

HARVARD LAW SCHOOL
ANIMAL LAW & POLICY CLINIC



May 13, 2024

The Honorable Rebecca Tepper
Secretary, Executive Office of Energy and Environmental Affairs
Commonwealth of Massachusetts

Via email: Rebecca.Tepper@mass.gov

Re: Request for review of damage to MESA-protected species caused by state registration of anticoagulant rodenticides

Dear Madam Secretary:

We are writing to request that, in accordance with 321 Code Mass. Regs. § 10.05(2)(d), the Executive Office of Energy and Environmental Affairs (EEA) initiate review of the Massachusetts Department of Agriculture's (MDAR) registration of anticoagulant rodenticides under the Massachusetts Pesticide Control Act (MPCA) due to the serious damage that these pesticides cause to species protected by the Massachusetts Endangered Species Act (MESA). This letter is submitted on behalf of bird rehabilitators Jodi Swenson, Erin Hutchings, and Linda Amato of Cape Ann Wildlife in Essex; mammal rehabilitator Jane Newhouse of Newhouse Wildlife Rescue in Chelmsford; Marci Cemenska of Save Lexington Wildlife; James Joyce II and Patricia Sears-Joyce of Friends of Horn Pond in Woburn; and Laura Kiesel of Save Arlington Wildlife.

As detailed in the enclosed appendix, anticoagulant rodenticides have the potential to catastrophically impact Massachusetts' food web, posing a serious threat to its wildlife, including MESA-protected birds of prey for whom rodents are a dietary staple.

Under MESA's implementing regulations, state agencies must evaluate the impacts of their actions on MESA-protected species and "use all practicable means and measures to avoid or minimize damage to affected species or their habitats." 321 Code Mass. Regs. § 10.05(1). If the Secretary of Energy and Environmental Affairs determines that a state action may damage state listed species or their habitats, she may initiate review of the action and notify the agency of its obligation to engage in consultation with the Natural Heritage & Endangered Species Program and to "take all practicable means and measures to modify" its actions to avoid damaging protected species. *Id.* § 10.05(2)(d).

Because anticoagulant rodenticides are sickening and killing species that the state has spent decades protecting, MDAR's continued registration of anticoagulant rodenticides poses a serious risk of "damaging" state listed species. We request that you initiate review of this state action in accordance with 321 Code Mass. Regs. § 10.05(2)(d).

We have also submitted a request to MDAR's Pesticide Board Subcommittee, enclosed as Exhibit 1, documenting the extensive adverse effects that anticoagulant rodenticides have on the environment. We are urging the agency to immediately suspend registration of these poisons and conduct an individual review of their active ingredients in accordance with the MPCA and its implementing regulations, G.L c. 132B § 7 and 333 Code Mass. Regs. § 8.03.

We respectfully request that the EEA promptly initiate review of MDAR's registration of anticoagulant rodenticides and notify the agency that its actions may damage state listed species or their habitats. Please confirm that you will do so. We look forward to hearing from you at your earliest convenience. Thank you for your time and attention to this important matter.

Sincerely,



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Pesticide Board Subcommittee, Massachusetts Department of Agricultural Resources, c/o
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Enclosure

REQUEST FOR REVIEW OF DAMAGE TO MESA-PROTECTED SPECIES CAUSED BY MDAR REGISTRATION OF ANTICOAGULANT RODENTICIDES

I. Introduction

Anticoagulant rodenticides—including second generation anticoagulant rodenticides (SGARs)¹ and first-generation anticoagulant rodenticides (FGARs)²—kill animals by preventing their blood from clotting, resulting in massive hemorrhaging and eventual death.³ These “severe to extreme adverse physiological effects” occur “over a number of days,” causing prolonged suffering.⁴

Critically, the lag between consumption and the onset of symptoms means that these poisons, particularly the highly potent SGARs, are especially dangerous to predators and scavengers. “[S]ince time-to-death is several days, rodents can feed multiple times before death, leading to carcasses containing residues that may be many times the lethal dose.”⁵ As the Massachusetts Division of Fisheries and Wildlife (MassWildlife) has warned, anticoagulant rodenticides thus cause “secondary poisoning when a predator or scavenger eats prey that has eaten the poisoned bait.”⁶ “Anticoagulants bioaccumulate, or build up over time, in animals” higher in the food chain, resulting in “[s]econdary poisoning [that] has been documented in birds of prey like eagles, hawks, and owls, as well as mammals like foxes, fishers, bobcats, and coyotes.”⁷

MESA protects a variety of species who consume rodents and are therefore at risk of being sickened and killed by anticoagulant rodenticides, including the bald eagle, peregrine falcon, short-eared owl, long-eared owl, barn owl, northern harrier, copperhead snake, timber rattlesnake, and eastern rat snake.⁸ Indeed, anticoagulant rodenticides have already killed several of the bald eagles who were among the first to nest in the Boston area in decades.

Because registration of anticoagulant rodenticides by MDAR’s Pesticide Board Subcommittee poses a serious risk of “damag[ing] state listed species and their habitats,” we request that the EEA initiate review of this state action in accordance with 321 Code Mass. Regs. § 10.05(2)(d).

II. Interests of Petitioners

A. Jodi Swenson

Jodi Swenson is a resident of Ipswich and the president of Cape Ann Wildlife, Inc., which she founded in 2005 and operates in Essex. Cape Ann Wildlife’s mission is to rescue and provide critical rehabilitative care to injured, orphaned, and otherwise impaired birds and ensure their survival upon release back into their natural environment. Ms. Swenson is a licensed wildlife rehabilitator. She holds a state permit authorizing the rehabilitation of crows, pigeons, doves, hummingbirds,

¹ Second-generation anticoagulant rodenticides include: brodifacoum, bromadiolone, difenacoum, and difethialone. See EPA, *Rodent Control Pesticide Safety Review*, <https://www.epa.gov/rodenticides/rodent-control-pesticide-safety-review> (last visited on Apr. 26, 2024).

² First-generation anticoagulant rodenticides include: chlorophacinone, diphacinone, and warfarin. *Id.*

³ See Penny Fisher, et al., *Anticoagulant Rodenticides, Islands, and Animal Welfare Accountancy* at 1, 2, Animals (Nov. 4, 2019), <https://www.mdpi.com/2076-2615/9/11/919>.

⁴ *Id.* at 5.

⁵ See EPA, *Rodent Control Pesticide Safety Review*, <https://www.epa.gov/rodenticides/rodent-control-pesticide-safety-review> (last visited Apr. 26, 2024).

⁶ See Mass. Div. of Fisheries and Wildlife, *Wildlife and rodenticide*, <https://www.mass.gov/info-details/wildlife-and-rodenticide> (last visited on Apr. 26, 2024).

⁷ *Id.*

⁸ See 321 Code Mass. Regs. § 10.90(4).

songbirds, and a federal permit authorizing her to rehabilitate migratory birds. She does not receive compensation for her wildlife rehabilitation work and operates a small antique restoration business to support herself. Over the years, Ms. Swenson has taken in crows and ravens who appeared to be suffering from anticoagulant rodenticide poisoning. She believes there has been a notable uptick in the number of birds suffering from suspected poisoning in the last several years.

Cape Ann Wildlife has spent thousands of dollars in donations to fund liver testing on suspected rodenticide victims to verify whether poisons were in their systems at the time of death. When additional funding is available, it will instead do a necropsy to definitively assess whether rodenticides caused the animal's death. Liver tests cost approximately \$125, while necropsies cost \$400; these expenses are significant, as it costs about \$800 per month to feed the birds of prey who are most impacted by rodenticides. The money that Cape Ann Wildlife has had to divert to post-mortem testing of suspected rodenticide victims could instead be used to save more lives, improve enclosures, or cover other operational expenses; however, the Cape Ann Wildlife team feels impelled to use their resources to confirm the presence of anticoagulant rodenticides in dead birds' bodies to prove that these poisons are sickening and killing wildlife.

To combat the widespread use of anticoagulant rodenticides, Cape Ann shares the stories of the poisoned birds in its care on social media, alongside photos of the sick, bleeding animals. These posts plead for an end to the use of these poisons.

B. Erin Hutchings

Erin Hutchings is a resident of Gloucester and a wildlife rehabilitator with Cape Ann Wildlife, where she has volunteered for 16 years. She holds state and federal permits authorizing her to rehabilitate hawks and owls. She has also been a vet tech for 30 years and works full time at a veterinary hospital. She does not receive compensation for her rehabilitation work.

