

# DRINKING WATER SOURCE PROTECTION

ACT FOR CLEAN WATER



Quinte Conservation, 2061 Old Highway 2, R R # 2, Belleville ON K8N 4Z2 613.968.3434

## Drinking Water Threats from Agricultural Activities

A number of agricultural activities are listed as drinking water threats under Ontario's *Clean Water Act, 2006*. Given the largely rural nature of the Quinte Region, agricultural activities are widespread throughout, however 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 leaching of contaminants such as nitrogen, phosphorus, 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, or wash water from milking centre waste, or compost, or 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 bio-solids and other wastes such as pulp and paper bio-solids),
- 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, bio-solids, outdoor livestock areas)

**Commercial Fertilizer**

**Pesticides**

**Road Salt and Snow Storage**

**Chemicals** (DNAPLs (toxic chemicals) and Organic Solvents)

**Aquaculture**

**Aircraft De-icing Runoff**

## Where are the agricultural threats in the Quinte Region?

Agricultural activities are considered to be significant drinking water threats in many of the vulnerable areas surrounding municipal water supplies. In the Quinte Region this includes sensitive areas surrounding municipal wells, called wellhead protection areas (WHPAs A, B, and E), and the vulnerable zones surrounding some of the municipal surface water intakes, called intake protection zones (IPZs 1 and 2). (Maps showing the vulnerable zones surrounding municipal water sources in the Quinte Region are available at [www.quintesourcewater.ca](http://www.quintesourcewater.ca).)

There is the potential for significant threats from agriculture:

- In the WHPAs A, B, and E of the wells for the Villages of Tweed, Deloro and Madoc (and within 30 metres of Deer and Madoc Creeks in the WHPA F), and the Hamlet of Peats Point,
- In the IPZ 1 and 2 of the surface water intakes for the Town of Picton, Village of Ameliasburgh, Town of Deseronto, City of Belleville (none identified), Hamlet of Bayside and the backup intake for the Town of Greater Napanee,
- The Hamlet of Point Anne has both intake protection zones and wellhead protection areas because the water from the intake in the Bay of Quinte flows to a collector well that is influenced by groundwater. So, for Point Anne significant threats have the potential to occur in both the IPZs and WHPAs.

The highest number of agricultural-related threats in the Quinte Region appears to be 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. bio-solids). While these activities do occur in the Quinte Region, 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 and one policy to address moderate and low threats from aquaculture. Policies in the Source Protection Plan, available at [www.quintesourcewater.ca](http://www.quintesourcewater.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 municipality's risk management official will contact property owners who require a risk management plan.

**Prohibition:** Some activities occurring now or that may occur in future will be prohibited within the 100 metre radius zone around a municipal well. This requirement is consistent with the *Nutrient Management Act* which restricts the application of nutrients within 100 metres of a municipal well. Less than two hectares of agricultural land in the Quinte Region is affected by this prohibition.

**Restricted Land Use:** This allows the municipality to identify areas where agricultural activities are either prohibited or require a risk management plan. This procedure helps to ensure compliance with 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.