

10.6 PESTICIDES

Definition

The application of pesticide to land and the handling and storage of pesticide are prescribed drinking water threats listed in Regulation 287/07 under the *Clean Water Act, 2006*. Pesticide is defined in the Ontario *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 of 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 federal *Pest Control Products Act, 2002*.” Pesticides are typically chemicals, but could be organisms, that are used to control undesirable pests such as weeds, insects, and fungi. Eleven pesticides are considered drinking water threats under the *Clean Water Act, 2006* (see below).

Why is Pesticide a Threat to Drinking Water Sources?

The Ministry of the Environment and Climate Change’s *Tables of Drinking Water Threats* identify the following sub-threat activities:

- The application of pesticide to land (circumstances #55-87)
- The handling and storage of pesticide (circumstances #1113-1200)

The 11 chemicals that could make their way, under certain conditions, from the application, storage or handling of pesticide into drinking water sources, are:

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

These substances are herbicides except for dichloropropene-1, 3, which is a nematicide (used to control nematodes) and Metalaxyl, which is a fungicide. Other pesticides are not considered to be drinking water threats.

Pesticide has historically been applied to agricultural, recreational, institutional, industrial, commercial and residential land uses. Since 2009, there has been a ban on the cosmetic use of pesticide in Ontario on lawns, vegetable and ornamental gardens, patios, driveways, cemeteries, parks and school yards. The major uses for pesticide will continue to be in agriculture and on golf courses.

The assessment of potential threats to drinking water sources from the application of commercial pesticide to land is dependent on the area of land to which the pesticide is applied: less than 1 hectare; between 1 and 10 hectares; or greater than 10 hectares. In general, the greater the application area, the greater the risk to drinking water. The assessment of potential threats to drinking water sources from the handling and storage of pesticide is dependent on the location, the type of storage (whether at a facility where it is manufactured or processed, or at a facility for retail sale or extermination), and the amount of pesticide stored.

See **Table 10-8** for when and where application, handling and storage of pesticides may be a significant drinking water threat. Note: to determine if a specific activity is a significant drinking water threat consult the *Tables of Drinking Water Threats* for the specific circumstances that must be met for the activity to be a threat.

Prescribed Drinking Water Threat	Pesticide Threat Sub-Category	Area and Vulnerability Score (VS)
The application, handling and storage of pesticide	The application of pesticide to land	WHPA-A WHPA-B (VS = 10) WHPA-E (VS ≥ 8.1)
	The handling and storage of pesticide	WHPA-A WHPA-B (VS = 10) WHPA-E (VS ≥ 9)

Table 10-8: When/where pesticide may be a significant drinking water threat

Policy ID	Threat Description	Implementing Body	Legal Effect	Policy	Where Policy Applies	When Policy Applies	Related Policies	Monitoring Policy
PES-1	Application of Pesticide to Land	RMO	H	<p>Part IV, s.58</p> <p>The application of pesticide to land is designated for the purpose of s.58 under the <i>Clean Water Act</i>, requiring risk management plans, where the threat is, or would be significant, in any of the following areas:</p> <ul style="list-style-type: none"> • WHPA-A (existing, future); or • WHPA-B (VS = 10) (existing, future); or • WHPA-E (VS ≥ 8.1) (existing, future). <p>Without limiting other requirements, risk management plans shall incorporate appropriate agri-environmental best management practices and standards to ensure the activity ceases to be, or does not become, a significant drinking water threat.</p>	See Maps 1.1 - 1.21	<p>Future: Immediately (T-7)</p> <p>Existing: 1 year/ 5 years (T-6)</p>	GEN-1 GEN-2	MON-2
PES-2	Handling and Storage of Pesticide	RMO	G	<p>Part IV, s.57, s.58</p> <p>Where the handling and storage of pesticide is, or would be, a significant drinking water threat, the following actions shall be taken:</p> <p>1) The handling and storage of pesticide is designated for the purpose of s.57 under the <i>Clean Water Act</i>, and is therefore prohibited where the threat would be significant in the following area:</p> <ul style="list-style-type: none"> • WHPA-A (future); or 	See Maps 1.1 - 1.21	Future: Immediately (T-5)	GEN-1 GEN-2	MON-2
			H	<p>2) The handling and storage of pesticide is designated for the purpose of s.58 under the <i>Clean Water Act</i>, requiring risk management plans, where the threat is, or would be significant, in any of the following areas:</p> <ul style="list-style-type: none"> • WHPA-A (existing); or • WHPA-B (VS = 10) (existing, future); or • WHPA-E (VS ≥ 9) (existing, future). <p>Without limiting other requirements, risk management plans shall incorporate appropriate agri-environmental best management practices and standards to ensure the activity ceases to be, or does not become, a significant drinking water threat.</p>		<p>Future: Immediately (T-7)</p> <p>Existing: 1 year/ 5 years (T-6)</p>		

Policy ID	Threat Description	Implementing Body	Legal Effect	Policy	Where Policy Applies	When Policy Applies	Related Policies	Monitoring Policy
PES-3	Application of Pesticide to Land Handling and Storage of Pesticide	MOECC	K	<p>Education and Outreach</p> <p>Where the application, handling and storage of pesticide is, or would be, a significant drinking water threat, the Ministry of the Environment and Climate Change should develop education, training and outreach programs promoting integrated pest management and alternative pest control best management practices, particularly for farms, golf courses and sports fields where the threat is, or would be significant, in any of the following areas:</p> <ul style="list-style-type: none"> • WHPA-A (existing, future); or • WHPA-B (VS = 10) (existing, future); or • WHPA-E (VS ≥ 8.1 for application; VS ≥ 9 for handling and storage) (existing, future). 	See Maps 1.1 - 1.21	Existing & Future: Consider within 2 years (T-15)	GEN-8	MON-4
PES-4	Application of Pesticide to Land Handling and Storage of Pesticide	Municipality	E	<p>Incentive</p> <p>Where the application, handling and storage of pesticide is a significant drinking water threat, the municipality shall consider providing incentive programs to encourage best management practices for agricultural/rural landowners to reduce the risks to groundwater where the threat is significant in any of the following areas:</p> <ul style="list-style-type: none"> • WHPA-A (existing); or • WHPA-B (VS = 10) (existing); or • WHPA-E (VS ≥ 8.1 for application; VS ≥ 9 for handling and storage) (existing). 	See Maps 1.1 - 1.21	Existing: Consider within 2 years (T-11)	N/A	MON-1