

Getting Familiar With Events Based Threats

The Elgin Area Primary Water Supply System Intake

The vulnerability scores within the Elgin Primary Intake Protection Zone (IPZs) in the Kettle Creek Watershed are low and do not result in a significant drinking water threat (Figure 1). For intakes located in Great Lakes such as Lake Erie, another assessment was completed under the Ministry of the Environment’s Technical Rules to identify activities that may pose a significant threat to the source water at the intake^a. Click here to learn more about [drinking water threats](#) and [vulnerable areas](#).

Events Based Modeling

The Events Based Modeling exercise identified the storage of fertilizer and fuel as significant drinking water threats for the Elgin Primary Intake. There are two areas where modelling has been completed and policies apply. One area in Port Stanley Harbour and the other around the Elgin Area Primary Water Supply System water treatment plant (Figure 2). Under certain environmental conditions, a spill of urea ammonium nitrate fertilizer from harbour lands in the immediate vicinity of Kettle Creek or diesel fuel from the Water Treatment Plant could result in a deterioration of the water used as a source of drinking water at the intake.

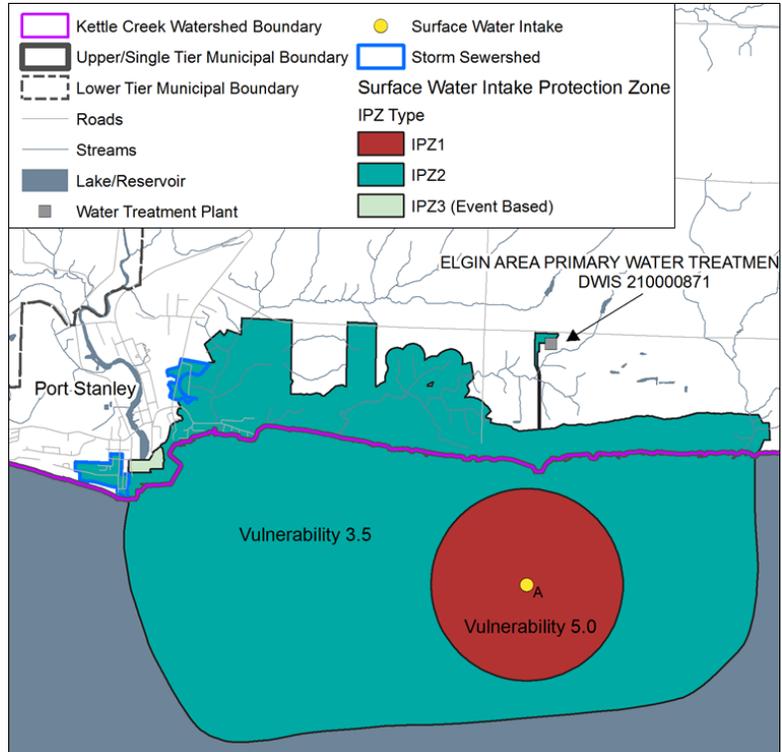


Figure 1: Vulnerability scoring in the Elgin Area Primary Water Treatment Plant Intake Protection Zones

