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Chapter 7

ADDRESSING LIMITATIONS

APPROVED ASSESSMENT REPORT
for the
Northern Bruce Peninsula Source Protection Area

October 15, 2015

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7.0 Addressing Limitations: Legal Background

Technical Rules made under the *Clean Water Act* allow for the incorporation of new data and information into the Assessment Report beyond the statutory time frame for submission, recognizing the unique challenges of the technical work within each Source Protection Area (SPA). Tasks not completed in this Assessment Report will be included in an updated report and included in a future round of Source Protection Planning. This chapter will identify the tasks to be completed, the work plan for completing those tasks and the projected time frame for completion.

7.1 Data Gaps

As outlined in a letter from the Ministry of Environment and Climate Change (MOECC) to the Source Protection Committee Chair, dated October 8, 2009, data gaps are those remaining tasks for which data has not been received or ascertained when the Assessment Report was finalized.

7.1.1 Vulnerable Area Delineation

7.1.1.1 Highly Vulnerable Aquifers Delineation Edge Matching and Homogenization

A number of different methodologies have been employed for delineating Highly Vulnerable Aquifers (HVA) within the SPAs surrounding the Northern Bruce Peninsula SPA. Intrinsic Susceptibility Index (ISI) was developed for the SPA. This is an approved method under the Technical Rules; however, significant differences exist between this SPA and surrounding SPAs as a result of different methodologies.

The edge-matching methodology for delineating HVAs will be employed in the Northern Bruce Peninsula SPA. This process will involve selecting a methodology for rectifying HVAs both within the SPA, and with surrounding SPAs.

The anticipated dates for completion of this process are unknown at this time.

7.1.2 Karst Development

The prevalence of karst formations and karstic aquifers in the Northern Bruce Peninsula SPA are not well documented. Karstic aquifers are of particular interest within the source protection planning process since wells that exploit them are subject to rapid and short lived fluctuations in both water quality and water quantity and may require special consideration.

In order to assess the impact of karstic aquifers on municipal wells, work was completed to evaluate the degree and implications of karst controls on Shallow Lake and Kimberley municipal supplies, located within the neighbouring Grey Sauble SPA (Worthington, 2010). This report provides recommendations for assessing municipal wells in areas not traditionally considered under karst control for karst influence. It is anticipated that, as a result of this study, all municipal wells in the Northern Bruce Peninsula SPA that are exploiting bedrock aquifers will be re-evaluated for potential karst influence and the results incorporated into an updated Assessment Report. The anticipated dates for completion of this work are unknown at this time.

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7.1.3 Transport Pathway Adjustments: Wells Pre-dating WWIS

Private water wells have been mapped using the MOECC Water Well Information System (WWIS). Well records date back to 1946, but well records until the late 1950s are believed to be incomplete. Wells that were drilled prior to 1946 are not recorded at all and may contribute significantly to local water quality problems. Local experts estimate that more than one-fourth of all wells have not been recorded, especially in rural areas. In the areas that are situated in hydrological proximity to municipal wells, information on older wells will be obtained. This is first done through GIS screening for long-existing properties with unclear water supply in Highly Vulnerable Areas, and then by contacting owners. It is also anticipated that public consultation will help to identify any potential wells. The anticipated dates for completion of this work are unknown at this time.

7.1.4 Federal Lands

Land use activities that could be considered Drinking Water Source Protection threats and are located on federally administered lands (i.e. Parks, Military Bases and First Nations) have not been considered in this report. Significant data gaps exist for these lands. No work plan or timeframe for inclusion of these lands is provided.

7.1.5 Conditions Research

A thorough inventory has not yet been completed for locations with conditions that result from past activities. The types of activities that are considered conditions are defined in Technical Rule 126. The anticipated start date for this project is 2015.

7.1.6 Adding Fuel Transportation as a Local Threat

At a meeting on October 3, 2014, the Source Protection Committee expressed the need to add a local threat – fuel transportation. Events-based modelling will also need to be completed for this threat. The anticipated dates for completion of this work are unknown at this time.

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REFERENCES

Ministry of Environment and Climate Change, October 8th, 2009. Memo to Source Protection Chairs and Project Managers: Incorporating data in assessment reports.

Worthington, S.R.H., 2009b. Review of the existing Well Head Protection mapping for the Kimberley and Shallow Lake Municipal Water systems and the influence of karst on groundwater supplies. Report prepared for Saugeen Valley Conservation Authority, Grey Sauble Conservation Authority and Municipality of Northern Bruce peninsula, 18p. plus plates and figures.