

The Grafton municipal drinking water system is one of 53 systems in the Trent Conservation Coalition Source Protection Region and it was examined as part of the studies completed for the Drinking Water Source Protection program.

The system is located in the **Lower Trent Source Protection Area** and is owned by the **Township of Alnwick/Haldimand**. The areas around the wellhead, the wellhead protection areas, are the vulnerable areas around the system where activities have the potential to be significant threats to the drinking water source. The Trent Source Protection Plan contains policies to manage or eliminate the significant threats that have been identified for the Grafton municipal drinking water system. Policies also apply to activities that would be significant threats if they were carried out in the future. This Factsheet provides a summary of Source Protection planning and the existing significant threats for the Grafton system.

### System Summary

<i>Water Source</i>	Groundwater
<i>Operating Authority</i>	Twp of Alnwick/Haldimand
<i>SDWA Classification</i>	Large municipal residential <sup>1</sup>
<i>Serviced Population</i>	~1,000

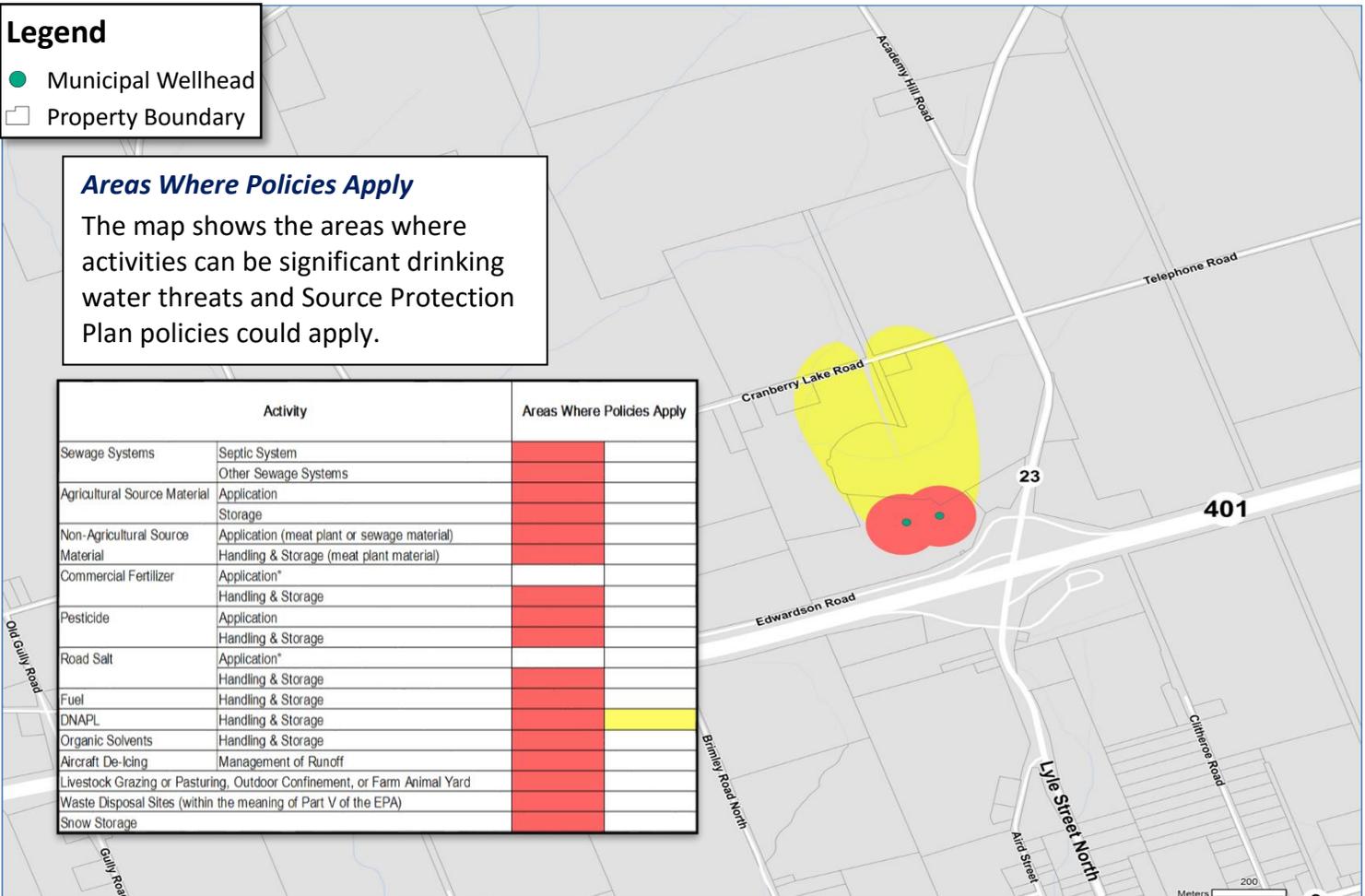
### Legend

- Municipal Wellhead
- Property Boundary

### Areas Where Policies Apply

The map shows the areas where activities can be significant drinking water threats and Source Protection Plan policies could apply.

