Tufts UNIVERSITY | Cummings School of Veterinary Medicine

March 4, 2025

The Honorable Brian Feldman, Chair
Senate Education, Energy & Environment Committee
2 West Miller Senate Office Building
Annapolis, MD 21401

Re: SB 634 – Hunting - Nonlead Ammunition, et cet. - FAVORABLE

Dear Chairman Feldman, Vice Chair Kagan, and Members of the Committee:

I am submitting testimony today wearing several hats. One is that of a lifelong outdoorsman. One is in my role as a health professional. And one is my role as a scientist who has spent over 50 years in environmental conservation; nearly 40 of those years studying health and disease in wildlife. I am an Emeritus Associate Professor of Wildlife Medicine at The Cummings Veterinary School, Tufts University, and former director of both Tufts Wildlife Clinic, and Tufts Center for Conservation Medicine.

Since 1987 my students and I have performed necropsies (post-mortem examinations) on thousands of wild birds from all over the eastern United States. Our work has documented a wide variety of causes of death including disease, predators, human caused problems (including gunshot, entanglement, oil spills, etc.). But I can unequivocally say that a very significant cause of death in many wild birds is lead poisoning. We continue to exhaustively document lead toxicosis from ingested bullet fragments and shotgun ammunition in a wide variety of species including bald and golden eagles, and a great many aquatic birds. It is discouraging how common this poisoning is. As an example, I've been involved in investigating several cases of wildlife lead poisoning in the last week.

As a life-long outdoors person, I deeply appreciate that sportsmen (and women) have a long and distinguished history as committed conservationists. Hunters and anglers play important roles in protecting the biodiversity and health of our natural ecosystems. I say this, because it is very important to understand that the large majority of proponents of this bill are NOT anti-sportsmen. But we are asking hunters, and anyone involved in the shooting sports, as concerned conservationists, to help eliminate the use of lead ammunition. I would ask them to join in taking this important step in adapting their practices and equipment for the good of protecting the environment, human health, and the species we all cherish.

Over 30 years ago, waterfowl hunters took a similar step when they changed from using toxic lead shot to non-toxic products. At that time, concerns were expressed about the cost and performance of the non-toxic alternatives, but hunters all over the U.S. successfully made the change. Now we're asking others to take a similar step.

As a health professional I feel that it is important to emphasize that for both human and veterinary medicine, there is overwhelming scientific consensus that lead is profoundly toxic. **NO** level of exposure is considered safe for people, domestic animals, or wildlife species. Whether the lead comes from paint, gasoline, mining, industrial processes, or sporting goods, this metal is toxic and cumulative in us and other species. The websites and publications of such agencies as the CDC, OSHA, US EPA, US Fish & Wildlife Service, USGS and many others emphasize the toxicity of lead. Shouldn't we ask ourselves if there's ANY reason to put large amounts of such a long-acting, persistent poison into our environment?

Traditionally, wildlife managers have primarily been concerned about threats to animal health in two circumstances. First, if such threats are shown to have population level effects on the species in question, and second, if these threats may serve a sentinel function to protect human health. There is no doubt that both of these are good reasons to replace lead in ammunition with non-toxic alternatives.

But I would be remiss if I did not point out the significant benefits to individual animals of switching to non-toxic ammunition. Hunters have long been some of our most ardent conservationists and traditionally abhor the unnecessary killing of non-target animals. Even if lead poisoning is not having a population level effect on a particular species, it is killing large numbers of animals in a manner that is prolonged, painful, and cruel. This flies in the face of two of the historic central tenets of sporting traditions: first, that we should avoid harm to non-target species, and second, that wild animals being taken for food or sport should, whenever possible, be afforded a quick death.

Lead poisoning is inhumane and causes unnecessary stress, pain, and suffering in a wide variety of species including people, dogs, horses, ruminants, and birds. There is abundant literature over many years to demonstrate acute abdominal pain, peripheral muscle pain and weakness, incoordination, seizures, anemia, gout, and other clinical problems seen in many species. It is worth the small economic cost to eliminate this poison from our outdoors activities to save large health care costs treating animals and humans from debilitating illness or even death.

Eliminating lead from ammunition and other sporting goods also directly benefits human health. In the process of making and using ammunition, people are exposed to lead in many ways. Mining, smelting, manufacturing, and use of lead products, including ammunition, contaminates people and the environment. Meat taken from animals shot with lead projectiles regularly contains small lead particles, and an increasing number of agencies and organizations caution that sensitive populations, like children or women of child-bearing age, should not eat meat harvested with lead bullets or shot. In most of the U.S., few food assistance programs screen donated game meat for lead. And of course "the needy" often have other significant sources of lead in their lives — including housing, drinking water, or occupational exposures.

Conclusion

From our years of work, I can categorically state that lead toxicosis from ingested ammunition is a serious problem for eagles and other wildlife in Maryland, the U.S. and abroad. I am in frequent contact with biologists studying eagles throughout the country, and can testify to the consistency of their findings and ours over time. It is especially serious that much of the

mortality is in breeding, adult animals, a critical group from the standpoint of population stability – especially as we consider the other threats that face eagles and other wildlife in our changing world.

I would strongly recommend that committee members as well as anyone interested issues of lead poisoning take the time to examine the following publications, available full text on the internet as well as some other documents I've appended to this testimony:

1. Proceedings of an international meeting, 2008. **Ingestion of Lead from Spent Ammunition: Implications for Wildlife and Humans.**
https://science.peregrinefund.org/legacy-sites/conference-lead/2008PbConf_Proceedings.htm

2. Ambio 48 (9), Sept. 2019 -- **Special Issue: Lead in Hunting Ammunition: Persistent Problems and Solutions**. https://link.springer.com/journal/13280/volumes-and-issues/48-9

3. Kanstrup, N. 2024. **The transition to non-lead ammunition: an essential and feasible prerequisite for sustainable hunting in modern society**. Aarhus University, Department of Ecoscience. https:/ /dce.au.dk/fileadmin/dce.au.dk/Udgivelser /Eksterne_udgivelser /BlyBog.pdf

Thank you for your attention. I would be happy to provide any additional information that the committee might need.

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Enclosed Attachments:

Buenz, EJ, Parry, GJ, Hunter, S, *et al.* X-ray screening of donated wild game is insufficient to protect children from lead exposure. Discover Food 4, 31 (2024).
Katzner, TE, et al. 2024. Lead poisoning of raptors: state of the science and cross-discipline mitigation options for a global problem. Biol Rev, Camb Philos Soc. 99:1672-1699.
Pokras, MA and MR Kneeland. 2008. Lead poisoning: using transdisciplinary approaches to solve an ancient problem. EcoHealth 5(3): 379-385.