



Programs & Services Committee Agenda

City of Newton In City Council

Wednesday, April 19, 2023

7:00 PM

The Programs & Services Committee will hold this meeting as a Zoom meeting on Wednesday, April 19, 2023 at 7:00 pm. To view this meeting using Zoom use this link: <https://newtonma-gov.zoom.us/j/84512264302> or call 1-646-558-8656 and use the Meeting ID: 845 1226 4302.

Items Scheduled for Discussion:

#117-23 **Recommendation to approve 2023 Preliminary Election date**
THE NEWTON ELECTION COMMISSIONERS recommending the City Council approve the date of Tuesday, September 12, 2023 as the date for the 2023 Preliminary Election, if needed.

Chair's Note: *The Chair intends to entertain public comment regarding the following item.*

#66-23 **Discussion and possible amendment to Sec. 12-72**
COUNCILORS DANBERG, LEARY, GREENBERG, ALBRIGHT, NORTON, KELLEY, MALAKIE, WRIGHT, MARKIEWICZ, CROSSLEY, DOWNS, NOEL, BOWMAN, RYAN, KALIS, LIPOF, OLIVER, HUMPHREY, AND LUCAS requesting discussion and possible amendment to Section 12-72 "Sustainable Containers, Packaging and Single Use Ordinance" to further reduce the amount of single use plastic in Newton.
Programs & Services Held 7-0 (Councilor Noel Not Voting) on 03/22/23

#74-23 **Requesting a Home Rule Petition**
COUNCILORS NORTON, HUMPHREY, MALAKIE, LEARY, BOWMAN, DOWNS, LUCAS, KELLEY, ALBRIGHT, RYAN, LAREDO, WRIGHT, LIPOF, AND MARKIEWICZ requesting a home rule petition so that the City can create an ordinance to prohibit the purchase or application of anti-coagulant rodenticides in Newton.

The location of this meeting is accessible and reasonable accommodations will be provided to persons with disabilities who require assistance. If you need a reasonable accommodation, please contact the City of Newton's ADA Coordinator, Jini Fairley, at least two business days in advance of the meeting: jfairley@newtonma.gov or (617) 796-1253. The city's TTY/TDD direct line is: 617-796-1089. For the Telecommunications Relay Service (TRS), please dial 711.

Referred to Programs & Services and Finance Committees

#411-22

Request for Amendment to Chapter 21, Art III Trees to extend tree protection and update permits

COUNCILORS MALAKIE, NORTON, LEARY, RYAN, WRIGHT, LUCAS, HUMPHREY, BOWMAN, MARKIEWICZ, OLIVER, DOWNS, LAREDO, AND GROSSMAN requesting revisions and amendments to Chapter 21, Art. III Trees (sec. 21-60 through 21-89) to extend tree protection to all trees 6 inches DBH (diameter at breast height) and greater within the City (with no exempt lots); to update tree removal permits, fees, and compensation; and to strengthen protection for existing and replacement trees.

Programs & Services Held 8-0 on 04/12/23

Referred to Programs & Services and Finance Committees

#412-22

Request for Review and Amendments to Chapter 21, Art. III, Division 3

HER HONOR THE MAYOR requesting review and amendments to Chapter 21, Art. III, Division 3, Tree Preservation to increase replacement requirements for larger trees, add protections for smaller trees, limit removal of trees without replacement, enhance procedures for protecting trees, increasing payment required for trees cut without replacement, protect trees on lots adjacent to construction, provide Tree Warden with additional professional input on trees on private properties.

Programs & Services Held 8-0 on 04/12/23

Respectfully Submitted,

Josh Krintzman, Chair

**Summary of edits to plastic reduction ordinance based on feedback from March 22, 2023
Newton City Council Program & Services Committee Meeting**

On March 22, 2023, the Program & Services Committee of the Newton City Council met and discussed the proposed plastic reduction ordinance docketed by Councilor Danberg.

The councilors suggested splitting the items into the ordinance into categories of those that could come into effect soon, and those that should have later effective dates. There is perhaps some misunderstanding of whether then intent was to split this into two separate ordinances, or to have a single ordinance with varied effective dates. The proposed updates take the latter approach, with effective dates up to one year out (July 1, 2024). In addition, specific feedback was provided on certain items, and updates have been made to address that feedback. This document is intended as a short summary of the changes as compared to the draft that was previously docketed by Councilor Danberg. The Apr 14 draft of the ordinance reflects some of the feedback, and we anticipate the possibility of further edits after the May 19th meeting.

Summary of edits

- In the definitions section, the definition of single use plastic water bottle was amended to include “This also includes any similarly sized container (i.e. 1.1 liter) reasonably assumed to be a single serving container.”
- Under subsection (e), the items were categorized into effective dates to clarify the implementation rollout.
 - o Subsection (e) (i) was added for clarity on what is in the ordinance currently in effect
 - o Subsection (e) (ii) was added for those items we felt could take effect quickly, on September 1, 2023.
 - Added to this section are: i) a municipal ban on single use water bottles; ii) a ban on plastic splash sticks; iii) clarity that petroleum-lined containers are included in the ban
 - o Subsection (e) (iii) was added to include those items that needed a later implementation date of January 1, 2024.
 - Similarly add clarity re: petroleum-lined containers
 - Removed some confusing language in the item re: compostable utensils
 - Ban provision of straws except upon request
 - Add a municipal ban to mirror the food establishment ban
 - o Moved the items that need the most time to an effective date of July 1, 2024
 - RE: reusable dishwasher, update waiver option to encompass an inability to hire staff and an option for any establishment that provides fully compostable items

While there are a couple of new items, most of the edits are intended to address the recommendations of the committee and to address some of the concerns we heard from Greg Reibman.

CITY OF NEWTON
IN CITY COUNCIL

_____, 2023
BE IT ORDAINED BY THE BOARD OF ALDERMEN
OF THE CITY OF NEWTON AS FOLLOWS:

That the Revised Ordinances of Newton Massachusetts, 2017, as amended, be and hereby are further amended as follows:

Amend section 12-72 to ARTICLE IX. of Chapter 12 by replacing it in its entirety with the following

Section 12-72 Sustainable Food Service Ware, Packaging, and Single Use Items

- (a) Short Title. This section may be cited as the “Sustainable Food Service Ware, Packaging, and Single Use Ordinance” of the City of Newton.
- (b) Purpose: The purpose of this ordinance is to reduce the overall environmental impact of the City of Newton, its residents, and its businesses. Single use plastic has a significant impact on the environment through its carbon footprint, waste management, pollution, and more. The provisions of this ordinance will reduce the amount of single use plastic used throughout the City.
- (c) Declaration of findings and policy- Scope

The city council hereby finds that the prohibition of certain single use plastic items, including but not limited to: i) foam polystyrene and black plastic food and packaging containers; ii) plastic stirrers; iii) single use plastic utensils; iv) single use plastic water bottles, and more, by food service and retail establishments, and the sale or use of these products by any business in the City of Newton is a public purpose that protects the public health, welfare and environment, advances solid waste reduction, protects waterways, and reduces the carbon footprint of the City’s business and residents.

- (d) Definitions

The following words, unless the context clearly requires otherwise, shall have the following meanings:

“Black plastic” means black plastic containers typically used by food service establishments for takeout food orders and for consumers to take home leftover food from dining in.

“Commissioner” means the commissioner of health and human services of the City of Newton.

“Compostable” means a product comprised of i) wood or fiber-based substrate only; or ii) bioplastic or other organic materials that break down in a compost pile within a set amount of time into safe material, and that is certified as such by the Biodegradable Products Institute (BPI), Compost Manufacturing Alliance (CMA), or OK Compost/TUV. Any bioplastic product must be clearly labeled with the applicable standard on the product. Products marked “compostable” or “biodegradable” that are not certified and marked as such may contain unsafe and toxic materials such as PFAS.

“Department” means the Department of Health and Human Services of the City of Newton.

“Disposable Food Service Ware” means all food and beverage containers, bowls, plates, trays, cartons, cups, lids, straws, forks, spoons, knives, chopsticks, stirrers, film wrap, and other items designed for one-time or non-durable uses on or in which any food vendor directly places or packages prepared foods or which are used to consume foods. This includes, but is not limited to, food service ware for takeout foods and leftover food from partially consumed meals prepared at food establishments by dine-in customers.

“Foam polystyrene” means a non-biodegradable petrochemical thermoplastic made from aerated forms of polystyrene and includes several methods of manufacture. Expanded polystyrene (EPS) or extruded polystyrene (XPS) are forms of polystyrene. “Styrofoam” is a Dow Chemical Co. trademarked form of extruded polystyrene and is commonly used to refer to foam polystyrene. These are generally used to make insulated cups, bowls, trays, clamshell containers, meat trays, foam packing materials and egg cartons. The products are sometimes identified by a #6 resin code on the Bottom.

“Food Establishment” means a business establishment that stores, prepares, packages, serves, vends, or otherwise provides food for human consumption, including but not limited to any establishment requiring a permit to operate in accordance with the state food code.

“Packing material” means **materials** used to hold, cushion, or protect an item packed in a container for shipping, transport, or storage. This includes, without limitation, packing “peanuts”, and shipping boxes, coolers, ice chests, or similar containers made, in whole or in part, **from materials including, but not limited to, polystyrene foam.**

“Prepared food” means any food or beverage, whether packaged or prepared for consumption on or off the food provider’s premises, using any cooking or food preparation technique or provided for further food preparation.

“Recycle” refers to material that can be sorted, cleansed, and reconstituted using Newton’s curbside municipal collection programs for the purpose of using the altered form in the manufacture of a new product. Such materials must be accepted and recycled by the Materials Recovery Facility that receives Newton’s residential curbside recycling. “Recycling” does not include burning, incinerating, converting, or otherwise thermally destroying solid waste.

“Retail establishment” means a business establishment engaged in the retail sale of goods directly to consumers.

“Reusable” refers to products that will be used multiple times in their same form by a food establishment. Reusable food service ware includes, but is not limited to, tableware, flatware, food or beverage containers, packages and trays. Such products are intended to be washed multiple times in a commercial dishwasher and to retain their form and function over multiple usage and washing cycles.

“Single use plastic water bottle” means any single serving container, whether sold individually or in bulk, containing non-carbonated, unflavored drinking water with a volume of one liter or less, that is made in whole or in part of plastic material, excluding the cap. This includes boxed water which is lined with plastic and is not accepted by curbside recycling in the City of Newton. **This also includes any similarly sized container (i.e. 1.1 liter) reasonably assumed to be a single serving container.**

(e) Prohibited use and distribution of certain containers, food service ware, packaging, and single use items.

(i) The following items took effect on January 1, 2020.

- (1) Food establishments are prohibited from dispensing prepared food or beverages to any person in disposable food containers made from foam polystyrene.
- (2) Food establishments are prohibited from dispensing plastic stirrers.
- (3) All food establishments are strongly encouraged to use reusable food service ware in place of using disposable food service ware for all food served on the premises. Food establishments using any disposable food service ware and stirrers are strongly encouraged to use biodegradable, compostable, reusable or recyclable food service ware and stirrers.
- (4) Retail establishments are prohibited from selling or distributing disposable food containers made from foam polystyrene to customers.

- (5) Retail establishments are prohibited from selling or distributing polystyrene foam packing material to customers.

(ii) The following items shall take effect on September 1, 2023.

- (1) The sale or distribution of the following single use plastic items, including items that contain single use plastic, is prohibited in Newton: plastic splash sticks, plastic balloon sticks, plastic floss sticks, plastic ear swabs, and cosmetics containing plastic glitter.
- (2) The sale, distribution, and intentional release of helium filled balloons is prohibited in the City of Newton.
- (3) The City of Newton is prohibited from purchasing and distributing single use plastic water bottles.
- (4) Retail establishments are prohibited from selling or distributing disposable food service ware that is not reusable, compostable, or recyclable to consumers, including, but not limited to, black plastic containers, paper-based containers lined with polyethylene or other petroleum-based plastic, and the existing prohibition on containers made from foam polystyrene.
- (5) Retail establishments are prohibited from selling or distributing packing materials that are not reusable, compostable, or recyclable to consumers, including, but not limited to, those made from polystyrene foam.