Because Ms. Hutchings specializes in rehabilitating raptors who prey on rodents, she cares for birds suspected of anticoagulant rodenticide poisoning. She believes that for the last seven or eight years, the rate of poisoning has increased significantly; when she first started bird rehabilitation, car strikes were the biggest threat to her patients. However, she believes that anticoagulant rodenticide poisoning now exceeds car strikes as being the most common reason that birds are brought to her for care.

When evaluating a bird suspected of having anticoagulant rodenticide poisoning, Ms. Hutchings looks for the following signs: bleeding from the mouth, skin, or feather shafts; dehydration; lethargy; a drooping posture; bruising; a pale mouth; excessive bleeding from minor wounds; blood in the feces; and unusual behavior, such as the bird being found on the ground and easy to approach. She may draw blood to verify whether it will clot unless the animal appears too weak or is already bleeding out. She is unable to save birds who are already at the end stage of poisoning. These animals typically bleed from their chests and choke on their own blood.

If Ms. Hutchings suspects anticoagulant rodenticide poisoning, she initiates the standard treatment protocol, which is a round-the-clock regimen of Vitamin K injections. It usually takes 3-5 days just to stabilize the animal, and a minimum of two weeks to complete the treatment. (The longest a suspected rodenticide victim has been in Ms. Hutchings' care is 3-4 months.) Once the patient appears stable, Ms. Hutchings will do a blood draw to assess whether clotting has returned to

normal.⁹ If it has not, the treatment must continue. Ms. Hutchings also provides these patients with supportive care, including nutritional support, fluids, and oxygen therapy if the bird's blood count is low. If treatment is successful, Ms. Hutchings can release the animal about a week after the Vitamin K treatments end.

Caring for birds poisoned with anticoagulant rodenticides takes an extreme physical and psychological toll on Ms. Hutchings. She has worked in this field for years and considers herself to be "tough," but it is emotionally draining to witness so much suffering, particularly when she is unable to save a bird despite her best efforts. Seeing bird after bird bleed out and die is "horrible."

Ms. Hutchings initiated Cape Ann's testing of birds and is working with labs to establish reference ranges to help experts assess whether a bird had lethal levels of rodenticides at the time of death. When Cape Ann has sufficient funding available, she will send birds' bodies for necropsies to definitively establish the cause of death.

C. Linda Amato

Linda Amato is a resident of Malden and works as a wildlife rehabilitator at Cape Ann Wildlife. She has been licensed by the state to rehabilitate mammals and non-migratory birds for 5 years and holds a federal migratory bird rehabilitation permit. Ms. Amato estimates that she spends about \$1000 of her own money each month to rehabilitate wild animals to supplement what she receives from Cape Ann. She has cared for squirrels, chipmunks, foxes, and skunks suffering from apparent rodenticide poisoning, and was particularly impacted when a squirrel whom she had cared for as a pup died in her hands of suspected rodenticide poisoning. Ms. Amato has helped with emergency field rescues of raptors suspected of rodenticide poisoning, including birds convulsing and bleeding out. When the bald eagle MK was found in critical condition in a cemetery in Arlington on February 27, 2023, Ms. Amato personally helped transport her to the Birdsey Cape Wildlife Center and felt a deep personal connection as she held the sick eagle in her arms. She was also deeply affected by the impact of MK's absence on her mate, telling a reporter, "We feel terrible. . . . He's looking for her, these eagles mate for life, he's very much missing his mate."¹⁰

D. Jane Newhouse

Martha Jane Seeker (who goes by Jane Newhouse) is a resident of Chelmsford and the founder and president of Newhouse Wildlife Rescue, a rehabilitation facility for injured and orphaned mammals. She has been rehabilitating wildlife for 13 years and holds a Massachusetts wildlife rehabilitator license. She is also trained as a vet tech. In her work at Newhouse Wildlife Rescue, Ms. Newhouse personally handles intake and triage of injured wildlife, oversees their care during rehabilitation, and, in the event of recovery, orchestrates their releases.

Ms. Newhouse first learned about anticoagulant rodenticides at a wildlife rehabilitation conference where a veterinarian called for rehabilitators to start monitoring the blood clotting rate in predatory patients. Not long after that, she received a pregnant racoon who was bleeding from her eyes, anus, and other orifices. She could not save the mother or any of her four kits. This gruesome experience convinced Ms. Newhouse of the seriousness of these poisons. Since then she has cared for many

⁹ Blood normally takes several minutes to clot. With poisoned birds, blood may take 24-48 hours to clot, if it clots at all.

¹⁰ Michael Rosenfield, *Rescuers Capture Bald Eagle Believed to Be Critically Sickened by Rat Poison*, NBC BOSTON (Feb. 27, 2023), <https://www.nbcboston.com/news/local/rescuers-capture-bald-eagle-believed-to-be-critically-sickened-by-rat-poison/2984053/>.

foxes suffering from apparent poisoning, and has triaged¹¹ coyotes and raptors who appeared to have been poisoned. She has found that foxes and coyotes with severe mange often also show signs of anticoagulant poisoning. These animals are particularly difficult to treat because they don't respond to treatment as well as they should, and Ms. Newhouse sees a great need for research to understand how anticoagulant rodenticides impact the immune systems of these and other mammals.

Mammals poisoned by anticoagulant rodenticides experience abdominal hemorrhaging, and the best indication of such poisoning is the speed at which their blood clots. When Ms. Newhouse suspects a patient is suffering from anticoagulant rodenticide poisoning, she initiates a round-the-clock Vitamin K injection regimen similar to that used for birds. Ms. Newhouse has partnered with Cape Ann Wildlife to submit fox liver samples for testing to confirm the presence of anticoagulant rodenticides.

Treating poisoned animals has taken a severe emotional toll on Ms. Newhouse, who describes feeling awful when she witnesses an animal choking on their own blood and taking their last breath. She has experienced compassion fatigue, which is the extreme tiredness and desperation felt by those who witness and try to alleviate others' trauma. The emotional toll is particularly difficult for Ms. Newhouse because she views these deaths as senseless and easily preventable through a ban on anticoagulant rodenticides.

E. Marci Cemenska

Marci Cemenska is a resident of Lexington and founder of Save Lexington Wildlife, a grassroots organization dedicated to protecting wild animals from anticoagulant rodenticides through education, events, and legislative action. She is deeply troubled by the suffering and death that anticoagulant rodenticides inflict on Massachusetts' wildlife; when she first learned about this issue, she was so distressed that she felt compelled to peacefully protest by holding a sign on Lexington Green. Since then, she has spent more than two years engaging in community advocacy to address the environmental harms of anticoagulant rodenticides. Most notably, Ms. Cemenska led the citizen petition effort to get Article 40, which bans the use of SGARs on town property and provides for educating the public on rodenticide hazards, added to Lexington's 2024 Annual Town Meeting.¹² She has also supported state level legislation related to rodenticides by creating educational materials (such as placing items in newsletters, posting on a statewide Slack, and creating bookmarks to hand out to people) and encouraging voters to contact lawmakers. She has also petitioned local businesses, including Whole Foods and the Boston Aquarium, to remove or ban SGARs, and has hosted multiple well-attended public education events about the harms of these poisons.

F. James Joyce II

James Joyce II is a resident of Woburn and founded Friends of Horn Pond in 2022 to identify opportunities for conservation, habitat, and wildlife preservation. Mr. Joyce has been working on the issue of rodenticide poisoning in wildlife since 2015. He directly engages in the rescue of injured

¹¹ Triaging wildlife means the rehabilitator stabilizes an animal and transfers them to a rehabilitator licensed to care for a particular species.

¹² See Town of Lexington, Select Board, *2024 Annual Town Meeting Warrant* (Jan. 22, 2024), <https://www.lexingtonma.gov/DocumentCenter/View/10687/To-Post---ATM-2024-FINAL-voted-warrant-signed-prevised-2524-105?bidId=>.

birds, including those who have experienced rodenticide poisoning, by responding to calls from the public and transporting the birds to licensed wildlife rehabilitators and wildlife veterinary clinics.

