



Environmental Impacts of Rodent Control Subcommittee Supporting Materials Package

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PROVINCE OF BRITISH COLUMBIA

ORDER OF THE MINISTER OF ENVIRONMENT AND CLIMATE CHANGE
STRATEGY

Integrated Pest Management Act

Ministerial Order No. M305

Whereas pesticides which contain one or more of the active ingredients brodifacoum, bromadiolone, or difethialone are used in many areas of B.C.

And whereas the use of these pesticides, and the manner in which they are used, handled, released, transported, stored, disposed of or sold has had, or could result in, an unreasonable adverse effect on wildlife in B.C.,

And whereas those unreasonable effects have been documented to show an increased exposure to non-target wildlife increasing the risk of primary and secondary poisoning in raptors and other birds of prey, including owls,

And whereas section 8 of the *Integrated Pest Management Act* (the Act) provides that, if I am satisfied that such an unreasonable adverse effect has resulted, or is likely to result from the use of the pesticides or the manner in which they are used, handled, released, transported, stored, disposed of or sold, I may make orders to restrict or prohibit the use, handling, release, transport, storage, disposal of or sale of the pesticides on the terms and conditions I consider appropriate;

Now Therefore:

I, George Heyman, Minister of Environment and Climate Change Strategy, order that

July 21, 2021

Date



Minister of Environment and Climate
Change Strategy

(This part is for administrative purposes only and is not part of the Order.)

Authority under which Order is made:

Act and section: Integrated Pest Management Act, [SBC 2003] Chapter 58, section 8

Other: _____

1. In this Order,
 - “Agricultural Operation” means an agricultural operation defined in the Code of Practice for Agricultural Environmental Management,
 - “Certified” means certified under the Act,
 - “Essential Service” means an essential service set out in Schedule A of this Order,
 - “Licensed” means licensed under the Act,
 - “Second-Generation Anticoagulant Rodenticides” means pesticide products registered under the Pest Control Products Act (Canada) that contain the active ingredients: brodifacoum, bromadiolone, or difethialone, (hereinafter “SGARs”).
2. This Order applies to all persons and businesses, including all Licensed pesticide vendors, who sell SGARs to persons in B.C.
3. This Order applies even though the use, manner of application, storage, sale, transport, or disposal of the SGARs is authorized under the Act and despite the terms and conditions of any licence, certificate, or permit.
4. Subject to section 5, SGARS are prohibited for sale and use in B.C.
5. The following exemptions from section 4 apply:
 - a) SGARs may be sold by a Licensed vendor to
 - (i) a business or person considered an Essential Service if the business or person holds a pesticide applicators Certificate;
 - (ii) a business or person who owns or operates an Agricultural Operation;
 - (iii) a Licensed pest control company; or
 - (iv) an agent of the business or person in 5 (a)(i) to (iii), including an employee who is not directly involved in the use of the products and who is not a holder of a pesticide

applicators Certificate but who purchases and distributes supplies for the business or person, and is acting on behalf of the business or person.

b) SGARs may be used by

- (i) a business or person considered an Essential Service if
 - a. the business or person holds a pesticide applicators certificate in the appropriate category; or
 - b. the business or person hires a Licensed pest control company to apply the SGARs.
- (ii) a business or person who owns or operates an Agricultural Operation.
- (iii) a service Licensee who is hired by an Essential Service or Agricultural Operation to use SGARs.

c) a business or person in 5(b) must not provide SGARs to a person who is not authorized by this order to use SGARs regardless of whether the person holds a pesticide applicator Certificate.

6. A Licensed vendor referred to in 5(a) must:

- a) ensure a Certified dispenser confirms the purchaser:
 - (i) is an Essential Service or is employed by an Essential Service, and is purchasing the SGARs for an “Essential Service”, a Licensed pesticide service company or a is a person who owns or operates an Agricultural Operation;
 - (ii) except where the person owns or operates an Agricultural Operation, holds a valid pesticide applicators Certificate showing the purchaser’s name and Certificate number and;
 - (iii) if acting as an “agent” of the Essential Service, company or Agricultural Operation in (i), provides written verification from the purchaser’s employer that the purchaser and Certificate holder (if not the same person and except where the person owns or operates an Agricultural Operation) are current employees of the organization and the purchase is authorized by the Essential Service, company or Agricultural Operation.

- b) store and display SGARs in a manner that prevents access to the SGARs without the assistance of a Certified dispenser.
- c) where SGARs are displayed for sale, post signage that is produced by the ministry that highlights the risks to wildlife,
- d) ensure a Certified dispenser advises authorized purchasers of SGARs of the following information:
 - (i) the risks to wildlife when using SGARs;
 - (ii) that the use of SGARs is subject to the new requirements surrounding Integrated Pest Management, record keeping and disposal as set out in this order.
- e) record the following information for each sale:
 - (i) the purchaser's name, the contact information of the employer (if the purchaser is an employee), the SGAR product trade name, the SGAR product Pest Control Products number and weight of the container in which the SGARs were sold and number of containers sold and the category of purchaser (Licensee, Essential Service, Agricultural Operator);
 - (ii) from a Licensee, the Licence number, Certificate holder's name (if different than the purchaser), Certificate number;
 - (iii) from an Essential Service, Certificate holder's name (if different than the purchaser), Certificate number.

7. A Certified dispenser must perform the duties as described in section 6 (a) and (d).

8. A user of SGARs described in 5(b)

- a) may use SGARs only after doing all the following in accordance with Integrated Pest Management principles:
 - (i) identify and implement, or identify and advise the owner or manager of the treatment area of, reasonable measures to prevent rodents;
 - (ii) identify the rodent species to be managed;
 - (iii) monitor to determine the population of rodents and their location;

- (iv) determine an injury threshold for each rodent and apply them to the determination of when to use SGARs;
- (v) select treatment methods based on
 - a. consideration of practical alternatives to the use of SGARs, and
 - b. protection of human health and the environment.
- b) must evaluate the effectiveness after each use of SGARs, in accordance with Integrated Pest Management principles.
- c) must dispose of unused SGARs and poisoned rodents properly.
- d) must record the following information when SGARs are applied:
 - (i) the applicators name;
 - (ii) the rodent species targeted;
 - (iii) Integrated Pest Management measures taken to prevent rodents and manage their population without the use of SGARs;
 - (iv) for each SGAR applied,
 - a. the product trade name and Pest Control Product registration number, and
 - b. the application method and amount applied.
 - c. the date, time and location of application;

9. Records required under this order must be retained for 3 years and must be made available for inspection upon request of an Inspector.

10. This Order except for section 9 expires 18 months from the date of its signing.

SCHEDULE A

Businesses and persons that provide:

1. Health and Health Services
 - a. Hospitals, emergency care services, primary care facilities.
2. Public Safety
 - a. The Department of National Defence (DND) facilities, the Canadian Armed Forces (CAF) facilities, and operations and services that support the Canadian Coast Guard and Coast Guard Auxiliary;
 - b. Emergency management facilities at local, regional, provincial, and federal levels.
3. Critical Infrastructure
 - a. Drilling and production, refineries, processing, treatment and completion facilities, storage, distribution network infrastructure and support operations critical in maintaining electricity, drinking water, waste water, oil and natural and propane gas, fuel, petroleum, crude oil and other fuel sources such as heating oil.
 - b. Gas stations, diesel, propane and heating fuel providers and providers of charging stations for electric vehicles.
4. Food and Agriculture Service Providers
 - a. Food processing, manufacturing, storage, transportation and distribution of foods, feed products and beverages;
 - b. Restaurants and other facilities that prepare and serve food;
 - c. Retail: Grocery stores, convenience stores, farmers' markets and other establishments engaged in the retail sale or provision of food;
 - i. Includes food banks

5. Transportation
 - a. Services and facilities that facilitate the interprovincial and intra-provincial transportation of essential supplies, personnel, and services, including port/waterfront operations, road, air and rail operations.
6. Sanitation
 - a. Waste (garbage and organics) and recycling collection, processing, and disposal.
7. Communications / Information Technology
 - a. Information technology, radio, cable providers, and telecommunications services, including phone, internet, wireless communications, data centres; satellite operations, undersea cable landing stations, Internet Exchange Points, and manufacturers and distributors of communications equipment.
8. Coroners and those Performing Mortuary and Related Services
 - a. Coroners and facilities performing mortuary services, including funeral homes, crematoriums, and cemeteries, as well as facilities supporting the appropriate handling, identification, storage, transportation, and certification of human remains.

PROVINCE OF BRITISH COLUMBIA

ORDER OF THE MINISTER OF ENVIRONMENT AND CLIMATE CHANGE
STRATEGY

[Integrated Pest Management Act]

Ministerial Order No. M340

I, George Heyman, Minister of Environment and Climate Change Strategy, order that

Effective as of September 2, 2021, Ministerial Order M305 - 2021, under the *Integrated Pest Management Act* is amended by striking out section 2 and substituting the following:

“2. This Order applies to all persons and businesses, including all Licensed pesticide vendors who sell SGARs to persons in B.C.”

September 2, 2021

Date



Minister of Environment and Climate
Change Strategy

(This part is for administrative purposes only and is not part of the Order.)

Authority under which Order is made:

Act and section:

Integrated Pest Management Act, [SBC 2003] Chapter 58, section 8

Other: MO305 - 2021

PROVINCE OF BRITISH COLUMBIA
REGULATION OF THE MINISTER OF
ENVIRONMENT AND CLIMATE CHANGE STRATEGY
AND MINISTER RESPONSIBLE FOR TRANSLINK

Integrated Pest Management Act
Environmental Management Act

Ministerial Order No. M370

I, George Heyman, Minister of Environment and Climate Change Strategy and Minister Responsible for TransLink, order that, effective January 21, 2023,

- (a) section 77.1 of the Code of Practice for Agricultural Environmental Management, B.C. Reg. 8/2019, is repealed, and
- (b) the Integrated Pest Management Regulation, B.C. Reg. 604/2004, is amended as set out in sections 1 to 8, 16 and 17 of the attached Appendix.

December 1, 2022

Date



Minister of Environment and Climate Change Strategy
and Minister Responsible for TransLink

(This part is for administrative purposes only and is not part of the Order.)

Authority under which Order is made:

Act and section: *Environmental Management Act*, S.B.C. 2003, c. 53, s. 22;
Integrated Pest Management Act, S.B.C. 2003, c. 58, s. 38

Other: M422/2004; M39/2019

R10624111

APPENDIX

1 Section 1 of the Integrated Pest Management Regulation, B.C. Reg. 604/2004, is amended by adding the following definitions:

“category of essential service location” means a category set out in column 2 of the table in Schedule 6;

“essential service location” means a location described in column 3 of the table in Schedule 6;

“second-generation anticoagulant rodenticide” or “SGAR” means a pesticide that contains any of the following active ingredients:

- (a) brodifacoum;
- (b) bromadiolone;
- (c) difethialone;

“treatment site”, in relation to the use or proposed use of an SGAR in a treatment area, includes any additional areas in the vicinity of the treatment area where the SGAR is used or is intended to be used for the management of rodents; .

2 Section 5 is amended

(a) in subsection (1) by adding the following paragraph:

(n) the use of an SGAR on public or private land for the management of rodents., **and**

(b) in subsection (2) by adding “other than an SGAR” after “use of a pesticide”.

3 Section 13 is amended

(a) by repealing subsection (1), and

(b) in subsections (2), (3), (4) and (5) by striking out “the licence year and each additional year” and substituting “each year”.

4 Section 14 (2) is repealed and the following substituted:

(2) The following uses are prescribed for the purposes of section 5 (1) of the Act:

- (a) aerial application of a pesticide by a pilot;
- (b) use of an SGAR on public or private land for the management of rodents.

5 The following Division is added to Part 1:

Division 6.1 – Use of Pesticides for Purposes of Agricultural Operations

Use requirements – agricultural operations

- 33.1** (1) In this section, **“agricultural operation”**, **“contaminated runoff”**, **“groundwater”**, **“property boundary”** and **“watercourse”** have the same meaning as in the Code of Practice for Agricultural Environmental Management, B.C. Reg. 8/2019.

- (2) A person who applies a pesticide for the purposes of an agricultural operation must ensure all of the following:
 - (a) that contaminated runoff does not enter a watercourse or groundwater, or cross a property boundary;
 - (b) that pesticide spray drift does not enter a watercourse or groundwater;
 - (c) that all precautions are taken that are reasonably necessary to prevent an unreasonable volume of pesticide spray drift from crossing a property boundary, unless the person in possession of the property into which the drift crosses allows otherwise.
- (3) A person who applies pesticides for the purposes of an agricultural operation must keep a record containing the following information:
 - (a) the date, time and location of application;
 - (b) the temperature, precipitation, wind speed and wind direction at the time of application;
 - (c) the name of each targeted pest;
 - (d) for each pesticide applied,
 - (i) the product trade name and pest control product registration number, and
 - (ii) the application method and rate of application.

6 *Section 34 is amended in subsection (2) by adding the following paragraphs:*

- (f) if the pesticide is an SGAR,
 - (i) the name and certificate number of a person who holds a valid pesticide applicator certificate endorsed for the use of SGARs, and
 - (ii) the name and licence number of the licensee who intends to use the SGAR;
- (g) if the pesticide is an SGAR and the licensee who intends to use the SGAR holds a pesticide non-service user licence, the category of essential service location that applies to the treatment site at which the SGAR is to be used.

7 *Section 35 is amended by adding the following subsections:*

- (6) A licensee who uses an SGAR must keep a record containing the following information:
 - (a) for each treatment site, the information described in subsection (1);
 - (b) measures that were taken to comply with the requirements set out in section 68 (1) (a);
 - (c) the results of rodent monitoring carried out by the licensee in relation to
 - (i) the rodent population, and
 - (ii) the damage caused by rodents;
 - (d) the date on which the SGAR is removed from the treatment site.
- (7) Despite subsection (1) (i), a licensee is not required to record the prevailing meteorological conditions if a pesticide is deployed in a weather-resistant container.

8 *Section 39 is amended*

(a) in subsection (1) by adding “licensee” after “pesticide user service”, and

(b) by adding the following subsection:

- (3.1) If a licensee uses an SGAR that was purchased by the licensee by means of the internet, the licensee must, in the licensee’s annual report for the calendar year in which the SGAR was used, include the name of the person who sold the SGAR to the licensee.

9 *Section 46 (3) is amended by adding the following paragraph:*

- (c) in respect of the sale of SGARs,
- (i) confirm that each person who intends to purchase an SGAR
 - (A) holds a valid pesticide user service licence or pesticide user non-service licence, and
 - (B) either holds a valid pesticide applicator certificate endorsed for the use of SGARs, or can provide the name and certificate number of a person who holds such a certificate,
 - (ii) if the person who intends to purchase the SGAR holds a pesticide non-service user licence, ask the person
 - (A) to identify the category of essential service location that applies to the treatment site at which the SGAR is to be used, and
 - (B) to present documentation that demonstrates the authority of the person to use SGARs to manage rodents at the essential service location at which the SGAR is to be used,
 - (iii) refuse to sell the SGAR if the requirements set out in subparagraphs (i) and (ii) are not met, and
 - (iv) at the time of the sale, advise the purchaser of the SGAR that
 - (A) the use of SGARs creates risks to wildlife,
 - (B) when using SGARs there are requirements in relation to integrated pest management and the keeping of records, and
 - (C) there are standards in relation to the disposal of SGARs and of dead rodents, and municipal bylaws may also apply to such disposal.

10 *Section 48 is amended by adding the following paragraph:*

- (g) a licensee must, in respect of the sale of an SGAR,
- (i) confirm that a person who intends to purchase the SGAR
 - (A) holds a valid pesticide user service licence or a pesticide user non-service licence, and
 - (B) either holds a valid pesticide applicator certificate endorsed for the use of SGARs, or can provide the name and certificate number of a person who holds such a certificate,
 - (ii) if the person who intends to purchase the SGAR holds a pesticide non-service user licence, ask the person

- (A) to identify the category of essential service that applies to the treatment site at which the SGAR is to be used, and
- (B) to present documentation that demonstrates the authority of the person to use SGARs to manage rodents at the essential service location at which the SGAR is to be used,
- (iii) refuse to sell the SGAR if the requirements set out in subparagraphs (i) and (ii) are not met, and
- (iv) at the time of the sale, advise the purchaser of the SGAR that
 - (A) the use of SGARs creates risks to wildlife,
 - (B) when using SGARs there are requirements in relation to integrated pest management and the keeping of records, and
 - (C) there are requirements in relation to the disposal of SGARs and of dead rodents, and municipal bylaws may apply to such disposal.

11 Section 59.1 is amended by adding the following paragraph:

- (j) use an SGAR.

12 Sections 60 (2) (j) and 61 (2) (j) are amended by striking out “treatment site” and substituting “treatment area”.

13 Section 67 is amended

(a) in subsection (3) by adding “SGARs and” after “display”, and

(b) by adding the following subsection:

- (4) If a holder of a pesticide vendor licence offers SGARs for sale, the licensee must, in the place where each SGAR is displayed, post signage that complies with the standards established by the administrator.

14 Section 68 (1) (a) is amended by adding “, occupant” before “or manager”.

15 Section 81 is amended

(a) in subsections (1), (3) and (4) by striking out “(h) or (i)” and substituting “(h), (i) or (n)”,

(b) in subsection (2) by striking out “inside of or outside” and substituting “outside of” , and

(c) by adding the following subsections:

- (5) A licensee must not do any of the following:
 - (a) use an SGAR at a treatment site that is not an essential service location;
 - (b) use an SGAR at a treatment site unless the licensee has determined that rodents are present at the treatment site or that there is evidence of recent rodent activity at the treatment site;

- (c) use an SGAR at a treatment site unless practical alternatives to the use of an SGAR have been implemented and have not been effective in relation to the management of rodents;
 - (d) use an SGAR at a treatment site unless the licensee ensures that the owner, occupant or manager has implemented the measures described in section 68 (1) (a), if the licensee is not personally implementing those measures;
 - (e) use an SGAR at a treatment site for more than 35 consecutive days;
 - (f) use an SGAR at a treatment site for more than 120 days in a year;
 - (g) use an SGAR in one of the following areas, unless subsection (6) applies:
 - (i) a critical wildlife area or wildlife sanctuary designated under section 5 of the *Wildlife Act*;
 - (ii) an ecological reserve designated under the *Ecological Reserve Act*;
 - (iii) a bird sanctuary designated under the regulations pursuant to the *Migratory Birds Convention Act, 1994* (Canada).
- (6) Despite subsection (5) (g), a licensee may use an SGAR in an area set out in that subsection if
- (a) the area is a place where the government of British Columbia or an agent of the government of British Columbia, the government of Canada or an agent of the government of Canada, or a First Nation engages in a program that has the purpose of conserving or protecting a species or an ecosystem from the impacts of non-native rodents, and
 - (b) the licensee complies with all other applicable requirements under the Act.
- (7) A licensee who intends to use or who uses an SGAR must, in relation to each proposed treatment site, do the following:
- (a) before each use, ask the owner, occupant or manager of the treatment site to disclose whether an SGAR has been used in that treatment site within the preceding year and, if one has been used, the dates on which it was used;
 - (b) refrain from using the SGAR at the treatment site if it appears to the licensee that the number of days set out in subsection (5) (e) or (f) has been exceeded or would be exceeded if the licensee were to use the SGAR;
 - (c) prepare a rodent management plan in the form and containing the information specified by the administrator;
 - (d) follow the rodent management plan referred to in paragraph (c) when using the SGAR;
 - (e) remove any spilled SGAR as soon as practicable;
 - (f) make reasonable efforts to remove all dead rodents from the treatment site, except for any dead rodents that in the opinion of the licensee were not poisoned by an SGAR;
 - (g) subject to paragraph (h), remove each SGAR from the treatment area by no later than 35 days after the date that the SGAR is first used;
 - (h) if the licensee is not permitted to enter the treatment site for the purposes of complying with paragraphs (f) or (g),

- (i) advise the owner, occupant or manager of the treatment site to remove the SGARs and dead rodents from the treatment site, and
 - (ii) provide advice on disposal practices that minimize hazards to human health and the environment and that comply with applicable municipal bylaws;
 - (i) dispose of SGARs and rodents that are removed from the treatment site and from other areas in proximity to the treatment site in a manner that minimizes hazards to human health and the environment and that complies with applicable municipal bylaws.
- (8) For greater certainty, nothing in this section is intended to limit a person's obligations under the Act in relation to pest management plans.

16 *Schedule 2 is amended by striking out “surfactants” and substituting “adjuvants”.*

17 *The following Schedule is added:*

SCHEDULE 6

ESSENTIAL SERVICE LOCATIONS

Column 1 Item	Column 2 Categories of essential service locations	Column 3 Essential service locations
1	Health services	Hospitals
2	Health services	Facilities, other than hospitals, where emergency health care services are provided
3	Health services	Primary health care facilities, including but not limited to assisted living facilities and facilities where day surgeries are performed
4	Health services	Subsidized housing facilities that make available on-site supports for adults who are at risk of or are experiencing homelessness
5	Health services	Safe use injection sites
6	Emergency response services, emergency management services and national defence	Department of National Defence facilities
7	Emergency response services, emergency management services and national defence	Canadian Armed Forces, Canadian Coast Guard and Coast Guard Auxiliary facilities
8	Emergency response services, emergency management services and national defence	Local, regional, provincial and federal emergency response and emergency management facilities
9	Emergency response services, emergency management services and national defence	Facilities associated with emergency responders, including police, fire, ambulance and 9-1-1 dispatch
10	Electricity, water, oil and gas and similar services	Infrastructure and facilities associated with the generation, transmission or distribution of electricity, but not including charging stations
11	Electricity, water, oil and gas and similar services	Infrastructure and facilities associated with drinking water, including but not limited to water filtration facilities and water distribution facilities
12	Electricity, water, oil and gas and similar services	Wastewater processing facilities
13	Electricity, water, oil and gas and similar services	Infrastructure and facilities associated with petroleum, natural gas and propane gas production, processing, transmission, distribution and storage, but not including gasoline stations
14	Agriculture and food	Places where land is used for agriculture
15	Agriculture and food	Aquaculture operations
16	Agriculture and food	Facilities for food production, processing, storage and transportation

Column 1 Item	Column 2 Categories of essential service locations	Column 3 Essential service locations
17	Agriculture and food	Grocery stores, convenience stores, food banks and other places engaged in the provision or retail sale of food, but not including vending machines or stores that primarily sell beverages, pet food, cannabis, liquor or snacks
18	Transportation	Infrastructure and facilities associated with commercial or industrial shipping, including commercial ports, passenger terminals and commercial terminals and shipyards
19	Transportation	Airplane hangars
20	Transportation	Infrastructure and facilities associated with the transportation of passengers and goods by rail
21	Sanitation, waste and recycling services	Waste (garbage and organics) processing facilities
22	Sanitation, waste and recycling services	Recycling processing facilities, including but not limited to recycling transfer stations and recycling collection locations
23	Sanitation, waste and recycling services	Waste disposal facilities, including landfills and waste-to-energy facilities, but not including residential and commercial waste collection areas
24	Communications	Infrastructure and facilities associated with radio, cable television and telecommunications systems and services, including but not limited to cellular towers, broadcasting structures, undersea cable landing stations and internet exchange points, but not including offices and call centres
25	Coroner, mortuary and similar services	Facilities for coroners and facilities where forensic services are performed
26	Coroner, mortuary and similar services	Facilities where mortuary services are performed, including funeral homes, crematoria and cemeteries
27	Coroner, mortuary and similar services	Facilities associated with the storage, transportation and certification of human remains
28	Environmental protection	Places where the government of British Columbia or an agent of the government of British Columbia, the government of Canada or an agent of the government of Canada, or a First Nation engages in a program that has the purpose of conserving or protecting a species or an ecosystem from the impacts of non-native rodents

BY-LAW NUMBER 2024-XXX

OF THE

CORPORATION OF THE CITY OF KITCHENER

(Being a by-law to protect the natural environment and human health and for prohibiting the use of inhumane methods of rodent control within the City of Kitchener).

WHEREAS: Section 11 (2) of the Municipal Act, 2001, S.O. 2001, c. 25 as amended, authorized municipalities to pass by-laws respecting health, safety and well-being of persons, and protection of persons and property;

AND WHEREAS: Section 10 (2) 9 of the Municipal Act, 2001 S.O. 2001 c. 25 as amended, authorizes the councils of municipalities to pass by-laws respecting animals;

AND WHEREAS: Eliminating non-essential use of rodenticides is consistent with the precautionary principle;

AND WHEREAS: Council acknowledges that rodenticide products are unreasonably dangerous, inhumane, and ineffective;

AND WHEREAS: Preventative measures are the best method of vector control.

AND WHEREAS: The Council of The Corporation of the City of Kitchener deems it desirable, for the protection of the health of the public, to pass a by-law requiring owners and occupiers of property within the geographic limits of the Corporation of the City of Kitchener to prevent their property from becoming infested by vectors that may spread disease;

AND WHEREAS: The Council of The Corporation of the City of Kitchener wishes to enact a by-law regulating and limiting the use of inhumane vector control products to address public concern for the environmental wellbeing of the Corporation, and the health, safety and well-being of its inhabitants;

AND WHEREAS: The Municipal Act, S.O. 2001, C.25, section 8 provides that the powers of a municipality shall be interpreted broadly so as to confer broad authority on

the municipality to enable the municipality to govern its affairs as it considers appropriate and to enhance a municipality's ability to respond to municipal issues.

AND WHEREAS: [Ontario's Pesticides Act](#), R.S.O. 1990, c. P.11 does not preclude municipal by-laws that do not address the use, sale, offer for sale or transfer of a pesticide that may be used for a cosmetic purpose.

AND WHEREAS: The Council of The Corporation of the City of Kitchener deems it desirable and in the public interest to enact an Animal Poison Prevention By-law for protecting wildlife, pets, and people from unreasonable adverse effects caused by rodenticide use for the purpose of:

- Eliminating inhumane methods of pest control;
- Regulating and controlling the use, purchase, and sale of rodenticides;
- Sustaining a healthy natural environment by protecting biodiversity;
- Protecting significant and sensitive natural areas;
- Protecting human health;
- Maintaining water quality; and
- Protecting fish habitat as defined in the Fisheries Act, Revised Statute of Canada 1985.

NOW THEREFORE the Council of the Corporation of the City of Kitchener enacts as follows:

1. This By-law may be cited as the "Animal Poison Prevention By-law."
2. In this By-law:
 - (a) "Biological control" means the use of living organisms such as insects, nematodes, fungi, viruses, fish or animals to control pests.
 - (b) "City" includes any place within the limits of the City of Kitchener.
 - (c) "Corporation" means The Corporation of the City of Kitchener.
 - (d) "Council" means the Council of The Corporation of the City of Kitchener.
 - (e) "Glue Trap" means a trap that:
 - (i). is designed, or is capable of being used, to catch a rodent; and
 - (ii). uses an adhesive substance as the means, or one of the means, of capture.
 - (f) "Humane" means an action, method, or behavior that cause, involve, or invoke the least possible degree of pain, suffering, and fear practicable.

- (g) “Inhumane Pest Management” includes methods of controlling or eliminating pests that cause unnecessary pain, suffering, and/or fear. Inhumane methods include but are not limited to glue traps and rodenticides.
- (h) “Integrated Pest Management” (IPM) refers to a strategic approach that aims to reduce risks to humans and the environment by only using pesticides (including rodenticides) as a temporary, last resort. IPM advocates for exclusion, prevention, attractant reduction, habitat modification, non-chemical control methods such as snap-traps, and biological controls whenever possible.
- (i) “Officer” means any Property Standards Officer, City municipal Law Enforcement Officer, City By-law Enforcement Officer, member of the Waterloo Regional Police Service, and any other person appointed by the City for the purposes of enforcing this Chapter.
- (j) “Owner” means the registered owner of the land on which a violation of this By-law occurs, and includes a trustee acting on behalf of the registered owner, the estate of a registered owner, and a person with a leasehold interest in the land.
- (k) “Person” means an individual or group of individuals, unincorporated association, sole proprietorship, partnership, or corporation.
- (l) “Property” means a Building or Structure or part of a Building or Structure, and includes the lands, yards and premises appurtenant thereto and all mobile homes, mobile buildings, mobile structures, outbuildings, swimming pools, and erections thereon whether heretofore or hereafter erected, and includes vacant property and designated Heritage Property.
- (m) “Prohibited Product” means any product that is deemed to pose unreasonable risks to wildlife, family pets, and human health, and/or inhumane pain, suffering, and/or death, and includes those Products listed in or containing the products set out in Schedule “A” attached hereto, which may be amended by Council, as required.
- (n) “Rodenticide” shall mean:
 - (i). any substance intended to destroy, repel or mitigate rodents and other pests by any method including by preventing normal blood clotting, by causing internal hemorrhaging, or by disturbing nervous system functions; and/or
 - (ii). a substance that is classified as a rodenticide by regulation.
- (o) “Vector” means a carrier organism that is capable of transmitting a pathogen from one facility, waste source, product or organism to another

facility, waste source, product or organism including, but not limited to mice, rats and mosquitoes.

Pest Prevention Standards

3. All properties shall be kept free from rodents, vermin and insects and any condition which might result in the harbouring of such pests in accordance with the Corporation of the City of Kitchener Municipal Code Chapter 665, Standards of Maintenance and Occupancy of property, Article 6.
4. No owner or occupier of property within the Corporation shall cause, allow, or permit any building or improvement; brush, trees, weeds or other growths; water, whether moving or standing; and/or any other condition on that property that provides food, shelter, or breeding conditions that could attract a vector.
5. Except as provided in Section 4(d), no person shall knowingly or willingly feed, or in any manner provide or furnish access to food or any other edible substance, to any wildlife.
6. Bird feeders must be suspended on a cable or other device in such a manner that they are inaccessible to wildlife other than birds.
7. Every owner or occupier of property within the Corporation must ensure that:
 - (a) all fruit on trees or bushes be harvested immediately upon ripening;
 - (b) all fallen fruit from trees or bushes be removed immediately;
 - (c) bee hives are inaccessible to wildlife;
 - (d) grease containers are inaccessible to wildlife;
 - (e) outdoor refrigerators or freezers are inaccessible to wildlife; and
 - (f) dairy products and proteins are not put into compost piles.
8. Rodents, vermin and insects shall be managed in a manner consistent with Integrated Pest Management principles as defined in this By-law.

Use of Prohibited Products

9. No person shall use, handle, release, store, or dispose of products containing a rodenticide.

10. No person shall use, handle, release, transport, store, or dispose of glue traps, glue boards, metal-toothed rodent trap, and/or any other trap or pest management method deemed inhumane by this council.

Sale and Marketing of Prohibited Products

11. No Person shall buy, sell, offer for sale, advertise, or otherwise promote a rodenticide.
12. No Person shall buy, sell, offer for sale, advertise, or otherwise promote glue traps, glue boards, metal-toothed rodent trap, and/or any other trap or pest management method deemed inhumane by this council.

Sunset – Temporary Limited Exception

13. Notwithstanding Sections 9 through 12, any Person who, on the date of the passage of this By-law, lawfully possessed a Prohibited Product, shall within XX days, _____ provided that the product is:
 - (a) secured in an air-tight, tamper-proof, or original unopened packaging;
 - (b) has never been, or is no longer accessible to wildlife, pets, and children; and/or
 - (c) is not stored outdoors, or within 30 meters of a waterbody or shoreline.

Enforcement

14. Administration and enforcement of this By-law including Orders, Service and Appeals of Orders, Certificates of Compliance, Powers of Entry and Inspection , Compliance and Penalties for Non-compliance shall be carried out through mechanisms prescribed under the Building Code Act, S. O. 1992, c.23.
15. An Officer may enter on land at any reasonable time for the purpose of carrying out an inspection to determine whether this Chapter is being complied with. Entry to any place being used as a dwelling may be subject to the requirements of the *Municipal Act, 2001*.
16. For the purposes of an inspection pursuant to this Chapter, an Officer may:
 - (a) Require the production for inspection of documents or things relevant to the inspection;
 - (b) Inspect and remove document or things relevant to the inspection for the purpose of making copies or extracts;

- (c) Require information from any person concerning a matter related to the inspection; and
- (d) Alone or in conjunction with a person possessing special or expert knowledge, make examinations or take test, samples or photographs necessary for the purpose of the inspection.

Offence

- 17. Every person other than a corporation who contravenes any provision of this Chapter is guilty of an offence and is liable upon conviction, to a fine not exceeding \$ 50,000 exclusive of costs, for each offence, recoverable under the *Provincial Offences Act*.
- 18. Every corporation that contravenes any provision of this Chapter is guilty of an offence and is liable upon conviction, to a fine not exceeding \$ 100,000 exclusive of costs, for each offence, recoverable under the *Provincial Offences Act*.
- 19. Failure to correct a violation of this ordinance within thirty (30) days of receiving written notice shall be deemed a separate offense.

Administrative

- 20. It is hereby declared that each of the foregoing sections of this Chapter is severable and that, if any provisions of this Chapter should for any reason be declared invalid by any Court, it is the intention and desire of Council that each and every of the then remaining provisions hereof shall remain in full force and effect.
- 21. That this By-law shall come into force and effect on _____.
- 22. The Clerk of the City is hereby directed to make this by-law a part of The City of Kitchener Municipal Code by adding it to the Concordance and arranging and numbering it as Chapter XXX so as to fit within the scheme of the Code.

PASSED at the Council Chambers in the City of Kitchener this ____ day
of _____, CE. 2024.

Mayor

Clerk

SCHEDULE A to BY-LAW 2024-XXX

Prohibited Products

THE CORPORATION OF THE CITY OF KITCHENER

DRAFT

Pesticides Act

R.S.O. 1990, CHAPTER P.11

Consolidation Period: From April 1, 2024 to the [e-Laws currency date](#).

Last amendment: 2021, c. 4, Sched. 10, s. 5.

Legislative History: 1993, c. 27, Sched.; 1994, c. 27, s. 117; 1997, c. 37, s. 5; 1998, c. 35, s. 77-102 (But see Table of Public Statute Provisions Repealed Under Section 10.1 of the *Legislation Act, 2006*); 2000, c. 22, s. 3; 2000, c. 26, Sched. F, s. 14; 2001, c. 9, Sched. G, s. 7 (But see Table of Public Statute Provisions Repealed Under Section 10.1 of the *Legislation Act, 2006*); 2001, c. 17, s. 6; 2002, c. 4, s. 66; 2002, c. 17, Sched. C, s. 22; 2006, c. 19, Sched. K, s. 4; 2006, c. 21, Sched. C, s. 129; 2006, c. 32, Sched. C, s. 46; 2006, c. 35, Sched. C, s. 109; 2008, c. 11; 2009, c. 19, s. 71; 2009, c. 33, Sched. 2, s. 58; 2009, c. 33, Sched. 15, s. 9; 2017, c. 2, Sched. 11, s. 5; 2017, c. 20, Sched. 5, s. 2; 2018, c. 3, Sched. 5, s. 46 (But see 2019, c. 1, Sched. 3, s. 5); 2019, c. 1, Sched. 4, s. 44; 2019, c. 7, Sched. 17, s. 141; 2019, c. 14, Sched. 8, s. 43-53; 2021, c. 4, Sched. 6, s. 78; 2021, c. 4, Sched. 10, s. 5; CTS 6 FE 25 - 1.