(iii) The following items shall take effect on January 1, 2024.

- (1) Food establishments are prohibited from dispensing prepared food or beverages to any person in disposable food service ware that is not reusable, compostable, or recyclable. This includes, but is not limited to, black plastic containers, paper-based containers lined with polyethylene or other petroleum-based plastic, and the existing prohibition on containers made from foam polystyrene.
- (2) Food establishments may not automatically provide disposable food service ware such as utensils (forks, knives, spoons, chopsticks) or straws, including in takeout orders, whether orders are placed online, via phone, or in person. Such utensils and straws may be provided only upon the request of the consumer either directly or in response to an inquiry by the food establishment. Utensils may not be prepackaged in sets. [Deleted some text re: compostable utensils that was confusing.]
- (3) Food establishments may only provide straws to customers upon request.
- (4) Food establishments may not automatically provide single use condiment packages, including in takeout orders, whether orders are placed online, via phone, or in person. Condiment packages may be provided only upon the request of the consumer either directly or in response to an inquiry by the food establishment. Notwithstanding the foregoing, food establishments may offer

consumers condiments packaged on-site, such as sauces, in containers that are reusable, compostable, or recyclable.

(5) The City of Newton is prohibited from purchasing and distributing a) prepared food or beverages in disposable food service ware that is not reusable, compostable, or recyclable; b) utensils that are not reusable, compostable, or recyclable; or c) single use condiment packages.

(iv) The following items shall take effect July 1, 2024.

(1) The sale and distribution of single use plastic water bottles is prohibited in the City of Newton.

(2) Food establishments shall utilize only reusable dishware and utensils for dine-in customers. Notwithstanding the foregoing, the following may request a waiver from the commissioner of health: a) food establishments that do not have onsite or off-site dishwashing capacity (including due to an inability to hire staff), or are unable to contract for services to wash, rinse, and sanitize reusable dishware; b) establishments that provide 100% compostable dishware and utensils and have contracted with a private composting hauler.

(v) Effective immediately, the City hereby confirms that food establishments shall allow customers to bring their own clean takeout containers to fill themselves in order to take home leftover food from dine-in.

(f) Effective date. The effective dates are as specified herein.

(g) Enforcement

1. Fine. Any food or retail establishments which violates any provision of this section or any regulation established by the Commissioner shall be liable for a fine as follows: First offense, warning; second offense, \$100.00; third offense, \$200.00; fourth and subsequent offenses, \$300.00. Each day a violation continues shall constitute a separate offense.
2. Whoever violates any provision of this section or any regulation established by the commissioner may be penalized by a noncriminal disposition as provided in G.L. c. 40, Sec 21D.
3. Any retail or food establishment may contest whether specific items are allowable under this Section by providing written documentation that the item is recyclable from both their city-permitted waste/recycling hauler and associated materials recovery facility (MRF), or compostable from their commercial organics hauler and associated compost endsite.

4. Items in this section shall be enforced by the commissioner of health and human services, or their designee, unless an item is determined to be the responsibility of another City department
5. Specific items in this section may be put on temporary hold by the Mayor of the City or commissioner of health as needed during times of emergency such as pandemics.

(g) Severability.

Each separate provision of this section shall be deemed independent of all other provisions herein, and if any provision of this section be declared to be invalid by a court of competent jurisdiction, the remaining provisions of this section shall remain valid and enforceable.

AND

In Sec.17-23. Enforcing persons and revised ordinances subject to civil fine.
Amend paragraph (b), HEALTH AND HUMAN SERVICES DEPARTMENT, by adding after CITY ORDINANCES, Any offense, the following:

PENALTY

Section 12-72, Single Use Plastic Prohibition Ordinance

() First offense	Warning
() Second offense	\$100.00
() Third offense	\$200.00
() Fourth or subsequent offenses	\$300.00

Approved as to legal form and character

From: Rebekah Smillie <smillier@newton.k12.ma.us>

Sent: Tuesday, April 4, 2023 11:01 AM

To: [REDACTED]

Cc: Andrea Vargas <vargasa@newton.k12.ma.us>; Kathleen Smith <smithkath@newton.k12.ma.us>; Stephanie Gilman <gilmans@newton.k12.ma.us>; Amy Mistrot <mistrota@newton.k12.ma.us>; Alison M. Leary <aleary@newtonma.gov>; Waneta Trabert <wtrabert@newtonma.gov>; Allison L. Kelley <alkelley@newtonma.gov>; [REDACTED]

Subject: letter from the Peirce Green Team about reducing plastics

[DO NOT OPEN links/attachments unless you are sure the content is safe.]

Below is the body of a letter written by the 4th grade Green Team to our food service provider, Whitsons, about reducing single-use plastics in school lunches. A copy of the letter with signatures is attached.

Dear Ms. Flutie and Whitsons staff,

At Peirce School, we are aware that we use a lot of single-use plastic. We also know that very little of this plastic can be and will be recycled. Most of this plastic will end up in landfills where it creates toxic gas or it will make its way to the ocean where it kills sea animals and birds and also enters our food system. To help with this problem, we are asking you to take following single-use plastics out of our school lunches:

Plastic

utensils wrapped in plastic:

instead we would like compostable utensils in baskets so you only take what you need.

Packaged

sauces (like ketchup

and syrup): instead we would like a sauce dispenser with paper cups.

Plastic

clam shells: instead

we could use more paper boats.

Fruit

cups in plastic:

instead we would like fruit salad in biodegradable plastic cups or paper cups.

Whole

fruit wrapped in plastic:

we don't need each apple to be in a plastic bag. In fact, we all prefer whole fruits to the cut-up apples and carrots in plastic bags. They are much tastier!

Finally, we would like to be able to choose our own sides. We see so much food waste when side dishes are placed in a container with the main food item. The uneaten sides often get thrown away (or composted). Even if we wanted to donate them to the Freedge, they are often too sticky to be given away. The more choice we have, the more responsible we can be with our food.

We know we are asking for a lot, but we think that this is really important. There is so much plastic on the earth right now, and more than 10 million tons of plastic is added to the ocean every year! Plastic is a threat to our world, and we want to start doing something about it now. Will you do something with us?

Thank you,

Pierce 4th Grade Green Team

CC: Andrea Vargas, Peirce Elementary School Principal

Dr. Kathleen Smith, Interim Superintendent

Stephanie Gilman, Director of Planning, Project Management & Sustainability

Amy Mistrot, Director of Business Operations

Alison M. Leary, City Councilor










Waneta Trebert, Director of Sustainable Materials Management

Allison Kelley, Waste Diversion Coordinator








Deanna Hoffman, Green Newton School Connections

Rebekah Smillie
Peirce Elementary School

Black Plastic Takeout & Alternative Price Comparison

Product		Sustainability	Price	Price Per Unit	Source
BLACK PLASTIC					
28 OZ. RECTANGULAR BLACK CONTAINERS AND LIDS Case of 150		Not Permitted	\$42.23/case (150)	\$0.28 per unit	https://cibowares.com/collections/microwavable-containers/products/28oz-rectangular-black-with-clear-top-to-go-container-and-lid-combo-case-of-150?variant=410500007000
Asporto 28 oz Rectangle Black Plastic To Go Box - with Clear Lid, Microwavable - 8 3/4" x 6" x 1 1/2" - 100 count box		Not Permitted	\$54.78/case (100)	\$0.55 per unit	https://www.restaurantware.com/disposables/take-out/take-out-boxes/asporto-28-oz-rectangle-black-plastic-to-go-box-with-clear-lid-microwavable-8-3-4-x-6-x-1-1-2-100-count-box/
Choice 28 oz. Black 8 3/4" x 6 1/4" x 1 3/4" Rectangular Microwavable Heavy Weight Container with Lid - 150/Case		Not Permitted	\$33.49/case (150)	\$0.22 per unit	https://www.webstaurantstore.com/choice-28-oz-black-8-3-4-x-6-1-4-x-1-3-4-rectangular-microwavable-heavyweight-container-with-lid-case/129MCS28B.html
28 oz Black Plastic container average price				\$0.35 per unit	
ALTERNATIVE PRODUCTS					
Choice 28 oz. White 8 3/4" x 6 1/4" x 1 3/4" Rectangular Microwavable Heavy Weight Container with Lid - 150/Case		Acceptable	\$33.49/case (150) Black is same price	\$0.22 per unit	https://www.webstaurantstore.com/choice-28-oz-white-8-3-4-x-6-1-4-x-1-3-4-rectangular-microwavable-heavyweight-container-with-lid-case/129MCS28W.html
Asporto 28 oz Rectangle White Plastic To Go Box - with Clear Lid, Microwavable - 8 3/4" x 6" x 1 1/2" - 100 count box		Acceptable	\$54.78/case (150) Black is same price	\$0.55 per unit	https://www.restaurantware.com/disposables/take-out/take-out-boxes/asporto-28-oz-rectangle-white-plastic-to-go-box-with-clear-lid-microwavable-8-3-4-x-6-x-1-1-2-100-count-box/
Choice 2 lb. Oblong Foil Take-Out Container with Dome Lid - 250/Case		Acceptable	\$41.49/case	\$0.17 per unit	https://www.webstaurantstore.com/choice-2-lb-oblong-deep-foil-take-out-container-with-dome-lid-case/612POB2LBCO.html
World Centric Fiber To-Go Box 32 oz + Fiber Lid NOT PLA lined , PFAS-Free, BPI certified 400/case		Better	\$106.34/case (400 bowls) + \$87.24/case (400 lids)	\$0.48 per unit	https://www.goodstartpackaging.com/fiber-to-go-box-32-oz-CT-SC-U2/
World Centric Fiber To-Go Box 32 oz + Fiber Lid PLA lined , PFAS-Free, BPI certified 400/case		Better	\$148.49/case (400 bowls) + \$82.99/case (400 lids)	\$0.58 per unit	https://www.webstaurantstore.com/world-centric-32-oz-pla-lined-compostable-fiber-box-case/521CTSCU2LLF.html
Reusable Container (Preserve recycled plastic container)		Best			recirclable.com

Miscellaneous Take Out/Alternative Price Comparison

Product		Sustainability	Price (11/08/2022)	Price Per Unit	Source
FILM LINED PAPER					
Choice 4 5/8" x 3 1/2" x 2 1/2" White Microwavable Folded Paper #1 Take-Out Container - 450/Case (non-compostable plastic lining)		Not Permitted	\$54.99/case (450)	\$0.12 per unit	https://www.webstaurantstore.com/choice-4-5-8-x-3-1-2-x-2-1-2-white-microwavable-folded-paper-1-take-out-container-case/795PTOWHT1.html
EcoChoice 4 5/8" x 3 1/2" x 2 1/2" Kraft PLA Lined Compostable #1 Take-Out Container - PFAS-Free, BPI certified 450/Case (compostable PLA lining)		Better	\$72.99/case (450)	\$0.16 per unit	https://www.webstaurantstore.com/ecochoice-4-5-8-x-3-1-2-x-2-1-2-kraft-pla-lined-compostable-1-take-out-container-case/795PLAKFT1.html
Choice Double Poly-Coated White Paper Food Cup with Vented Paper Lid - 16 oz. - 250/Case (non-compostable plastic lining)		Not Permitted	\$46.49/case (250)	\$0.19 per unit	https://www.webstaurantstore.com/choice-16-oz-double-poly-coated-white-paper-soup-hot-food-cup-with-vented-paper-lid-case/760SOUP16WPA.html
EcoChoice 16 oz. Kraft Paper Food Cup with Vented Lid - PFAS-Free, BPI certified 250/Case (compostable PLA lining)		Better	\$55.99/case (250)	\$0.22 per unit	https://www.webstaurantstore.com/ecochoice-16-oz-kraft-paper-soup-hot-food-cup-with-vented-lid-case/760SOUP16KFT.html
Fold-Pak 16MWWHITEM 16 oz. White Microwavable Paper Take-Out Container - 450/Case (non-compostable plastic lining)		Not Permitted	\$64.49/case (450)	\$0.14 per unit	https://www.webstaurantstore.com/fold-pak-16mwwhitem-16-oz-white-microwavable-paper-take-out-container-case/79516MWWWHITE.html
Fold-Pak Earth 16MWEARTH 16 oz. Microwaveable Paper Take-Out Container - 450/Case (non-compostable plastic lining)		Not Permitted	\$64.49/case (450)	\$0.14 per unit	https://www.webstaurantstore.com/fold-pak-earth-16mwearthm-16-oz-microwaveable-paper-take-out-container-case/79516MWEARTH.html
World Centric 16 oz. NoTree Asian Take-Out Containers - PFAS-Free, BPI certified 500/Case (compostable PLA lining)		Better	\$92.99/case (500)	\$0.19 per unit	https://www.webstaurantstore.com/world-centric-16-oz-notree-asian-take-out-containers-case/521TONT16T.html

