



# Havelock

The Havelock 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 Crowe Valley Source Protection Area and is owned by the Township of Havelock-Belmont-Methuen. 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 Havelock 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 Havelock system.

System Summary	
Water Source	Groundwater
Operating Authority	Ontario Clean Water Agency
SDWA Classification	Large Municipal residential
Serviced Population	~1,400

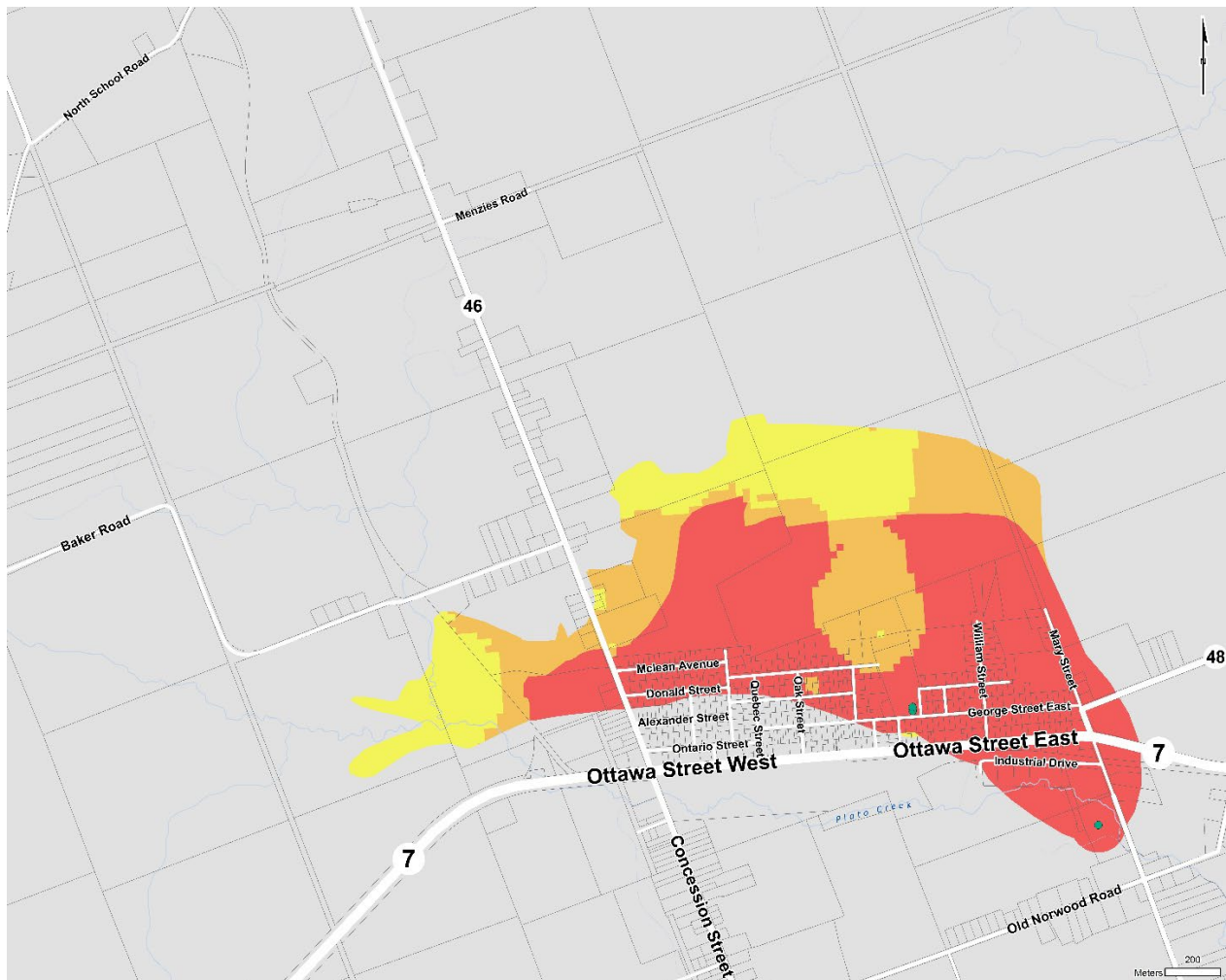
## Areas Where Policies Apply – See Map Below