Mr. Joyce spends time locating, identifying, and recording bait boxes found in proximity to injured wildlife, and he communicates with wildlife rehabilitators and veterinary clinics to aggregate information related to second generation anticoagulant rodenticide poisonings, such as toxicology and necropsy reports, maps of bait box locations in relation to injured wildlife, and the kinds of bait used in potential poisonings. In February 2023, Mr. Joyce and his wife Petitioner Patricia Sears-Joyce successfully advocated for the removal of 11 bait stations containing brodifacoum placed at warehouses located on Sonar Drive in Woburn, which is partially located within priority habitat for peregrine falcons—a species of Special Concern—who nested on the cliffs behind the warehouses.¹³ In 2024, Mr. Joyce partnered with EarthwiseAware to develop the SGARs Brigade app, which allows individuals in the greater Boston area to use their phones to document potential and confirmed SGAR bait devices and sick or dead animals believed to be victims of SGARs.¹⁴ Mr. Joyce has also given multiple trainings on how to use the app.

Because Mr. Joyce tracks healthy birds in addition to rescuing injured ones, he has developed personal attachments to several birds who were subsequently lost to rodenticide poisoning. In particular, Mr. Joyce followed and photographed three generations of a family of bald eagles, beginning in the early 2010s with a pair named Ozzy and Harriet, followed by their daughter MK, her mate KZ, and eventually MK's own eaglets. Mr. Joyce was devastated when one of MK's eaglets (25C) died of anticoagulant rodenticide poisoning as a baby, and he experienced an even greater loss in 2023 when MK herself was poisoned by anticoagulant rodenticides. Mr. Joyce spent several days observing MK as she grew increasingly weaker in the Arlington cemetery where she nested with her mate. When she was so sick that she could not fly, the Joyces and Petitioner Linda Amato helped capture and transport her to the New England Wildlife Center, where she died several hours later. Due to his personal connection to MK, developed over years of tracking her and her family, Mr. Joyce was devastated by the experience of trying but failing to save her.

G. Patricia Sears-Joyce

Patricia Sears-Joyce is a resident of Woburn and secretary of Friends of Horn Pond. She has been a wildlife photographer all her life. Along with her husband, she has spent years photographing and tracking the bald eagles who've nested in the Charles River watershed, including Ozzy, Harriet, MK, KZ, and MK's offspring 25C, 26C, 29C, and 46C. Starting around 2016, Ms. Joyce started photographing Ozzy and Harriet, who nested at the Mount Feake Cemetery in Waltham. In fact, Ms. Joyce photographed Harriet just days before she was found dead in her nest in 2021—Massachusetts' first known bald eagle victim of anticoagulant rodenticide poisoning.

Ms. Joyce developed a strong emotional connection to MK as she photographed the eagle from the time she was hatched until the day she was found sickened by anticoagulant rodenticides. To Ms. Joyce, MK was not an ordinary eagle; she would hop from headstone to headstone in the graveyard where she nested, and seemed comfortable in the presence of the Joyces, sometimes landing in the grass within a few dozen feet of them. Because of her familiarity with MK, it was easy for Ms. Joyce to see something was wrong with her when she first got sick. The first day, Ms. Joyce observed MK perched on tree branch with her head sunk low and her eyes closed, not moving. The next day, MK

¹³ See MassMapper, NHESP Priority Habitats of Rare Species, PH1506, <https://maps.massgis.digital.mass.gov/MassMapper/MassMapper.html> (last visited May 2, 2024).

¹⁴ *EnA SGARs Brigade*, <https://www.anecdota.org/projects/view/1268> (last visited April 24, 2024).

still hadn't moved at all. About twelve hours later, she attempted to fly, but fell off the post she tried to land on. The following day, Ms. Joyce was part of the team that attempted to save MK by transporting her to a rehabilitator before the eagle ultimately perished. Due to her personal connection to MK, developed over years of tracking her and her family, Ms. Joyce was devastated by the experience of trying but failing to save her.

H. Laura Kiesel

Laura Kiesel is a resident of Arlington and founder of Save Arlington Wildlife, an organization committed to ending the use of rodenticides through education, events, and legislative action. She holds a master's degree in natural resources management, is academically trained as a wildlife biologist, and has worked in conservation/environmental policy. Ms. Kiesel's advocacy related to rodenticides started in 2015, when she noticed a pest control company placing bait stations around the affordable housing complex where she lived. Through her wildlife biology training, she understood that the rodenticides in these bait boxes could harm raptors who ate poisoned rodents, as well as the children and companion animals who lived and played in the complex. When she attempted to persuade her landlord to get rid of the poisons, she felt that her housing was at risk: the landlord refused to remove the bait boxes and told her she would be better off living elsewhere. Over the next several years, she noticed bait boxes proliferating throughout Boston. In Arlington, for example, she noticed bait boxes used all along the construction sites of the Mass. Ave. Corridor Project in 2014-2015.¹⁵

In 2018, Ms. Kiesel published an article in DigBoston sounding the alarm about anticoagulant rodenticides¹⁶ and organized an educational panel along with Arlington's Animal Control Officer, which was attended by around 100 people. Through Representative Sean Garballey, she also filed a petition and bill with the General Court of Massachusetts to create a commission to study the issue of rodent populations and conduct a comprehensive review of rodent management techniques.¹⁷ In 2021, Ms. Kiesel's second article on anticoagulant rodenticides featured the death of 25C; it was syndicated on Salon.com and nominated for an investigative reporting award by the Association of Alternative News Media.¹⁸ Ms. Kiesel has also testified and organized in favor of successful efforts to ban the use of anticoagulant rodenticides on Arlington town property and to submit a home rule petition to allow Arlington to prohibit the use of these poisons on private property.¹⁹ She has also spoken about the impacts of rodenticides at numerous events.

Ms. Kiesel founded Save Arlington Wildlife in 2022 after a great horned owl mother and her two owlets died of suspected rodenticide poisoning in Menotomy Rocks Park, sparking grief and outrage among locals who enjoyed viewing the owls.²⁰ The organization provides information and tools to support activists organizing around the issue of rodenticides, and has prompted advocates to form their own local organizations (such as Save Lexington Wildlife, Save Belmont Wildlife, Rescue

¹⁵ See Mass. Ave. Rebuild, Town of Arlington, MA, <https://www.arlingtonma.gov/i-want-to/learn-about/projects-around-arlington/mass-ave-rebuild> (last visited May 2, 2024).

¹⁶ Laura Kiesel, *Special Feature: More Potent Than Rodents*, DIGBOSTON (May 31, 2018), <https://digboston.com/special-feature-more-potent-than-rodents/>.

¹⁷ H.B. 3714, 191st Leg., Reg. Sess. (Mass. 2019), <https://malegislature.gov/Bills/191/H3714/>.

¹⁸ Laura Kiesel, *Rodenticides are Killing Animals Way Up the Food Chain*, SALON (Dec. 26, 2021), https://www.salon.com/2021/12/26/rodenticides-sgars-unsafe_partner/; Ass'n of Alt. NewsMedia, *95 Finalists from 35 Publications Grab Honors in 2022 AAN Awards*, <https://aan.org/aan/35-publishers-earn-finalists-honors-in-2022-aan-awards/> (last visited May 2, 2024).

¹⁹ See H.B. 804, 193rd Leg., Reg. Sess. (Mass. 2023), <https://malegislature.gov/Bills/193/HD230>.

²⁰ Anjali Huynh, *In Arlington, Dead Owls Spark Grief, Raise Poison Concern*, Boston Globe (June 17, 2022).

Plymouth Wildlife, Save Topsfield Wildlife, and more). Save Arlington Wildlife organized the successful petition to get the New England Aquarium to stop using SGARs²¹ as well as a campaign to discourage Whole Foods in Arlington to stop using SGARs.²² The organization also successfully persuaded the Housing Corporation of Arlington to stop using SGARs after nearly 400 Arlington residents signed a petition in support.²³

Through Save Arlington Wildlife, Ms. Kiesel also organizes fundraisers for Cape Ann Wildlife's necropsies of suspected rodenticide victims and helps coordinate transfer of sick or dead animals to rehabilitators for testing. Ms. Kiesel is generally not compensated for her advocacy work.