Miscellaneous Take Out/Alternative Price Comparison (cont'd)

Product		Sustainability	Price (11/08/2022)	Price Per Unit	Source
PLASTIC					
ChoiceHD Microwavable Translucent Plastic Deli Container and Lid Combo Pack - 16 oz. - 240/Case (polypropylene)		Acceptable	\$33.99/case (240)	\$0.14 per unit	https://www.webstaurantstore.com/choicehd-16-oz-microwavable-translucent-plastic-deli-container-and-lid-combo-pack-case/128HD16COMBO.html
Pactiv/Newspring 16 oz. Translucent Round Deli Container Combo Pack - 240/Case (polypropylene)		Acceptable	\$67.99/case (240)	\$0.28 per unit	https://www.webstaurantstore.com/pactiv-newspring-16-oz-translucent-round-deli-container-combo-pack-240-case/128YL2516COMBO240.html
Durable Packaging PXT-600 6" x 6" x 3" Clear Hinged Lid Plastic Container - 500/case (polystyrene)		Acceptable	\$96.49/case (500)	\$0.19 per unit	https://www.webstaurantstore.com/durable-packaging-pxt-600-6-x-6-x-3-clear-hinged-lid-plastic-container-pack/999PXT600.html

Victims of Rodenticide Arlington, Mass.

Photos and narrative from wildlife advocate Jodi Lynne Sylvester

Newton City Council Programs & Services Committee,
April 19, 2021

Juvenile Bald Eagle “C25”, 2021

After observing mother eagle MK sitting on eggs in March 2021, I eagerly anticipated the hatching of her little ones. The little grey heads became visible in early April. On a lovely summer afternoon, I traveled to their location hoping to see them flying around and squawking at their parents to be fed but instead I saw one of the 3-month olds face down on the ground. I called animal control who picked up the eagle whose head was hanging, her eyes were sunken in, her skin was purple. She was skinny and emaciated - all signs of poison. She was rushed to Tufts and died within an hour of secondary rodenticide. In the days that followed, the mother, father and sibling eagles were seen flying around crying out for the dead baby.



Great Horned Owl Families, 2022

Several months after the loss of the juvenile bald eagle in Arlington, I was enjoying a family of Great Horned Owls: mother, father and 2 babies -- hatching, maturation, branching and leaving the nest. Two weeks later the mother and baby were found dead and the second baby was dead one week later. The poison was Brodifacoum, d deadliest poison available, dddd designed to kill larger mammals such as skunks and opossums but it is now found in bait boxes to target rats. The community mourned once again as they heard the remaining father calling out at dusk alone in the trees for his lost family that would never be returning home.

When I heard several months later that the male had attracted a new mate, I cringed. Several weeks later, she was found on the ground unable to stand. Rescuers were called in and she died during transport to the Rehabilitation facility. I observed another Great Horned Owl family during this time in Waltham that was wiped out by secondary rodenticide. Found dead on the ground. Mother, father and baby. Look at the precious faces in these photos. Each one would have been responsible for killing hundreds of rodents in their lifetime. This natural rodent control is now gone.



Bald Eagle “MK”, 2023

Recently the most well known most beloved wildlife creature in New England died. MK was the mother of juvenile bald eagle C25 who met the same fate. She is the result of one of the first nests on the Charles River since the banning of DDT. When I heard that she had been seen sitting on the same branch for over 24 hrs refusing food from her mate, I knew she was in trouble. She was just yards from where I had found her baby face down on the ground. Her mate flew in food for her and kept yelling out at her but she wouldn't eat or move. The next morning she was transported to a rehabilitation facility in critical condition. They lost her even though they administered vitamin K injections trying to counteract the poison, she was intubated when she choked up blood and given chest compressions. One of the worst cases of secondary rodenticide cases ever seen. A mother and her baby poisoned less than 2 years apart. Beyond tragic. My heart still hasn't recovered from this loss and probably never will. These animals have souls. They have families. They deserve better.



INVESTIGATION

Rodenticides are killing animals way up the food chain

Poisons used by Massachusetts municipalities are killing more than just the rats they're targeting

By **LAURA KIESEL**

PUBLISHED DECEMBER 26, 2021 10:00AM (EST)



Rat poison trap box (Getty Images/richard johnson)

This article is syndicated by the [MassWire news service](#) of the Boston Institute for Nonprofit Journalism.

It was a sunny Friday morning in late July of this year when Jodi Sylvester, a wildlife photographer from central [Massachusetts](#), drove into the [Boston](#) area to check in on a pair of juvenile bald eagles that

often served as her subjects. The pair had recently fledged but were still sticking by their parental nest along the Mystic River.

When Sylvester arrived, she noticed one of the eaglets was acting strangely. She was perched on a low branch of a tree with her eyes closed and one of her talons dangling off the side.

"I had never seen anything like it, and I knew it wasn't okay," Sylvester says.

In the afternoon, things took a turn for the worse.

The eaglet fluttered from her tree branch and fell onto the ground face first and was barely moving. Sylvester made several phone calls, until she finally reached a professional who agreed to help.

D (who asked that she be identified only by the initial of her first name) arrived on the scene shortly after. D checked the eaglet's wristband, which identified her as C25. She reported the eaglet's status to the state wildlife agency and with its permission, transported C25 to Tufts Wildlife Clinic in Grafton.

"The eaglet was so sick, she couldn't lift her head, even when I picked her up," D recalled.

D, who has been working in animal rescue for decades and has expertise in birds of prey, had a strong suspicion what was making the eaglet sick. "I was pretty sure it was rodenticide poisoning."

D dropped the eaglet off at the clinic and hoped for the best. C25 died not even an hour after she was admitted.

A few weeks later, a necropsy performed by state wildlife officials **confirmed** C25 had succumbed to poisoning from exposure to second-generation anticoagulant rodenticides, or SGARs, which prevent blood from clotting in animals and humans.

Most likely, C25 had eaten rats that had consumed the poison—a phenomenon known as "secondary exposure." The rats probably consumed the poisons out of the many bait stations that dotted the residences and businesses around C25's main hunting territory in Arlington and that have become a ubiquitous fixture of the metro area.

C25 is the second bald eagle confirmed to die due to SGARs exposure in the state this year. [The first eagle](#) was one in Waltham, a cousin of C25 who was reportedly found dead on top of her nest with unhatched eggs beneath her. Another bald eagle exhibiting severe rodenticide poisoning [was found and euthanized on Cape Cod in 2018](#). Only [recently upgraded](#) from "threatened" status to a "species of special concern" under the Massachusetts Endangered Species Act, bald eagles were once extinct in the state due to the effects of [DDT](#), until the toxin was federally banned in 1972.

And bald eagles aren't the only species susceptible to SGARs poisoning.

"We probably get between 100 and 200 animals a year," says Zak Mertz, executive director of the Birdsey Cape Wildlife Center in Barnstable, which is part of the New England Wildlife Centers (NEWC).

Though NEWC sees SGARs exposure across species, Mertz says birds of prey seem to bear the brunt of poisonings, likely due to rodents being a primary staple of many of their diets. Occasionally, a raptor poisoning will make it into the [news](#), either because as with C25, it's a listed species, or as in [the case of Ruby the red-tailed hawk](#) in 2015, because that specific animal is known locally. But these isolated stories do not hint at the larger trend of wildlife poisonings due to SGARs in the state.

While Mertz asserts all of the rodenticide cases treated at NEWC affect him and his colleagues, there was one that was particularly

difficult: a nest of great horned owls discovered in April on the Cape either dead or dying.

"One chick was just covered in blood, bleeding from every orifice, and we did everything we could to save it, even giving it an emergency blood transfusion from another owl at the center," Mertz says. "Unfortunately, he didn't make it."

Of that owl family, only one survived—a young owlet. It took many months of aggressive treatment to get it to the point where its blood would clot on its own again, and it was finally released in early December.

For Sylvester, it's a familiar story. Besides C25, one of her other favorite photographic subjects was a great horned owl nest in Jamaica Plain.

"But all four of them died due to rat poison," says Sylvester. "It wiped out the entire family."

Bait and wish

As [I reported in 2018](#), SGARs [were banned from over-the-counter sales](#) in 2015 by the US Environmental Protection Agency due to [reports that thousands of children were winding up in emergency rooms](#) across the country annually because of accidental poisoning. The majority of children impacted by these rodenticides were young children of color residing in low-income housing.

Though SGARs usually cannot be found on shelves in retail stores anymore, they are still allowed to be deployed by licensed pest control professionals in "tamper resistant" bait stations as a way to reduce child exposure. But studies determining whether the bait stations reduce incidents of child poisonings due to SGARs seem to be limited. One 2020 EPA report noted a 46% decline in child rodenticide incident reports related to SGARs between 2011 to 2017 and 79% between 2009 and 2018. (Over these same time periods, poisonings from first-

generation anticoagulant rodenticides, which are still available over the counter, have increased dramatically—between 60 and 80%, respectively.)

For those unfamiliar with them, these bait stations tend to be placed against the sides of buildings and houses. They are nondescript black boxes that often resemble tool boxes. Sometimes they bear warning labels on top of them that name the rodenticide inside and list an EPA registration code; sometimes they do not, leaving people to guess at their contents—if they notice them at all.

While the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requires that a pesticide product such as SGARs must be labeled, that requirement pertains to the "immediate container" the product comes in, rather than the bait station it is often distributed in, unless they are packaged together (which they often are not). This means in many cases, only the pest control professional may be aware of what the product actually is and its hazardous potential. This can enable landlords to mislead their tenants about what is being used on their properties for rodent management and the potential threats it poses to children, pets and local wildlife.

"Unless a landlord is distributing a product with a label that contains false or misleading claims about a product's contents, it is not a violation under FIFRA for a landlord to make inaccurate claims about the contents of a product," an EPA representative wrote in an email response to questions for this article. The EPA rep also wrote that it is not a violation under FIFRA for pest control professionals to make inaccurate claims about the impact of SGARs on non-target animals, as long as they are not putting a false label on a bait station.

(Disclaimer: As a former wildlife biologist and advocate, [I have been vocal](#) about wanting a statewide ban on SGARs.)

Public records requests filed with several housing authorities in municipalities where high-profile SGARs-related wildlife cases were

reported—including Arlington, Waltham, Cambridge, and Boston—yielded findings that all of them use SGARs on their public housing properties.

For instance, the Cambridge Housing Authority has 358 bait stations containing SGARs spread throughout the 22 properties it manages. More than half of those bait stations were placed between 2018 and this year.

Most municipalities in the metro area, like Arlington and Waltham, also require any new construction to have bait stations on site during the predemolition phase. While there is no requirement for those bait stations to include SGARs, a public records request with the town of Arlington revealed pest control companies contracted for nearly all of the 32 sites approved in 2021 used SGARs—even those sites without any signs of rodent activity.

