

Drinking Water Threats from Agricultural Activities

Several agricultural activities are listed as drinking water threats under Ontario's *Clean Water Act, 2006*. Given the rural nature of the Lower Trent Source Protection Area, agricultural activities are widespread throughout. The actual number of these activities that occur within the vulnerable areas of municipal drinking water systems is relatively small. Agricultural activities are considered to be potential threats to drinking water due to the possibility for release of chemicals (such as nitrogen, phosphorus and pesticides) and bacteria into ground and surface water.

Which agricultural activities are considered threats?

Specific agricultural activities that are listed in the regulations under the *Clean Water Act, 2006* as significant drinking water threats are:

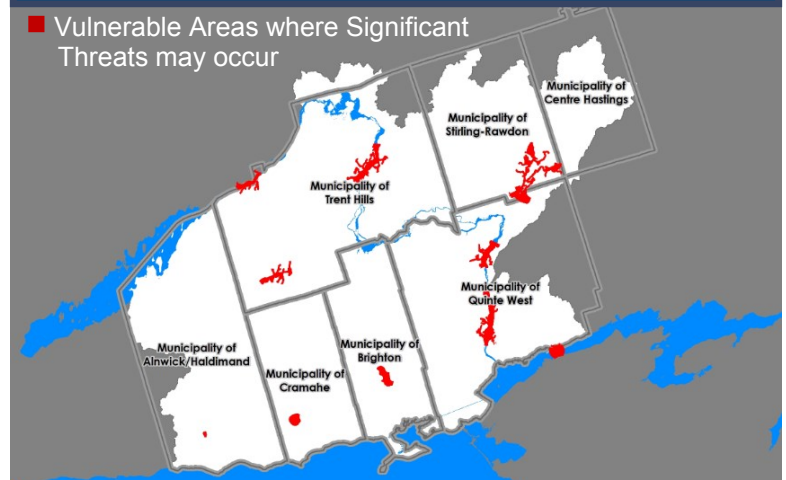
- application, handling, and storage of agricultural source material (i.e. manure produced by farm animals, runoff from farm yards and manure storages, milking centres, compost, source materials produced from the cultivation of fish or other aquatic organisms in a controlled environment),
- application and storage of non-agricultural source material (i.e. sewage biosolids and other wastes such as pulp and paper biosolids),
- grazing of livestock, pasturing, and outdoor confinement areas,
- application and storage of commercial fertilizers, and
- application and storage of pesticides.

The occurrence of these activities in vulnerable areas does not necessarily mean they are significant drinking water threats. That determination is made based on site specific circumstances such as the nature of the agricultural operations and facilities.

Types of threats to our drinking water sources:

- Waste Disposal Sites
- On-site Sewage Systems (septic systems)
- Sewage Works (sewage treatment plants, municipal sewers)
- Fuel Oil (residential heating oil)
- Liquid Fuel
- Nutrients (manure, biosolids, outdoor livestock areas)**
- Commercial Fertilizer**
- Pesticides**
- Road Salt and Snow Storage
- Chemicals (DNAPLs (toxic chemicals) and Organic Solvents)
- Aquaculture
- Aircraft De-icing Runoff

Lower Trent Source Protection Area



Where are the agricultural threats in the Lower Trent Source Protection Area?

Agricultural activities can be considered significant drinking water threats when they occur in the most sensitive areas near municipal drinking water sources. In the Lower Trent Source Protection Area, this includes: the most vulnerable zones surrounding wells, called Wellhead Protection Areas (WHPAs) and the most vulnerable zones surrounding some surface water intakes, called Intake Protection Zones (IPZs). There is the potential for significant threats from agricultural activities:

- In the most vulnerable portions of the WHPAs for the Brighton, Colborne, Stirling, and Grafton municipal wells
- In the most vulnerable portions of the IPZs for the surface water intakes in Bayside, Campbellford, Frankford, Trenton, Hastings, and Warkworth

Maps showing the vulnerable zones surrounding municipal water sources in the Lower Trent Source Protection Area are available at www.trentsourceprotection.on.ca.

The most commonly identified agricultural-related threats in the Lower Trent Source Protection Area are associated with livestock operations due to activities associated with housing, grazing, pasturing and application of manure. The lowest number of agricultural threats are associated with non-agricultural source material application and storage (i.e. biosolids). While these activities do occur in the Lower Trent Source Protection Area, it has been determined that they do not occur frequently in the vulnerable areas of municipal drinking water systems.

How are agricultural threats being addressed?

There are four policies in the Source Protection Plan specific to both existing and future agricultural activities that are or would be significant drinking water threats in the vulnerable areas. Policies in the Source Protection Plan www.trentsourceprotection.on.ca call for the following:

Education and Outreach: This policy calls for a program to raise awareness about the location of vulnerable areas and actions that can be undertaken to protect municipal drinking water supplies.

Risk Management Plans: Where activities are or would be significant drinking water threats property owners/ farm operators will be required to develop a plan to establish an acceptable means of managing any drinking water threats. This may include actions such as relocation of storage facilities and/or adoption of best management practices. The risk management official will contact property owners who require a risk management plan.

Prohibition: Some agricultural activities that may occur in the future will be prohibited within WHPA-A and IPZ 1 zones .

Restricted Land Use: This allows the municipality to identify areas where agricultural activities are either prohibited or require a Risk Management Plan. Municipalities will create an internal administrative process to ensure compliance with the requirements in the Source Protection Plan.

Update Existing Documents: Where nutrient management plans/strategies exist or are being applied, the Ministry of Agriculture, Food and Rural Affairs is directed to review those plans/strategies with respect to protection of the municipal drinking water supply.

