



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:

On behalf of Animal Wellness Action, the Animal Wellness Foundation, and the Bethesda-based Center for a Humane Economy, I write in support of SB 634, sponsored by Delegate Nick Allen, to phase out the use of poisonous lead ammunition in sport hunting.

With an atomic number of 82, lead has had its poisonous characteristics on display for more than 2,000 years. Its intrusion into the body has the potential to diminish the function of every organ in the body, but it is best known for its effects on the brain and cognitive function. According to one peer-reviewed study published in 2022 in the Proceedings of the National Academy of Sciences, exposure to leaded gasoline lowered the IQ of about half the population of the United States, focusing on people born before 1996 — the year the U.S. banned gas containing lead.

“Within the brain, lead-induced damage. . .can lead to a variety of neurological disorders, such as brain damage, mental retardation, behavioral problems, nerve damage, and possibly Alzheimer’s disease, Parkinson’s disease, and schizophrenia,” [according to the National Institutes of Health](#).

Because of the extreme threat to public health, the U.S. removed lead from toys to furniture to house paint to gasoline (with that transition completed finally in 1996). With safer, affordable, and high-performance alternatives to lead ammunition available, it’s time to embrace superior forms of ammunition. The U.S. Army has shifted away from lead, with all of its detriments, and is now using tungsten, copper, steel, and other elements and alloys for its small arms ammunition. The change from lead to tungsten will also be "invisible" to the user, said John Middleton, technical executive for Environmental Armament Technology at U.S. Army Operations Support Command in Rock Island, Ill. "It is a seamless change," he said,” putting to rest any question about the killing potential of other elements used for ammunition.

We know that lead poisons and kills millions of wild animals every year. It also puts millions of hunters and their friends and families at risk. In weighing the inestimable costs of the loss of human life, and the lingering, painful deaths of countless thousands of animals, are we indeed serious about comparing those existential public and animal health consequences with the minor incremental cost of non-toxic ammunition (< \$1 to \$10/year for the average hunter) that is now widely available and regularly purchased on-line and delivered to our doorsteps.

And when we add up the other costs that hunters bear to pursue their passion for hunting – the costs of licensing, clothing, hunting equipment, transportation, processing of game meat, and, in many cases,

leasing of private lands, the incremental ammunition costs are negligible. Ammunition is one of the least costly aspects of the hunt, and it will remain that way after SB 634 is enacted.

As demand increases, as it's been for non-toxic ammunition, cost differences between lead and non-lead ammunition are likely to evaporate, given the wide underlying low costs of mining and manufacturing these other metals. We saw that with the ban on lead ammunition in waterfowl hunting, which was imposed in 1991 (34 years ago) and fought vigorously by the NRA, the Safari Club, and some of the other groups assembled here. That switch-over to lead is now considered one of the great conservation success stories of the 20th century, sparing the poisoning of 1.4 million mallards (just one of dozens of bird species) spared lead poisoning every year. Waterfowl hunting is more robust, and duck and goose hunters see larger flights of birds because millions of the birds don't die miserable deaths from poisoning.

To look at it through a different lens, let's remember that California began to phase in its lead ammunition ban in 2015 and completed it in 2019. A year before the ban began to be implemented, California sold 284,759 hunting licenses; the year after the ban took effect, it sold 286,276 licenses – an increase of 1500 licenses in a state that had been seeing a steady annual decline in hunting participation for decades, just as we've seen in many states.

If arsenic or polonium or mercury or plutonium were abundant metals and if they had the right weight and ballistic properties for good ammunition, would we ever think about equipping hunters with any one of those elements and allowing them to go afield with them and then allow them to consume the game they kill with it?

There is no level of lead considered safe, and it is impossible to cleanse the carcass of lead, which fragments on its way to the target and disperses even more widely when it hits the target.

The two federal agencies -- the U.S. Food and Drug Administration and the USDA -- responsible for assuring food safety rules, would never let a lead-inflected carcass into the food supply were it to pass through their screening systems. Even the Maryland Hunting and Trapping Guide warns hunters about the toxic effects of lead in the carcasses of the animals they shoot with lead.

In Maryland, the situation is worse than ever because of the growth in deer hunting. Deer kills increased by 270% from 1989-2023 (from 34,000 to 85,000 deer); even after adjusting for deer taken with archery equipment or copper bullets, it's estimated that more than 60,000 lead-contaminated gut piles litter the state, threatening wildlife and hunting families relying on game meat.

- Over 500 studies are definitive in documenting risk to 134 species (including humans), [according to the National Park Service](#). Animals consume spent lead ammunition or fishing tackle by foraging from the ground, feeding on the remains of lead-contaminated carcasses, or ingesting lead sinkers and jigs.
- A [2022 study](#) in Science examined 1,210 bald and golden eagles across 38 states and found that nearly half of them had “bone lead concentrations above thresholds for chronic poisoning.” Wildlife rehabilitation facilities take in an unyielding stream of lead-poisoned hawks, ravens, turkey vultures, and mourning doves.
- Fragments of lead are nearly impossible to remove from meat, even with professional processing. [One study](#) showed “all [deer] carcasses showed metal fragments” with risk to “ten million hunters, their families, and low-income beneficiaries of venison.” Hunting writer Ted Williams [noted in the outdoor publication Hatch](#), two “health departments impounded 17,000 pounds of donated, lead-impregnated venison.”

- In October 2023, the U.S. Fish and Wildlife Service (USFWS) published a [final rule](#) relating to hunting on wildlife refuges and concluded that lead is an unmistakable threat to wildlife and to hunting family and friends. The rule noted that “lead ammunition, including bonded lead ammunition, fragments when it hits an animal, and this distributes tiny pieces of lead within a wide radius in the soft tissues of the harvested animal... These tiny fragments of lead are then consumed by humans eating the game meat and scavenger species eating carcasses or gut piles left behind. In this tiny, fragmented form and acted on by digestive enzymes and acids, the lead derived from ammunition can then shed particles that enter the blood stream and affect systems throughout the body, presenting both chronic and acute health risks.”

Lead phase-outs work, and alternative ammo available and cost-effective.

- Nationwide, millions of hunters already use alternative forms of ammunition, that these forms of ammo are widely accepted by state and federal wildlife agencies and are widely recognized as having equal or superior killing power. In a [survey](#) by the Arizona Game and Fish Department, 93.1% of hunters said the overall performance of non-toxic ammo was equal or superior to lead; 89.1% said they would use it again.
- The Texas Parks and Wildlife Department released a peer-reviewed [study](#) in 2015 comparing lead and steel shot loads in dove hunting. The researchers found “no relationship between ammunition type and level of hunter satisfaction” and “no difference in doves bagged per shot, wounded per shot, bagged per hit, or wounded per hit among the 3 ammunition types.”
- Lead alternatives such as steel, copper, and bismuth are widely available, and often cheaper than premium lead.

For the benefit of wildlife and hunting families, we want to see lead use ended tomorrow. Alternatives are already abundant in the marketplace. But SB 634 is an effort by our community to bend over backwards to accommodate players in the hunting camp. It is a product of compromise. We worked over months with the DNR and key leaders in the hunting community on a long-term phase-out, with deer, squirrel and rabbit hunting restrictions not to take effect until 2029.

All prior debates about balancing public health and safety against costs to consumers and industry for commercial uses of lead have been settled in favor of public health. SB 634 is a no-brainer that does something good for hunting, wildlife, and for wildlife conservation.

Sincerely,

Wayne Pacelle
President
Animal Wellness Action