Despite the immense popularity of SGARs, there is virtually no peer-reviewed research to support their effectiveness on reducing rodent populations in suburban and urban ecosystems. In reality, reported sightings of rat activity in the Boston metro area [have only continued to increase](#) with the proliferation of bait stations containing SGARs. This might be because rodents have long been known to [develop resistance](#) to anticoagulant poisons such as SGARs with prolonged use.

Though tamper-resistant bait stations may reduce (but far from eliminate) SGAR poisonings of children, bait stations do not address other risks. A [2021 study found](#) that rats that consume SGARs are more susceptible to contracting some diseases they can then spread to humans, like leptospirosis and E. coli. And as illustrated with the case of C25, the bait stations do not prevent secondary SGARs exposure to wildlife and pets.

NEWC and several other wildlife rehabilitators and animal control officers interviewed for this article all report noticing an uptick in recent

years—in some cases, considerable—in the numbers of animals exhibiting symptoms of rodenticide poisoning. Several people also noted that even of those animals that survive poisoning, recovery periods seem to be taking longer and requiring more in-depth treatment.

Preying on predators

The EPA has long known about the impacts of SGARs on wildlife, with a comparative assessment conducted back in 2001 concluding that the most prominently used SGAR, brodifacoum, posed "high primary and secondary risks to birds and nontarget mammals."

A much more recent EPA assessment of all anticoagulant rodenticides (ARs) conducted in 2020 affirmed, "The nature of risk to mammals and birds from ARs is well-established and includes mortality from primary and secondary exposure, as well as chronic growth and reproduction effects." This same report found that of the nearly 700 confirmed SGARs-related cases in wildlife documented in the US since 2010, brodifacoum and bromadiolone were the primary culprits, making up nearly 70%.

While 700 incidents may not sound like a lot over the course of a decade, only a few states in the entire country actually attempt to track such incidents that occur within their borders—Massachusetts being one of them. The exorbitant price of definitive testing to confirm SGAR poisoning is usually too cost prohibitive for wildlife rehabbers and clinics often working on shoestring budgets.

One Massachusetts study the 2020 EPA report references found that ARs were discovered in 96% of the raptors tested, with 99% of them testing positive for brodifacoum.

"SGARs poison rat predators such as raptors (hawks, owls, eagles) and foxes," says Heidi Ricci, director of policy and advocacy at Mass

Audubon. "This ironically increases rodent populations since the rodents breed much faster than their predators."

Ricci explains that the negative impact of SGARs on wildlife is why Mass Audubon, along with NEWC and several other animal and environmental advocacy organizations, have co-sponsored a new proposed piece of legislation that seeks to address the issue.

[H.3991](#), introduced by State House Rep. James Hawkins (D-Attleboro), would require that pest control professionals disclose the public health and environmental risks of SGARs to prospective consumers and get signed consent forms if they still agree to use them. It would also create an online database to better track use and disclosures of SGARs (I have been on some of the coalition calls for this bill to ask questions and offer input).

So far, the bill [has 62 co-sponsors](#) in the State House, and had its hearing with the [Joint Committee for Natural Resources, the Environment and Agriculture](#) on Dec 14. That hearing will also include consideration of two other bills that could impact SGARs regulation in Massachusetts. [H. 910](#) would empower local governments with the ability to regulate—and potentially ban—certain pesticides, including rodenticides, on private property (currently state law does not allow municipalities to ban or restrict pesticides). [H.4143](#) would move authority and oversight of pesticide use and application in the state from the Massachusetts Department of Agricultural Resources to the state Department of Environmental Protection.

The pest lobby

In addition to legislative efforts in Massachusetts concerning SGARs, they [were banned in California in 2020](#) until their risks could be further evaluated by the state, while British Columbia placed a [temporary moratorium](#) on the rodenticides. Many local, state, and federally owned parks, wildlife refuges, and conservation lands—as well as school properties—have excluded them altogether.

If SGARs pose such high environmental and public health risks, while lacking data to support their effectiveness in reducing rodents in metro areas, why do they continue to be used so prevalently?

"As a commercial salesman, the biggest commission comes from rodenticide subscriptions," says Jerry Darcy, a former pest control professional, who worked for a national pest company in Massachusetts. "[That's why they] don't care what their product does to the environment."

Darcy—who asked his real name not be used to protect his identity—was forced to resign when his employer threatened legal action against him and delayed his pay for months after he was quoted in the news under his professional title discussing alternatives to poisons for rodent control. Darcy believes he was treated this way because rodenticides make up the biggest revenue stream for his company (which he also asked not be named), despite the fact that when he first interviewed for the job he was told he would be able to engage in poison-free work.

The pest control industry has invested hundreds of thousands of dollars contributing to federal elections in the last decade.

[According to the website OpenSecrets](#), which tracks campaign funding, the National Pest Management Association significantly increased its contribution rates to political candidates between 2012 and 2018 as compared to the decade prior. The vast majority of contributions (between 75% and 90%) were donated to Republican candidates.

The National Pest Management Association has also taken credit for influencing state governments, noting in [one article in a pest industry trade publication](#) that the association "dominated at the state-level thanks to the cooperation, energy and execution of our state pest control associations and State Policy Affairs Representatives."

Drew Toher, community resource and policy director of the nonprofit Beyond Pesticides, believes the influence of the pest control industry also extends to the very agency tasked with its oversight: the US EPA.

"The government pesticide program is sorely deficient to the point of failing," Toher says. "And recent reports show a disturbing depth of corruption."

Toher is referencing recent [investigative work by the Intercept](#) detailing the EPA's mishandling of the cases of four scientist whistleblowers at the agency. The scientists alleged the EPA's Office of Chemical Safety and Pollution Prevention tampered with dozens of chemical assessments in order to portray them as safer than they actually are and were retaliated against for speaking out.

[Another report](#) published by the US Government Accountability Office this year found that the EPA failed to prioritize its own program that evaluates different chemicals and that it proposed a 34% (\$12.7 million) cut to the 2021 budget to the division responsible for assessing the health and environmental risks of the chemicals they evaluate.

Almost all of the public housing agencies and municipal representatives interviewed for this article explained that the pest control companies they contracted with assured them SGARs were legal, safe, posed little environmental threat, and are the most effective methods for rodent control.

None of the major pest control companies contacted responded to specific questions for this article. Sylvester, the photographer who found a sickly C25, offered a point of view from outside of the pest control industry.

"It makes me think that I can't do [wildlife photography] anymore," Sylvester says. "All of the losses, it's just too much. Just one of the many reasons why these poisons must be banned."

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By **LAURA KIESEL**

Laura Kiesel is a Boston freelance writer who has written for The Street, Earth Island Journal, Z Magazine and Al-Jazeera America. She is currently working on a collection of personal essays tentatively titled "The Drug Addict's Daughter." Follow her on Twitter @SurvivalWriter.



What are rodenticides?

A rodenticide is a pesticide used to kill “pest” animals, such as mice and rats. Rodenticides are problematic not only because they cause immense suffering in target animals, but also because they can sicken and kill non-target animals, such as owls or cats who eat mice who had ingested the poison. There are several different types and classes of rodenticides, some of which are slightly less inhumane or less dangerous to non-target animals. However, all rodenticides inflict pain and suffering and none are guaranteed to spare non-target animals should they consume it.

Types of rodenticides

There are currently three classes of rodenticides: first generation anticoagulants, second generation anticoagulants (SGARs), and acute toxicants. The first two groups — first and second generation anticoagulants — are poisons used for rodent control that work by stopping the blood clotting processes, causing lethal hemorrhage. Animals bleed internally and suffer severe pain for several days before dying. While it’s unclear exactly how long it may take for an animal to die, as it is dependent on the amount consumed, some studies conclude 1-3 days for rats, others 4-8 days, and still others have found that it can take up to 11 days for mice to die. Animals typically remain conscious until close to the time of death.

Anticoagulants are also the most dangerous to non-target animals (i.e., pets and non-target wildlife). First generation anticoagulant rodenticides last for approximately 7 days in an animal’s system, but SGARs are more potent and generally last for 4 weeks, making them more dangerous to other animals who ingest poisoned prey. Predators tend to prey on poisoned dying animals due to their inability to move quickly. Animals who eat these poisoned animals (or the poison itself) may die a similarly painful death, or they may survive, but suffer hemorrhaging and detriments to their ability to reproduce, thus having broader population impacts.

The third category, acute toxicants, are considered slightly less cruel and less risky to non-target animals, but they are still dangerous and inflict suffering.

One type of acute toxicant — alpha-chloralose — is relatively easy to treat in non-target animals if discovered quickly, and appears to cause relatively less suffering in rodents. Also, animals who ingest sublethal doses rapidly recover to normal functioning. However, mice can build up a tolerance to alpha-chloralose and therefore carry a large quantity in their bodies that could severely impact non-target animals who eat the mice. And non-target animals must receive treatment quickly if they are to survive.

Another commonly used acute toxicant, zinc phosphate, usually kills the animal who ingests it within a few hours, but it causes severe pain. There is also no antidote to zinc phosphate, making it deadly to non-target animals. A third type, Calciferol, though classified as an acute toxicant, typically takes several days to kill the animal, causing pain and illness during that time. Its effects can be reversed, but with difficulty.

Another type, strychnine, also causes death. In early 2022, two dogs tragically died after ingesting what their veterinarian suspects to be this type of rat poison.

Is rat poison really that dangerous to other wildlife and to pets?

Yes. It usually takes days for a rodent to die from rat poison, during which time non-target species can ingest one or more contaminated animals. Non-target animals can also consume the poison directly.

The impact of rat poison on wildlife has been documented across Massachusetts. A [2011 study](#), for example, showed that a stunning 86% of 161 birds of prey had some form of second generation anticoagulants in their liver tissue. An [additional study](#), published in 2017, found a rate of 96%. Dr. Murray, researcher at the Tufts Wildlife Clinic at Cummings Veterinary Medical Center at Tufts University, notes that these birds are representative of the state, and that “the food chain is extensively contaminated.” And while the rodenticide may not always kill these non-target animals, it can still impact their ability to reproduce and sicken them. Animal control officers and veterinarians in the Commonwealth have seen, for example, birds of prey fall out of trees from muscle weakness and choke on their own blood from internal bleeding as a result of having ingested rodenticide.

The risk is so great to both wildlife and household pets that wildlife organizations [have urged](#) homeowners to only use poison as a last resort and, if hiring a pest control company,

ask them to use non-SGAR materials. Some of the many tragic examples of wildlife dying from rat poison — either from eating it directly or eating a prey animal that had ingested poison — include MA's [first confirmed eagle death](#) caused by rodenticides, [another bald eagle](#) only 5 months later, Ruby the Red-Tailed Hawk of Fresh Pond, a family dog, and a pregnant raccoon and her babies. In February 2023, a beloved eagle in Arlington, MA, who was nesting with her mate, succumbed to rodenticide poisoning despite tireless efforts of wildlife veterinarians. She is survived by her lifelong mate.

“Year after year we see the devastating effects these poisons have on our local wildlife. Our hospitals provide emergency veterinary care to hundreds of animals annually who are suffering from the effects of SGAR’s, and we know there are thousands more that never make it in for treatment. The health of our ecosystem and communities depend on the services these predators provide. It is time to empower people to make better choices when it comes to rodent control.” —Zak Mertz, Executive Director of the Birdsey Cape Wildlife Center

In addition to non-target wildlife, household pets are at risk of ingesting these toxins. The MSPCA's Angell Animal Medical Centers alone see dozens of cases of companion animals poisonings each year. The cases peak during spring and fall, when landlords and homeowners are most affected by the presence of mice or rats. The cost of veterinary care to treat an animal who has ingested rat poison can exceed \$2,000 and take weeks of supportive care and medication, putting a significant strain on families financially and emotionally.

