

Napanee's Backup Drinking Water System

The Town of Greater Napanee has two drinking water intakes: the main intake in Lake Ontario, and a backup intake in the Napanee River. Under normal operation, the Town of Greater Napanee sources their municipal water from Lake Ontario, approximately 18 kilometres south of the backup intake. The main intake is in the Cataraqui Source Protection Area and has been studied by the Cataraqui Source Protection Committee.

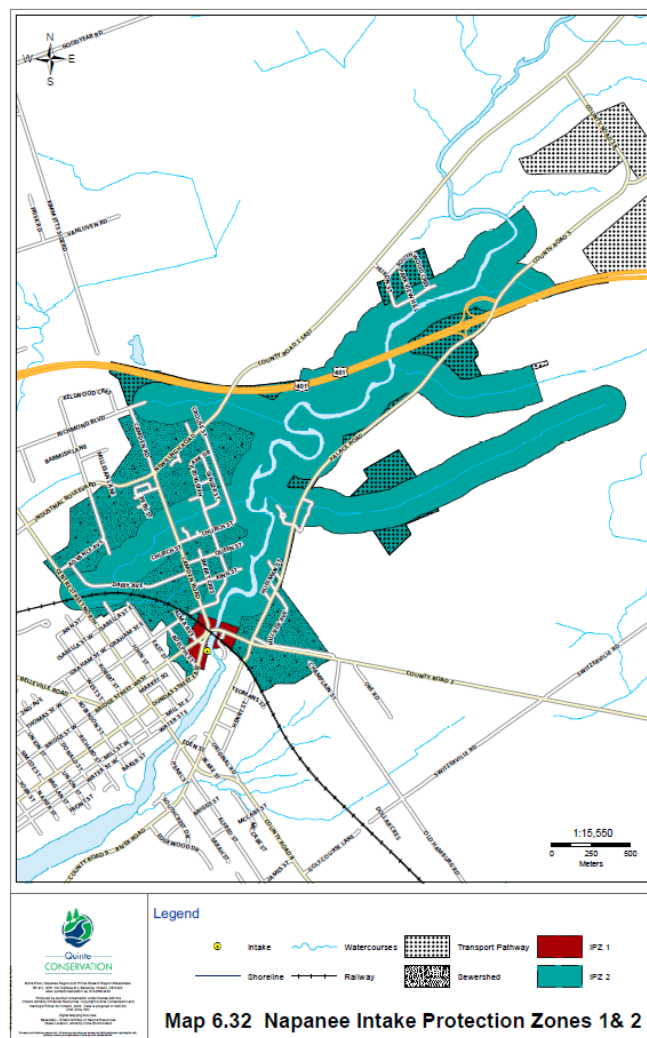
However, in the event of an emergency, the Town of Greater Napanee has a backup drinking water source in the Napanee River. This system has been the backup for the municipality since 1982. This intake sources water from the Napanee River at the head pond of the Springside Dam immediately upstream of the Napanee Falls on the west bank of the river.

Napanee's Vulnerable Areas

Using science, the Assessment Report has delineated zones to show which areas near the municipal intake are the most vulnerable to pollution and contamination. These zones are called Intake Protection Zones (IPZs) and include the water and land where activities could affect the quality and quantity of water flowing towards the intake. The location and size of an IPZ is determined in part by the direction of flow and the speed/rate it moves. In Napanee, there are three IPZs:

- **IPZ 1:** this zone is the closest to the intake. This is the zone of highest concern because contaminants can reach the intake quickly with little or no dilution.
- **IPZ 2:** this zone is calculated based on how far water can travel to the intake within two hours or less.
- **IPZ 3:** this zone is the total area of drainage that contributes to the intake.

The IPZ 3 was divided into two sub-zones (3a and 3b) due to the varying physiography and vulnerability considerations.



Vulnerability Scores

Vulnerability scores help to quantify how vulnerable the drinking water source is to contamination. Scores are calculated based on the characteristics of the intake and the IPZs around the intake, taking into account how contaminants might move through zones.

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

- **IPZ 1** = 9
- **IPZ 2** = 8.1
- **IPZ 3a** = 7.2
- **IPZ 3b** = 2.7

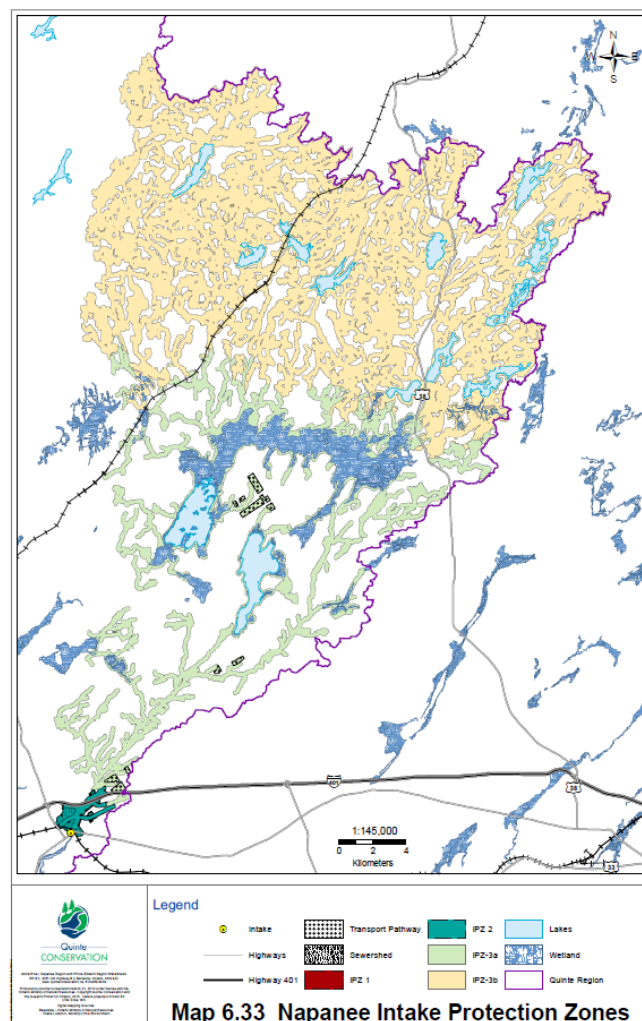
Drinking Water Issues

Drinking water issues are chemicals or bacteria found in untreated water that exceeds the provincial allowable values. A four-step screening process confirmed that no issues in the raw water exist for the Napanee Backup Drinking Water System.

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 Napanee's IPZs for the backup system. Some of the threat types that are, or could be occurring include:

- Application, handling and storage of road salt.
- Sewage treatment and storage.
- Application of agricultural source material to land.
- Use of land as livestock grazing or pasturing land and outdoor confinement areas or farm-animal yards.
- Application, handling and storage of non-agricultural source material.
- Application, handling and storage of pesticides and fertilizers to land.



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 policies 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.