

Tweed's Drinking Water System

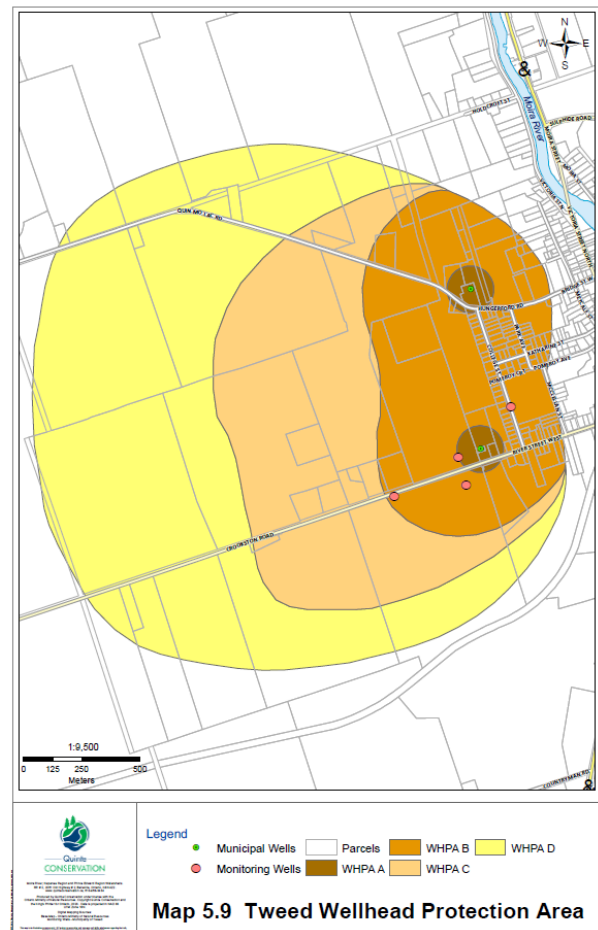
The Village of Tweed is located on the southern fringe of the Precambrian Shield on the western shore of Stoco Lake, in the Municipality of Tweed. The Village features a diverse mix of land uses including residential, commercial, open spaces, and some industrial areas. Outside the Village, particularly to the west, the land is predominantly zoned as prime agricultural lands.

Tweed has a municipal groundwater system that serves less than 5,000 people. The municipal water supply is provided by two wells along the western edge of the Village. Well #1 is located off of Hungerford Road and was installed in 1954 to a depth of 132.6 metres. Due to the location of the well, natural elevated levels of uranium can be found in the water supply. Therefore, Well #1 is used for backup purposes only. Well #3 is located about 700 metres south of Well #1 on Crookston Road. This well was installed in 1995 to a depth of 122.2 metres and is considered Groundwater Under the Direct Influence (GUDI) of surface water. This classification is related to the shallow depth of the aquifer as opposed to the presence of nearby surface water features.

Tweed's Vulnerable Areas

Using science, the Assessment Report has delineated zones to show which areas near the wells that are the 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 wells. 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 wells. In Tweed, there are five 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.
- **WHPA-ICA:** the area that has potential to contribute to an identified drinking water issue(s) to the well.



Vulnerability Scores

Vulnerability scores help to quantify how vulnerable a drinking water source is to contamination. The scores are calculated based on the ground conditions around the well, 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(s). The vulnerability scores range from 2 (lowest) to 10 (highest). The vulnerability scores for the Tweed Drinking Water Systems are:

- **WHPA A** = 10
- **WHPA B** = 10
- **WHPA C** = 8
- **WHPA D** = 6
- **WHPA-ICA** = no score

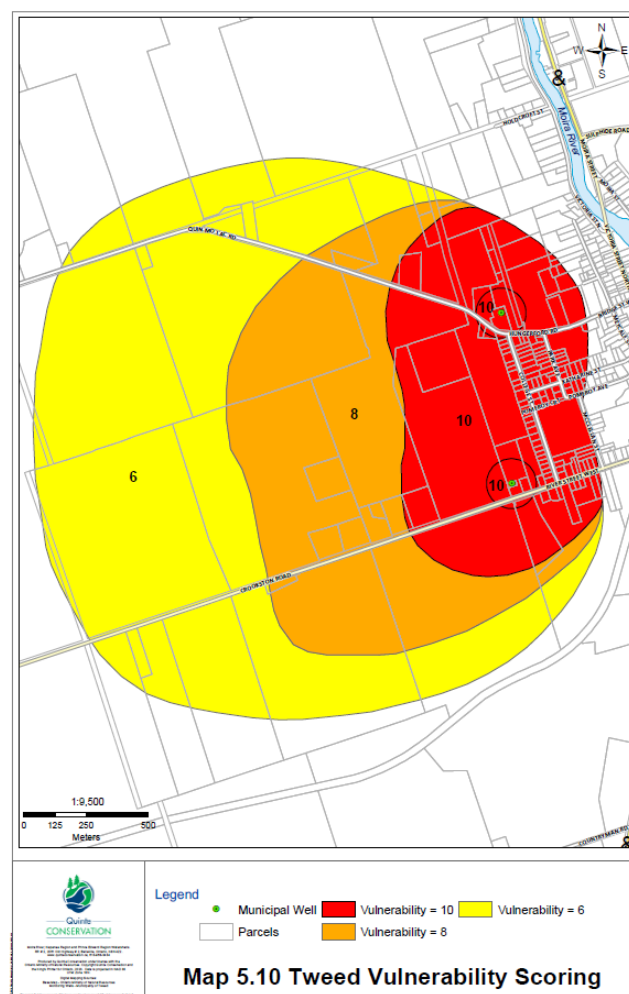
Drinking Water Issues

Drinking water issues are chemicals or bacteria found in untreated water that exceeds the provincial allowable values. A four-step screening process confirmed that Tweed's raw water does have a nitrate water quality issue. Due to the drinking water issue, risk management plans are being negotiated for all significant threats in the vulnerable areas including the WHPA-ICA.

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 Tweed's WHPAs. Some of the identified threat types included, but are not limited to:

- Use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard.
- Application and storage of agricultural source material (i.e. manure from livestock).
- Residential and commercial septic systems.
- Application, storage and handling of pesticides and fertilizers.



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.