The MSPCA is currently conducting a survey of licensed Massachusetts wildlife rehabilitators, and the preliminary results are striking. In 2019 and 2020, roughly a third of respondents treated animals that had been poisoned by rodenticide, and roughly an additional third treated animals that they suspected had been poisoned by rodenticide. Rehabilitators treated hawks, owls, chipmunks, skunks, and more; half of these animals had been poisoned by consuming a poisoned prey animal, while 33% ate the poison directly (and it was unclear in the remaining 17% of cases). Many of these animals needed to be humanely euthanized. Much work remains to be done in educating the public, as rehabilitators report that they are seeing an increase in rodenticide poisoning cases.

To address this serious issue, legislation has been filed at the Massachusetts State House. [SD 1144/HD 577: An Act relative to pesticides](#) was filed by State Senator Paul Feeny and State Representative Jim Hawkins in 2023. While personal use of SGARs is already banned in Massachusetts, licensed pest companies can still use it when hired to deal with rodent problems. This bill requires digitization of pesticide use forms for better monitoring

and requires the increased use of IPM strategies in Massachusetts. We hope educating home and business owners on the dangers of rodenticide will reduce their use in our communities.

What is the alternative?

As with virtually all wildlife conflicts, prevention is the best solution. While rodenticides may kill rodents, they do not solve rodent problems, as they merely create vacant habitat for new animals to fill. Trapping mice and rats is an endless cycle if the habitat is not altered, and so it is critical to address the source of the problem via prevention. Rather than turning to rodenticides, leaders, business owners, homeowners, etc. should adopt IPM, an approach used to solve issues with “pests” while minimizing risks to people, wildlife, and the environment. IPM involves establishing site-specific goals, consensus building, and human behavior change. Using an adaptive management approach, project results are evaluated and revisited if goals are not met.

More specifically, Massachusetts entities should do the following: remove all nesting materials from the problem area, such as old clothing, books, boxes, and papers; remove all food debris and store food in secure containers; and moisten rags with peppermint oil and place them under sinks, cabinets, and in cracks. After all the rats and/or mice have left, seal all holes as small as a dime with quick drying cement, foam insulation, or wire mesh, and attach rubber or metal runners at the bottom of all doors. If traps must be used, choose the Havahart live trap. [Use the MSPCA’s Intruder Excluder](#) for more solutions and [consult with one of these humane exclusion businesses](#).

How can I help?

As an individual, there are many things you can do. Choose prevention instead of rat poison in and around your home. If you live in a multi-unit complex, encourage the building manager to do the same. You can also educate others in your community. And keep an eye out for bills like the one mentioned above, SD 1144/HD 577, for which you can [lobby on the state level](#).

ANIMAL HEALTH & MEDICINE

Understanding the Risks of Rodent Poisons to Birds of Prey

A new study finds 100% of tested red-tailed hawks at Tufts Wildlife Clinic to be exposed to anticoagulant rodenticides

By Angela Nelson
September 16, 2020



Maureen Murray, V03, director of Tufts Wildlife Clinic and clinical associate professor at Cummings School of Veterinary Medicine, has been studying rodenticide exposure in birds of prey for over a decade. Exposure to rodenticides occurs when people use these chemicals to kill unwanted pests. Mice and rats, or possibly other animals, eat the poison, and then the birds eat the poisoned prey.

Murray has witnessed a steady increase in the number of birds of prey that come into Tufts Wildlife Clinic with rodenticides in their systems—some with fatal levels. But even Murray was taken aback by the results of her most recent study.

“One hundred percent of the red-tailed hawks in the present study tested positive for exposure to anticoagulant rodenticides,” said Murray. “In my 2017 paper, 97 percent of the hawks tested were positive, which is very high. But still, 100 feels like a much more dramatic number.”

The study, published in Environmental Toxicology and Chemistry, also found that 91 percent of the birds tested positive for two or more different types of anticoagulant rodenticide (AR), with the second-generation ARs (SGARs) brodifacoum, bromadiolone, and difethialone found most frequently. SGARs are more potent than their first-generation predecessors, to which some rats—particularly in Europe—developed an immunity.

ARs work by thinning the blood and cause the animal to slowly bleed to death. A single feeding of an SGAR potentially contains enough poison to kill a rodent. However, it takes a few days for the animal to die, and in the meantime, they may continue to feed on the poison. During that time, they may be eaten by birds of prey, such as hawks and owls. Even after the animal dies, its carcass contains SGAR residues that can be lethal for scavengers.

In addition to spontaneous and internal bleeding, for the impacted wildlife Murray sees in the clinic, secondary injuries such as lacerations or cuts can become life-threatening because the blood can't clot.

For the present study, Murray sampled 43 red-tailed hawks, which were admitted to the clinic but did not survive due to their injury or illness. She focused on this particular species because they are the most common bird of prey seen by the clinic and also because they're generalist predators, which offered a sense of how widespread the contamination is in the food chain.

“The ability of these rodenticides to permeate the food chain and ecosystems is pretty remarkable,” said Murray. “Other studies have shown residues in songbirds and insects. And that's what this study reflects. Red-tailed hawks eat a lot of small mammals, but they also eat birds, reptiles, or amphibians; they might scavenge. Ultimately, their prey base is very contaminated.”

“There's no such thing as a safe poison, but even among the range of poisons, anticoagulant rodenticides are a category that has very significant risks to our wildlife species,” said Maureen Murray. Photo: Alonso Nichols/Tufts University To test for exposure, she took a sample of liver tissue, where the SGAR compounds are stored, from each deceased red-tailed hawk. She also took a blood sample, because she wanted to answer the question of whether blood could be used to determine if a bird had been exposed to SGARs.

“The question is: Is there a way, in a live bird, to understand if that bird has been exposed to ARs or not? That can be important if there's a target population you want to sample, like birds migrating through a specific area, or a threatened or endangered species.” said Murray.

However, Murray found that blood tests were not a viable option to screen for SGAR exposure in red-tailed hawks, as blood was not sensitive enough to detect the compounds found in the poison—except in birds that ingested a lethal amount.

Reexamining Rodenticide Regulations

There's a reason SGARs exist: They're effective, and no one wants a mouse in their house. Still, there are some measures in place to reduce the use of SGARs.

In 2008, the U.S. Environmental Protection Agency (EPA) issued mitigation measures that tightened the rules around the sale of SGARs. The EPA's decision was prompted by evidence of exposure among children, pets, and “non-target wildlife” (animals such as birds of prey that aren't meant to be harmed by the poison).

The regulations, which didn't go into effect until 2011 and after, prevented the sale of SGARs directly to consumers at home improvement or garden supply stores, where they were once packaged and readily available for a single home's use. The regulations intended that only pest control professionals—who, under the regulations, can still use SGARs—would buy and use the products where they were deemed necessary. However, online sales have likely influenced the effectiveness of these regulations.

Murray said one of the reasons she has continued to monitor birds of prey at Tufts Wildlife Clinic for rodenticide poisoning is to measure the effectiveness of the approach the EPA has taken to regulating SGARs in preventing exposure of wildlife species.

“If we have solid data showing these types of rodenticides are dangerous to wildlife, that can help inform people who are making decisions, whether for their own homes, for a town, or more broad regulatory decisions,” she said.

She encouraged anyone looking for pest control solutions or hiring a pest management professional to consider approaches other than ARs. Find out where the mice or rats are coming in, plug up holes in the house or around windows, take away food and water sources, and clean out nesting sites—a process referred to as an integrated pest management approach, she said. ([Find more tips for solving a pest problem here.](#))

“There's no such thing as a safe poison, but even among the range of poisons, anticoagulant rodenticides are a category that has very significant risks to our wildlife

species,” said Murray. “When the time comes for the EPA to review the regulations and see how they’re working, this research can help to inform that decision.”

In 2014, a memorial fund to support Dr. Murray’s research was established in honor of Ruby, a beloved red-tailed hawk that lived in Cambridge and died due to ingestion of a lethal amount of SGARs. To donate to the Ruby Memorial Research Fund, please contact Ana Alvarado, Cummings School senior director of development, at ana.alvarado@tufts.edu or visit: https://tuftsgiving.org/giving-form.html?id=4&appeal_code=V0750.

Angela Nelson can be reached at angela.nelson@tufts.edu.

DIVISION 3. TREE PRESERVATION

Sec. 21-80 Findings, intent, and purpose.

The city council has determined that many trees are being lost ~~due to without replacement incident to~~ demolition of existing buildings in order to construct new buildings and lot clearing in connection with the construction of new buildings on both developed and previously undeveloped land. The city council has further determined that trees have been lost, severely damaged or disfigured through excessive or improper pruning or other than natural causes. The result is a net loss of the tree population in the city. The city council recognizes that climate change has already brought about significant changes to Newton's weather patterns especially in the form of more extreme heat, more frequent drought, and more intense rain-storms leading to flooding, and these impacts will only grow. Mature trees mitigate these weather extremes by absorbing stormwater, cooling the air, and sequestering carbon dioxide. Additional benefits of mature trees include better air quality, habitat for wildlife, and improved physical and mental health for residents. The city council has further determined that the city has insufficient legal vehicles to ~~assure that such development~~ adequately preserves, protects existing trees and provides for replacement of trees.

~~The p~~Preservation of ~~the~~ private tree canopy and the planting of replacement trees is intended to enhance the quality of life and the environment of the city; to protect public health against climate change impacts such as heat, drought, and flooding; to preserve the character of ~~the~~ wooded and natural areas; to reduce energy consumption; to protect air quality; to baffle noise; to preserve and enhance habitat for wildlife; to reduce topsoil erosion ~~and storm water runoff~~; to protect and increase property values; and to enhance the overall appearance of the city. (Ord. No. A-38, 05-05-14)

Sec. 21-81. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Aggregate diameter: The combined diameter of a multiple trunk tree measured at breast height.

Building: The term "building" shall be as defined in section 30-1.

Certified arborist: An arborist certified by the Massachusetts Arborists Association or International Society of Arboriculture, or any successor organization.

Diameter breast height (DBH): The diameter of the trunk of a tree 4½ feet above the existing grade at the base of the tree.

Drip line: A vertical line running through the outermost portion of the crown of a tree and extending to the ground.

~~—Exempt lot: A lot which meets all of the following criteria:~~

- ~~(1) The lot is occupied and used primarily as a dwelling for up to four families at the time any protected tree(s) are removed.~~

*Cross references – Cultural affairs committee, Ch. 2, Art. VI, Div. 3

State law reference—Parks and playgrounds generally, G.L. c. 45

- ~~(2) The lot owner at the time of protected tree removal has owned the lot continuously for a minimum of ninety (90) days prior to the removal of any protected tree(s).~~
- ~~(3) The existing structure on the lot remains occupied as a dwelling with a person or persons living in it for eighteen consecutive months from the date any protected tree(s) are removed.~~
- ~~(4) The lot remains owned by the same person for eighteen consecutive months from the date any protected tree(s) are removed.~~

Exterior work permit: A permit or approval which is required in order to perform work on a vacant lot or to the exterior of a building on a lot, including, but not limited to the following: a building permit; a review of an alteration of contour of land if required pursuant to section 30-5(c)(1); curb cut and street opening permits; an order of conditions; certificates of appropriateness, nonapplicability, or hardship; a demolition permit pursuant to section 22-44; site plan approval pursuant to section 30-23; subdivision approval; a special permit pursuant to section 30-24; a comprehensive permit.

Hedge: A line of closely spaced trees, typically spaced less than 10 feet apart, planted to form a barrier or to mark the boundary of an area.

Landmark Tree: Any tree having a diameter of 40" DBH to 54" and which is located on land subject to the provisions of section 21-82.

Legacy Tree: Any tree having a diameter of 55" DBH or larger and which is located on land subject to the provisions of section 21-82.

Lot: The real property contained within front, rear and side lot lines, as established by a plan filed in the registry of deeds, which divide the property from adjoining properties.

