# Getting Familiar With Issue Contributing Areas

Through the Source Water Protection program, historical groundwater chemistry was analyzed for each municipal drinking water system. The analysis determined if concentrations of substances that would lead to the deterioration of the quality of drinking water were present at wells. For each identified "Issue" an Issue Contributing Area (ICA) was developed. In many cases, the ICA is the 25 year time-of-travel capture zone for a well. If an Issue is identified for a well for a specific substance, then all prescribed drinking water threat activities related to that particular substance within the ICA are significant drinking water threats, regardless of vulnerability scoring. Click here to learn more about and vulnerable areas. **Figure 1** illustrates what the chloride ICA looks like around municipal drinking water wells 1 and 2 of the Mount Pleasant water supply system in the County of Brant.

### Issue Contributing Areas (ICAs)

When a substance is present in a well at a concentration that could lead to the deterioration of the water quality, an **ICA** is delineated identifying the area where activities and conditions as a result of past activities have or are likely to contribute to the elevated concentration of the substance in the well.

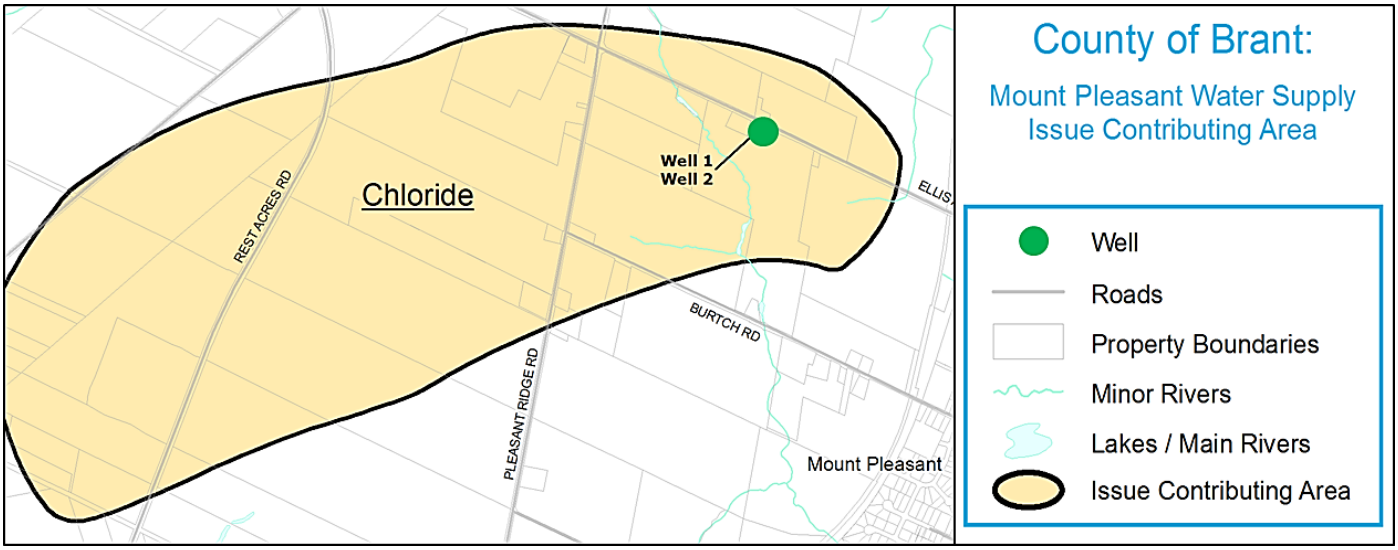


**Figure 1: Example of a Chloride Issue Contributing Area in Mount Pleasant, County of Brant.**

### What types of "Issues" are there?

Issues are chemically specific and can include substances such as chloride, sodium, nitrate, and Trichloroethylene (TCE). Table 1 lists these substances along with examples of drinking water threat activities that apply to these Issues and their ICAs.

**Table 1: A list of substances that have been identified as Issues in some drinking water wells in the Lake Erie Source Protection Region and examples of the drinking water threat activities that apply within the respective ICAs.**

| Types of Issue | Examples of Drinking Water Threat Activities in these ICAs |
|---|---|
| Chloride | Sewage systems; application, handling and storage of road salt; storage of snow |
| Sodium | Sewage systems; application, handling and storage of road salt; storage of snow |
| Nitrate | Waste disposal sites; sewage systems; storage of snow; livestock grazing; outdoor animal confinement; the application, handling and storage of manures; bio solids; commercial fertilizers |
| Trichloroethylene | Waste disposal sites; sewage systems; handling and storage of Dense Non-Aqueous Phased Liquids (DNAPLs) |

## What types of "Issues" affect my location?

Currently, the best way to identify which type of Issue applies to the location you have selected is by reviewing the Issues in your municipalities section of the Source Protection Plan linked in **Table 2**. The maps identify the Issue *type* and the Issue Contributing *Area*.

**Table 2: The list of Municipalities in the Lake Erie Source Protection Region who have Issue Contributing Areas. Click on the Municipality's name to open the respective maps to identify the types of Issues.**

**Lake Erie Region Municipalities who have Issue Contributing Areas :**

Dufferin County
- Orangeville

Wellington County
- Town of Erin
- Guelph-Eramosa & Centre Wellington
- Town of Puslinch

Region of Waterloo
- Cambridge & North Dumfries
- Kitchener, Waterloo & Wilmot

Norfolk County

Simcoe

County of Brant
- Mount Pleasant
- St. George
- Paris
- Paris, Bethel Road

City of Guelph

The Table of Circumstances outlines under what circumstance the threat activities listed above (Table 1) may be a significant drinking water threat in an Issue Contributing Area. For example, the storage of snow is only a significant drinking water threats in an chloride or sodium Issue Contributing Area in an area that is at least 0.01 ha in size. To find out more details, please refer to the Table of Circumstances.

**Example**

In a Nitrate ICA, the following steps can be taken to see if any existing or future activities may be a significant drinking water threat:

1. Open the Table of Circumstances
2. Click "Ctrl + F" and type in the type of Issue you are interested in. For example, in a Nitrate ICA search for the word "nitrogen"
3. Hit "Enter" to scroll through the Table for all the circumstances where "Nitrogen" is listed as a chemical in Column 2
4. Read the circumstances in Column 2. If an activity meets or would meet the circumstance(s) listed and there are numeric values listed in Column 4, 5, or 6 in the "WHPA" row, the activity listed in Column 1 is or would be a significant drinking water threat in a Nitrate ICA
5. Keep searching through the circumstances to see if any other circumstances are applicable to an activity where nitrogen is the chemical of concern
6. Knowing the activities listed in Column 1 that are or would be significant drinking water threats in a Nitrate ICA based on the circumstances, the relevant Source Protection Plan policies can be reviewed to see if any policies apply to those activities

Need more help reading the Table of Circumstances? Click here.