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Interpretation

1 (1) In this Act,

“air” means open air not enclosed in a building, structure, machine, chimney, stack, flue or vehicle; (“air”)

“active ingredient” means, subject to subsection (1.1), a pesticide,

(a) that is a component of a product that is a pesticide, and

(b) to which the intended effects of the product are attributed; (“principe actif”)

“administrative penalty” means a penalty imposed under section 41.1 or 41.2; (“pénalité administrative”)

“analyst” means an analyst appointed under the *Environmental Protection Act*; (“analyste”)

“cosmetic” means non-essential; (“esthétique”)

“discharge”, when used as a verb, includes add, deposit, emit or leak and, when used as a noun, includes addition, deposit, emission or leak; (“rejet”, “rejeter”)

“document” includes a sound recording, videotape, film, photograph, chart, graph, map, plan, survey, book of account and information recorded or stored by means of any device; (“document”)

“environment” means the natural environment, a building, structure, machine and vehicle, or any of them; (“environnement”)

“extermination” means a land extermination, structural extermination or a water extermination; (“destruction”)

“extermination business” means an activity or enterprise carried on for the purpose of causing an extermination or exterminations to be performed for fee or payment; (“entreprise de destruction”)

“exterminator” means a person who, personally or through employees, assistants or agents, performs or enters into a contract to perform an extermination; (“destructeur”)

“inspection” includes an audit, examination, survey, test and inquiry; (“inspection”)

“justice” means a provincial judge or a justice of the peace; (“juge”)

“land” means surface land not enclosed in a building or structure, land covered by water and all subsoil, or any combination or part thereof; (“terrain”)

“land extermination” means the destruction, prevention or control in, on or over land of a pest or pests by the use of a pesticide but does not include a structural extermination, a water extermination or the destruction, prevention or control of termites; (“destruction de parasites terrestres”)

“licence” means a licence issued under this Act and the regulations; (“licence”)

“licensee” means a person who is the holder of a licence under this Act; (“titulaire de licence”)

“Minister” means the Minister of the Environment, Conservation and Parks or such other member of the Executive Council as may be assigned the administration of this Act under the *Executive Council Act*; (“ministre”)

“Ministry” means the ministry of the Minister; (“ministère”)

“natural environment” means the air, land and water, or any combination or part thereof, of the Province of Ontario; (“environnement naturel”)

“operator” means a person who has the control and management of an extermination business, and “operate” has a corresponding meaning; (“exploitant”)

“permittee” means a person who is the holder of a permit under this Act; (“titulaire de permis”)

“person” includes a municipality, a corporation on behalf of the Crown in right of Ontario, and an agent of any of them; (“personne”)

“person responsible”, when used with reference to a pesticide, substance or thing, means,

- (a) the owner,
- (b) the person having the charge, management or control of the handling, storage, use, disposal, transportation or display, or
- (c) the person having the charge, management or control, of the pesticide, substance or thing; (“personne responsable”)

“pest” means any injurious, noxious or troublesome plant or animal life other than humans or plant or animal life on or in humans and includes any injurious, noxious or troublesome organic function of a plant or animal; (“parasite”)

“pesticide” means 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 *Pest Control Products Act* (Canada); (“pesticide”)

“place” includes a building, structure, machine, vehicle or vessel; (“lieu”)

“prescribed” means prescribed by the regulations; (“prescrit”)

“provincial officer” means a person who is designated under section 17; (“agent provincial”)

“public servant” means a public servant appointed under Part III of the *Public Service of Ontario Act, 2006*; (“fonctionnaire”)

“receiver” means a person who has been appointed to take or who has taken possession or control of property pursuant to a mortgage, hypothec, pledge, charge, lien, security interest, encumbrance or privilege or pursuant to an order of a court, and includes a receiver-manager and an interim receiver; (“séquestre”)

“regulations” means the regulations made under this Act; (“règlements”)

“secured creditor” means a person who holds a mortgage, hypothec, pledge, charge, lien, security interest, encumbrance or privilege on or against property, but does not include a person who has taken possession or control of the property; (“créancier garanti”)

“structural extermination” means the destruction, prevention or control of a pest that may adversely affect a building, structure, machine, vehicle or their contents or the use or enjoyment thereof by any person by the use of a pesticide in, on or in the vicinity of the building, structure, machine or vehicle and includes the destruction, prevention or control of termites; (“destruction de parasites dans une structure”)

“Tribunal” means the Ontario Land Tribunal; (“Tribunal”)

“water” means surface water and ground water, or either of them; (“eau”)

“water extermination” means the destruction, prevention or control in, on or over surface water of a pest by the use of a pesticide. (“destruction de parasites aquatiques”) R.S.O. 1990, c. P.11, s. 1 (1); 1993, c. 27, Sched.; 1998, c. 35, s. 77; 2000, c. 26, Sched. F, s. 14 (1, 2); 2001, c. 17, s. 6 (1); 2008, c. 11, s. 1 (1); 2009, c. 19, s. 71 (1); 2017, c. 20, Sched. 5, s. 2 (1-3); 2019, c. 14, Sched. 8, s. 43 (1-4); 2021, c. 4, Sched. 6, s. 78.

Active ingredient

(1.1) For the purposes of the definition of “active ingredient” in subsection (1), active ingredient includes a synergist but does not include a solvent, diluent, emulsifier or other component that is not primarily responsible for the intended effects mentioned in clause (b) of the definition. 2019, c. 14, Sched. 8, s. 43 (5).

Director

(2) In this Act,

“the Director” means a Director appointed under section 3. R.S.O. 1990, c. P.11, s. 1 (2).

Health or safety

(3) For the purposes of this Act, a danger to existing water supplies that are used for human consumption shall be deemed to be a danger to the health or safety of persons. 2001, c. 17, s. 6 (2).

Use of pesticide

(4) For the purposes of this Act,

- (a) the placement or application of a pesticide is a use of the pesticide; and
- (b) the mixing, dilution or loading of a pesticide for the purpose of placing or applying it is a use of the pesticide. 2008, c. 11, s. 1 (2).

Section Amendments with date in force (d/m/y)

1993, c. 27, Sched. - 31/12/1991; 1998, c. 35, s. 77 - 01/02/1999

2000, c. 26, Sched. F, s. 14 (1, 2) - 06/12/2000

2001, c. 17, s. 6 (1, 2) - 01/12/2002

2008, c. 11, s. 1 (1, 2) - 22/04/2009

2009, c. 19, s. 71 (1) - 01/01/2010

2017, c. 20, Sched. 5, s. 2 (1-3) - 04/09/2018

2019, c. 14, Sched. 8, s. 43 (1, 3, 5) - 01/05/2020; 2019, c. 14, Sched. 8, s. 43 (2, 4) - 10/12/2019

2021, c. 4, Sched. 6, s. 78 - 01/06/2021

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Powers and duties of Minister

2 The Minister, for the purpose of the administration of this Act and the regulations, may,

- (a) investigate problems relating to pesticides and the control of pests;
- (b) conduct research relating to pesticides and the control of pests;
- (c) conduct studies of the effect of pesticides and the control of pests on the quality of the environment;
- (d) convene conferences and conduct seminars and educational programs relating to pesticides and the control of pests;
- (e) gather, publish and disseminate information relating to pesticides and the control of pests;
- (f) make grants and loans for research related to pesticides and the control of pests in such amounts and upon such terms and conditions as the regulations may prescribe;
- (g) appoint committees to perform such advisory functions as the Minister considers requisite;
- (h) with the approval of the Lieutenant Governor in Council, enter into an agreement with any government or person relating to pesticides or the control of pests. R.S.O. 1990, c. P.11, s. 2.

Appointment of Directors

3 (1) The Minister may appoint as Directors such public servants who work in the Ministry as the Minister considers necessary for the purposes of the sections of this Act or the regulations that are set out in the appointments. 2017, c. 20, Sched. 5 s. 2 (4).

Limitation of authority of Director

(2) The Minister, in an appointment under subsection (1), may limit the authority of a Director in such manner as the Minister considers necessary or advisable. R.S.O. 1990, c. P.11, s. 3 (2).

Section Amendments with date in force (d/m/y)

2006, c. 35, Sched. C, s. 109 (1) - 20/08/2007

2017, c. 20, Sched. 5, s. 2 (4) - 04/09/2018

Prohibited use of pesticides

4 No person, whether acting or not acting under the authority of a licence or permit under this Act or an exemption under the regulations, shall discharge or cause or permit the discharge of a pesticide or of any substance or thing containing a pesticide into the environment that,

- (a) causes or is likely to cause impairment of the quality of the environment for any use that can be made of it greater than the impairment, if any, for such use that would necessarily result from the proper use of the pesticide;
- (b) causes or is likely to cause injury or damage to property or to plant or animal life greater than the injury or damage, if any, that would necessarily result from the proper use of the pesticide;
- (c) causes or is likely to cause harm or material discomfort to any person greater than the harm or material discomfort, if any, that would necessarily result from the proper use of the pesticide;
- (d) adversely affects or is likely to affect adversely the health of any person to a greater degree than the adverse effect, if any, that would necessarily result from the proper use of the pesticide;
- (e) impairs or is likely to impair the safety of any person to a greater degree than the impairment, if any, of the safety of any person that would necessarily result from the proper use of the pesticide; or
- (f) renders or is likely to render directly or indirectly any property or plant or animal life unfit for use by humans to a degree greater than the unfitness, if any, that would necessarily result from the proper use of the pesticide. R.S.O. 1990, c. P.11, s. 4.

Licences relating to exterminations

Prohibition as to exterminations

5 (1) No person shall engage in, perform or offer to perform an extermination except under and in accordance with a licence of a prescribed class and except by the use of a pesticide of a class and under the conditions for use prescribed for that class of licence or unless exempt under the regulations. R.S.O. 1990, c. P.11, s. 5 (1).

Licence required to operate extermination business

(2) No person shall operate an extermination business except under and in accordance with a licence of a prescribed class or unless exempt under the regulations. R.S.O. 1990, c. P.11, s. 5 (2).

(3), (4) REPEALED: 2017, c. 20, Sched. 5, s. 2 (5).

Section Amendments with date in force (d/m/y)

2017, c. 20, Sched. 5, s. 2 (5) - 04/09/2018

Licence to sell, offer to sell or transfer

6 Unless exempt by the regulations, no person shall sell, offer to sell or transfer any pesticide unless the pesticide is classified in accordance with the regulations and except under and in accordance with a licence that shall be for such class and in respect of each premises on, in or from which the pesticide is or will be sold, offered for sale or transferred. R.S.O. 1990, c. P.11, s. 6; 1997, c. 37, s. 5 (1).

Section Amendments with date in force (d/m/y)

1997, c. 37, s. 5 (1) - 18/12/1997

Where permit required

7 (1) Except under and in accordance with a permit for the extermination issued by the Director, or if the person is exempt under the regulations, no person shall perform a land extermination or a structural extermination,

- (a) by means of a pesticide prescribed for the purpose of this section;
- (b) by means of a pesticide of a class prescribed for the purpose of this section; or
- (c) under the conditions of use prescribed for the purpose of this section. 2017, c. 20, Sched. 5, s. 2 (6).

Idem

(2) No person shall perform a water extermination except under and in accordance with a permit issued by the Director for the water extermination or if the person is exempt under the regulations. R.S.O. 1990, c. P.11, s. 7; 2017, c. 20, Sched. 5, s. 2 (7).

Section Amendments with date in force (d/m/y)

2017, c. 20, Sched. 5, s. 2 (6, 7) - 04/09/2018

Use for cosmetic purpose

7.1 (1) Subject to subsection (2), no person shall use or cause or permit the use in, on or over land of an active ingredient unless the active ingredient meets the following criteria:

- 1. The Director has determined, in accordance with the regulations, that the active ingredient is appropriate for use for a cosmetic purpose.
- 2. The Director has listed the active ingredient in a prescribed document, which may be amended from time to time, published by the Ministry and available on a website of the Government. 2019, c. 14, Sched. 8, s. 44.

Exception, specified uses

(2) Subsection (1) does not apply to the following uses of an active ingredient:

- 1. Uses related to golf courses, if any prescribed conditions have been met.
- 2. Uses related to agriculture.
- 3. Uses related to forestry.
- 4. Uses related to the promotion of public health or safety.
- 5. Other prescribed uses, if any prescribed conditions have been met. 2019, c. 14, Sched. 8, s. 44.

Same, requirements

(3) A person who uses or causes or permits the use of an active ingredient for a use referred to in subsection (2) shall, if the active ingredient does not meet the criteria set out in subsection (1), comply with such requirements as may be prescribed. 2019, c. 14, Sched. 8, s. 44.

Prohibition on sale, etc.

(4) Despite section 6, no person shall sell, offer to sell or transfer a pesticide that may be used in, on or over land unless it has been prescribed for the purpose of this subsection. 2019, c. 14, Sched. 8, s. 44.

By-laws inoperative

(5) A municipal by-law is inoperative if it addresses the use, sale, offer for sale or transfer of a pesticide that may be used for a cosmetic purpose. 2008, c. 11, s. 2.

Section Amendments with date in force (d/m/y)

2008, c. 11, s. 2 - 22/04/2009

2009, c. 33, Sched. 15, s. 9 (1) - 15/12/2009

2019, c. 14, Sched. 8, s. 44 - 01/05/2020

Act of officer, etc., of corporation

8 For the purposes of this Act and the regulations, an act or thing done or omitted to be done by an officer, official, employee or agent of a corporation in the course of his or her employment or in the exercise of his or her powers or the performance of his or her duties shall be deemed to be also an act or thing done or omitted to be done by the corporation. R.S.O. 1990, c. P.11, s. 8.

Liability insurance

9 An operator shall insure against liability or furnish a bond as provided for by the regulations. R.S.O. 1990, c. P.11, s. 9.

10 REPEALED: 2019, c. 14, Sched. 8, s. 45.

Section Amendments with date in force (d/m/y)

2019, c. 14, Sched. 8, s. 45 - 01/05/2020

Licences and permits: issue and renewal

11 (1) The Director shall,

- (a) subject to subsection (2), issue or renew a licence referred to in section 5 or 6 to any person who,
 - (i) applies for the licence or a renewal of the licence in accordance with the regulations,
 - (ii) meets the requirements of the regulations for the particular class of licence applied for, and
 - (iii) pays the prescribed fee; and
- (b) subject to subsection (3), issue a permit referred to in section 7 to any person who,
 - (i) applies for the permit in accordance with the regulations,
 - (ii) meets the requirements of the regulations for the permit applied for, and
 - (iii) pays the prescribed fee. 2017, c. 20, Sched. 5, s. 2 (8).

Director may refuse to issue or renew licence

(2) The Director may refuse to issue a licence to an applicant or renew a licence of an applicant if the following circumstances apply:

- 1. One of the following conditions is met:
 - i. In the case of an applicant who is an individual, a licence previously issued to the applicant or a corporation in which the applicant was an officer or director was suspended or revoked by the Director under section 13 during the five-year period preceding the date of the application, or is the subject of notice of a proposal to suspend or revoke by the Director under clause 13 (1) (b).
 - ii. In the case of an applicant who is a corporation, a licence previously issued to one of the following was suspended or revoked by the Director under section 13 during the five-year period preceding the date of the application, or is the subject of notice of a proposal to suspend or revoke by the Director under clause 13 (1) (b):
 - A. The applicant.
 - B. An officer or director of the applicant.

C. A corporation that has a common officer or director with the applicant.

2. One of the following conditions is met:

- i. The Director is of the opinion that if the licence were issued or renewed, the applicant would fail to comply with the requirements under this Act or an order issued under this Act.
- ii. A circumstance set out in subsection (2.2) exists or would exist if the licence were issued or renewed. 2017, c. 20, Sched. 5, s. 2 (8).

Same

(2.1) An individual was an officer or director of a corporation for the purpose of paragraph 1 of subsection (2) if the individual was an officer or director at the time the licence was suspended or revoked, or at the time the circumstances leading to the suspension or revocation arose. 2017, c. 20, Sched. 5, s. 2 (8).

Suspension and revocation of licence

(2.2) Subject to section 13, the Director may suspend or revoke a licence where the Director is of the opinion that,

- (a) the licensee is in contravention of this Act or the regulations;
- (b) the licensee has submitted false or misleading information in an application for a licence;
- (c) the licensee is in breach of any term or condition of the licence;
- (d) the licensee or, where the licensee is a corporation, its officers or directors, is or are not competent to carry on the activity authorized by the licence;
- (e) the past conduct of the licensee or, where the licensee is a corporation, of any of its officers or directors, affords reasonable grounds for belief that the activity authorized by the licence will not be carried on with honesty and integrity;
- (f) the licensee does not have available all premises, facilities and equipment necessary to carry on the activity authorized by the licence in accordance with this Act, the regulations and the licence;
- (g) the licensee is not in a position to observe or carry out the provisions of this Act, the regulations and the licence;
- (h) the licensee has been grossly negligent in carrying on the activity authorized by the licence;
- (i) the licensee has fraudulently misrepresented its services in performing an extermination or in carrying on an extermination business; or
- (j) the licensee is or has been in default of payment of a fine imposed on conviction for an offence under this Act. 2017, c. 20, Sched. 5, s. 2 (8).

Revocation and refusal of permit

(3) The Director may refuse to issue or may cancel a permit, may impose terms and conditions in issuing or after issuing a permit and may alter the terms and conditions of a permit that has been issued where the Director is of the opinion, upon reasonable and probable grounds, that,

- (a) an extermination for which the permit is required has not or will not be performed competently;
- (b) an extermination for which the permit is required has not been or will not be carried out in accordance with the provisions of this Act, the regulations or the permit;
- (b.1) an extermination for which the permit is required has been or will be performed in a grossly negligent manner;
- (b.2) the applicant or permittee has submitted false or misleading information in an application for a permit;
- (b.3) the permittee is in breach of any term or condition of the permit;
- (b.4) the applicant or permittee is or has been in default of payment of a fine imposed on conviction for an offence under this Act;
- (c) there is or is likely to be danger to the health or safety of any person;
- (d) there is or is likely to be harm or material discomfort to any person;
- (e) there is or is likely to be impairment of the quality of the environment for any use that is being or is likely to be made of it;

- (f) there is or is likely to be injury or damage to any property or to plant or animal life;
- (g) any property or plant or animal life is or is likely to be rendered directly or indirectly unfit for use by humans;
- (h) a different method of control or extermination will or will likely be substantially as effective as the proposed extermination for which a permit is required under section 7 and will or will likely cause less impairment of the environment, if any, for any use that is being or is likely to be made of it or less harm to or adverse effect, if any, on any plant or animal life, humans or property; or
- (i) the use of the pesticide will not be or will not likely be effective or necessary to carry out the extermination. R.S.O. 1990, c. P.11, s. 11; 2017, c. 20, Sched. 5, s. 2 (9).

Section Amendments with date in force (d/m/y)

2001, c. 9, Sched. G, s. 7 (1) - no effect - see Table of Public Statute Provisions Repealed Under Section 10.1 of the *Legislation Act, 2006* - 31/12/2011

2017, c. 20, Sched. 5, s. 2 (8, 9) - 04/09/2018

Term of licence

12 A licence expires as prescribed by the regulations. R.S.O. 1990, c. P.11, s. 12.

Review, refusal to issue licences, etc.

13 (1) Where the Director proposes,

- (a) to refuse to issue or renew a licence;
- (b) to suspend or revoke a licence; or
- (c) to make, amend or vary a control order,

he or she shall serve notice of the proposal, together with written reasons therefor, on the applicant, licensee or person to whom the Director intends to direct the control order. R.S.O. 1990, c. P.11, s. 13 (1).

Notice

(2) A notice under subsection (1) shall state that the applicant, licensee or person to whom the Director intends to direct the control order is entitled to a hearing by the Tribunal if they mail or deliver to the Director and the Tribunal, within fifteen days after the notice under subsection (1) is served on them, notice in writing requiring a hearing. R.S.O. 1990, c. P.11, s. 13 (2); 2000, c. 26, Sched. F, s. 14 (4).

Powers of Director where no hearing

(3) Where an applicant, licensee or person to whom the Director intends to direct the control order does not require a hearing by the Tribunal in accordance with subsection (2), the Director may carry out the proposal stated in the notice under subsection (1). R.S.O. 1990, c. P.11, s. 13 (3); 2000, c. 26, Sched. F, s. 14 (4).

Powers of Tribunal where hearing

(4) Where an applicant, licensee or person to whom the Director intends to direct the control order requires a hearing by the Tribunal in accordance with subsection (2), the Tribunal shall appoint a time and place for and hold the hearing and may by order direct the Director to carry out the proposal or refrain from carrying out the proposal and to take such action as the Tribunal considers the Director ought to take in accordance with this Act and the regulations, and for such purposes the Tribunal may substitute its opinion for that of the Director. R.S.O. 1990, c. P.11, s. 13 (4); 2000, c. 26, Sched. F, s. 14 (4).

Extension of time for requiring hearing

(5) The Tribunal may extend the time for the giving of notice requiring a hearing by an applicant, licensee or person to whom the Director intends to direct a control order referred to in subsection (1), either before or after the expiration of such time, where it is satisfied that there are reasonable grounds for applying for the extension and that there are apparent grounds for granting relief to the applicant, licensee or person to whom the Director intends to direct the control order referred to in subsection (1), and the Tribunal may give such directions as it considers proper consequent upon the extension. R.S.O. 1990, c. P.11, s. 13 (5); 2000, c. 26, Sched. F, s. 14 (4).

Continuation of licence pending renewal

(6) Unless a notice served under subsection (1) indicates that subsection 11 (2) applies in respect of an application, if a licensee has applied for a renewal of the licence and paid the prescribed fee within the time prescribed or, if no time is prescribed, before expiry of the licence, the licence shall be deemed to continue for the shorter of the following periods:

1. From the expiry of the licence until the renewal is granted.
2. From the date the application is made and the fees are paid until the renewal is granted. 2017, c. 20, Sched. 5, s. 2 (10).

Emergency notice

- (7) Despite subsection (6), where the Director is of the opinion that an emergency exists by reason of,
- (a) danger to the safety or health of any person;
 - (b) impairment or immediate risk of impairment of the environment for any use that is being or is likely to be made of it;
 - (c) injury or damage or immediate risk of injury or damage to property, or to plant or animal life;
 - (d) the rendering or immediate risk of rendering directly or indirectly of any property or plant or animal life unfit for use by humans; or
 - (e) a failure by a licensee to have in force insurance against liability or to furnish or have in force a bond as required by section 9,

the Director, by a notice to a licensee or to a person to whom the Director intends to direct a control order, together with written reasons therefor, may refuse to renew, suspend or revoke a licence or make, amend or vary a control order and, even if the licensee or person to whom the control order is directed requires a hearing by the Tribunal, the licence shall not be deemed to continue or the suspension, revocation or the making, amendment or variation of the control order is effective upon the service of the notice, as the case requires. R.S.O. 1990, c. P.11, s. 13 (7); 2000, c. 26, Sched. F, s. 14 (4).

Where permit cancelled or terms or conditions imposed or altered

- (8) Where the Director issues a permit subject to a term or condition, refuses to issue or cancels a permit or imposes or alters a term or condition in a permit that has been issued, the Director shall forthwith thereafter serve or cause to be served notice of his or her decision, upon the applicant or permittee, together with written reasons therefor. R.S.O. 1990, c. P.11, s. 13 (8); 2017, c. 20, Sched. 5, s. 2 (11).

Notice

- (8.1) A notice served under subsection (8) shall inform the applicant or permittee of the following:
1. The applicant or permittee is entitled to make submissions to the Director under subsection (9) in person, or by a person authorized under the *Law Society Act* to represent the applicant or permittee, and by telephone or otherwise no later than seven days after the notice is served.
 2. If the applicant or permittee does not make submissions, the applicant or permittee is entitled to a hearing by the Tribunal upon mailing or delivering notice requiring a hearing to the Director and the Tribunal no later than fifteen days after the notice is served. 2017, c. 20, Sched. 5, s. 2 (12).

Submissions for reconsideration

- (9) If the Director serves or causes to be served notice of a decision under subsection (8), the applicant or permittee, as the case may be, may make submissions to the Director no later than seven days after the notice was served. 2017, c. 20, Sched. 5, s. 2 (12).

Reconsideration

- (9.1) No later than seven days after receiving submissions under subsection (9), the Director shall reconsider and vary, rescind or confirm the decision and shall serve or cause to be served notice of the variance, rescission or confirmation upon the applicant or permittee together with written reasons. 2017, c. 20, Sched. 5, s. 2 (12).

Same

- (9.2) If the Director varies or rescinds the decision, the Director shall take such action as may be necessary to make the variation or rescission effective. 2017, c. 20, Sched. 5, s. 2 (12).

Notice

- (10) A notice under subsection (9.1) shall inform the applicant or permittee that the applicant or permittee is entitled to a hearing by the Tribunal upon mailing or delivering notice requiring a hearing to the Director and the Tribunal no later than fifteen days after the notice is served. 2017, c. 20, Sched. 5, s. 2 (12).

Effect of service of notice

- (11) Despite the making of submissions by an applicant or a permittee under subsection (10), the issuance of a permit subject to a term or condition or the cancellation of a permit or the imposition or alteration of a term or condition in a permit that has

been issued by the Director is effective upon the issuance of the permit or upon the service of the notice under subsection (8). R.S.O. 1990, c. P.11, s. 13 (11).

Application of subss. (4), (5)

(12) Subsections (4) and (5) apply with necessary modifications to a hearing by the Tribunal required under paragraph 2 of subsection (8.1) and subsection (10). R.S.O. 1990, c. P.11, s. 13 (12); 2000, c. 26, Sched. F, s. 14 (4); 2017, c. 20, Sched. 5, s. 2 (13).

Section Amendments with date in force (d/m/y)

2000, c. 26, Sched. F, s. 14 (4) - 06/12/2000

2001, c. 9, Sched. G, s. 7 (2) - no effect - see Table of Public Statute Provisions Repealed Under Section 10.1 of the *Legislation Act, 2006* - 31/12/2011

2006, c. 21, Sched. C, s. 129 (1) - 01/05/2007

2017, c. 20, Sched. 5, s. 2 (10-13) - 04/09/2018

Hearings

14 (1) The Director, the applicant, licensee, permittee or person to whom the Director intends to direct a control order who has required a hearing and such other persons as the Tribunal may specify are parties to proceedings before the Tribunal under section 13. R.S.O. 1990, c. P.11, s. 14 (1); 2000, c. 26, Sched. F, s. 14 (4).

Notice of hearing

(2) The Tribunal shall afford to the applicant, licensee, permittee or person to whom the Director intends to direct a control order a reasonable opportunity to show or to achieve compliance before the hearing with all lawful requirements for the issue or retention of the licence or permit or to take such action as will preclude the necessity for making, amending or varying the control order. R.S.O. 1990, c. P.11, s. 14 (2); 1994, c. 27, s. 117; 2000, c. 26, Sched. F, s. 14 (4); 2001, c. 9, Sched. G, s. 7 (3).

Examination of documentary evidence

(3) An applicant, licensee, permittee or person to whom the Director intends to direct a control order who is a party to proceedings under section 13 shall be afforded an opportunity to examine before the hearing any written or documentary evidence that will be produced or any report the contents of which will be given in evidence at the hearing. R.S.O. 1990, c. P.11, s. 14 (3).

Members holding hearing not to have taken part in investigation, etc.

(4) Members of the Tribunal holding a hearing shall not have taken part before the hearing in any investigation or consideration of the subject-matter of the hearing and shall not communicate directly or indirectly in relation to the subject-matter of the hearing with any person or with any party or party's representative except upon notice to and opportunity for all parties to participate, but the Tribunal may seek legal advice from an adviser independent from the parties and in such case the nature of the advice shall be made known to the parties in order that they may make submissions as to the law. R.S.O. 1990, c. P.11, s. 14 (4); 2000, c. 26, Sched. F, s. 14 (4).

(5) REPEALED: 1997, c. 37, s. 5 (2).

Findings of fact

(6) The findings of fact of the Tribunal following on a hearing shall be based exclusively on evidence admissible or matters that may be noticed under the *Statutory Powers Procedure Act*. 1998, c. 35, s. 78; 2000, c. 26, Sched. F, s. 14 (4).

(7) REPEALED: 2000, c. 26, Sched. F, s. 14 (3).

Release of documentary evidence

(8) Documents and things put in evidence at the hearing shall, upon the request of the person who produced them, be released to the person by the Tribunal within a reasonable time after the matter in issue has been finally determined. R.S.O. 1990, c. P.11, s. 14 (8); 2000, c. 26, Sched. F, s. 14 (4).

Section Amendments with date in force (d/m/y)

1994, c. 27, s. 117 - 09/12/1994; 1997, c. 37, s. 5 (2, 3) - 18/12/1997; 1998, c. 35, s. 78 - 01/02/1999

2000, c. 26, Sched. F, s. 14 (3, 4) - 06/12/2000

2001, c. 9, Sched. G, s. 7 (3) - 29/06/2001

Appeals

15 (1) Any party to proceedings before the Tribunal may appeal from its decision or order on a question of law to the Divisional Court in accordance with the rules of court. R.S.O. 1990, c. P.11, s. 15 (1); 2000, c. 26, Sched. F, s. 14 (4).

(2) REPEALED: 1997, c. 37, s. 5 (4).

Minister entitled to be heard

(3) The Minister is entitled to be heard by counsel or otherwise upon the argument of an appeal under subsection (1). R.S.O. 1990, c. P.11, s. 15 (3).

(4) REPEALED: 2021, c. 4, Sched. 10, s. 5 (1).

Section Amendments with date in force (d/m/y)

1997, c. 37, s. 5 (4) - 18/12/1997

2000, c. 26, Sched. F, s. 14 (4) - 06/12/2000

2021, c. 4, Sched. 10, s. 5 (1) - 01/06/2021

Protection from personal liability

16 (1) No action or other proceeding for damages or otherwise shall be instituted against any of the following persons for any act done in good faith in the execution or intended execution of any duty or authority under this Act or for any alleged neglect or default in the execution in good faith of such a duty or authority:

1. REPEALED: 2019, c. 14, Sched. 8, s. 46.

2. An employee in the Ministry.

3. A provincial officer employed under Part III of the *Public Service of Ontario Act, 2006*.

4. A public servant who is acting under the direction of a person described in paragraph 1, 2 or 3. 2006, c. 35, Sched. C, s. 109 (2); 2009, c. 33, Sched. 2, s. 58; 2017, c. 20, Sched. 5, s. 2 (14); 2019, c. 14, Sched. 8, s. 46.

Exception

(1.1) Subsection (1) does not apply in the case of an application for judicial review or an action or proceeding that is specifically provided for with respect to a person described in subsection (1) in any Act or in a regulation made under this or any other Act. 2006, c. 35, Sched. C, s. 109 (2).

Crown not relieved of liability

(2) Subsection (1) does not, by reason of subsection 8 (3) of the *Crown Liability and Proceedings Act, 2019*, relieve the Crown of liability in respect of a tort committed by a person mentioned in subsection (1) to which it would otherwise be subject and the Crown is liable under that Act for any such tort in a like manner as if subsection (1) had not been enacted. 2019, c. 7, Sched. 17, s. 141.

Section Amendments with date in force (d/m/y)

2000, c. 26, Sched. F, s. 14 (4) - 06/12/2000

2006, c. 35, Sched. C, s. 109 (2) - 20/08/2007

2009, c. 33, Sched. 2, s. 58 - 15/12/2009

2017, c. 20, Sched. 5, s. 2 (14) - 04/09/2018

2019, c. 7, Sched. 17, s. 141 - 01/07/2019; 2019, c. 14, Sched. 8, s. 46 - 01/05/2020

Provincial officers

17 (1) The Minister may designate as provincial officers one or more public servants who work in the Ministry or other persons to exercise such powers and perform such duties and functions under this Act as the Minister specifies. 2017, c. 20, Sched. 5, s. 2 (15).

Limitation of authority

(1.1) In a designation of a provincial officer, the Minister may limit the authority of the officer in the manner that the Minister considers necessary or advisable. 2017, c. 20, Sched. 5, s. 2 (15).

Provincial officers are peace officers

(2) A provincial officer is a peace officer for the purpose of enforcing this Act. 1998, c. 35, s. 79.

Investigation and prosecution

(3) A provincial officer may investigate offences under this Act and may prosecute any person whom the provincial officer reasonably believes is guilty of an offence under this Act. 1998, c. 35, s. 79.

Obstruction

(4) No person shall hinder or obstruct any provincial officer or any employee in or agent of the Ministry in the performance of his or her duties under this Act. 1998, c. 35, s. 79; 2006, c. 35, Sched. C, s. 109 (4).

False information

(5) No person shall orally, in writing or electronically, give or submit false or misleading information in any statement, document or data to any provincial officer, the Minister, the Ministry, any employee in or agent of the Ministry or any person involved in carrying out a program of the Ministry in respect of any matter related to this Act or the regulations. 1998, c. 35, s. 79; 2001, c. 9, Sched. G, s. 7 (4); 2006, c. 35, Sched. C, s. 109 (5).

Same

(6) No person shall include false or misleading information in any document or data required to be created, stored or submitted under this Act. 1998, c. 35, s. 79.

Refusal to furnish information

(7) No person shall refuse to furnish any provincial officer, the Minister, the Ministry or any employee in or agent of the Ministry with information required for the purposes of this Act and the regulations. 1998, c. 35, s. 79; 2006, c. 35, Sched. C, s. 109 (6).

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 79 - 01/02/1999

2001, c. 9, Sched. G, s. 7 (4) - 29/06/2001

2006, c. 35, Sched. C, s. 109 (3-6) - 20/08/2007

2017, c. 20, Sched. 5, s. 2 (15) - 04/09/2018

Calling for assistance of member of police service

18 Whenever a provincial officer is required or empowered by this Act or the regulations to do or direct the doing of anything, the provincial officer may take such steps and employ such assistance as is necessary to accomplish what is required, and may, when obstructed in so doing, call for the assistance of any member of the police service in the area where the assistance is required, and it is the duty of every member of a police service to render such assistance. 2019, c. 1, Sched. 4, s. 44.

Section Amendments with date in force (d/m/y)

2018, c. 3, Sched. 5, s. 46 - no effect - see 2019, c. 1, Sched. 3, s. 5 - 26/03/2019

2019, c. 1, Sched. 4, s. 44 - 01/04/2024

Inspection by provincial officer

19 (1) For the administration of this Act or the regulations, a provincial officer may, without a warrant or court order, at any reasonable time and with any reasonable assistance, make inspections, including,

- (a) entering any place in which the provincial officer reasonably believes a pesticide can be found;
- (b) entering any place in or from which the provincial officer reasonably believes a pesticide is being, has been or may be discharged into the environment;
- (c) entering any place that the provincial officer reasonably believes is likely to contain documents related to,
 - (i) an activity or undertaking that is, or is required to be, the subject of a permit, licence or order under this Act,
 - (ii) an activity or undertaking that is exempted by a regulation from any requirement to have a permit or licence under this Act and that is regulated by the provisions of the regulation, or
 - (iii) the discharge of a pesticide into the environment; and

- (d) entering any place that the provincial officer reasonably believes,
 - (i) is, or is required to be, subject to or referred to in a permit, licence or order under this Act, or
 - (ii) is subject to or referred to in a regulation that provides for an exemption from any requirement to have a permit or licence under this Act, where the regulation includes provisions that regulate the place. 1998, c. 35, s. 80; 2009, c. 19, s. 71 (2).

Same

- (2) During an inspection under subsection (1), the provincial officer may,
- (a) make necessary excavations;
 - (b) require that any thing be operated, used or set in motion under conditions specified by the provincial officer;
 - (c) take samples for analysis;
 - (d) conduct tests or take measurements;
 - (e) examine, record or copy any document or data, in any form, by any method;
 - (f) record the condition of a place or the natural environment by means of photograph, video recording or other visual recording;
 - (g) require the production of any document or data, in any form, required to be kept under this Act and of any other document or data, in any form, related to the purposes of the inspection;
 - (h) remove from a place documents or data, in any form, produced under clause (g) for the purpose of making copies; and
 - (i) make reasonable inquiries of any person, orally or in writing. 1998, c. 35, s. 80.

Limitation re records

- (3) A record made under clause (2) (f) must be made in a manner that does not intercept any private communication and that accords with reasonable expectations of privacy. 1998, c. 35, s. 80.

Limitation re removal of documents, data

- (4) A provincial officer shall not remove documents or data under clause (2) (h) without giving a receipt for them and shall promptly return the documents or data to the person who produced them. 1998, c. 35, s. 80.

Power to exclude persons

- (5) A provincial officer who exercises the power set out in clause (2) (i) may exclude from the questioning any person except counsel for the individual being questioned. 1998, c. 35, s. 80; 2009, c. 33, Sched. 15, s. 9 (2).

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 80 - 01/02/1999

2009, c. 19, s. 71 (2) - 01/01/2010; 2009, c. 33, Sched. 15, s. 9 (2) - 15/12/2009

Inspection of vehicles and vessels

19.1 (1) In this section,

“vehicle” includes a trailer or other equipment attached to the vehicle. 1998, c. 35, s. 80.

Requirement to stop

- (2) For the administration of this Act or the regulations, a provincial officer may signal a vehicle or vessel to stop. 1998, c. 35, s. 80.

Same

- (3) On the provincial officer’s signal to stop, the operator of the vehicle or vessel shall immediately come to a safe stop. 1998, c. 35, s. 80.

Same

- (4) For the purposes of this section, a signal to stop includes,
- (a) intermittent flashes of red light, in the case of a vehicle;
 - (b) intermittent flashes of blue light, in the case of a vessel; and

(c) a hand signal to stop by a provincial officer who is readily identifiable as a provincial officer. 1998, c. 35, s. 80.

Sign to report

(5) Where a clearly marked sign is posted indicating that a class of vehicles or vessels should report to a certain place in the vicinity of the sign, the operator of a vehicle or vessel that passes the sign and that falls within the class of vehicles or vessels indicated shall report forthwith to the place the sign directs. 1998, c. 35, s. 80.

Same

(6) Where the operator of a vehicle or vessel stops under subsection (3) or reports under subsection (5), the provincial officer may make any reasonable inquiries of the operator and the operator shall produce for inspection any documents related to the operation or ownership of the vehicle or vessel, including licenses, permits and any documents that are required to be kept by the law of any jurisdiction in relation to the carriage of any cargo or container. 1998, c. 35, s. 80.

Inspection powers

(7) Based on questioning or examination of documents conducted under subsection (6), the provincial officer may, without warrant or court order, inspect any means of containment that the provincial officer reasonably believes is being used for the handling or transportation of a pesticide. 1998, c. 35, s. 80; 2009, c. 19, s. 71 (3).

Same

(8) As part of an inspection under subsection (7), the provincial officer may open or require the operator to open any cargo hold, container or other means of containment. 1998, c. 35, s. 80.

Same

(9) During an inspection conducted under subsection (6) or (7), the provincial officer may exercise such powers under subsection 19 (2) as are reasonably required for the administration of this Act or the regulations. 1998, c. 35, s. 80.

Same

(10) Subsections 19 (3), (4) and (5) apply to the exercise of a power under subsection (9). 1998, c. 35, s. 80.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 80 - 01/02/1999

2009, c. 19, s. 71 (3) - 01/01/2010

Power to administer other Acts

19.2 A provincial officer who exercises any power set out in section 19, 19.1, 22, 23 or 23.1 may, if the provincial officer is designated as such under the *Environmental Protection Act*, the *Nutrient Management Act, 2002*, the *Ontario Water Resources Act*, the *Safe Drinking Water Act, 2002* or the *Toxics Reduction Act, 2009*, as the case may be, do anything authorized by,

- (a) section 156, 156.1, 160, 161 or 161.1 of the *Environmental Protection Act*;
- (b) section 13, 14 or 23 of the *Nutrient Management Act, 2002*;
- (c) section 15, 15.1, 19, 20 or 20.1 of the *Ontario Water Resources Act*;
- (d) section 81, 82, 91, 92 or 93 of the *Safe Drinking Water Act, 2002*; or
- (e) section 15, 20 or 21 of the *Toxics Reduction Act, 2009*. 2009, c. 19, s. 71 (4).

