't work that way.

Because the question relates specifically to E. coli it is also important to note that microbial quality issues are dealt with differently depending on whether the system in question (the system with the quality issue) is a system that was or was not included in the terms of reference.

A source protection committee (SPC) must first decide whether it wishes to bring “issues” into the process so that they can be dealt with in the assessment report (AR) and in the source protection plan. When deciding whether a particular issue should be included, it is advisable for the committee to consider various matters. First, consider the type of drinking water system associated with the raw water quality problem.

For drinking water systems included in the terms of reference under section 15 of the Clean Water Act, committees should consider the following in determining whether the raw water quality problem should actually be identified in the AR as an "issue":

1. Does the drinking water system have treatment capacity to deal with the raw water quality problem? If yes, then may be advisable to continue to do so without formally noting it as a drinking water issue in the AR.
2. Could the raw water quality problem affect the capacity of the system in the future to address it (e.g., future system overload)? If yes, then it may be advisable to include the problem as a formal drinking water issue in the AR.
3. Is the raw water quality problem presently unsustainable (e.g., routine boil water advisories)? If yes, then it may be advisable to include the problem as a formal drinking water issue in the AR.

For drinking water systems not included in the terms of reference, committees should consider the following in determining whether the raw water quality problem (note that in this case the parameter causing the quality issue must not be a microbial parameter) should be identified in the AR as an "issue":

1. Can the raw water quality problem be dealt with outside of the Clean Water Act? (e.g., through the Environmental Protection Act, Ontario Water Resources Act Regulation 903 (Wells), future Building Code Act amendments related to septic system maintenance, etc). If yes, then it may be advisable to deal with the problem without formally noting it as a drinking water issue in the AR.

2. The workload consequences and possible policy consequences of including the issue:
   - Area contributing to the issue must be identified in the AR (see Rule 114(3) of the director's technical rules).
   - Threats contributing to the issue are identified in the AR (see Rule 114(3) of the director's technical rules) and rated as "significant threats".
   - Policies to address these significant threats must be included in the source protection plan.
   - Future regulations will govern the use of policy implementation options.

It is also very advisable to speak to the drinking water system operator who will in many cases have the best knowledge of raw water quality at the system.

9.4.2 Question: Managed Lands

One of the new maps required under Technical Rule 16 (9) is Managed Lands. Does this refer to the application of nutrients, fertilizer etc.? In addition, does the managed land map include things like golf courses, tree farms etc. or is it only referring to Agricultural lands?

Response:
UPDATED AS OF MAY 12TH 2010:

'Managed lands' refers to any land where nutrients are applied. Golf courses and tree farms should be counted. A technical bulletin is available on line to provide additional information on managed lands mapping.

ORIGINAL ANSWER:

'Managed lands' refers to any land where nutrients are applied. Golf courses and tree farms should be counted in, unless they don't apply nutrients (some do not, but most will).

9.4.3 Question: Managed lands and golf courses

For the purposes of determining managed lands, how does one know which golf courses apply nutrients? Should the source protection authority (SPA) call each one to ask? Are managed lands mapped for the entire source protection area?

Response:
UPDATED ANSWER AS OF MAY 13TH 2010 AS FOLLOWS:

A technical bulletin is posted on the Clean Water Act web site providing guidance on mapping managed land percentages. The managed lands maps are limited to vulnerable areas and areas within vulnerable areas as set out in sub-rule 16(6). Managed lands include any lands where nutrients are or can be applied. This can be done based on local knowledge and general information about different land use activities.

ORIGINAL ANSWER:

Guidance on managed lands is being developed based on a working group of conservation authority, Ministry of Agriculture, Food and Rural Affairs, and Ministry of the Environment staff. It should be released shortly in draft to the program managers. With respect to golf courses, it is recommended that any lands on which nutrients can be applied are mapped, and that property specific application is not considered at this point. Whether nutrients are actually applied on a specific property will only be considered when you get to the enumeration of threats.

Managed lands are mapped for the entire source protection area

9.4.4 Question: IPZ on land and issues for river intakes

With respect to the technical studies for a River intake:

a) Re IPZ1 - it is apparent from Rules 61 and 64 that the area of an IPZ-1 in the River can be modified to reflect local hydrodynamic conditions. It is not apparent that the area on the abutting land can be similarly adjusted, for example, to include only the area that drains in a manner that could physically affect the intake. Should IPZ1 be so adjusted?
b) Re Issues – To address an Ammonia/Organic Nitrogen issue under the issues process of threats identification, since Ammonia and Organic Nitrogen are not listed in any of the tables referenced in Rule 114, there is no fall back to the "Without limiting the generality of subclause 15(2)(f)" phrase. If that phrase is used, is the issue then described as per Rule 115? It seems that Rule 127 (to identify a significant threat associated with an issue) cannot be applied unless the issue is described under Rule 115.

