

Ameliasburgh's Drinking Water Source - System Summary

Drinking Water From Roblin Lake

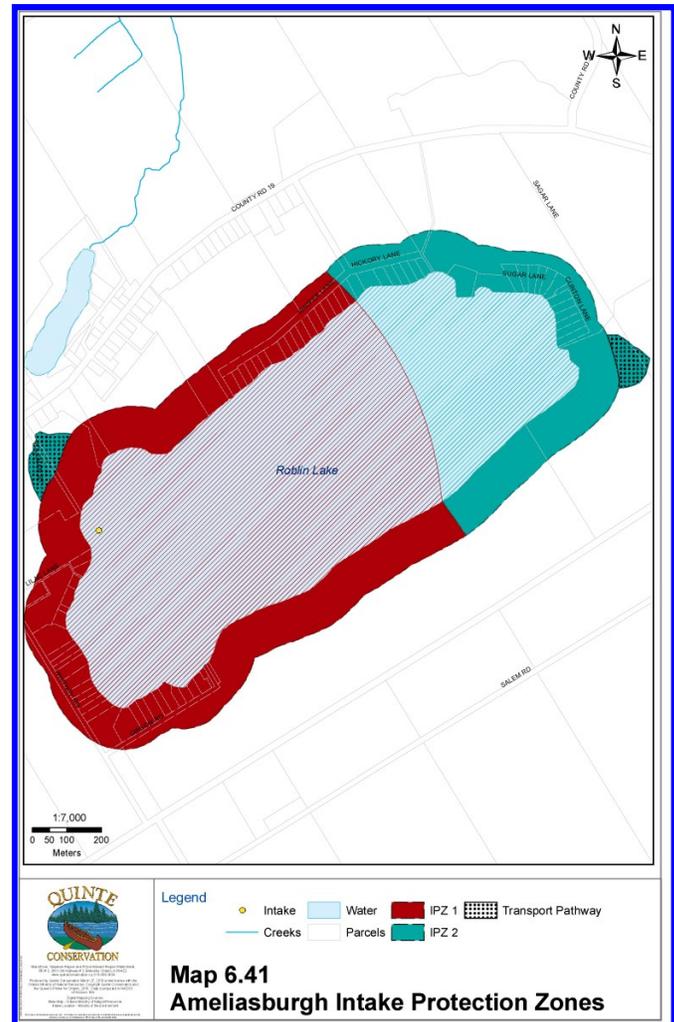
Roblin Lake in Prince Edward County is the source of drinking water for the Village of Ameliasburgh. This inland lake has a surface area of one square kilometre. An intake pipe in the lake draws water in for treatment and distribution. Ameliasburgh's water treatment plant on the northwest shore of the lake services 75 residences. There are 82 additional parcels around the lake that are unserviced where water is obtained from a private well or by pumping water directly from the lake.

Ameliasburgh has no sewage treatment facility and all residences are serviced by private sewage systems of uncertain effectiveness. Between 2007 and 2013, over 20 of these systems were inspected, upgraded or replaced through the Ontario Drinking Water Stewardship Program. There are a variety of land uses around the shores of Roblin Lake including permanent and seasonal residences, a municipal park and beach, a former Salvation Army camp, and agricultural land.

Vulnerable Areas

Through the science of the Assessment Report, (available at www.quintesourcewater.ca) maps were created showing which areas near the water intake pipe are most vulnerable to pollution and contamination. These areas are the Intake Protection Zones or IPZs. Three IPZs are typically identified; each with different levels of vulnerability or concern:

- **IPZ 1** is the zone closest to the intake. This is the area of highest concern because contaminants entering this zone can reach the intake quickly with little or no dilution.
- **IPZ 2** is a secondary protection zone. It is calculated based on how far water can travel during a two-hour time period. The contributing area to IPZ 2 was determined by considering water flow, wind and transport pathways.
- **IPZ 3** is the total area of drainage that contributes to the intake. The IPZ 3 typically includes the tributaries for the entire contributing area to the water source. Roblin Lake is situated in an upland area with no tributaries draining into it and the IPZ 2 boundaries extend to the entire lake and include the only transport pathway therefore no IPZ 3 was delineated for the intake pipe in Roblin Lake.



