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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 al., **FAVORABLE**

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

My name is Dan Ashe. I am a lifelong hunter, of small game; birds; big game; waterfowl; especially waterfowl. It has been a passion for as long as I can remember. I have lived and hunted, in Maryland, for 43 years.

I am also a lifelong conservationist. Trained as a biologist, I made a professional career in the U.S. Fish and Wildlife Service and was privileged to serve in many capacities, including Chief of the National Wildlife Refuge System (the world's largest system of protected lands and waters), Science Advisor to the Director, Deputy Director, and for nearly six years, as the agency Director (2011-2017). In that latter position, I was nominated by the President and confirmed, unanimously, by the U.S. Senate.

Currently, I am honored to serve as President and CEO of the Association of Zoos and Aquariums, whose accredited members include the Maryland Zoo in Baltimore, and Baltimore's National Aquarium. Each year, AZA-accredited members contribute more than \$300 million in direct support for wildlife conservation (\$360 million in 2023), so collectively, they rank among the world's largest conservation organizations.

I want to thank Delegate Nick Allen for his leadership in introducing SB 634 and making this hearing and this dialog possible.

I am going to focus my testimony on **what we know to be true.**

We know that wildlife and biodiversity, here in Maryland and across the globe, are in long-term and significant decline. The World Wildlife Fund recently released its [2024 Living Planet Report](#), which illustrates an alarming 73 percent average decline in wildlife populations, since 1970. The [Cornell University Lab of Ornithology](#) has documented the loss of 3 billion birds, with "steep, long-term losses across virtually all groups of birds in the U.S. and Canada. The principal causes of these declines are very

difficult to readily control, especially in the near term – like climate change, habitat loss, pollution, poaching and trafficking – but some, are well within our ability to control, like getting lead out of hunting ammunition. It is readily achievable, easily implemented, and directly impactful.

We know that lead is toxic to animal life – human and non-human. And **we know** that there is no safe level of lead in any animal – human or non-human.

https://www.cdc.gov/biomonitoring/lead_factsheet.html “No safe blood lead level has been identified.”

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6675766/> “Lead is a toxic non-essential metal that has no compensatory beneficial effects in living organisms.”

We know that lead-based ammunition breaks into fragments when it impacts an animal, like a white-tailed deer, creating dozens to hundreds of tiny, toxic tidbits. **We know** that non-lead ammunition does not fragment and is non-toxic, and in many cases is ballistically superior to lead ammunition.

<https://www.usgs.gov/media/images/copper-and-lead-ammunition-comparison> “Non-lead ammunition, such as those made from copper, tend to remain intact after impact with their target, while lead ammunition can fragment into many small pieces.”

We know that these lead fragments contaminate game meat, and they cannot be effectively removed.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6675795/> “Under normal ... hunting conditions, lead-based bullets commonly contaminate the harvested carcass on a large scale, as well as the viscera.”

<https://www.dnr.state.mn.us/hunting/ammo/lead-short-summary.html> “fragments were found so far from the exit wound ... as far away as 18 inches ... routine trimming likely will not remove all of the fragments.”

We know that the Maryland DNR acknowledges lead ammunition as a health risk to hunters and their families and friends. This warning is included on page 28 of the [Maryland 2024-2025 Guide to Hunting and Trapping](#):

HUNTERS SHOULD BE AWARE OF LEAD POISONING RISKS WHEN USING LEAD PROJECTILES

Even small amounts of lead can cause serious health problems. Young children and pregnant women are particularly susceptible to lead poisoning. Meat from game animals taken with lead fragmenting bullets and shot is a lead poisoning risk. (emphasis added)

We know that lead fragments in the gut piles of field dressed animals, and in wounded and un-retrieved animals is poisoning and killing non-target animals that scavenge on those remains and carcasses, including bald and golden eagles, hawks, owls, vultures, crows, ravens, blue jays, and foxes.

<https://cwhl.vet.cornell.edu/article/what-you-leave-behind> “Ammunition choice makes a difference.”

<https://science.peregrinefund.org/legacy-sites/conference-lead/PDF/0307%20Tranel.pdf> “The literature documents over 130 species of wildlife that have ingested lead shot, bullets, or bullet fragments.”

We know that the use of lead ammunition in hunting is poisoning almost one-half of the entire continental population of bald eagles, and **we know** that this poisoning is suppressing growth in the continental populations of both bald and golden eagles.

