

**Support Letter- SB983 MD.pdf**

Uploaded by: Autumn Reiter

Position: FAV



February 23, 2024

Senator Karen Lewis Young  
Maryland State Senator, District 3  
302 James Senate Office Building  
11 Bladen Street  
Annapolis, MD 21401

Senator Lewis Young,

On behalf of Tri-State Bird Rescue & Research, I wanted to thank you for your sponsorship of SB 983. Tri-State is a non-profit organization located in Newark, Delaware who for almost 50 years has been providing expert medical care, housing, and diets to injured, orphaned, and oiled native wild birds. We are one of the premier rehabilitation centers in the United States.

While located in Delaware, our close proximity to Maryland allows our dedicated team of professional staff and volunteers to respond to the needs of injured native wild birds in your state. We have unfortunately witnessed first-hand the impact that the use of lead and lead based ammunition has on the native wild birds of Maryland. Since 2016, 74 birds were found in Maryland and brought to our clinic suffering from or succumbing to complications from lead poisoning.

For decades we have seen firsthand the fatal effects of ingested lead in birds, particularly Bald Eagles. Sometimes, we can successfully treat these birds and return them to life in the wild. Yet, the majority of them, unfortunately cannot be saved. Below is a chart representing each bird mentioned above, along with the outcome of their case:

Maryland Birds Treated for Lead Poisoning Since Sept 2016					
Species	Admitted	Died	Euthanized	Released	Pending
Bald Eagle	53	16	25	12	
Turkey Vulture	6	2	3	1	
Black Vulture	4		2	2	
Mallard	2	1		1	
Snow Goose	2	1	1		
American Kestrel	1	1			
Common Loon	1	1			
Glossy Ibis	1	1			
Herring Gull	1		1		
Red Tailed Hawk	1			1	
Ringbilled Gull	1	1			
Tundra Swan	1				1
<b>Totals</b>	74	24	32	17	1

This correlates to a 77.1% mortality rate; 73% for Bald Eagles when lead poisoning has occurred. We also have data that shows us that 70% of the Bald Eagles instances happened between October and February – which coincides with hunting seasons for deer and upland game for which lead ammunition is permitted.

We hope that you will share this letter of support with your colleagues as they consider their position on this bill. It is clear from the small data set I present here that our wildlife will benefit immensely from a change to non-lead ammunition.

Please do not hesitate to contact me should you have any questions, need clarification or more data on our relevant cases.

With Appreciation,

Autumn Reiter  
Executive Director

**PEER Testimony on Maryland Senate Bill 983.pdf**

Uploaded by: Colleen Teubner

Position: FAV



PUBLIC EMPLOYEES FOR ENVIRONMENTAL RESPONSIBILITY

962 Wayne Ave • Suite 610 • Silver Spring, MD 20910

### **Testimony on Maryland Senate Bill 983**

Good afternoon. My name is Colleen Teubner, and I am a Staff Attorney with Public Employees for Environmental Responsibility, or PEER for short, headquartered in Silver Spring, MD. Thank you for this opportunity to be heard on Senate Bill 983. I am here today to strongly support Senator Young's effort to phase out the use of lead and lead-based ammunition for hunting in the State of Maryland.

PEER supports current and former public employees who seek a higher standard of environmental ethics and scientific integrity within their agencies. The effects of lead ammunition on wildlife and human health are a major concern of the current and retired wildlife officials we work with nationally and in Maryland.

For example, spent shot pellets in water, on the ground, and in unrecovered game expose waterbirds, ground-foraging birds, and predatory

birds to lead. Additionally, scavenging animals are exposed to lead through bullet fragments in discarded animal remains.<sup>1</sup>

Humans are exposed in several ways, including ingestion of lead dust, ammunition fragments, and shot pellets in harvested meat and through inhalation of lead dust during ammunition reloading.

Our government contacts are concerned about these pathways to lead exposure due to lead's toxicity to humans and wildlife.

The science is settled - lead is a metabolic poison that, when ingested, attacks organs and many different body systems, including the blood-forming, nervous, urinary, and reproductive systems. Studies show that cumulative lead exposure over time can cause adverse health impacts, while high, limited exposure to lead can be lethal. Simply put, there is no safe level of lead in the human body.<sup>2</sup>

Although lead has been banned from many industries, lead based ammunition is one of the few remaining sources for new lead being introduced into the environment.

---

<sup>1</sup> <https://naturalresources.extension.iastate.edu/wildlife/lead-contamination-wildlife>

<sup>2</sup> United States Department of Health and Human Services (USDHHS). 1999. Toxicological Profile for Lead. Agency for Toxic Substances and Disease Registry. <http://www.atsdr.cdc.gov/toxprofiles/tp13.pdf/>.

Neither politics nor cost should be a guiding principle for public health and safety. Instead, the State of Maryland should set an example and protect its residents and public lands from a known toxic substance. For these reasons, this Committee should vote in support of Senate Bill 983.

Thank you.

# **Dan Ashe Testimony on SB983.pdf**

Uploaded by: Daniel Ashe

Position: FAV



8403 Colesville Road, Suite 710  
Silver Spring, MD 20910-3314  
301-562-0777 tel 301-562-0888 fax

February 27, 2024

The Honorable Brian J. Feldman  
Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

The Honorable Cheryl C. Kagan  
Vice Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

**RE: SB 983 – Lead Ammunition Phase-Out - SUPPORT**

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

My name is Dan Ashe. I am a lifelong hunter – 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 42 years.

I am 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 are contributing an average of more than \$230 million in direct support for wildlife conservation, so collectively, they are among the world's largest conservation organizations.

I want to thank Senator Karen Lewis Young for her leadership in introducing SB 983, 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 decline. The causes of much of that are very difficult to readily control, especially in the near term – climate change, habitat loss, pollution, poaching and trafficking -- but some, are well within our grasp, like getting lead out of hunting ammunition. It is readily achievable, easily implemented, and directly impactful.  
<https://www.birds.cornell.edu/home/bring-birds-back/> “Staggering losses among birds in every biome.”  
<https://www.worldwildlife.org/press-releases/69-average-decline-in-wildlife-populations-since-1970-says-new-wwf-report> “69 percent average decline in wildlife populations since 1970.”

**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](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 fragments when it impacts an animal, like a white-tailed deer, creating dozens to hundreds of tiny, toxic tidbits.

<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 2023-2024 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 ... Meat from game animals taken with lead fragmenting bullets and shot is a lead poisoning risk.”***

**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 983, 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](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.

<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.”

<https://ammoseek.com/> 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 is increasing from \$24.50 to \$35.00 in 2024, an increase of nearly 43 percent. Did Maryland DNR predict a decline in participation? In 2022, gas prices were nearly \$5.00 per gallon. Did that affect hunting participation? Hunting 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, 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 the 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 983.

Thank you.

Dan Ashe  
President & CEO  
**Association of Zoos & Aquariums**  
8403 Colesville Road, Suite 710  
Silver Spring, MD 20910-3314  
(P) 301-244-3322  
(F) 301-562-0888  
(E) [dashe@aza.org](mailto:dashe@aza.org)  
[www.aza.org](http://www.aza.org)

[www.azasavingspecies.org](http://www.azasavingspecies.org)



**SB 983 - CBF - FAV.pdf**

Uploaded by: Doug Myers

Position: FAV



# CHESAPEAKE BAY FOUNDATION

---

*Environmental Protection and Restoration  
Environmental Education*

## **Senate Bill 983**

Hunting – Lead and Lead-Based Ammunition – Phase-Out

Date: February 27, 2024

Position: **Support**

To: Senate Education, Energy and the Environment Committee

From: Doug Myers  
MD Senior Scientist

---

Chesapeake Bay Foundation (CBF) **SUPPORTS** SB 983 which phases out the use of lead-based ammunition.

Lead (Pb) is toxic and is banned from gasoline, paints, and various household items in most developed countries. Lead ammunition, however, is still widely used for hunting and shooting, and is now likely the greatest, largely unregulated source of lead that is knowingly discharged into the environment in the USA (Health Risks from Lead-Based Ammunition in the Environment—A Consensus Statement of Scientists [2013](#); U.S. Geological Survey [2013](#)).<sup>1</sup>

Scientists across North America and Europe have published consensus statements on the risks to wildlife, the environment and human health from the use of lead ammunition, and the need for its replacement by non-toxic alternatives. Lead has the potential to be bioaccumulated through the food chain to higher concentrations. In fact, the Center for Disease Control affirms that there is no safe level of lead for children<sup>2</sup>.

**CBF urges the Committee's FAVORABLE report on SB 983.**

For more information, please contact Matt Stegman, Maryland Staff Attorney, at [mstegman@cbf.org](mailto:mstegman@cbf.org).