Occupied Lot: A lot containing a legally constructed, permanent structure, used primarily as a dwelling that is currently being legally occupied and lived in and used as a residence by a person or persons. The dwelling must have a functioning, legally permitted, permanent water service, permanent sanitary service, and permanent electrical service.

Person: Any person, firm, partnership, association, corporation, company or organization of any kind including, but not limited to, the person removing a protected tree as well as the owner of the real property from which the tree is removed. The definition of "person" shall not include the City of Newton.

~~*Protected tree:* Any tree having a diameter of eight inches (8") DBH or larger or having an aggregate diameter of fifteen inches (15")-6" DBH or larger and which is located on land subject to the provisions of section 21-82.~~

~~*Pruning standards:* Standards for pruning as defined in the City of Newton Tree Management Manual, 1995 and any future amendments or revisions to the same. most current American National Standard Institute (ANSI) A300 Pruning Standards and as defined by the Tree Warden.~~

Remove (including removing and removal): The cutting down of any protected tree and all other acts which cause the actual removal or the effective removal through damaging, poisoning or other direct or indirect actions resulting in the death of a protected tree, including, but not limited to, excessive or improper pruning.

Risk Tree Evaluation: The process by which a tree is evaluated to determine the level of risk it poses to the existing property and public at the time of inspection. All risk tree evaluations shall be conducted by a qualified Certified Arborist using a systematic process that identifies, analyzes, and evaluates risk. All tree risk evaluations

are to follow the most current ANSI A300 Part 9 Tree Risk Assessment protocol. All tree risk assessments are to be done utilizing industry accepted protocols, forms, and other documentation required by the Tree Warden.

Significant Tree: Any tree having a diameter of 25" DBH to 39" DBH and which is located on land subject to the provisions of section 21-82. Or is a replacement tree as described in 21-85 (e).

~~—Tree Manual: The City of Newton Tree Management Manual, 1995, and any future amendments and revisions to the same. (Ord. No. V 275, 12-6-99)~~

Tree Plan: A plan showing (1) the location, type, and size of each tree 5" DBH and larger; (2) which tree(s) are to be removed; and (3) the location, type, and size of replacement trees. The tree plan should also show the location, estimated size, and tree type of any trees that were removed from the lot within the prior 24 months leading up to the application date.

Tree Protection Plan: A plan developed by a Certified Arborist, following the most current version of the ANSI A300 standards including Part 5, management standards for the site planning and development. This plan shall set out measures for protecting all trees on the lot during construction as well as trees adjacent to the lot that may be impacted by the construction activity on the applicant's lot.

Tree Save Area: Area within the dripline of a tree or the area within a radius around the tree trunk of 1.5 feet for every inch of DBH, whichever is greater.

Tree Warden: The commissioner of parks, recreation and culture or his designee. (Rev. Ord. 2007, § 20-31; Ord. No. A-38, 05-05-14; Ord. No. B-53, 03-02-20)

Sec. 21-82. Applicability, permit or certificate of exemption required.

(a) Applicability: The terms and provisions of this article shall apply to any protected tree located on land within the city not owned by the city, the commonwealth, or any independent authority of the commonwealth, or by the federal government ~~except protected tree(s) located on an exempt lot pursuant to paragraphs (c) and (d) below.~~ Except on single or two family residential occupied lots where no exterior construction is presently underway or planned to take place during the 24 months following the removal of trees, the trees to be removed do not meet the Landmark tree designation, and the owner obtains an exemption permit from the tree warden.

(b) Permit, ~~certificate of exemption~~: No person shall remove a protected tree on a ~~non-exempt~~ lot located on land subject to the provisions of this article, or commence legally permitted exterior work on any lot without first obtaining a tree permit ~~or a certificate of exemption~~ from the tree warden. Applications shall be made in writing on forms specified by the tree warden.

~~—(c) Exempt lot, certificate of exemption: The owner of an exempt lot shall not be required to apply for a tree permit, provided however, that an owner of an exempt lot who seeks an exterior work permit must certify to the tree warden on form(s) provided by the tree warden, that as of the date on the form(s) the lot qualifies as an exempt lot and will remain an exempt lot for eighteen months following tree removal. There shall be no fee for filing a certificate of exemption.~~

~~(1) The tree warden shall determine whether a property is an occupied lot for the purposes of establishing exempt lot status. The property owner shall, if requested by the tree warden provide proof of ownership as well as a written statement confirming ownership and that a person or persons are living in the property.~~

~~(2) If lot ownership changes during the eighteen consecutive months following the removal of any protected tree(s) on an exempt lot, the new owner must apply for a tree permit and shall be required to replace any protected tree(s) that were removed. If, however, a change of ownership occurs on a lot for which an extension of exempt lot status for non-occupancy during construction has been issued within the eighteen months prior to the change in ownership, the person issued such extension shall apply for a tree permit and shall be required to replace any protected tree(s) that were removed.~~

~~—(d) Extension of exempted lot status: If at any point during the eighteen consecutive months following the removal of any protected tree(s) the property is no longer an occupied lot, the current owner of the lot must apply for a tree permit. If the non-occupancy is due to legally permitted construction, the tree warden may grant an extension of exempt lot status for the duration of the construction, provided:~~

~~(1) The owner intends to own the lot for eighteen consecutive months from the date a certificate of occupancy is issued for the construction for which the extension was issued; and~~

~~(2) The property remains an occupied lot for eighteen consecutive months from the date a certificate of occupancy is issued for the construction for which the extension was issued.~~

~~(3) Upon request of an applicant for exempt lot status extension, the tree warden may also waive the requirement that the lot be continuously owned by the same owner for ninety (90) days prior to protected tree removal provided the owner intends to own the lot for twenty one months from the date a certificate of occupancy is issued for the construction for which the extension is granted.~~

~~(4) If at any time during the applicable eighteen or twenty one month period the lot ownership changes or the lot is not occupied, the tree warden shall revoke the tree permit and exempt lot status extension. The person issued the extension shall file a new tree permit application and shall replace any protected trees that were removed.~~

~~(5) Any person issued an extension of exempt lot status must report to the tree warden any change of ownership and any change of occupancy status within fifteen (15) days of the change if that change takes place during the applicable eighteen (18) month or twenty one (21) month period following the date the certificate of occupancy issued. (Ord. No. A 38, 05-05-14)~~

~~(c) In the case where tree(s) were removed from a single or two family residential occupied lot where no exterior construction was planned but construction did not take place within the 24 months following the removal of tree(s) the current property owner will be required to comply with the replacement requirements of sec. 21-85~~

Sec. 21-83. Permit application.

~~(a) Contents-fee: An application for a tree permit shall be submitted to the tree warden. The application for a tree permit shall be accompanied by a fee in the amount of one hundred fifty dollars (\$150.00) and shall include, but not be limited to, the following:~~

~~(1) A plan showing The the shape and dimensions of the parcel of real property to be developed, together with the existing and proposed locations of structures and improvements, if any, and showing the limit of work;~~

~~(2) A tree plan showing the location, type and size of each protected tree 5" in DBH and larger indicating which protected tree(s) are to be removed, and the location, type and size of replacement trees. The tree plan should also show the location, estimated size, and tree type of any trees that were removed from the lot within the prior 24 months leading up to the application date;~~

- (3) Documentation from a Certified Arborist if any trees are dead, diseased, injured, in danger of falling, dangerously close to existing structures, disrupting public utility services, causing drainage or passage problems on rights-of-way, or posing a threat to public safety
- (34) The proposed relocation of any existing protected tree with a statement prepared by a certified arborist explaining how each such protected tree is to be relocated and maintained;
- (45) The location of existing and proposed underground or overhead utility services, existing and proposed roadways, bikeways, walkways and parking areas;
- (56) Any proposed grade changes which might adversely affect or endanger any Protected Tree with or is within the Tree Save Area of any protected tree on the applicant's lot or any abutting lot requires a statement prepared by a Certified Arborist explaining how each such protected tree shall be protected and maintained;
- (76) The proposed method of protecting the remaining protected trees on the applicant's lot and any abutting lots during the course of the construction or tree removal shall be prepared by a Certified Arborist;-
- (8) For any activity requiring Exterior Work Permit or involving tree removal, where Protected Trees are to remain on the lot or where the Tree Save Area of Protected Trees on adjacent lots come onto the applicant's lot, a Tree Protection Plan must be completed by a Certified Arborist (as specified in 21-81);
- (9) The Tree Warden may waive the above listed requirements when an applicant is seeking to remove a protected tree, but no exterior work is planned. The Tree Warden shall still require a tree permit application be filed and supporting documentation provided.

(b) Fee: The application for a tree permit shall be accompanied by a fee in the amount(s) listed below.

- (1) The fee for an exemption permit or tree permit for the removal of a dead or significantly compromised tree(s) that a certified arborist has attested to on forms required by the City shall be \$0.
- (2) The administrative fee for processing a tree permit for all tree removal work or Exterior work with the exception of (b)(1) shall be \$200.

(cb) Review of permit applications: The tree warden shall review applications for tree permits in accordance with the provisions of this article. The tree warden shall date stamp or otherwise record the date of filing of each application for a tree permit. The tree warden shall complete the review of each tree permit application no later than ten (10) business days after the submission of a completed application to the tree warden and shall report to the commissioner of inspection services within ten (10) business days of a request with respect to any tree permit application submitted in connection with a building permit as to whether said tree permit has been granted or denied. If no such report is received by the commissioner within the above-stated time period, ~~he~~the commissioner shall accept an application for a building permit without receipt of such report.

The City shall use the online permitting system to automatically generate notifications of Tree Permit applications to abutters of the lot on which the Protected Tree is located.

(de) Standards for grant or denial: No tree permit shall be issued unless one of the following conditions exists:

- (1) The protected tree will be relocated or replaced on site per section 21-85, Tree Replacement.
- (2) The protected tree will be replaced by payment in lieu of planting replacement trees as outlined in section 21-86.

- (3) The protected tree is interfering with existing structures, utilities, streets, sidewalks or other existing improvements. Documentation of the interference and damage being currently caused shall be provided to the Tree Warden as part of the permit application, per section 21-83(a)(3).
- (4) The protected tree is dead, diseased, injured, in danger of falling, dangerously close to existing structures, is causing disruption of public utility service, is causing drainage or passage problems upon rights-of-way, or poses a threat to pedestrian or vehicular safety. Documentation shall be provided by a Certified Arborist utilizing industry approved Risk Tree Evaluation method and any additional forms or documentation required by the Tree Warden.
- (5) The removal of the protected tree is necessary and desirable in order to enhance or benefit the health or condition of other trees on the same site as certified to the tree warden by a certified arborist.
- (6) No protected tree(s) are to be removed from the site and appropriate tree protection measures will be in place where necessary as determined by the tree warden.

~~(e)~~ *Conditions:* Upon the issuance of a tree permit, the tree warden may prescribe in writing ~~such protective measures for existing protected trees as he deems necessary. Before site disturbance may begin, the tree warden may make a determination that the prescribed protective measures have been adequately provided.~~ additional parameters and requirements related to the protection of trees to remain on the lot and trees within a reasonable distance from the lot.

No Exterior Work, site disturbance, or tree removal work shall take place on a lot until all tree protective measures are approved and in place. The Tree Permit holder must provide documentation from a Certified Arborist on the form(s) provided by the Tree Warden that all protective measures are in place, the Tree Warden will provide written documentation to the property owner that Exterior Work may commence.

A copy of the Tree Permit must be displayed on site such that it is visible from the adjacent roadways and must be in place no later than the day after issuance and remain in place for the duration of the permit-related activities.

~~(f)~~ *Construction:* Except as provided in a tree permit, construction activities ~~under within~~ the ~~drip line-Tree Save Area~~ of a protected tree, including those on adjoining lots, are prohibited. Activities include, but are not limited to, excavation, trenching or grading, storage of materials or equipment, passage of heavy equipment within the ~~drip line-Tree Save Area~~ and spillage of chemicals or other materials, which are damaging to trees. Tree Protection Plans provided by the Certified Arborist must also include protective measures for protected trees on adjoining lots.

