

The Environmental Impacts of Chemical Rodent Control

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Overview

- Introduction/Background
- Secondary Exposure/Ingestion
- Documented Impacts
- Observed Local Use
- Pest Control Alternatives
- Efforts to Restrict Use
- Conclusions/Questions

Background

What are rodenticides?

■ Acutely Toxic Compounds

- › Anticoagulants – Excessive Bleeding
- › Nerve Toxins – Respiratory Distress
- › Activated Vitamin D3 – Kidney Failure, Cardiovascular Abnormalities, Tissue Mineralization
- › Zinc Phosphide – Inhibits Cell Energy Production



Issue

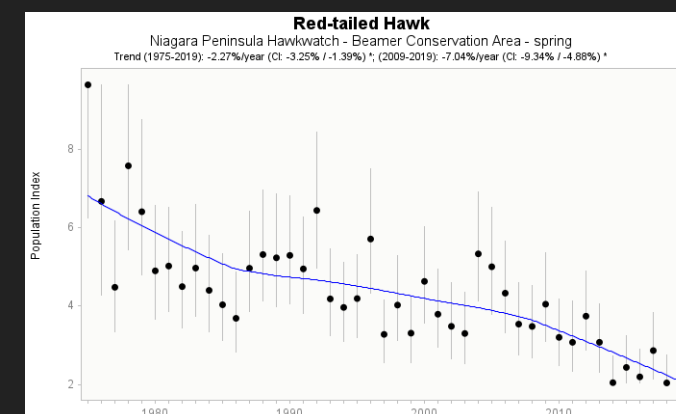
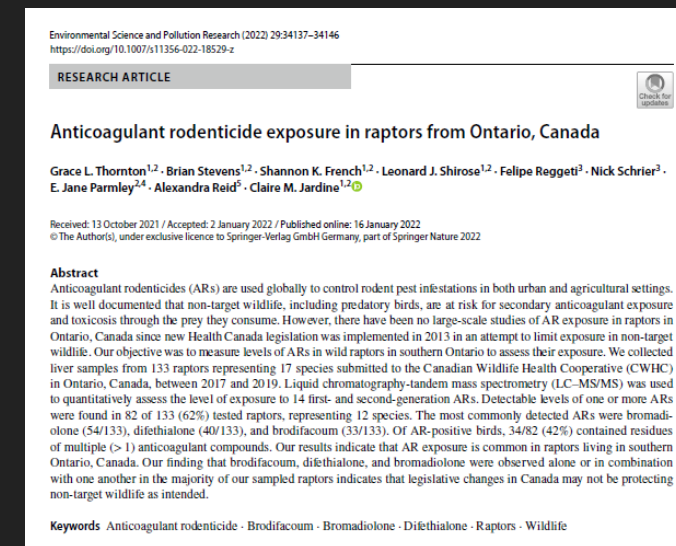
Secondary Exposure/Ingestion

- **Poisoned Rodents are Weakened Rodents**
 - › Take days to die
 - › Do not remain in traps
 - › Make easy prey
- **Effects in Predators**
 - › Anemia, Mange, Lethargy, Compromised Immune System, Internal and External Hemorrhaging, others
- **Treatment Difficulty**
 - › Timeliness of discovery
 - › Arduous process

