

DRINKING WATER SOURCE PROTECTION

ACT FOR CLEAN WATER



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Drinking Water Threats from Pesticides

The application, handling and storage of pesticides are considered drinking water threats under Ontario's *Clean Water Act, 2006*. Pesticides are defined in Ontario's *Pesticides Act, 1990* as:

...any organism, substance or thing that is manufactured, represented, sold or used as a means of directly or indirectly controlling, preventing, destroying, mitigating, attracting or repelling any pest or altering the growth, development or characteristics of any plant life that is not a pest and includes any organism, substance or thing registered under the Pest Control Products Act (Canada).

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.

There are many kinds of pesticides, but under the *Clean Water Act, 2006*, the pesticides of interest are the chemicals used to control weeds (herbicides), or fungi (fungicides), or those used as a soil fumigant to control fungi, nematodes and weeds. The province banned the use of cosmetic pesticides in 2009 through Regulation 63/09.

Pesticides could make their way into groundwater as a result of the application to land or through spills or leaks resulting from handling and storage. Pesticides are potentially toxic to humans and other animals and may cause a variety of acute and delayed health effects in those exposed, including cancer.

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

How are threats from pesticides being addressed ?

Policies in the Source Protection Plan address both existing and future activities related to **agricultural** (three policies) and **non-agricultural uses*** of pesticides that are or would be significant drinking water threats in the specific vulnerable areas. Fewer than three dozen existing significant threats from pesticide use were identified in the Quinte Region. Maps showing the vulnerable areas (wellhead protection areas or WHPAs and intake protection zones or IPZs) surrounding municipal water sources in the Quinte Region are available at www.quintesourcewater.ca. The exact areas where a specific policy applies are noted in each policy in the Source Protection Plan (available at the same website). Policies call for the following:

Education and Outreach:

A general education 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 general 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 in Deloro, Madoc, Tweed, Peats Point and Point Anne. This area is the 100 metre radius surrounding the wells and is known as the WHPA A.

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 (WHPA A) and, for non-agricultural storage and handling, in the most vulnerable zone surrounding surface water intakes (IPZ1) at Point Anne, Picton and Ameliasburgh. (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. addressed

Application: Risk management plans will be required for the application of pesticides in certain specific applicable areas (as per policies) near the municipal wells and surface water intakes in Deloro, Madoc, Tweed, Peats Point, Point Anne, Belleville, Picton, Deseronto, Ameliasburgh, Napanee, Point Anne.

Storage and Handling: Risk management plans will be required for the storage and handling of pesticides in certain specific applicable areas (as per policies) near the municipal wells and surface water intakes in Deloro, Madoc, Tweed, Peats Point, Point Anne, Belleville, Picton, Deseronto, Ameliasburgh, Napanee, Point Anne.

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 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.