Ms. Kiesel developed strong emotional attachments to the eagles and owls in Arlington, including MK and her family and the Menotomy Rocks Park owls. She would visit the owls several times a week, and she thought of them as her neighbors. She was devastated when the mother and owlets died, particularly because the owl's mate was left all alone. Though he later found a new mate, the new mate also died coughing up blood.²⁴ Ms. Kiesel also enjoyed photographing MK. The eagle's death impacted her so greatly that she keeps a photo of the eagle on a memory shelf alongside the ashes of a beloved cat. Ms. Kiesel describes feeling "pummeled" and traumatized by the onslaught of deaths, which she feels helpless to prevent. Grief and distress over these deaths have caused her to lose sleep.

Ms. Kiesel also notes that these charismatic birds brought the community together—the people who enjoyed observing them formed strong bonds. For example, when MK died, Ms. Kiesel organized a vigil that was attended by over 300 people.²⁵ However, as these birds have died off, Ms. Kiesel feels this community has been lost.

III. The MPCA allows for registration of pesticides that will not cause unreasonable adverse effects on the environment.

In Massachusetts, the distribution, sale, and use of pesticides are regulated by MDAR under the MPCA,²⁶ which tasks the Pesticide Board Subcommittee with registering all pesticides for use in the Commonwealth.²⁷ The Subcommittee shall only register a pesticide if, among other things, it "will perform its intended function without unreasonable adverse effects on the environment" and "will not generally cause unreasonable adverse effects on the environment" when used "in accordance with widespread and commonly recognized practice."²⁸

²¹ Laura Kiesel, *Update: New England Aquarium Has Stopped Using Rat Poisons!*, <https://www.thepetitionsite.com/224/174/139/demand-new-england-aquarium-stop-using-rat-poisons-killing-our-wildlife/> (last visited May 6, 2024).

²² Save Arlington Wildlife, *Campaign at Arlington Whole Foods*, <https://savearlingtonwildlife.org/campaign-at-whole-foods/> (last visited May 6, 2023).

²³ Housing Corp. of Arlington, *Affordable Housing*, <https://www.housingcorporation.org/affordablehousing/> (last visited May 6, 2023) ("HCA does not use SGAR rodenticide at our properties. [I]n 2022 many Arlington residents signed a petition asking HCA to stop using SGARs (Second Generation Anticoagulant Rodenticide). . . . As of late March 2023, all SGARs were removed from HCA properties.").

²⁴ Save Arlington's Wildlife, <https://savearlingtonwildlife.org/2023/02/09/save-arlington-wildlife/> (last visited May 2, 2024).

²⁵ See Figure 4, *infra*, p. 23.

²⁶ See G.L. c. 132B, §§ 1–16; See *Town of Wendell v. Att'y General*, 476 N.E.2d 585, 592 (Mass. 1985).

²⁷ See G.L. c. 132B, § 3A; See also 333 Code Mass. Reg. § 2.02 (elaborating on the various roles of MDAR, the Pesticide Board, and the Subcommittee).

²⁸ See G.L. c. 132B, § 7.

At the time of registration, the Subcommittee must also classify registered pesticides for either “general” or “restricted” use.²⁹ This classification requires the Subcommittee to make a determination as to whether the pesticide “may cause” unreasonable adverse effects on the environment.³⁰ A general use pesticide “will not generally cause unreasonable adverse effects on the environment” when used in accordance with “its directions for use, warnings[,] and cautions,” or in accordance with “a widespread and commonly recognized practice.”³¹ A restricted use pesticide “may cause, without additional restrictions, unreasonable adverse effects on the environment, including injury to the applicator” when used in accordance with “its directions for use, warnings[,] and cautions,” or in accordance with “a widespread and commonly recognized practice.”³² Restricted use pesticides may only be applied by “an appropriately certified” private or commercial applicator or a “competent individual acting under the direct supervision of an appropriately certified applicator.”³³ Pesticides are registered annually, and all registrations expire on June 30 of each year.³⁴

As of March 26, 2024, the Subcommittee has registered 57 pesticide products containing FGARs and 71 pesticide products containing SGARs for use in Massachusetts, and all are classified for general use.³⁵ In 2022, Massachusetts commercial pesticide applicators reported using over 559,000 lbs. of rodenticides, 96% of which (over 540,000 lbs.) were anticoagulant rodenticide products.³⁶ Bromadiolone, brodifacoum, and difethialone were the most commonly applied anticoagulant rodenticides, in total amounts of 235,100, 165,053, and 129,470 lbs. respectively.³⁷

IV. Under MESA, the Subcommittee is obligated to use all practicable means and measures to avoid or minimize damage to protected species and their habitats.

MESA provides that “no person may take . . . any animal species listed as endangered, threatened or of special concern or listed under the Federal Endangered Species Act” without a permit.³⁸ State agencies fall under the MESA definition of “person[,]” which includes “any officer, agent, department or instrumentality of the federal government or any state or its political subdivisions.”³⁹ To “take” means “to harass, *harm*, pursue, hunt, shoot, hound, *kill*, trap, capture, collect, process,

²⁹ See G.L. c. 132B, § 7; 333 Code Mass. Reg. § 8.04. A general use pesticide “will not generally cause unreasonable adverse effects on the environment” when used in accordance with “its directions for use, warnings[,] and cautions,” or in accordance with “a widespread and commonly recognized practice.” G.L. c. 132B, § 7. A restricted use pesticide “may cause, without additional restrictions, unreasonable adverse effects on the environment, including injury to the applicator” when used in accordance with “its directions for use, warnings[,] and cautions,” or in accordance with “a widespread and commonly recognized practice.” Restricted use pesticides may only be applied by “an appropriately certified” private or commercial applicator or a “competent individual acting under the direct supervision of an appropriately certified applicator.” *Id.*

³⁰ G.L. c. 132B, § 7; 333 Code Mass. Reg. § 8.04.

³¹ See G.L. c. 132B, § 7.

³² *Id.*

³³ *Id.*

³⁴ See 333 Code Mass. Reg. § 8.05(2)(c).

³⁵ See MDAR, *Massachusetts Pesticide Product Registration Information Database*, KELLY REGISTRATION SYSTEMS, <https://www.kellysolutions.com/ma/pesticideindex.htm> (last visited Apr. 26, 2024); See also MDAR, *Massachusetts State Restricted Use Products*, MASS.GOV (Mar. 4, 2024), <https://www.mass.gov/doc/state-restricted-use-products-srup/download>.

³⁶ See MDAR, *Annual Pesticide Use Information*, MASS.GOV, <https://www.mass.gov/info-details/annual-pesticide-use-information> (last visited Mar. 28, 2024).

³⁷ *Id.*

³⁸ See G.L. c. 131A, §§ 2, 3.

³⁹ *Id.* at § 1.

*disrupt the nesting, breeding, feeding or migratory activity or attempt to engage in any such conduct, or to assist such conduct.*⁴⁰

State agencies must use their authorities to further the purposes of MESA and its implementing regulations. Specifically, state agencies must 1) “review, evaluate and determine the impact on Endangered, Threatened and Special Concern species or their habitats of all works, projects or activities conducted by them”; and 2) “use all practicable means and measures to avoid or minimize damage to affected species or their habitats.”⁴¹ “Activities” include “any acts carried out by a state agency which could affect any state listed species or their habitats.”⁴²

A variety of “state actions” are presumptively compliant with this directive, including those that have received MESA permits, those that are part of a project that has been reviewed under the Massachusetts Environmental Policy Act (MEPA), and those that occur on state land and conform to certain procedural requirements.⁴³ “All other state actions that do not require a permit under MESA, are not subject to review under MEPA, and do not involve actions on state owned lands shall be presumed to be in compliance with 321 CMR 10.05(1), unless the Secretary of EOEEA initiates . . . a review of a state action when he/she determines that such a state action may damage state listed species or their habitats.”⁴⁴ “State action” is defined as “any work, project, or activity either directly undertaken by a state agency, or if undertaken by a person, which . . . requires the issuance of permits by an agency . . . to a person[.]”⁴⁵

Pesticide registration qualifies as a “state action” under 321 Code Mass Regs. § 10.05 because it is a “work, project, or activity . . . directly undertaken by a state agency.”⁴⁶ Likewise, pesticide registration is functionally equivalent to the “issuance of permits” by an agency to a person, as pesticides cannot be lawfully distributed in the state of Massachusetts without such registration.⁴⁷ Finally, pesticide registration appears to fall into the catch-all category of agency actions that are presumptively compliant with MESA under 321 Code Mass Regs. § 10.05(d).