UPDATED AS OF MAY 12TH 2010 WITH THE FOLLOWING CLARIFICATION:

The wording of these questions is now out of date and should only be referred to along with the current text of the Director's Technical Rules - for example the wording of both rules 61 and 64 has now changed so the up-to-date wording should be referred to.

As well, the modification in rule 64 now applies to all intake types not just rivers - this needs to be reflected in the question also.

Response:
UPDATED AS OF MAY 12TH 2010 WITH THE ADDITION OF THE FOLLOWING TEXT:

a) Rule 64 specifically states that the area in a surface water body can be modified to reflect hydrodynamic conditions. Once these modifications have been made, the setbacks can be applied as per rule 62. Rule 62 does allow only that portion of the setback to be included that drains to the water body. If a CA Reg Limit exists, the entire CA Reg Limit needs to be included, unless the SPC wishes to apply for an alternate approach under Rule 15.1.
b) The without limiting clause has been removed. The Act allows an SPC to determine what they will call an issue. Technical rule 114 sets out what is required for an issue to move forward in the process and have an issue contributing area delineated, and drinking water threats identified. If the tests in rule 114 are not met, then only the information listed in rule 115.1 can be included in the report.

Since Table 4 of the Technical Support Document for the Ontario Drinking Water Standards, Objectives and Guidelines does include organic nitrogen, it can be listed as an issue.

ORIGINAL ANSWER:

a) Rule 64 states that modification of IPZ-1 is only allowed within the surface water body but it does not apply to the land portion of IPZ-1. This rule applies to Type C and B only. On land, the IPZ-1 delineation must follow rule 61(2). Rule 61 (2) allows a setback to be included, either 120 m on land measured from the high water mark of the surface water body that encompasses the area where overland flow drains into the surface water body (that means drainage patterns can be accounted for), or the regulation limit along the abutted land (this area cannot be reduced), whichever is greater.
b) The term "without limiting the generality of clause 15(2)(f)" means that, since the Act does not limit what one can say about an issue, the description of an issue is not limited by the minimum requirements set out in rule 114 (and 115). This means that one can provide more information in the description of the issue beyond the requirements set out in the rules. In terms of what can be an issue, the Act provides the authority to define an issue, either through regulations or rules. Using these powers, the province has limited the parameters that can be used to identify an issue to those for which there are drinking water quality standards or guidelines.

Based on this, unless rule 114 allows one to use the parameter to define an issue, one cannot identify significant drinking water threats for issues under rule 127.

Since Table 4 of the Technical Support Document for the Ontario Drinking Water Standards, Objectives and Guidelines does include organic nitrogen, it can be listed as an issue.

9.4.5 Question: IPZ-3 Modelling for Great Lakes

We have interpreted the Technical Rules: Assessment Report (December 12, 2008) to preclude the identification of significant drinking water threats (DWTs) in Lake Ontario and St. Lawrence River IPZ-1s and IPZ-2s. We have also interpreted the Rules to only allow the definition of IPZ-3s (where significant DWTs may be identified) around and outside of the Great Lake/connecting channel IPZ-2s. The result could be a ‘doughnut-shaped area’ around each intake in which significant DWTs may be identified.

a) Are our interpretations correct, and if so, does the MOE intend to modify the Technical Rules (in this planning cycle) to allow the use of the ‘IPZ-3 approach’ closer to the intake?
b) Is dilution the rationale for not allowing significant DWTs to be identified in Great Lake/connecting channel IPZ-1s and IPZ-2s? If so, does this rational account for spill events?

Response:
UPDATED AS OF MAY 13TH 2010 WITH THE FOLLOWING NEW ANSWER:

The first part of the question regarding the doughnut-shaped area is no longer relevant due to changes with the Director's technical rules.

As regards the second part of the question which asks whether dilution is the rationale for not allowing significant drinking water threats to be identified in Great Lakes and connecting channel IPZ-1s and IPZ-2s the following updated answer is provided.

