



Drinking Water Threats from Pesticides

The application, handling and storage of pesticides are considered drinking water threats under Ontario's *Clean Water Act, 2006*. Insecticides, herbicides and fungicides can contaminate water through direct application, runoff, and atmospheric build-up.

Without proper safeguards pesticides have potential to seriously threaten water supplies. Water runoff can carry soil particles with pesticides from treated fields or spills into streams, ditches, ponds, and wells, affecting the health of both people and livestock, and the quality of produce. The greatest effect of surface runoff occurs when rain falls within 24 hours of pesticide application.

What pesticides are considered a threat to drinking water sources?

Eleven chemicals found in pesticides are listed in the Ontario Ministry of the Environment Tables of Drinking Water Threats (2009). The chemicals are:

- Atrazine
- Dicamba
- 2,4-Dichlorophenoxy Acetic Acid (2,4-D)
- 1,3-dichloropropene
- Glyphosate
- Mecoprop
- Metalaxyl
- Metolachlor or s-Metolachlor
- MCPA (2-methyl-4-chlorophenoxyacetic acid)
- MCPB (4-(4-chloro-2-methylphenoxy) butanoic acid)
- Pendimethalin

All of these substances are active ingredients in herbicides, with the exception of 1,3-dichloropropene, which is used as a soil fumigant and metalaxyl, which is a fungicide. Glyphosate is a chemical of concern at a moderate or low threat level.

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

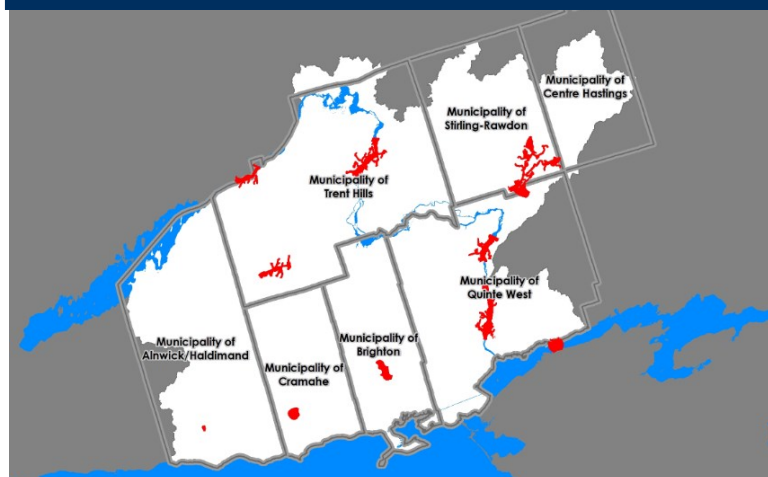
Road Salt and Snow Storage

Chemicals (DNAPLs (toxic chemicals) and Organic Solvents)

Aquaculture

Aircraft De-icing Runoff

Lower Trent Source Protection Area



How are threats from pesticides being addressed ?

Policies in the Trent Source Protection Plan address the use of pesticides in the specific vulnerable areas. 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 zone surrounding some surface water intakes, called Intake Protection Zones (IPZ).

There is the potential for significant threats from pesticide handling and storage:

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

Education and Outreach:

A policy calls for a program to raise awareness in the vulnerable areas surrounding municipal water sources regarding the importance of protecting drinking water from contamination from pesticides. Another policy calls for municipalities to provide opportunities for residents to dispose of hazardous materials in an appropriate manner such as through Household Hazardous Waste collection programs.

Prohibition:

Application: The application of pesticides, now and in the future, will be prohibited in the area immediately surrounding the municipal wells.

Storage and Handling: The storage and handling of pesticides, now and in the future, will be prohibited in the areas immediately surrounding all municipal wells and surrounding surface water intakes. Agricultural handling and storage of

pesticides in the intake protection zones will be addressed through the use of risk management plans..

Risk Management Plans:

The Risk Management Official will work with the property owner to develop a plan to ensure the safe application, handling and storage of pesticides. The risk management plan will consider each property on a case-by-case basis and incorporate other relevant existing measures already in place. A Risk Management Official will be in touch with anyone requiring a risk management plan.

Restricted Land Use:

This allows the municipality to identify the areas where the application and or storage and handling of pesticides are either prohibited or require a risk management plan. This will allow the municipalities to create their own internal process to ensure compliance with the Trent Source Protection Plan.

* Non-agricultural pesticide policies apply to parks, sport fields, golf courses, institutional, commercial and residential properties. The use of cosmetic pesticides was banned by the province in 2009 through Regulation 63/09.