<https://www.science.org/content/article/nearly-half-bald-eagles-have-lead-poisoning> “Nearly half of the birds showed signs of chronic lead poisoning—46% of bald and 47% of golden eagles.”
<https://www.science.org/doi/10.1126/science.abj3068> “poisoning at this level suppresses population growth rates for bald eagles by 3.8% and for golden eagles by 0.8%.”

We know that the nationwide ban on lead shot for waterfowl hunting (implemented in 1991) has been an unmitigated success, for waterfowl and for waterfowl hunters.

<https://www.jstor.org/stable/3802755> “... an estimated 1.4 million ducks in the fall 1997 continental flight ... were spared from fatal lead poisoning.”

<https://www.fws.gov/sites/default/files/documents/WaterfowlPopulationStatusReport21.pdf> Mallard populations had effectively doubled from 1991 to 2019.

And **we know** that the same arguments being used against SB 634, were used in opposing that 1991 regulatory measure, and were proven wrong, including that additional costs and potential issues with availability of non-toxic ammunition would be a barrier to hunting participation, and that non-toxic ammunition was less effective.

We know that the California ban on lead ammunition that was fully implemented in 2019, has not suppressed hunting participation. In fact, hunting participation increased from 2019 to 2020.

https://angeles.sierraclub.org/news_conservation/blog/2021/05/hunters_in_california_ditch_the_lead_and_keep_the_conservation “According to California Department of Fish and Wildlife, nearly 300,000 hunting licenses were issued in the state, a 9% increase from 2019.”

We know that non-toxic, non-lead ammunition is available and affordable for rifles and shotguns, in all of the most popular hunting gauges and calibers.

<https://vtfishandwildlife.com/hunt/hunting-and-trapping-opportunities/choose-non-lead-ammunition>

“Non-lead bullets are factory loaded by most manufacturers in most popular big game hunting calibers.”

<https://huntingwithnonlead.org/> “With the increase in demand for non-lead ammunition, more manufacturers are producing more options, in more calibers than ever before. Currently, Barnes, Federal, Hornady, Winchester, and many others offer non-lead factory cartridges.”

Searching for ammunition using ammoseek.com, on February 25, 2024, I found copper ammunition readily available and at equivalent or cheaper prices than bonded lead: .240 (\$1.43/round vs. \$1.50/round); .308 (\$1.28/round vs. \$1.30/round); 30-06 (\$1.33/round vs. \$1.29/round); 30-30 (\$1.12/round vs \$1.18/round).

There is no evidence to support the notion that any modest increase in the price of ammunition will affect hunting participation. In fact, all evidence suggests that hunting participation is price inelastic. The cost of a Maryland hunting license increased from \$24.50 to \$35.00 in 2024, an increase of nearly 43 percent. In 2022, gas prices were nearly \$5.00 per gallon, while today they are averaging around \$3.25 per gallon. For most hunters, hunting is more than a pastime. It is a passion. There is no evidence to support a claim that any modest increase in ammunition cost would cause a decline in participation. In fact, all available evidence shows that it will not.

I am a hunter. I love hunting, and I love the people with whom I have had the privilege of spending days afield. **We know** that hunting is in decline, nationally and here in Maryland. Hunters are declining, in terms of the absolute number of people hunting, and as a proportion of the U.S. population. Hunting participation peaked around 1982, when nearly 17 million Americans participated, representing about six percent of the nation's population. Today, participation is about 13 million, representing about four percent of the population.

If we want more people to hunt, or to support hunting even if they don't hunt themselves, then we need to guard its reputation as an ethical and responsible pastime. Using ammunition that is poisoning and killing innocent bystanders – like eagles, hawks, owls, and condors – and feeding contaminated food to families and friends, is the opposite of ethical and responsible.

I've always been proud of my hunting heritage. But frankly, seeing resistance, within the hunting community, to scientifically and ethically compelling issues like this, causes me to wonder if this is a pastime and a community that I want to introduce to my four grandchildren. Fortunately, they are all four years old, or younger, so I have time to consider the question.

Please protect hunting. Protect the families and friends who consume game meat. Protect eagles and the innocent bystanders of the wildlife world that are being poisoned by lead ammunition.

Vote to support SB 634.

Thank you.

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