---

<sup>1</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5161761/#CR21>

<sup>2</sup> <https://www.cdc.gov/nceh/lead/faqs/lead-faqs.htm>

Maryland Office • Philip Merrill Environmental Center • 6 Herndon Avenue • Annapolis • Maryland • 21403

*The Chesapeake Bay Foundation (CBF) is a non-profit environmental education and advocacy organization dedicated to the restoration and protection of the Chesapeake Bay. With over 200,000 members and e-subscribers, including 71,000 in Maryland alone, CBF works to educate the public and to protect the interest of the Chesapeake and its resources.*

# **Written Testimony of Elaine F. Leslie-1.pdf**

Uploaded by: Elaine Leslie

Position: FAV

## Written Testimony in support of SB983

February 27, 2024

Thank you for considering my written testimony. I am testifying in support of support of SB983, the Maryland bill to phase-out lead ammunition. I am speaking on behalf of over 2,200 members of the Coalition to Protect America's National Parks (Coalition), a non-profit organization composed of retired, former, or current employees of the National Park Service (NPS). The Coalition studies, educates, speaks, and acts for the preservation of America's National Park System. As a group, we collectively represent nearly 45,000 years of experience managing and protecting America's most precious and important natural and historic resources. Among our members are former NPS directors, regional directors, superintendents, environmental and resource specialists, scientists, NEPA practitioners, park rangers, maintenance and administrative staff, and a full array of other former employees, volunteers, and supporters. We support Maryland in the phase-out approach of lead ammunition, recognizing that between the use of lead-based ammunition and fishing tackle, there are not only wildlife health and welfare issues, but also human health concerns.

I have been a wildlife biologist for over forty years, having worked in national parks from Grand Canyon to Colonial National Historical Park to overseeing the national program for biological resources for the National Park Service agency in D.C. I have been aware of this issue after having worked on the restoration of California condors in Grand Canyon National Park in the mid-90's and have been working diligently on the matter ever since. If you have ever watched a condor soar over one of our grandest national parks, only to be laid out in a vet's office days later dying of lead poisoning, you will never forget the pain and suffering. After having worked with Dr. Bryan Watts, Conservation Biology Institute out of William and Mary, on the mid-Atlantic bald eagle population and lead levels, from Virginia up the coast along the Chesapeake and Potomac and our parks within Maryland boundaries (27+ parks), I became quite aware that while the bald eagle population appears to be recovering, they and other species are still impacted by lead as they scavenge on tainted carcasses. And those are just the species we closely monitor.

You may be aware of S. 4157<sup>1</sup>, the LEAD Act of 2022, which was introduced by Senator Tammy Duckworth on May 5, 2022. A similar bill, H.R. 405<sup>2</sup> had been introduced in the House by Congressman Ted Liu in 2021. S. 4157 would prohibit the use of lead ammunition in units of the National Wildlife Refuge System. All of the findings stated in Section 2 of the bill regarding the adverse impacts of lead on human health, the environment, and wildlife are equally applicable to lands and waters in this nation where we hunt and fish. We call your attention to recent U.S. Fish and Wildlife Service (USFWS) "station specific" hunting and sport fishing regulations<sup>3</sup> that begin to phase out the recreational use of "lead" on National Wildlife Refuges across the country. In these regulations, the groundwork is laid for addressing restrictions on lead ammunition and fishing tackle and protection of our natural environment, on a national level and on a state-by-state approach.

The adverse impacts of lead poisoning on wildlife and their habitats have been known for decades and are well-documented. For example, a recent U.S. Geological Survey study<sup>4</sup> found that nearly half of all bald

---

<sup>1</sup> <https://www.congress.gov/bill/117th-congress/senate-bill/4157/text?r=2&s=1>

<sup>2</sup> <https://www.congress.gov/bill/117th-congress/house-bill/405/text>

<sup>3</sup> <https://www.regulations.gov/document/FWS-HQ-NWRS-2022-0055-16104>

<sup>4</sup> <https://www.science.org/doi/10.1126/science.abj3068>

and golden eagles in the country suffer from chronic and/or acute lead poisoning, likely the result of these birds scavenging the remains of animals shot with lead bullets. It should be noted that the use of lead ammunition is not just an issue in regards to large game, but also in sport hunting of so called “varmints” such as prairie dogs, marmots, coyotes, fox, etc. These carcasses are generally discarded in the field and left for such species as eagles to scavenge upon-ingesting poisonous lead fragments. In addition, there are a plethora of peer-reviewed scientific studies, worldwide, documenting the adverse impacts of lead on avifauna, herpetofauna, mammals from grizzly bear to small rodents, as well as to the environment on our lands and in our waters.

While the devastating effects of lead poisoning may be most acute and observed in raptors and condors that have been heavily monitored, more than 130 national park wildlife species are exposed to or killed by ingesting lead or prey contaminated with lead. At the same time, lead fishing tackle left in waters, leads to elevated levels of lead in fish, birds, and amphibians. These impacts, in addition to loss of habitat or habitat quality due to land conversion and fragmentation, invasive species, and climate change, negatively affect the health of our nation’s resources.

In addition to the numerous studies documenting the impacts of lead on wildlife, there is also an abundance of peer-reviewed science regarding the negative effects of lead poisoning on humans. Lead exposure is a significant public health concern due to its persistence in the environment. Lead poisoning can affect children, especially in underserved communities globally, according to a study published by the United Nations Children’s Fund (UNICEF) in 2020. Lead exposure is not just limited to situations involving lead paint or antiquated public water systems that still rely on lead pipes. The impacts of lead poisoning on underserved communities can also be connected to hunting and fishing activities and is of the utmost concern.

This is not a testimony to banning hunting or gun use. It’s about hunters and others be an integral component of this much needed conservation effort. The ecological toll of ongoing lead contamination is completely avoidable as there are equally effective, less toxic alternatives to lead-based ammunition and tackle readily available at comparable cost. Moreover, several counties and states, including California where Redwoods National Park and the Yurok tribe recently restored the California condor, and many other countries worldwide have successfully banned or severely restricted the use of lead-based recreational ammunition and tackle with little or no negative repercussions or lingering consumer objections.

From a purely conservation and human health perspective, the case for the phase-out of lead is clear. We truly believe that many species such as trumpeter swans, loons, and others that fly and migrate through the nation’s skies would not be here today if not for the USFWS actions on lead shot decades ago. The state of Maryland can now set an example and implement the most effective wildlife protection measures available. By addressing this issue now, Maryland can stop the ongoing accumulation of toxic lead in the environment and help ensure the long-term conservation of the state’s resources for this, and future generations to come.

Sincerely,  
Elaine F. Leslie  
Coalition to Protect America’s National Parks  
Email: <mailto:editor@protectnps.org> and [eflwl@outlook.com](mailto:eflwl@outlook.com)  
2 Massachusetts Ave NE, Unit 77436  
Washington, DC 20013



Executive Council  
Phil Francis  
Don Hellmann  
Sue Consolo-Murphy  
Sue Fritze  
Russell Galipeau  
Patrick Gregerson  
Tim Hudson  
Elaine Leslie  
Linda Mazzu  
Jeff Mow  
Don Neubacher  
Chris Powell  
Cheryl Schreier  
Bill Shaddox  
Chris Soller  
Sheridan Steele  
Terri Thomas  
Monique VanLandingham  
Clara Wooden



THE COALITION TO PROTECT  
AMERICA'S NATIONAL PARKS  
— VOICES OF EXPERIENCE —

# **MD Ornithology + letters-combined.pdf**

Uploaded by: Gil Genn

Position: FAV



## MARYLAND ORNITHOLOGICAL SOCIETY

February 27, 2024

The Honorable Brian J. Feldman  
Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

The Honorable Cheryl C. Kagan  
Vice Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

### **RE: SB 983 - Lead Ammunition Phase-Out - SUPPORT**

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

The Maryland Ornithological Society (MOS) whole heartedly supports SB983, which would lead to the banning of lead ammunition in Maryland.

#### **Impact of Lead Shot on Birds**

The presence of lead in the environment, whether from spent ammunition or discarded fishing tackle, is deleterious to many forms of wildlife, but particularly to raptors and water birds.

Lead has been shown to reduce populations of Bald Eagles by 4.8% and those of Golden Eagles by 0.8%<sup>i</sup>. Other studies have concluded that lead suppresses the vigor of Bald Eagle populations<sup>ii</sup> and decreases the resilience of Golden Eagle populations to other environmental toxins<sup>iii</sup> and interferes with their motor and immune systems<sup>iv</sup>. Both species are protected under the Bald and Golden Eagle Protection Act which prohibits 'take' of either species, where take is defined as harming them in various ways, including poisoning<sup>v</sup>. Regardless, both species are still poisoned whenever they eat wildfowl or fish containing lead.

In addition to eagles, carrion eating birds, namely vultures, condors and corvids, are poisoned by the lead in carcasses. Exposure to lead causes lethal and sub-lethal impacts in these and other bird species.<sup>vi</sup>

### **Impacts on humans**

The use of lead ammunition is not a threat only to birds, people who eat birds or wild game hunted with lead ammunition are at risk. Thus in a 2009 study of 742 volunteers from 6 North Dakota cities, it was found that consumption of hunter-killed wild game was associated with higher lead levels. Specifically those who ate such game had lead blood levels averaging 1.27 µg/dl as compared to 0.84 µg/dl in those who had not.

### **Bans Do Work**

Bans on the use of lead have already shown promising results. The 1991 ban on lead shot for hunting waterfowl was followed by reduced numbers of crippled ducks and geese<sup>x</sup>, and lower detectable levels of lead in the blood of ducks,<sup>xi</sup> and less non-hunting mortality among ducks.<sup>xii</sup>

Following a lead shot ban in the California Condor's range in 2008, lead exposure to birds of prey fell as hunters obeyed the new ordinance<sup>xiii</sup>.

Banning lead would also have positive impacts on human health since, according to the World Health Organization, there is no safe level of lead<sup>xiv</sup>. The ban will thus also protect those who eat wildfowl.

### **MOS**

MOS is an 2000-strong member volunteer organization that is dedicated to the study, conservation and enjoyment of birds in Maryland and beyond. We were founded in 1945 and are organized into 15 chapters throughout the state. We lead field trips, organize lectures, have an active youth sector, conduct period bird counts, have an annual convention and own 10 sanctuaries in various parts of state.