~~(g)~~ *Suspension or revocation:* A tree permit may be suspended or revoked at any time by the tree warden upon written notice to the permit holder that the permit holder has failed to comply with either this article or the conditions of the permit. The written notice shall be sent by certified or registered mail, return receipt requested, or by hand delivery and shall provide an opportunity for the permit holder to correct the noncompliance and apply for a renewal of the tree- permit upon compliance, where practicable. The suspension or revocation of a tree permit in accordance with this subsection shall not affect the validity of a building permit issued in reliance upon the issuance (granting) of such tree permit ~~nor shall such suspension or revocation be cause for withholding the issuance of a certificate of occupancy.~~ and the Commissioner of Inspectional Services may review a suspension or revocation of a tree permit for consideration of issuing a stop-work order or to withhold the issuance of a certificate of occupancy.

~~(h)~~ *Appeal:* Any person aggrieved by a decision of the tree warden may file an appeal with the mayor or his designee. Said appeal must be in writing and must be received by the mayor or ~~his~~-their designee within five (5) business days of issuance of the tree warden's decision. Upon receipt of such appeal, the mayor or ~~his~~-their

designee shall provide a copy to the clerk of the city council and to each councilor for the ward in which the trees are located.- The mayor shall seek input and consult with the councilors from the ward which the trees are located. The mayor or ~~his-their~~ designee shall make a final decision on the matter within thirty (30) days from the date of receipt of the appeal. The mayor or ~~his-the mayor's~~ designee shall include in the decision the rationale therefor. Upon issuance of the final decision, the mayor or ~~his-the mayor's~~ designee shall provide a copy to the clerk of the city council ~~and to each ward councilor for the ward in which the trees are located and to each abutter.~~ There shall be no further appeal of the matter decided by the mayor or ~~his-the mayor's~~ designee. No protected trees shall be removed while an appeal is pending. (Ord. No. V-275, 12-6-99; Ord. No. X-202, 04-03-06; Rev. Ord. 2007, § 20-33; Ord. No. A-38, 05-05-14)

Sec. 21-84. Activities not requiring a permit.

(a) *Pruning*: A permit is not required for the pruning of protected trees. However, in order to prevent excessive pruning and topping of trees and to prevent pruning that will be hazardous to the health and natural appearance of the tree, compliance with ANSI A300~~approved~~ pruning standards is required, and failure to meet these standards is a violation of this article. ~~The tree warden shall maintain on file at all times a copy of the current edition the Tree Manual and shall make copies of the Tree Manual available for the cost of reproduction upon request.~~

(b) *Emergencies*: If any protected tree shall be determined to be in a hazardous condition so as to immediately endanger the public health, safety or welfare or cause an immediate disruption of public services and require immediate removal without delay, oral authorization may be given by the tree warden to remove such tree, utilizing such professional criteria and technical assistance as the tree warden ~~he~~ deems necessary, and the protected tree may be removed without obtaining a written permit as otherwise required by this article. The tree warden shall memorialize in writing each such oral authorization to remove a tree and keep a record of the same.

(c) *Waiver*: The requirements of this article may be waived by the tree warden during the period of an emergency such as a tornado, windstorm, flood or other act of God. (Ord. No. V-275, 12-6-99; Rev. Ord. 2007, § 20-34; Ord. No. A-38, 05-05-14)

Sec. 21-85. Tree replacement.

(a) *Required*: A protected tree shall be replaced in the manner provided in subsection (b) hereof in each instance in which a protected tree was removed from land subject to the provisions of section 21-82 without a tree permit.

(b) *Standards*: A person who has removed a protected tree and is required to replace such tree pursuant to subsection (a) hereof or as a condition of granting a tree permit in accordance with section 21-83, shall replace such tree within eighteen (18) months, or prior to transfer of property ownership whichever comes first from the date the tree permit is issued and in accordance with the following standards:

- (1) A replacement tree shall be of the same or similar species or such other species as deemed advisable by the tree warden. ~~in accordance with the Tree Manual and shall have the same or equivalent size as measured in DBH inches as that of the protected tree that has been removed. Trees planted as hedges shall not count as replacement trees unless otherwise permitted by the Tree Warden.~~
- (2) In the event that a tree of the same or equivalent size as measured in DBH inches cannot be planted, then multiple smaller replacement trees may be planted provided that, wherever practicable, as determined by the tree warden, the total DBH of the replacement trees shall, ~~when added together, equal the total DBH of the protected tree that has been removed. The tree warden may specify that replacement trees be of a minimum caliper when consistent with current accepted practice as stated in the Tree Manual. Conform to the following:~~

- (a) For every protected tree removed, that does not qualify as a Significant, Landmark, or Legacy Tree, the total DBH of the replacement trees shall, when added together, equal the total DBH of the protected tree that has been removed.
- (b) For every protected tree removed that also meets the Significant Tree definition, but is not a Landmark or Legacy Tree, the total DBH of the replacement trees shall, when added together equal 1.5 times the total DBH of the Significant Tree that has been removed.
- (c) For every protected tree removed that also meets the Landmark Tree definition, but is not a Legacy Tree the total DBH of the replacement trees shall, when added together, equal 2 times the total DBH of the Landmark Tree that has been removed.
- (d) For every protected tree removed that also meets the Legacy Tree definition, the total DBH of the replacement trees shall, when added together, equal 3 times the total DBH of the Legacy Tree that has been removed.

(3) ~~(3)~~ A replacement tree shall be considered a Significant Tree regardless of trunk diameter, health or condition required to survive for a minimum of eighteen (18) months from the date it is planted. The Tree Permit holder person planting the tree shall provide documentation as to the date of planting and file the same with the tree warden within fifteen (15) days of the planting of said replacement tree. Documentation shall be provided by a Certified Arborist on form(s) provided by the Tree Warden that the trees are in place.

(4) No replacement tree shall be removed without a Tree Permit. The Tree Permit applicant will be required to meet the replacement requirements of a Significant Tree any time a replacement tree is to be removed.

(5) A replacement tree shall be planted on the same lot from which the tree was removed.- (Ord. No. V-275, 12-6-99; Rev. Ord. 2007, § 20-35, Ord. No. A-38, 05-05-14)

(c) *Newton Cemetery and Arboretum Exemption:* This Section 21-85 shall not apply to Protected Trees that are removed in the Newton Cemetery and Arboretum (the "Cemetery") if the following criteria are met:

- (1) The Cemetery is accredited as a Level II Arboretum by the Arbnat Arboretum Accreditation Program;
- (2) The Cemetery submits a report annually that lists the current inventory of trees on the property; lists the number of species of removed and newly planted trees in that time period. The report shall describe means to maintain the newly planted trees;
- (3) The report is submitted to the Tree Warden for review.
- (4) The Cemetery employs a Certified Arborist on its staff.

If the Tree Warden determines that the Cemetery is not in compliance with any of the above, they shall notify the Cemetery to comply within twelve months. If the Cemetery fails to comply, to the satisfaction of the TreeWarden, the Tree Warden may impose remedies, including the requirement to comply with this Section 21-85.

Sec. 21-86. Tree replacement fund.

(a) *Established:* There is hereby established a tree replacement fund which shall be held in a separate identifiable account and administered in accordance with applicable provisions of the General Laws. Any payments into the tree replacement fund required by this article shall be deposited in the tree replacement fund and shall be used in accordance with subsection (c) hereof.

(b) *Payment in lieu of planting replacement tree(s)*: In lieu of planting a replacement tree as provided in section 21-85, a person who has been granted a tree permit may make a contribution to a tree replacement fund in an amount equal to the cost to replace the tree in accordance with the provisions of section 21-85, which cost shall be determined by the tree warden based on the City's current cost to purchase ~~and install trees.~~ install, and maintain trees for the first five years. The Tree Warden will update and publish this cost annually.

(c) *Maintenance of tree replacement fund*: The tree replacement fund shall be maintained in a separate account in accordance with state law. All sums deposited into such fund shall be used solely for the purpose of buying, planting and maintaining trees in the city. (Ord. No. V-275, 12-6-99; Rev. Ord. 2007, § 20-36; Ord. No. A-38, 05-05-14)

Sec. 21-87. Rule and regulations.

The tree warden is authorized to promulgate reasonable rules and regulations to implement administration of sections 21-80 through 21-90. (Ord. No. A-38, 05-05-14)

Sec. 21-88. Enforcement.

(a) *Notice of violation*: Any person who violates any of the provisions of this article shall be notified by the tree warden of the specific violation by certified mail, return receipt requested, or by hand delivery. The notice shall set forth the nature of the violation and a reasonable time period within which compliance must be had. The tree warden shall send notice of violation of section 21-86), which notice shall include the date by which trees were to be replaced or payment was to be made for purposes of computing the "per day" violation fine, as provided in section 21-89.

(b) *Stop work order*:

- (1) Upon notice from the tree warden that work on any protected tree, or lot, or abutting lot, on which a protected tree is located, is being performed contrary to the provisions of this article, such work shall be immediately stopped. The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work; and shall state the conditions under which work will be permitted to resume.
- (2) The tree warden is also authorized to request the agency which has granted an exterior work permit to order, to the extent permissible by law, that the owner cease any activity pursuant to the exterior work permit that might affect such protected tree while a stop work order is pending.
- (3) Any person who shall continue any work in or about the protected tree or lot on which a protected tree is located, or an abutting lot, after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of not more than three hundred dollars (\$300.00) for each such violation. Each day during which a violation exists shall constitute a separate offense.

(c) *Injunctive relief*:

- (1) Whenever there exists reasonable cause to believe that a person is violating this article or any standards adopted pursuant to this article or any term, condition or provision of an approved tree permit, the city may, either before or after the institution of any other action or proceeding authorized by this article, institute a civil action in the name of the city for a mandatory or prohibitory injunction and an order of abatement demanding the defendant to correct the unlawful condition upon or cease the unlawful use of the property.

- (2) Upon determination of a court that an alleged violation is occurring, it shall enter such order or judgment as is necessary to abate the violation. -The institution of an action for injunctive relief under this subsection shall not relieve any party to such proceedings from any civil penalty prescribed for violation of this article. (Ord. No. V-275, 12-6-99; Rev. Ord. 2007, § 20-37; Ord. No. A-38, 05-05-14)

Sec. 21-89. Penalties.

(a) *Removal without a permit:* Each instance in which a protected tree is removed without a permit shall constitute a violation of this article which shall be subject to a fine in the amount of three hundred dollars (\$300.00).

(b) *Failure to replace trees or make payment:* Each failure to replace a tree or make a payment into the tree replacement fund shall constitute a separate violation of this article which shall be subject to a fine in the amount of three hundred dollars (\$300.00). Each day such violation continues shall constitute a separate offense.

(c) *Failure to comply with a condition contained in a tree permit or stop work order:* Each instance where there is a failure to comply with a condition contained in a tree permit or stop work order shall constitute a violation of this article which shall be subject to a fine in the amount of three hundred dollars (\$300.00). Each day such violation continues shall constitute a separate offense.

(d) *City trees:* Nothing herein shall be construed to require the city to make a payment into the tree replacement fund for any tree(s) which it removes. (Ord. No. V-275, 12-6-99; Rev. Ord. 2007, § 20-38; Ord. No. A-38, 05-05-14)

Sec. 21-90. Severability, effect on other laws.

(a) *Severability:* The provisions of this article are severable.- If any section, provision, or portion of this article is determined to be invalid by a court of competent jurisdiction, then the remaining provisions of this article shall continue to be valid.