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 80 - 01/02/1999

2002, c. 4, s. 66 (1) - 01/07/2003

2009, c. 19, s. 71 (4) - 01/01/2010; 2009, c. 19, s. 71 (5) - no effect - see 2009, c. 19, s. 65 - 31/12/2019

Entry to dwellings

19.3 A person shall not exercise a power conferred by this Act to enter a room actually used as a dwelling without the consent of the occupier except under the authority of an order under section 20. 1998, c. 35, s. 80.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 80 - 01/02/1999

Identification

19.4 On request, a provincial officer who exercises a power under this Act shall identify himself or herself as a provincial officer either by the production of a copy of his or her designation or in some other manner and shall explain the purpose of the exercise of the power. 1998, c. 35, s. 81.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 81 - 01/02/1999

Entry, etc., may be prohibited

19.5 (1) A provincial officer may by order prohibit entry into all or part of any land or place or prohibit the use of, interference with, disruption of, or destruction of any thing in any of the following circumstances:

1. During an inspection under section 19, section 19.1 or 20.
2. During a search under section 23.
3. During the time required for the provincial officer to obtain an order under section 20 of this Act or a warrant under section 158 of the *Provincial Offences Act*.
4. During a search carried out under a warrant issued under section 158 of the *Provincial Offences Act*.

Requirements for order

- (2) An order under subsection (1) shall not be issued unless the provincial officer reasonably believes that,
- (a) in the case of an order prohibiting entry, there is on the land or in the place a thing that will afford evidence of an offence under this Act;
 - (b) in the case of an order prohibiting the use of, interference with, disruption of, or destruction of a thing, the thing will afford evidence of an offence under this Act; or
 - (c) in the case of an order prohibiting entry or an order prohibiting the use of, interference with, disruption of, or destruction of a thing, there is a discharge or a likelihood of discharge of a pesticide or a substance or thing containing a pesticide into the environment, out of the normal course of events, from the land, place or thing, that has resulted or is likely to result in an effect referred to in any of clauses 29 (a) to (f).

Notice of order

- (3) The provincial officer shall give notice of the order in the manner that he or she considers appropriate in the circumstances.

Contents of notice

- (4) Notice of the order shall include an explanation of the rights provided by subsections (6) and (7).

Order not effective where no notice

- (5) An order under subsection (1) is not effective in any court proceeding against a person where the person satisfies the court that the person neither knew nor should have known of the order.

Request for rescission

- (6) A person aggrieved by the order may make an oral or written request to the Director to rescind it and may make oral or written submissions to the Director in support of the request.

Powers of Director

- (7) The Director shall give prompt consideration to any request or submissions made under subsection (6) and may rescind the order.

Same

- (8) For the purposes of subsection (7), the Director may substitute his or her own opinion for that of the provincial officer.

Same

- (9) A Director who rescinds an order under subsection (7) shall give such directions to a provincial officer as the Director considers appropriate to bring the rescission to the attention of persons affected.

No stay

(10) A request for rescission of an order under subsection (1) does not stay the order, unless the Director orders otherwise in writing.

Duration of order

(11) An order under subsection (1) shall,

- (a) subject to clause (b), be effective for the shorter of the length of time necessary to complete the inspection or search referred to in that subsection or a period not exceeding two days excluding holidays; or
- (b) where the inspection or search referred to in subsection (1) is under an order under section 20 of this Act or under a warrant issued under section 158 of the *Provincial Offences Act* and a time limit for the inspection or search is specified in the order or warrant, be effective until the expiration of that time. 1998, c. 35, s. 81.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 81 - 01/02/1999

Order of justice: prohibiting entry, or use, etc., of things

19.6 (1) Where a justice is satisfied, on evidence under oath by a provincial officer, that there is reasonable ground for believing that it is appropriate for the administration of this Act or the regulations or necessary to protect human health or safety or to protect property, the justice may issue an order prohibiting entry into all or part of any land or place or prohibiting the use of, interference with, disruption of, or destruction of any thing. 1998, c. 35, s. 81.

Same

(2) The prohibition under the justice's order shall, subject to subsection (3), be for such period of time as is set out in the order. 1998, c. 35, s. 81.

Expiry

(3) Unless renewed, an order under this section expires on the earlier of the day specified for the purpose in the order or the day that is 30 days after the date on which the order is made. 1998, c. 35, s. 81; 2009, c. 33, Sched. 15, s. 9 (3).

Renewal

(4) An order under this section may be renewed for any reason set out in subsection (1), before or after expiry, for one or more periods each of which is not more than 30 days. 1998, c. 35, s. 81.

Notice of application

(5) An initial order under subsection (1) may be issued on application without notice. 1998, c. 35, s. 81.

Same

(6) A renewal order under subsection (4) may be issued on application made with such notice, if any, as is specified for the purpose under subsection (7). 1998, c. 35, s. 81.

Same

(7) In an order under subsection (1) or (4), a justice may specify notice requirements that must be met by a person applying for a renewal of the order or for a further renewal of the order, as the case may be. 1998, c. 35, s. 81.

Notice of order

(8) A provincial officer may give notice of an order under subsection (1) or (4) in the manner that he or she considers appropriate in the circumstances. 1998, c. 35, s. 81.

Order not effective where no notice

(9) An order under subsection (1) or (4) is not effective in any court proceeding against a person where the person satisfies the court that the person neither knew nor should have known of the order. 1998, c. 35, s. 81.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 81 - 01/02/1999

2009, c. 33, Sched. 15, s. 9 (3) - 15/12/2009

Securing of place

19.7 Where an order under section 19.5 or 19.6 is in effect, a provincial officer may take measures to secure the land, place or thing to which the order relates by means of locks, gates, fences, security guards or such other means as the provincial officer deems necessary to prevent entry into the land or place or to prevent the use of, interference with, disruption of, or destruction of the thing. 1998, c. 35, s. 81.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 81 - 01/02/1999

Order of justice: authorizing inspection

20 (1) A justice may issue an order authorizing a provincial officer to do anything set out in subsection 19 (1) or (2) or section 19.1 if the justice is satisfied, on evidence under oath by a provincial officer, that there is reasonable ground to believe that it is appropriate for the administration of this Act or the regulations for the provincial officer to do anything set out in subsection 19 (1) or (2) or section 19.1 and that the provincial officer may not be able to effectively carry out his or her duties without an order under this section because,

- (a) no occupier is present to grant access to a place that is locked or otherwise inaccessible;
- (b) a person has prevented the provincial officer from doing anything set out in subsection 19 (1) or (2) or section 19.1;
- (c) there is reasonable ground to believe that a person may prevent a provincial officer from doing anything set out in subsection 19 (1) or (2) or section 19.1;
- (d) it is impractical, because of the remoteness of the place to be inspected or because of any other reason, for the provincial officer to obtain an order under this section without delay if access is denied; or
- (e) there is reasonable ground to believe that an attempt by the provincial officer to do anything set out in subsection 19 (1) or (2) or section 19.1 without the order,
 - (i) might not achieve its purpose, or
 - (ii) might endanger human health or safety, property or the natural environment. 1998, c. 35, s. 82.

Same

(2) Subsections 19 (3), (4) and (5) apply to an inspection under an order under this section. 1998, c. 35, s. 82.

Expiry

(3) Unless renewed, an order under this section expires on the earlier of the day specified for the purpose in the order and the day that is 30 days after the date on which the order is made. 1998, c. 35, s. 82; 2009, c. 33, Sched. 15, s. 9 (4).

Renewal

(4) An order under this section may be renewed in the circumstances in which an order may be made under subsection (1), before or after expiry, for one or more periods each of which is not more than 30 days. 1998, c. 35, s. 82.

When to be executed

(5) An order under this section shall be carried out between 6 a.m. and 9 p.m., unless the order otherwise authorizes. 1998, c. 35, s. 82.

Application without notice

(6) An order under this section may be issued or renewed on application without notice. 1998, c. 35, s. 82.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 82 - 01/02/1999

2009, c. 33, Sched. 15, s. 9 (4) - 15/12/2009

Samples and copies

21 A provincial officer may detain samples or copies obtained under section 19, 19.1 or 20 for any period and for any of the purposes of this Act and the regulations. 1998, c. 35, s. 83.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 83 - 01/02/1999

Seizure during inspection

22 During an inspection under section 19, 19.1 or 20, a provincial officer may, without a warrant or court order, seize any thing that is produced to the provincial officer or that is in plain view, if,

- (a) the provincial officer reasonably believes that the thing will afford evidence of an offence under this Act;
- (b) the provincial officer reasonably believes that the thing was used or is being used in connection with the commission of an offence under this Act and that the seizure is necessary to prevent the continuation or repetition of the offence; or
- (c) the thing is discharging or is likely to discharge a pesticide, or a substance or thing containing a pesticide, into the environment out of the normal course of events and impairment of the environment has resulted or is likely to result. 1998, c. 35, s. 83.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 83 - 01/02/1999

Searches relating to offences

23 (1) In this section,

“offence” means an offence under section 4, 6, 7 or 7.1. R.S.O. 1990, c. P.11, s. 23 (1); 2008, c. 11, s. 3.

Search by provincial officer re actual pollution

(2) A provincial officer may, without a search warrant, search any place other than a room actually used as a dwelling if the provincial officer has reasonable ground to believe,

- (a) that an offence has been committed;
- (b) that there is in such place any thing that will afford evidence as to the commission of the offence; and
- (c) that there are exigent circumstances that make it impractical to obtain a search warrant. R.S.O. 1990, c. P.11, s. 23 (2).

Seizure during search

(3) During a search under subsection (2), a provincial officer, without warrant or court order, may seize any thing if,

- (a) the provincial officer reasonably believes that the thing will afford evidence of an offence; or
- (b) the provincial officer reasonably believes that the thing was used or is being used in connection with the commission of an offence and that the seizure is necessary to prevent the continuation or repetition of the offence. 1998, c. 35, s. 84.

(4) REPEALED: 1998, c. 35, s. 84.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 84 - 01/02/1999

2008, c. 11, s. 3 - 22/04/2009

Detention or removal

23.1 (1) A provincial officer who seizes any thing under section 22 or 23 may remove the thing or may detain it in the place where it is seized.

Receipt

(2) Where possible, the provincial officer shall inform the person from whom a thing is seized under section 22 or 23 as to the reason for the seizure and shall give the person a receipt for the thing seized. 1998, c. 35, s. 85.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 85 - 01/02/1999

Report to justice re: seizure

24 (1) A provincial officer who seizes any thing during an inspection or search under section 22 or 23 shall bring the thing seized before a justice or, if that is not reasonably possible, shall report the seizure to a justice. 1998, c. 35, s. 86.

Seizure

(2) Sections 159 and 160 of the *Provincial Offences Act* apply with necessary modifications in respect of a thing seized by a provincial officer during an inspection or search under section 22 or 23. R.S.O. 1990, c. P.11, s. 24 (2).

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 86 - 01/02/1999

Disposition of certain things

24.1 (1) Where the Director believes that, given the nature of a thing seized under section 22 or 23, the thing may pose a risk to human health or safety or to property, the Director may direct the person having custody of the thing, to dispose of the thing in a manner satisfactory to the Director.

Disposition of seized perishables

(2) Where the person having custody of any thing seized under section 22 or 23 believes that the thing will rot, spoil or otherwise perish, the person may dispose of the thing.

Non-application of provision

(3) Section 24 does not apply to a thing disposed of in accordance with this section.

Forfeiture

(4) A thing disposed of in accordance with this section is forfeited to the Crown. 1998, c. 35, s. 87.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 87 - 01/02/1999

Notice of disposal

24.2 (1) Where a thing has been disposed of in accordance with section 24.1, the Director shall ensure that a provincial officer gives written notice of the seizure and disposal, within 15 days of the disposal,

- (a) to every person whom the provincial officer knows or has reason to believe is an owner of the thing seized; and
 - (b) to every person who has a security interest in the thing that is perfected by registration under the *Personal Property Security Act* against the name of any person whom the provincial officer knows or has reason to believe is the owner.
- 1998, c. 35, s. 87.

Contents of notice

(2) Notice under subsection (1) shall include,

- (a) a description of the thing seized sufficient to enable it to be identified;
- (b) the location at which the thing was seized;
- (c) the date of the seizure and disposal;
- (d) the name and telephone number of the provincial officer who seized the thing or of his or her delegate;
- (e) a statement of the reason for the seizure and disposal;
- (f) a reference to the statutory provision authorizing the seizure and disposal; and
- (g) a reference to the statutory provision permitting the person to apply to the Superior Court of Justice for relief against the forfeiture. 1998, c. 35, s. 87; 2001, c. 9, Sched. G, s. 7 (17).

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 87 - 01/02/1999

2001, c. 9, Sched. G, s. 7 (17) - 29/06/2001

Forfeiture may be ordered

24.3 (1) On the application of the Director, the Superior Court of Justice may order that a thing seized under section 22 or 23 or under a warrant issued under the *Provincial Offences Act* in connection with the commission or suspected commission of an offence under this Act be forfeited to the Crown. 1998, c. 35, s. 87; 2001, c. 9, Sched. G, s. 7 (17).

Where no order to be made

(2) No order shall be made under subsection (1) unless the court is satisfied that,

- (a) the seizure was lawful; and
- (b) no later than seven days before the hearing of the application, written notice has been provided by a provincial officer,

- (i) to every person whom the provincial officer knows or has reason to believe is an owner of the thing seized,
- (ii) to every person who has a security interest in the thing that is perfected by registration under the *Personal Property Security Act* against the name of any person whom the provincial officer knows or has reason to believe is the owner,
- (iii) where the thing seized is a vehicle, to every person who has a security interest in the vehicle that is perfected by registration under the *Personal Property Security Act* against the vehicle identification number of the vehicle, and
- (iv) where the thing seized is a vehicle and the vehicle is registered under the *Highway Traffic Act*, to the registered owner. 1998, c. 35, s. 87.

Contents of notice

- (3) Notice under subsection (2) shall include,
- (a) a description of the thing seized sufficient to enable it to be identified;
 - (b) the location at which the thing was seized;
 - (c) the date of the seizure;
 - (d) the name and telephone number of the provincial officer who seized the thing or of his or her delegate;
 - (e) a statement of the reason for the seizure;
 - (f) a reference to the statutory provision authorizing the seizure;
 - (g) a statement that an order for forfeiture of the thing is being sought under this section; and
 - (h) a statement that the person to whom the notice is provided may make submissions to the Superior Court of Justice with respect to the issuance of an order under this section. 1998, c. 35, s. 87; 2001, c. 9, Sched. G, s. 7 (17).

Disposition of things forfeited

- (4) A thing forfeited under this section may be disposed of as the Director directs. 1998, c. 35, s. 87.

Relief against forfeiture

- (5) A person who had an interest in a thing forfeited under section 24.1 or this section may apply to the Superior Court of Justice for relief against the forfeiture and the court may make an order providing for any relief that it considers appropriate, including, but not limited to, one or more of the following orders:

1. An order directing that the thing or any part of the thing be returned to the applicant.
2. An order directing that any interest in the thing be vested in the applicant.
3. An order directing that an amount be paid by the Crown to the applicant by way of compensation for the forfeiture. 1998, c. 35, s. 87; 2001, c. 9, Sched. G, s. 7 (17).

When relief not to be ordered

- (6) The court shall not make an order for relief under subsection (5) in respect of a thing forfeited if the person applying for the relief has been,
- (a) served with an order requiring the person to pay an administrative penalty in connection with a matter that was associated with the seizure of the thing, unless the order has been revoked; or
 - (b) charged with an offence that was associated with the seizure of the thing, unless the charge has been withdrawn or dismissed. 2019, c. 14, Sched. 8, s. 47.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 87 - 01/02/1999

2001, c. 9, Sched. G, s. 7 (17) - 29/06/2001

2017, c. 20, Sched. 5, s. 2 (16) - 04/09/2018

2019, c. 14, Sched. 8, s. 47 - 10/12/2019

Use of force

- 25** (1) A provincial officer may use such force as is reasonably necessary,

- (a) to carry out an order issued under this Act, other than an order issued by a provincial officer;
- (b) to execute a warrant issued under the *Provincial Offences Act*; or
- (c) to prevent the destruction of any thing that the provincial officer reasonably believes may afford evidence of an offence under this Act. R.S.O. 1990, c. P.11, s. 25; 1998, c. 35, s. 88 (1, 2).

Same

(2) For the purposes of clause (1) (a), an order issued by the Director that confirms or amends an order issued by a provincial officer is not an order issued by a provincial officer. 1998, c. 35, s. 88 (3).

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 88 (1-3) - 01/02/1999

Order for use of monitoring device, etc.

25.1 (1) In this section,

“device” means a substance or tracking device that, when placed or installed in or on any place, land or thing, may be used to help ascertain, by electronic or other means, the origin, identity or location of anything.

Order may be issued

(2) On application without notice, a justice may issue an order in writing authorizing a provincial officer, subject to this section, to use any device, investigative technique or procedure or to do any thing described in the order if the justice is satisfied by evidence under oath that there are reasonable grounds to believe that an offence against this Act has been or will be committed and that information concerning the offence will be obtained through the use of the device, technique or procedure or the doing of the thing.

Limitation

(3) An order under this section shall not authorize the interception of any private communication.

Same

(4) No device, technique or procedure shall be used to intercept any private communication under an order issued under this section.

Terms and conditions of order

(5) An order issued under this section shall contain such terms and conditions as the justice considers advisable in the circumstances.

Activities under order

(6) An order issued under this section may authorize a provincial officer,

- (a) to place, install, maintain or remove a device in or on any land, place or thing; and
- (b) to monitor, or to have monitored, a device or information from a device placed or installed in or on any land, place or thing.

Duration of order

(7) An order issued under this section is valid for a period of 60 days or for such shorter period as may be specified in the order.

Further orders

(8) A justice may issue further orders under subsection (2). 1998, c. 35, s. 89.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 89 - 01/02/1999

Permit or licence condition, permission to inspect

26 It is a condition of every permit or licence under this Act that the holder must forthwith on request permit provincial officers to carry out inspections authorized by the following provisions of any place, other than any room actually used as a dwelling, to which the permit or licence relates:

1. Section 19, 19.1 or 20 of this Act.

2. Section 156, 156.1 or 158 of the *Environmental Protection Act*.
3. Section 13, 14 or 16 of the *Nutrient Management Act, 2002*.
4. Section 15, 15.1 or 17 of the *Ontario Water Resources Act*.
5. Section 81, 82 or 89 of the *Safe Drinking Water Act, 2002*.
6. Section 15 or 18 of the *Toxics Reduction Act, 2009*. 2009, c. 19, s. 71 (6).

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 90 - 01/02/1999

2002, c. 4, s. 66 (2) - 01/07/2003

2009, c. 19, s. 71 (6) - 01/01/2010; 2009, c. 19, s. 71 (7) - no effect - see 2009, c. 19, s. 65 - 31/12/2019

Power to require response to inquiries

26.0.1 (1) For the purposes of determining compliance of a person with this Act or the regulations, a provincial officer may, at any reasonable time and with any reasonable assistance, require the person, or any person employed by or providing services to the person, to respond to reasonable inquiries. 2017, c. 2, Sched. 11, s. 5.

Same

(2) For the purposes of subsection (1), a provincial officer may make inquiries by telephone or by any other means of communication. 2017, c. 2, Sched. 11, s. 5.

Production of document

(3) In requiring a person to respond to an inquiry under subsection (1), a provincial officer may require the production of any document or data, in any form, required to be kept under this Act and of any other document or data, in any form, related to the purpose of the inquiry. 2017, c. 2, Sched. 11, s. 5.

Records in electronic form

(4) If a record is retained in electronic form, a provincial officer may require that a copy of it be provided to him or her on paper or electronically, or both. 2017, c. 2, Sched. 11, s. 5.

Section Amendments with date in force (d/m/y)

2017, c. 2, Sched. 11, s. 5 - 22/03/2017

Order by provincial officer: contraventions

26.1 (1) A provincial officer may issue an order to any person that the provincial officer reasonably believes is contravening or has contravened,

- (a) a provision of this Act or the regulations;
- (b) a provision of an order made under this Act, other than an order requiring the person to pay an administrative penalty; or
- (c) a term or condition of a licence or permit issued under this Act. 1998, c. 35, s. 91; 2019, c. 14, Sched. 8, s. 48.

Information to be included in order

(2) The order shall,

- (a) specify the provision, term or condition that the provincial officer believes is being or has been contravened;
- (b) briefly describe the nature and, where applicable, the location of the contravention; and
- (c) state that a review of the order may be requested in accordance with section 26.3. 1998, c. 35, s. 91.

What order may require

(3) The order may require the person to whom it is directed to comply with any directions set out in the order within the time specified relating to,

- (a) achieving compliance with the provision, term or condition;
- (b) preventing the continuation or repetition of the contravention;
- (c) the securing, whether through locks, gates, fences, security guards or other means, of any land, place or thing;

- (d) where the contravention has any of the effects mentioned in subsection 28 (1), doing all or any of the things specified in subsection 28 (2);
- (e) the removal of a pesticide or a substance or thing contaminated by or containing a pesticide;
- (f) where the contravention has caused damage to or endangered or is likely to cause damage to or endanger existing water supplies, providing alternate water supplies;
- (g) submitting a plan for achieving compliance with the provision, term or condition, including the engagement of contractors or consultants satisfactory to a provincial officer;
- (h) submitting an application for a licence or permit;
- (i) monitoring and recording in relation to the environment and reporting on the monitoring and recording; and
- (j) posting notice of the order. 1998, c. 35, s. 91.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 91 - 01/02/1999

2019, c. 14, Sched. 8, s. 48 - 10/12/2019

Amendment or revocation of order under s. 26.1

26.2 (1) An order issued under section 26.1 may, by order, be amended or revoked by the provincial officer who issued it or by the Director.

Same

(2) A provincial officer or Director who amends or revokes an order shall give written notice of the amendment or revocation to the person to whom the order is directed. 1998, c. 35, s. 91.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 91 - 01/02/1999

Review, order under ss. 26.1 or 26.2

26.3 (1) A person to whom an order under section 26.1 or 26.2 is directed may, within seven days after being served with a copy of the order, request that the Director review the order. 1998, c. 35, s. 91.

Manner of making request

(2) The request may be made orally, with written confirmation served on the Director within the time specified in subsection (1), or in writing. 1998, c. 35, s. 91.

Contents of request for review

(3) A written request for review under subsection (1) or a written confirmation of an oral request under subsection (2) shall include,

- (a) the portions of the order in respect of which the review is requested;
- (b) any submissions that the applicant for the review wishes the Director to consider; and
- (c) for the purpose of subsection (7), an address for service by mail or by facsimile transmission or by such other means of service as the regulations may prescribe. 1998, c. 35, s. 91.

No automatic stay

(4) The request for review does not stay the order, unless the Director orders otherwise in writing. 1998, c. 35, s. 91.

Decision of Director

(5) A Director who receives a request for review may,

- (a) revoke the order of the provincial officer; or
- (b) by order directed to the person requesting the review, confirm or amend the order of the provincial officer. 1998, c. 35, s. 91.

Same

(6) For the purposes of subsection (5), the Director may substitute his or her own opinion for that of the provincial officer. 1998, c. 35, s. 91.

Notice of decision

(7) The Director shall serve the person requesting the review with a copy of,

- (a) a decision to revoke the order of the provincial officer; or
- (b) an order to confirm or amend the order of the provincial officer, together with reasons. 1998, c. 35, s. 91.

Automatic confirmation of order

(8) If, within seven days of receiving a written request for review or a written confirmation of an oral request for review, the Director does not make a decision under subsection (5) and give oral or written notice of the decision to the person requesting the review, the order in respect of which the review is sought shall be deemed to have been confirmed by order of the Director. 1998, c. 35, s. 91.

Same

(9) For the purpose of an appeal to the Tribunal, a confirming order deemed to have been made by the Director under subsection (8),

- (a) shall be deemed to be directed to each person to whom the order of the provincial officer was directed; and
- (b) shall be deemed to have been served, on each person to whom the order of the provincial officer was directed, at the expiry of the time period referred to in subsection (8). 1998, c. 35, s. 91; 2000, c. 26, Sched. F, s. 14 (4).

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 91 - 01/02/1999

2000, c. 26, Sched. F, s. 14 (4) - 06/12/2000

Non-application of notice requirement under s. 13

26.4 Section 13 does not apply to orders under sections 26.1, 26.2 and 26.3. 1998, c. 35, s. 91.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 91 - 01/02/1999

Appeal to Tribunal, order under s. 26.3

26.5 (1) Where the Director has made an order under section 26.3, any person to whom the order is directed may, by written notice served on the Director and the Tribunal within 15 days after service on the person of a copy of the order require a hearing by the Tribunal. 1998, c. 35, s. 91; 2000, c. 26, Sched. F, s. 14 (4).

Extension of time for requiring hearing

(2) The Tribunal may extend the time for giving notice under subsection (1) where it is satisfied that there are reasonable grounds for the extension and that there are apparent grounds for granting relief. 1998, c. 35, s. 91; 2000, c. 26, Sched. F, s. 14 (4).

Same

(3) The Tribunal may give such directions as it considers proper consequent on the extension. 1998, c. 35, s. 91; 2000, c. 26, Sched. F, s. 14 (4).

Effect of Director's order

(4) Section 143 of the *Environmental Protection Act* applies with necessary modifications to orders made under section 26.3 of this Act. 1998, c. 35, s. 91.

Examination of documentary evidence

(5) The person requiring the hearing by the Tribunal shall be afforded an opportunity to examine before the hearing any written or documentary evidence that will be produced or any report the contents of which will be given in evidence at the hearing. 1998, c. 35, s. 91; 2000, c. 26, Sched. F, s. 14 (4).

Rules governing Tribunal hearings

(6) Subsections 14 (4) to (8) apply to hearings under this section. 1998, c. 35, s. 91.

Parties

(7) The Director, the person requiring the hearing and any other person specified by the Tribunal are parties to the hearing. 1998, c. 35, s. 91; 2000, c. 26, Sched. F, s. 14 (4).

Powers of Tribunal

(8) The Tribunal may by order confirm, alter or revoke the order of the Director and for the purpose the Tribunal may substitute its own opinion for that of the Director. 1998, c. 35, s. 91; 2000, c. 26, Sched. F, s. 14 (4).

Appeals from Tribunal hearings

(9) Section 15 applies to decisions of the Tribunal under this section. 1998, c. 35, s. 91; 2000, c. 26, Sched. F, s. 14 (4).

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 91 - 01/02/1999

2000, c. 26, Sched. F, s. 14 (4) - 06/12/2000

Stop order

27 (1) Where the Director or a provincial officer is of the opinion, upon reasonable and probable grounds, that an emergency exists by reason of,

- (a) danger to the health or safety of any person;
- (b) impairment or immediate risk of impairment of the quality of the environment for any use that is being or is likely to be made of it;
- (c) injury or damage or immediate risk of injury or damage to any property or to any plant or animal life; or
- (d) the rendering or the immediate risk of rendering directly or indirectly any property or plant or animal life unfit for use by humans,

consequent upon the handling, storage, use, disposal, transportation or display of a pesticide or a substance or thing containing a pesticide, the Director or provincial officer, as the case may be, may make an oral or written stop order directed to the person responsible for the pesticide or the substance or thing containing the pesticide ordering such person to stop immediately the handling, storage, use, disposal, transportation or display of the pesticide or the substance or thing containing the pesticide either permanently or for a specific period of time. R.S.O. 1990, c. P.11, s. 27 (1).

Immediate appeal

(2) A person who is affected by a stop order made by a provincial officer under subsection (1) may appeal therefrom in person or by a person authorized under the *Law Society Act* to represent the person affected and by telephone or otherwise to the Director and the Director, after receiving the submissions of the person and of the provincial officer, shall vary, rescind or confirm the stop order of the provincial officer. R.S.O. 1990, c. P.11, s. 27 (2); 2006, c. 21, Sched. C, s. 129 (2).

Written reasons for order

(3) Where the Director makes a stop order or varies or confirms a stop order under subsection (2), the Director shall forthwith thereafter serve or cause to be served a written copy of the stop order or a written copy of the stop order as varied or confirmed, as the case requires, together with written reasons therefor, upon the person to whom the stop order or the stop order as varied or confirmed is directed. R.S.O. 1990, c. P.11, s. 27 (3).

Public notice

(4) The Director shall give notice of the stop order or the varied or confirmed stop order, together with written reasons therefor, to the municipality in which the emergency exists and to the public in such manner as the Director considers appropriate. R.S.O. 1990, c. P.11, s. 27 (4).

Notice

(5) A stop order, or a stop order as varied or confirmed under subsection (3) shall state that the person to whom it is directed is entitled to a hearing by the Tribunal if the person mails or delivers to the Director and the Tribunal, within fifteen days after a copy of the stop order, or the stop order as varied or confirmed, under subsection (3), is served on the person, notice in writing requiring a hearing. R.S.O. 1990, c. P.11, s. 27 (5); 2000, c. 26, Sched. F, s. 14 (4).

Effect of stop order

(6) Even if an appeal is taken against a stop order, the stop order is effective at and from the time it is communicated to the person to whom it is directed until confirmed, varied or rescinded on appeal and such person shall comply with the stop order immediately. R.S.O. 1990, c. P.11, s. 27 (6).

Appeal to Tribunal

(7) Where the Director has made a stop order or has varied or confirmed upon appeal to the Director a stop order made by a provincial officer, any person to whom the order is directed may, by written notice mailed to or served upon the Director and the Tribunal within fifteen days after service upon the person of a copy of the stop order or of the stop order as varied or confirmed, as the case requires, require a hearing by the Tribunal. R.S.O. 1990, c. P.11, s. 27 (7); 2000, c. 26, Sched. F, s. 14 (4).

Powers of Tribunal where hearing

(8) Where a person to whom a stop order is directed requires a hearing by the Tribunal in accordance with subsection (7), the Tribunal shall appoint a time and place for and hold the hearing and the Tribunal may by order confirm, alter or rescind the order of the Director and for such purposes the Tribunal may substitute its opinion for that of the Director. R.S.O. 1990, c. P.11, s. 27 (8); 2000, c. 26, Sched. F, s. 14 (4).

Parties

(9) The Director, the person who has required the hearing and such other persons as the Tribunal may specify are parties to proceedings before the Tribunal under this section. R.S.O. 1990, c. P.11, s. 27 (9); 2000, c. 26, Sched. F, s. 14 (4).

Procedure

(10) Subsection 13 (5), subsections 14 (2), (3), (4), (6) and (8) and section 15 apply with necessary modifications to proceedings under this section. R.S.O. 1990, c. P.11, s. 27 (10); 2001, c. 9, Sched. G, s. 7 (5).

Revocation of stop order

(11) The Director, by an order, may rescind a stop order and in such case shall serve or cause to be served a copy of the rescinding order upon the person to whom the stop order was directed and shall give notice of the rescinding order to the municipality referred to in subsection (4) and to the public in such manner as the Director considers appropriate. R.S.O. 1990, c. P.11, s. 27 (11).

Section Amendments with date in force (d/m/y)

2000, c. 26, Sched. F, s. 14 (4) - 06/12/2000

2001, c. 9, Sched. G, s. 7 (5) - 29/06/2001

2006, c. 21, Sched. C, s. 129 (2) - 01/05/2007

Control order

28 (1) Where the handling, storage, use, disposal, transportation or display of a pesticide or a substance or thing containing a pesticide,

- (a) causes or is likely to cause impairment of the quality of the environment for any use that is being or is likely to be made of it;
- (b) causes or is likely to cause injury or damage to property or to plant or animal life;
- (c) causes or is likely to cause harm or material discomfort to any person;
- (d) adversely affects or is likely to affect adversely the health of any person;
- (e) impairs or is likely to impair the safety of any person;
- (f) renders or is likely to render directly or indirectly any property or plant or animal life unfit for use by humans,

the Director, subject to section 13, may make a control order directed to the person responsible for the pesticide or the substance or thing containing the pesticide.

Content of control order

(2) The Director, in a control order, may order the person to whom the order is directed to,

- (a) limit or control the rate of discharge of a pesticide or a substance or thing containing a pesticide into the environment in accordance with the directions set out in the order;

- (b) stop the discharge of a pesticide or a substance or thing containing a pesticide into the environment,
 - (i) permanently,
 - (ii) for a specified period of time, or
 - (iii) in the circumstances set out in the order; and
- (c) comply with any directions set out in the order relating to the manner in which a pesticide or a substance or thing containing a pesticide or the container of either of them may be handled, stored, used, disposed of, transported or displayed.

Amendment of control order

(3) The Director, under any of the circumstances set out in subsection (1) and in accordance with subsection (2), by a further order, may amend or vary a control order and sections 13, 14 and 15 apply with necessary modifications.

Revocation of control order

(4) The Director, by an order, may rescind a control order and in such case shall serve or cause to be served a copy of the rescinding order upon the person to whom the control order was directed. R.S.O. 1990, c. P.11, s. 28.

Discharge of pesticide, Director to be notified

29 Every person who discharges a pesticide or a substance or thing containing a pesticide in or into the environment out of the normal course of events that,

- (a) causes or is likely to cause impairment of the quality of the environment for any use that can be made of it;
- (b) causes or is likely to cause injury or damage to property or to plant or animal life;
- (c) causes or is likely to cause harm or material discomfort to any person;
- (d) adversely affects or is likely to adversely affect the health of any person;
- (e) impairs or is likely to impair the safety of any person; or
- (f) renders or is likely to render directly or indirectly any property or plant or animal life unfit for use by humans,

shall forthwith notify the Director. R.S.O. 1990, c. P.11, s. 29.

Damage repair, cleaning and decontamination

Minister may order repair of damage

30 (1) Where any person discharges or causes or permits the discharge of a pesticide or a substance or thing containing a pesticide that causes or is likely to cause injury or damage to or impairment of,

- (a) the quality of the environment for any use that is being or is likely to be made of it;
- (b) any property or water;
- (c) plant or animal life; or
- (d) a person,

the Minister, where he or she is of the opinion that it is in the public interest to do so, may order the person responsible for the pesticide or the substance or thing containing the pesticide to do all things and take all steps within such time or times as may be specified in the order for the purpose of preventing or repairing, as the case requires, such injury or damage or impairment or to restore such quality.

Cleaning and decontamination

(2) Every person responsible for a pesticide or a substance or thing containing a pesticide shall take such measures and do such things within such time or times with respect to the cleaning and decontamination of the environment, or any plant or animal life, substance or thing that has come into contact with a pesticide by any means other than in accordance with this Act and the regulations or a licence, permit or order thereunder as may be prescribed.

Idem

(3) No person shall use the environment or any plant or animal life, substance or thing that has come into contact with a pesticide by any means other than in accordance with this Act and the regulations or a licence, permit or order thereunder unless the cleaning and decontamination thereof has been completed in the prescribed manner or has been approved by the Director in writing. R.S.O. 1990, c. P.11, s. 30.

Orders, successors, etc., bound, records

Successors and assigns

31 (1) An order of a court, the Minister, the Director or a provincial officer under this Act is binding on the executor, administrator, administrator with the will annexed, guardian of property or attorney for property of the person to whom it was directed, and on any other successor or assignee of the person to whom it was directed. 2001, c. 17, s. 6 (3).

Limitation

(2) If, pursuant to subsection (1), an order is binding on an executor, administrator, administrator with the will annexed, guardian of property or attorney for property, their obligation to incur costs to comply with the order is limited to the value of the assets they hold or administer, less their reasonable costs of holding or administering the assets. 2001, c. 17, s. 6 (3).

Receivers and trustees

(3) An order of a court, the Minister, the Director or a provincial officer under this Act that relates to property is binding on a receiver or trustee that holds or administers the property. 2001, c. 17, s. 6 (3).

Limitation

(4) If, pursuant to subsection (3), an order is binding on a trustee, other than a trustee in bankruptcy, the trustee's obligation to incur costs to comply with the order is limited to the value of the assets held or administered by the trustee, less the trustee's reasonable costs of holding or administering the assets. 2001, c. 17, s. 6 (3).

Exception

(5) Subsection (3) does not apply to an order that relates to property held or administered by a receiver or trustee in bankruptcy if,

- (a) within 10 days after taking or being appointed to take possession or control of the property, or within 10 days after the issuance of the order, the receiver or trustee in bankruptcy notifies the Director that they have abandoned, disposed of or otherwise released their interest in the property; or
- (b) the order was stayed under Part I of the *Bankruptcy and Insolvency Act* (Canada) and the receiver or trustee in bankruptcy notified the Director, before the stay expired, that they abandoned, disposed of or otherwise released their interest in the property. 2001, c. 17, s. 6 (3).

Extension of period

(6) The Director may extend the 10-day period for giving notice under clause (5) (a), before or after it expires, on such terms and conditions as he or she considers appropriate. 2001, c. 17, s. 6 (3).

Notice under subs. (5)

(7) Notice under clause (5) (a) or (b) must be given in the manner prescribed by the regulations referred to in subsection 19 (7) of the *Environmental Protection Act*. 2001, c. 17, s. 6 (3).

Index record

(8) The Ministry shall maintain an alphabetical index record of the names of all persons to whom orders are directed under this Act. 2001, c. 17, s. 6 (3).

Expiry of order, etc.

(9) When an order has expired or is rescinded or set aside, the Ministry shall note that fact in the index record. 2001, c. 17, s. 6 (3).

Search of index record

(10) The Ministry shall, on the request of any person, make a search of the index record and inform the person making the request as to whether or not the name of a particular person appears in the index record and shall permit inspection of any order relating to that person. 2001, c. 17, s. 6 (3).