Activity		Areas Where Policies Apply
Sewage Systems	Septic System	
	Other Sewage Systems	
Agricultural Source Material	Application	
	Storage	
Non-Agricultural Source Material	Application (meat plant or sewage material)	
	Handling & Storage (meat plant material)	
Commercial Fertilizer	Application*	
	Handling & Storage	
Pesticide	Application	
	Handling & Storage	
Road Salt	Application*	
	Handling & Storage	
Fuel	Handling & Storage	
DNAPL	Handling & Storage	
Organic Solvents	Handling & Storage	
Aircraft De-icing	Management of Runoff	
Livestock Grazing or Pasturing, Outdoor Confinement, or Farm Animal Yard		
Waste Disposal Sites (within the meaning of Part V of the EPA)		
Snow Storage		



## Wellhead Protection Zones

Wellhead protection areas (WHPA) are delineated based on the length of time it takes for water to move from the ground surface, underground to the well. This delineation helps to identify the length of time it would take most contaminants to travel from the location of a spill or leak to the associated well.

Once a contaminant comes into contact with a permeable surface, it will percolate through the layers of soil until it reaches an aquifer where it is then transported to the municipal well.

- **WHPA-A** is the area immediately adjacent to a well. It is delineated as a circle with a 100 metre radius centered on the well. Since there are three wells in the system, the WHPA-A is a combination of the three circles.
- **WHPA-B, WHPA-C and WHPA-D** are delineated based on the amount of time it takes water to travel horizontally through the aquifer towards the well. These three WHPAs represent two, five, and twenty-five year times of travel, respectively.

## Significant Drinking Water Threats

An activity is considered a significant drinking water threat if it is undertaken in a vulnerable area under circumstances that pose a significant risk to the water source. These circumstances are set out in the [2009 Tables of Drinking Water Threats](#), which are a part of the Clean Water Act regulations. Significant drinking water threats are addressed by policies in the Source Protection Plan.

No drinking water issues were identified for the Grafton system as defined under the *Clean Water Act, 2006*.

## Identifying Drinking Water Threats

Drinking water threats were initially assessed in 2009-2010 during the preparation of the Assessment Report. A verification of these threats was carried out in summer/fall 2013 to confirm the findings of the initial assessment and to obtain more specific information about the circumstances of the identified activities.

The threat verification identified activities taking place at the time of the assessment and activities that take place seasonally, rotationally, or occasionally as part of regular operations on the property (e.g. application of manure). These activities are considered existing threats. Activities that begin to occur after the Source Protection Plan comes into effect are considered future threats.

## Potential Drinking Water Threats for the Grafton System

[Learn More](#)

<b>Sewage Systems</b>	<a href="#">Sewage Systems Fact Sheet</a>
<b>Agricultural Activities</b>	<a href="#">Agricultural Activities Fact Sheet</a>
<b>Non-Agricultural Source Material</b>	<a href="mailto:Anne.Anderson@ltc.on.ca">Anne.Anderson@ltc.on.ca</a>
<b>Commercial Fertilizer</b>	<a href="mailto:Anne.Anderson@ltc.on.ca">Anne.Anderson@ltc.on.ca</a>
• <b>Handling &amp; Storage</b>	
<b>Pesticide</b>	<a href="#">Pesticide Fact Sheet</a>
<b>Road Salt</b>	<a href="mailto:Anne.Anderson@ltc.on.ca">Anne.Anderson@ltc.on.ca</a>
• <b>Handling &amp; Storage</b>	
<b>Fuel</b>	<a href="#">Fuel Fact Sheet</a>
<b>DNAPL</b>	<a href="#">DNAPL Fact Sheet</a>
<b>Organic Solvents</b>	<a href="mailto:Anne.Anderson@ltc.on.ca">Anne.Anderson@ltc.on.ca</a>
<b>Waste Disposal Sites</b>	<a href="mailto:Anne.Anderson@ltc.on.ca">Anne.Anderson@ltc.on.ca</a>
<b>Snow Storage</b>	<a href="mailto:Anne.Anderson@ltc.on.ca">Anne.Anderson@ltc.on.ca</a>

## Source Protection Plan

Source protection policies make use of a variety of approaches such as education and outreach, land use planning, inspections, and monitoring. For some activities, policies require landowners to work with a Risk Management Official to identify and implement measures to be more protective of drinking water. For activities already managed through existing tools, such as Environmental Compliance Approvals or Nutrient Management Plans, policies call for a review of these documents to ensure drinking water is addressed. In a limited number of cases, policies prohibit new activities from being started. Education and outreach to landowners will be a key component in the successful protection of our drinking water.

## Fun Facts

- The annual average pumping rate of the Grafton system is 183 cubic metres per day.
- There are 2 wells servicing the Grafton system, and each is dug to a depth of 78 meters.

For more information about the Clean Water Act or drinking water source protection:

- Visit our website at [www.trentsourceprotection.on.ca](http://www.trentsourceprotection.on.ca)
- Anne Anderson, Lower Trent Conservation, at (613) 394-3915 ext. 219 or [anne.anderson@ltc.on.ca](mailto:anne.anderson@ltc.on.ca)

