

DRINKING WATER SOURCE PROTECTION

ACT FOR CLEAN WATER



Quinte
CONSERVATION

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Drinking Water Threats from Road Salt

The application, handling and storage of road salt are considered drinking water threats under Ontario's *Clean Water Act, 2006*. Road salting is required to maintain human safety and it is a common activity. In the Quinte Region the amount of road salting activities near municipal drinking water sources, where they would be considered a significant threat, is relatively small.

The majority of road salt is used as a de-icer or an ice prevention agent. The most commonly used products are sodium chloride and calcium chloride because they are effective, inexpensive, readily available, and easy to use. The main reason road salt is considered a threat is due to the potential of these products to run off the roads and enter sources of drinking water (both ground and surface water).

Where are the threats from road salt in the Quinte Region?

The application, storage and handling of road salt are considered to be significant drinking water threats near municipal drinking water sources where the area is determined to be highly vulnerable and the percentage of impervious (paved) surface is high enough to trigger a significant threat.

The assumption used for the risk analysis for the application of road salt is that road salt is applied only during the winter months to impervious surfaces. Roads and parking lots were considered impervious, not driveways. A one square kilometre grid, centred on the midpoint of the Source Protection Area, was used to assess the percentage of impervious surfaces within each grid cell of each vulnerable area (see maps included in the Assessment Report). Then, risk levels were assigned, based on the calculated percentage. A few parcels of land in Picton were identified where there is an existing significant threat from the application, storage and handling of road salt.

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 road salt being addressed ?

Six policies in the Source Protection Plan address both existing and future activities related to road salt application, and handling and storage, that are or would be significant drinking water threats in the specific vulnerable areas. 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. Policies in the Source Protection Plan are available at the same website and call for the following:

Specify Action: Municipalities and the Ministry of Transportation will prepare or, if already existing, review and update, their salt management plan to comply with *Environment Canada's Code of Practice for the Environmental Management of Road Salts*.

Risk Management Plans : Risk management plans will be required where the application of road salt on private roads and parking lots is or would be a significant drinking water threat (Picton IPZ 1). The risk management plans will establish an acceptable means of managing salt related threats. This may include requirements such as relocation of storage facilities and/or adoption of best management practices. A Risk Management Official will be in touch with anyone requiring a risk management plan.

Prohibition: The municipality will prohibit the future handling and storage of road salt in:

- the most vulnerable areas (WHPA A and B) surrounding the municipal wells in Deloro, Madoc, Peats Point, Point Anne and Tweed,
- the most vulnerable areas (IPZs 1 and/or 2, as per details in the policy) surrounding the municipal intakes for Belleville, Deseronto, Napanee, Ameliasburgh and Picton where the quantity of road salt is greater than 5,000 tonnes and,
- the most vulnerable area (IPZ 1) closest to the intakes for Ameliasburgh, Point Anne and Picton where the quantity of road salt is greater than 500 tonnes.

Restricted Land Use: This allows the municipality to identify areas where the handling and storage or application of road salts are either prohibited or require a risk management plan (in the WHPAs A, B and IPZs 1 and 2). This will assist the municipalities to create their own internal process to ensure compliance with the source protection plan.