Vulnerability Scores

Vulnerability scores quantify how vulnerable the drinking water source is to contamination. Scores are calculated based on the characteristics of the intake and IPZs around the intake, taking into account how contaminants might move through them. An area with a higher vulnerability score is more likely to allow contaminants from that area to reach the drinking water intake. The vulnerability score of the highest concern is 10. The vulnerability scores for the Ameliasburgh Intake are: **IPZ 1 = 10, IPZ 2 = 8.**

Drinking Water Issues

Drinking water issues are chemicals or bacteria in the untreated lake water that exceed allowable values. The raw water quality data that represent conditions at the Ameliasburgh intake was screened during preparation of the Assessment Report, to identify any issues in the source water of Roblin Lake which could contribute to degraded water quality. Using a 4-step screening process it was confirmed that no issues exist in the raw lake water.

Drinking Water Threats

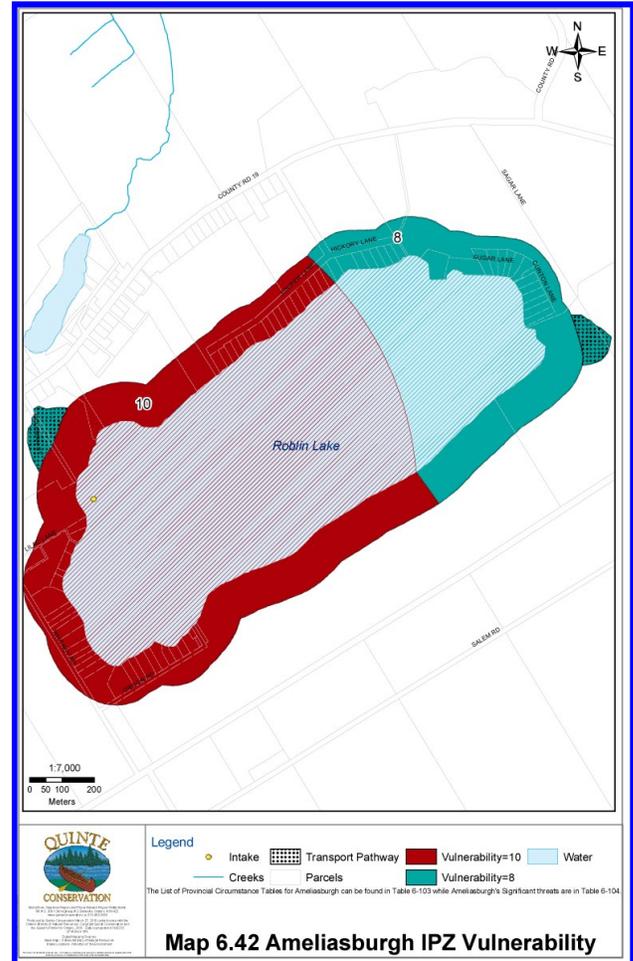
Threats to the drinking water source within the IPZs were evaluated. These threats are based on the categories prescribed by the Ministry of the Environment and Climate Change. Threats were inventoried by field observations, air photos and satellite images, existing databases and landowner contact. These threats were then ranked as significant, moderate or low. There were 56 parcels of land in the IPZ1 and IPZ2 that had one or more of the following identified significant threats types:

- agricultural source material (manure)
- application of commercial fertilizer to land
- use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard
- septic systems
- application of pesticide to land for areas greater than one hectare
- waste disposal site (storage of waste oil)

No threats were identified based on the presence of any past land uses or pre-existing conditions. Moderate and low threats are shown in tables in the Assessment Report.



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Source Protection Plan

The Approved Quinte Region Source Protection Plan includes policies, developed by the Source Protection Committee in consultation with the local community. The 63 policies in the plan address the drinking water threats identified in the science-based Assessment Report. The Assessment Report, identified the vulnerable areas surrounding the 11 municipal drinking water sources in the Quinte Region and ranked the threats as significant, moderate or low.

The source protection planning process is governed by the *Clean Water Act, 2006* and directed and funded by the Ontario Ministry of the Environment and Climate Change. The Quinte Region Source Protection Plan comes into effect January 1, 2015.

For more information, including the complete Assessment Report and the Source Protection Plan, visit:

www.quintesourcewater.ca

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