Section Amendments with date in force (d/m/y)

2001, c. 17, s. 6 (3) - 01/12/2002

Definitions, ss. 31.1 to 31.6

31.1 In this section and in sections 31.2 to 31.6,

“fiduciary” means an executor, administrator, administrator with the will annexed, trustee, guardian of property or attorney for property, but does not include a trustee in bankruptcy or trustee in bankruptcy representative; (“représentant fiduciaire”)

“fiduciary property” means property held or administered by a fiduciary in the capacity of fiduciary, or property in respect of which a fiduciary has powers or duties in the capacity of fiduciary; (“bien fiduciaire”)

“fiduciary representative” means, with respect to a fiduciary, an officer, director, employee or agent of the fiduciary, or a lawyer, consultant or other advisor of the fiduciary who is acting on behalf of the fiduciary; (“représentant d’un représentant fiduciaire”)

“municipality” includes a local board, as defined in the *Municipal Affairs Act*, and a board, commission or other local authority exercising any power with respect to municipal affairs or purposes, including school purposes, in an unorganised township or unsurveyed territory; (“municipalité”)

“municipal representative” means, with respect to a municipality, an officer, employee or agent of the municipality, or a lawyer, consultant or other advisor of the municipality who is acting on behalf of the municipality; (“représentant municipal”)

“non-municipal property” means, with respect to a municipality, property that is not owned, leased or occupied by the municipality; (“bien non municipal”)

“receiver representative” means, with respect to a receiver, an officer, director, employee or agent of the receiver, or a lawyer, consultant or other advisor of the receiver who is acting on behalf of the receiver; (“représentant d’un séquestre”)

“secured creditor representative” means, with respect to a secured creditor, an officer, director, employee or agent of the secured creditor, or a lawyer, consultant or other advisor of the secured creditor who is acting on behalf of the secured creditor; (“représentant d’un créancier garanti”)

“trustee in bankruptcy representative” means, with respect to a trustee in bankruptcy, an officer, director, employee or agent of the trustee in bankruptcy, or a lawyer, consultant or other advisor of the trustee in bankruptcy who is acting on behalf of the trustee in bankruptcy. (“représentant d’un syndic de faillite”) 2001, c. 17, s. 6 (3); 2002, c. 17, Sched. C, s. 22 (1).

Section Amendments with date in force (d/m/y)

2001, c. 17, s. 6 (3) - 01/12/2002

2002, c. 17, Sched. C, s. 22 (1) - 01/01/2003

Interpretation, ss. 31.3 to 31.6

31.2 Sections 31.3 to 31.6 shall not be construed as affecting any cause of action that a person would have in the absence of those sections. 2001, c. 17, s. 6 (3).

Section Amendments with date in force (d/m/y)

2001, c. 17, s. 6 (3) - 01/12/2002

Actions taken by municipalities

31.3 (1) For the purposes of this Act, a municipality or a municipal representative who takes an action described in subsection (2) is not, for that reason alone,

- (a) the person having the charge, management or control of the handling, storage, use, disposal, transportation or display of a pesticide, substance or thing; or
- (b) the person having the charge, management or control of a pesticide, substance or thing. 2001, c. 17, s. 6 (3).

Actions

(2) The actions referred to in subsection (1) are the following:

1. Any action taken for the purpose of conducting, completing or confirming an investigation relating to non-municipal property.
2. Any action taken for the purpose of preserving or protecting non-municipal property, including action to,
 - i. ensure the supply of water, sewage services, electricity, artificial or natural gas, steam, hot water, heat or maintenance,
 - ii. secure the property by means of locks, gates, fences, security guards or other means, or
 - iii. ensure that the property is insured under a contract of insurance.
3. Any action taken on non-municipal property for the purpose of responding to,

- i. any danger to the health or safety of any person that results from the presence or discharge of a pesticide, or any substance or thing containing a pesticide, on, in or under the property,
 - ii. any impairment or serious risk of impairment of the quality of the natural environment for any use that can be made of it that results from the presence or discharge of a pesticide, or any substance or thing containing a pesticide, on, in or under the property, or
 - iii. any injury or damage or serious risk of injury or damage to any property or to any plant or animal life that results from the presence or discharge of a pesticide, or any substance or thing containing a pesticide, on, in or under the property.
4. Any action taken with respect to non-municipal property to exercise a right under any Act to collect rent or levy by distress in relation to an unpaid amount.
 5. Any action taken on non-municipal property under or for the purpose of Part XI of the *Municipal Act, 2001* or Part XIV of the *City of Toronto Act, 2006*.
 6. Any action taken on non-municipal property under or for the purpose of the *Building Code Act, 1992*, the *Fire Protection and Prevention Act, 1997* or an Act prescribed by the regulations referred to in paragraph 6 of subsection 168.12 (2) of the *Environmental Protection Act*.
 7. Any other action prescribed by the regulations referred to in paragraph 7 of subsection 168.12 (2) of the *Environmental Protection Act*. 2001, c. 17, s. 6 (3); 2002, c. 17, Sched. C, s. 22 (2); 2006, c. 32, Sched. C, s. 46.

Section Amendments with date in force (d/m/y)

2001, c. 17, s. 6 (3) - 01/12/2002

2002, c. 17, Sched. C, s. 22 (2) - 01/01/2003

2006, c. 32, Sched. C, s. 46 - 01/01/2007

Actions taken by secured creditors

31.4 (1) For the purposes of this Act, a secured creditor or a secured creditor representative who takes an action described in subsection (2) is not, for that reason alone,

- (a) the person having the charge, management or control of the handling, storage, use, disposal, transportation or display of a pesticide, substance or thing; or
- (b) the person having the charge, management or control of a pesticide, substance or thing. 2001, c. 17, s. 6 (3).

Actions

(2) The actions referred to in subsection (1) are the following:

1. Any action taken for the purpose of conducting, completing or confirming an investigation relating to the secured property.
2. Any action taken for the purpose of preserving or protecting the secured property, including action to,
 - i. ensure the supply of water, sewage services, electricity, artificial or natural gas, steam, hot water, heat or maintenance,
 - ii. secure the property by means of locks, gates, fences, security guards or other means,
 - iii. ensure that the property is insured under a contract of insurance, or
 - iv. pay taxes due or collect rents owing with respect to the property.
3. Any action taken on the secured property for the purpose of responding to,
 - i. any danger to the health or safety of any person that results from the presence or discharge of a pesticide, or any substance or thing containing a pesticide, on, in or under the property,
 - ii. any impairment or serious risk of impairment of the quality of the natural environment for any use that can be made of it that results from the presence or discharge of a pesticide, or any substance or thing containing a pesticide, on, in or under the property, or
 - iii. any injury or damage or serious risk of injury or damage to any property or to any plant or animal life that results from the presence or discharge of a pesticide, or any substance or thing containing a pesticide, on, in or under the property.

4. Any other action prescribed by the regulations referred to in paragraph 4 of subsection 168.17 (2) of the *Environmental Protection Act*. 2001, c. 17, s. 6 (3).

Section Amendments with date in force (d/m/y)

2001, c. 17, s. 6 (3) - 01/12/2002

Receivers and trustees in bankruptcy

31.5 (1) A receiver or trustee in bankruptcy is not required to comply with any order under this Act that is issued by the Minister, the Director or a provincial officer if the order did not arise from the gross negligence or wilful misconduct of the receiver or trustee in bankruptcy, or of a receiver representative or trustee in bankruptcy representative, and,

- (a) not later than 10 days after being served with the order, or within such longer period as may be specified by the Director in the order, the receiver or trustee in bankruptcy notifies the Director that they have abandoned, disposed of or otherwise released their interest in the property to which the order relates; or
- (b) the order was stayed under Part I of the *Bankruptcy and Insolvency Act* (Canada) and the receiver or trustee in bankruptcy notified the Director, before the stay expired, that they abandoned, disposed of or otherwise released their interest in the property. 2001, c. 17, s. 6 (3).

Notice under subs. (1)

(2) Notice under clause (1) (a) or (b) must be given in the manner prescribed by the regulations referred to in subsection 168.20 (8) of the *Environmental Protection Act*. 2001, c. 17, s. 6 (3).

Section Amendments with date in force (d/m/y)

2001, c. 17, s. 6 (3) - 01/12/2002

Obligations of fiduciaries

31.6 If the Minister, the Director or a provincial officer issues an order under any provision of this Act to a fiduciary or fiduciary representative with respect to fiduciary property, the obligation of the fiduciary or fiduciary representative to incur costs to comply with the order is limited to the value of the assets they hold or administer on the date they are served with the order, less their reasonable costs of holding or administering the assets, unless the order arose from the gross negligence or wilful misconduct of the fiduciary or fiduciary representative. 2001, c. 17, s. 6 (3).

Section Amendments with date in force (d/m/y)

2001, c. 17, s. 6 (3) - 01/12/2002

The Crown

32 This Act binds the Crown. R.S.O. 1990, c. P.11, s. 32.

Licences or permits not transferable

33 A licence or a permit under this Act is not transferable. R.S.O. 1990, c. P.11, s. 33.

Exemption from regulations, applicants for licence

34 (1) Where, in the opinion of the Director, it is in the public interest to do so, the Director may exempt an applicant for a licence issued by the Director under section 6 or the holder of such a licence from any provision of the regulations and issue a licence to the applicant or modify the licence of the licensee, as the case may be, upon such terms and conditions, or alter or revoke the terms and conditions, as the Director considers necessary. R.S.O. 1990, c. P.11, s. 34.

Exception

(2) Subsection (1) does not authorize the Director to exempt a person from a provision of a regulation made with respect to section 7.1. 2008, c. 11, s. 4.

Section Amendments with date in force (d/m/y)

2008, c. 11, s. 4 - 22/04/2009

Regulations

35 (1) The Lieutenant Governor in Council may make regulations,

- 1. prescribing classes of licences and the requirements for the issue and renewal of licences;
- 2. exempting any person or class of persons from this Act or the regulations or any provision thereof and prescribing terms and conditions attaching to any such exemption;

3. providing for the issue and renewal of licences;
4. prescribing expiry dates or the method of determining the expiry dates of licences or any class of licences;
5. providing for the issue of permits and the requirements for permits;
- 5.1 governing applications for the issue of licences and permits and for renewals of licences, including the timing of applications and the manner of making applications, and prescribing the circumstances in which an application may not be submitted;
- 5.2 prescribing requirements to be met by applicants for the issue and renewal of licences and the issue of permits, including qualifications, education and training of applicants;
6. prescribing terms and conditions with respect to sales, offers to sell, transfers or premises in, on or from which sales, offers to sell or transfers of a pesticide are or will be made that shall attach to any class of licence;
7. providing for the examination of applicants for permits and licences and renewals of licences;
8. providing for the appointment of examiners for applicants for the issue of licences and permits, the period for which such appointments may be made and the remuneration of examiners;
9. requiring applicants for the issue and renewal of licences to undergo medical examinations;
- 9.1 providing for such transitional matters as the Lieutenant Governor in Council considers necessary or advisable in relation to electronic applications for licences;
10. prescribing the procedures, conditions and notices for exterminations and for the airing out of buildings, structures and vehicles;
11. fixing the amount and type of insurance or bond that shall be carried or furnished by operators and prescribing the form, requirements and terms thereof;
12. prescribing pesticides, classes of pesticides and conditions of use for the purpose of section 7;
13. prescribing that a type or class of structural extermination may be deemed a land extermination and prescribing that a type or class of land extermination may be deemed a structural extermination for the purpose of this Act and the regulations;
14. permitting any class of operator or exterminator to perform or to undertake to perform any extermination for which the members of the class are not licensed and prescribing the conditions that shall attach to the permission;
15. exempting any machine, apparatus, equipment, or class thereof, from this Act or the regulations, or any provision thereof;
16. exempting any type or class of building, vehicle or structure from this Act or the regulations or any provision thereof;
17. excluding any land or water from the operation of this Act or the regulations or any provision thereof;
18. regulating or prohibiting the installation, operation, maintenance and use of any machine, apparatus or equipment used for extermination;
19. governing the signs, marking or other identification of vehicles or machines used in exterminations;
20. regulating the construction of any enclosed space or vault in which movable property may be placed during the periods of extermination and airing out;
21. REPEALED: 2019, c. 14, Sched. 8, s. 49 (1).
22. prescribing forms and providing for their use for the purposes of this Act;
23. governing, regulating or prohibiting the use, handling, storage, display or disposal of pesticides;
24. prohibiting or regulating the sale, offering for sale or transfer of pesticides;
- 24.1 classifying pesticides or providing for the classification of pesticides by the Minister or a person designated by the Minister, or by another method of classification, and providing for a means of informing the public of the classifications;
25. prohibiting the holders of any class of licence from using any pesticide or class of pesticides;
26. regulating the type of containers and the labelling of containers for pesticides, other than the containers in which pesticides are sold or offered for sale;

- 27. regulating the disposal of containers of pesticides;
- 28. prescribing documents or data required to be created, stored and submitted by any person and the methods of creating, storing and submitting the documents and data;
- 28.1 prescribing the location at which documents or data must be created or stored;
- 28.2 providing for the inspection and examination of documents and data;
- 28.3 providing for the preparation and signing of documents by electronic means, the filing of documents by direct electronic transmission and the printing of documents filed by direct electronic transmission;
- 29. exempting any plant or animal life, organism, substance or thing or any class of any of them or any quantity or concentration of any organism or substance from this Act or the regulations or any provision thereof;
- 30. respecting premises on, in or from which any pesticide or class of pesticide is sold, offered for sale or transferred;
- 31. regulating and controlling, for the purpose of preventing or reducing the contamination by pesticides of the environment, property, plant or animal life, or of any person, the transportation of any pesticide or class of pesticides by any vehicle operated on any highway or road or the transportation of any pesticide or class of pesticides together with any commodity or class of commodities by a vehicle operated on any highway or road;
- 32. prohibiting the transportation of any pesticide or class of pesticides together with any commodity or class of commodity by a vehicle operated on any highway or road;
- 33. prescribing the records to be kept by persons responsible for the transportation of any pesticide or class of pesticides by a vehicle operated on a highway or road;
- 34. requiring, regulating or prohibiting the removal or disposal of any substance or thing that has come into contact with any pesticide by any means other than in accordance with this Act and the regulations or a licence, permit or order thereunder;
- 35. requiring and prescribing measures to be taken and things to be done with respect to the cleaning and decontamination of the environment or any plant or animal life, substance or thing that has come into contact with a pesticide by any means other than in accordance with this Act and the regulations or a licence, permit or order thereunder and the time or times within which such measures shall be taken and things done;
- 36. providing for the method of service of any document given, served or delivered under this Act;
- 37. deeming a person to be a person involved in carrying out a program of the Ministry for the purpose of subsection 17 (5);
- 38. governing a process for submitting a request to the Director for a determination of whether to list an active ingredient under subsection 7.1 (1);
- 39. defining golf courses for the purpose of paragraph 1 of subsection 7.1 (2);
- 40. defining agriculture for the purpose of paragraph 2 of subsection 7.1 (2);
- 41. defining forestry for the purpose of paragraph 3 of subsection 7.1 (2);
- 42. defining promotion of public health or safety for the purpose of paragraph 4 of subsection 7.1 (2);
- 43. prescribing uses for the purpose of paragraph 5 of subsection 7.1 (2);
- 44. prescribing conditions that must be met for paragraph 1 or 5 of subsection 7.1 (2) to apply;
- 45. prescribing requirements that must be complied with for the purpose of subsection 7.1 (3);
- 46. prescribing sales, offers to sell or transfers to which subsection 7.1 (4) does not apply;
- 47. providing for such transitional matters as the Lieutenant Governor in Council considers necessary or advisable in relation to section 7.1;
- 48. prescribing municipal by-laws to which subsection 7.1 (5) does not apply;
- 48.1 providing for such transitional matters as the Lieutenant Governor in Council considers necessary or advisable in relation to the implementation of the amendments made to this Act by Schedule 10 to the *Accelerating Access to Justice Act, 2021*;

49. prescribing or respecting any matter that this Act refers to as a matter prescribed by the regulations or as otherwise dealt with by the regulations except prescribing or respecting any matter regarding which the Minister may make regulations under section 37. R.S.O. 1990, c. P.11, s. 35; 1997, c. 37, s. 5 (5, 6); 1998, c. 35, s. 92; 2001, c. 9, Sched. G, s. 7 (9); 2008, c. 11, s. 5 (1); 2009, c. 33, Sched. 15, s. 9 (5); 2017, c. 20, Sched. 5, s. 2 (17-25); 2019, c. 14, Sched. 8, s. 49 (1, 2); 2021, c. 4, Sched. 10, s. 5 (2).

(2) REPEALED: 2019, c. 14, Sched. 8, s. 49 (3).

Municipal by-laws to which s. 7.1 (5) does not apply

(3) A regulation made under paragraph 48 of subsection (1) shall not prescribe a municipal by-law unless the passing of the by-law is required under an Act. 2008, c. 11, s. 5 (2).

Section Amendments with date in force (d/m/y)

1997, c. 37, s. 5 (5) - 18/12/1997; 1998, c. 35, s. 92 (1, 2) - 01/02/1999

2001, c. 9, Sched. G, s. 7 (6-8) - no effect - see Table of Public Statute Provisions Repealed Under Section 10.1 of the *Legislation Act, 2006* - 31/12/2011; 2001, c. 9, Sched. G, s. 7 (9) - 29/06/2001

2008, c. 11, s. 5 (1, 2) - 22/04/2009

2009, c. 33, Sched. 15, s. 9 (5) - 15/12/2009

2017, c. 20, Sched. 5, s. 2 (17-25) - 04/09/2018

2019, c. 14, Sched. 8, s. 49 (1-3) - 01/05/2020

2021, c. 4, Sched. 10, s. 5 (2) - 01/06/2021

Scope of regulations

36 (1) Any regulation may be general or particular in its application and may be limited as to time or place or both. R.S.O. 1990, c. P.11, s. 36 (1).

Adoption of documents in regulations

(2) A regulation may adopt by reference, in whole or in part, with such changes as the Lieutenant Governor in Council considers necessary, any document, including a code, formula, standard, protocol or procedure, and may require compliance with any document so adopted. 2017, c. 20, Sched. 5, s. 2 (26).

Rolling incorporation by reference

(3) The power to adopt by reference and require compliance with a document in subsection (2) includes the power to adopt a document as it may be amended from time to time. 2017, c. 20, Sched. 5, s. 2 (26).

When effective

(4) The adoption of an amendment to a document that has been adopted by reference comes into effect upon the Ministry publishing notice of the amendment in *The Ontario Gazette* or in the registry under the *Environmental Bill of Rights, 1993*. 2017, c. 20, Sched. 5, s. 2 (26).

Section Amendments with date in force (d/m/y)

2009, c. 33, Sched. 15, s. 9 (6) - 15/12/2009

2017, c. 20, Sched. 5, s. 2 (26) - 04/09/2018

Regulations made by Minister

37 (1) The Minister may make regulations in respect of the following matters:

1. Imposing fees for anything done or requested to be done under this Act, prescribing the manner in which and the period within which fees must be paid, and authorizing the refund of fees in prescribed circumstances. 2017, c. 20, Sched. 5, s. 2 (27).

Exemptions

(2) A regulation made under subsection (1) may exempt a person or class of persons from a specified requirement imposed by the regulation, in such circumstances as may be prescribed, or provide that a specified requirement does not apply to the person or class in such circumstances as may be prescribed. 2017, c. 20, Sched. 5, s. 2 (27).

Section Amendments with date in force (d/m/y)

2001, c. 9, Sched. G, s. 7 (10) - 29/06/2001

2017, c. 20, Sched. 5, s. 2 (27) - 04/09/2018

Service

38 (1) Any document given, served or delivered under this Act is sufficiently given, served or delivered if it is,

- (a) delivered personally;
- (b) sent by mail addressed to the person to whom it is required to be given, served or delivered at the latest address for the person appearing on the records of the Ministry; or
- (c) given or served in accordance with regulations respecting service.

When service deemed made

(2) Where service is made by mail, the service shall be deemed to be made on the fifth day after the day of mailing unless the person on whom service is being made establishes that the person did not, acting in good faith, through absence, accident, illness or other cause beyond the person's control receive the document until a later date. 1998, c. 35, s. 93.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 93 - 01/02/1999

Enforcement of performance of things required to be done

39 Where the Minister or the Director has authority to order or require that any matter or thing be done, the Minister may order that, in default of its being done by the person ordered or required to do it, such matter or thing shall be done at the expense of such person, and the Minister may recover the cost of doing it, with costs, by action in a court of competent jurisdiction as a debt due to the Crown by such person. R.S.O. 1990, c. P.11, s. 39.

40 REPEALED: 1998, c. 35, s. 94.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 94 - 01/02/1999

Presiding judge

41 The Crown, by notice to the clerk of the Ontario Court of Justice, may require that a provincial judge preside over a proceeding in respect of an offence under this Act. R.S.O. 1990, c. P.11, s. 41; 2001, c. 9, Sched. G, s. 7 (11); 2006, c. 21, Sched. C, s. 129 (3).

Section Amendments with date in force (d/m/y)

2001, c. 9, Sched. G, s. 7 (11) - 29/06/2001

2006, c. 21, Sched. C, s. 129 (3) - 01/05/2007

Administrative penalties

41.1 (1) The purpose of an administrative penalty issued under this Act is,

- (a) to ensure compliance with this Act; and
- (b) to prevent a person or entity from deriving, directly or indirectly, any economic benefit as a result of non-compliance with this Act. 2019, c. 14, Sched. 8, s. 50.

Order by Director, provincial officer

(2) If the Director or, in the circumstances prescribed by the regulations, a provincial officer, is of the opinion that a person has committed a contravention prescribed by the regulations, the Director or provincial officer, as the case may be, may issue an order requiring the person to pay an administrative penalty in respect of the contravention. 2019, c. 14, Sched. 8, s. 50.

Prescribed contraventions

(3) For the purposes of subsection (2), a prescribed contravention may be in respect of,

- (a) a provision of this Act or the regulations;
- (b) a provision of an order under this Act; or
- (c) a term or condition of a licence or permit under this Act. 2019, c. 14, Sched. 8, s. 50.

Limitation

(4) An order mentioned in subsection (2) shall be served not later than one year after the day on which evidence of the contravention first came to the attention of a provincial officer or the Director. 2019, c. 14, Sched. 8, s. 50.

Orders, corporations

(5) If the person who has contravened a provision or a term or condition referred to in subsection (3) is a corporation, the order shall not be issued to an employee, officer, director or agent of the corporation unless the circumstances prescribed by the regulations, if any, exist. 2019, c. 14, Sched. 8, s. 50.

Amount of penalty

(6) The amount of the administrative penalty shall be determined by the Director or the provincial officer, as the case may be, in accordance with the regulations. 2019, c. 14, Sched. 8, s. 50.

Total penalty

(7) Subject to subsection (8), the total amount of the administrative penalty shall not exceed \$100,000 for each contravention. 2019, c. 14, Sched. 8, s. 50.

Same, monetary benefit

(8) The total amount of the administrative penalty referred to in subsection (7) may be increased by an amount equal to the amount of the monetary benefit acquired by or that accrued to the person as a result of the contravention. 2019, c. 14, Sched. 8, s. 50.

Contents of order

(9) An order mentioned in subsection (2) shall be served on the person who is required to pay the administrative penalty and shall,

- (a) contain a description of the contravention to which the order relates, including, if appropriate, the date of the contravention;
- (b) specify the amount of the penalty;
- (c) give particulars respecting the time for paying the penalty and the manner of payment; and
- (d) provide information to the person as to the person's right to require,
 - (i) a hearing under section 41.3, if the order is issued by the Director, or
 - (ii) a review under section 41.2, if the order is issued by a provincial officer. 2019, c. 14, Sched. 8, s. 50.

Absolute liability

(10) A requirement that a person pay an administrative penalty applies even if,

- (a) the person took all reasonable steps to prevent the contravention; or
- (b) at the time of the contravention, the person had an honest and reasonable belief in a mistaken set of facts that, if true, would have rendered the contravention innocent. 2019, c. 14, Sched. 8, s. 50.

Payment prevents conviction

(11) A person who pays an administrative penalty in respect of a contravention prescribed by the regulations for the purposes of this subsection shall not be convicted of an offence under this Act in respect of the same contravention. 2019, c. 14, Sched. 8, s. 50.

Contraventions where conviction not prevented

(12) With respect to a contravention, other than a contravention to which subsection (11) applies, a person may be charged, prosecuted and convicted of an offence under this Act in respect of that contravention, regardless of whether the person has paid an administrative penalty in respect of and has remedied that contravention and, for greater certainty, nothing in subsection (10) affects the prosecution of the offence. 2019, c. 14, Sched. 8, s. 50.

No admission

(13) If a person pays an administrative penalty in respect of a contravention, the payment is not, for the purposes of any prosecution in respect of the contravention, an admission that the person committed the contravention. 2019, c. 14, Sched. 8, s. 50.

Regulations

- (14) The Lieutenant Governor in Council may make regulations,
- (a) specifying the form and content of orders under this section;
 - (b) prescribing circumstances in which a provincial officer is authorized or prohibited from issuing an order under subsection (2);
 - (c) governing the determination of the amounts of administrative penalties, for individuals and for corporations, including providing the maximum amount the Director or a provincial officer, as the case may be, may determine under subsection (6);
 - (d) prescribing circumstances in which a person is not required to pay an administrative penalty;
 - (e) prescribing procedures related to administrative penalties;
 - (f) governing the payment of interest and late payment penalties, including prescribing how the amounts of interest and late payment penalties are determined;
 - (g) respecting any matter necessary for the administration of the system of administrative penalties. 2019, c. 14, Sched. 8, s. 50.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 95 - no effect - see Table of Public Statute Provisions Repealed Under Section 10.1 of the *Legislation Act, 2006* - 31/12/2011

2000, c. 22, s. 3 (1, 2) - no effect - see 1998, c. 35, s. 95; 2000, c. 26, Sched. F, s. 14 (4) - 06/12/2000

2001, c. 9, Sched. G, s. 7 (12, 13) - no effect - see 1998, c. 35, s. 95

2019, c. 14, Sched. 8, s. 50 - 10/12/2019

Review of administrative penalty imposed by provincial officer

41.2 (1) A person who is required by an order issued by a provincial officer to pay an administrative penalty may, within seven days after being served with the order, request that the Director review the order. 2019, c. 14, Sched. 8, s. 50.

Request for review

- (2) A request for a review shall be made in writing and shall include,
- (a) a statement of whether the review applies to the liability to pay the penalty, the amount of the penalty or both;
 - (b) any submissions that the person requesting the review wishes the Director to consider; and
 - (c) for the purposes of subsection (7), an address for service by mail, fax or such other means of service as the regulations may prescribe. 2019, c. 14, Sched. 8, s. 50.

Stay

(3) If a person requests a review, the requirement to pay the administrative penalty is stayed until the disposition of the matter. 2019, c. 14, Sched. 8, s. 50.

Decision of Director

- (4) A Director who receives a request for a review may,
- (a) revoke the order of the provincial officer; or
 - (b) by order directed to the person who requested the review, confirm or alter the order of the provincial officer. 2019, c. 14, Sched. 8, s. 50.

Same

(5) For the purposes of subsection (4), the Director may substitute his or her opinion for that of the provincial officer. 2019, c. 14, Sched. 8, s. 50.

Amount of penalty

(6) For greater certainty, if the review applies to the amount of the penalty, the regulations made under clause 41.1 (14) (c) apply for the purposes of the review. 2019, c. 14, Sched. 8, s. 50.

Notice of decision

- (7) The Director shall serve a person requesting a review with a copy of,
- (a) the Director's decision or order under subsection (4); and
 - (b) if the Director issues an order under clause (4) (b), the reasons for the order. 2019, c. 14, Sched. 8, s. 50.

Automatic confirmation of order

(8) If the Director does not comply with subsection (7) within seven days after receiving a request for a review, the order in respect of which the review was requested shall be deemed to have been confirmed by order of the Director. 2019, c. 14, Sched. 8, s. 50.

Same

- (9) For the purposes of section 41.3, a deemed confirmation by order of the Director under subsection (8) shall be,
- (a) deemed to be directed to the person to whom the order of the provincial officer was directed; and
 - (b) deemed to have been served on the person mentioned in clause (a) on the last day of the time period mentioned in subsection (8). 2019, c. 14, Sched. 8, s. 50.

Exception

(10) Subsections (8) and (9) do not apply if, within seven days after receiving the request for a review, the Director gives written notice to the person requesting the review stating that the Director requires additional time to make a decision. 2019, c. 14, Sched. 8, s. 50.

Regulations

(11) The Lieutenant Governor in Council may make regulations specifying the form and content of orders under this section. 2019, c. 14, Sched. 8, s. 50.

Section Amendments with date in force (d/m/y)

2019, c. 14, Sched. 8, s. 50 - 10/12/2019

Hearing may be required

41.3 (1) A person who is required to pay an administrative penalty may, within 15 days after service of the order on the person, by a written notice served on the Director and the Tribunal, require the Tribunal to hold a hearing with respect to the matter to which the notice relates and, in such case, the requirement to pay is stayed until the disposition of the matter. 2019, c. 14, Sched. 8, s. 50.

Tribunal's powers on hearing

(2) At a hearing by the Tribunal in respect of an order to pay an administrative penalty, the Tribunal shall determine whether in the circumstances, the order should be confirmed, revoked or amended. 2019, c. 14, Sched. 8, s. 50.

Amount of administrative penalties

(3) For greater certainty, if a hearing by the Tribunal is required under this section in respect of an order to pay an administrative penalty, the regulations made under clause 41.1 (14) (c) governing the determination of the amounts of administrative penalties apply to the Tribunal. 2019, c. 14, Sched. 8, s. 50.

Same

(4) Subject to subsection (3), if a hearing by the Tribunal is required under this section in respect of an order to pay an administrative penalty, the Tribunal shall not substitute its opinion for that of the Director with respect to the amount of the penalty unless the Tribunal considers the amount to be unreasonable. 2019, c. 14, Sched. 8, s. 50.

Extension of time for requiring hearing

(5) The Tribunal shall extend the time in which a person may give a notice under subsection (1) requiring a hearing where, in the Tribunal's opinion, it is just to do so because service of the order on the person did not give the person notice of the order or decision. 2019, c. 14, Sched. 8, s. 50.

Contents of notice requiring hearing

- (6) An applicant for a hearing by the Tribunal shall state in the notice requiring the hearing,
- (a) the portions of the order in respect of which the hearing is required; and

(b) the grounds on which the applicant for the hearing intends to rely at the hearing. 2019, c. 14, Sched. 8, s. 50.

Effect of contents of notice

(7) Except with leave of the Tribunal, at a hearing by the Tribunal an applicant is not entitled to appeal a portion of the order or to rely on a ground that is not stated in the applicant's notice requiring the hearing. 2019, c. 14, Sched. 8, s. 50.

Leave by Tribunal

(8) The Tribunal may grant the leave referred to in subsection (7) where the Tribunal is of the opinion that to do so is proper in the circumstances, and the Tribunal may give such directions as the Tribunal considers proper consequent upon the granting of the leave. 2019, c. 14, Sched. 8, s. 50.

Section Amendments with date in force (d/m/y)

2019, c. 14, Sched. 8, s. 50 - 10/12/2019

Failure to pay administrative penalty when required

41.4 If a person who is required to pay an administrative penalty fails to comply with the requirement,

- (a) the order that requires payment may be filed with a local registrar of the Superior Court of Justice and the order may be enforced as if it were an order of the court;
- (b) the Director may, by order, suspend any permit or licence issued to the person under this Act until the administrative penalty is paid; and
- (c) the Director may refuse to issue any permit or licence to the person or refuse to renew any permit or licence issued to the person under this Act until the administrative penalty is paid. 2019, c. 14, Sched. 8, s. 50.

Section Amendments with date in force (d/m/y)

2019, c. 14, Sched. 8, s. 50 - 10/12/2019

Special purpose account

41.5 Administrative penalties paid under this Act shall be deposited in the account referred to in section 182.2 of the *Environmental Protection Act*. 2019, c. 14, Sched. 8, s. 50.

Section Amendments with date in force (d/m/y)

2019, c. 14, Sched. 8, s. 50 - 10/12/2019

Offences

Contravention of Act or regulations

42 (1) Every person who contravenes this Act or a regulation is guilty of an offence. R.S.O. 1990, c. P.11, s. 42 (1).

Offence, orders

(2) Every person who fails to comply with an order, other than an order requiring the person to pay an administrative penalty under this Act, is guilty of an offence. 2019, c. 14, Sched. 8, s. 51.

Offence, licence or permit

(3) Every person who fails to comply with a term or condition of a licence or permit made or issued under this Act is guilty of an offence. R.S.O. 1990, c. P.11, s. 42 (3).

Offence re fees

(4) Every person who fails to pay a fee that the person is required to pay under section 37 is guilty of an offence. 2001, c. 9, Sched. G, s. 7 (14).

Section Amendments with date in force (d/m/y)

2001, c. 9, Sched. G, s. 7 (14) - 29/06/2001

2019, c. 14, Sched. 8, s. 51 - 10/12/2019

Penalties, general

Individuals

43 (1) Every individual convicted of an offence under this Act is liable,

- (a) on a first conviction, for each day or part of a day on which the offence occurs or continues, to a fine of not more than \$20,000; and
- (b) on each subsequent conviction,
 - (i) for each day or part of a day on which the offence occurs or continues, to a fine of not more than \$50,000,
 - (ii) to imprisonment for a term of not more than one year, or
 - (iii) to both such fine and imprisonment.

Corporations

(2) Every corporation convicted of an offence under this Act is liable,

- (a) on a first conviction, for each day or part of a day on which the offence occurs or continues, to a fine of not more than \$100,000; and
- (b) on each subsequent conviction, for each day or part of a day on which the offence occurs or continues, to a fine of not more than \$200,000. 1998, c. 35, s. 96.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 96 - 01/02/1999

Penalty re monetary benefit

44 The court that convicts a person of an offence under this Act, in addition to any other penalty imposed by the court, may increase a fine imposed upon the person by an amount equal to the amount of the monetary benefit acquired by or that accrued to the person as a result of the commission of the offence, despite any maximum fine elsewhere provided. R.S.O. 1990, c. P.11, s. 44.

Penalties, more serious offences

Application of subss. (2) and (3)

45 (1) Subsections (2) and (3) apply to the following offences:

1. An offence under subsection 42 (1) or 49 (2) that posed, poses or may pose a risk of an effect mentioned in subsection 49 (3).
2. An offence under subsection 42 (2), other than an offence of failing to comply with an order under section 27.
3. An offence of contravening section 17.
4. An offence under subsection 42 (3). 1998, c. 35, s. 97 (1); 2000, c. 22, s. 3 (3).

Corporations, subs. (1)

(2) Every corporation convicted of an offence described in subsection (1) is liable, in substitution for any penalty provided in section 43, for each day or part of a day on which the offence occurs or continues, to a fine of not more than \$250,000 on a first conviction and not more than \$500,000 on each subsequent conviction. 1998, c. 35, s. 97 (1).

Individuals, subs. (1)

(3) Every individual convicted of an offence described in subsection (1) is liable, in substitution for any penalty provided in section 43,

- (a) for each day or part of a day on which the offence occurs or continues, to a fine of not more than \$50,000 on a first conviction and not more than \$100,000 on each subsequent conviction;
- (b) to imprisonment for a term of not more than one year; or
- (c) to both such fine and imprisonment. 1998, c. 35, s. 97 (1).

Application of subss. (3.1) and (3.2)

(3.0.1) Subsections (3.1) and (3.2) apply to the following offences:

1. An offence under this Act that causes an effect mentioned in subsection 49 (3).
2. An offence of failing to comply with an order under section 27. 2000, c. 22, s. 3 (4).

Corporations, subs. (3.0.1)

(3.1) Every corporation convicted of an offence described in subsection (3.0.1) is liable, in substitution for any penalty elsewhere provided, for each day or part of a day on which the offence occurs or continues, to a fine of not more than \$6,000,000 on a first conviction and not more than \$10,000,000 on each subsequent conviction. 1998, c. 35, s. 97 (1); 2000, c. 22, s. 3 (5).

Individuals, subs. (3.0.1)

(3.2) Every individual convicted of an offence described in subsection (3.0.1) is liable, in substitution for any penalty elsewhere provided,

- (a) for each day or part of a day on which the offence occurs or continues, to a fine of not more than \$4,000,000 on a first conviction and not more than \$6,000,000 on each subsequent conviction;
- (b) to imprisonment for a term of not more than five years less one day; or
- (c) to both such fine and imprisonment. 1998, c. 35, s. 97 (1); 2000, c. 22, s. 3 (6).

Subsequent conviction

(4) For the purposes of determining the penalty to which a person is liable under section 43 or under this section, a conviction of the person for an offence under this Act is a subsequent conviction if the person has previously been convicted of an offence under,

- (a) this Act;
- (b) the *Environmental Protection Act*, other than for an offence related to Part IX of that Act;
- (b.1) the *Nutrient Management Act, 2002*;
- (c) the *Ontario Water Resources Act*;
- (d) the *Safe Drinking Water Act, 2002*; or
- (e) the *Toxics Reduction Act, 2009*. 1998, c. 35, s. 97 (2); 2002, c. 4, s. 66 (3); 2009, c. 19, s. 71 (8).

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 97 (1, 2) - 01/02/1999

2000, c. 22, s. 3 (3-6) - 21/11/2000

2002, c. 4, s. 66 (3) - 01/07/2003

2009, c. 19, s. 71 (8) - 01/01/2010

Order to prevent damage, etc.

46 (1) On its own initiative or on the request of the prosecutor, the court that convicts a person of an offence under this Act, in addition to any other penalty imposed by the court, may order the person,

- (a) to take such action as the court directs, including but not limited to providing an alternate water supply, within the time specified in the order to prevent, eliminate or ameliorate damage that results from or is in any way connected to the commission of the offence; and
- (b) to comply with any order that the Director has issued to the person in relation to damage that results from or is in any way connected to the commission of the offence. 1998, c. 35, s. 98 (1).

