Deloro's Drinking Water System

The Village of Deloro is located in the Municipality of Marmora and Lake. Deloro is a small community north of Highway 7 formed around a historic mining site where gold and other minerals were acquired and processed. The mining site is currently closed and undergoing remediation measures.

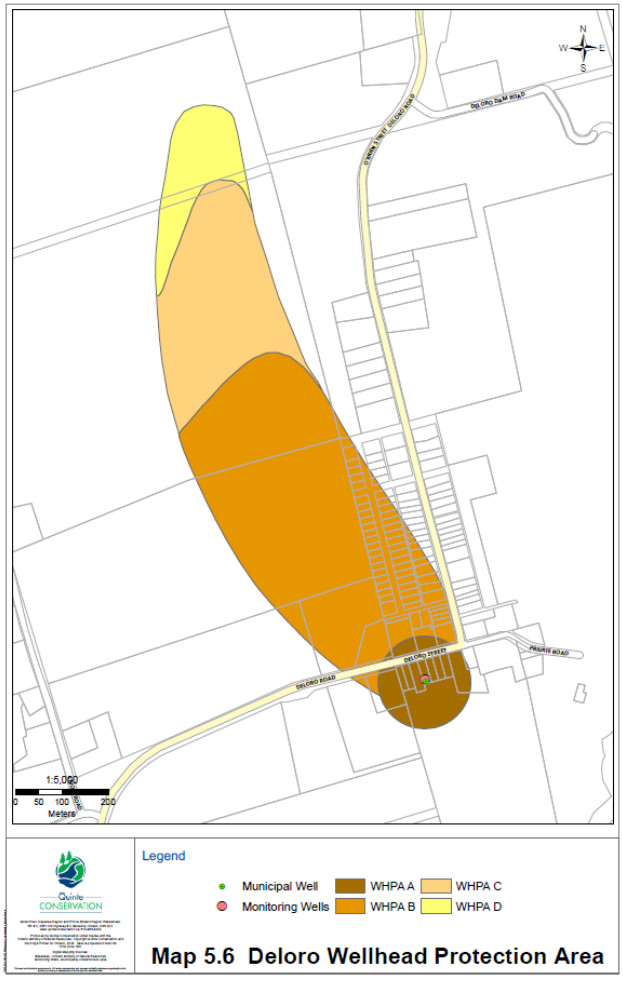
The municipality provides drinking water to Deloro residents with the help of trained municipal professionals, the *Clean Water Act*, 2006, and the Quinte Source Protection Plan. The municipality uses a groundwater well to service the community that is located at the south-western end of the Village. The area surrounding the well has residential and agricultural lands, and it is east of the Deloro mine site.

The well was drilled in 1976 to a depth of 29.9 metres with water depths at 14 and 21 metres in fractured Precambrian bedrock, and it has a recommended pumping rate of 75 gallons per minute. Due to the well's depth, it is classified as Groundwater Under the Direct Influence (GUDI) of surface water. Although there are no nearby surface water features that influence the well, there can still be contaminants from land that could enter the groundwater source.

Deloro's Vulnerable Areas

Using science, the Assessment Report has delineated zones to show which areas near the well are most vulnerable to pollution and contamination. These zones are called Wellhead Protection Areas (WHPAs) and include the land above and below ground where land use activities could affect the quality of water flowing toward the well. The location and size of a WHPA is determined by the direction of groundwater flow, the speed/rate it moves, and the volume of water that is pumped from the well. In Deloro, there are four WHPAs:

- **WHPA A:** 100 metre radius around the well.
- **WHPA B:** the area where it would take two years or less for a contaminant to reach the well.
- **WHPA C:** the area where it would take five years or less for a contaminant to reach the well.
- **WHPA D:** the area where it would take 25 years or less for a contaminant to reach the well.



Map 5.6 Deloro Wellhead Protection Area

Vulnerability Scores

Vulnerability scores help to quantify how vulnerable the drinking water source is to contamination. The scores are calculated based on the ground conditions around the well, groundwater flow, and considering how contaminants might move.

An area with a higher vulnerability score is more likely to allow contaminants from that area to reach the well. The vulnerability scores range from 2 (lowest) to 10 (highest). The vulnerability scores for the Deloro Drinking Water System are:

- **WHPA A** = 10
- **WHPA B** = 10
- **WHPA C** = 8
- **WHPA D** = 6

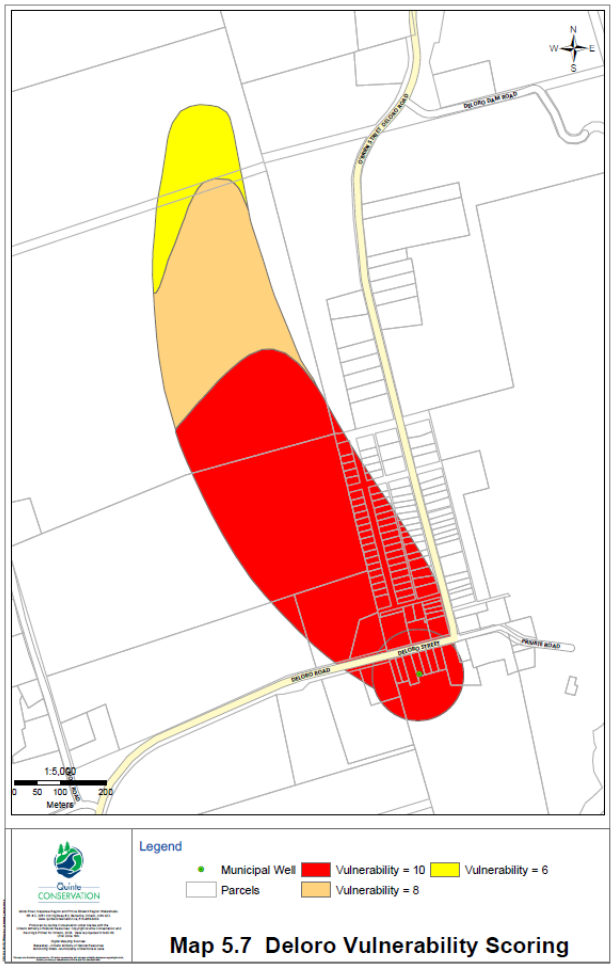
Drinking Water Issues

Drinking water issues are chemicals or bacteria found in untreated water that exceeds the provincial allowable values. A four-step screening process confirmed that Deloro's raw water does not have drinking water issues.

Drinking Water Threats

Drinking water threats are based on 22 categories prescribed by the Ministry of the Environment, Conservation and Parks. Threats were identified in Deloro's WHPAs. Some of the identified threat types included, but are not limited to:

- Handling and storage of fuels (home heating oil and fuel for agriculture).
- Use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard.
- Application of agricultural source material.
- Municipal septic system and sanitary sewer.



The Quinte Source Protection Plan

The Quinte Source Protection Plan has over 80 policies to protect and maintain clean and plentiful drinking water sources. The policies address drinking water threats that were identified in the science-based Assessment Report. Each policy was developed by the Quinte Source Protection Committee in consultation with communities and stakeholders.

The Quinte Source Protection Plan came into effect January 1, 2015 and has undergone amendments in 2019, 2023, and 2024.