

Identifying Threats to our Drinking Water Supplies

Open House

Tuesday, November 24, 3:00 – 7:00 pm
St. Aidan's Anglican Church
1246 Oxford Street West
(west of Hyde Park Road), London

Plan to attend this Open House to learn more about your local Wellhead Protection Area, and potential threats to drinking water.

What is a Drinking Water Threat?

Ontario's Ministry of the Environment defines a drinking water threat as an "activity or condition that adversely affects, or has the potential to adversely affect, the quality or quantity of any water that is or may be used as a source of drinking water."

Possible drinking water threats include:

- Waste disposal sites
- Systems that collect, store, transmit, treat or dispose of sewage
- Application, handling and storage of agricultural source material (manure), non-agricultural source material (bio-solids), commercial fertilizer, pesticide or road salt
- Snow storage
- Handling and storage of fuel, dense non-aqueous phase liquids, or organic solvents
- Management of runoff that contains aircraft de-icing chemicals
- Livestock grazing or pasturing land, outdoor confinement areas or farm-animal yards

The study of the Fanshawe Wellhead Protection Area identified nine locations where potential significant threats could occur. Numbers are yet to be determined for activities relating to the application of agricultural source material (manure), non-agricultural source material (bio-solids), commercial fertilizer, pesticide and road salt.

The Thames-Sydenham and Region Source Protection Committee is hosting another round of open houses. These open houses will present the results of technical studies that identify any issues related to your local drinking water source and the types of threats that could affect your drinking water.

The studies are focused on vulnerable areas near municipal wells (Wellhead Protection Areas or WHPAs). These are areas where particular care must be taken in the use and storage of materials that could contaminate water.

Activities on properties in these vulnerable areas are being evaluated and ranked according to rules developed by the Ontario government. Potential threats to water will be categorized based on the level of risk: low, moderate or significant.

What is a Drinking Water Issue?

A drinking water quality issue is a substance or disease-causing organism that is causing the quality of raw (untreated) water used for drinking to deteriorate. An issue may also be identified when levels of those substances or organisms show a trend that may result in deteriorating water quality.

Identifying issues involves reviewing raw (untreated) water quality data, considering the ability of the existing water treatment system to deal with any potential problems, and discussing the conditions with the authority operating the system. The Safe Drinking Water Act identifies what substances (parameters) are reviewed.

If an issue is identified, the activities that contribute to this issue become a significant risk and must be dealt with through the Source Protection Plan.

In the Fanshawe Water Supply System, organic nitrogen was identified as a drinking water quality issue in raw (untreated) water. This substance may result from both natural sources and land use activities. No other drinking water quality issues resulting from land use activities were identified.

The Wellhead Protection Area

The size and shape of a Wellhead Protection Area is determined by a variety of factors, such as the way the land rises or falls, the amount of water being pumped from the well, the type of soil around the well, and the direction and speed that the groundwater travels.

The City of London maintains six back-up wells in the Fanshawe area. The wells are to be used in case of supply interruptions in the Lake Huron water supply system. These high-capacity overburden wells are each capable of pumping at 3,200 L/minute.

The black triangles on the map show the locations of the wells. The coloured area shows the extent of the WHPA.

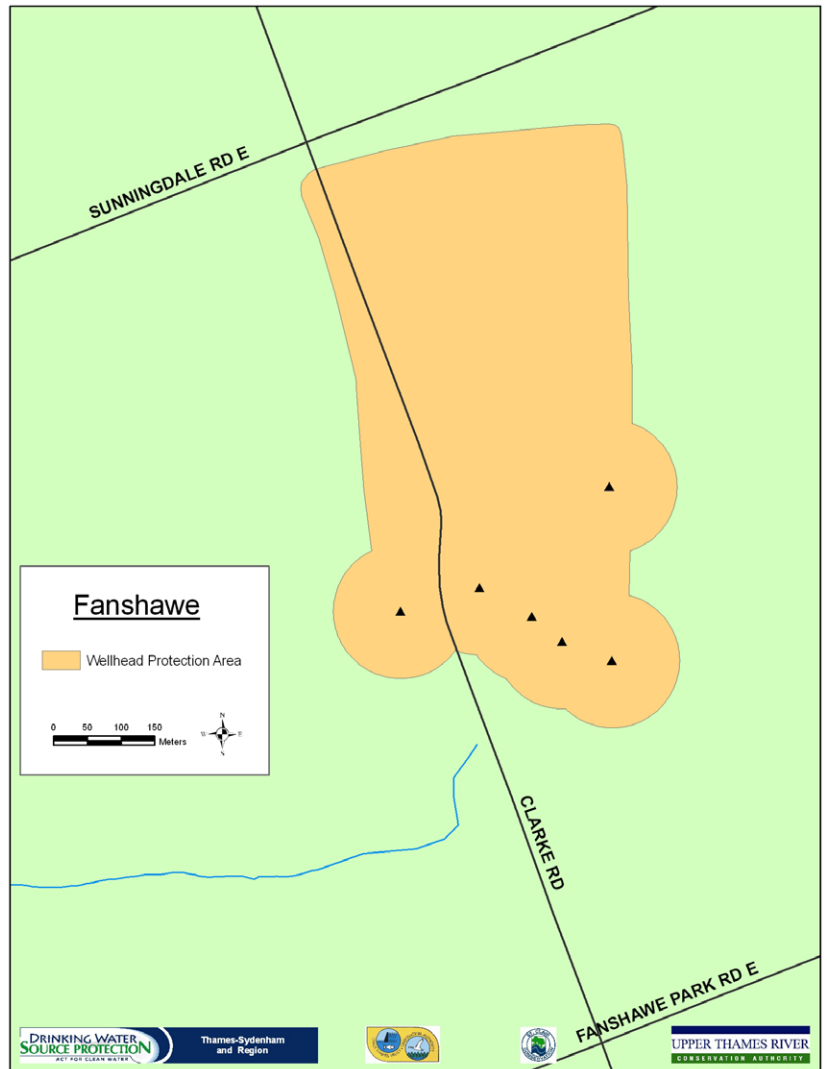
WHPA Zones

A WHPA includes different zones (not shown separately on this map) that indicate the length of time it takes for water to travel through the ground to the well.

- **WHPA-A (100 metre area)** – the area where the risk to the well is highest, and the greatest care should be taken in handling any potential contaminant
- **WHPA-B (2 year time of travel zone)** – bacteria and viruses from human and animal waste are a concern, as are hazardous chemicals
- **WHPA-C (5 year time of travel zone)** – biological contaminants are less of a concern, but chemical pollutants remain a concern
- **WHPA-D (25 year time of travel zone)** – the most persistent and hazardous pollutants remain a concern

What are the benefits of protecting drinking water wellheads?

- Ensuring a long-term supply of safe, clean water
- Not having to drill new wells when old ones become contaminated
- Avoiding the need to clean up contaminated groundwater
- Reducing the cost of water treatment
- Ensuring a positive climate for economic growth



For more information contact your local Conservation Authority
or visit our website



519-354-7310



519-245-3710



519-451-2800

www.sourcewaterprotection.on.ca



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