Other conditions

(2) An order under subsection (1) may contain such other conditions relating to the circumstances of the offence and of the person that contributed to the commission of the offence as the court considers appropriate to prevent similar unlawful conduct or to contribute to rehabilitation. R.S.O. 1990, c. P.11, s. 46 (2); 2006, c. 19, Sched. K, s. 4.

Variation of order

(3) The court that made an order under subsection (1) may make any changes in or additions to the conditions prescribed in the order that in the opinion of the court are rendered desirable by a change in circumstances,

- (a) on its own initiative at any time; or

- (b) on application by counsel for the prosecutor, by the person convicted or by the person authorized under the *Law Society Act* to represent the person convicted, with notice to the other party, after a hearing or, with the consent of the parties, without a hearing. 2006, c. 21, Sched. C, s. 129 (4).

Conflict

(4) Nothing in subsection (1) authorizes the making of an order that conflicts with an order previously made under this Act by the Minister or the Director, but an order may be made under subsection (1) supplementing the provisions of an order in respect of the prevention, decrease or elimination of harm to the environment and the restoration of the environment. R.S.O. 1990, c. P.11, s. 46 (4).

(5) REPEALED: 1998, c. 35, s. 98 (2).

Continuation in force

(6) Where a person bound by an order under subsection (1) is imprisoned, the order continues in force except in so far as the imprisonment renders it impossible for the person to comply for the time being with the order. R.S.O. 1990, c. P.11, s. 46 (6).

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 98 (1, 2) - 01/02/1999

2006, c. 19, Sched. K, s. 4 - 22/06/2006; 2006, c. 21, Sched. C, s. 129 (4) - 01/05/2007

Restitution orders

46.1 (1) On its own initiative or on the request of the prosecutor, the court that convicts a person of an offence under this Act, in addition to any other penalty imposed by the court, may make an order for restitution against the person convicted of the offence, requiring the person to pay another person for reasonable expenses actually incurred by the other person on account of damage to property in which the other person has an interest that results from or is in any way connected to the commission of the offence, in such amount and on such terms and conditions as the court considers just. 1998, c. 35, s. 99.

Expenses incurred, interpretation

- (2) For the purposes of subsection (1), expenses are incurred on account of damage to property if they are incurred,
- (a) to prevent, eliminate or ameliorate the damage;
 - (b) to replace the property that suffered the damage; or
 - (c) to restore the property to the state that it was in before the damage. 1998, c. 35, s. 99.

Same

(3) For greater certainty, for the purposes of clause (2) (a), expenses incurred to provide an alternate water supply may be expenses incurred to prevent, eliminate or ameliorate damage. 1998, c. 35, s. 99.

Amount of order

(4) The amount of the order for restitution shall not exceed the replacement value of the property as of the date the order is issued. 1998, c. 35, s. 99.

No restitution to person who committed offence

- (5) The court shall not make an order for restitution in favour of any person on account of damage that is the result of,
- (a) the commission of an offence by the person; or
 - (b) a contravention in respect of which an order has been served on the person requiring the person to pay an administrative penalty, unless the order has been revoked. 2019, c. 14, Sched. 8, s. 52.

Notification of order

(6) Where a court makes an order for restitution, it shall cause a copy of the order or a notice of the content of the order to be given to the person to whom the restitution is ordered to be paid. 1998, c. 35, s. 99.

Filing of order in court

(7) An order for restitution may be filed with a local registrar of the Superior Court of Justice and the responsibility for filing shall be on the person to whom the restitution is ordered to be paid. 1998, c. 35, s. 99; 2001, c. 9, Sched. G, s. 7 (17).

Enforcement of order

(8) An order for restitution filed under subsection (7) may be enforced as if it were an order of the court. 1998, c. 35, s. 99.

Same

(9) Section 129 of the *Courts of Justice Act* applies in respect of an order for restitution filed under subsection (7) and, for the purpose, the date of filing shall be deemed to be the date of the order. 1998, c. 35, s. 99.

Civil remedy

(10) A civil remedy for an act or omission is not affected by reason only that an order for restitution under this section has been made in respect of that act or omission. 1998, c. 35, s. 99.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 99 - 01/02/1999

2001, c. 9, Sched. G, s. 7 (17) - 29/06/2001

2017, c. 20, Sched. 5, s. 2 (28) - 04/09/2018

2019, c. 14, Sched. 8, s. 52 - 10/12/2019

Forfeiture on conviction

46.2 (1) On its own initiative or on the request of the prosecutor, the court that convicts a person of an offence under this Act, in addition to any other penalty imposed by the court, may, if conviction is in relation to an offence in connection with which a thing has been seized under section 22 or 23 or under a warrant issued under the *Provincial Offences Act*, order that the thing be forfeited to the Crown. 1998, c. 35, s. 99.

Same

(2) The court shall not make an order under subsection (1) unless the court is satisfied that,

- (a) the seizure of the thing was lawful; and
- (b) no later than seven days before the hearing of the request, written notice was provided by a provincial officer,
 - (i) to every person whom the provincial officer knows or has reason to believe is an owner of the thing seized,
 - (ii) to every person who has a security interest in the thing that is perfected by registration under the *Personal Property Security Act* against the name of any person whom the provincial officer knows or has reason to believe is the owner,
 - (iii) where the thing seized is a vehicle, to every person who has a security interest in the vehicle that is perfected by registration under the *Personal Property Security Act* against the vehicle identification number of the vehicle, and
 - (iv) where the thing seized is a vehicle and the vehicle is registered under the *Highway Traffic Act*, to the registered owner. 1998, c. 35, s. 99.

Contents of notice

(3) Notice under subsection (2) shall include,

- (a) a description of the thing seized sufficient to enable it to be identified;
- (b) the location at which the thing was seized;
- (c) the date of the seizure;
- (d) the name and telephone number of the provincial officer who seized the thing or of his or her delegate;
- (e) a statement of the reason for the seizure;
- (f) a reference to the statutory provision authorizing the seizure;
- (g) a statement that an order for forfeiture of the thing is being sought under this section; and
- (h) a statement that the person to whom the notice is provided may make submissions to the court with respect to the issuance of an order under this section. 1998, c. 35, s. 99.

Disposition of things forfeited

(4) A thing forfeited under this section may be disposed of as the Director directs. 1998, c. 35, s. 99.

Relief against forfeiture

(5) A person who had an interest in a thing forfeited under this section may apply to the Superior Court of Justice for relief against the forfeiture and the court may make an order providing for any relief that it considers appropriate, including, but not limited to, one or more of the following orders:

1. An order directing that the thing or any part of the thing be returned to the applicant.
2. An order directing that any interest in the thing be vested in the applicant.
3. An order directing that an amount be paid by the Crown to the applicant by way of compensation for the forfeiture. 1998, c. 35, s. 99; 2001, c. 9, Sched. G, s. 7 (17).

When relief not to be ordered

(6) The court shall not make an order for relief under subsection (5) in respect of a thing forfeited if the person applying for the relief has been,

- (a) served with an order requiring the person to pay an administrative penalty in connection with a matter that was associated with the seizure of the thing, unless the order has been revoked; or
- (b) charged with an offence that was associated with the seizure of the thing, unless the charge has been withdrawn or dismissed. 2019, c. 14, Sched. 8, s. 53.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 99 - 01/02/1999

2001, c. 9, Sched. G, s. 7 (17) - 29/06/2001

2017, c. 20, Sched. 5, s. 2 (29) - 04/09/2018

2019, c. 14, Sched. 8, s. 53 - 10/12/2019

Where fine not paid

46.3 (1) Where a person is convicted of an offence under this Act and a fine is imposed,

- (a) a thing seized in connection with the offence and not forfeited to the Crown under section 24.1, 24.3 or 46.2 shall not be returned until the fine has been paid; and
- (b) if payment of the fine is in default within the meaning of section 69 of the *Provincial Offences Act*, a justice may order that the thing be forfeited to the Crown.

Application of subss. 46.2 (2) to (6)

(2) Subsections 46.2 (2) to (6) apply with necessary modifications in relation to an order under clause (1) (b). 1998, c. 35, s. 99.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 99 - 01/02/1999

Costs of seizure, etc.

46.4 If a person is convicted of an offence under this Act, the justice may, in addition to any other penalty, order the person to pay all or part of the expenses incurred by the Ministry with respect to the seizure, storage or disposition of any thing seized in connection with the offence. 1998, c. 35, s. 99.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 99 - 01/02/1999

Suspension for default in payment of fine

47 (1) Where a person is in default of payment of a fine imposed upon conviction for an offence against this Act, the *Environmental Protection Act*, the *Nutrient Management Act, 2002*, the *Ontario Water Resources Act*, the *Safe Drinking Water Act, 2002*, the *Toxics Reduction Act, 2009* or the regulations made under any of them, on the application of the Director, an order may be made under subsection 69 (2) of the *Provincial Offences Act* directing that,

- (a) one or more of the person's licences be suspended; and
- (b) no permit be issued to the person,

until the fine is paid. R.S.O. 1990, c. P.11, s. 47 (1); 2002, c. 4, s. 66 (4); 2009, c. 19, s. 71 (9); 2017, c. 20, Sched. 5, s. 2 (30).

Duty of Director

(2) The Director shall,

- (a) on being informed of an outstanding order referred to in subsection (1), suspend the person's licence, if it is not already suspended under another order referred to in subsection (1); and
- (b) on being informed that the fine and any applicable prescribed administrative fee for the reinstatement of the licence are paid, reinstate the licence, unless the Director has been informed that,
 - (i) there is another outstanding order referred to in subsection (1) directing that the licence be suspended, or
 - (ii) the licence is suspended under any other order or under another statute. R.S.O. 1990, c. P.11, s. 47 (2).

Regulations

(3) The Lieutenant Governor in Council may make regulations prescribing forms and procedures and respecting any matter considered necessary or advisable to carry out effectively the intent and purpose of this section. R.S.O. 1990, c. P.11, s. 47 (3).

Definition

(4) In this section,

“licence” means a licence or permit under this Act or the regulations. R.S.O. 1990, c. P.11, s. 47 (4).

Section Amendments with date in force (d/m/y)

2001, c. 9, Sched. G, s. 7 (15) - no effect - see Table of Public Statute Provisions Repealed Under Section 10.1 of the *Legislation Act, 2006* - 31/12/2011

2002, c. 4, s. 66 (4) - 01/07/2003

2009, c. 19, s. 71 (9) - 01/01/2010

2017, c. 20, Sched. 5, s. 2 (30) - 04/09/2018

Limitation

48 (1) Proceedings for an offence under this Act or the regulations shall not be commenced later than two years after the later of,

- (a) the day on which the offence was committed; and
- (b) the day on which evidence of the offence first came to the attention of a provincial officer or Director. 2009, c. 33, Sched. 15, s. 9 (7).

Same

(2) Clause (1) (b) does not apply in respect of offences committed before the day this section comes into force. 2009, c. 33, Sched. 15, s. 9 (7).

Section Amendments with date in force (d/m/y)

2009, c. 33, Sched. 15, s. 9 (7) - 15/12/2009

Duty of director or officer of corporation

49 (1) Every director or officer of a corporation that engages in an activity that may cause an effect mentioned in subsection (3) contrary to this Act or the regulations has a duty to take all reasonable care to prevent the corporation from causing or permitting such unlawful effect.

Offence

(2) Every person who has a duty under subsection (1) and who fails to carry out that duty is guilty of an offence.

Effects

(3) The effect referred to in subsection (1) is any one or more of,

- (a) impairment of the quality of the environment for any use that can be made of it;

- (b) injury or damage to property or plant or animal life;
- (c) harm or material discomfort to any person;
- (d) an adverse effect on the health of any person;
- (e) impairment of the safety of any person; or
- (f) directly or indirectly rendering any property or plant or animal life unfit for human use,

from a pesticide or any substance or thing containing a pesticide to a greater degree than would necessarily result from the proper use or storage of the pesticide.

Liability to conviction

(4) A director or officer of a corporation is liable to conviction under this section whether or not the corporation has been prosecuted or convicted. R.S.O. 1990, c. P.11, s. 49.

Service of offence notice, etc., offences re: vehicles

50 (1) In this section,

“commercial motor vehicle” and “motor vehicle” have the same meanings as in the *Highway Traffic Act*; (“véhicule utilitaire”, “véhicule automobile”)

“offence notice or summons” means,

- (a) an offence notice or summons under Part I of the *Provincial Offences Act*, or
- (b) a summons under Part III of the *Provincial Offences Act*. (“avis d’infraction ou assignation”) R.S.O. 1990, c. P.11, s. 50 (1); 1998, c. 35, s. 100 (1).

Service of offence notice or summons

(2) Delivery of an offence notice or summons to the operator of a commercial motor vehicle in respect of an offence under this Act related to the use of the vehicle shall be deemed to be personal service of the offence notice or summons on the owner or lessee of the vehicle who is named in the offence notice or summons. R.S.O. 1990, c. P.11, s. 50 (2).

Employer

(3) Delivery of an offence notice or summons to the operator of a motor vehicle in respect of an offence under this Act related to the use of the vehicle in the course of the operator’s employment shall be deemed to be personal service of the offence notice or summons on the employer of the operator of the vehicle. R.S.O. 1990, c. P.11, s. 50 (3).

(4) REPEALED: 1998, c. 35, s. 100 (2).

Exception

(5) Subsection (2) does not apply if, at the time of the offence, the vehicle was in the possession of the operator without the consent of the owner or lessee of the vehicle, as the case may be, but the burden of proof of that shall be on the owner or lessee of the vehicle. R.S.O. 1990, c. P.11, s. 50 (5).

Permit holder deemed owner

(6) For the purposes of this section, the holder of a permit under Part II of the *Highway Traffic Act* shall be deemed to be the owner of the vehicle referred to in the permit if a number plate under that Part bearing a number that corresponds to the permit was displayed on the vehicle at the time the offence was committed. R.S.O. 1990, c. P.11, s. 50 (6).

Application of subs. (6)

(7) Subsection (6) does not apply if the number plate was displayed on the vehicle without the consent of the holder of the permit, but the burden of proof of that shall be on the holder of the permit. R.S.O. 1990, c. P.11, s. 50 (7).

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 100 (1, 2) - 01/02/1999

Service of offence notice, etc., corporations, etc.

Service on municipal corporations

50.1 (1) Service of an offence notice or summons on a municipal corporation may be effected by delivering it personally to the mayor, warden, reeve or other chief officer of the municipal corporation or to the clerk of the municipal corporation.

Service on other corporations

(2) Service of an offence notice or summons on a corporation other than a municipal corporation may be effected by delivering it personally to the manager, secretary or other officer of the corporation or to a person apparently in charge of a branch office of the corporation.

Service on partnership

(3) Service of an offence notice or summons on a partnership may be effected by delivering it personally to a partner or to a person apparently in charge of an office of the partnership.

Service on a sole proprietorship

(4) Service of an offence notice or summons on a sole proprietorship may be effected by delivering it personally to the sole proprietor or to a person apparently in charge of an office of the sole proprietorship.

Substituted service

(5) On application without notice, a justice, on being satisfied that service cannot be made effectively in accordance with subsections (1) to (4), may by order authorize another method of service that has a reasonable likelihood of coming to the attention of the municipal corporation, other corporation, partnership or sole proprietorship. 1998, c. 35, s. 101.

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 101 - 01/02/1999

Official documents, evidence

51 (1) In this section,

“official document” means,

- (a) an approval, certificate, consent, licence, notice, permit, order or return under this Act or the regulations,
- (b) a certificate as to service of a document mentioned in clause (a),
- (c) a certificate or report as to the analysis, description, ingredients, quality, quantity or temperature of any solid, liquid or gas or any combination of any of them,
- (d) a certificate or report as to the analysis, description, quality or quantity of any odour, heat, sound, vibration, radiation or any combination of any of them,
- (e) a certificate or report as to the custody of any solid, liquid or gas or any combination of any of them,
- (f) a certificate as to the custody of any book, record or report or as to the custody of any other document, or
- (g) a certificate as to whether or not any document or notification was received or issued by the Minister or the Ministry under this Act or the regulations.

Same

(2) An official document, other than an official document mentioned in clause (1) (c) or (d), that purports to be signed by the Minister or an employee in the Ministry shall be received in evidence in any proceeding as proof, in the absence of evidence to the contrary, of the facts stated in the official document without proof of the signature or position of the person appearing to have signed the official document.

Idem

(3) An official document mentioned in clause (1) (c), (d) or (e) that purports to be signed by an analyst shall be received in evidence in any proceeding as proof, in the absence of evidence to the contrary, of the facts stated in the official document without proof of the signature or position of the person appearing to have signed the official document. R.S.O. 1990, c. P.11, s. 51.

51.1

Section Amendments with date in force (d/m/y)

1998, c. 35, s. 102 - no effect - see Table of Public Statute Provisions Repealed Under Section 10.1 of the *Legislation Act, 2006* - 31/12/2001

Proceedings to prohibit continuation or repetition of contravention

52 (1) Where any provision of this Act or the regulations or any direction, order, licence or permit made, served, delivered or issued by the Minister or the Director under this Act is contravened, despite any other remedy or any penalty imposed, the

Minister may apply to a judge of the Superior Court of Justice for an order prohibiting the continuation or repetition of the contravention or the carrying on of any activity specified in the order that, in the opinion of the court, will or will likely result in the continuation or repetition of the contravention by the person committing the contravention, and the judge may make the order and it may be enforced in the same manner as any other order or judgment of the Superior Court of Justice. R.S.O. 1990, c. P.11, s. 52 (1); 2001, c. 9, Sched. G, s. 7 (17).

Appeal

(2) An appeal lies to the Divisional Court from an order made under subsection (1). R.S.O. 1990, c. P.11, s. 52 (2).

Power to restrain by order upon conviction

(3) Upon its own initiative or upon application by counsel for the prosecutor, the court that convicts a person of an offence under this Act, in addition to any other remedy and to any other penalty imposed by law, may make an order prohibiting the continuation or repetition by the person of the act or omission for which the person is convicted. R.S.O. 1990, c. P.11, s. 52 (3).

Section Amendments with date in force (d/m/y)

2001, c. 9, Sched. G, s. 7 (17) - 29/06/2001

Administrative changes to control orders and permits

52.1 The Director may rescind or amend a control order, cancel a permit or alter a term or condition in a permit if the Director is satisfied that the rescission, amendment, cancellation or alteration is in the public interest and is desirable for administrative reasons to,

- (a) reflect changes that have occurred with respect to the identity or description of any person or place; or
- (b) eliminate provisions that are spent or obsolete. 2001, c. 9, Sched. G, s. 7 (16).

Section Amendments with date in force (d/m/y)

2001, c. 9, Sched. G, s. 7 (16) - 29/06/2001

Conflict with other legislation

53 Where a conflict appears between this Act or the regulations and any other Act or regulation in a matter related to pesticides and the control of pests, this Act or the regulations shall prevail. R.S.O. 1990, c. P.11, s. 53.

Français

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From: Laura Gibbs
(Acting) Director, Community Services

Subject: Animal Poisoning Prevention

- Pest Management Policy
- Rodenticides Education Campaign
- File: A-1440-001

Recommendation:

1. That Report CS 35-23 regarding Animal Poisoning Prevention be received;
 2. That Council approve CUL 160 Pest Management Policy, as set out in Attachment 1 to this report;
 3. That Council approve the Rodenticides Educational Campaign as set out in Attachment 2 to this report; and
 4. That the appropriate City of Pickering officials be authorized to take the necessary actions as indicated in this report.
-

Executive Summary: At the Council meeting on June 26, 2023, through Resolution #238/23, Council directed staff to develop a policy banning the use of rodenticides on all City of Pickering properties and a communications strategy for educating residents and business on the harmful impacts of rodenticides and the availability of humane, ecologically sustainable alternatives.

The purpose of the Pest Management Policy is to establish a humane Pest Management Program within City of Pickering properties while banning non-essential use of rodenticides. The Rodenticides Educational Campaign seeks to inform Pickering residents and businesses of the harmful effects of rodenticides and alternatives that can be used for rodent control. The work was undertaken in consultation with the Supervisor, Animal Services.

The purpose of this report is to seek Council's endorsement of CUL 160, as set out in Attachment 1, and the Rodenticides Educational Campaign, as set out in Attachment 2.

Financial Implications: There is no financial impact resulting from the adoptions of recommendations in this report. The costs associated with replacing anticoagulant rodenticide bait boxes with humane traps through service providers will be monitored.

Discussion: Rodenticides are pesticides used to control rodent populations. The most common rodenticide products have active anticoagulant ingredients that cause internal bleeding after ingestion. Rodenticides are used to eliminate rodent populations by causing death by preventing normal blood clotting, causing internal hemorrhaging, or disturbing nervous system functions.

Rodenticides pose threats to Ontario's wildlife (including raptors, songbirds, coyotes, snakes, and raccoons), and the environment (including aquatic ecosystems) through primary and secondary poisoning of non-target species. Predators and scavengers are at a particularly high risk of secondary poisoning because of their dependence on rodents as a food source.

At the Council meeting on June 26, 2023, through Resolution #283/23, Council directed staff to:

1. Prepare a draft policy banning the use of rodenticides on all City of Pickering properties;
2. Include a communications strategy for educating residents and business on the harmful impacts of rodenticides and the availability of humane, ecologically sustainable alternatives;
3. Implement humane practices in regard to pest control on all City of Pickering properties; and
4. Have staff report back to Council no later than Q4.

The draft CUL 160 Pest Management Policy (Attachment 1) prohibits the use of Anticoagulant Rodenticide or other Regulated Substances on City-owned properties, except where expressly authorized as a last resort option by the Director, Community Services.

The draft Policy outlines a Pest Management Program that includes assessment of a property to determine prevention and mitigation measures. Mitigation, planning and implementation of the Pest Management Program shall include access prevention, attractant management and population control. The draft Policy includes monitoring and adaptive management and reporting and compliance procedures.

The Rodenticides Educational Campaign will educate residents and businesses about the negative impacts' rodenticides have, and about alternative, humane methods citizens can use for rodent control. Additionally, the City will place a focus on pet safety – as the use of rodenticides can be of risk to all animals.

Attachments:

1. CUL 160 Pest Management Policy
 2. Rodenticides Educational Campaign
 3. Resolution #283/23
-

Prepared By:

Original Signed By

Kevin Hayes
Manager, Facilities

Approved/Endorsed By:

Original Signed By

Laura Gibbs MBA, Msc
(Acting) Director, Community Services

LG:kh

Recommended for the consideration
of Pickering City Council

Original Signed By

Marisa Carpino, M.A.
Chief Administrative Officer



Policy

Procedure Title: Pest Management Policy			Policy Number CUL 160	
Reference #238/23 Ontario Regulation 63/09 Canadian Environmental Protection Act	Date Originated (m/d/y) December 4, 2023	Date Revised (m/d/y)		Pages 7
Approval: Chief Administrative Officer		Point of Contact Director, Community Services		

Policy Objective

The purpose of this Policy is to establish a humane pest management program within City of Pickering properties while banning non-essential use of rodenticides.

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- 01 Policy Statement
- 02 Definitions
- 03 Roles and Responsibilities
- 04 Procedures
- 05 Application

01 Policy Statement

The most common rodenticide products currently in use include anticoagulant ingredients. After feeding on these products, rodents first become lethargic and display abnormal behaviour, becoming easier targets for predators that can accumulate these toxic ingredients in their bodies to lethal levels.

To reduce the impact of the City's Pest Management Program on wildlife, it is the Policy of the City of Pickering that:

- The use of Anticoagulant Rodenticide or other Regulated Substances for rodent pest management is prohibited on all City-owned properties, except where expressly authorized as a last resort option by the Director, Community Services; and
- The use of Anticoagulant Rodenticide or other Regulated Substances for rodent pest management is discouraged on private property.

02 Definitions

- 02.01 **Anticoagulant Rodenticide(s)** – means either a first-generation or second-generation rodenticide that disrupts blood clotting metabolic processes, causing severe or fatal internal hemorrhaging in animals, and is mixed with an attractant for use in pest management activities. Products include first-generation Anticoagulant Rodenticides (FGAR) and second-generation Anticoagulant Rodenticides (SGAR). FGAR is a generally less acutely-toxic rodenticide, requiring multiple feedings to administer a lethal dose, metabolizing quickly in the body tissue of rodents. SGAR is generally a more acutely-toxic rodenticide that requires only a single feeding to administer a lethal dose and remains in the body tissue of rodents longer.
- 02.02 **Captive Bolt Trap** – means any mechanical device that incorporates a force-driven bolt or piston to kill pests and is authorized for use in Canada.
- 02.03 **City-owned Property** – means any land, building or structure on such land, either owned or controlled by the City of Pickering, on which legal authority to regulate pest management exists.
- 02.04 **Electronic Kill Trap** – means any mechanical device that employs electrical current to trap and kill pests authorized for use in Canada.
- 02.05 **Glue Board(s)** – means trays coated with adhesive, used to eliminate rodents, insects and snakes as an alternative to snap traps or other population control forms.
- 02.06 **Live Capture Trap** – means a mechanical device authorized for use in Canada, designed so that the capture does not injure the pest.
- 02.07 **Non-target Wildlife** – means any mammal, insect, bird, amphibian, reptile, or other living organisms that are not the target of pest management or pest management activities.
- 02.08 **Non-toxic Bait Attractant** – means a substance not listed in the List of Toxic Substances (*Canadian Environmental Protection Act*, Schedule 1) to attract pests for population control.
- 02.09 **Pest** –refers specifically to rodents targeted by pest management activities.
- 02.10 **Pest Infestation** – means the occurrence of pest(s) in or around a building or structure such that the occurrence is or is likely to cause damage to the building or structure and/or to generate a health risk to the occupants or users of the building or structure, as determined by a service provider.
- 02.11 **Pest Management** – means the integrated and comprehensive compilation of actions undertaken to reduce or eliminate a pest infestation.

- 02.12 **Population Control** – means pest management activities specifically designed to reduce or eliminate and control the pest(s) population inside or near a City-owned property.
- 02.13 **Property Manager** – means a person or company employed by either the City or a leaseholder to perform property management and maintenance activities on City-owned property, or a person who otherwise represents the City regarding a City-owned property or the leaseholder on City-owned property.
- 02.14 **Regulated Substance** – means any substance identified as regulated or prohibited in the Ontario Regulation 63/09, known as the *Pesticides Act*.
- 02.15 **Service Provider** – means a company or corporate entity or person approved to conduct business on City-owned property to administrate a pest management program.
- 02.16 **Snap Trap** – means any mechanical device that incorporates a spring-loaded mechanism to trap and/or kill pests.

03 **Roles and Responsibilities**

- 03.01 Council to:
- a. Approve and uphold the Pest Management Policy and any amendments;
 - b. Approve annual budget including costs of pest management; and
 - c. Act as an advocate for humane pest management and discouraged use of rodenticides within Pickering.
- 03.02 Chief Administrative Officer to:
- a. Uphold the Pest Management Policy;
 - b. Recommend revisions to the Pest Management Policy to Council, or amendments to existing policies and procedures when required; and
- 03.03 Director, Community Services to:
- a. Monitor and oversee administration of this policy;
 - b. Authorize the use of Anticoagulant Rodenticides or other Regulated Substances on City Properties as a last resort option;
 - c. Annually review this Policy, and associated procedures and standard operating procedures and prepare amendments when the need is recognized; and
 - d. Determine requirements for Policy and procedure orientation.
- 03.04 Manager, Facilities Maintenance to:

- a. Oversee and implement the Pest Management Program, including compliance with this Policy and associated procedures and standard operating procedures.

03.05 Corporate Communications to:

- a. Educate the public on the harmful side effects of anticoagulant rodenticide use and encourage Pickering residents to follow the Policy Statement outlined in section 01 and alternative pest management options.

04 Procedures

04.01 **Assessment**

- a. An assessment is conducted to confirm whether pest(s) are present and whether they are causing or can cause damage to the building or pose a risk to its occupants/users. This assessment may demonstrate that very limited or no pest management activity is required and that population control is unnecessary. If no pest management activity is needed, the assessment results should be recorded and provided to the Manager, Facilities Maintenance, and no further action is required.
- b. Prior to any pest management activities, the Service Provider will provide an assessment of the City property.
- c. The Service Provider must inspect areas potentially subject to pest management. The inspection may include visual inspection, motion-activated cameras, or other methods to collect evidence of a pest infestation.
- d. The Service Provider must record all details and prepare an assessment report on the likely presence of pest(s) inside or within a reasonable distance of the building/structure. The report must identify pest(s) to species level, discuss the evidence gathered, adaptive behavioural traits of the pest(s) influencing this specific occurrence, and any other relevant information. Details on pest ingress into the building/structure (including locations, pictures, and descriptions) should also be included.
- e. If pest(s) are confirmed, the next step is to determine whether a pest infestation exists. Using the assessment data, the Service Provider will determine the approximate numbers and species of pest(s) present, pest-specific or potential damage to the building/structure, and human health risks or other risk-related information.

04.02 **Mitigation Planning and Implementation**

Based on the assessment, the Service Provider formulates a mitigation plan in keeping with the level of risk present. Mitigation planning and implementation have three components: (1) Access Prevention; (2) Attractant Management; and (3) Population Control.

04.03 **Access Prevention:** to reduce entry points into buildings and structures.

- a. The Service Provider should recommend modifications, where practical, to each pest entry point into the building/structure. This should be done for each pest targeted for pest management activity in the risk assessment.
- b. The Manager, Facilities Maintenance must be consulted before changes to the building/structure are made. In particular, building envelope perforations (nails, screws, etc.) must be pre-approved.
- c. The Service Provider should also recommend modifications to remove safe harbourage inside or in proximity to the building/structure, including selective vegetation management adjacent to buildings.
- d. The Service Provider and Manager, Facilities Maintenance must ensure that any building/structure modifications do not interfere with the harbourage, nest or roost sites for important and protected non-targeted wildlife, including protected bat roosts and bird nests.

04.04 **Attractant Management:** to deny food and water to pests in an area where they are unwanted.

- a. In consultation with the Manager, Facilities Maintenance, the Service Provider should prepare an education program to inform leaseholders and occupants on attractant management and specifically recommend changes or modifications to avoid attracting pests and providing harbourage.
- b. The Service Provider should identify specific situations that require disinfection cleaning to remove accumulated deposits of attractant materials or health risks (e.g., steam cleaning, etc.).

04.05 **Population Control:** to reduce pest numbers or control a pest infestation.

- a. Population control must be overseen by the Service Provider involved in the previous steps or another Service Provider who has reviewed the last pest management activity. Population control is the final step in mitigation planning and implementation.
- b. Trapping as population control can be done using either a Live Capture Trap or other device designed to lethally and humanely kill a pest, with minimal impact on non-target wildlife. A trapping program must be designed and supervised by the Service Provider and be appropriate for specific pest and site conditions. The trapping program should meet the following requirements:
 - Snap Traps, Captive Bolt Traps and/or Electronic Kill Traps, or Live Capture Traps can be deployed by the Manager, Facilities Maintenance, or property manager under the oversight of a Service Provider.
 - Glue Boards or sticky boards are prohibited, as these have been linked to animal welfare concerns and are not approved for use.

- Rodent bait traps using Regulated Substances, including first or second-generation Anticoagulant Rodenticides (FGARs and SGARs), are prohibited.
- The Service Provider is responsible for ensuring that risk to non-targeted wildlife by any proposed trapping is reduced or eliminated when placing or using traps. Traps should only be accessible to pest(s) that are targeted by pest management activity.
- Trap locations must be recorded on a site plan and include an accompanying monitoring plan appropriate to trap type.
- Traps must be marked with the name and telephone number of the Service Provider and not set in open or publicly accessible areas where the public, non-target wildlife, or pets can easily access them.
- Traps can contain a non-toxic bait attractant.
- The Service Provider must provide a dispatch report for each monitoring visit where trapped pests or non-target wildlife are captured. The report will document the release or disposal of trapped animals.

04.06 **Monitoring and Adaptive Management**

At sites where Attractant Management or Population Control measures are implemented for pest management, the Service Provider must continue to monitor the site to ensure long-term success. A monitoring plan should be prepared for these sites with details on the type of monitoring activity scheduled and the frequency of application for any pest management activity. Access prevention also needs to be monitored and maintained to ensure that pests do not regain access to the building/structure. Monitoring should be documented and provided to the Manager, Facilities Maintenance.

04.07 **Reporting and Compliance**

No further reporting is required if a completed assessment (Step 1) did not identify a pest infestation or recommend any form of mitigation or population control.

After completion of the first cycle of pest management activity (Step 2) followed by a phase of monitoring and adaptive management (Step 3), the Service Provider must document all work. All assessment and monitoring reports must be kept in a format that can be digitally transferred to the City upon request and retained by the Manager, Facilities Maintenance.

05 Application

- 05.01 Pest management services on City-owned property must be supervised by approved pest management Service Providers in accordance with this Corporate Policy.

- 05.02 Pest management Service Providers must follow the Policy Statement outlined in Section 01 which is based on the precautionary principle of avoiding the use of toxic chemicals and reducing and/or eliminating the impacts of toxic substances on target and non-target wildlife.
- 05.03 Private property owners, residents, and businesses shall be educated on the harmful side effects of Anticoagulant Rodenticide use and encourage to follow the Policy Statement outlined in Section 01 and alternative pest management options.
- 05.04 Monitoring and administration of this Policy is delegated to the Director, Community Services.

Please refer to all associated Procedures and Standard Operating Procedures, if applicable, for detailed processes regarding this Policy.



Communications Plan
Rodenticides Educational Campaign

Project Team

Laura Gibbs – Director, Community Services

Lindsey Narraway – Supervisor, Animal Services

Nicole Hann – Coordinator, Public Affairs & Corporate Communications

Elaine Knox – Community Safety & Well-Being Advisor

Author and Last Updated

N. Hann – November 3, 2023

Background

The City of Pickering received a delegation at the May 23, 2023 Council Meeting on Rodenticides (a group of regulated chemicals generally referred to as 'rat poisons'). At the Regular Council Meeting on June 26th, through Resolution #238/23, Council directed staff to, in part, develop a communications strategy for educating residents and business on the harmful impacts of rodenticides and the availability of humane, ecologically sustainable alternatives.

As a result of learning more about rodenticides, the City will be launching an educational campaign to inform residents on the negative impacts rodenticides have, and about alternative, humane methods citizens can use for rodent control.

Additionally, the City will place a focus on pet safety – as the use of rodenticides can be of risk to all animals.

The City will be utilizing various communications channels to educate residents:

Introduction to Rodenticides & Available Resources (Social Media Posts) – December 2023

National Poison Prevention Week – March 17 to 23, 2024
Responsible Pet Ownership Month – All of May

Objectives

- To inform residents, businesses and other stakeholders on the harmful effects of rodenticides and of the safe alternatives that can be used for rodent control.
- To provide the public with the appropriate resources they need to learn more about rodenticides and humane control options (Ontario Poison Centre, Canadian Association of Humane Trapping, Rodenticide Free Ontario, and Coyote Watch Canada)

City Spokespersons

Lindsey Narraway, Supervisor, Animal Services

Engagement Period

Introduction via Social – December 2023

National Poison Prevention Week – March 17 to 23, 2024 (& annually thereafter)

Responsible Pet Ownership Month – All of May (annually)

Target Audience and Stakeholders

- Residents
- Businesses
- Community Groups

PESO Model

The PESO communications model stands for “paid,” “earned,” “shared” and “owned” media, and it represents a modern way for companies to integrate communications efforts while reaching audiences in an efficient, effective manner. The PESO model integrates:

Paid media: including advertorial content, sponsored content, social media advertising and exclusive, membership-based publishing opportunities.

Earned media: including free placements from media relations campaigns, such as press releases, bylined articles, “newsjacked” placements, investor relations, blogger relations/link building and word of mouth.

Shared media: including organic social media built on curated content, reviews, forums and other online communities.

Owned media: the content your business owns. It’s created specifically for your brand that is published to your website or other owned channels, including videos and other visual content.

Note: the typical thought process starts with Owned>Earned>Shared>Paid.

Channels/Tactics	Due Date
Owned Media	
pickering.ca home page promoting survey	National Poison Prevention Week banner – March 17, 2024 Rodenticides/Pet Safety banner/Responsible Pet Ownership Month – May 1, 2024
pickering.ca dedicated web page on rodenticides (including resources/links to appropriate organizations)	TBD – in advance of – March 17, 2024
Digital Community Billboard Signs	National Poison Prevention Week banner – March 17, 2024 Rodenticides/Pet Safety banner/Responsible Pet Ownership Month – May 1, 2024
eNewsletters/Email Groups: - Your City Corporate Newsletter - Business Newsletter and Networks (including APBOT) - Pickering 101 - Corporate Advisory Committees - ActiveNet Distribution List - All Advisory & Taskforce Members via Staff Liaison	
Posters (8.5 x 11) in City facilities	– March 17, 2024 (leave on display through to summer)
Local Business Community	– March 17, 2024
Petapolooza Event	– March 11, 2024
In-Person and/or Virtual Seminar	TBD
Earned Media (Media Relations)	
News Release	Issue release for both key dates – which will include information on rodenticides. National Poison Prevention Week – March 17, 2024 Rodenticides/Responsible Pet Ownership Month – May 1, 2024
Shared Media (Social Media)	
Corporate Channels	December 2023 until end of May 2023
Pickering Neighbourhood Facebook Groups	
Other City Social Handles - Adult 55+ - Pickering Great Events - Etc.	