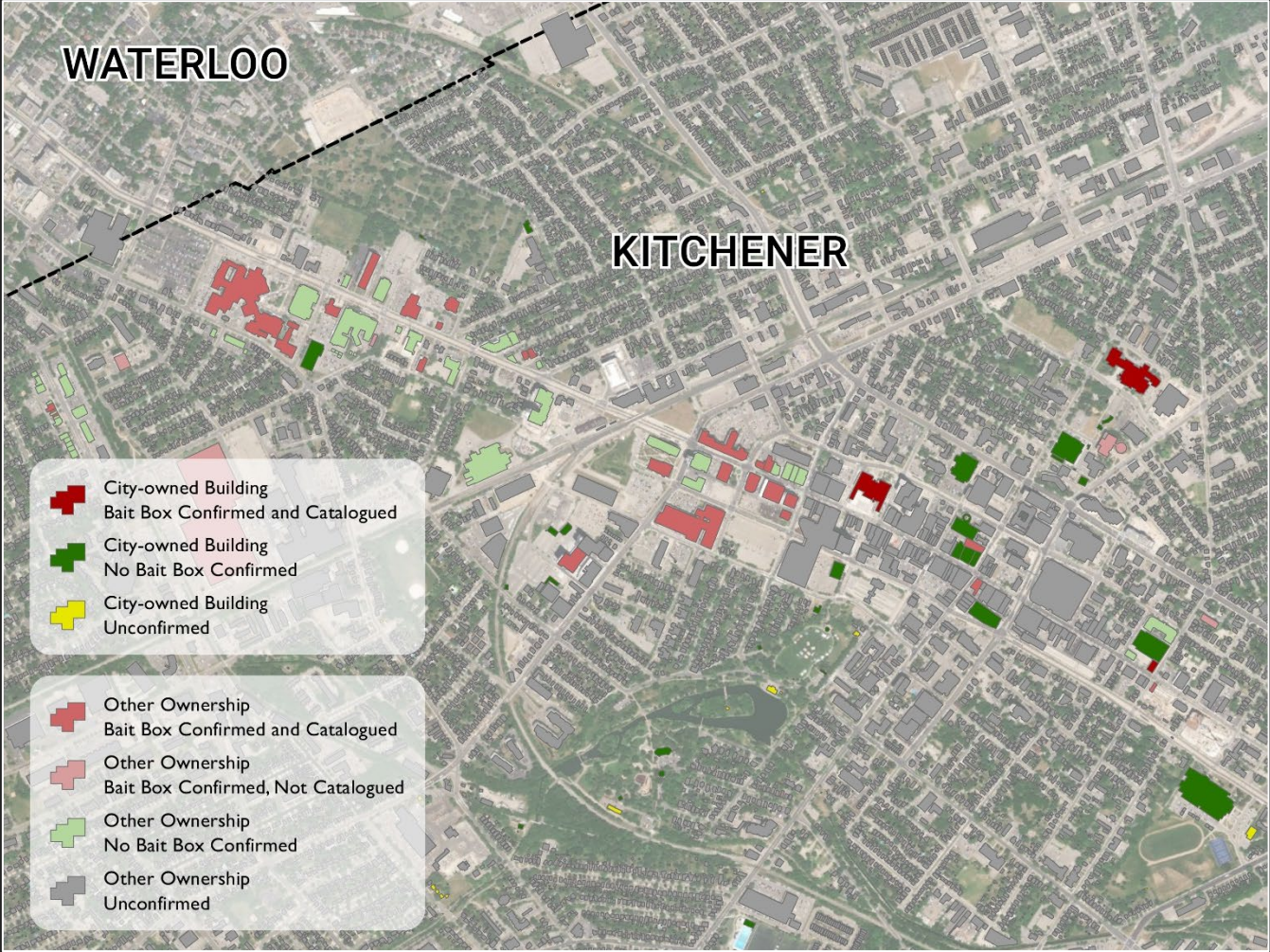


Documented Impacts

- Odds of Great Horned Owls testing positive for rodenticide exposure were 10 times greater and Red-tailed Hawks 9 times greater than all other bird species studied. 62 percent overall exposure level
 - › *Anticoagulant Rodenticide Exposure in Raptors from Ontario, Canada. Thornton et al. 2022*
- 100 percent of the Red-tailed Hawks in the present study tested positive for exposure to anticoagulant rodenticides. 91 percent tested positive for two or more different types
 - › *Continued Anticoagulant Rodenticide Exposure of Red-tailed Hawks in the Northeastern United States with an Evaluation of Serum for Biomonitoring. Murray. 2020.*
- 97 percent of New England Fishers were positive for exposure to anticoagulant rodenticides, 84 percent positive for more than one type
 - › *High prevalence of anticoagulant rodenticide exposure in New England Fishers. Buckley et al. 2023.*
- 68 percent of New York State Red-tailed Hawk livers tested for anticoagulant rodenticide exposure had detectable residues
 - › *Prevalence of anticoagulant rodenticide exposure in red-tailed hawks and utility of clotting time assays to detect coagulopathy. Hopf-Dennis et al. 2022.*



Observations



Alternatives

Integrated Pest Management

- Reduce Attractants
 - › Food and Waste Management
- Shelter Exclusion
 - › Seal Building Entry Points
- Removal
 - › Traps
 - › One-Way Exit Doors



Restrictions

Efforts Across North America

- **Legislation in Effect**
 - › Provincial/Statewide Restrictions
 - › Municipal Action
- **2023-2024 Legislative Consideration**
 - › Rodenticide bills introduced in eight United States
- **Legal Petition**
 - › Harvard Law Review





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



More Information/Questions

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