

# DRINKING WATER SOURCE PROTECTION

ACT FOR CLEAN WATER



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## Threats to Our Drinking Water Sources

Activities on the land and in the water near municipal wells and surface water intakes may adversely affect our drinking water sources. The Province of Ontario has identified 22 prescribed drinking water threats under the *Clean Water Act, 2006*. Twenty of these relate to water quality and two to water quantity. (For the list of 22 threats with examples, see page 2.)

The goal of source protection planning is to eliminate significant threats to municipal drinking water sources. During the study of local municipal drinking water systems, threats were inventoried by field observations, air photos and satellite images, existing databases and

landowner contact. Potential threats were ranked as significant, moderate or low. Specific locations of properties containing potential significant threats were not identified in any public documents. Reports identify only the number and type of potential threats in the vulnerable areas surrounding municipal wells and intakes. Property owners were notified if it was believed their land is the site of a potential significant threat. Site visits, questionnaires and conversations with landowners helped to refine estimated threat numbers. For more information visit: [www.quintesourcewater.ca](http://www.quintesourcewater.ca).

### How are drinking water threats addressed?

The Source Protection Plan outlines the steps that must be taken to reduce the risk posed by drinking water threats. The Plan includes policies that use a variety of approaches such as education and outreach, the use of risk management plans, changes to municipal land use planning documents, and in some cases, the prohibition of certain activities near water sources. The Plan, developed by the local Source Protection Committee was approved by the Minister of the Environment and Climate Change in September 2014 and took effect January 1, 2015.

From 2007 to 2013 over 85 stewardship projects were undertaken by property owners to decrease the risk that an activity on their lands could pollute a drinking water source. Grants were available under the Ontario Drinking Water Stewardship Program. For more information see the 'Stewardship' link at [quintesourcewater.ca](http://quintesourcewater.ca).

### What types of drinking water threats are there?

#### 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

#### Liquid Hydrocarbon Pipelines

[www.quintesourcewater.ca](http://www.quintesourcewater.ca)

Prescribed Drinking Water Threat Activity	Examples of Threat
The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the <i>Environmental Protection Act</i> .	Storage of PCBs, waste oil and other hazardous waste, landfilling of hazardous, non-hazardous, municipal or commercial waste, land application of untreated septage.
The establishment, operation or maintenance of a system that collects, stores, transmits, treats, or disposes of sewage.	Septic systems, stormwater treatment ponds, discharge of industrial effluent, sewage treatment plants and sanitary sewer systems.
The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm animal yard.	Fields where livestock graze, and confinement areas outside barns.
The application of agricultural source material to land.	Manure produced by farm animals, and run-off from farm yards and manure storages, or wash water such as milking centre waste, or compost (such as mushroom compost). Facilities that cultivate fish or other aquatic organisms in a controlled environment also produce agricultural source material.
The storage of agricultural source material.	
The management of agricultural source material.	
The application of non-agricultural source material.	Land application of sewage bio-solids or other similar wastes such as pulp and paper bio-solids or waste materials from food processing.
The handling and storage of non-agricultural source material.	
The application of commercial fertilizer to land.	Contaminants of interest include nitrogen and phosphorus. (agricultural and non-agricultural e.g. golf courses)
The handling and storage of commercial fertilizer.	
The application of pesticide to land.	Pesticides of interest include the chemicals used to control weeds (herbicides), or fungi (fungicides) or those used as a soil fumigant to control fungi, nematodes and weeds. (agricultural and non-agricultural e.g. golf courses)
The handling and storage of pesticide.	
The application of road salt.	Contaminants of interest include chloride and sodium.
The handling and storage of road salt.	
The storage of snow.	Contaminants of interest include chloride, sodium, and petroleum hydrocarbons.
The handling and storage of fuel.	Bulk plants or facilities where fuel is manufactured, gas stations, marinas, farms or contractor yards, and heating oil tanks for homes and businesses.
The establishment and operation of a liquid hydrocarbon pipeline	Contaminants of interest include Petroleum Hydrocarbons and BTEX
The handling and storage of a dense non-aqueous phase liquid or DNAPL.	Dry-cleaning chemicals, paint and spot removers, rug cleaning fluids, and varnishes.
The handling and storage of an organic solvent.	Paints, varnishes, adhesives, glues, degreasing or cleaning agents, and substances used in the production of dyes, polymers, plastics, textiles, and printing inks.
The management of runoff that contains chemicals used in the de-icing of aircraft.	Airports using ethylene glycol to de-ice aircrafts.
WATER QUANTITY THREAT: An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.	Water taken from a river or bay and then discharged onto the ground and into groundwater.
WATER QUANTITY THREAT: An activity that reduces the recharge of an aquifer.	Increasing impervious cover of the ground, often through construction of paved areas e.g. parking lots.