Legislative Services Division
Clerk's Office
Directive Memorandum

June 30, 2023

To: Paul Bigioni
Director, Corporate Services & City Solicitor

From: Susan Cassel
City Clerk

Subject: Direction as per Minutes of the Meeting of City Council held on
June 26, 2023

Animal Poisoning Prevention

Council Decision

Resolution #238/23

WHEREAS, Council acknowledges that rodenticide products are unreasonably dangerous, inhumane, and ineffective;

And Whereas, rodenticides are highly toxic, persistent and compounds of bioaccumulation used to eliminate rodent populations by causing death by preventing normal blood clotting, causing internal hemorrhaging, or disturbing nervous system functions;

And Whereas, rodenticides pose serious threats to Ontario's wildlife (including raptors, songbirds, coyotes, snakes, and raccoons) and the environment (including aquatic ecosystems) through primary and secondary poisoning of non-target species, and further threaten children and pets;

And Whereas, predators and scavengers are at a particularly high risk of secondary poisoning because of their dependence on rodents as a food source, with countless cases of poisoning across Ontario in the past decade;

And Whereas, rodenticides are an ineffective and counterproductive means of controlling long-term rodent populations because they fail to address the root of infestation problems (i.e., access to food, shelter and other attractants), and kill predators that serve as natural and chemical-free methods of pest control (i.e., a single owl eats around 1,000 rats per year);

And Whereas, the existing risk mitigation measures implemented by the federal and provincial government are incapable of adequately addressing the threats that rodenticides pose to the environment, wildlife, and human health;

And Whereas, preventative measures are the best method of vector control;

And Whereas, eliminating non-essential use of rodenticides is consistent with the precautionary principle;

And Whereas, Council wishes to enact a policy prohibiting the use of inhumane vector control products to address public concern for the environmental wellbeing of the Corporation, and the health, safety and well-being of its inhabitants;

And Whereas, Council deems it desirable and in the public interest to enact an Animal Poison Prevention Policy for protecting wildlife, pets, and people from unreasonable adverse effects caused by rodenticide use for the purpose of:

- Eliminating inhumane methods of pest control;
- Regulating and controlling the use, purchase, and sale of rodenticides;
- Sustaining a healthy natural environment by protecting biodiversity;
- Protecting significant and sensitive natural areas;
- Protecting human health;
- Maintaining water quality; and,
- Protecting fish habitat as defined in the *Fisheries Act*, Revised Statute of Canada 1985.

Now therefore be it resolved, that the Council of The Corporation of the City of Pickering directs staff through the Office of the CAO:

1. To prepare a draft Policy banning the use of rodenticides on all City of Pickering properties;
2. To include a communications strategy for educating residents and business on the harmful impacts of rodenticides and the availability of humane, ecologically sustainable alternatives;
3. To implement humane practices in regards to pest control on all City of Pickering properties;
4. To have staff report back to Council no later than Q4; and,
5. That Council requests that the Mayor write, on behalf of Council, to the provincial Ministry of the Environment, Conservation and Parks (MECP) requesting that the Province of Ontario introduce a Province wide ban on the use of rodenticides, to increase protection for wildlife species.

Please take any action deemed necessary.

Susan Cassel

Copy: Chief Administrative Officer



Staff Report

If this information is required in an alternate accessible format, please contact the Accessibility Coordinator at 905-623-3379 ext. 2131.

Report To: General Government Committee

Date of Meeting: December 4, 2023 **Report Number:** CSD-003-23

Submitted By: George Acorn, Director of Community Services

Reviewed By: Mary-Anne Dempster, CAO **Resolution#:** GG-197-23

File Number: **By-law Number:**

Report Subject: Rodenticide Use in Municipal Facilities

Recommendations:

1. That Report CSD-003-23, and any related delegations or communication items, be received.
2. That Council authorize staff to initiate a trial at Courtice Community Complex, replacing rodenticides (interior and exterior) with rodent traps, catch tin traps, and snap exterior traps;
3. That staff continue to investigate the feasibility of a future ban of rodenticides for all municipal buildings;
4. That staff report back prior to 2024 summer recess with the results of the trial program and to make further recommendations on the longer-term use of rodenticides in municipal buildings; and
5. That all interested parties listed in Report CSD-003-23, and any delegations be advised of Council's decision.

Report Overview

This report, in response to direction by Council, provides the results of a preliminary investigation by staff on the feasibility of implementing a ban on the use of rodenticides at all municipal buildings. Following the preliminary work, staff are recommending a trial be undertaken at one community centre, replacing bait traps with snap traps. Further, staff will continue to research the matter, and report back to Council in June 2024 on the results of the trial program and possible next steps for Council to consider.

1. Background

- 1.1 At the [October 16, 2023, General Government Committee](#) meeting, arising from the delegations of Janice Freund and Allison Hansen, the following Resolution #GG-160-23 was referred to Staff to report back at the December 4, 2023 General Government Committee meeting:

Whereas council acknowledges that rodenticide products are unreasonably dangerous, inhumane, and ineffective.

And whereas rodenticides are highly toxic, persistent and bio accumulative compounds used to eliminate rodent populations by causing death by preventing normal blood clotting, causing internal hemorrhaging, or disturbing nervous system functions.

And whereas rodenticides pose serious threats to Ontario's wildlife (including raptors, songbirds, coyotes, snakes, and racoons) and the environment (including aquatic ecosystems) through primary and secondary poisoning of non-target species, and further threaten children and pets.

And whereas predators and scavengers are at a particularly high risk of secondary poisoning because of their dependence on rodents as a food source, with countless cases of poisoning across Ontario in the past decade.

And whereas rodenticides are an ineffective and counterproductive means of controlling long-term rodent populations because they fail to address the root of infestation problems (i.e., access to food, shelter, and other attractants), and kill predators that serve as natural and chemical-free methods of pest control (e.g., a single owl eats around 1,000 rats per year).

And whereas the existing risk mitigation measures implemented by the federal and provincial government are incapable of adequately addressing the threats that rodenticides pose to the environment, wildlife, and human health; and

And whereas preventative measures are the best method of vector control.

And whereas eliminating non-essential use of rodenticides is consistent with the precautionary principle.

And whereas Council wishes to enact a policy prohibiting the use of inhumane vector control products to address public concern for the environmental wellbeing of the community, and the health, safety, and well-being of its inhabitants.

And whereas: Council deems it desirable and in the public interest to enact an Animal Poison Prevention Policy for protecting wildlife, pets, and people from unreasonable adverse effects caused by rodenticide use for the purpose of:

- Eliminating inhumane methods of pest control.
- Regulating and controlling the use, purchase, and sale of rodenticides.
- Sustaining a healthy natural environment by protecting biodiversity.
- Protecting significant and sensitive natural areas.
- Protecting human health.
- Maintaining water quality; and
- Protecting fish habitat as defined in the Fisheries Act, Revised Statute of Canada 1985.

Therefore, be it resolved that Council adopts a policy banning the use of rodenticides on all municipally owned properties, with immediate effect.

That Council directs Staff to communicate this policy direction to residents and businesses including information on the harmful impacts of rodenticides and the availability of humane, ecologically sustainable alternatives; and

That Council incorporates humane practices regarding pest control on all municipal properties.

- 1.2 Following the direction provided by Council, staff initiated an investigation into the concern with the use of rodenticides and the potential secondary impact it may have on domestic animals and other wildlife. This included reaching out to other communities as well as discussions with our current pest control contractor. We have maintained contact with Allison Hansen and have received valuable information from her on this topic and we will continue to communicate as we do further investigation.
- 1.3 We have also been working with our Animal Shelter Supervisor, who has recent experience coming from the City of Toronto. Her assistance will help inform our analysis and any subsequent recommendations we may bring forward.

2. Rodenticide Use in the Municipality

- 2.1 Rodenticides are currently used in different applications throughout the interior and exterior of municipal buildings in tamper-resistant bait stations for vector control. The Municipality currently is under contract with Well Done pest control who are governed under the Ministry of Environment, which uses 2nd generation rodenticide to control rodent infestation(s) in/around municipal buildings. Although rodenticides can be effective, they are felt to be dangerous, inhumane, and pose a threat to wildlife, pets, and children through primary and secondary poisoning.
- 2.2 First-generation anticoagulant rodenticides (FGARs) like warfarin, chlorophacinone, and diphacinone are still legal for use. These products are an older, slower-acting, and less potent product compared to SGARs – but rodents still suffer the same effects. Rodents can also develop resistance to the product.
- 2.3 Second-generation anticoagulant rodenticides (SGARs) are substantially more potent than the first-generation compounds, and a lethal dose can be ingested in a single feeding. Included in this class of rodenticides are the compounds difenacoum, brodifacoum, bromadiolone and difethialone.
- 2.4 SGARs can also pose a serious risk to people, pets, and wildlife through direct and secondary poisoning. The risk of secondary poisoning for wildlife by SGARs is higher than first-generation products because the active ingredients stay in animal tissue for a long time after feeding.

3. Rodenticide Use in Other Municipalities

- 3.1 Following direction provided in June 2023, City of Pickering staff are currently preparing a report for their Executive Committee's December 4th agenda. Our discussions with staff have indicated the City may be recommending a ban on rodenticide use for municipal buildings.
- 3.2 City of Toronto staff are currently investigating this issue and indications are there will be a report going forward for consideration early in 2024. Our staff will remain connected as they work toward that report.
- 3.3 The Township of Minden Hills is also in the fact-finding stage of rodenticides and alternative methods. Currently, staff are not aware of the timing on any future reports.
- 3.4 There are also examples in Western Canada, including the City of Port Moody, where municipalities have approved the ban on the use of rodenticides for municipal buildings. Staff are reviewing these policies to better inform us when making any future recommendations.

4. Trial Program at Courtice Community Complex

- 4.1 Staff are proposing a rodenticide-free trial program from January to May at this location. In conjunction with our pest control contractor, staff will arrange for the removal of all rodenticide bait traps in and around the facility. They will be replaced with rodent traps, catch tin traps, and snap exterior traps.
- 4.2 Data will be collected during this period, and the results of this trial will be reported back to Council prior to the 2024 summer recess. The results of this trial will help inform any future recommendations regarding a more widespread ban.

5. Financial Considerations

- 5.1 It is expected any costs related to the trial period at Courtice Community Complex can be covered in the proposed 2024 operating budget. Pending the results of this trial and any further recommendations being reported back to Council, staff will include any financial impacts at that time.

6. Concurrence

- 6.1 This report has been reviewed by the Deputy CAO/Treasurer, who concurs with the recommendations.

7. Conclusion

- 7.1 It is respectfully recommended that Council approve this report and direct staff to complete the rodenticide-free trial program at Courtice Community Complex, and report back on those findings, with additional recommendations for a long-term plan, prior to the 2024 summer recess.

Staff Contact: Ken Ferguson, Manager of Facilities, 905-623-3379 ext. 2504 or kferguson@clarington.net.

Attachments:

Not Applicable

Interested Parties:

Allison Hansen

Janice Freund

If this information is required in an alternate accessible format, please contact the Accessibility Coordinator at 905-623-3379 ext. 2131.

Report To: General Government Committee

Date of Meeting: June 3, 2024

Report Number: PUB-010-24

Authored by: George Acorn, Director Community Services

Submitted By: Lee-Ann Reck, Deputy CAO, Public Services

Reviewed By: Mary-Anne Dempster, CAO

Resolution Number:

By-law Number:

File Number:

Report Subject: Rodenticide Use in Municipal Facilities - Update

Recommendations:

1. That Report PUB-010-24, and any related delegations or communication items, be received;
2. That Council endorse the expansion of the rodenticide-free program to all municipally operated recreation facilities, effective July 1, 2024;
3. That the 2025 budget include the \$3,600 increased pest control costs to maintain this expanded program;
4. Staff will work collaboratively with other departments and stakeholders to expand the rodenticide free program;
5. That Staff develop an administrative pest management directive with the objective to reduce the use of anti-coagulant rodenticides on all municipal properties; and
6. That all interested parties listed in Report PUB-010-24, and any delegations be advised of Council's decision.

Report Overview

This report provides an update on the rodenticide-free trial involving the removal of all rodenticide traps at Courtice Community Complex (CCC). As a substitute method for pest control, tin catch traps have been implemented. According to the bi-weekly assessments conducted by our pest control service provider, no signs of rodent presence have been detected within the premises.

Given the successful outcomes of this trial phase, staff suggest broadening the scope of the program to encompass the rest of the municipally operated recreation facilities, starting from July 1, 2024. This expansion would incorporate the Alan Strike Aquatic and Squash Centre, Garnet B. Rickard Recreation Complex, South Courtice Arena, Bowmanville Indoor Soccer/Lacrosse Bowl, Darlington Sports Centre, and Diane Hamre Recreation Complex.

Staff also propose the creation of a pest control management directive. This administrative document would establish protocols for efficient pest control management, aiming for a responsible and effective extension of the rodenticide-free initiative to all municipally owned buildings and properties.

1. Background

- 1.1 At the December 18, 2023, Council Meeting report [CSD-003-23](#) was approved authorizing staff to initiate a rodenticide free trial at Courtice Community Complex and to report back on the results prior to summer recess.
- 1.2 Staff were also to continue investigating the feasibility of a future total ban on rodenticide use for municipal properties and to communicate with other municipalities regarding any actions to date or future plans regarding the use of rodenticides.

2. Trial Program at Courtice Community Complex

- 2.1 The trial program at CCC commenced January 2, 2024. Municipal staff undertook visual inspections of the exterior of the building to identify potential points of entry. Staff made improvements to exterior envelope to mitigate rodent entry to the building.
- 2.2 With no exterior rodenticide bait traps in use, staff directed our pest control contractor to remove all interior rodenticide traps from the building. These were replaced with tin catch traps. Since the trial began, the contractor has conducted bi-weekly inspections of the property. To date, no visible rodent activity has been documented.

3. Rodenticide Free Program Expansion

- 3.1 Based on the results of the trial program at CCC, staff are recommending the expansion of the rodenticide free program to include all remaining municipally operated recreation facilities. Effective July 1, 2024, staff will direct the contractor to remove all interior rodenticide bait traps at the six remaining recreation facilities. They will be replaced with catch tin traps. There are currently no exterior rodenticide bait traps in place at these facilities.
- 3.2 Data will continue to be collected and will help inform future expansion to remaining municipally owned properties. The goal of this program is to eliminate anti-coagulant rodenticide use responsibly and effectively at all municipal properties with the aim of minimizing potential adverse impacts and public health risks.
- 3.3 In other municipalities where rodenticide bans are in place, controlled use of anti-coagulant rodenticides or other regulated substances is permitted only under the direction of senior staff as a last resort. This approach is included in pest management policies, and similar guidance will be incorporated into our pest management directive.

4. Rodenticide Use in Other Municipalities

- 4.1 Following Council direction, Community Services staff have continued to communicate with previously identified communities on their experience and current practices.
- 4.2 In December 2023, the City of Pickering adopted a pest management policy that bans all non-essential rodenticide use on municipal properties. However, the policy allows for the authorized use of anti-coagulant rodenticides or other regulated substances for rodent pest management, only when expressly authorized as a last resort option by the Director of Community Services. To date, the staff at the City of Pickering have not identified any issues related to this approach.
- 4.3 Staff have recently been advised that the City of Toronto continues to investigate this matter and have indicated work on this topic is planned to begin by end of 2024 and continue into 2025.
- 4.4 Based on discussions with staff at the Township of Minden Hills it has been confirmed that there has been no initiation of a ban on rodenticides.
- 4.5 Apart from the City of Pickering, staff are not aware of any initiatives being undertaken on the ban of rodenticide use in the remaining lakeshore municipalities.

5. Financial Considerations

- 5.1 The additional cost to expand the rodenticide free program at the remaining municipally operated recreation facilities for the remainder of 2024 is approximately \$1,800. These costs will be incorporated into the approved 2024 operating budget and no tax levy impact is expected. The annualized cost of approximately \$3,600 for this expansion will be included in the 2025 Budget Update as a service level change.
- 5.2 The cost to further expand the program to other municipal buildings will also be included in the 2025 Budget update to recognize the additional resources that will be required to meet the new service delivery method. These costs are currently being determined.

6. Strategic Plan

- 6.1 Not applicable.

7. Concurrence

- 7.1 This report has been reviewed by the Deputy CAO/Treasurer, Finance and Technology who concurs with the recommendations.

8. Conclusion

- 8.1 It is respectfully recommended that Council approve this report and instruct staff to finalize the expansion of the rodenticide-free program at municipally operated recreation facilities, and to formulate an administrative pest management directive. The primary goal of this directive will be to broaden the scope of the rodenticide-free program to include all buildings and properties owned by the municipality.

Staff Contact: Rob Farquharson, Supervisor, Aquatic Operations 905-623-3379 ext. 2541 or rfarquharson@clarington.net.

Attachments:

Not Applicable

Interested Parties:

Allison Hansen

Janice Freund

Responsible Pest Management Micropilot Program

Program Overview

In August 2023, the London Environmental Network launched the **Responsible Pest Management Micropilot Program** in partnership with Bird Friendly London. The goal of this program is to raise awareness of the negative effects that rodenticides have on wildlife and the environment by providing educational resources and tools to homeowners and businesses to pursue alternative and more responsible methods of rodent pest management.



Selection Criteria

The following selection criteria was used to ensure equitable distribution of resources when selecting participants:

- Current or prior use of rodenticides in their home/business
- Prioritizing low income households
- Diversifying participant selection across different wards in London

Applicants and Participants

- 5 business applied, 5 were selected (1 business withdrew from program)
- All of the participating businesses were Green Economy London members (Play Away, ReForest London, Root Cellar, London Food Bank)
- 19 homeowners applied, 5 were selected (1 homeowner withdrew from program)
- Selected homeowners were located in: Ward 1, Ward 9, and Ward 11

Program Outcomes

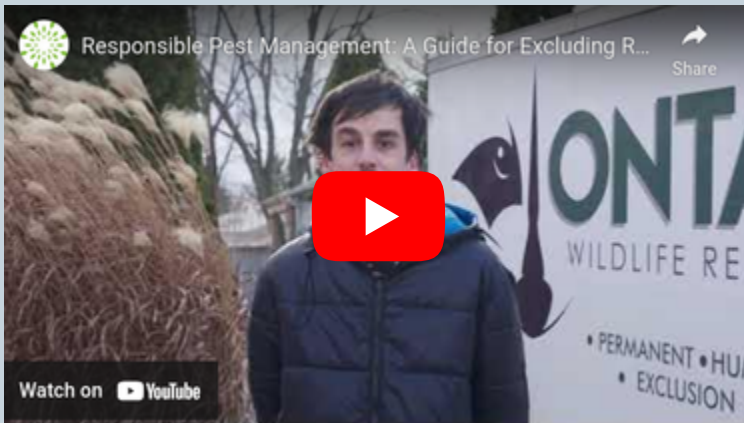
- Participants committed to eliminating the use of rodenticides, scheduled inspections with a local service provider, and developed an action plan to implement humane pest control practices
- Participants received an educational lawn sign to promote their involvement in the program

Businesses were eligible for a microgrant of up to \$300 and a complimentary owl box.

- 4 businesses were able to fulfill program requirements and receive the microgrant

Homeowners were eligible for a microgrant of up to \$200

- 4 homeowners were able to fulfill program requirements and receive the microgrant



Media Engagement

- **'Responsible Pest Management: A Guide for Excluding Rodents From Buildings'** educational video released March 2024
- Program featured in **CBC News Article** and **Global News Article**
- **'Responsible Pest Management: A Guide for Home and Business Owners'** webinar on November 7th, 2023 had 26 attendees and has over 100 views on Youtube



Program Barriers

- One homeowner chose to forgo a home inspection, finding it challenging to coordinate a time with the inspection company
- One business withdrew from the program citing staffing limitations and an inability to allocate sufficient time to meet program requirements

Connection to London's Climate Emergency Action Plan

- Area of Focus 8 - Adapting and Making London More Resilient through protecting biodiversity and enhancing ecosystem functions
- Rodenticides can lead to secondary poisoning of birds of prey. Preventing this safeguards raptors and maintains the crucial balance of natural predator-prey ecosystems, supporting biodiversity



**Our sincerest thanks to the
City of London for
supporting this project!**

British Columbia

B.C. permanently bans use of rat poison

Province says rodenticides have harmful impacts on other wildlife

CBC News · Posted: Oct 28, 2022 6:14 PM EDT | Last Updated: October 28, 2022



The province of B.C. is banning the use of second-generation anticoagulant rodenticides (SGARS). (AFP/Getty Images)

[comments](#)

The province of B.C. has decided to make a temporary ban on the use of rat poison permanent.

Last July, the government imposed an 18-month ban on the use of rodenticides over concerns the poison is inadvertently killing owls, among other wildlife.

The permanent regulatory changes announced Friday will ban the widespread sale and use of second-generation anticoagulant rodenticides (SGARs), which the province says risk the secondary poisoning of animals who consume poisoned rodents.

The province spent the last 15 months conducting a review of SGARS and their impact by speaking with technical experts and holding a public consultation which received almost 1,600 responses. It outlined proposed regulatory amendments in an intentions paper.

The permanent ban will come into effect on Jan. 21, 2023 to align with the end of the temporary ban.

- [B.C. bans rat-killing rodenticides for 18 months over wildlife concerns](#)

The ban applies to all sale and use of SGARs by members of the public, and most commercial and industrial operations in B.C., except for those services considered "essential" like hospitals and food production.

Essential services using SGARS will have to hire a licensed pest-control company, be licensed, have a site-specific integrated pest-management plan and record the use of the poison.

According to the government, the ban will reduce pesticide use by requiring individuals and businesses to resort to other methods of pest control, such as traps, less toxic rat poisons, and removing food sources.

Wildlife impacts

Rat poison has been widely criticized for how it moves through the food chain after it's ingested by a rat. Trace amounts are found in local wildlife and can be harmful to predators like owls.

[A 2009 study](#) on 164 owls in Western Canada found that 70 per cent had residues of at least one rodenticide in their livers. Researchers found that nearly half of those owls had multiple rodenticides in their system.

Rat poison has also been found in higher-order predators like weasels and coyotes, as well as scavenger species like birds and squirrels.

Opponents say the use of rat poison contradicts [Canada's guidelines for hazardous materials](#).

The B.C. SPCA urges people to [rodent-proof their homes](#) instead of relying on rat poison.

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CANADA

Pickering becomes Ontario's first city to pass Animal Poisoning Prevention Policy

By Ojasvini Parashar • Global News

Posted July 7, 2023 2:16 pm

3 min read



Pickering city council has voted to take steps in reducing their use of rodenticide. **Frazer Snowden/Global News**

💬 +

-A A+

The City of Pickering on Monday, June 26 became the first city in Ontario to act against rodenticides by passing an Animal Poisoning Prevention Policy.

The city council unanimously approved the policy moved by **Coun. Maurice Brenner**.

As per several delegates, incidents of poisoning have increased in **Pickering** and across the Durham region in the last decade.

While supporting the motion, Janice Freund, a resident of Pickering, said Cavan Hills Veterinary Hospital sees an average of one case of rodenticide poisoning per week in its clinic.

“Wildlife rehabilitation centres in Ontario have also seen an increase in cases of rodenticide toxicity coming into their centres, with numbers now in the high double digits each year,” Freund said.

According to a press release, several environmental and animal welfare advocates have raised concerns over the impact of rodenticides on non-target species, including owls, hawks, small birds, earthworms, coyotes and cougars, as well as children and family pets.

The new policy limits the use of rodenticides on city property. Brenner told Global News the city is hoping to set an example for residents by exploring other methods of rodent control.

Brenner lost his dog Riley, a miniature **Beagle**, to rodenticide poisoning earlier this year.

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“Witnessing a pet die from poisoning (is) painful.... You see it in their eyes. I saw it in Riley’s eyes but didn’t know what I was looking at. If this is my way to say I’m sorry to the dog that I lost and save others from going through the

same, then it accomplishes exactly what is meant to happen,” he said. “Nobody should lose a loved furry to poisoning as I did, and many others have.”

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Besides Brenner, several others who lost their pets shared “heart-wrenching personal stories of several companion animals suffering.” **Allison Hansen**, a delegate from Durham Region, shared a tearful story of the slow death of their rescue dog from liver failure, due to the buildup of rodenticides, at only six years of age.

“(Rodenticides) spread throughout the food chain and are degrading our ecosystem. Most importantly, they are ineffective in controlling rodents in the long term. Please stop the suffering in Pickering,” Hansen said.

Trending Now

U.S. wants to ditch trade ‘status quo,’ Lutnick says after Canadian talks



Canadian woman detained by ICE being used as ‘example,’ immigration experts warn



“This is a huge step in the right direction. I hope others will follow Pickering’s lead — it’s time for Ontario to update its policies on rodent control for the sake of its citizens, wildlife and pets.”

In a 2021 **annual listing, Orkin Canada** named Pickering, Oshawa and Ajax among the 25 rattiest cities in Ontario. In an interview with Global News, Brenner talked about the effects of using rodenticides to poison rats.

“When you poison ... you put that poison out, it’s not an instant death. (Rats) go back outside ... to other places. They leave (behind) urine, droppings ... and what you don’t realize is that they have (poison) in their system,” he said. “A lot of dogs (and cats) chase mice. But you don’t know (if) that mouse ... is infected (and if so), the rodenticide has just sealed the fate of your lovely pet.”

2 : 21

▶ **Peterborough pest control operator reports 150% increase in rat calls**

The councillor further said that the city will lead by example and work on public awareness while collaborating with animal services to spread knowledge about **other methods** of stopping rat infestations.

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https://www.durhamregion.com/news/no-visible-rodent-activity-clarington-expands-rodenticide-free-trial/article_0965c149-c3f9-5a8f-8401-e7c50a1282f2.html

NEWS

'No visible rodent activity': Clarington expands rodenticide-free trial

Municipally-owned facilities to eliminate rodenticide

Clarington is expanding its rodenticide-free pest management trial, with the long-term goal of eliminating the use of the poison at all municipal facilities in the future.



By **Moya Dillon** Clarington This Week

Jul 10, 2024

Article was updated Jul 10, 2024



A rodenticide-free pest management trial at the Courtice Community Complex has been expanded to the remainder of the municipality's recreation facilities.

Moya Dillon Metroland

The Municipality of Clarington is eliminating the use of rodenticides at recreation facilities.

Council recently discussed an update from staff on the results of a rodenticide-free trial at the Courtice Community Complex. Beginning on Jan. 2, 2024, municipal staff began eliminating rodenticide at the facility by examining and identifying possible points of entry on the outside of the building, making improvements to mitigate rodent entry and removing interior rodenticide traps from the building and replacing them with tin catch traps.

"Since the trial began, the contractor has conducted biweekly inspections of the property. To date, no visible rodent activity has been documented," George Acorn, director of community services, explained to council in a report.

"Given the successful outcomes of this trial phase, staff suggest broadening the scope of the program to encompass the rest of the municipally operated recreation facilities."

Allison Hansen of [Rodenticide Free Ontario](#) praised council for the expansion during a presentation to council on June 17.

ARTICLE CONTINUES BELOW

“The trial at the Courtice Community Complex demonstrates that the use of rodenticides at this facility is unnecessary, unjustified and inconsistent with legal regulatory frameworks that demand a pest management approach that minimizes the risks to human health and the environment,” Hansen said.

“I urge mayor and council to take a bolder step forward to protect Clarington’s children, wildlife and family pets from these poisons.”

Council endorsed the expansion of the program, which was put into effect at the [Alan Strike Aquatic and Squash Centre](#), [Garnet B. Rickard recreation Complex](#), [South Courtice Arena](#), [Bowmanville Indoor Soccer/Lacrosse Bowl](#), [Darlington Sports Centre](#) and [Diane Hamre Recreation Complex](#) on July 1.

According to the report from Acorn, the program could be further expanded to all municipally-owned buildings in the future.

“Staff also propose the creation of a pest control management directive,” he explained in the report.

“This administrative document would establish protocols for efficient pest control management, aiming for a responsible and effective extension of the rodenticide-free initiative to all municipally owned buildings and properties.”

Related Stories



‘An opportunity to show leadership’: Clarington eyes municipal rodenticide ban



Moya Dillon is a reporter with [durhamregion.com](#). She can be reached at mdillon@durhamregion.com.

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JOURNALISTIC STANDARDS

ABOUT US

The Effects of Secondary Rodenticide Exposure on Non-Target Species at an Ontario Wildlife Rehabilitation Centre

Salthaven Wildlife Rehabilitation & Education Centre is located outside of London and possesses direct experience interacting with victims of rodenticide poisoning in Ontario cities. Salthaven volunteers admit and attempt to treat sick, injured, and/or orphaned wildlife patients. Founder Brian Salt participated in a Fall 2023 webinar on the topic of responsible pest management.

In cities, indirect rodenticide poisoning is often an overlooked issue. “From our perspective we see these animals that come in that have been incapacitated because of secondary rodenticide. It’s a very easy diagnosis. You look in a bald eagle’s mouth and it’s white because they’re bleeding internally. It’s a very painful slow death that oftentimes there’s nothing we can do to help them because they’re too far gone,” Salt stated.

Bald eagles, known for their strength, often show no signs of distress until it’s too late. “We use vitamin K,” Salt said, “which is a coagulant to offset the effects of the internal bleeding, but unless we can get them early enough, they don’t make it. By that point they’re in really deep and we save maybe one out of four.” The rest, too far gone, often require humane euthanasia to end their suffering.

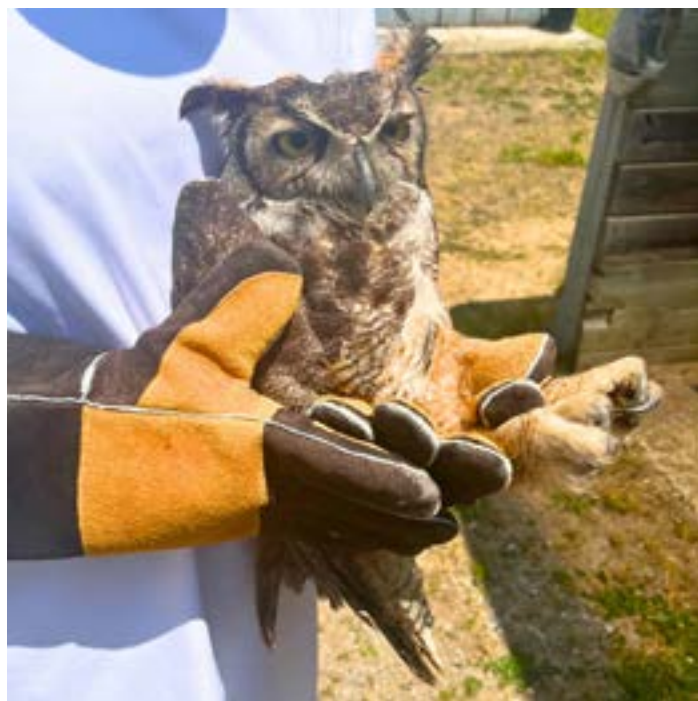
The problem extends beyond bald eagles. As Salt relates, many of Ontario’s native and at-risk species are in great danger of rodenticide poisoning. Staggering exposure statistics revealed in academic research from the United States and Canada highlight the widespread nature of the problem. Not limited to raptors, Salt claims that the issue “...affects other species such as family pets. As you know cats and dogs catch mice. The poison can exist in the environment for an incredibly long period of time so it’s there on a constant basis.”

Birds of prey, such as barn owls and bald eagles, play a crucial role in controlling rodent populations. A barn owl can eat over a thousand mice in a year, and a bald eagle can consume the same number of rats. Once poisoned, rodents become easy prey for predators, leading to their own poisoning. “We’re poisoning the very allies that are helping us in rodent population control,” adds Salt.

Salt insists that the problem is real and compounded by the fact that for every observed affected bird, “there’s probably 10 more of out there that we don’t see.” Great horned owls, especially in the London area, are heavily impacted, particularly in the spring when they are feeding their young. Eastern screech-owls, too, are quickly succumbing to rodenticide poisoning, often dying before they can be helped. According to Salt, it’s not just birds of prey that are affected. Lynx, bobcats, and foxes, which rely on rodents for food, are also at risk.

Exposure also carries sub-lethal effects. Rodenticide has been found in many animals killed by collisions, suggesting that the poison impairs their agility and alertness, making them more vulnerable to hazards. Salt finished by asserting, “There’s little doubt in my mind that it incapacitates them to a degree so that they’re not as agile or alert. Their ability to catch prey is diminished. Some of the hawks and owls that are brought to us are extremely underweight as their ability to be predators to rodents is compromised.”

The Salthaven Centre has previously spoken out on the effects of rodenticide poisoning of non-target species. Through publications on the organization’s website, trainers have told the stories of great horned owl and eastern screech-owl patients.



Found hunched over and disinclined to move away from humans, the great horned owl admitted in May of 2023 exhibited very large pupils and difficulty keeping his eyes open. During routine triage it was noted that the owl was emaciated, severely dehydrated, weak, quiet, and possessed a very pale mouth – a sign of internal bleeding. Despite the delivery of hydrating fluids and Vitamin K to promote clotting, the owl did not survive its poisoning, a typical result for many victims.



In March of 2022, an adult Eastern screech-Owl was admitted to Salthaven. Found in London's Springbank Park, the owl was exhibiting symptoms of secondary rodenticide poisoning: a pale mouth (indicating internal bleeding), neurological impairment, convulsions, and an inability to stand on its own. In this state, the owl was already beyond the point of efficacy of Vitamin K treatment upon arrival at Salthaven and required euthanization.

Salthaven believes that local communities can contribute in various ways to the conservation of wildlife and prevention of their death due to secondary rodenticide exposure. The first is educating others on the effects of rodenticides, their mechanisms of action, and other alternatives to rodent population control.

To this objective, it is important to reiterate that anticoagulant rodenticides contain chemicals that specifically interfere with the activation of vitamin K



within the blood – a critical mechanism necessary for the production of clotting factors – causing severe and spontaneous bleeding, leading to cardiovascular shock, and resulting in death. The rodents that become sick from the rodenticides become an easier target for predatory species. When predatory birds ingest any rodent infected by a rodenticide, the raptor's health is at risk.

In a 2022 study published by pathologists at the Canadian Wildlife Health Cooperative and the University of Guelph that assessed anticoagulant rodenticide exposure in predatory birds from Ontario found evidence of exposure in 12 different species. Great horned owls and red-tailed hawks were the most commonly exposed, ten and nine times more likely to exhibit rodenticide exposure than all other tested species. One or more anticoagulant was detected in 62 percent of the overall sample population. Of these, 42% indicated ingestion of multiple anticoagulant compounds.

Salthaven considers it their responsibility as a wildlife rehabilitation and education centre to educate members of the community and advocate recommended alternatives for our native species. By working purposefully together, we all can play a role in preventing anticoagulant rodenticides from affecting non-target species and maintaining natural mechanisms of rodent population control.

Photos courtesy of Salthaven Wildlife Rehabilitation & Education Centre



Anticoagulant rodenticide exposure in raptors from Ontario, Canada

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Abstract

Anticoagulant rodenticides (ARs) are used globally to control rodent pest infestations in both urban and agricultural settings. It is well documented that non-target wildlife, including predatory birds, are at risk for secondary anticoagulant exposure and toxicosis through the prey they consume. However, there have been no large-scale studies of AR exposure in raptors in Ontario, Canada since new Health Canada legislation was implemented in 2013 in an attempt to limit exposure in non-target wildlife. Our objective was to measure levels of ARs in wild raptors in southern Ontario to assess their exposure. We collected liver samples from 133 raptors representing 17 species submitted to the Canadian Wildlife Health Cooperative (CWHC) in Ontario, Canada, between 2017 and 2019. Liquid chromatography-tandem mass spectrometry (LC–MS/MS) was used to quantitatively assess the level of exposure to 14 first- and second-generation ARs. Detectable levels of one or more ARs were found in 82 of 133 (62%) tested raptors, representing 12 species. The most commonly detected ARs were bromadiolone (54/133), difethialone (40/133), and brodifacoum (33/133). Of AR-positive birds, 34/82 (42%) contained residues of multiple (> 1) anticoagulant compounds. Our results indicate that AR exposure is common in raptors living in southern Ontario, Canada. Our finding that brodifacoum, difethialone, and bromadiolone were observed alone or in combination with one another in the majority of our sampled raptors indicates that legislative changes in Canada may not be protecting non-target wildlife as intended.

Keywords Anticoagulant rodenticide · Brodifacoum · Bromadiolone · Difethialone · Raptors · Wildlife

Introduction

Rodenticides are used in both agricultural and residential settings to control pest rodent populations. While intended for use on pest species, rodenticides work indiscriminately and can affect target and non-target species that eat the poisoned baits or the carcasses of dead rodents. They therefore pose a risk to wildlife, including both mammalian and avian scavengers and predators (Erickson and Urban 2004).

Although there are a number of different active chemicals used in rodenticides, including zinc phosphide, bromethalin, cholecalciferol, and strychnine (Erickson and Urban 2004), anticoagulant rodenticides are used most commonly (Elliott et al. 2016). Poisoning by anticoagulant rodenticides (ARs) may result in fatal hemorrhage by antagonizing vitamin K epoxide reductase (VKOR) which is necessary to maintain vitamin K in its active reduced form for subsequent carboxylation of the clotting factors II, VII, IX, and X (Pelfrene 1991). Anticoagulant rodenticide compounds accumulate in liver tissues and have variable half-lives (Vandenbroucke

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et al. 2008). First-generation anticoagulant rodenticides (FGARs), including warfarin, coumatetralyl, chlorophacinone, diphacinone, pindone, and valone, typically have a short half-life in blood plasma and liver tissue and a limited ability to bio-accumulate. Second-generation anticoagulant rodenticides (SGARs) were developed in the 1970s when evidence of FGAR resistance appeared in rodent populations (Thijssen 1995). Second-generation anticoagulant rodenticides include difethialone, brodifacoum, bromadiolone, flocoumafen, and difenacoum and are more acutely toxic than FGARs. SGARs also have longer half-lives in plasma and liver tissue, a greater tendency to bioaccumulate (Erickson and Urban 2004), and may be called “single-dose rodenticides,” as a lethal dose may be achieved in a single feeding.