In closing I thank you for considering our request..

Sincerely,



Robin G. Todd PhD, Conservation Chair  
Maryland Ornithological Society  
10174 Green Clover Drive  
Ellicott City, MD 21042  
[Robin.todd@mdbirds.org](mailto:Robin.todd@mdbirds.org)

### **References Cited**

<sup>i</sup> Slabe et al. (2022). Demographic implications of lead poisoning for eagles across North America. Science, 375. Pp. 779-782.

- ii Hanley, B. J. et al. (2021). Environmental lead reduces the resilience of bald eagle populations. *The Journal of Wildlife Management*, 86(22177).
- iii Watson, J.W., and Davies, R.W. (2015). Lead, Mercury, and DDE in the Blood of Nesting Golden Eagles in the Columbia Basin, Washington. *The Journal of Raptor Research*, 49(2). Pp.217-221.
- iv Golden, N.H., Warner, S.E., and Coffey, M.J. (2016). A Review and Assessment of Spent Lead Ammunition and Its Exposure and Effects to Scavenging Birds in the United States. *Reviews of Environmental Contamination and Toxicology*, 237. Pp. 123-191.
- v <https://www.govinfo.gov/content/pkg/USCODE-2010-title16/pdf/USCODE-2010-title16-chap5A-subchapII.pdf>
- vi Palmer, A.G. et al. (2022). Blood Lead Concentrations of Free-ranging North Florida Raptors: 2008-2017. *Journal of Wildlife Diseases*, 58(2).
- vii Michael, P. (2006). *Fish and Wildlife Issues Related to the Use of Lead Fishing Gear*. Washington Department of Fish and Wildlife: Fish Program.
- viii Grade, T.G., Pokras, M., et al. (2019). Lead poisoning from ingestion of fishing gear: A review. *Ambio*, 48(0). Pp. 1023-1038.
- ix The Trumpeter Swan Society (October 21, 2021). *Position Statement: Lead in the Environment is a Significant Threat to Trumpeter Swans and Other Wildlife*.
- x Ellis, M.B., and Miller, C.A. (2021). The effect of a ban on the use of lead ammunition for waterfowl hunting on duck and goose crippling rates in Illinois. *Wildlife Biology*, e01001.
- xi Lewis, N.L., et al. (2021). Blood lead declines in wintering American black ducks in New Jersey following the Lead Shot ban. *Journal of Fish and Wildlife Management*, 12(1).
- xii Havera, A.W., and Zercher, B. (2000) Ingestion of lead and nontoxic shotgun pellets by ducks in the Mississippi flyway. *Journal of Wildlife Management* 64. Pp. 848–857.
- xiii Kelly, R.T. et al. (2011). Impact of the California Lead Ammunition Ban on Reducing Lead Exposure in Golden Eagles and Turkey Vultures. *PLoS One*, 6(4).
- xiv <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health#:~:text=There%20is%20no%20known%20safe,symptoms%20and%20effects%20also%20increase.>



## Cummings School of Veterinary Medicine

February 27, 2024

The Honorable Brian J. Feldman  
Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

The Honorable Cheryl C. Kagan  
Vice Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

**RE: SB 983 - Lead Ammunition Phase-Out - SUPPORT**

Dear Chairman Feldman, Vice Chair Kagan, 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. As an example, I've been involved in investigating five 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. 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 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 considerable money and effort to eliminate this poison from our outdoors activities.

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:

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](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>

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



Mark A. Pokras, B.S., D.V.M.  
Associate Professor Emeritus  
Wildlife Clinic & Center for Conservation Medicine  
Cummings School of Veterinary Medicine, Tufts University  
Dept. of Infectious Disease and Global Health  
N. Grafton, MA USA 01536-1895  
pronouns: he/him/his  
email: [mark.pokras@tufts.edu](mailto:mark.pokras@tufts.edu)

home:  
Scarborough, ME 04074

Attachment: Pokras, MA and MR Kneeland. 2008. Lead poisoning: using transdisciplinary approaches to solve an ancient problem. *EcoHealth* 5(3): 379-385.



February 27, 2024

The Honorable Brian J. Feldman  
Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

The Honorable Cheryl C. Kagan  
Vice Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

**RE: SB 983 - Lead Ammunition Phase-Out - SUPPORT**

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

My name is Brian Millsap, and I am writing in support of Maryland Senate Bill 983, which would require the development of regulations that would phase out the use of lead ammunition for hunting in Maryland by a future date to be determined by the Department of Natural Resources.

I believe I am qualified to provide meaningful testimony in support of this bill given my background and experience. I have a Bachelor of Science degree in Wildlife Biology, and Masters of Science and PhD degrees in Biology. I have been employed as a wildlife biologist in state and federal natural resource management agencies for 46 years, and currently am employed as a Research Assistant Professor in the Department of Fish, Wildlife, and Conservation Ecology at New Mexico State University. In my current position and in my last twelve years as an agency wildlife biologist I focused on the study and conservation of birds of prey, in particular bald and golden eagles. I have published over 90 peer-reviewed scientific papers.

In 2022 I was one of the lead authors of a study published in the peer-reviewed journal *Science* that provide an overview of the extent of lead poisoning in bald and golden eagles in North America, as well as an assessment of population-level impacts of lead poisoning on eagles<sup>1</sup>. In this analysis, we examined blood- and bone-lead levels in over 1200 bald and golden

eagles and found evidence of chronic lead exposure in nearly half of the eagles tested and acute levels of lead in up to 35% of the eagles sampled. We were able to predict population-level fatality rates from lead poisoning from these data, and we concluded that mortality from lead poisoning was depressing the bald eagle population growth rate by about 3% nationwide. We determined that the population growth rate for golden eagles was depressed by lead poisoning by about 1% nationwide, which while lower is more biologically significant because golden eagles are likely on the cusp of a range-wide population decline in North America due to excessive human-caused mortality<sup>2</sup>.

There is strong scientific evidence that the primary source of lead exposure in eagles in North America today is ingestion of bullet fragments in the remains of hunter-killed game animals left in the field after field dressing<sup>3,4</sup>. This evidence comes both from the fact that the frequency of encounters of eagles suffering from acute lead poisoning peaks at the end and immediately following the gun-hunting seasons, as well as from an analysis of the stable isotope signatures of the lead found in eagles suffering or having died from lead toxicosis. Wildlife managers and regulators have long sought an effective means of reducing or eliminating this threat, but the politically charged nature of the issue has made implementing an effective solution challenging. There is no better example of this than with respect to attempts to reduce lead poisoning in the critically endangered California condor in California, Arizona, and Utah. Lead poisoning is the primary obstacle to recovery of the California condor, and for many years voluntary lead ammunition exchange programs were employed in an attempt to reduce lead exposure and condor deaths. Despite high hunter compliance with use of non-lead ammunition in the target distribution zones and some local evidence of success, lead-levels in condors remained high, as did deaths, likely because the wide-ranging behavior of condors exposed them to lead in other areas of their annual range<sup>5</sup>. In contrast, California implemented a ban on the use of lead ammunition for most hunting activity in the range of the California condor in 2008, and that action resulted in an immediate reduction in blood lead levels in two California condor surrogates, the turkey vulture and golden eagle.<sup>6</sup> Over time, this action has also resulted in declines in blood-lead levels in condors as well<sup>6</sup>.

Maryland supports important populations of both bald and golden eagles, so the fate of Senate Bill 983 has important implications for conservation and well-being of both species of

eagle in the state. While Maryland's bald eagle population is large and healthy, it is still likely compromised by lead poisoning, just as we found elsewhere in North America. For golden eagles, however, Maryland's coastal plain and interior mountains provide important wintering habitat for a small and potentially imperiled eastern North American population of golden eagles that originates from breeding grounds in eastern Canada.<sup>7</sup> This population of golden eagles relies heavily on scavenging the remains of hunter-killed white-tailed deer during the winter. Lead poisoning is thus a matter of great conservation concern for the eastern North American population of golden eagles.

There is no scientific doubt that SB 983 would provide important conservation benefits to Maryland's bald and golden eagle populations. I hope you will take this information into account as you debate this important piece of legislation.

I urge a favorable report on SB 983.

Brian A. Millsap, PhD

Research Assistant Professor  
New Mexico State University  
Department of Fish, Wildlife and Conservation Ecology  
(505) 818-9219  
[bmillsap@nmsu.edu](mailto:bmillsap@nmsu.edu)

---

<sup>1</sup> Slabe, V. A., J. T. Anderson, B. A. Millsap, et al. 2022. Demographic implications of lead poisoning for eagles across North America. *Science* 375:779–782.

<sup>2</sup> Millsap, B. A., G. S. Zimmerman, W. L. Kendall, et al. 2022. Age-specific survival rates, causes of death, and allowable take of golden eagles in the western United States. *Ecological Applications*. <https://onlinelibrary.wiley.com/doi/abs/10.1002/eap.2544>.

<sup>3</sup> Katzner, T. E., M. J. Stuber, V. A. Slabe, J. T. Anderson, J. L. Cooper, L. L. Rhea, and B. A. Millsap. 2017. Origins of lead in populations of raptors. *Animal Conservation*. <http://doi.wiley.com/10.1111/acv.12379>.

<sup>4</sup> Stauber, E., N. Finch, P. A. Talcott, and J. M. Gay. 2010. Lead Poisoning of Bald (*Haliaeetus leucocephalus*) and Golden (*Aquila chrysaetos*) Eagles in the US Inland Pacific Northwest Region—An 18-year Retrospective Study: 1991–2008. *Journal of Avian Medicine and Surgery* 24:279–287.