However, as demonstrated in Section V below, anticoagulant rodenticides are actively damaging and will continue to damage state listed species that consume rodents. The Secretary should therefore initiate a review of the Subcommittee’s registrations of anticoagulant rodenticides and notify the Pesticide Board Subcommittee of its obligation to engage in consultation with the Natural Heritage & Endangered Species Program (NHSEP) and to “take all practicable means and measures to modify” its actions to avoid damaging protected species.⁴⁸

⁴⁰ *Id.* at § 1; *See also* 321 Code Mass. Regs. § 10.02 (emphasis added).

⁴¹ *See* 321 Code Mass. Regs. § 10.05(1).

⁴² *Id.*

⁴³ *Id.* § 10.05(2)(a)-(c).

⁴⁴ *Id.* § 10.05(d).

⁴⁵ *See* 321 Code Mass. Regs. § 10.05(1).

⁴⁶ *See* 321 Code Mass. Regs. § 10.05(1).

⁴⁷ *See* 321 Code Mass. Regs. § 10.05(1).

⁴⁸ *See* 321 Code Mass. Regs. § 10.05(2)(d). In the consultation process, the NHSEP must determine whether, based on information submitted by the agency, a state action is likely to result in damage to a state listed species or their habitats. *Id.* If damage is likely, the NHSEP “shall provide to the agency such guidance and information that is necessary to allow the agency to avoid such damage.” *Id.* “An agency that receives guidance and information from NHESP regarding the avoidance of damage to state listed species and their habitats shall take all practicable means and measures to modify their actions to avoid such damage,” and shall submit evidence that it is taking such measures to the NHESP and the EEA Secretary. *Id.*

V. Anticoagulant rodenticides damage state listed species and the Pesticide Board Subcommittee is failing to use all practicable means and measures to avoid or minimize damage to those species.

As discussed in the enclosed request to the Pesticide Board Subcommittee, anticoagulant rodenticides sicken and kill or, as defined under MESA, “take” listed species who eat rats and mice. For example, bald eagles are protected under MESA as a species of “Special Concern.”⁴⁹ However, at least four bald eagles have been sickened or killed by SGAR poisoning in Massachusetts since 2021.⁵⁰ Likewise, a national study published in 2021 found that anticoagulant rodenticides were present in 82% of the 124 bald and golden eagles examined.⁵¹

Bald eagles had been spotted in Massachusetts since the 1800s until the population was nearly decimated in the 1960s due to dichlorodiphenyltrichloroethane (DDT) poisoning.⁵² DDT—a pesticide—resulted in eggshell thinning, among other detrimental effects, resulting in the species’ near-extinction.⁵³ The U.S. Environmental Protection Agency’s (EPA) 1972 ban on DDT, combined with reintroduction efforts undertaken by MassWildlife beginning in the 1980s, have resulted in a successful albeit gradual recovery of the species.⁵⁴ In the last few years, breeding pairs have even returned to the Boston area, and in 2020 MassWildlife downlisted bald eagles from “threatened” to species of “Special Concern” under MESA.⁵⁵ However, the voracious use of anticoagulant rodenticides in Massachusetts could undermine the initial success of bald eagle recovery. The recent rodenticide-related deaths of bald eagles in Massachusetts, including that of MK exemplifies the threats that these poisons pose to bald eagles and other raptors.

As mentioned above, MK was the offspring of Waltham eagles Ozzie and Harriet, the first known nesting pair of bald eagles on the Charles River in over 100 years.⁵⁶ MK nested in the Mystic Lakes watershed with her lifelong mate, KZ, and their young eaglets, who hatched in 2021.⁵⁷

⁴⁹ See 321 Code Mass. Regs. § 10.90.

⁵⁰ See Jason Solowski & Cory Smith, *Mass. bald eagle population threatened by rat poison*, NBC BOSTON (Sep. 27, 2023), <https://www.nbcboston.com/news/local/mass-bald-eagle-population-threatened-by-rat-poison/3146496/#:~:text=Murray%20says%20four%20bald%20eagles,unintentionally%20harming%20birds%20of%20prey.>

⁵¹ See Kevin D. Niedringhaus et al., *Anticoagulant Rodenticide Exposure and Toxicosis in Bald Eagles (Haliaeetus leucocephalus) and Golden Eagles (Aquila chrysaetos) in the United States*, 16 PLOS ONE 1 (Apr. 7, 2021), <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0246134>.

⁵² See Tom French, *The History of Bald Eagle Decline and Recovery in Massachusetts*, BIRD OBSERVER VOL. 44, No. 6 (Dec. 2016), <https://www.birdobserver.org/Issues/2016/December-2016/the-history-of-bald-eagle-decline-and-recovery-in-massachusetts>.

⁵³ See MassWildlife, *Species Spotlight: Bald eagles*, MASS.GOV, [https://www.mass.gov/info-details/species-spotlight-bald-eagles#:~:text=Restoration%20of%20the%20bald%20eagle,opened%20and%20the%20eagles%20released.\(last](https://www.mass.gov/info-details/species-spotlight-bald-eagles#:~:text=Restoration%20of%20the%20bald%20eagle,opened%20and%20the%20eagles%20released.(last) (last visited Apr. 19, 2024).

⁵⁴ See Tom French, *The History of Bald Eagle Decline and Recovery in Massachusetts*, BIRD OBSERVER Vol. 44, No. 6 (Dec. 2016), <https://www.birdobserver.org/Issues/2016/December-2016/the-history-of-bald-eagle-decline-and-recovery-in-massachusetts;MassWildlife>.

⁵⁵ See MassWildlife, *Species Spotlight: Bald eagles*, Mass.gov, <https://www.mass.gov/info-details/species-spotlight-bald-eagles#:~:text=Initially%20listed%20as%20endangered%20under,eagles%20in%20Massachusetts%20since%201989> (last visited Apr. 1, 2024).

⁵⁶ See Waltham Massachusetts, *Eagles At Mount Feake*, City of Waltham (Mar. 21, 2017), <https://www.city.waltham.ma.us/cemetery-department/news/eagles-at-mount-feake-0>.

⁵⁷ See Elizabeth Preston, *In Remembrance of MK: Conservation, rodenticide, and one East Coast community’s vigil for a beloved eagle*, ORION MAGAZINE, <https://orionmagazine.org/article/mk-eagle-arlington-massachusetts-killed-2023/> (last visited on Apr. 26, 2024).



KZ perched atop a tree on a wintry February morning in 2022. Image courtesy of Patty Joyce.



MK and her eaglets. Image courtesy of Jim Joyce II.

MK was known for her eccentric personality, often spotted playing with flowers that festooned the headstones in an Arlington cemetery.⁵⁸ She was also quite an adventurer; in addition to being

⁵⁸See Ariella Weiss, *Rodenticide threatens local birds of prey: Beloved Waltham-born eagle "MK" was killed by rat poison, raising concerns among the community about rodenticide use*, THE JUSTICE (Mar. 21, 2023), <https://www.thejustice.org/article/2023/03/rodenticide-threatens-local-birds-of-prey>.

observed in the Mystic River Watershed area, she could also be found at Cambridge's Fresh Pond and in Woburn, occasionally accompanied by KZ.⁵⁹

Arlington residents were so taken by MK that she became the subject of a children's book, inspiring many to, "connect with the natural environments and the wildlife in them."⁶⁰ But the residents' initial joy was quickly crushed by the deaths of this beloved bird and her offspring.



MK perched atop a tombstone in an Arlington cemetery. Image courtesy of Patty Joyce.

Tragedy first struck MK in July of 2021, when one of her eaglets, 25C, died of anticoagulant rodenticide poisoning; her death occurred only four months after the first reported instance of a bald eagle dying from rodenticide poisoning in Middlesex.⁶¹ Before transporting her to a hospital, observers noted that 25C was in obvious distress.⁶² After necropsy and toxicology tests were conducted, it was confirmed that 25C's death was the result of her ingesting lethal levels of SGARs.⁶³

⁵⁹ See Laura Kiesel, *Ban the rat poison that's destroying the animals up the food chain that we're fighting to keep alive*, CAMBRIDGE DAY (Jan. 22, 2024), <https://www.cambridgeday.com/2024/01/22/ban-the-rat-poison-thats-destroying-the-animals-up-the-food-chain-that-were-fighting-to-keep-alive/>.