Anticoagulant rodenticides are toxic to the animal that consumes them directly, and SGARs also bioaccumulate through the food chain, leading to secondary anticoagulant rodenticide exposure. While a rat may die from consuming a lethal dose of an AR, an owl that consumes multiple poisoned rats over its lifetime may face different consequences. Many non-target wildlife species, especially apex predators, are at risk of secondary AR exposure following consumption of poisoned prey, and secondary AR poisoning of non-target wildlife is reported globally and extensively (López-Perea and Mateo 2018). However, it is important to note that exposure does not equal disease, and the threshold of AR exposure prior to the development of clinical signs is variable between individuals and species. Although anticoagulant toxicosis and death are the commonly measured outcome resulting from AR exposure (Rattner et al. 2014b), there are also concerns about sublethal effects related to AR exposure in raptors. Measured effects include prolonged clotting time, decreased hematocrit, and gross and microscopic hemorrhage (Rattner et al. 2014a; Rattner et al. 2018). In captive wildlife, observed behavioral changes include anorexia, lethargy, and wing droop (Rattner et al. 2014a; Rattner et al. 2018). The sublethal effects of ARs in free-ranging wildlife are not known, although decreased egg-hatching and fledgling rates were observed in barn owls (*Tyto alba javanica*) (Naim et al. 2011) and hypothetical linkages relating the multiple-organ response to ARs with decreased fitness, decreased body condition, and increased susceptibility to disease are described (Rattner et al. 2014a).

Most previous studies of AR exposure in avian predators in Canada were conducted in British Columbia. These studies demonstrated both widespread AR exposure in raptors in that region of Canada (Albert et al. 2010; Hindmarch et al. 2019) and an overall increase in rodenticide use between 1995 and 2009 (Elliott et al. 2014). While anticoagulants remain one of the most popular methods of pest control, in 2013, Health Canada's Pest Management Regulatory Agency (PMRA) further restricted the use of SGARs in Canada to reduce the risk of AR exposure to children,

pets, and non-target wildlife (PMRA 2012a). Brodifacoum, bromadiolone, and difethialone were the three SGARs of greatest interest due to their widespread use and effects on non-target wildlife (Erickson and Urban 2004). Reports of SGAR exposure in Ontario wildlife are limited to the subset of great-horned owls (*Bubo virginianus*) and red-tailed hawks (*Buteo jamaicensis*) sampled by Thomas et al. (2011), and Ontario raptor exposure has not been evaluated since the 2013 changes in SGAR use. Our primary objective was to assess current levels of exposure of wild raptors to anticoagulant rodenticides in southern Ontario. In addition, we examined bird level factors that may be associated with AR exposure, including cause of death, bird type, and feeding ecology, on AR status in birds. If exposure dynamics are dominated by direct predation on rodents and predation on low level predators of rodents by apex predators, then we expect the risk of exposure to be driven by both trophic level and dietary preferences. We predicted that exposure to ARs should be greatest for large bodied apex generalists (e.g., great-horned owls and red-tailed hawks) that consume rodents and also consume smaller rodent predators. Specialists that rarely eat rodents and whose typical prey does not eat rodents (e.g., Cooper's hawks) would be expected to have lower risk of exposure. Finally, because AR use differs between rural and urban areas, based on the need for pest control and legal application methods, we investigated the relationship between land-use and AR status in birds.

Materials and methods

Liver samples were collected from raptor carcasses submitted to the Ontario/Nunavut region of the Canadian Wildlife Health Cooperative (CWHC) in 2017, 2018, and 2019. Submissions included raptors that were found dead or donated by a rehabilitation facility after the bird died while in care or from euthanasia. No birds were euthanized for the purposes of this study. Location data of where each specimen was collected was included on a standard CWHC submission form and was either provided as exact GPS coordinates, a street intersection, or the city name, in which case we used the GPS coordinates of city hall. Specimens submitted to the CWHC for general wildlife disease surveillance had a full post-mortem exam conducted by a veterinary pathologist to determine cause of death. A small subset of birds known to have died due to trauma were submitted specifically for this project and were chemically analyzed for the presence of AR residues but did not undergo a full post-mortem examination. A minimum of 5 g of liver was collected from each carcass and frozen at -25°C . Testing for West Nile virus (WNV) was conducted on all birds collected between June 1 and November 30 prior to further chemical analysis to ensure workplace safety of laboratory staff.

The Animal Health Laboratory, Laboratory Services, University of Guelph in Ontario, Canada, conducted chemical analysis using liquid chromatography-tandem mass spectrometry (LC–MS/MS) based on the extraction protocol described by Smith et al. (2017). We completed a quantitative analysis of 14 ARs, including first-generation anticoagulant rodenticides (FGARs), warfarin, chlorophacinone, coumachlor, coumafuryl, coumatetralyl, dicoumarol, diphacinone, pindone, and valone, and second-generation anticoagulant rodenticides (SGARs), brodifacoum, bromadiolone, difethialone, difenacoum, and flocoumafen in liver tissue. For tissue extraction, liver tissue (1.0 ± 0.1 g) was weighed and vortexed with 6 mL of 10% methanol in acetonitrile for 3 min and then spun down in a centrifuge for five minutes at 3,000 rpm. The tissue extraction was cleaned up using a QuEChERS (Quick Easy Cheap Effective Rugged Safe) clean-up process; the supernatant from the extraction was mixed with QuEChERS reagents, vortexed vigorously for 30 min, and spun down in a centrifuge for 5 min at 1932 g. The supernatant was dried under nitrogen in a 40 °C water bath and reconstituted in 1 mL of methanol. The solution was filtered through a 0.22- μ m syringe filter into an amber autosampler vial. The extract was analyzed using a LC–MS/MS consisting of a Shimadzu LC and Sciex 4000 Q Trap system. Separation was achieved using an Agilent Poroshell EC-C18 (2.7 μ m, 2.1 mm $\times$ 100 mm) column with a mobile phase gradient of 0.01 M ammonium acetate and methanol. Detection was by MS/MS with electrospray ionization in negative mode. Quantitation was achieved with a matrix matched calibration curve using warfarin- d_5 and diphacinone- d_4 as internal standards. The method detection limits are 1 ppb (0.001 μ g/g) for difethialone, dicoumarol, and coumafuryl; 2 ppb (0.002 μ g/g) for flocoumafen, difenacoum, chlorophacinone, and warfarin; 3 ppb (0.003 μ g/g) for coumachlor, pindone, and valone; 6 ppb (0.006 μ g/g) for bromadiolone, diphacinone; 14 ppb (0.014 μ g/g) for coumafuryl; and 19 ppb (0.019 μ g/g) for brodifacoum.

Data analysis

All statistical analysis was performed in STATA version 15.0 (STATA Corp, College Station, Texas, USA), and we used $\alpha = 0.05$ to determine significance in all statistical tests.

We generated four groups according to the feeding ecology of each bird species (NatureServe 2020) to examine the effects of prey base on AR-status of birds. Birds were classified under four categories: “generalist predator,” hunting both land and aerial prey of varying sizes (105/133, Table 1); “bird specialist predator,” hunting aerial prey (22/133, Table 1); “small rodent specialist predator,” hunting ground prey (3/133, Table 1); or “fish specialist” (3/133, Table 1). Due to sample size limitations, we were only able to compare generalist to bird specialist predators; we fitted

univariable logistic regression models to investigate the difference in the odds of being AR-positive (vs negative) between these two groups.

We generated three new groups to test for intra- and inter-trophic group differences and to compare great horned owls and red-tailed hawks, the most represented species in this study. The first two groups: (1) great horned owls ($n = 17$) and (2) red-tailed hawks ($n = 39$), both generalist predators, allowed us to compare intra-group exposure to ARs. The third group, (3) the “other” category ($n = 77$), combined all other species consisting of bird, fish, small rodent specialists, and generalist predators to allow inter-group comparison. We fitted univariable logistic regression models to investigate the difference in the odds of being AR-positive (vs negative) of these three groups, as well the influence of being a great horned owl as compared to a red-tailed hawk on being exposed to the ARs of greatest interest (brodifacoum, bromadiolone, difethialone). Further, for birds found to be AR-positive, we compared the odds of being diagnosed with multiple different ARs compared to one AR for the three groups.

We generated four new groups based on the identified cause of death for each bird, to investigate potential comorbidities between AR status and cause of death. The cause of death or morbidity was classified as “Disease” (58/133), “Toxin” (including AR- and lead-poisoning, 4/133), “Trauma” (40/133), and “Undetermined” (31/133). We used univariable logistic regression models to investigate the difference in the odds of being AR-positive (vs negative) between these groups. We also used logistic regression models to opportunistically investigate potential associations between AR exposure and West Nile virus infection status, by analyzing the odds of testing WNV-positive (87/133) for AR-positive birds compared to AR-negative birds. Due to previous work indicating that infection prevalence of WNV is greater for great horned owls and red-tailed hawks than other raptor species (Smith et al. 2018), we included the groups “great-horned owl,” “red-tailed hawk,” and “other” as a fixed effect in the WNV model.

We fitted univariable linear regression models to investigate the differences in mean detected levels of the three ARs of greatest interest (brodifacoum, bromadiolone, difethialone) between the groups “great horned owl,” “red-tailed hawk,” and “other”; to achieve homogeneity of variance and normality, we log-transformed the mean detected AR levels (the outcome for each model).

To investigate AR burdens from birds collected in different land-use areas, we used the human population size of the 2016 census subdivisions and delineations from Statistics Canada (2011). Carcass locations from the collected location data were mapped by QGIS version 3.6 (QGIS Geographic Information System, Open Source Geospatial Foundation Project) and then classified as originating from a non-urban

Table 1 Detection frequency of anticoagulant rodenticides in 17 raptor species submitted to the Canadian Wildlife Health Cooperative in Ontario, Canada, between 2017 and 2019

Species group	Species ^a		Feeding Category ^b	Number sampled	Birds with detected anticoagulant exposure
Hawks	Red-tailed hawk	<i>Buteo jamaicensis</i>	Generalist	39	34 (87%)
	Broad-winged hawk	<i>Buteo platypterus</i>	Generalist	2	1 (50%)
	Sharp-shinned hawk	<i>Accipiter striatus</i>	Generalist	3	0
	Cooper's hawk	<i>Accipiter cooperii</i>	Bird	13	10 (77%)
		Total		57	45 (79%)
Owls	Great horned owl	<i>Bubo virginianus</i>	Generalist	17	15 (88%)
	Snowy owl	<i>Bubo scandiacus</i>	Generalist	16	8 (50%)
	Boreal owl	<i>Aegolius funereus</i>	Generalist	1	0
	Northern saw-whet owl	<i>Aegolius acadicus</i>	Generalist	7	4 (57%)
	Barred owl	<i>Strix varia</i>	Generalist	12	4 (33%)
	Eastern screech-owl	<i>Megascops asio</i>	Generalist	3	2 (67%)
	Long-eared owl	<i>Asio otus</i>	Small rodent	2	0
	Short-eared owl	<i>Asio flammeus</i>	Small rodent	1	0
		Total		59	33 (56%)
Osprey	Osprey	<i>Pandion haliaetus</i>	Fish	3	0
		Total		3	0 (0%)
Falcons	Peregrine falcon	<i>Falco peregrinus</i>	Bird	5	1 (20%)
	American kestrel	<i>Falco sparverius</i>	Generalist	2	1 (50%)
	Merlin	<i>Falco columbarius</i>	Bird	4	1 (25%)
		Total		11	3 (27%)
Eagles	Bald eagle	<i>Haliaeetus leucocephalus</i>	Generalist	3	1 (33%)
		Total		3	1 (33%)
TOTAL				133	82 (62%)

^aShort-eared owl (*Asio flammeus*), peregrine falcon (*Falco peregrinus*), and bald eagle (*Haliaeetus leucocephalus*) are Ontario *Species of concern*

^bFeeding category assigned based on feeding ecology of each species (NatureServe 2020)

site (< 100,000 people) or large urban population ($\geq 100,000$ people) center (Statistics Canada 2011). We used univariable logistic regression models to compare the odds of testing AR-positive or positive for brodifacoum, bromadiolone, and difethialone in birds found in urban compared to rural census areas.

Results

Between 2017 and 2019, 133 samples were collected from 17 species of raptors across Ontario (Table 1, Fig. 1). Our study included four species of hawk (family Accipitridae), eight species of owls (family Strigidae), one osprey (the single member in its family Pandionidae and genus *Pandion*), three species of falcon (family Falconidae), and one species of eagle (family Accipitridae, subfamily Aquilinae) (Table 1). Evidence of exposure to ARs was detected in 12 species, with the highest proportion of positive samples detected in great horned owls (88%), followed by red-tailed

hawks (87%) (Table 1). AR prevalence was greatest in the hawk species group (Table 1).

The odds of great horned owls testing positive were 10 times greater compared to the grouped “other” species (Table 2); the odds of red-tailed hawks testing positive were nine times greater compared to the grouped “other” species (Table 2). No difference was identified between the odds of detecting an AR in great horned owls and red-tailed hawks. There was no difference in the odds of detecting an AR between “generalist predators” and “bird-specialist predators” (Online Resource 1).

Frequency of AR detections was as follows: 51 birds (38%) contained zero AR residue, 48 birds (36%) contained residue of one AR, 22 birds (17%) contained residue of two ARs, 11 birds (8%) contained residue of three ARs, and one bird (1%) contained residue of four ARs. The majority of tested raptors (82/133, 62%) contained detectable levels of one or more SGARs (Table 1). The most commonly detected AR was bromadiolone, followed by difethialone and brodifacoum (Table 3); the SGARs

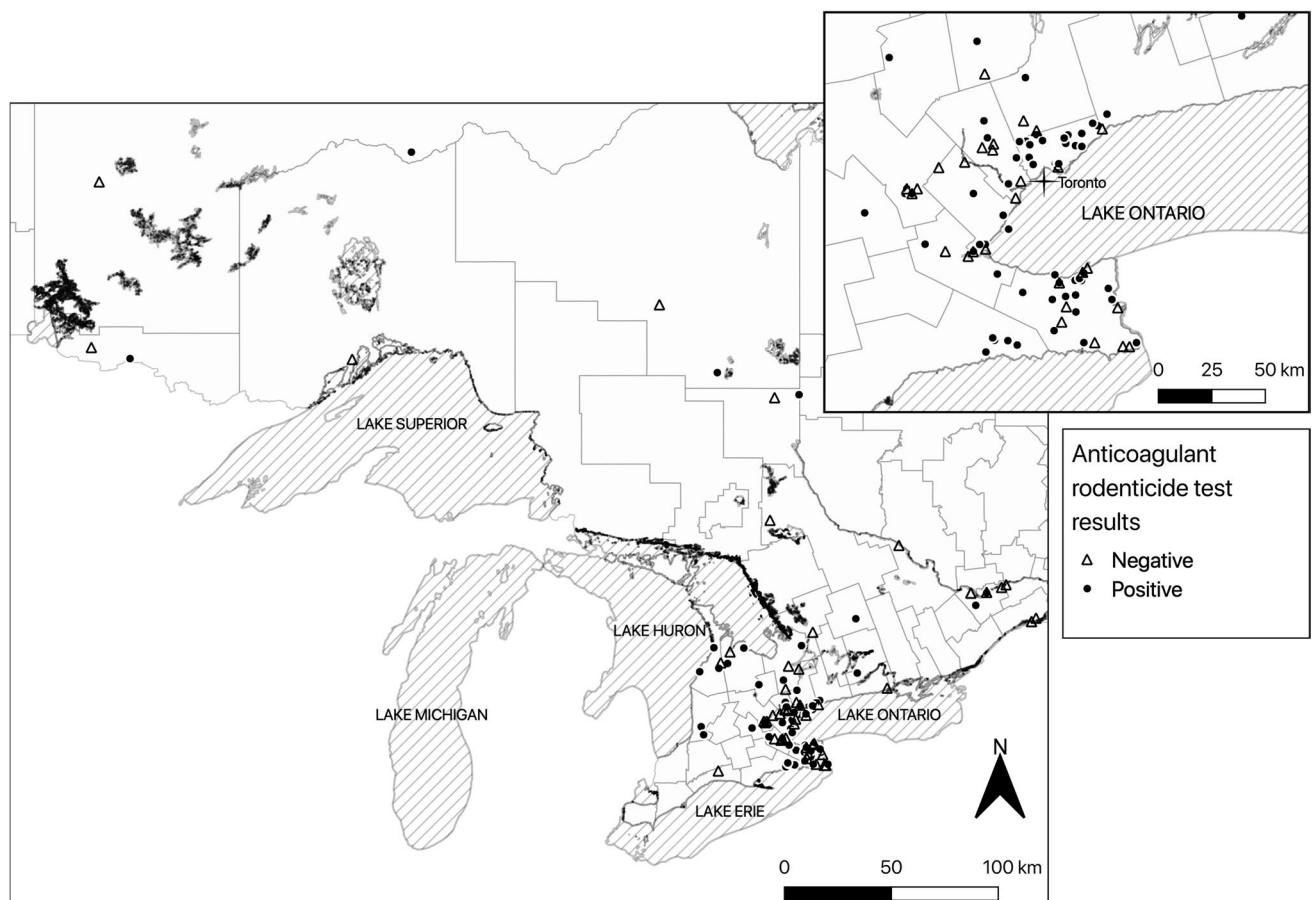


Fig. 1 Distribution and anticoagulant rodenticide test results of raptors submitted to the Canadian Wildlife Health Cooperative in Ontario, Canada, between 2017 and 2019. The inset map focuses on

submissions from the Greater Toronto and Hamilton area on the west end of Lake Ontario

Table 2 Univariable logistic regression models indicating the difference in odds of anticoagulant rodenticide (AR) detection in wild raptors submitted to the Canadian Wildlife Health Cooperative in Ontario, Canada, between 2017 and 2019

		Odds ratio	<i>p</i> value	95% CI	Walds χ^2
Odds of being AR-positive	Great horned owl <i>n</i> = 17	10	0.003	2.14–46.78	< 0.001
	Red-tailed hawk <i>n</i> = 39	9.07	< 0.001	3.20–25.69	
	Other bird species <i>n</i> = 77	Referent			
For AR-positive birds, the odds of detecting multiple AR residues	Great horned owl <i>n</i> = 17	5.33	0.013	1.43–19.94	0.042
	Red-tailed hawk <i>n</i> = 39	2.11	0.154	0.76–5.85	
	Other bird species <i>n</i> = 77	Referent			

difenacoum and flocoumafen were undetected. There was no difference in the likelihood of detecting bromadiolone, brodifacoum, or difethialone in great horned owls compared to red-tailed hawks (Online Resource 2). Detected AR levels ranged from 0.00126 to 0.52 $\mu\text{g/g}$ (Table 3); there were no significant differences in mean liver

concentrations of brodifacoum, bromadiolone, or difethialone between great horned owls, red-tailed hawks, and the other grouped species (Online Resource 3). Evidence of exposure to SGARs was detected more frequently in raptors than FGARs; only two raptors tested positive for residues of an FGAR: warfarin (0.089 $\mu\text{g/g}$) and coumatetralyl

Table 3 The detection frequency, mean residue level, and range of anticoagulant rodenticides detected in wild raptors submitted to the Canadian Wildlife Health Cooperative in Ontario, Canada, between 2017 and 2019

Active ingredient	Individual birds with detectable residue (N (%))	Number of species with detected residue (N)	Mean ($\mu\text{g/g}$)	Range ($\mu\text{g/g}$)
Difethialone	40 (30%)	8	0.067	0.00126–0.38
Brodifacoum	33 (35%)	9	0.085	0.019–0.52
Bromadiolone	54 (40%)	10	0.122	0.00642–0.45

Table 4 Final cause of death of raptors, and anticoagulant rodenticide detection status, and univariable logistic regression models indicating the difference in odds of detecting an AR associated with each cause of death in wild raptors submitted to the Canadian Wildlife Health Cooperative in Ontario, Canada, between 2017 and 2019 as compared to birds with an *undetermined* cause of death

Cause of death ^a	Number of individual raptors	≥ 1 ARs detected	> 1 AR detected
Trauma ^b	40 (30%)	27	13
Disease ^c	58 (44%)	35	14
AR poisoning	2 (1.5%)	2	1
Lead toxicity	2 (1.5%)	0	0
Undetermined	31 (23%)	18	6
Total	133	82	34

	Odds ratio	p value	95% CI
Trauma	1.5	0.414	0.57–3.97
Disease	1.1	0.835	0.45–2.67
AR poisoning or lead toxicity	0.72	0.76	0.09–5.81

^aAs determined by a veterinary pathologist^bTrauma includes motor vehicle collisions, window collisions, electrocution, and animal attacks^cDisease includes emaciation, aspergillosis, fungal pneumonia and air sacculitis, herpes virus, oral squamous cell carcinoma, multifocal encephalitis, trichomoniasis, West Nile virus, intestinal carcinoma, peritonitis, and biliary carcinoma with bile duct obstruction

(0.032 $\mu\text{g/g}$). The FGARs coumachlor, coumafuryl, coumatetralyl, dicoumarol, diphacinone, pindone, and valone were undetected.

Of AR-positive birds, 34/82 (42%) contained residues of multiple (> 1) anticoagulant compounds (Table 4). The odds of a positive great-horned owl containing residue of more than one AR was five times greater than the grouped “other” species (Table 2).

No difference was identified between the odds of detecting an AR in any of the mortality groups (Table 4). Using our opportunistically collected West Nile virus data, we determined that there was no significant association between testing AR-positive and testing WNV-positive based on the

multivariable logistic regression models, which included the variable for grouped species (Online Resource 4).

No difference was identified between the odds of a bird testing AR-positive by land-use classification (odds ratio = 1.68; CI = 0.83, 3.41; $p = 0.147$); however, the odds of detecting bromadiolone in a bird was greater for birds found in urban areas as compared to non-urban areas (odds ratio = 2.94; CI = 1.43, 6.05; $p = 0.003$). There was no difference in the odds of detecting brodifacoum ($p = 0.053$) or difethialone ($p = 0.336$) in birds found in urban areas as compared to non-urban areas.

Discussion

We detected similar overall prevalence of AR residues in raptors as reported globally (Stone et al. 2003; Albert et al. 2010; Thomas et al. 2011; Hughes et al. 2013; Geduhn et al. 2016; Lohr 2018), and we found ARs in the majority of species sampled. All taxonomic groups included in our study, except for osprey, tested positive for AR residues, further demonstrating that AR exposure in raptors in Ontario is common.

Hawk and owl species, particularly red-tailed hawks and great horned owls, had the highest prevalence of AR, which is not surprising given the rodent-heavy prey diet of both these generalist predators (Marti and Kochert 1995). Previous studies have reported higher hepatic SGAR concentrations in red-tailed hawks than great horned owls in New Jersey and lower hepatic SGAR concentrations in red-tailed hawks than great horned owls in Ontario (Stansley et al. 2014; Thomas et al. 2011). However, we found no difference in the likelihood of detecting an AR, detecting a specific AR compound, or detecting multiple AR compounds between red-tailed hawks and great horned owls. The large prey base and widespread distribution of red-tailed hawks and great horned owls throughout Canada may make them useful sentinels for ARs in the environment.

We detected higher mean liver residues of both bromadiolone and brodifacoum than Huang et al. (2016), as well as a higher maximum liver concentration of brodifacoum. When compared to the findings of Thomas et al. (2011), our overall maximum detected liver concentrations of bromadiolone and

brodifacoum were greater than those measured in red-tailed hawks, but lower than those detected in great-horned owls. Our range and maximum detected bromadiolone and brodifacoum liver concentrations was lower than that detected by Albert et al. (2010), though they did analyze samples spanning a 15-year period. Additionally, difethialone was previously only recorded in three species of owls in Canada (Albert et al. 2010; Thomas et al. 2011; Huang et al. 2016). Thomas et al. (2011) reported eight great horned owls with difethialone residue; in our study, we detected difethialone in 40 individual birds of eight different species. We also report higher difethialone residue concentrations across all species than the 0.003–0.03 µg/g wet-weight and 0.047 µg/g reported by Thomas et al. (2011) and Huang et al. (2016), respectively. Difethialone was present in about half of all birds that tested positive for ARs in our study; we observed higher prevalence, greater number of species affected, and higher detected residue concentration of difethialone compared to Thomas et al. (2011) and Huang et al. (2016). Assuming similar AR usage across provinces, our data indicates that difethialone exposure to non-target birds of prey in Ontario is likely increasing.

As of 2013, bromadiolone, brodifacoum, and difethialone are only licensed for commercial pest control, and additional stipulations include the use of protective bait boxes and baiting in areas not accessible to non-target wildlife, pets, and children (PMRA 2010, 2012a, 2012b). Notably, brodifacoum and difethialone, SGARs that may pose the greatest overall risk to non-target wildlife (Erickson and Urban 2004), are licensed for indoor commercial use only. However, since it is impossible to control the movement of wild rodents, ARs may move from the interior to the exterior of a building via a rodent prior to its death, therefore still exposing predatory animals (Elliot et al. 2016). Our data suggests that raptors are likely being exposed to ARs multiple times in their lives (as determined by the detection of multiple ARs within a single animal). As Lohr (2018) observed in Australian owls, the detection of SGARs only meant to be used by licensed professionals, in such high values, is of concern. Our findings that brodifacoum, difethialone, and bromadiolone were observed alone, or in conjunction with one another, in the majority of our sampled raptors, indicate that the legislative changes in Canada may not be protecting non-target wildlife as intended.

Further, while we detected no difference in the odds of testing AR-positive between birds found in urban vs rural census areas, there were significant differences between the odds of detecting bromadiolone between these areas. Our results suggest that birds found in more concentrated human-use areas, here categorized as “urban,” had greater odds of containing residues of bromadiolone than birds found in other areas. This may reflect differing application methods of ARs, different prey intake by the raptors, or a different

secondary poisoning pathway as a result of different hunting strategies between areas. However further research into the differences in secondary AR poisoning between areas of concentrated human habitation and other land use areas are needed to further inform regulations surrounding AR application methods.

Based on necropsy and LC–MS/MS findings, AR toxicosis was identified as the cause of death in only two (1.5%) raptors in this study; despite testing positive for AR residues post-mortem, the cause of death of most of the birds was not AR toxicosis. However, sublethal levels and effects of AR exposure are important because not all birds that are exposed to ARs are likely to receive a lethal dose (Newton et al. 1990). No clear biologically relevant levels of ARs for raptors have been defined in the literature, and without accurate toxicity parameters, we cannot postulate on the individual, population level, or ecological effects of AR exposure (Murray 2018; Quinn 2019). AR levels of concern to raptors vary wildly between species and anticoagulant compound (Rattner et al. 2011, 2014a; Nakayama et al. 2019). A “toxicity threshold” of 0.1 µg/g liver wet-weight derived from experimental toxicosis of barn owls (*Tyto alba*) (Newton et al. 1998, 1999) has been cited as a threshold for many raptor species and used to estimate exposure risks (Thomas et al. 2011) for lack of a more specific or representative value. Nevertheless, several birds in our study were found to have residual levels of ARs greater than 0.1 µg/g but were determined by post-mortem exam to have an unrelated cause of death. Most sublethal effects of rodenticides for exposed raptors originate from antagonism of the vitamin K-dependent clotting factors and manifest as coagulopathy. Changes in fitness are also observed, though the toxicity pathways for these changes are unknown (Naim et al. 2011; Rattner et al. 2014a; Rattner et al. 2018). The effect of these sublethal effects on survival in free-ranging populations is not clear, and we cannot add to this knowledge due to the design of our study. The difficulties of interpreting AR toxicity following secondary exposure are detailed in multiple publications, which all highlight similar themes. They include but are not limited to differences in AR compound potency, toxicokinetics, and residue accumulation in different species under different field conditions, multiple exposures, the potential for long-lasting effects of residue on toxicosis, and the importance of nutritional planes in AR metabolism and accumulation (Rattner and Harvey 2021). In addition, at the population level, we do not know what proportion of the population is actually compromised by AR exposure or how frequently and at what magnitude non-target predators and scavengers are being exposed to ARs if their diet does not include target species (Quinn 2019). Given the gaps in our knowledge, the current literature struggles to translate laboratory-based toxicology studies into real-world adverse effects and risks (Murray 2018; Quinn 2019). No-choice,

continuous exposure experimental conditions in toxicology trials, the effects of consuming multiple ARs (though assumed to be additive (Thomas et al. 2011)), and the understudied pharmacokinetics of ARs in predatory birds contribute to difficulties in completing practical ecological risk assessments (Rattner et al. 2018).

The detection of AR residues in species classified as “Special concern” as defined in Ontario legislation by the Ontario Ministry of Natural Resources (OMNR 2007) may be of particular conservation concern. Three of the raptor species designated “Special concern species” in Ontario were sampled in this study, and ARs were found in both bald eagles (*Haliaeetus leucocephalus*), and peregrine falcons (*Falco peregrinus*). The implications of anticoagulant rodenticide for threatened raptor conservation have been described in endangered Réunion marsh harrier (*Circus maillardi*) (Coeurdassier et al. 2019), with the main challenge being that this species has a limited breeding population, and increasing Réunion marsh harrier deaths attributed to ARs are mainly in these productive, adult birds. Correlations between AR concentrations and harrier breeding density were observed, with these birds most likely to breed in these resource-rich areas also the most likely to be exposed to ARs. Despite the lack of evidence supporting a toxicological mechanism between reproductive success and AR exposure (Naim et al. 2011; Quinn 2019), the death of a productive adult in any endangered population is a loss and should promote more investigation and careful integrated pest management planning.

The detection of AR in peregrine falcons and two other species of falcon is worth noting because the diet of these species does not generally include the target rodents of most AR pest control efforts. In addition, we found no difference in the odds of detecting AR residues in generalist versus bird-specialist predators, which we did not expect. Although the sample size of these species is small, it bolsters the findings of Thomas et al. (2011), who first reported AR residues in merlin (*Falco columbarius*) and American kestrel (*Falco sparverius*) in Canada. These species, as well as raptors within the genus *Accipiter*, like the Cooper’s hawk (*Accipiter cooperii*) (within which AR residue was also detected), primarily consume other bird species and aerial invertebrates (Scott 2016). Our findings of AR residues in these bird-specialist predators further illustrate that the environmental contamination of ARs is likely broader than previously thought (Nakayama et al. 2019). Evidence of brodifacoum in a songbird, carrion beetles (*Dermestes* spp.), and slugs (*Arion* spp.) (Elliott et al. 2014) implicate these species as sources of environmental contamination and support the poorly described additional pathways of secondary AR poisoning involving songbirds and invertebrates both directly feeding from rodenticide baits and consuming contaminated prey (Elliott et al. 2016; Vyas 2017).

Pathways of AR exposure in bald eagles are poorly understood, but as competitive and resourceful predators, it is currently postulated that the routes of exposure are multiple and complex, extending beyond the consumption of rodents (Hindmarch and Elliot 2018; Niedringhaus et al. 2021). A recent study of ARs in both bald and golden eagles across the USA over a 4-year period observed AR residues in 82% ($n = 133$) of tested birds (Niedringhaus et al. 2021). Though only 1/3 bald eagles in our study tested positive for AR residues, this may offer support for secondary AR exposure pathways involving aquatic ecosystems. Fish may be a large portion of the bald eagle diet. ARs are documented as entering the aquatic environment through contaminated wastewater following AR bait placement in sewers and via untreated stormwater overflow (Regnery et al. 2020). Documented bioaccumulation of in the liver of freshwater fish (Regnery et al. 2020) supports fish as one source of secondary exposure. However, we did not find AR residues in any of our sampled osprey, a species that solely predate on fish, and with the results of our study, cannot speculate further. This possible route of secondary AR exposure should be acknowledged when considering how to mitigate secondary exposure to non-target wildlife.

The data presented in this study suggests that the patterns of contamination extend beyond simply raptors consuming poisoned rodents. Pathways of secondary AR exposure involving invertebrates, non-predatory avian species, and aquatic ecosystems are not well understood, and further research is required. Surveys of pest control companies to understand their primary pest control responses, as has been done in other provinces (Hindmarch et al. 2018), may provide insight into the routes of secondary AR poisoning of raptors in Ontario. It is important to note that new legislation does not mean the compounds instantly stop being applied, and ARs purchased prior to legislative changes may still be owned and used by citizens. Illegal marijuana growing farms on California public lands have been suggested as sources of AR exposure for fishers (*Martes pennanti*) (Gabriel et al. 2012), providing evidence of suboptimal adherence to AR usage guidelines. Further information is needed to avoid speculation and better inform and enforce policy in the future.

Moving forward, it would be beneficial to expand the geographical scope of this research. The majority of samples for this study were collected from southwestern Ontario, which reflects the opportunistic nature of sample collection through the CWHC. We rely on carcass submission from the public so it is not unexpected that our submission area corresponds to areas of high human population density and areas with increased local-awareness of the CWHC’s wildlife health monitoring projects. In addition, examining only deceased individuals inherently biases the sample set of the population by excluding asymptomatic living individuals;

however, a live-capture study was beyond the scope of this project. Even with this limitation and with a relatively small number of samples, we were able to demonstrate common and widespread exposure to AR in Ontario's raptors.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11356-022-18529-z>.

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Author contribution All authors contributed to the study conception and design. Data collection was performed by Grace L. Thornton and Brian Stevens. Laboratory and data analysis were performed by Grace L. Thornton, Shannon K. French, Leonard J. Shirole, Felipe Reggeti, and Nick Schrier. The first draft of the manuscript was written by Grace L. Thornton, and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

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Data availability The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate All sampling was conducted on opportunistically collected and donated deceased animals, so no ethics approval is required. No animals were harmed for the purposes of this study.

Consent for publication Not applicable.

Competing interests The authors declare no competing interests.

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Rodenticide contamination of cormorants and mergansers feeding on wild fish

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Abstract

Exposure of wildlife to anticoagulant rodenticides from sewer baiting and bait application is poorly understood. We analyzed residues of eight anticoagulant rodenticides in liver samples of 96 great cormorants, 29 common mergansers, various fish species, and coypu, in different German regions. Results show that hepatic residues of anticoagulant rodenticides were found in almost half of the investigated cormorants and mergansers due to the uptake of contaminated fish from effluent-receiving surface waters. By contrast, exposure of coypu to rodenticides via aquatic emissions was not observed. The maximum total hepatic anticoagulant rodenticide concentration measured in waterfowl specimens was 35 ng per g based on liver wet weight. Second-generation anticoagulant rodenticide active ingredients brodifacoum, difenacoum, and bromadiolone were detected almost exclusively, reflecting their estimated market share in Germany and their continuing release into the aquatic compartment. Overall, our findings reveal that second-generation anticoagulant rodenticides accumulating in wild fish are transferred to piscivorous predators via the aquatic food chain.

Keywords Biocides · Bioaccumulation · Biomonitoring · Persistence · Secondary poisoning

Introduction

Exposure of wildlife to anticoagulant rodenticides via the terrestrial food web is a well-known and documented environmental issue (van den Brink et al. 2018). Less documented, however, are anticoagulant rodenticide emissions to the aquatic environment and the likely transfer of persistent, bioaccumulative, and toxic second-generation anticoagulants such as brodifacoum along the aquatic food chain (Regnery et al. 2019a, 2020). Two recent studies from Germany (Regnery et al. 2024) and Pennsylvania, North America (Facka et al. 2024) clearly reinforced the relevance of previously neglected aquatic exposure pathways (Lemarchand et al. 2014). Both studies frequently detected residues of anticoagulant rodenticides in primarily piscivorous mammalian predators, Eurasian otter (*Lutra lutra*) and river otter (*Lontra canadensis*), despite the nowadays strictly regulated sale, supply, and use of rodenticides (Facka et al. 2024; Regnery et al. 2024).

As transfer and fate of anticoagulant rodenticides in the aquatic food web are not yet fully disclosed, our biomonitoring study aimed at providing further experimental evidence concerning the exposure of piscivorous predators to

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second-generation anticoagulant rodenticides via their prey in densely inhabited landscapes, such as Germany. Hence, we analyzed liver samples of 125 specimens of two exclusively piscivorous avian predators, great cormorant (*Phalacrocorax carbo*) and common merganser (*Mergus merganser*), as well as 41 liver samples of various freshwater fish species from different German regions (Bavaria, Rhineland-Palatinate, Saxony, Lower Saxony) regarding residues of all eight active ingredients used in biocidal anticoagulant rodenticides in Germany. Moreover, liver samples of 42 specimens of a semi-aquatic living, mammalian herbivore (coypu (*Myocastor coypus*)) from Lower Saxony, a region with previously documented rodenticide burden in otters (Regnery et al. 2024), were analyzed to compare their risk of exposure versus that of piscivores. We hypothesized that exposure of aquatic top predators to anticoagulant rodenticides is diet-driven, and coypu, unlike cormorants and mergansers, are thus less likely to be exposed. Chemical analyses were accompanied by post-mortem examinations of cormorant and coypu carcasses.