<sup>5</sup> Schulz, J. H., S. Totoni, S. A. W. Stanis, C. J. Li, M. Morgan, D. M. Hall, E. B. Webb, and R. M. Rotman. 2023. Policy comparison of lead hunting ammunition bans and voluntary nonlead programs for California condors. *Wildlife Society Bulletin* 47:e1448.

<sup>6</sup> Kelly, T. R., P. H. Bloom, S. G. Torres, Y. Z. Hernandez, R. H. Poppenga, W. M. Boyce, and C. K. Johnson. 2011. Impact of the California Lead Ammunition Ban on Reducing Lead Exposure in Golden Eagles and Turkey Vultures. A. Iwaniuk, editor. *PLoS ONE* 6:e17656.

<sup>7</sup> Katzner, T., B. W. Smith, T. A. Miller, et al. 2012. Status, biology, and conservation priorities for North America's eastern Golden Eagle (*Aquila chrysaetos*) population. *The Auk* 129:168–176.



February 27, 2024

The Honorable Brian J. Feldman  
Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

The Honorable Cheryl C. Kagan  
Vice Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

**RE: SB 983 - Lead Ammunition Phase-Out - SUPPORT**

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

The National Wildlife Refuge Association is a non-profit organization focused on protecting and promoting the National Wildlife Refuge System, the world's largest network of lands and waters set aside for wildlife conservation. Founded in 1975, the Refuge Association's mission is to conserve America's wildlife for future generations through programs that protect, enhance, and expand the National Wildlife Refuge System and the landscapes beyond its boundaries. We appreciate the opportunity to express our support for SB0983 and HB1473 to phase out the use of lead or lead-based ammunition for hunting in the state of Maryland.

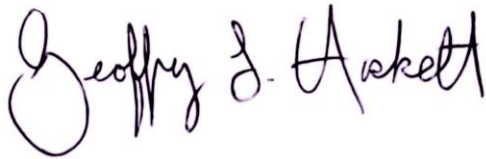
The use of non-lead ammunition helps to protect vulnerable wildlife from lead poisoning and enables hunters and their families to safely eat the game they've killed. Waterfowl and other birds accidentally ingest lead ammunition alongside the pebbles they swallow to aid digestion and suffer harmful – often fatal – lead poisoning, as do eagles, vultures, and other wildlife that scavenge on animals shot with lead ammunition. Lead ammunition shatters inside game animals, potentially harming not only scavenging wildlife but also hunters and their families who eat the meat. Studies have shown that lead fragments can be found in wild game meat despite best attempts to remove sections surrounding a bullet wound. In 2013, scientists with expertise in lead and environmental health published a consensus statement on the toxic effects of lead ammunition on human health and the environment, and the need to reduce and eventually eliminate the use of lead ammunition. The science unequivocally supports ending use of lead ammunition in hunting. Unlike some of the great challenges facing wildlife, there is a solution to

wildlife lead toxicity from ammunition and fishing tackle. Viable lead alternatives are already available to sportspeople, which means no interruption in recreation.

Non-toxic steel, copper, and alloy bullets and non-lead fishing tackle are affordable and available in all 50 states. Hunters and anglers in states and areas that have restrictions or have already banned lead have made successful transitions to non-toxic ammunition and tackle. Over a dozen manufacturers of bullets have designed and now market many varieties of non-lead, non-toxic bullets and shot with satisfactory to superior ballistic characteristics. Moreover, sportspeople who use non-lead ammunition carry on the tradition of wildlife conservation by preventing animals from being exposed to lead.

We believe the pathway to less-toxic environments and fewer wildlife poisonings is paved not just with legislation and regulation to phase out lead ammunition and tackle, but also with more sportsperson education, widely accessible non-toxic ammunition and tackle exchange programs, and informed decisions by individuals and communities. We encourage the swift passage of these bills as an important step to encourage the transition away from lead ammunition across the country.

Sincerely,

A handwritten signature in black ink that reads "Geoffrey L. Haskett". The signature is written in a cursive style with a large initial 'G'.

Geoffrey L. Haskett  
President  
National Wildlife Refuge Association

# **ABC Supports SB983.pdf**

Uploaded by: Hardy Kern

Position: FAV



*Bringing back the birds*

The Honorable Brian J. Feldman  
Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly

The Honorable Cheryl C. Kagan  
Vice Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly

CC: Sen. Malcolm Augustine, Sen. Benjamin Brooks, Sen. Mary Beth Carozza, Sen. Jason C. Gallion, Sen. Katie Fry Hester, Sen. Karen Lewis Young, Sen. Bryan W. Simonaire, Sen. Mary Washington, Sen. Ron Watson

**22 February, 2024**

**Subject:** American Bird Conservancy supports SB983

Dear Chair McCormick, Vice Chair Catlin, and Members of the Agriculture, Water & Natural Resources Committee,

American Bird Conservancy (ABC), supports SB983 – Lead and Lead-based Ammunition Phase-out.

Ingestion of lead-based ammunition is one of the greatest threats to wildlife in the United States. ABC supports the activities of sportspeople and is not opposed to hunting but recognizes the need to address the high levels of lead poisoning borne from the use of toxic ammunition.

Lead poisoning is killing Golden and Bald Eagles, Turkey Vultures, and other birds of prey in staggeringly high numbers. A [paper published](#) in 2022 by the United State Geological Survey found that lead poisoning *alone* is decreasing the population growth of imperiled Golden Eagles. [Another paper](#) found that lead poisoning is interfering with the recovery of Bald Eagles across the United States.

When a game animal is shot with lead, often the carcass or gut pile is left in the wild. Scavengers ingest tiny lead fragments, ultimately leading to immunosuppression, premature chick death, and death. Lead toxicity can not only cause acute death; it weakens bones, increases susceptibility to disease and infection, degrades motor function, and may increase the likelihood of collisions with humanmade objects. Bald Eagles in neighboring [New York](#) have seen extremely elevated levels of lead poisoning in the last two years.

ABC believes harm to Eagles and other wildlife is not intended by sportspeople; many are unaware of the effects of lead, or otherwise are not presented with lead alternatives. Hunters are the solution here: the provisions established in SB983 would phase-out the use of lead for the taking of wildlife in the state. It would provide a platform for ammunition manufacturers to develop innovative products and continue to generate revenue for conservation programs from Pittman-Robertson dollars (i.e., excise taxes).



*Bringing back the birds*

ABC supports SB983 and urges a favorable report. With any questions, please do not hesitate to reach out.

Sincerely,

A handwritten signature in black ink that reads "E. Hardy Kern III".

E. Hardy Kern III  
Director of Government Relations  
American Bird Conservancy  
[ehardykern@abcbirds.org](mailto:ehardykern@abcbirds.org)  
412-337-4673



**SB983\_HSUS\_fav.pdf**

Uploaded by: Jennifer Bevan-Dangel

Position: FAV



## THE HUMANE SOCIETY OF THE UNITED STATES

February 23, 2024

Bill: SB 983 – Hunting – Lead and Lead-Based Ammunition – Phase-Out  
Committee: Senate Education, Energy, and the Environment  
Position: SUPPORT

Chair Feldman, Vice Chair Kagan, and Members of the Senate Education, Energy, and the Environment Committee:

On behalf of our Maryland members, supporters and volunteers, the Humane Society of the United States offers its wholehearted support for SB 983 to phase out and, on or before December 31, 2026, prohibit the use of lead or lead-based ammunition for hunting in Maryland. We thank Senator Lewis Young for bringing forth this measure of such crucial importance to our state, and particularly appreciate the prioritization of a phase-out of lead ammunition for the hunting of deer because of its dire implications for the humans who consume venison and the wildlife who scavenge hunted deer.

### 1. Lead is highly toxic to humans

Lead is a toxic substance.<sup>1</sup> Lead poisoning has been documented in humans for more than 2,500 years,<sup>2</sup> and its harmful effects on human health are widely known. The Centers for Disease Control states that no level of lead exposure is safe for humans.<sup>3</sup> That is why lead has been removed from various paints, gasoline, pipes and a host of other products over the years. Yet lead exposure through hunting ammunition and tackle continues to pose a threat to human health. Top researchers, medical professionals, and environmental scientists state that lead-based ammunition is the “greatest, largely unregulated source of lead knowingly discharged into the environment in the United States.”<sup>4</sup>

Although the effects of lead exposure are potentially concerning for all humans, young children are most at risk. Lead’s negative impacts on children can include irreversible damage to the brain and nervous system, behavioral problems, anemia, liver and kidney damage, hearing loss, hyperactivity, developmental delays and, in extreme cases, death.<sup>5</sup>

In adults, lead poisoning can cause poor muscle coordination, nerve damage to sensory organs and nerves controlling the body, increased blood pressure, hearing and vision impairment and

---

<sup>1</sup> Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention. 2011. Lead CAS ID #: 7439-92-1. <https://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=22>

<sup>2</sup> Eisler, R. 1988. Lead hazards to fish, wildlife, and invertebrates: a synoptic review. United States Fish and Wildlife Service. Biological Report 85.