Because of the source vulnerability scores in Rule 95, Great Lakes systems (type A) can only score a maximum of 7 in the IPZ-1 and 6.5 in an IPZ-2, meaning there would not be significant drinking water threats in these zones using the threats based approach. For connecting channels (type B) intakes, you can score up to a 9 in an IPZ-1 and 8.1 in an IPZ-2, meaning you can have significant drinking water threats using the threats based approach. The range of source vulnerability factors available for Great Lakes and connecting channel (type A and B) intakes are lower than for type C and D intakes as a result of factors including the size of the water body and the resulting dilution potential, and the general range of depth and distance of the intakes from the water surface/ shoreline.

Within the IPZ-1 and 2, historical evidence suggests that, as a result of dilution and general flow patterns, spills or other releases in these zones are moderate to low threats and should be managed through those types of policies. You are not precluded from identifying an issue in either of these zones, and if the issues process is triggered, you would be able to identify significant drinking water threats within the issue contributing area in any of these zones for both types of systems.

The rules also allow for the use of the event based approach for type A and B systems and certain types C and D systems to address concerns that there are activities that could cause an impact under significant storm events or event based releases of large volumes of contaminants.

ORIGINAL ANSWER:

Because of the source vulnerability scores in Rule 95, Great Lakes systems can only score a maximum of 7 in the IPZ-1 and 6.5 in an IPZ-2, meaning there would not be significant drinking water threats in these zones using the vulnerability scoring approach. For connecting channels (type B) intakes, you can score a 9 in an IPZ-1 and 8.1 in an IPZ-2, meaning you can have significant drinking water threats using the vulnerability scoring approach. The range of source vulnerability factors available for Great Lakes and connecting channel (type A and B) intakes are lower than for type C and D intakes as a result of factors including the size of the water body and the resulting dilution potential, and the depth and distance of the intake from the water surface / shoreline. Within the IPZ-1 and 2, historical evidence suggests that, as a result of dilution and general flow patterns, spills or other releases in these zones are moderate to low threats and should be managed through those types of policies. You are not precluded from identifying an issue in either of these zones, and if the issues process is triggered, you would be able to identify significant drinking water threats within the issue contributing area in any of these zones for both types of systems. We have also allowed for the use of an event based approach to address concerns that there are activities that could cause an impact under significant storm events or event based releases of large volumes of contaminants in what is referred to as the IPZ3 for these types of systems.

Rule 130, as currently drafted, does limit the event based approach for identifying significant drinking water threats to the IPZ-3 for the Great Lakes and connecting channels as well as other large bodies of water (type C and D intakes on Lake Nipissing, Lake St. Clair, Lakes Simcoe and the Ottawa River). We are proposing to amend the rules to allow the event based approach to be used within the full IPZ (i.e., in the combined area composed of IPZ-1, IPZ-2, and IPZ-3) this planning cycle. We did communicate to the project managers and chairs via email that they should undertake the work in the full IPZ and if the rules are not amended, any activities identified through the event-based approach in the IPZ-1 and IPZ-2 would need to be left out of the final assessment report. We recognize that this would result in an IPZ-3 area with significant drinking water threats, and an IPZ 1 and 2 areas where the same activity is not significant, creating the donut shape you mentioned.

9.5 Assessment Report – Other

9.5.1 Question: Species at risk mapping

Technical Rule 16(7) requires one to map the locations of habitats of species within the source protection area that are on the Species at Risk in Ontario List. Is the mapping to contain all species of concern, threatened, endangered, extirpated? Can it be mapped as a 1 km^2 location, as is typically done?

Response:
UPDATED ON MAY 13TH 2010 WITH THE ADDITION OF THE FOLLOWING TEXT:

The technical rules were amended to read that the AR should contain information on species at risk only where the SPC feels the information is necessary. The method of providing this information should be in compliance with any regulations governing the provision of species at risk information.

ORIGINAL ANSWER:

Yes, it can be mapped in accordance with the Species At Risk Act which limits one to mapping the general area. Clarification of this approach is planned as part of proposed amendments package being generated by the Ministry. In terms of what is mapped, any species of concern, despite their classification, that exist in the Species At Risk Act should be mapped if they exist in the source protection area.

9.5.2 Question: Private wells in SGRAs and WHPAs - included?

Do private wells count as drinking water systems in significant groundwater recharge areas (SGRAs) but not in wellhead protection areas (WHPAs)? Based on technical rule 45, SGRAs need to be delineated for a surface water body or aquifer that is a source of drinking water for a drinking water system. The systems are described in the Safe Drinking Water Act and would include a single private residential well serving one house, for example.

Response:

ANSWER UPDATED AS OF MAY 12TH 2010 WITH THE ADDITION OF THE FOLLOWING TEXT:

Private wells are always treated as a drinking water system - within any of the vulnerable areas.