⁶⁰ See Susannah Sudborough, *'Particularly devastating': Bald eagle 'MK' succumbs to poisoning after being rescued in Arlington*, BOSTON.COM (Mar. 2, 2023), <https://www.boston.com/news/local-news/2023/03/02/bald-eagle-mk-dies/>; John Harrison & Kim Nagy, *KZ & MK, Lord and Lady of the Lakes: A True Story of the Mystic Lakes Bald Eagles* (2021).

⁶¹ Laura Kiesel, *Rodenticides Are Killing Animals Way Up the Food Chain*, SALON.COM (Dec. 26, 2021), https://www.salon.com/2021/12/26/rodenticides-sgars-unsafe_partner/.

⁶² *Id.*

⁶³ *Id.*; see also Michael Bonner, *A second bald eagle dies in Massachusetts in a span of 5 months after ingesting prey that had been poisoned*, MASSLIVE (Aug. 13, 2021), <https://www.masslive.com/news/2021/08/a-second-bald-eagle-dies-in-massachusetts-in-a-span-of-5-months-after-ingesting-prey-that-had-been-poisoned.html>.



25C in May of 2021, two months before she was pronounced dead from anticoagulant rodenticide poisoning. Image courtesy of Patty Joyce.

Less than two years after the death of her eaglet, MK was discovered by Arlington residents engaging in abnormal behavior: instead of soaring through the skies or perching atop the trees, she was spending most of her time on the ground unable to fly, her head in a drooped position.⁶⁴ Concerned Arlington residents, including petitioners Linda Amato, Jim Joyce, and Patty Joyce, transported MK to the New England Wildlife Center's Cape Cod hospital where she was found to be suffering from internal bleeding and "catastrophic" hemorrhaging.⁶⁵ Because MK's blood would not clot—a direct effect of the blood-thinners contained in rodenticides—she began coughing up blood.⁶⁶ Veterinarians attempted to clear her airways, but to no avail: MK died soon after arriving at the hospital.⁶⁷

MK's death so devastated the Arlington community that local organization Save Arlington Wildlife held a vigil.⁶⁸ Hundreds of residents attended to grieve the loss of MK and to protest the use of rodenticides that killed her.⁶⁹

⁶⁴ See Michael Rosenfield, *Rescuers Capture Bald Eagle Believed to Be Critically Sickened by Rat Poison*, NBC Boston (Mar. 1, 2023), <https://www.nbcboston.com/news/local/rescuers-capture-bald-eagle-believed-to-be-critically-sickened-by-rat-poison/2984053/>.

⁶⁵ See Michael Rosenfield, *'Devastating': Bald Eagle, Believed Sickened by Rat Poison, Has Died*, NBC Boston (Mar. 1, 2023), <https://www.nbcboston.com/news/local/mass-bald-eagle-dies/2985657/>.

⁶⁶ See Mike Sullivan, *Bald eagle believed to have ingested rodenticide in Arlington dies*, CBS News (Mar. 2, 2023), <https://www.cbsnews.com/boston/news/bald-eagle-poisoned-rat-dies-arlington-massachusetts-mk/>.

⁶⁷ *Id.*

⁶⁸ See Eli Curwin, *Rat poison is believed to have caused a local bald eagle's death. Now, hundreds are calling for its ban.*, BOSTON.COM (Mar. 3, 2023), <https://www.boston.com/news/environment/2023/03/03/rat-poison-bald-eagles-death-hundreds-calling-for-ban/>.

⁶⁹ *Id.*



Linda Amato cradling MK before transporting her to a hospital after she was found weak and unable to fly due to anticoagulant rodenticide poisoning. Image courtesy of Stephen Setzer.

In addition to eagles, other rodent-eating MESA species are at risk of harm, including barn owls, long-eared owls,⁷⁰ and peregrine falcons (listed as “Special Concern”); northern harriers (listed as “Threatened”); and short-eared owls, copperhead snakes, and eastern rat snakes (listed as “Endangered”).⁷¹ There is particularly strong evidence of damage to owls and other raptors. In Arlington, where MK was found dead from rodenticide poisoning, four great horned owls were also found dead, their deaths confirmed to be the result of rodenticide poisoning in June and December

⁷⁰ See Carl D. Marti, *Feeding Ecology of Four Sympatric Owls*, 76 THE CONDOR 45, 57 (1974) (discussing the diet of barn and long-eared owls, which heavily feature small mammals), <https://sora.unm.edu/sites/default/files/journals/condor/v076n01/p0045-p0061.pdf>.

⁷¹ See 321 Code Mass. Regs. §10.90.

2022.⁷² Additionally, a barred owl named Owen, exhibiting signs of anticoagulant rodenticide poisoning including profuse bleeding and disorientation, was rescued at Faneuil Hall in Boston in February 2023.⁷³ The poisons caused him to lose an eye, but Owen survived in the care of Cape Ann Wildlife.⁷⁴



Owen resting on a tree branch a few weeks after nearly dying from anticoagulant rodenticide poisoning. Image courtesy of Patty Joyce.

The detrimental effects of SGAR poisoning on birds who depend on rodents for nourishment have been extensively documented for decades.⁷⁵ In a 2011 study conducted by Maureen Murray, one of the nation's foremost experts in secondary rodenticide poisoning, anticoagulant residues were found in 86% of the 161 birds of prey brought to the Tufts Wildlife Clinic at Cummings School of Veterinary Medicine.⁷⁶ In a follow-up study conducted between 2012 and 2016, out of the 94 birds of prey admitted to the Wildlife Clinic (including red-tailed hawks, barred owls, eastern screech-owls, and great horned owls), 96% tested positive for SGARs.⁷⁷

⁷² See Laura Kiesel & Marci Cemenska, *Rat Poison Linked to Owl's Death: Take Poison-Free Pledge*, YOURARLINGTON (Jan. 12, 2023), <https://www.yourarlington.com/component/easyblog/entry/15-environment/3203-poison-121922.html?Itemid=406164>.

⁷³ See Shaun Chaiyabhat, *Poisoned owl rescued at Boston's Faneuil Hall after several attempts*, WCVB (Feb. 21, 2023), <https://www.wcvb.com/article/poisoned-owl-rescued-faneuil-hall-boston/43015651>; Melissa Ellin, *Poisoned prey almost did in 'Owen the owl' at Faneuil Hall — until a trio of rescuers stepped in*, BOSTON.COM (Feb. 22, 2023), <https://www.boston.com/news/off-beat/2023/02/22/owen-owl-poisoned-faneuil-hall-rescued/>.

⁷⁴ Melissa Ellin, *'Owen' the Faneuil Hall Owl is a Free Bird Again*, BOSTON.COM (April 3, 2023), <https://www.boston.com/news/local-news/2023/04/03/owen-owl-faneuil-hall-released-rodenticide-poisoning/>.

⁷⁵ See Maureen Murray, *Anticoagulant rodenticide exposure and toxicosis in four species of birds of prey presented to a wildlife clinic in Massachusetts, 2006-2010*, 42 J. ZOO & WILDLIFE. MED. 88, 88 (2011), <https://doi.org/10.1638/2010-0188.1>.

⁷⁶ *Id.*

⁷⁷ See Maureen Murray, *Anticoagulant Rodenticide Exposure and Toxicosis in Four Species of Birds of Prey in Massachusetts*, 26 ECOTOXICOLOGY 1041, 1041 (2017), <https://doi.org/10.1007/s10646-017-1832-1>.



Predators who consume poisoned rodents become violently ill: raptors—such as bald eagles and red-tailed hawks (pictured)—suffer from excessive bleeding and prominent bruising on the thin layer of skin located underneath their feathers, while mammals experience excessive bleeding from their eyes, mouths, and other orifices.¹ Because anticoagulant rodenticides induce internal hemorrhaging, affected animals often die from choking on their own blood.¹ Image courtesy of Erin Hutchings.