<sup>3</sup> Centers for Disease Control and Prevention. 2013. Lead Factsheet. National Biomonitoring Program. [http://www.cdc.gov/biomonitoring/Lead\\_FactSheet.html](http://www.cdc.gov/biomonitoring/Lead_FactSheet.html)

<sup>4</sup> D. Bellinger, et al. 2013. Health Risks from Lead-Based Ammunition in the Environment – A Consensus Statement of Scientists. Microbiology and Environmental Toxicology, UC Santa Cruz. <http://escholarship.org/uc/item/6dq3h64x>.

<sup>5</sup> Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention. 2016. Lead Toxicity, What Are the Physiologic Effects of Lead Exposure? [https://www.atsdr.cdc.gov/csem/lead/docs/CSEM-Lead\\_toxicity\\_508.pdf](https://www.atsdr.cdc.gov/csem/lead/docs/CSEM-Lead_toxicity_508.pdf)

reproductive problems.<sup>6</sup> Failure to treat lead poisoning in the early stages can result in long-term or permanent health damage.

Consuming meat from animals killed with lead ammunition needlessly puts people at risk of lead exposure.<sup>7</sup> Lead ammunition is highly fragmentable and nearly impossible to remove completely from meat.<sup>8</sup> Lead fragments can be found as far as 18 inches from the bullet wound channel.<sup>9</sup> Lead fragments in game meat include not only larger, visible pieces, but also nanoparticles invisible to the naked eye.<sup>10</sup> It is for these reasons that game meat, a common dietary staple for many families throughout the United States, can substantially raise lead levels in humans.<sup>11,12</sup> It is therefore advised that people not eat wild animals shot with lead ammunition in order to avoid possible lead exposure. For the safety of families in need, game meat donated to charitable organizations should not be shot with lead ammunition and should not be processed in facilities that may have lead contamination from other wild-killed animals.<sup>13</sup>

Many states recognize the threat posed by lead-contaminated game meat. The Minnesota Department of Health recommends that pregnant women and children younger than six not eat venison hunted with lead ammunition.<sup>14</sup> North Dakota advises food pantries not to distribute or use donated ground venison due to contamination from lead fragments, and Illinois, Michigan and Wisconsin authorities caution hunters and consumers about the dangers of exposure to lead in venison.<sup>15</sup> And in 2022, a group of public health, environmental, wildlife and veterinary scientists from around the world released an alarming report in the *American Journal of Public Health* that pointed out:<sup>16</sup>

Even though the presence of ammunition-derived metallic lead fragments in donated firearms-hunted meat has been recognized for more than a decade, the vast majority of donated hunted meat is not inspected to discard meat containing lead fragments.<sup>17</sup> An underlying lack of food safety standards for adulterated donated food increases risks to low-income recipients, who are

---

<sup>6</sup> *Id.*

<sup>7</sup> Pain, D. J., et al. 2010. Potential hazard to human health from exposure to fragments of lead bullets and shot in the tissues of game animals. *PLoS One*, 5(4), e10315. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0010315>

<sup>8</sup> U.S. National Park Service. 2011. Lead Bullet Risks for Humans & Wildlife.

<https://www.nps.gov/pinn/learn/nature/leadinfo.htm>

<sup>9</sup> Minnesota Department of Natural Resources. Examining Variability Associated with Bullet Fragmentation and Deposition in White-tailed Deer and Domestic Sheep. <http://www.dnr.state.mn.us/hunting/lead/short-summary.html>

<sup>10</sup> Kollander, B. et al (2016). Detection of lead nanoparticles in game meat by single particle ICP-MS following use of lead-containing bullets. *Analytical and Bioanalytical Chemistry*, 409(7), 1877-1885. <https://pubmed.ncbi.nlm.nih.gov/27966171/>

<sup>11</sup> W. Cornatzer et al. 2007. Qualitative and quantitative detection of lead bullet fragments in random venison packages donated to the Community Action Food Centers of North Dakota. *Ingestion of Lead from Spent Ammunition: Implications for Wildlife and Humans*. The Peregrine Fund, Boise, Idaho, USA. DOI:10.4080/ilsa.2009.011

<https://science.peregrinefund.org/legacy-sites/conference-lead/PDF/0111%20Cornatzer.pdf>

<sup>12</sup> Iqbal, S., et al. 2009. Hunting with lead: association between blood lead levels and wild game consumption. *Environmental Research*, 109(8), 952-959. DOI:10.1016/j.envres.2009.08.007 <https://pubmed.ncbi.nlm.nih.gov/19747676/>

<sup>13</sup> W. Cornatzer et al. *Supra* note 15.

<sup>14</sup> Minnesota Department of Health. 2008. Information about lead in venison.

<https://www.health.state.mn.us/communities/environment/lead/docs/leadinvenison.pdf>

<sup>15</sup> North Dakota Department of Health. Lead in Venison. <https://www.ndhealth.gov/lead/venison/>; Illinois Department of Public Health. Environmental Health Fact Sheet, Lead in Venison. <http://www.idph.state.il.us/envhealth/factsheets/lead-in-venison.htm>; Michigan Department of Natural Resources. Precaution About Lead in Venison.

<https://www.michigan.gov/dnr/managing-resources/Wildlife/deer/precaution-about-lead-in-venison>; Wisconsin Department of Natural Resources. Lead Information for Hunters, Consumers and Meat Processors. <https://p.widencdn.net/ryibuw/lead>.

<sup>16</sup> Totoni S, Fabisiak JP, Beasley VR, et al. Biting the bullet: a call for action on lead contaminated meat in food banks. *Am J Public Health*. 2022;112(S7):S651-S654. Acceptance Date: July 28, 2022. DOI: <https://doi.org/10.2105/AJPH.2022.307069>

<sup>17</sup> Totoni S. Exempt from inspection: states ignore lead-contaminated meat in food banks. *Environmental Health News*. October 13, 2020. Available at: <https://www.ehn.org/lead-in-donated-venison-meat-2648176251.html>.

already disproportionately affected by elevated blood lead levels BLLs).<sup>18</sup> Primary prevention is needed for this overlooked source of lead exposure.

## 2. Lead is highly toxic to wildlife

More than 130 species of wild animals have been documented as suffering the effects of lead poisoning from spent lead ammunition and fishing tackle. Animals are exposed to lead in various ways, including foraging spent lead shot from the ground, feeding on lead-tainted gut piles, scavenging carcasses of animals shot with lead ammunition and left behind, or directly consuming spent fishing tackle directly.<sup>19</sup>

Lead poisoning is one of the leading causes of death for bald eagles. Scientists have known for decades that bald eagles can be poisoned by exposure to lead, that poisoned birds ingest lead ammunition fragments, and that lead exposure in bald eagles is associated with hunting seasons when they are more likely to scavenge on lead-tainted gut piles left behind by hunters or the carcasses of animals that hunters shoot but don't recover. The toxicological effects of lead on bald eagles and other scavenging birds are grave and well-established.<sup>20</sup> In birds, a single ingested shotgun pellet or bullet fragment is sufficient to cause brain damage, impairing critical neuromuscular, auditory, and visual responses.<sup>21</sup> Poisoned animals who survive often experience long-term negative effects that make them more susceptible to predation and dangers such as car collisions.<sup>22</sup>

A recent study found that nearly half of eagles tested in the U.S.—46% of bald and 47% of golden eagles—showed signs of chronic lead poisoning.<sup>23</sup> In 2020 the U.S. Fish and Wildlife Service (FWS) estimated a total population of 316,700 bald eagles in the U.S.,<sup>24</sup> so lead poisoning could be jeopardizing as many as 145,683 bald eagles. The FWS also notes that lead poisoning from spent ammunition is the primary cause of death for the California condor, a species the Service estimates numbers only 347 individuals in the wild.<sup>25</sup>

Other research finds that lead exposure increases in female black bears with the number of big game animals hunted by humans in the vicinity and increases with age in both female and male

---

<sup>18</sup> Centers for Disease Control and Prevention. Blood lead levels in children aged 1–5 years—United States, 1999–2010. *MMWR Morb Mortal Wkly Rep.* 2013;62(13):245–248. <https://pubmed.ncbi.nlm.nih.gov/23552225/>

<sup>19</sup> Tranel, M. A. et al 2009. Impacts of lead ammunition on wildlife, the environment, and human health—A literature review and implications for Minnesota. In R. T. Watson, M. Fuller, M. Pokras, and W. G. Hunt (Eds.). *Ingestion of Lead from Spent Ammunition: Implications for Wildlife and Humans*. The Peregrine Fund, Boise, Idaho, USA. DOI 10.4080/ilsa.2009.0307. <https://science.peregrinefund.org/legacy-sites/conference-lead/PDF/0307%20Tranel.pdf>; S.M. Haig, et al. The persistent problem of lead poisoning in birds from ammunition and fishing tackle. *The Condor* 116(3): 408–428. <https://academic.oup.com/condor/article/116/3/408/5153126>

<sup>20</sup> Golden, et al. (2016). A review and assessment of spent lead ammunition and its exposure and effects to scavenging birds in the United States. In *Reviews of Environmental Contamination and Toxicology Volume 237* (pp. 123–191). Springer International Publishing. [https://link.springer.com/chapter/10.1007/978-3-319-23573-8\\_6](https://link.springer.com/chapter/10.1007/978-3-319-23573-8_6)

<sup>21</sup> S.M. Haig, et al. *Supra* note 17.