(b) *Conflict of laws:* This article shall not apply to any public shade tree as that term is defined by the General Laws, Chapter 87 or any amendments thereto. Nothing herein is intended to conflict with the General Laws, Chapter 87 and to the extent that any provision hereof conflicts with said Chapter 87, such provision shall not be valid. ~~Nothing herein is intended to conflict with existing special permit procedures as provided in section 30-24 and to the extent that any provision hereof conflicts with said special permit procedures, such provision shall not be valid.~~ (Ord. No. V-275, 12-6-99; Rev. Ord. 2007, § 20-39; Ord, No. A-38, 05-05-14)

Alternatives for discussion

Tree Ordinance Tree Replacement Cost Options, Draft 4-14-2023

Tree DBH	Current Ordinance	Tree Warden Proposal	Councilor Base Value of \$13	Councilor Base Value of \$25	Councilor Base Value of \$50	30 year Environmental Value Lost	Cost to Replace Environmental Value	Combined 30 year Enviro value/ Replacement Cost	Per Inch Replacement Incl. 5yr Maintenance
6"	na	\$ 1,650	\$ 367	\$ 707	\$ 1,413	\$ 2,385	\$ 690	\$ 3,075	\$ 1,650
7"	na	\$ 1,925	\$ 500	\$ 962	\$ 1,923	\$ 2,606	\$ 754	\$ 3,360	\$ 1,925
8"	\$ 2,000	\$ 2,200	\$ 653	\$ 1,256	\$ 2,512	\$ 2,827	\$ 818	\$ 3,645	\$ 2,200
9"	\$ 2,250	\$ 2,475	\$ 827	\$ 1,590	\$ 3,179	\$ 3,048	\$ 882	\$ 3,930	\$ 2,475
10"	\$ 2,500	\$ 2,750	\$ 1,021	\$ 1,963	\$ 3,925	\$ 3,269	\$ 946	\$ 4,215	\$ 2,750
11"	\$ 2,750	\$ 3,025	\$ 1,235	\$ 2,375	\$ 4,749	\$ 3,490	\$ 1,010	\$ 4,500	\$ 3,025
12"	\$ 3,000	\$ 3,300	\$ 1,470	\$ 2,826	\$ 5,652	\$ 3,711	\$ 1,074	\$ 4,785	\$ 3,300
13"	\$ 3,250	\$ 3,575	\$ 1,725	\$ 3,317	\$ 6,633	\$ 3,932	\$ 1,138	\$ 5,071	\$ 3,575
14"	\$ 3,500	\$ 3,850	\$ 2,000	\$ 3,847	\$ 7,693	\$ 4,153	\$ 1,202	\$ 5,356	\$ 3,850
15"	\$ 3,750	\$ 4,125	\$ 2,296	\$ 4,416	\$ 8,831	\$ 4,374	\$ 1,266	\$ 5,641	\$ 4,125
16"	\$ 4,000	\$ 4,400	\$ 2,612	\$ 5,024	\$ 10,048	\$ 4,596	\$ 1,330	\$ 5,926	\$ 4,400
17"	\$ 4,250	\$ 4,675	\$ 2,949	\$ 5,672	\$ 11,343	\$ 4,817	\$ 1,394	\$ 6,211	\$ 4,675
18"	\$ 4,500	\$ 4,950	\$ 3,306	\$ 6,359	\$ 12,717	\$ 5,038	\$ 1,458	\$ 6,496	\$ 4,950
19"	\$ 4,750	\$ 5,225	\$ 3,684	\$ 7,085	\$ 14,169	\$ 5,259	\$ 1,522	\$ 6,781	\$ 5,225
20"	\$ 5,000	\$ 5,500	\$ 4,082	\$ 7,850	\$ 15,700	\$ 5,480	\$ 1,586	\$ 7,066	\$ 5,500
21"	\$ 5,250	\$ 5,775	\$ 4,500	\$ 8,655	\$ 17,309	\$ 5,701	\$ 1,650	\$ 7,351	\$ 5,775
22"	\$ 5,500	\$ 6,050	\$ 4,939	\$ 9,499	\$ 18,997	\$ 5,922	\$ 1,714	\$ 7,636	\$ 6,050
23"	\$ 5,750	\$ 6,325	\$ 5,398	\$ 10,382	\$ 20,763	\$ 6,143	\$ 1,778	\$ 7,922	\$ 6,325
24"	\$ 6,000	\$ 6,600	\$ 5,878	\$ 11,304	\$ 22,608	\$ 6,364	\$ 1,842	\$ 8,207	\$ 6,600
25"	\$ 6,250	\$ 6,500	\$ 6,378	\$ 12,266	\$ 24,531	\$ 6,585	\$ 1,906	\$ 8,492	\$ 6,875
26"	\$ 6,500	\$ 10,725	\$ 6,899	\$ 13,267	\$ 26,533	\$ 6,807	\$ 1,970	\$ 8,777	\$ 7,150
27"	\$ 6,750	\$ 11,138	\$ 7,439	\$ 14,307	\$ 28,613	\$ 7,028	\$ 2,034	\$ 9,062	\$ 7,425
28"	\$ 7,000	\$ 11,550	\$ 8,001	\$ 15,386	\$ 30,772	\$ 7,249	\$ 2,098	\$ 9,347	\$ 7,700
29"	\$ 7,250	\$ 11,963	\$ 8,582	\$ 16,505	\$ 33,009	\$ 7,470	\$ 2,162	\$ 9,632	\$ 7,975
30"	\$ 7,500	\$ 12,375	\$ 9,185	\$ 17,663	\$ 35,325	\$ 7,691	\$ 2,226	\$ 9,917	\$ 8,250
31"	\$ 7,750	\$ 12,788	\$ 9,807	\$ 18,860	\$ 37,719	\$ 7,912	\$ 2,290	\$ 10,202	\$ 8,525
32"	\$ 8,000	\$ 13,200	\$ 10,450	\$ 20,096	\$ 40,192	\$ 8,133	\$ 2,354	\$ 10,488	\$ 8,800
33"	\$ 8,250	\$ 13,613	\$ 11,113	\$ 21,372	\$ 42,743	\$ 8,354	\$ 2,418	\$ 10,773	\$ 9,075
34"	\$ 8,500	\$ 14,025	\$ 11,797	\$ 22,687	\$ 45,373	\$ 8,575	\$ 2,482	\$ 11,058	\$ 9,350
35"	\$ 8,750	\$ 14,438	\$ 12,501	\$ 24,041	\$ 48,081	\$ 8,796	\$ 2,546	\$ 11,343	\$ 9,625
36"	\$ 9,000	\$ 14,850	\$ 13,226	\$ 25,434	\$ 50,868	\$ 9,018	\$ 2,610	\$ 11,628	\$ 9,900
37"	\$ 9,250	\$ 15,263	\$ 13,971	\$ 26,867	\$ 53,733	\$ 9,239	\$ 2,674	\$ 11,913	\$ 10,175
38"	\$ 9,500	\$ 15,675	\$ 14,736	\$ 28,339	\$ 56,677	\$ 9,460	\$ 2,738	\$ 12,198	\$ 10,450
39"	\$ 9,750	\$ 16,088	\$ 15,522	\$ 29,850	\$ 59,699	\$ 9,681	\$ 2,802	\$ 12,483	\$ 10,725
40"	\$ 10,000	\$ 22,000	\$ 16,328	\$ 31,400	\$ 62,800	\$ 9,902	\$ 2,866	\$ 12,768	\$ 11,000
41"	\$ 10,250	\$ 22,550	\$ 17,155	\$ 32,990	\$ 65,979	\$ 10,123	\$ 2,930	\$ 13,053	\$ 11,275
42"	\$ 10,500	\$ 23,100	\$ 18,002	\$ 34,619	\$ 69,237	\$ 10,344	\$ 2,994	\$ 13,339	\$ 11,550
43"	\$ 10,750	\$ 23,650	\$ 18,869	\$ 36,287	\$ 72,573	\$ 10,565	\$ 3,058	\$ 13,624	\$ 11,825
44"	\$ 11,000	\$ 24,200	\$ 19,757	\$ 37,994	\$ 75,988	\$ 10,786	\$ 3,122	\$ 13,909	\$ 12,100
45"	\$ 11,250	\$ 24,750	\$ 20,665	\$ 39,741	\$ 79,481	\$ 11,007	\$ 3,186	\$ 14,194	\$ 12,375
46"	\$ 11,500	\$ 25,300	\$ 21,594	\$ 41,527	\$ 83,053	\$ 11,229	\$ 3,250	\$ 14,479	\$ 12,650
47"	\$ 11,750	\$ 25,850	\$ 22,543	\$ 43,352	\$ 86,703	\$ 11,450	\$ 3,314	\$ 14,764	\$ 12,925
48"	\$ 12,000	\$ 26,400	\$ 23,512	\$ 45,216	\$ 90,432	\$ 11,671	\$ 3,378	\$ 15,049	\$ 13,200
49"	\$ 12,250	\$ 26,950	\$ 24,502	\$ 47,120	\$ 94,239	\$ 11,892	\$ 3,442	\$ 15,334	\$ 13,475
50"	\$ 12,500	\$ 27,500	\$ 25,513	\$ 49,063	\$ 98,125	\$ 12,113	\$ 3,506	\$ 15,619	\$ 13,750
51"	\$ 12,750	\$ 28,050	\$ 26,543	\$ 51,045	\$ 102,089	\$ 12,334	\$ 3,570	\$ 15,904	\$ 14,025
52"	\$ 13,000	\$ 28,600	\$ 27,594	\$ 53,066	\$ 106,132	\$ 12,555	\$ 3,634	\$ 16,190	\$ 14,300
53"	\$ 13,250	\$ 29,150	\$ 28,666	\$ 55,127	\$ 110,253	\$ 12,776	\$ 3,698	\$ 16,475	\$ 14,575
54"	\$ 13,500	\$ 29,700	\$ 29,758	\$ 57,227	\$ 114,453	\$ 12,997	\$ 3,762	\$ 16,760	\$ 14,850
55"	\$ 13,750	\$ 45,375	\$ 30,870	\$ 59,366	\$ 118,731	\$ 13,218	\$ 3,826	\$ 17,045	\$ 15,125

Dear Councilor Humphrey,

I spoke with the President and Chair of the Legislative Committee of the Massachusetts Cemetery Association. The same chapters and sections of the [Town%20burial%20places]MGL Chapter 114 that were shared with you last week were referenced:

Care of neglected burial places within limits of town:

<https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXVI/Chapter114/Section18>

Town burial places:

<https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXVI/Chapter114/Section10>

I know you spoke to this at last week's Programs & Services Committee Meeting: Newton Cemetery was authorized to function as a cemetery with an obligation to serve as a burial ground *and* provide perpetual care of the grounds. The penalties of the Tree Preservation Ordinance (TPO) thwart that goal, and the goal of building the endowment for long-term financial sustainability. This is the reason an exemption is respectfully requested. If the endowment were not funded adequately to maintain cemetery operations, the city would need to consider its obligation to meet the requirements of MGL Chapter 114 Section 10.

Newton Cemetery's main issues with the TPO are:

- That it's triggered only by tree removals, and
- Replanting needs to be done in a short time frame.

The TPO does not consider how Newton Cemetery has managed its tree canopy for nearly 170 years, or the cemetery's plan for managing its living collection into perpetuity. As an arboretum, trees are planted on the cemetery grounds all the time. The TPO disincentives a long-term, continuous tree planting program and compels plantings to happen only when removals are required in order to receive "credit" to avoid the "penalty". The result is inefficient, poor arboretum practice. By waiting, years of tree planting and tree growth opportunity would be lost. The TPO also compels planting larger caliper trees in bulk within a short period. To follow the replanting requirements of the TPO at Newton Cemetery would create a less age-diverse canopy and a lower overall establishment rate, resulting in fewer trees over time. Paying the penalty instead diverts vital funding away from the endowment and operations.

Thank you for your support! The park-like grounds of Newton Cemetery & Arboretum are an amenity to Newton, enjoyed daily by the residents at no cost to them or the city.

Best,
Mary Ann

Mary Ann Buras
President, Newton Cemetery & Arboretum