In the most recent follow-up study, 100% of the 43 red-tailed hawks admitted to the clinic between 2017 and 2019 tested positive for anticoagulant rodenticides.⁷⁸ Notably, 91% of these birds tested positive for two or more anticoagulant rodenticides.⁷⁹ “These findings reflect significant contamination of this generalist species’ prey in predominantly urban and suburban habitats, which current mitigation measures may not be adequately addressing.”⁸⁰ As Dr. Murray warned, “the continued widespread exposure of [red-tailed hawks] to multiple [anticoagulant rodenticides], predominantly SGARs, reinforces the need for ongoing evaluation of the effectiveness of current mitigation measures in decreasing risk . . . to wildlife.”⁸¹ Moreover, research is “critically needed into potential population-level effects” of anticoagulant rodenticides.⁸²

⁷⁸ See Maureen Murray, *Continued Anticoagulant Rodenticide Exposure of Red-tailed Hawks (Buteo jamaicensis) in the Northeastern United States with an Evaluation of Serum for Biomonitoring*, 39 ENV'TL TOXICOLOGY & CHEMISTRY 2325, 2325 (2020), <https://doi.org/10.1002/etc.4853>.

⁷⁹ *Id.*

⁸⁰ *Id.* at 2330.

⁸¹ *Id.* at 2333.

⁸² *Id.*

VI. The Subcommittee does not appear to be meaningfully monitoring the adverse impacts of anticoagulant rodenticides on wildlife in Massachusetts.

We have serious doubts that MDAR has been tracking the environmental impacts of rodenticides, and therefore have reason to believe that the agency has been registering anticoagulant rodenticides without capably assessing whether they have unreasonable adverse effects on the environment.

For instance, in a response to a November 2023 public records request filed by the Harvard Law School Animal Law & Policy Clinic,⁸³ MDAR stated that it “does not keep pesticide records in such a way where searching records by pesticide type, such as rodenticides, is possible.”⁸⁴ MDAR claimed that this is because “inspection report files are not kept in a database but are instead stand-alone documents.”⁸⁵ Moreover, MDAR asserted that it “does not collate” rodenticide-related information “in the form of statistics or summary data.”⁸⁶ Additionally, MDAR stated that “complaints are received over the phone, so per the good faith estimate letter, . . . MDAR would have to comb through its inspection report files to find complaints and determine which ones” were rodenticide related.⁸⁷ The agency estimated that it would take nearly 469 hours to search and compile the records requested.⁸⁸

This is troubling information, for it indicates that the Subcommittee may not be meaningfully carrying out its duties to assess the environmental impacts of rodenticides under the MPCA because it is not tracking the data available to it. Given that it would take a full-time employee approximately 12 weeks just to gather MDAR’s records on the subject, it seems unlikely that the Subcommittee is using annual reports to adequately assess the environmental impacts of anticoagulant rodenticides. There is little doubt that the Subcommittee has failed to carry out its duties under MESA to “use all practicable means and measures to avoid or minimize damage” to protected species if it is not even able to efficiently search its own records.⁸⁹

VII. The EPA is currently moving to restrict the use of rodenticides, acknowledging the major impact on species protected by the federal Endangered Species Act.

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the EPA has classified anticoagulant rodenticides—including both FGARs and SGARs—as “general use” pesticides.⁹⁰ However, EPA has expressed serious concerns about the impacts of these rodenticides on the health and well-being of children and the environment since 1993.⁹¹ Mitigation measures

⁸³ The Clinic broadly sought records of complaints, investigations, and enforcement actions related to certain rodenticides for the last two years, as well as reports of “[a]ccidents or incidents resulting from use of a pesticide which caused pollution,” or “[a]ny illnesses or injuries caused by or suspected to have been caused by pesticides and reported to the applicator.” MDAR is obligated to collect this data under 333 Code Mass. Regs. § 10.14(3)-(4).

⁸⁴ See E-mail from Raquel Loayza, Paralegal, Massachusetts Department of Agricultural Resources, to Rachel Mathews, Clinical Instructor, Harvard Law School’s Animal Law & Policy Clinic (Nov. 22, 2023, 18:45:16 EST) (on file with author).

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ See Letter from Raquel Loayza, Paralegal, Massachusetts Department of Agricultural Resources, to Rachel Mathews, Clinical Instructor, Harvard Law School’s Animal Law & Policy Clinic 2 (Nov. 20, 2023) (on file with author).

⁸⁹ See 321 Code Mass. Regs. § 10.05(1).

⁹⁰ See *Active Pesticide Product Registration Informational Listing (APPRIL)*,

EPA, https://ordspub.epa.gov/ords/pesticides/f?p=APPRIL_PUBLIC:2 (last visited Feb. 18, 2024).

⁹¹ See EPA, *Revised Risk Mitigation Decision for Ten Rodenticides*, Regulations.gov (June 24, 2008), <https://www.regulations.gov/document/EPA-HQ-OPP-2006-0955-0764>.

implemented in 2008—which are still in operation today—have failed to adequately achieve the goal of “reduc[ing] wildlife exposures and ecological risks,”⁹² and a 2020 *Draft Ecological Risk Assessment* revealed a persisting need for additional measures to reduce rodenticide exposure to non-target animals, including various endangered species.⁹³

In November 2022, EPA began a 15-year registration review of brodifacoum, bromadiolone, bromethalin, chlorophacinone, cholecalciferol, difenacoum, difethialone, diphacinone, strychnine, warfarin, and zinc phosphide.⁹⁴ EPA also issued Proposed Interim Decisions (PIDs) for these rodenticides.⁹⁵ With respect to anticoagulant rodenticides, EPA stated: “anticoagulant rodenticides do not meet the FIFRA registration standard without the changes to the affected registrations.”⁹⁶ In other words, anticoagulant rodenticides may cause “unreasonable adverse effects on the environment.”⁹⁷

The 2022 PIDs identify numerous risks to nontarget wildlife, including federally protected species, that warrant additional restrictions, noting “it is apparent that the anticoagulant rodenticides may cause adverse effects on non-target organisms through primary and secondary consumption.”⁹⁸ To address these risks, the PIDs include additional restrictions “intended to reduce exposure to non-target organisms such as mammals and birds that may inadvertently consume rodenticides through their prey, or animals that may consume the rodenticide directly.”⁹⁹ Specifically, the 2022 PIDs’ proposed mitigation measures for rodenticides include:

- Reclassifying all SGAR products as Restricted Use Pesticides, as well as all FGAR products in packages exceeding four pounds.¹⁰⁰
- Packing all FGARs in tamper-resistant, non-refillable bait stations for consumer use. These bait stations would contain no more than one pound of rodenticide products.¹⁰¹

⁹² *Id.* at 1–2.

⁹³ See EPA, *Draft Ecological Risk Assessment for the Registration Review of Seven Anticoagulant Rodenticides* (Mar. 17, 2020), <https://www.regulations.gov/document/EPA-HQ-OPP-2015-0778-0034>.

⁹⁴ See *Pesticide Registration Review; Proposed Interim Decisions for the Rodenticides; Notice of Availability*, 87 Fed. Reg. 73,297 (Nov. 29, 2022), <https://www.federalregister.gov/d/2022-25978>.

⁹⁵ See Press Release, *EPA Proposes New Mitigation Measures for Rodenticides, Including Pilot for Protecting Endangered Species* (Nov. 29, 2022), <https://www.epa.gov/pesticides/epa-proposes-new-mitigation-measures-rodenticides-including-pilot-protecting-endangered>. The PIDs “describe EPA’s rationales for conducting additional risk assessments for the registration review of [anticoagulant rodenticides] . . . as well as the Agency’s subsequent risk findings and consideration of possible risk mitigation measures.” 87 Fed. Reg. at 73,298.

⁹⁶ See EPA, *Proposed Interim Registration Review Decision for Seven Anticoagulant Rodenticides* 67 (Nov. 2022), <https://www.regulations.gov/document/EPA-HQ-OPP-2015-0768-0056>.

⁹⁷ *Id.* at 67 n.43.

⁹⁸ *Id.* at 47, 50.

⁹⁹ See Press Release, *EPA Proposes New Mitigation Measures for Rodenticides, Including Pilot for Protecting Endangered Species* (Nov. 29, 2022), <https://www.epa.gov/pesticides/epa-proposes-new-mitigation-measures-rodenticides-including-pilot-protecting-endangered>.