<sup>22</sup> Scheuhammer, A.M. et al 1996. The ecotoxicology of lead shot and lead fishing weights. *Ecotoxicology* 5, 279–295. <https://pubmed.ncbi.nlm.nih.gov/24193869/>

<sup>23</sup> Vincent A. Slabe et al., Demographic implications of lead poisoning for eagles across North America. *Science* 375,779–782(2022). DOI:[10.1126/science.abj3068](https://doi.org/10.1126/science.abj3068)

<sup>24</sup> U.S. Fish and Wildlife Service. 2020. Final Report: Bald Eagle Population Size: 2020 Update. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Washington, D.C. U.S.A. <https://www.fws.gov/sites/default/files/documents/2020-bald-eagle-population-size-report.pdf>

<sup>25</sup> The U.S. Fish & Wildlife Service: California Condor. <https://www.fws.gov/species/california-condor-gymnogyps-californianus>; California Condor Recovery Program at <https://fws.gov/program/california-condor-recovery>.

black bears.<sup>26</sup> Studies show scavenging carcasses of moose killed by human hunters likely also exposes black bears, brown bears, ravens, golden eagles and bald eagles to lead.<sup>27</sup>

### 3. Effective alternatives to lead ammunition are available

The availability,<sup>28</sup> performance and affordability of non-lead ammunition have never been greater than today. For example, FWS has approved more than a dozen nontoxic shot types for hunting waterfowl. The increased supply has led the price of non-lead shot to fall since lead shot was banned federally for waterfowl hunting in 1991. California's landmark decision in 2013 to become the first state to require non-lead ammunition for taking of any wildlife in the state also spurred the production and availability of non-lead bullets.<sup>29</sup> A survey conducted by the Arizona Game and Fish Department revealed that nearly 80% of hunters rated the performance of non-toxic ammunition to be better than or equivalent to its lead counterpart.<sup>30</sup> And the Texas Parks and Wildlife Department released a multi-year, peer-reviewed study in 2015 concluding that dove hunters using shotshells loaded with lead pellets achieved no advantage in effectiveness over those using shotshells firing non-toxic steel pellets of similar or slightly larger size.<sup>31</sup>

### 4. Conclusion

Marylanders place a high value on public health and on the well-being of their environment and wildlife. Because of the significant risks that lead poses to all of those entities, and the efficacy and availability of non-lead shot and tackle for hunters and anglers, the Humane Society of the United States reiterates our support for SB 983 to phase out the use of lead-based ammunition for hunting in our state.

Thank you for your attention to this important issue.

Jennifer Bevan-Dangel  
Maryland State Director  
[jbevandangel@humanesociety.org](mailto:jbevandangel@humanesociety.org)

---

<sup>26</sup> Brown L et al. Lead exposure in American black bears increases with age and big game harvest density. *Environ Pollut* 2022 Dec 15;315:120427. DOI: 10.1016/j.envpol.2022.120427. Epub 2022 Oct 13. PMID: 36243189.

<sup>27</sup> Brown L et al. Lead exposure in brown bears is linked to environmental levels and the distribution of moose kills. *Sci Total Environ*. 2023 May 15;873:162099. DOI: 10.1016/j.scitotenv.2023.162099. Epub 2023 Feb 9. PMID: 36764533; Legagneux P et al. High risk of lead contamination for scavengers in an area with high moose hunting success. *PLoS One*. 2014 Nov 12;9(11):e111546. DOI: 10.1371/journal.pone.0111546. PMID: 25389754; PMCID: PMC4229082.

<sup>28</sup> Thomas, V. G. (2014, July). Availability and Use of Nonlead Rifle Cartridges and Nontoxic Shot for Hunting in California, with Reference to Regulations used in Various Jurisdictions & Survey of California Ammunition Retailers to Assess Availability of Nonlead Ammunition. [https://ca.audubon.org/sites/default/files/documents/ab711\\_report\\_final\\_-\\_vernon\\_thomas\\_jul\\_28.pdf](https://ca.audubon.org/sites/default/files/documents/ab711_report_final_-_vernon_thomas_jul_28.pdf)

<sup>29</sup> Press release, December 2013: Liberty Ammunition Increases Planned Production. <https://www.officer.com/home/press-release/11268175/liberty-ammunition-inc-liberty-ammunition-increases-planned-production>

<sup>30</sup> D.J. Case & Associates. (2006). Non-lead Ammunition Program Hunter Survey. In *Final report to the Arizona Game & Fish Department*. Washington, D.C.: Association of Fish and Wildlife Agencies.

<sup>31</sup> Pierce, B. L., et al. (2015). A comparison of lead and steel shot loads for harvesting mourning doves. *Wildlife Society Bulletin*, 39(1), 103-115; Gremse, F., et al. (2014) <https://wildlife.onlinelibrary.wiley.com/doi/epdf/10.1002/wsb.504>;

Performance of lead-free versus lead-based hunting ammunition in ballistic soap. *PloS one*, 9(7), e102015 <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0102015>; Trinogga, A., Fritsch, G., et al. (2013). Are lead-free hunting rifle bullets as effective at killing wildlife as conventional lead bullets? A comparison based on wound size and morphology. *Science of the Total Environment*, 443, 226-232 <https://www.sciencedirect.com/science/article/pii/S0048969712013848>.

**Audubon.Lead.SB983.pdf**

Uploaded by: Jim Brown

Position: FAV



**Maryland Office**  
2901 E. Baltimore St  
Baltimore, MD 21214

February 26, 2024

**To:** Chair Feldman and members of the Maryland Senate Committee on Education, Energy and the Environment

**From:** Jim Brown, Policy Director, Audubon Mid-Atlantic and the following Audubon Chapters: Audubon Society of Central Maryland, Chesapeake Audubon Society, Prince Georges Audubon Society, and Southern Maryland Audubon Society

**Subject: Favorable Testimony for Maryland SB 983 – Lead and Lead Based Ammunition Phaseout**

Audubon Mid-Atlantic submits this testimony in support of Senate Bill 983, phasing out the use of lead ammunition in hunting in Maryland. Audubon Mid-Atlantic is the regional office of National Audubon Society, representing over 35,000 Marylanders who advocate for the protection of birds, bird habitat, and policies aiming to protect both birds and human communities in the face of increasing environmental challenges, habitat loss, pollution, and climate change. The above listed Audubon chapters are part of the Audubon network in Maryland, representing the diverse people and ecosystems of the state. We work with partner organizations, government agencies, and local communities to protect birds and the places they need to survive now, and into the future. SB 983 will protect birds, with benefits offering better health outcomes for other species, including people.

We know that no amount of lead is safe for public health. For these reasons, The U.S. Government removed lead from toys, furniture, house paint and gasoline. Safer, affordable, lead-free ammunition alternatives are available. It is time to embrace lead-free ammunition for hunting in Maryland. From our Atlantic shoreline and Chesapeake Bay marshes to our public lands and western Maryland mountains, birds in Maryland are under threat. They all travel through or live in areas where hunting is permitted, and as such face serious threats from the effects of lead in ammunition. SB 983 will create the groundwork for reducing these threats and it will hold Maryland up as a leader in conservation planning.

### **Threats to Bald and Golden Eagles**

Lead toxicity has been shown to have population-level impacts on Bald Eagles. Bald Eagle population growth is estimated to experience 4.8% suppression from lead toxicity alone, and Golden Eagle population growth is suppressed 0.8. (1) Other studies have shown that lead reduces the overall resilience of Bald Eagle populations,(2) increases susceptibility to other environmental toxins like mercury,(3) and impairs motor and immune function.(4) Bald Eagles were only recently delisted from endangered status and many wildlife experts feel Eastern Golden Eagles warrant stronger protections due to declining populations in the United States.(5) Both species are protected under the Bald and Golden Eagle Protection Act which mandates Eagles not suffer take, meaning no one is permitted to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb [Bald and Golden Eagles].”(6) Despite this, Eagles are being poisoned by contaminated game which was killed with or ingested lead.

### Threats to Avian Scavengers and Upland Game Birds

Avian scavengers such as vultures, and corvids are also victims of lead poisoning. Acute and chronic exposure to lead causes lethal and sub-lethal outcomes for numerous species.<sup>(7)</sup> Organ failure, immune suppression, and impaired reproduction are all potential outcomes of lead exposure on the aforementioned species. Upland game birds such as Mourning Doves are also heavily impacted. Like some waterfowl, Mourning Doves and other upland game birds such as Ring-necked pheasants, Northern Bobwhite Quail, and Wild Turkeys have all been reported ingesting spent lead shot.<sup>(8)</sup> A study on Mourning Doves found that the doves ingested both steel and lead shot; the birds which ingested non-lead shot were found to have much lower bone lead concentrations, indicating greater overall health and fewer potential negative side effects.<sup>(9)</sup>

### Threats to Waterbirds

Discarded lead fishing tackle is also a major threat to wildlife. Lead fishing tackle is easily mistaken for grit or stones which may be ingested by waterbirds. When the lead is exposed to the digestive acids in gizzards and stomachs, it begins to dissolve and absorbs into the bloodstream where it can cause behavioral and physiological changes.<sup>(10)</sup> A single lead sinker or jig is toxic enough to kill a loon when ingested,<sup>(11)</sup> with as many as 25% of adult loon deaths in some states due to lead ingestion.<sup>(12,13)</sup> Swans are also at risk, ingesting lead sinkers and jigs in shallow water, or ingesting lead fragments and ammunition when feeding in upland habitat.

Lead ammunition violates conservation and wildlife management principles. For humans or wildlife, no amount of lead in our environment is safe. Lead phase-outs work, and alternative ammo available and cost-effective. For these reasons, Audubon Mid-Atlantic and the four independent Audubon chapters listed in this testimony respectfully urge a favorable review of this legislation.

