



May 16, 2023

Via Email

Chair Rebecca Rausch & Chair Daniel Cahill
Joint Committee on Environment and Natural Resources
JointCommittee.Environment@malegislature.gov

Re: Testimony In Support of H825/S487, An Act relative to pesticides and H804, An Act authorizing the town of Arlington to prohibit use of second generation anticoagulant rodenticides by commercial pesticide applicators

Dear Chairs Rausch and Cahill:

Thank you for the opportunity to provide testimony in support of *An Act Relative to Pesticides (H825 / S487)* and *An Act Authorizing the Town of Arlington to Prohibit Use of Second Generation Anticoagulant Rodenticides by Commercial Pesticide Applicators (H804)*. Through this written testimony, I hope to expand upon the oral testimony I provided on behalf of Charles River Watershed Association ("CRWA") at the Joint Committee on Environment and Natural Resources hearing held on May 10, 2023.

Both these bills address the threat of second-generation anticoagulant rodenticides ("SGARs"). As I indicated in my oral testimony and as our coalition panel hopefully established, these SGARs can be horribly impactful on our native birds of prey, from bald eagles to small owls like Loki. Worse still, the effects of SGARs on our ecosystems are unclear. While we know they can harm far more than our birds of prey, we don't yet understand their impact on aquatic ecosystems. To protect our wildlife, preserve the health of our ecosystems, and ensure the safety of our communities, we must take action to track the use of SGARs.

While our Commonwealth works towards tracking, understanding, and potentially banning these rodenticides, we must support interim protective measures such as restricting SGAR use in schools and supporting Massachusetts municipalities as they seek to protect their local environments. There are numerous alternatives to the use of SGARs. Their sole benefit is their affordability, but our Commonwealth cannot afford their detrimental effects on natural pest control measures like birds of prey, and we certainly cannot afford their effects on our environment. Accordingly, I hope you will consider the following testimony in support of **H861/S475** and **H804**.

H825 / S487: *Our state should strongly consider banning SGARs, but in the meantime, we must act swiftly to track their use and prevent children from exposure*

CRWA supports H825 / S487, *An Act Relative to Pesticides* ("the Pesticides Bill"). There are three primary reasons to ban or limit the use of SGARs: (1) to prevent the deaths of Massachusetts birds of prey; (2) to

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ensure that children and pets are not exposed to these harmful rodenticides; and (3) to preserve the health of our ecosystems, as the effects of SGARs on ecosystems have yet to be fully understood.

As established by the members of my panel and other advocates over the course of the hearing, SGARs cause the deaths of many raptors and other birds of prey in Massachusetts. More research is necessary to reveal the true number of birds poisoned by SGARs in our Commonwealth, but in addition to the deaths of eagles and owls that were discussed at the hearing, studies have documented an alarming prevalence of SGAR residue in hawks. In 2020 a study of 43 red-tailed hawks found that

*100% of birds were positive for anti-coagulant rodenticides ("ARs"), with the SGARs brodifacoum, bromadiolone, and difethialone identified most frequently ... these findings represent the highest exposure both to ARs overall and to multiple ARs in red-tailed hawks compared to previous studies.*¹

A nationwide study of eagles documented rodenticide exposure in 82% of the 133 eagles studied.² The percentage of exposure - i.e. detectable levels, but not associated with mortality - was extremely high. Eagles are protected by federal law, including the Golden and Bald Eagle Protection Act and the Migratory Bird Treaty Act. Bald eagles are also protected by state law and are listed as a [Species of Special Concern](#) under the Massachusetts Endangered Species Act (M.G.L. c131A), which in addition to protecting listed species and their habitat also requires that "all agencies, departments, boards, commissions, and authorities shall utilize their authorities in furtherance of the purposes of this chapter and shall review, evaluate and determine the impact on endangered, threatened and special concern species of all works, projects or activities conducted by them and shall use all practicable means and measures to avoid or minimize damage to such species."³ If an individual, organization, or agency in this state were to directly harm a bald eagle or their regulated habitat, they could be liable or even face jail time, yet these same birds are killed without consequence by SGARs.

Birds of prey are apex predators. If they do not initially perish from consuming rodenticide-exposed prey animals, bioaccumulation of rodenticide in their livers means that they hasten their deaths through each successful hunt. And this highlights a key aspect of this problem: as many have noted, the use of SGARs is self-defeating if it kills our birds of prey. The sole reason that SGARs were invented was that rats had developed resistance to first-generation anticoagulants such as warfarin. Support of natural predation avoids this chemical arms race while obviously providing numerous co-benefits.

Eagle and other bird populations were decimated by the use of DDT and other pesticides, as famously noted in Rachel Carson's "Silent Spring." Bald Eagles were only taken off the federal list of threatened and endangered species in 2007⁴, and as noted they remain protected by the Massachusetts Endangered

¹ Nelson, Angela, "Understanding the Risks of Rodent Poisons to Birds of Prey." Tufts University Now, Tufts University, 16 Sept. 2020, <https://now.tufts.edu/2020/09/16/understanding-risks-rodent-poisons-birds-prey>.