¹⁰⁰ See EPA, *Rodenticides: Draft Biological Evaluation, Effects Determinations, and Mitigation Strategy for Federally Listed and Proposed Endangered and Threatened Species and Designated and Proposed Critical Habitats* 90 (Nov. 28, 2023), <https://www.regulations.gov/document/EPA-HQ-OPP-2023-0567-0004>; see also EPA, *Proposed Interim Registration Review Decision for Seven Anticoagulant Rodenticides* 49 (Nov. 2022), <https://www.regulations.gov/document/EPA-HQ-OPP-2015-0768-0056>.

¹⁰¹ See EPA, *Rodenticides: Draft Biological Evaluation, Effects Determinations, and Mitigation Strategy for Federally Listed and Proposed Endangered and Threatened Species and Designated and Proposed Critical Habitats* 90 (Nov. 28, 2023), <https://www.regulations.gov/document/EPA-HQ-OPP-2023-0567-0004>.

- Adding Endangered Species Protection Bulletins to rodenticide labels and requiring users to follow measures included in those Bulletins.¹⁰²
- Requiring follow-up search, collection, and disposal of carcasses to reduce secondary exposure of predators and scavengers. These follow-up measures would be applicable to both FGARs and SGARs.¹⁰³

Additionally, to fulfill the EPA’s duty under the federal Endangered Species Act (ESA) to ensure that its actions are not likely to jeopardize the continued existence of any protected species or result in the destruction or adverse modification of their habitat, EPA released a draft biological evaluation (“Draft BE”) in 2023 addressing the impact of 11 rodenticides on federally listed endangered and threatened species.¹⁰⁴ The Draft BE indicates that both FGARs and SGARs are likely to jeopardize the continued existence of 32 federally protected species of mammals, birds, and reptiles through current bait station application methods.¹⁰⁵

Because anticoagulant rodenticides endanger ESA species, the Draft BE proposes additional mitigation measures (referred to as the “Rodenticide Strategy”)¹⁰⁶ to minimize potential violations of the ESA. These supplemental measures include restrictions on bait station placement, prohibitions on use “in areas or at times of the year when [ESA-]listed secondary consumers might be exposed,” and requirements to cover and monitor burrow holes after rodenticides are applied.¹⁰⁷

Due to agency backlog, a final registration review decision may not be issued until late 2026,¹⁰⁸ making it particularly important for *state* agencies to act on their own to protect the environment in the meantime.

VIII. Suspending registrations of anticoagulant rodenticides is practicable and the best means to avoid or minimize damage to affected species.

The MPCA conforms Massachusetts’ pesticide laws to the federal requirements under FIFRA,¹⁰⁹ so when the EPA’s registration review of rodenticides concludes, the Pesticide Board Subcommittee will—at the very least—adopt the mitigation measures implemented by the EPA. However, MDAR

¹⁰² See EPA, *Proposed Interim Registration Review Decision for Seven Anticoagulant Rodenticides* 48 (Nov. 2022), <https://www.regulations.gov/document/EPA-HQ-OPP-2015-0768-0056>.

¹⁰³ See EPA, *Rodenticides: Draft Biological Evaluation, Effects Determinations, and Mitigation Strategy for Federally Listed and Proposed Endangered and Threatened Species and Designated and Proposed Critical Habitats* 91 (Nov. 28, 2023), <https://www.regulations.gov/document/EPA-HQ-OPP-2023-0567-0004>.

¹⁰⁴ See Press Release, *EPA Releases Draft Biological Evaluation of 11 Rodenticides’ Effects on Endangered Species* (Dec. 1, 2023), <https://www.epa.gov/pesticides/epa-releases-draft-biological-evaluation-11-rodenticides-effects-endangered-species>.

¹⁰⁵ See EPA, *Rodenticides: Draft Biological Evaluation, Effects Determinations, and Mitigation Strategy for Federally Listed and Proposed Endangered and Threatened Species and Designated and Proposed Critical Habitats* 54, 60 (Nov. 28, 2023), <https://www.regulations.gov/document/EPA-HQ-OPP-2023-0567-0004>.

¹⁰⁶ *Id.* at 88, 89.

¹⁰⁷ *Id.* at 92–93.

¹⁰⁸ See Press Release, *EPA Publishes Updated Registration Review Schedule* (Apr. 10, 2023), <https://www.epa.gov/pesticides/epa-publishes-updated-registration-review-schedule>.

¹⁰⁹ See G.L. c. 132B, § 1; see 7 U.S.C. § 136v(a) (“A State may regulate the sale or use of any federally registered pesticide or device in the State, but only if and to the extent the regulation does not permit any sale or use prohibited by this subchapter.”); see *Pesticide Registration, Guidance on FIFRA 24(c) Registrations*, EPA (Nov. 2020), <https://www.epa.gov/pesticide-registration/guidance-fifra-24c-registrations> (“[I]f a state desires to impose an additional restriction to a federally registered product, states may exercise their authority under FIFRA section 24(a) to regulate the sale or use of any federally registered pesticide in the state.”).

maintains that “Massachusetts pesticide laws are more restrictive than those of the EPA,”¹¹⁰ and FIFRA grants states broad authority to adopt measures that are more protective than those at the federal level.¹¹¹ Thus, because the Subcommittee is obligated under MESA to “use *all* practicable means and measures to avoid or minimize damage to affected species or their habitats,”¹¹² we believe it must act immediately and independently of the EPA to suspend registration of all anticoagulant rodenticides in accordance with G.L. c. 132B § 7, conduct an individual review of these active ingredients in accordance with 333 Code Mass. Regs. § 8.03, and deny future registration of anticoagulant rodenticides.

As discussed above, the EPA is currently weighing whether to reclassify anticoagulant rodenticides for restricted use, among other things.¹¹³ Yet reclassifying anticoagulant rodenticides as restricted use will not “avoid or minimize damage to affected species” because of the inherent nature of these chemicals, i.e., their capacity to exterminate rodents over an extended period and bioaccumulate in species that prey on them.¹¹⁴ Whenever anticoagulant rodenticides are found in rodents, they may inadvertently poison other animals in the food web, thereby endangering raptors and other wildlife dependent on these prey species. Thus, any use of anticoagulant rodenticides poses a threat to raptors and other wildlife, even if they are reclassified as “restricted use” and therefore applied only by appropriately certified private or commercial applicators.

At best, reclassifying rodenticides for restricted use would serve as a partial—and insufficient—mitigation strategy. It is not clear whether this measure would curtail the overall volume of rodenticides employed within the state. Moreover, it would fail to rectify the underlying ecological harm inflicted by these lethal substances when they are applied; as long as rats and mice consume rodenticides, their natural predators will be impacted. Therefore, while restricting access to FGARs and SGARs may be a small step in the right direction, the ultimate imperative remains their complete prohibition to safeguard Massachusetts’ wildlife.

IX. Conclusion

We urgently request that you review the Subcommittee’s continued registration of anticoagulant rodenticides for compliance with MESA under 321 Code Mass. Regs. § 10.05(2)(d). For the foregoing reasons, Petitioners’ request is based on the wealth of evidence that these toxicants pose unreasonable adverse effects on the environment and is consistent with the Subcommittee’s obligations under the MPCA, MESA, and accompanying regulations.

If you have any questions, please reach out to Mary Hollingsworth, Director of the Animal Law & Policy Clinic at Harvard Law School, who can be reached at MHollingsworth@law.harvard.edu.

¹¹⁰ See MDAR, *Register a Pesticide Product in Massachusetts*, Mass.gov, <https://www.mass.gov/how-to/register-a-pesticide-product-in-massachusetts> (last visited Mar. 4, 2024).

¹¹¹ See 7 U.S.C. § 136v.

¹¹² See 321 Code Mass. Regs. § 10.05(1) (emphasis added).

¹¹³ See EPA, *Proposed Interim Registration Review Decision for Seven Anticoagulant Rodenticides* 49-50 (Nov. 2022), <https://www.regulations.gov/document/EPA-HQ-OPP-2015-0768-0056>.

¹¹⁴ For example, California authorities found that classifying SGARs as “restricted use” “changed SGAR use patterns by restricting their purchase, sale, and use, [but] reported rates of non-target wildlife exposure to SGARs have not decreased.” Cal. Dep’t of Pesticide Regul., *Notice of Proposed Decision to Begin Reevaluation of Second-Generation Anticoagulant Rodenticides and Public Report 2* (Nov. 16, 2018), <https://www.cdpr.ca.gov/docs/registration/canot/2018/ca2018-22.pdf>.