Thank You,

Jim Brown  
Policy Director  
Audubon Mid-Atlantic  
[Jim.brown@audubon.org](mailto:Jim.brown@audubon.org)

- Audubon Society of Central Maryland
- Chesapeake Audubon Society
- Prince Georges Audubon Society
- Southern Maryland Audubon Society

1. Slabe et al. (2022). Demographic implications of lead poisoning for eagles across North America. *Science*, 375. Pp. 779-782.
2. Hanley, B. J. et al. (2021). Environmental lead reduces the resilience of bald eagle populations. *The Journal of Wildlife Management*, 86(22177).
3. Watson, J.W., and Davies, R.W. (2015). Lead, Mercury, and DDE in the Blood of Nesting Golden Eagles in the Columbia Basin, Washington. *The Journal of Raptor Research*, 49(2). Pp.217-221.
4. Golden, N.H., Warner, S.E., and Coffey, M.J. (2016). A Review and Assessment of Spent Lead Ammunition and Its Exposure and Effects to Scavenging Birds in the United States. *Reviews of Environmental Contamination and Toxicology*, 237. Pp. 123-191.
5. Hunt, W. G et al. (2017). Quantifying the demographic cost of human-related mortality to a raptor population. *PLoS One* 12:e0172232.
6. <https://www.govinfo.gov/content/pkg/USCODE-2010-title16/pdf/USCODE-2010-title16-chap5A-subchapII.pdf>
7. Palmer, A.G. et al. (2022). Blood Lead Concentrations of Free-ranging North Florida Raptors: 2008-2017. *Journal of Wildlife Diseases*, 58(2).
8. <https://pubs.usgs.gov/fs/2009/3051/pdf/fs2009-3051.pdf>
9. Franson, J.C., Hansen, S.P., and Schulz, J.H. (2009). Ingested shot and tissue lead concentrations in mourning doves. *Ingestion of Spent Lead Ammunition: Implications for Wildlife and Humans* (chapter). *Peregrine Fund*. Pp. 175-186.
10. Michael, P. (2006). *Fish and Wildlife Issues Related to the Use of Lead Fishing Gear*. Washington Department of Fish and Wildlife: Fish Program.
11. Grade, T.G., Pokras, M., et al. (2019). Lead poisoning from ingestion of fishing gear: A review. *Ambio*, 48(0). Pp. 1023-1038.
12. <https://wildlife.onlinelibrary.wiley.com/doi/full/10.1002/jwmg.21348> 17 <https://www.pca.state.mn.us/air-water-land-climate/getting-lead-out-of-fishing-tackle>



# **Hunting - Lead and Lead-Based Ammunition - Phase-O**

Uploaded by: Lisa Radov

Position: FAV



## MARYLAND VOTES FOR ANIMALS

PO Box 10411  
BALTIMORE, MD 21209

February 27, 2024

To: Senate Education, Energy, and the Environment Committee  
From: Lisa Radov, President and Chair, Maryland Votes for Animals, Inc.  
Re: Hunting - Lead and Lead-Based Ammunition - Phase-Out – SB 983 – Support

Chair Feldman, Vice - Chair Kagan, members of the Education, Energy, and the Environment Committee, thank you for the opportunity to testify before you today. My name is Lisa Radov. I am the President and Chair of Maryland Votes for Animals. We champion humane legislation to improve the lives of animals in Maryland. Speaking for Maryland Votes for Animals, our Board of Directors, and our members across Maryland, I respectfully request that the Education, Energy, and the Environment Committee vote favorably for Hunting - Lead and Lead-Based Ammunition - Phase-Out – SB 983.

This bill would require the Department of Natural Resources to establish a certain process to phase out on or before December 31, 2026, the use of lead or lead-based ammunition for hunting; and requiring the Department to establish a process to certify ammunition as nonlead ammunition.

Lead has been studied extensively for over 100 years because of its negative impacts to wildlife and humans. Numerous species of wildlife that are found in Maryland are poisoned by lead bullets and shells including hawks, ravens, turkey vultures, eagles, and grizzly bears. Lead causes widespread damage to cells and organs when it is ingested, inhaled, or absorbed in surprisingly small quantities. In fact, lead fragments have been found in wild game meat processed for human consumption. Even if a hunter attempts to remove the largest remaining pieces of the bullet from the dead animal, tiny fragments of lead enough to poison both humans and wildlife still remain in both the meat and parts that are left behind.

Hunters can use alternatives to lead in shot and rifle bullets. These include steel, copper, bismuth, and tungsten. Research has shown that they are as effective as lead but with the significant advantage that they are not toxic. It is time to factor in the environmental impacts of using lead ammunition and transition to safer alternatives.

In closing, I would like to thank Senator Lewis Young for her sponsorship of SB 983 and ask the committee for a favorable report.

# **Kathy Woods testimony.pdf**

Uploaded by: Paula Goldberg

Position: FAV

February 23, 2024

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

**Re: Support of SB 983 to phase out lead ammunition**

Dear Mr. Chairman and Members of the Committee:

Please add the Maryland Wildlife Rehabilitators Association to the list of organizations urging your support of SB 983 to phase out the use of lead ammunition in sport hunting in Maryland. As the only professional organization for wildlife rehabilitators in the state of Maryland, we support a wide network of at-home and brick-and-mortar wildlife rehabilitators who are on the front line of identifying and treating animals for lead toxicosis. Vultures and eagles are generally more likely to test positive for lead, but any animal that scavenges is at risk for lead poisoning. We have collectively treated small mammals and turtles for lead toxicosis. There is no such thing as a "safe" lead level in animals, including humans, as you know. Lead poisoning is excruciating and can cause a multitude of symptoms including muscle weakness and incoordination, blindness, deafness, and kidney damage. Suffering can be acute or chronic and, even with rapid diagnosis and treatment, permanent brain damage and eventual death are not uncommon.

We sincerely hope that legislators in the State of Maryland avail themselves of this opportunity to move beyond the mistakes of the past and remove this poison from the environment, where it is a serious threat to wildlife and the natural ecology of our region.

Please pass SB 983.

Sincerely,



Kathleen Woods  
President, Maryland Wildlife Rehabilitators Association

**paula final.pdf**

Uploaded by: Paula Goldberg

Position: FAV





© [www.soarraptors.org](http://www.soarraptors.org)

**SP983\_MOStestimony.pdf**

Uploaded by: Robin Todd

Position: FAV





February 26, 2024

**Education, Energy, and Environment Committee**

**Testimony on: Bill to Phase Out Lead Ammunition in Maryland**

**Position: Support: SB0983**

Dear Chair Feldman and Members of the Committee

I write on behalf of the Maryland Ornithological Society (MOS) in strong support of SB0983.

**Impact of Lead Shot on Birds**

The presence of lead in the environment, whether from spent ammunition or discarded fishing tackle, is deleterious to many forms of wildlife, but particularly to raptors and water birds. Lead has been shown to reduce populations of Bald Eagles by 4.8% and those of Golden Eagles by 0.8%.<sup>i</sup> Other studies have concluded that lead suppresses the vigor of Bald Eagle populations<sup>ii</sup> and decreases the resilience of Golden Eagle populations to other environmental toxins<sup>iii</sup> and interferes with their motor and immune systems<sup>iv</sup>. Both species are protected under the Bald and Golden Eagle Protection Act which prohibits ‘take’ of either species, where take is defined as harming them in various ways, including poisoning<sup>v</sup>. Regardless, both species are still poisoned whenever they eat wildfowl or fish containing lead. In addition to eagles, carrion eating birds, namely vultures, condors and corvids, are poisoned by the lead in carcasses. Exposure to lead causes lethal and sub-lethal impacts in these and other bird species.<sup>vi</sup>

**Bans Do Work**

Bans on the use of lead have already shown promising results. The 1991 ban on lead shot for hunting waterfowl was followed by reduced numbers of crippled ducks and geese<sup>vii</sup>, and lower detectable levels of lead in the blood of ducks,<sup>viii</sup> and less non-hunting mortality among ducks.<sup>ix</sup> Following a lead shot ban in the California Condor’s range in 2008, lead exposure to birds of prey fell as hunters obeyed the new ordinance<sup>x</sup>.

Banning lead would also have positive impacts on human health since, according to the World Health Organization, there is no safe level of lead<sup>xi</sup>. The ban will thus also protect those who eat wildfowl.

Accordingly we ask the Committee to vote favorably on SB0983.

**MOS**

MOS is a 2000-strong member volunteer organization that is dedicated to the study, conservation and enjoyment of birds in Maryland and beyond. We were founded in 1945 and are organized into 15 chapters throughout the state. We lead field trips, organize lectures, have

an active youth sector, conduct period bird counts, hold an annual convention and own 10 sanctuaries in various parts of state.

In closing, I thank you and the Committee for considering our request.