² Niedringhaus, Kevin D *et al.* "Anticoagulant rodenticide exposure and toxicosis in bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) in the United States." PloS one vol. 16,4 e0246134. 7 Apr. 2021, doi:10.1371/journal.pone.0246134.

³ Massachusetts Endangered Species Act (M.G.L. c131A).

⁴ "Bald Eagle (*Haliaeetus leucocephalus*)." U.S. Fish and Wildlife Service, U.S. Department of the Interior, Accessed 5 May 2023, <https://www.fws.gov/species/bald-eagle-haliaeetus-leucocephalus>.

Species Act because their populations are still threatened here by loss of habitat and a range of environmental toxins, including PCBs, mercury, lead, and SGARs. If these hawks, eagles, and owls can no longer hunt to feed their young or themselves, there may come a day when these magnificent birds no longer grace our skies. This bill's requirement that pesticide applicators document their use of SGARs through the Executive Office of Energy and Environmental Affairs' ePlace Portal is necessary - but nearly sufficient - to ensure that day never arrives.

Equally crucial is that our state ensures that children and pets are not exposed to SGARs. The Pesticide Bill has two components. While the tracking component and its utility have been well-established and discussed, the utility of the second component - that schools, child care centers, public institutions of higher education, or school-age child care programs make reasonable efforts to use alternative means of pest control in lieu of SGARs - has not been fully explained or explored. Perhaps this is because its benefits are so self-evident. While there has yet to be a documented case of a child dying from severe anticoagulant rodenticide poisoning, the EPA banned the retail sale of SGARs specifically due to their potential threat to children.⁵ This decision was made after a four-year (1999 - 2003) EPA study found that 25,549 children under six had been exposed to enough rodenticides to exhibit poisoning symptoms. That same study revealed that seventy-two percent of those children were exposed to brodifacoum, the same SGAR found in the red-tailed hawks mentioned above.

While licensed pesticide applicators are required to employ the very highest degree of diligence in their pesticide application, it is illogical to allow the continued use of a chemical specifically banned due to its threat to children in our schools and daycare programs. While the risk may be slight, the potential for harm is astronomical. Safer, effective alternatives exist and should be employed wherever possible.

Finally, SGARs may be infiltrating all aspects of our environment. While secondary exposure to rodenticides was inevitable for birds of prey, and unsurprising in other predators, such as the foxes, bobcats, and coyotes, it is far less expected in fish and invertebrates. The existence of anticoagulant rodenticide residue in the livers of fish and the bodies of invertebrates is dire, as it suggests that SGARs may be spreading through the environment. For example, Canada does not have nearly as many problems with rodent infestation as the U.S., but raptors there carry as much rodenticide as anywhere else. Pierre Mineau, a leading ecotoxicologist who retired from Environment Canada's National Wildlife Research Centre in 2012 hypothesizes that insects may be picking up SGARs and passing it to songbirds, who in turn continue to pass it up the food chain.⁶ If SGARs can be passed through the food chain, and animals throughout our ecosystems may be sublethally poisoned, how can we be sure that we are not being indirectly exposed ourselves, even if we ban the means of direct exposure?

⁵"EPA-HQ-OPP-2006-0955-0764." Regulations.gov, U.S. Environmental Protection Agency, Accessed 5 May 2023, <https://www.regulations.gov/document/EPA-HQ-OPP-2006-0955-0764>.

⁶ Williams, Ted, "Poisons Used to Kill Rodents Have Safer Alternatives." Audubon, National Audubon Society, January/February 2013, <https://www.audubon.org/magazine/january-february-2013/poisons-used-kill-rodents-have-safer>.

SGARs must be understood and our most vulnerable populations protected from their worst effects. The Pesticide Bill implements two commonsense and practical ways of achieving these necessary goals. CRWA respectfully requests this Committee to favorably report **H825** and **S487**.

H804: *Our state should support the efforts of Massachusetts towns and cities to ban the use of SGARs within their town limits*

CRWA supports **H804**, *An Act Authorizing the Town of Arlington to Prohibit Use of Second Generation Anticoagulant Rodenticides by Commercial Pesticide Applicators*. For all of the reasons outlined above, a ban on SGARs is scientifically warranted, especially in those towns that have already lost birds of prey as a result of SGAR overuse. The recent death of MK in Arlington has highlighted the problem of SGARs for the community. Regardless of whether individual towns are well-placed to make regulatory decisions on the use of pesticides in their communities when a particular pesticide has been so conclusively and empirically established as harmful, that community should not be barred from banning or restricting the use of that specific rodenticide pending further review at the state and federal level.

Thank you again for the opportunity to provide testimony for the above bills, and for the hard work of the Committee in hearing and considering the many bills before you. The use of SGARs has been justifiably under fire for decades. Now is the time to take action and prevent further harm to our environment, wildlife, and communities. Please let me know if you have any questions, and again, on behalf of CRWA, I urge the Committee to favorably report **H825/H487** and **H804**.

Respectfully,

A handwritten signature in black ink that reads "Zeus Smith". The signature is written in a cursive, flowing style.

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