To expand on the question, with respect to the delineation of a vulnerable area, the presence of a dirnking water system only has relevance to the delineation of the SGRA. It does not impact the delineation of the HVA, WHPAs or IPZs. If evaluating issues for a drinking water system that is not in a Terms of Reference, private wells would be considered a drinking water system in any of the vulnerable areas.

ORIGINAL ANSWER:

This answer depends on what the term system is being used for.

If one is looking at the delineation of vulnerable areas:

- For the delineation of an SGRA under rule 45, a system is any system as defined under the Safe Drinking Water Act, including a private well.
- For the delineation of a WHPA, only systems listed in the terms of reference can have a WHPA delineated. The terms of reference must include any existing or planned municipal drinking water systems, along with any systems brought in through a municipal council resolution, by the Ministry, or through a regulation associated with a First Nations Band Council resolution.
- For systems brought in by the Minister or a municipal council resolution, the only systems excluded are private wells or intakes that do not serve a designated facility or are not part of a cluster of 6 or more wells or intakes.

There is another way that private wells can be included under the Clean Water Act. One can identify an issue related to a system within any of the vulnerable areas.

Again, a system is a system as defined under the Safe Drinking Water Act. There is no requirement that it be part of a cluster of wells for this. So there can be a private well in a WHPA that has an issue, and one can identify an issue-based area and look at threats for that specific area for that specific issue. The same holds true for private wells within SGRAs and HVAs. This is outlined in rule 114 (3).

9.6 Source Protection Plan

9.6.1 Question: Plan policies for issues affecting private wells - mandatory?

Under the technical rules, an "issue" affecting private wells can now be documented in the assessment report and, if its source is man-made, any activity or condition contributing to this issue can be identified as a "significant" drinking water threat, allowing the SPC to include mandatory policies in their Plan to address these threats (understanding that Part 4 powers in the CWA may not be available to enforce these policies). Correct?

If there was a village on private wells and septics, and their private well water contained high levels of nitrates above the provincial standard, and the source of the nitrates is these private septic systems (anthropogenic), in this situation, could an SPC:

- identify the nitrates as a significant threat to that village's private well water;
- include land use policies in their source protection plan to deal with the man-made cause; and
- make the policies mandatory to be enforced through that municipality's Official Plan or some other non-part 4 avenue?

Would the policies in the source protection plan be mandatory relating to these threats to non-municipal systems?

Response:

UPDATED AS OF MAY 12TH 2010 AS FOLLOWS:

Any issue that meets the tests under rule 114 must provide the information required under Rule 115, which includes the parameter of concern, the issue contributing area and a list of threats that could contribute to the issue. Under rules 131, 134.1 , 141, and 142.1 the activities or conditions listed under rule 115 may be a significant or moderate drinking water threat, specifically: significant if they are linked to a drinking water system in a terms of reference, and moderate if they are linked to any other drinking water system.

In relation to the example provided in the question, the following points are important to note:

- The nitrates would not be the drinking water threat, but rather the activity(ies) or condition(s) identified as causing the nitrates would be the threat (e.g., the septic systems). Based on the technical rules, the risk level assigned to the scenario in this question would not be "Significant".
- The policies in the SPP would not necessarily be “land use policies,” but they could be threat policies if they are addressing a moderate or low threat in this scenario.
- SPP policies are mandatory to address every area where an activity is a significant drinking water threat (SDWT) and every area where the activity would be a SDWT if established in the future. It is discretionary to include policies to address areas where activities are or would be moderate or low threats. All obligations imposed on municipalities, source protection authorities, and source protection committees by significant threat policies must be satisfied (S. 38 of CWA). If the threat policy is a prescribed instruments (PI) type policy or a Planning Act type policy, the CWA specifies that for significant threats, the Crown's prescribed instrument (PI) decisions and Planning Act decisions must conform while for other policies, the Crown's PI decision and Planning Act decisions must have regard to those policies. Part IV type policies may only be included in a SPP to address significant threats, not moderate or low threats. In accordance with the draft proposed SPP regulation, Part IV is not enabled to address drinking water threats related to sewage, even if the threat is significant; rather SPCs need to develop policies that are implemented through amendments to prescribed instruments (e.g. OWRA sewage works CoAs) or by municipalities when they carry out their sewage re-inspection programs under the Building Code.

ORIGINAL ANSWER:

In short, the answer is yes.