Activity		Areas Where Policies Apply		
Onsite Sewage Systems	Onsite Sewage Systems	Red		
	Other Sewage Systems	Red	Orange	
Agricultural Source Material	Application	Red		
	Storage	Red		
Non-Agricultural Source Material	Application (meat plant or sewage material)	Red		
	Handling & Storage (meat plant material)	Red		
Commercial Fertilizer	Application*			
	Handling & Storage	Red		
Pesticide	Application	Red		
	Handling & Storage	Red		

Activity		Areas Where Policies Apply		
Road Salt	Application*			
	Handling & Storage	Red		
Fuel	Handling & Storage	Red		
DNAPL	Handling & Storage	Red	Orange	Yellow
Organic Solvents	Handling & Storage	Red		
Aircraft De-Icing	Management of Runoff	Red		
Livestock Grazing or Pasturing, Outdoor Confinement, or Farm Animal Yard		Red		
Waste Disposal Sites (within the meaning of Part V of the EPA)		Red	Orange	
Snow Storage		Red		
*These activities can be significant drinking water threats if carried out in a vulnerable area that exceeds thresholds values of the of the following parameters: percent managed land and livestock density for Commercial Fertilizer Application; and total impervious surface area for Road Salt Application (refer to Assessment Report maps).				

## Vulnerable Zone Map

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



## Wellhead Protection Areas

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 two wells in the system, the WHPA-A is a combination of the two 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 can be searched at [www.swpip.ca](http://www.swpip.ca) to determine if they are significant drinking water threats. All significant drinking water threats are addressed by policies in the Source Protection Plan.

## 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 Havelock System	Learn More
Onsite Sewage Systems	<a href="#">Sewage Systems Fact Sheet</a>
Agricultural Activities	<a href="#">Agricultural Activities Fact Sheet</a>
Non-Agricultural Source Material	<a href="mailto:info@trentsourceprotection.on.ca">info@trentsourceprotection.on.ca</a>
Commercial Fertilizer Handling & Storage	<a href="mailto:Info@trentsourceprotection.on.ca">Info@trentsourceprotection.on.ca</a>
Pesticide	<a href="#">Pesticide Fact Sheet</a>
Road Salt	<a href="mailto:Info@trentsourceprotection.on.ca">Info@trentsourceprotection.on.ca</a>

Potential Drinking Water Threats for the Havelock System	Learn More
Fuel	<a href="#">Fuel Fact Sheet</a>
DNAPL	<a href="#">DNAPL Fact Sheet</a>
Organic Solvents	<a href="mailto:Info@trentsourceprotection.on.ca">Info@trentsourceprotection.on.ca</a>
Waste Disposal Sites	<a href="mailto:Info@trentsourceprotection.on.ca">Info@trentsourceprotection.on.ca</a>
Snow Storage	<a href="mailto:Info@trentsourceprotection.on.ca">Info@trentsourceprotection.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 average pumping rate for the Havelock system is 169 cubic metres per day.
- The system contains three wells, with depths of 15.2m, 13.7m, and 15m, in an unconfined bedrock aquifer, with groundwater under the direct influence of surface water (GUDI). Treatment consists of disinfection with sodium hypochlorite, chlorine and UV irradiation, and dual media filtration.

You can check your property to find out if you are in a vulnerable zone and what Source Protection Plan policies apply by viewing our [Interactive Source Protection Map](#) and inputting your address.

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) or Lower Trent Conservation, at (613) 394-3915 ext. 246

Or contact the Crowe Valley Source Protection Lead at: [liam.baileymcdade@crowevalley.com](mailto:liam.baileymcdade@crowevalley.com), (613) 472-3137



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