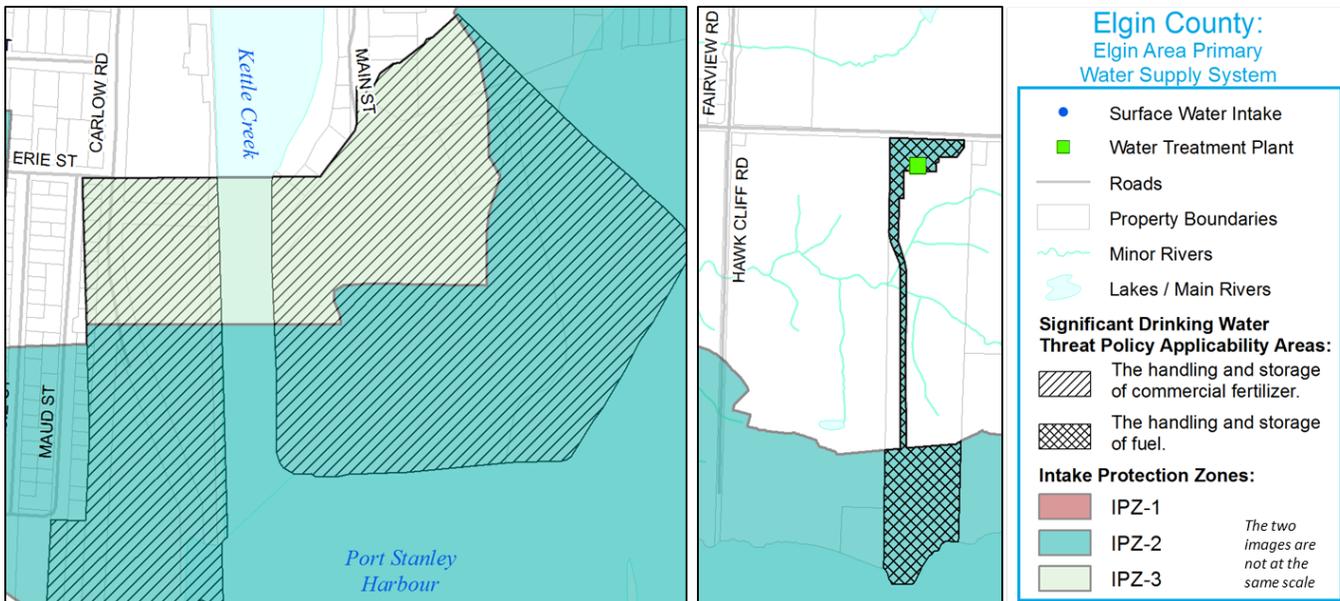


Figure 2: The areas around the Elgin Area Primary Water Supply System where the storage of fertilizer and fuel are potential significant drinking water threats.

For a more complete description of the technical assessment please refer to the Kettle Creek Source Protection Area [Assessment Report](#).

The criteria to undertake the modelling exercise used, for example, the volume of material stored in the tanks, to determine under what circumstances the modelled activities are considered significant drinking water threats. **Table 1** lists the specific circumstances where these two activities are considered a significant threat. **Table 1** can be used with the Policy Applicability Tool to help determine where the handling and storage of fertilizer and/or fuel are or would be significant drinking water threats.

Table 1: List of circumstances that determine if the storage of fertilizer and/or fuel are or would be considered a significant drinking water threats on your property.

Column 1 Activity (Drinking Water Threat)	Column 2 (Under the following circumstances activity is significant drinking water threat in policy applicability area)	Column 3 (Applicable Policies)
The handling and storage of fuel	<ol style="list-style-type: none"> 1. The above grade handling of liquid fuel. 2. The quantity of liquid fuel stored is more than 6,000 litres. 3. A spill of the fuel may result in the presence of benzene in surface water. 	PS-CW-7.1 PS-CW-7.2
The handling and storage of fertilizer	<ol style="list-style-type: none"> 1. The commercial fertilizer is stored at a facility where it is manufactured or processed, or from which it is wholesaled, excluding storage related solely to retail sale or in relation to the application of the fertilizer. 2. The total mass of all materials stored that contain the commercial fertilizer, in any form including liquid or solid, is more than 5,000 m³. 3. A spill of the fertilizer or material containing the fertilizer may result in the presence of Nitrogen in surface water. 	PS-CW-7.1 PS-CW-7.2

^a Technical Rule 130 states that an activity can also be identified as a significant drinking water threat following the event based approach, if modelling shows that within an IPZ the activity could result in the release of a chemical parameter or pathogen that would be transported to the intake and result in the deterioration of the water for a drinking water source.