Under rule 114, a man-made issue (an existing land use activity causing known contamination) can be identified as a significant drinking water threat in Highly Vulnerable Aquifers (HVA) and Significant Groundwater Recharge Areas (SGRA) in addition to Wellhead Protection Areas (WHPA) and Intake Protection Zones (IPZ), if the issue is documented in a well, intake, or an associated monitoring well, and the threats contributing to the issue fall within the area delineated as contributing to the drinking water issue.

For drinking water systems not included in the terms of reference (such as those described in the question), committees should consider the following in determining whether the raw water quality problem (note that in this case the parameter causing the quality issue must not be a microbial parameter) should be identified in the assessment report as an “issue”:

1. Can the raw water quality problem be dealt with outside of the Clean Water Act? (e.g., through the Environmental Protection Act, Ontario Water Resources Act Regulation 903 (Wells), future Building Code Act amendments related to septic system maintenance, etc). If yes, then it may be advisable to deal with the problem without formally noting it as a drinking water issue in the AR.
2. The workload consequences and possible policy consequences of including the issue:
    - Area contributing to the issue must be identified in the assessment report (see Rule 114(3) of the director’s technical rules).
    - Threats contributing to the issue are identified in the AR (see Rule 114(3) of the director’s technical rules) and rated as “significant threats”.
    - Policies to address these significant threats must be included in the source protection plan.
    - Future regulations will govern the use of policy implementation options.

In relation to the example provided in the question, the following points are important to note:

- The nitrates would not be the significant drinking water threat, but rather the activity(ies) or condition(s) identified as causing the nitrates would be the threat (e.g., the septic systems).
- The policies in the source protection plan would not necessarily be “land use policies,” but they would be significant threat policies.
- As noted above, policies must be written to address significant drinking water threats. All significant threat policies must be conformed with by municipalities, source protection authorities, and source protection committees. If prescribed provincial instruments apply, the conformity by the

Crown ministry responsible for the instrument is also mandatory. When Part IV powers are used, conformity by individuals is also mandatory. One important distinction is that Part IV powers (sections 57, 58 and 59 of the Clean Water Act, which include the ability to prohibit a land use or require a risk management plan) cannot be used to address significant risks in HVAs and SGRAs.

- The ability to identify drinking water issues at wells not included in the terms of reference is a change that was included in the proposed Assessment Report Technical Rules posted on the EBR in July 2008.

DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Appendix 1

Acronyms commonly used throughout the document:

1. AR: assessment report
2. ASM: agricultural source material
3. CA: Conservation Authority
4. CO: Conservation Ontario
5. CofA: certificate of approval
6. CWA: Clean Water Act, 2006
7. DNAPL: dense non aqueous phase liquid
8. DWS: drinking water system
9. EBR: environmental bill of rights
10. eCoA: electronic Certificate of Approval
11. ER: Early Response
12. FN: first nations
13. GUDI: groundwater under the influence of surface water
14. GW: groundwater
15. HVA: highly vulnerable areas
16. ICA: Issue Contributing Area
17. IM: Information Management
18. IPZ: intake protection zone
19. KFSPN: Kettle and Stony Point First Nation
20. LNAPL: light non aqueous phase liquid
21. MFIPPA: municipal freedom of information and protection of privacy act
22. MISA: municipal industrial strategy for abatement
23. MMAH: ministry of municipal affairs and housing
24. MNR: ministry of natural resources
25. MOE: ministry of the environment
26. MPAC: Municipal Property Assessment Corporation
27. MTO: ministry of transportation
28. NASM: non agricultural source material
29. NU: nutrient unit
30. ODWSP: Ontario drinking water stewardship program
31. OFA: Ontario Federation of Agriculture
32. OMB: Ontario municipal board
33. OP: official plan
34. PCB: polychlorinated biphenyl
35. P.Eng: Professional Engineer
36. P. Geo: Professional Geoscientist
37. PM: project manager
38. PPS: provincial policy statement

39. PTTW: permit to take water
40. RMI: risk management inspector
41. RMO: risk management official
42. RMP: risk management plan
43. SDWA: Safe Drinking Water Act
44. SDWT: significant drinking water threat
45. SGRA: significant groundwater recharge areas
46. SPA: source protection authority
47. SPC: source protection committee
48. SP: source protection
49. SPPB: source protection programs branch
50. SPP: source protection plan
51. SPR: source protection region
52. SW: surface water
53. TEC: technical experts committee
54. ToR: terms of reference
55. TOT: time of travel
56. UAR: updated assessment report
57. UTRCA: Upper Thames River Conservation Authority
58. Vfs: source vulnerability factor
59. WHPA: well head protection area