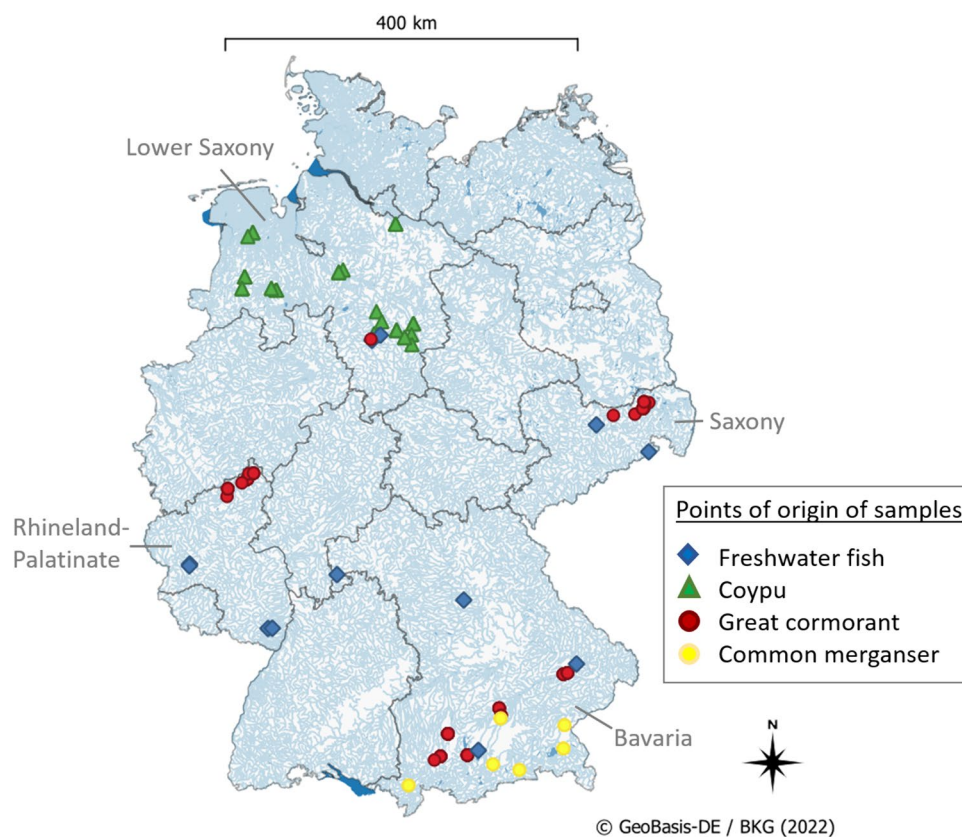
Experimental

Piscivorous waterfowl

The randomly investigated 96 great cormorants (*P. carbo*) from southern (Bavaria, $n = 50$), western (Rhineland-Palatinate, $n = 21$), north-western (Lower Saxony, $n = 1$), and eastern (Saxony, $n = 24$) parts of Germany (Fig. 1) belonged to the continental subspecies *P. carbo sinensis*. All cormorants had been shot near surface waters for nature conservation reasons based on state-specific species protection exception regulations between 2020 and 2023 (outside breeding season) and their carcasses were provided for post-mortem examination. In Germany, *P. carbo sinensis* inhabits the coastal areas as well as inland surface waters, with breeding occurrences in suitable habitats. Outside breeding season, encountered individuals can be sedentary birds, partial migrants, or migratory birds, respectively, as the Baltic Sea population generally migrates overland and winters from southern Germany to North Africa. Due to their vast foraging grounds and high mobility (cormorants may roam widely during the day and visit multiple feeding waters), exact origins of their fish prey cannot be determined with certainty.

Twenty-nine liver tissue samples of common mergansers (*M. merganser*) were received from an on-going

Fig. 1 Location of 208 samples of fish, coypu, cormorant and merganser analyzed for liver tissue. Please note that specimens originating from the exact same location are not illustrated by individual symbols



research project (FKZ A/20/03) about deterrence measures for nature conservation by Technical University of Munich, Wildlife Biology and Management Unit in collaboration with the Bavarian State Research Center for Agriculture, Institute for Fisheries. Adult birds had been culled at 6 selected stream sites in southern Germany (Fig. 1) in early spring 2023 (prior to the start of breeding season). In southern Bavaria, the common merganser lives as a sedentary bird year-round, with additional individuals passing through during winter months. Similar to cormorants, their prey consists primarily of small fish the size of 10–15 cm, which they hunt by diving in open surface waters. Thus, their foraging grounds generally overlap with those of great cormorants.

Freshwater fish

Freshwater fish sampling sites (Fig. 1) were in the broader vicinity of potential foraging grounds of analyzed cormorants and mergansers and included two streams each in Lower Saxony (Innerste, Leine) and Rhineland-Palatinate (Moselle, Queich), one stream in Saxony (Elbe), as well as one lake (Starnberger See) and three streams (Main, Isar, Pegnitz) in Bavaria. Individual ($n = 35$) and pooled ($n = 6$) liver tissue samples of species from different trophic levels such as common nase (*Chondrostoma nasus*), bleak (*Alburnus alburnus*), roach (*Rutilus rutilus*), chub (*Squalius cephalus*), brown trout (*Salmo trutta* f. *fario*), perch (*Perca fluviatilis*), pike (*Esox lucius*), pike-perch (*Sander lucioperca*), and European catfish (*Silurus glanis*) were kindly provided by the Bavarian Environment Agency, the Lower Saxony Water Management, Coastal and Nature Protection Agency, the Structural and Approval Directorate South (Upper Fisheries Authority) Rhineland-Palatinate, and the River Basin Community Elbe. The majority of liver tissue samples originated from fish caught between 2019 and 2023 during European Water Framework Directive biota monitoring campaigns.

Semi-aquatic living rodent

M. coypus, a semi-aquatic, invasive alien species with a plant-based diet, is classified as huntable game in most German federal states. A total of 42 coypu carcasses were obtained for post-mortem investigations from 17 different surface water locations in Lower Saxony (Fig. 1), at which coypu had been culled by hunters within the exercise of hunting rights between November 2020 and April 2021. Coypu are mainly nocturnal and crepuscular, respectively, and tend to stay along banksides during foraging.

Post-mortem investigation

Great cormorant carcasses from Saxony were examined according to routine procedures at the Museum of the Westlausitz Kamenitz, whereas cormorant carcasses from Rhineland-Palatinate and Bavaria were handled at the Bavarian Environment Agency. Post-mortem examination of coypu carcasses and the single great cormorant from Lower Saxony was conducted at the Institute for Terrestrial and Aquatic Wildlife Research, University of Veterinary Medicine Hannover, Foundation. Recorded parameters for both species included biometric data, sex, estimated age, and nutrition status. For several specimens, the stomach content was also exemplarily recorded. Freezing of the carcasses prior to examination had prevented adequate blood sampling to screen for acute anticoagulant rodenticide poisoning characterized by coagulopathy. All sampled liver tissue was immediately frozen and shipped express on ice to the Federal Institute of Hydrology laboratory for chemical analyses.

Analytical methods and data analysis

Established analytical methods (Regnery et al. 2019b, 2024) were used for the quantitative chemical analysis of one pharmaceutical (phenprocoumon) and 8 biocidal (brodifacoum, bromadiolone, difenacoum, difethialone, flocoumafen, coumatetralyl, chlorophacinone, warfarin) anticoagulant active ingredients in liver tissue samples by liquid chromatography–tandem mass spectrometry. Method performance parameters for investigated species such as average recovery rates, method quantification limits, and estimated expanded measurement uncertainties are summarized in Tables S1–S3 (Supplementary Material) or already provided elsewhere (Regnery et al. 2019b, 2024). All reported analyte concentrations in liver tissue are based on wet weight. In addition, total hepatic lipid content of selected specimens was determined as described in Regnery et al. (2019b). Whenever total anticoagulant rodenticide concentrations are discussed in the following, residues of biocidal anticoagulants had been summed for each specimen, i.e., at least one of eight active ingredients detected above its respective method quantification limit, zero assigned for values below these limits. OriginPro, version 2021b (OriginLab Corporation, Northampton, MA, USA) was used for graphing and nonparametric Kruskal–Wallis analysis. Statistical difference was considered significant when $p < 0.05$.

Results and discussion

Age, sex, and body condition of examined specimens

The majority of investigated cormorants (i.e., 44 juveniles, 52 adults) was well nourished. Their determined total hepatic lipid contents were in the range of $2.7 \pm 1.3\%$ (in mergansers $5.0 \pm 0.5\%$). The average body weights of female ($n=34$) and male ($n=61$) cormorants were 2182 ± 336 g and 2570 ± 321 g, respectively. Almost all cormorants had numerous nematodes in their gastrointestinal tracts. While stomach contents mainly consisted of small fish the size of 7–15 cm total length, a few larger fish up to 26 cm total length were also found. Identified ingested fish species were carp (*Cyprinus carpio*), chub, roach, and perch. The health condition of investigated coypu was predominantly good. Approximately two thirds were well nourished and observed stomach contents were considered typical for this herbivorous species. The

average body weight of investigated coypu (i.e., 16 juveniles, 26 adults) was 3732 ± 1591 g for females ($n=18$) and 4651 ± 1798 g for males ($n=23$). Determined total hepatic lipid contents were in the range of $3.2 \pm 0.6\%$.

Measured hepatic second-generation anticoagulant rodenticide residues

Overall, 46 out of 96 cormorants (47.9%) from all four regions exhibited quantifiable anticoagulant rodenticide residues in their livers, mostly from 1–2 second-generation anticoagulant rodenticide active ingredients with a maximum total anticoagulant rodenticide burden of 35.1 ng/g (Fig. 2). Concentrations measured in males and females indicated no statistical difference (Kruskal–Wallis test, $H(1)=0.342$, $p=0.559$). Brodifacoum was detected in 39 (max. concentration of 27.6 ng/g), difenacoum in 23 (max. 7.5 ng/g), and bromadiolone in 3 (max. 2.3 ng/g) specimens, respectively. Coumatetralyl was solely detected in one cormorant liver tissue sample at very low concentration (0.18 ng/g), corroborating the lesser bioaccumulation potential of first-generation

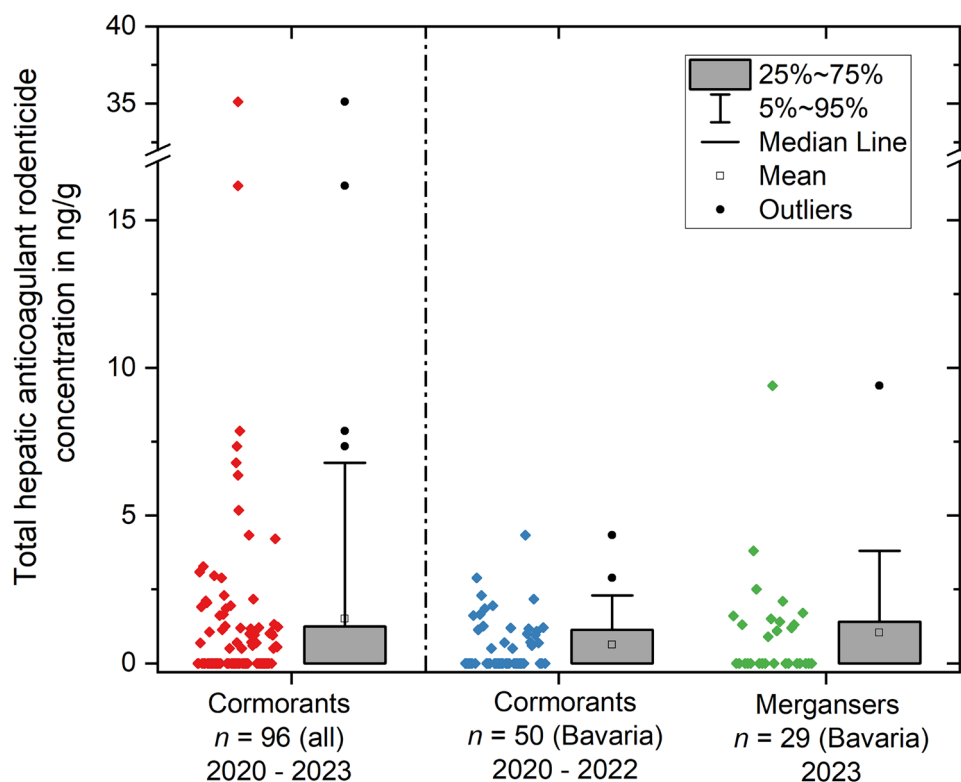


Fig. 2 Box plots of measured total anticoagulant rodenticide residue concentrations in liver tissue samples of investigated cormorants and mergansers from different German regions that had been shot near surface waters between 2020 and 2023. Residues of detected bioactive anticoagulants had been summed for each specimen, zero was assigned for values below the respective method quantification limits. Overall, 46 out of 96 cormorants (47.9%) and 13 out of 29 mergan-

sers (44.8%) exhibited quantifiable anticoagulant rodenticide residues in their livers, mostly from 1 to 2 second-generation anticoagulant rodenticide active ingredients with a maximum total anticoagulant rodenticide burden of 35.1 ng/g based on wet weight. Rodenticide residue concentrations were not significantly different among groups, i.e., among all cormorants and cormorants and mergansers from Bavaria (Kruskal–Wallis test, $H(2)=0.773$, $p=0.679$)

anticoagulant rodenticides. In good agreement with findings from cormorants shot near Bavarian surface waters (Fig. 2), hepatic anticoagulant rodenticide residues were also detected in 13 out of 29 mergansers (44.8%), mostly from one second-generation active ingredient. Brodifacoum was detected in 12 specimens (max. concentration of 9.4 ng/g), bromadiolone in 2 (max. 1.6 ng/g), and difenacoum in one (0.5 ng/g), respectively. Residue levels of brodifacoum, difenacoum, and bromadiolone were not related to hepatic total lipid contents. Flocoumafen, difethialone, chlorophacinone, warfarin, and the pharmaceutical anticoagulant phenprocoumon were not detected above their respective method quantification limits in the analyzed waterfowl liver samples.

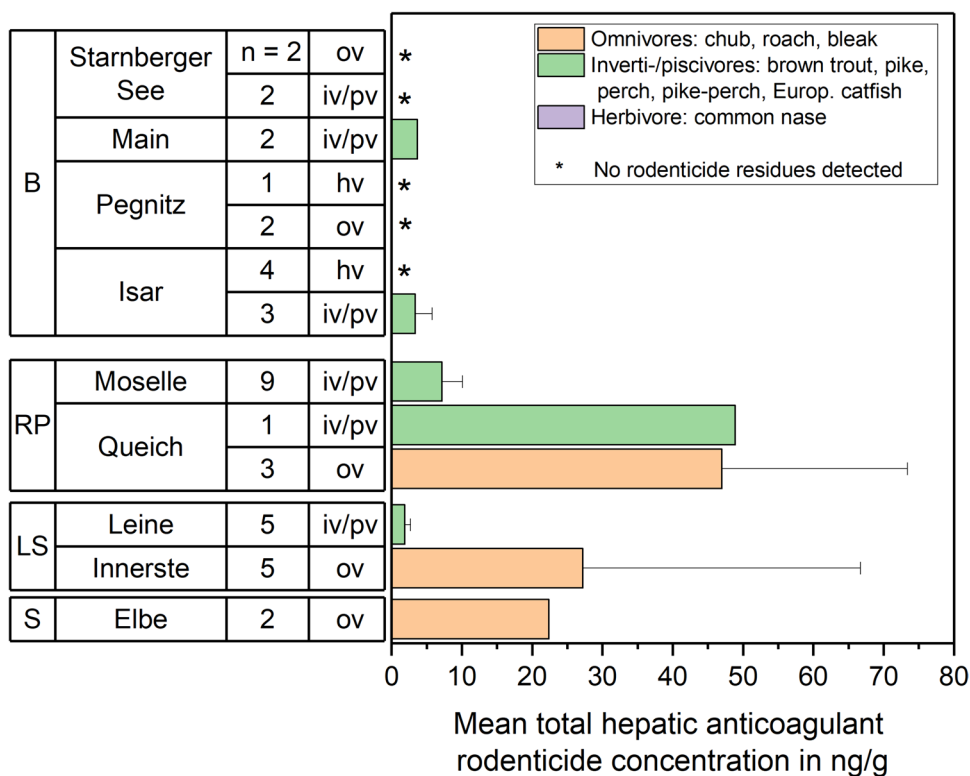
In contrast, solely one adult coypu exhibited elevated residues of 135.4 ng/g difenacoum in its liver, together with traces of a second active ingredient (1.1 ng/g brodifacoum). It should be emphasized that none of the biocidal and pharmaceutical anticoagulants were detected in any of the other 41 analyzed coypu. Thereof were 3 specimens that had been culled at the same location as the exposed one. In wild freshwater fish, measured total hepatic anticoagulant rodenticide concentrations (Fig. 3) matched previous records of rodenticides in fish from these effluent-receiving streams, e.g., Main, Isar (Regnery et al. 2019b), Elbe (Kotthoff et al. 2019), Moselle, Queich (Regnery et al. 2020), illustrating the continued emission of rodenticides from sewer baiting and outdoor surface baiting into the aquatic compartment. Their absence in fish from Starnberger See, an effluent-free

lake, was also in good agreement with previous records (Regnery et al. 2019b). Highest total hepatic second-generation anticoagulant rodenticide levels in fish (mainly brodifacoum) of 74.5 ng/g (roach, 26 cm total length) and 95.6 ng/g (chub, 30.5 cm total length) were detected at two stream sites in Rhineland-Palatinate (Queich) and Lower Saxony (Innerste), respectively. At both sites, sewer baiting measures using baits deployed by wire in combined sewer systems had been carried out shortly before fish sampling campaigns, according to released public press communications.

Diet-driven exposure risk

As mentioned earlier, the exact origins of the waterfowl's ingested fish prey, and thus second-generation rodenticide residues, were unknown. Four cormorant individuals shot at surface waters in Bavaria had been tagged in Latvia, Finland, Switzerland, and Northern Germany, respectively. The limited and unforeseeable availability of biological tissue samples from protected species did not allow for strategic collection of corresponding predator and prey samples to ascertain full spatial and temporal overlap. Moreover, the prey composition of cormorants usually depends on what fish can be caught at all, or with as little effort as possible, rather than a strong preference for certain fish species (Keller 1998). Yet, the continuous presence of hepatic second-generation anticoagulant rodenticides in fish from effluent-receiving streams in the vicinity of foraging grounds of analyzed cormorants

Fig. 3 Mean total anticoagulant rodenticide residue concentrations in liver tissue samples ($n = 41$) of different herbivorous (hv), omnivorous (ov), and inverti-/piscivorous (iv/pv) fish species from multiple surface water sampling sites located in Bavaria (B), Rhineland-Palatinate (RP), Lower Saxony (LS), and Saxony (S). Concentrations of detected biocidal anticoagulants, based on liver wet weight, had been summed for each specimen. Specimens were grouped by feeding-type, which presumably is a determining factor in second-generation anticoagulant rodenticide uptake. Where applicable, the relative standard deviation of mean values is shown. Highest total hepatic second-generation anticoagulant rodenticide levels in fish were observed at two stream sites (Queich, Innerste) with nearby sewer baiting



and mergansers demonstrates that exposure of piscivorous avian predators occurs via their fish prey. Residue levels in the analyzed waterfowl also clearly reflected current use patterns and the market dominance of brodifacoum, difenacoum, and bromadiolone containing biocidal products in Germany (Regnery et al. 2024). Another unequivocal indication was the absence of low-level anticoagulant rodenticide residues in coypu from Lower Saxony, a region previously known for pronounced anticoagulant rodenticide use and thus frequent detection in otters (Regnery et al. 2024). As pointed out in a recent review, including species from a diversity of trophic levels during biomonitoring is very helpful to comprehend exposure pathways (Keating et al. 2024). Primary exposure to difenacoum-containing bait was deemed most plausible to explain the elevated concentration detected in one adult coypu. Although their body size should prevent them from directly accessing tamper-resistant bait station, loose grain bait may be attractive for coypu when accessible. For instance, when baits are spilled from bait stations deployed near banks or deliberately offered.

Primary exposure of cormorants and mergansers to rodenticide bait, on the other hand, is considered extremely unlikely. The seemingly low hepatic rodenticide levels of investigated piscivorous waterfowl (Fig. 2) compared to reported secondary poisoning levels in predatory wildlife of the terrestrial food web (van den Brink et al. 2018) can most likely be explained by the absence of residues in fish from fish rearing ponds and surface waters without wastewater-borne rodenticide emissions (Regnery et al. 2019b; Kotthoff et al. 2019) that are frequently visited by cormorants during foraging (Keller 1998). Additional factors concerning piscivorous avian predators, such as the regurgitation of food if alarmed and a higher body temperature compared to mammals, may play a role too in terms of bioaccumulation and biotransformation (Kuo et al. 2022). The absence of second-generation anticoagulant rodenticides in 5 liver samples of common nase, a predominantly herbivorous fish species, also suggests that the foraging strategy is a determining factor in second-generation anticoagulant rodenticide uptake in the aquatic food web, e.g., such as the diversity and complexity of diets. Other fish caught at the same time at the Isar sampling site exhibited hepatic rodenticide residues in comparison (Fig. 3). However, more research (and data) will be required for a sound statistical assessment of such complex food web relationships.

Conclusion

Extensive knowledge and understanding of actual exposure pathways of biocidal anticoagulant rodenticides is essential to improve environmental exposure and risk

assessments, and consequentially risk mitigation measures for the aquatic environment. Our biomonitoring study demonstrated that piscivorous avian predators in anthropogenically influenced landscapes are exposed to second-generation anticoagulant rodenticides via their fish prey. Transfer of second-generation active ingredients along the aquatic food chain was thus confirmed. Without doubt, future improvements of regulatory measures concerning biocides will be required to mitigate the yet unknown consequences for aquatic wildlife from the nowadays almost exclusive application of second-generation anticoagulant rodenticides during chemical rodent control.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s10311-024-01762-y>.

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Author contributions Julia Regnery: Conceptualization, Validation, Formal analysis, Investigation, Writing—original draft, Funding acquisition; Hannah Schmieg: Data curation, Investigation, Writing—review & editing; Hannah Schrader: Data curation, Investigation, Writing—review & editing; Olaf Zinke: Data curation, Writing—review & editing; Friederike Gethöffer: Data curation, Investigation, Writing—review & editing; Sarah-Alica Dahl: Data curation, Writing—review & editing; Mario Schaffer: Data curation, Writing—review & editing; Julia Bachtin: Investigation, Writing—review & editing; Christel Möhlenkamp: Investigation, Writing—review & editing; Anton Friesen: Conceptualization, Writing—review & editing, Supervision.

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Data availability Data will be made available on request.

Code availability Not applicable.

Declarations

Conflict of interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Ethical approval Not applicable.

Consent to participate Not applicable.

Consent for publication Not applicable.

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Active metabolite of the neurotoxic rodenticide bromethalin along with anticoagulant rodenticides detected in birds of prey in the northeastern United States[☆]

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ABSTRACT

Little is known about the ecologic fate of the neurotoxic rodenticide bromethalin, which is currently registered for use in the United States, Canada, and other countries including Australia. There is minimal research on bromethalin's potential to cause secondary toxicosis in nontarget wildlife. The aim of this study was to evaluate adipose tissue in four species of birds of prey presented to a wildlife clinic in Massachusetts, USA, for desmethylbromethalin (DMB), the active metabolite of bromethalin. Birds were also screened for anticoagulant rodenticides (ARs) in liver tissue to present a more complete picture of rodenticide exposures in this geographic area and to evaluate the impact of current mitigation measures in place during the time of sampling, 2021–2022. A total of 44 hawks and owls were included; DMB was found in 29.5% of birds and ARs were present in 95.5%. All birds with DMB detections also had residues of ARs. Among birds positive for ARs, 81% had two or more compounds. To the authors' knowledge the data presented here represent the first published monitoring study to document bromethalin/DMB bioaccumulation in obligate carnivores. As DMB is a more potent neurotoxicant than its parent compound, these results are cause for concern and an indication that further monitoring and study of the potential risk of bromethalin to wildlife species is needed. These findings have global implications as increasing concern regarding exposure to and toxicosis from ARs in nontarget wildlife worldwide leads to a search for alternatives and effective mitigation approaches.

1. Introduction

The risk of bioaccumulation and secondary toxicosis in predatory and scavenging wildlife from anticoagulant rodenticides (ARs), which interfere with blood clotting and can cause fatal hemorrhage, is well understood and has been documented in multiple countries due to their extensive use (López-Perea and Mateo, 2018). The neurotoxic rodenticide bromethalin is currently not utilized as widely globally as ARs, but along with the United States and Canada, other countries also have registered products containing bromethalin, including Australia. In the United States, following an Environmental Protection Agency (US EPA) regulatory decision in 2008 intended to decrease access to the second-generation ARs (SGARs) among nonprofessional users, some general-consumer oriented products changed their active ingredients from an SGAR to bromethalin. In addition to being available on the

general consumer market, bromethalin is employed by pest management professionals (Murray, 2017).

Bromethalin is a single feed rodenticide which is rapidly converted to the active metabolite desmethylbromethalin (DMB) after ingestion. The mechanism of action of both compounds is the uncoupling of the metabolic process of oxidative phosphorylation, which causes a decrease in adenosine triphosphate production and subsequent disruption of sodium-potassium gradient regulation within cells. The resulting osmotic imbalance and accumulation of fluid within the central nervous system leads to the development of severe acute neurologic signs and death at lethal doses or, at sublethal doses, to more slowly progressive neurologic signs followed by mortality or recovery (van Lier and Cherry, 1988; Dorman et al., 1990a, 1990b). The active metabolite DMB is a more potent uncoupler of oxidative phosphorylation than its parent compound (van Lier and Cherry, 1988). The LD₅₀ of bromethalin has

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been established for various species, including rats (2.0 mg/kg), mice (5.3 mg/kg), dogs (4.7 mg/kg), cats (1.8 mg/kg), rabbits (13.0 mg/kg), and quail (4.6 mg/kg). Guinea pigs appear resistant to bromethalin toxicosis, which is suspected to be due to an inability to metabolize bromethalin to DMB, as Guinea pigs administered DMB showed typical signs of toxicosis, supporting the toxicity of this metabolite (van Lier and Cherry, 1988). The LD₅₀ of bromethalin in wildlife species is unknown.

Bromethalin exposures via detection of DMB, potential signs of toxicosis, and confirmed mortalities have been reported in several nontarget mammalian wildlife species in the United States and Canada (Bautista et al., 2014; McMillin et al., 2016; Cox et al., 2022). In some of these incidents, primary ingestion of bait was determined to have been the route of exposure by the presence of bait in the GI tract or was assumed due to the animal's natural history and diet. Direct ingestion of bait cannot be ruled out in any of the species as none are obligate carnivores.

There is minimal experimental evidence for or against the ability of bromethalin or DMB to bioaccumulate in predatory species and cause toxicosis via secondary ingestion of prey (Mastrota and Wolf, 2016). A bromethalin metabolism study in rats found the terminal elimination half-life following a single administered dose to be approximately 5.6 days; DMB was the primary metabolite in tissue and was the main circulating radioactive material for the first 100 h after administration (van Lier and Cherry, 1988). Due to its transformation to this more toxic metabolite and its ability to persist in tissue, a US EPA risk assessment concluded that bromethalin has the potential to cause secondary toxicosis in a predator that feeds on an animal that had consumed the bait a few days prior (Mastrota and Parker, 2011). The authors of the study presented here recently documented exposure to DMB in a bald eagle (*Haliaeetus leucocephalus*) that displayed neurologic signs consistent with bromethalin toxicosis in mammalian species (Murray and Cox, 2023). While bromethalin toxicosis could not be definitively proven in this case report, the exclusion of the most likely other causes of consistent signs and acute death in this eagle supports the possibility.

To the authors' knowledge, there are no prior published monitoring studies evaluating nontarget obligate carnivores for residues of bromethalin or DMB. The objective of the study reported here was to screen birds of prey presented to a wildlife clinic in Massachusetts, USA, for DMB in adipose, which is the tissue of choice given the lipophilic nature of DMB (Bautista et al., 2014; Romano et al., 2018). While it was not a primary objective to compare DMB residues among different tissues, liver, kidney, and/or brain from select birds were also screened. Based on extensive exposure to ARs among these geographic populations (Murray, 2017; Murray, 2020), the study presented here hypothesized that DMB would be detected in these species, with such exposure reflecting the ability for bromethalin/DMB to bioaccumulate in predators from ingestion of contaminated prey animals. Birds were also screened for multiple ARs to provide a more complete picture of the current extent of rodenticide exposures in this population of birds and to assess the efficacy of AR mitigation measures in place at the time the study was performed, 2021–2022.

2. Materials and methods

Birds included in this study were free-living red-tailed hawks (*Buteo jamaicensis*, RTHAs), barred owls (*Strix varia*, BDOWs), eastern screech-owls (*Megascops asio*, EASOs) and a great horned owl (*Bubo virginianus*, GHOW) that were admitted to Tufts Wildlife Clinic (TWC) at Cummings School of Veterinary Medicine at Tufts University in North Grafton, Massachusetts, USA, between March 2021 and September 2022. Two EASOs were transported from other northeastern states (New York, Connecticut) while the rest of the birds were recovered in Massachusetts. Birds either died soon after admission, were euthanized due to the severity of the presenting injury or illness, or were dead on arrival. Humane euthanasia was performed when the severity of the bird's condition precluded release to the wild. No birds were euthanized solely

for the purpose of this study. Euthanasia was performed by first inducing general anesthesia via isoflurane gas or intramuscular injection of ketamine and dexmedetomidine, followed by intravenous injection of a veterinary euthanasia solution containing pentobarbital sodium and phenytoin sodium. Post-mortem sampling was conducted without regard to clinical suspicion of AR or bromethalin toxicosis. As sampling was restricted to carcasses, no institutional animal care and use committee protocol was necessary for this study. Tufts Wildlife Clinic is fully permitted by the appropriate state and federal authorities for the treatment and rehabilitation of birds of prey.

Locations of recoveries and histories to the extent known were collected from finders on intake of each bird. Physical examinations were performed by wildlife veterinarians. Diagnoses of AR toxicosis were made based on ante- and postmortem criteria published previously (Murray, 2018). Any neurologic signs that were potentially consistent with bromethalin toxicosis in other species were recorded.

When possible, post-mortem examinations were performed within 24 h after death. However, due to an outbreak of H5N1 highly pathogenic avian influenza first detected in wild birds in the United States in late 2021 (Bevins et al., 2022), postmortem examination and sampling was delayed in birds presenting after this time until the birds tested negative for avian influenza A via RT-PCR on oral and cloacal swabs. Testing for avian influenza A was performed at Cummings School of Veterinary Medicine. Birds were refrigerated at 2.2 °C until gross post-mortem examination and tissue collection were performed by the authors. Paired liver and adipose samples were collected from each bird and frozen at −20 °C until analysis. In some birds additional liver, kidney and/or brain were collected and also frozen. Birds were excluded from the study if they tested positive for avian influenza A, if they could not be necropsied within 7 days after death due to pending avian influenza A results, or if they did not have adequate fat stores for analysis (<1 g total body fat).

Bromethalin has been reported to undergo photodegradation, with a 50% decrease in detectable compound within 2–3 h of light exposure under a 75-W incandescent lamp. While DMB appears to be less susceptible to photodegradation, with less than a 10% loss after 8 h of the same light exposure (Dorman et al., 1990c), as a precaution all adipose samples as well as the brain samples analyzed were wrapped in aluminum foil for light protection. However, not all of the liver and kidney samples analyzed for DMB were wrapped in foil as some were collected for other purposes.

Screening of adipose for DMB and liver for ARs was performed at the California Animal Health and Food Safety Laboratory (Davis, CA, USA). Analysis for DMB in tissue was by LC-MS/MS. A 0.5 g sample of adipose, brain, liver, or kidney tissue was extracted with 10 mL of ethyl acetate on a Geno/Grinder tissue homogenizer. The supernatant was obtained after centrifugation, and the solvent evaporated under nitrogen. While still warm, 5 mL of acetonitrile was added, and additional sample clean-up was done using a QuEChERS dSPE EMR-Lipid tube followed by an EMR Polish tube. The resulting extract was evaporated under nitrogen and then redissolved in 0.25 mL of methanol. It was filtered and analyzed by LC-MS/MS using an Agilent 1290 HPLC paired with a SciEx 6500+ QTrap mass spectrometer, using electrospray positive ionization in MRM mode monitoring the 562 *m/z* → 254, 278 *m/z* transitions. Identification was made by comparison to a reference DMB standard, based on retention time, presence of both ions, and the ion ratio of the two fragment ions matching within 25% of the standard. DMB testing has a reporting limit of 1 ng/g. Current testing methodology does not allow for quantification of DMB. Results are reported qualitatively as negative, trace (<1 ng/g wet weight), or positive (>1 ng/g wet weight).

Analysis of liver tissue for ARs included testing for brodifacoum, bromadiolone, difethialone, difenacoum, chlorophacinone, diphacinone, warfarin, and coumachlor as reported in Murray, 2020. The limit of detection (LOD) was 20 ng/g wet weight and the limit of quantitation (LOQ) was 50 ng/g wet weight. All detections above 20 ng/g but below 50 ng/g were reported as trace.

3. Results and discussion

A total of 44 birds were included in this study (30 RTHAs, 11 BDOWs, 2 EASOs, 1 GHOW). Locations of recoveries were predominantly suburban and urban landscapes, consistent with prior studies performed at TWC (Murray, 2017; Murray, 2020). Among all birds, 29.5% had detectable residues of DMB in adipose tissue; 69.2% were reported as trace, and 30.8% were reported as positive. Trace or higher amounts of ARs were present in liver tissue in 95.5% of birds (Table 1). As found in prior studies (Murray, 2017; Murray, 2020), the majority of birds positive for ARs, 81.0%, had two or more compounds in liver, and the most frequently detected ARs among positive birds were the SGARs brodifacoum (97.6%), bromadiolone (57.1%), and difethialone (64.3%). Other ARs detected include difenacoum (9.1%) chlorophacinone (6.8%), and diphacinone (4.5%). As all birds with detections of DMB were also positive for ARs, the overall rodenticide burden in this geographic region is high.

While adipose has been noted to be the tissue of highest diagnostic value for DMB, detections in kidney, brain, and liver in other species have been reported (Bautista et al., 2014; Romano et al., 2018). Therefore, in 7 RTHAs with DMB in adipose, liver (n = 7), kidney (n = 6), and brain (n = 2) were also analyzed. All of these tissues were negative, supporting the prioritization of testing adipose if possible to confirm bromethalin exposure.

In 10 birds (9 RTHAs, 1 BDOW) the cause of death was determined to be AR toxicosis induced hemorrhage based on characteristic ante- and/or post-mortem findings along with identification of ARs in liver (Murray, 2018). The diagnosis of bromethalin toxicosis, however, is much more challenging in the absence of a known exposure event. The neurologic signs are nonspecific and overlap with numerous other causes of central nervous system disease or injury (Dorman et al., 1990a, 1990b). Signs caused by bromethalin toxicosis documented in laboratory studies vary according to species and to dose. Lethal doses generally result in tremors, seizures, and death within approximately 36 h in rats and dogs, with a more delayed course observed in cats (van Lier and Cherry, 1988; Dorman et al., 1990a, 1992). Sublethal doses result in a slower onset of signs which predominantly consist of hind limb paresis, with some individuals able to fully recover (van Lier and Cherry, 1988; Dorman et al., 1990a, 1990b). Signs in mammalian wildlife species in which DMB has been detected and toxicosis was suspected include obtundation, ataxia, and hind limb paresis (Bautista et al., 2014; McMillin et al., 2016).

On gross postmortem examination, bromethalin toxicosis results in no abnormalities or only mild, nonspecific abnormalities (Dorman et al., 1990c, 1992). Bromethalin toxicosis can cause suggestive histologic changes, including vacuolar spongiosis of white matter in the cerebellum, cerebrum, brainstem, spinal cord, or optic nerve (van Lier and Cherry, 1988; Dorman et al., 1990c, 1992). However, in both companion animals and wildlife, cases of bromethalin toxicosis without histologic changes have been documented (McMillin et al., 2016; Romano et al., 2018). Additionally, autolysis and freeze-thaw artifacts can result in a similar histologic appearance to lesions induced by bromethalin (Romano et al., 2018; Bautista et al., 2014), rendering histologic findings equivocal.

In the study presented here, 5 birds (4 RTHAs, 1 BDOW) showed neurologic signs that are consistent with those caused by bromethalin toxicosis in other species. While all birds were negative for avian influenza A, the extensive testing necessary to support a diagnosis of bromethalin toxicosis by disproving other disease processes that can result in similar signs was beyond the scope of this study. It should be noted that neurologic impairment due to ingestion of a sublethal dose of bromethalin/DMB resulting in other injuries leading to birds being presented to TWC for care cannot be ruled out in any of the birds with DMB exposures.

Table 1

Percentages of birds positive for desmethylbromethalin (DMB) in adipose and anticoagulant rodenticides (ARs) in liver.

Species	N	N (%) with DMB	N (%) with ARs
All	44	13 (29.5)	42 (95.5)
RTHA	30	9 (30.0)	30 (100)
BDOW	11	2 (18.2)	9 (81.8)
EASO	2	2 (100)	2 (100)
GHOW	1	0 (0)	1 (100)

4. Conclusions

The study presented here demonstrates bioaccumulation of DMB, the active metabolite of bromethalin, in birds of prey. As DMB is among the most potent uncouplers of oxidative phosphorylation known (van Lier and Cherry, 1988), the presence of DMB in these birds is cause for concern. The recognition of bromethalin toxicosis ante- or post-mortem is challenging. Therefore, effects in nontarget species may be underestimated. Further investigation of the potential risk of bromethalin/DMB exposure in wildlife is needed. Additionally, this study demonstrates that exposure to multiple ARs among birds of prey in this geographic region remains widespread, and it contributes to evidence that the US EPA mitigation measures to reduce the risk of exposure to SGARs in wildlife in place at the time of sampling were not resulting in the intended effect (Murray, 2017; Murray, 2020). These data have global implications as growing concern about the effects of exposure to ARs in wildlife species worldwide leads to a search for alternatives and effective mitigation approaches.

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CRedit authorship contribution statement

Maureen Murray: Conceptualization, Investigation, Formal analysis, Writing – original draft, preparation, Funding acquisition. **Elena C. Cox:** Investigation, Writing – review & editing, Funding acquisition.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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