



CARDINAL

Drinking Water Source Protection

Ontario's Clean Water Act helps protect drinking water from source to tap by preventing contaminants from entering sources of drinking water like lakes, rivers and aquifers. Scientific studies were completed in 26 communities across our region to determine the local drinking water source. These studies also identify the activities that could adversely impact the quality of the drinking water source. The technical studies can be found in the comprehensive *Assessment Report*.

Cardinal

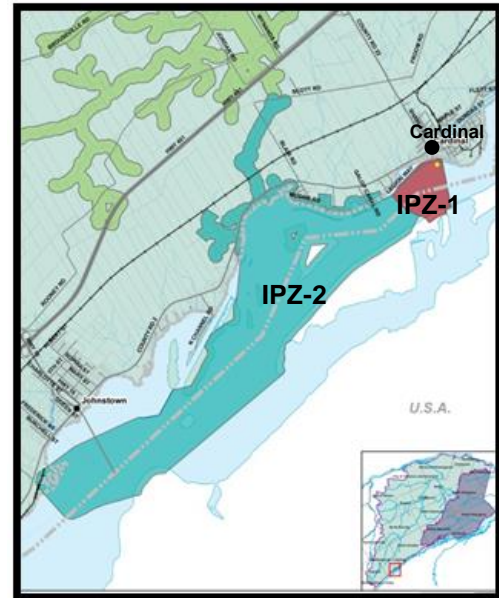
The Village of Cardinal municipal water intake is located 55 meters south west of the water treatment plant, approximately 43 meters from the edge of the St. Lawrence River. Raw water is drawn from approximately 5.2 m off the river bottom. The Cardinal Water Treatment Plant is operated by the Township of Edwardsburgh/Cardinal. The Cardinal municipal drinking water system services approximately 1,650 residents.



Cardinal Intake Area

What is an Intake Protection Zone?

Surface water intakes draw raw water from rivers or lakes to provide drinking water. An Intake Protection Zone (IPZ) is an area of water or land that is located within a specific distance of an intake. Intake protection zones in smaller bodies of water may also include smaller rivers or tributaries.



Cardinal Intake Protection Zones (IPZs)

IPZ-1: This is the area closest to the intake and is the area of highest concern because contaminants entering this zone can reach the intake quickly with little or no dilution.

IPZ-2: Considered the secondary protection zone, this area is calculated based upon how far water can travel in a two-hour time period. This area's allocation is determined by considering flows, wind, and transport pathways.

Vulnerability Scores

Vulnerability scores are used to indicate how at risk the drinking water source is to contamination. Scores in the Assessment Report are based upon the features of each intake. Characteristics such as the depth of the intake, distance of the intake from land, and the past water quality history affect its vulnerability. The higher the vulnerability score, the higher the level of concern for possible source water contamination, with a score of 10 being the highest score. The following table summarizes the vulnerability scores for each IPZ area.

Vulnerable Area	Vulnerability Score
IPZ-1	8
IPZ-2	6.4

Existing Water Quality

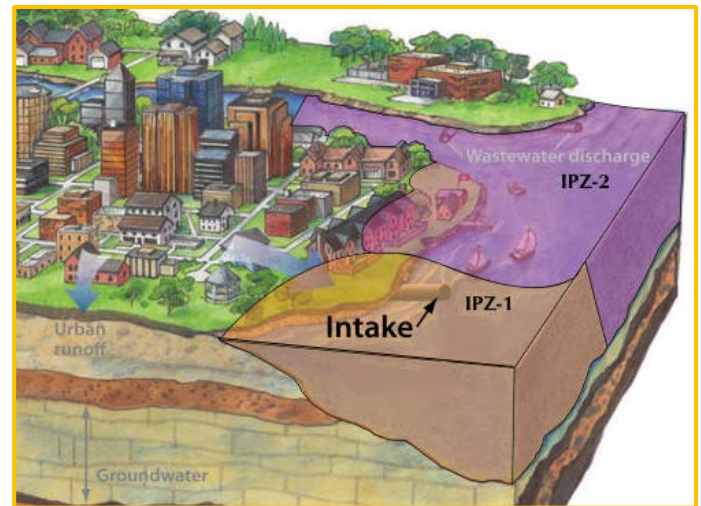
A review of water quality data from regular testing at the Cardinal intake confirms that there are no current issues that adversely impact the source for drinking water.

Drinking Water Threats

There are certain activities which have been identified by the province as threats to drinking water sources. An activity may be considered a significant threat based on various circumstances: proximity to the well, vulnerability of the IPZ and the nature of the activity.

The following table lists the significant threat activities that pose a risk to the drinking water source in this area.

Drinking Water Threat
Sewage Works
Application of Septage
Agricultural Activities
Chemicals



What is Next?

The Raisin-South Nation Source Protection Committee has completed its Source Protection Plan in consultation with local municipalities and stakeholders. This committee is made up of community members representing the public, farmers, industry, business and local municipalities.

The Source Protection Plan identifies ways to protect the quality and quantity of municipal drinking water sources in this part of eastern Ontario. The Plan addresses existing threats to drinking water and contains policies to prevent future risks.

The South Nation and Raisin Region Conservation Authorities will continue to work with municipalities and property owners to ensure local drinking water is safe.