Sincerely,



Robin G. Todd PhD,  
Conservation Chair,  
Maryland Ornithological Society  
10174 Green Clover Drive  
Ellicott City, MD 21042  
[Robin.todd@mdbirds.org](mailto:Robin.todd@mdbirds.org)

### References Cited

- <sup>i</sup> Slabe et al. (2022). Demographic implications of lead poisoning for eagles across North America. *Science*, 375. Pp. 779-782.
- <sup>ii</sup> Hanley, B. J. et al. (2021). Environmental lead reduces the resilience of bald eagle populations. *The Journal of Wildlife Management*, 86(22177).
- <sup>iii</sup> Watson, J.W., and Davies, R.W. (2015). Lead, Mercury, and DDE in the Blood of Nesting Golden Eagles in the Columbia Basin, Washington. *The Journal of Raptor Research*, 49(2). Pp.217-221.
- <sup>iv</sup> Golden, N.H., Warner, S.E., and Coffey, M.J. (2016). A Review and Assessment of Spent Lead Ammunition and Its Exposure and Effects to Scavenging Birds in the United States. *Reviews of Environmental Contamination and Toxicology*, 237. Pp. 123-191.
- <sup>v</sup> <https://www.govinfo.gov/content/pkg/USCODE-2010-title16/pdf/USCODE-2010-title16-chap5A-subchapII.pdf>
- <sup>vi</sup> Palmer, A.G. et al. (2022). Blood lead Concentrations of Free-ranging North Florida Raptors: 2008-2017. *Journal of Wildlife Diseases*, 58(2).
- <sup>vii</sup> Ellis, M.B., and Miller, C.A. (2021). The effect of a ban on the use of lead ammunition for waterfowl hunting on duck and goose crippling rates in Illinois. *Wildlife Biology*, e01001.
- <sup>viii</sup> Lewis, N.L., et al. (2021). Blood lead declines in wintering American black ducks in New Jersey following the Lead Shot ban. *Journal of Fish and Wildlife Management*, 12(1).
- <sup>ix</sup> Havera, A.W., and Zercher, B. (2000) Ingestion of lead and nontoxic shotgun pellets by ducks in the Mississippi flyway. *Journal of Wildlife Management* 64. Pp. 848–857.
- <sup>x</sup> Kelly, R.T. et al. (2011). Impact of the California Lead Ammunition Ban on Reducing Lead Exposure in Golden Eagles and Turkey Vultures. *PLoS One*, 6(4).
- <sup>xi</sup> <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health#:~:text=There%20is%20no%20known%20safe,symptoms%20and%20effects%20also%20increa se.>

**SB0983 Lead Ammunition Cover Letter.docx.pdf**

Uploaded by: Senator Karen Lewis Young

Position: FAV

KAREN LEWIS YOUNG  
Legislative District 3  
Frederick County

Committee on Education, Energy,  
and the Environment



James Senate Office Building  
11 Bladen Street, Room 302  
Annapolis, Maryland 21401  
410-841-3575 · 301-858-3575  
800-492-7122 Ext. 3575  
Karen.Young@senate.state.md.us

THE SENATE OF MARYLAND  
ANNAPOLIS, MARYLAND 21401

The Honorable Senator Feldman, Chair  
The Honorable Senator Kagan, Vice Chair  
Education, Energy, and Environment Committee  
Annapolis, MD

February 27th, 2024

**Testimony in Favor of SB0983 Hunting - Lead and Lead-based Ammunition - Phase-Out**

Chair Feldman, Vice Chair Kagan, and esteemed members of this committee,

SB0983 will phase out lead and lead-based ammunition in hunting. We have known for a long time that lead is toxic. There are no safe levels for human consumption. It is negatively impacting our environment, the animals who live in it, and ultimately, us.

By phasing out lead ammunition, we will be protecting hunters and their families who consume the meat. We will be protecting our environment and the species who call it home. Many animals, including Bald Eagles, feast on gut piles left behind by hunters. When they do, they consume the lead bullet fragments still in the meat. Studies found that as many as half of our Bald Eagle population suffered from lead poisoning.

There are alternatives that are just as accurate and lethal but without the toxic side-effects. Some hunters are concerned that many rifles cannot handle copper ammunition because copper is harder than lead. For older rifles, that is generally true. However, the manufacturers of modern rifles are strengthening their products to handle copper ammunition and other alternatives. In fact, lead ammunition was banned nationwide in 1992 for hunting waterfowl. Manufacturers and hunters adapted easily and waterfowl populations are healthy.

Finally, some hunters are concerned about cost differences between lead and copper. The academic research makes clear that these minor differences in cost are attributable to a lack of demand. As we phase-out lead ammunition, the demand and supply of alternatives will increase, correcting imbalances in price.

We have taken lead out of paint, gas, and pipes. It is time we remove it from our ammunition. To protect ourselves and our Bald Eagles, and all wildlife, I urge a favorable report.

Sincerely,

A handwritten signature in blue ink that reads "Karen Lewis Young".

Delegate Karen Lewis Young

# **Support of SB 983 - Earthjustice.pdf**

Uploaded by: Susan Miller

Position: FAV



February 26, 2024

Chair Brian J. Feldman  
Members of the Senate Education, Energy, and the Environment Committee

Re: Earthjustice support of SB 983:  
Hunting - Lead and Lead-Based Ammunition - Phase-Out

Earthjustice<sup>1</sup> strongly supports the passage of SB 983, which would require the Department of Natural Resources to establish a process to phase out the use of lead or lead-based ammunition for hunting by December 31, 2016. This bill represents a vital, common-sense measure to protect people and wildlife from the unnecessary harm posed by hunting with lead ammunition.

Ingestion of residual lead ammunition from hunting is the primary source of lead poisoning of birds and other wildlife, which injures or kills millions of birds each year.<sup>2</sup> Lead poisoning harms numerous species, and particularly severe impacts have been documented for certain of them, including waterfowl and bald and golden eagles.<sup>3</sup> For example, a major 2022 study in the journal *Science* found that nearly half the dead bald and golden eagles tested nationwide had lead levels indicating chronic lead poisoning and the observed rates of lead poisoning were sufficient to significantly slow both species' rate of recovery from near extinction.<sup>4</sup> While lead poisoning can kill birds immediately, it also causes lasting, potentially fatal damage even when not immediately lethal.

Hunting with lead ammunition also harms people. Lead fragments can be found in wild game meat despite best attempts to remove sections surrounding a bullet wound.<sup>5</sup> And studies have found that eating game shot with lead ammunition is associated with increased levels of lead in the human body—a clear danger given the well-known harmful impacts of lead on human health.<sup>6</sup>

---

<sup>1</sup> Earthjustice is a non-profit public interest environmental law organization that represents other non-profits free of charge. Earthjustice uses the power of law and the strength of partnerships to advance clean energy, combat climate change, protect people's health and preserve magnificent places and wildlife.

<sup>2</sup> Deborah J. Pain, et al., *Effects of lead from ammunition on birds and other wildlife: A review and update*, 48 *Ambio* 935–953 (2019), <https://doi.org/10.1007/s13280-019-01159-0>. (“Pain et al. (2019)”)

<sup>3</sup> Pain et al., (2019); U.S. Fish & Wildlife Serv., 2022–2023 Station-Specific Hunting and Sport Fishing Regulations, 87 Fed. Reg. 57108 (Sept. 16, 2022), <https://www.federalregister.gov/documents/2022/09/16/2022-20078/2022-2023-station-specific-hunting-and-sport-fishing-regulations>

<sup>4</sup> Vincent A. Slabe, et al., *Demographic implications of lead poisoning for eagles across North America*, 375 *Science* 779–782 (2022), <https://www.science.org/doi/10.1126/science.abj3068>, (“Slabe (2022)”).

<sup>5</sup> National Park Service, *Lead Bullet Risks for Wildlife & Humans*, Pinnacles National Park, <https://www.nps.gov/pinn/learn/nature/leadinfo.htm>.

<sup>6</sup> Eric J. Buenz, *Lead Exposure Through Eating Wild Game*, *American Journal of Medicine*, 129(5): 457-58 (May 2016), [https://www.amjmed.com/article/S0002-9343\(16\)30021-3/fulltext](https://www.amjmed.com/article/S0002-9343(16)30021-3/fulltext); David Bellinger, et. al., *Health Risks from Lead-Based Ammunition in the Environment - A Consensus Statement of Scientists* (2013), [https://www.biologicaldiversity.org/campaigns/get\\_the\\_lead\\_out/pdfs/Scientists\\_Health\\_Impacts\\_letter\\_3-13.pdf](https://www.biologicaldiversity.org/campaigns/get_the_lead_out/pdfs/Scientists_Health_Impacts_letter_3-13.pdf).

Thankfully, these are avoidable problems. Non-lead ammunition is widely available, just as effective, and comparably or even lower priced than premium lead ammunition. A 2013 study found that lead-free ammunition is available in the United States in “all of the common and less-common rifle calibers,” and found “no major difference” in the price of lead-free and lead-core ammunition for most popular calibers.<sup>7</sup> The Maine Department of Inland Fisheries and Wildlife notes on its website that the overall price differential between lead and non-lead ammunition is less than \$10 per year for a typical hunter and lead-free ammunition is available in “a large array of calibers, weights and designs that meet or exceed the performance of their lead counterparts.”<sup>8</sup> Studies confirm that non-lead ammunition is just as effective as lead ammunition for hunting, while avoiding harm to non-target animals and producing game meat that is much safer for people to eat.<sup>9</sup> Given the comparable price, wide availability, and equivalent effectiveness of non-lead ammunition, it is not surprising that the U.S. Fish and Wildlife Service has observed no declines in hunting attributable to phasing out lead ammunition on the federal lands where lead ammunition is now prohibited.<sup>10</sup>

SB 983 represents a crucial, common-sense step to protect people and wildlife from the harmful effects of lead ammunition. Earthjustice strongly supports its passage.

Respectfully submitted,



Susan Stevens Miller  
Senior Attorney, Clean Energy Program  
Earthjustice

---

<sup>7</sup> Vernon G. Thomas, *Lead-Free Hunting Rifle Ammunition: Product Availability, Price, Effectiveness, and Role in Global Wildlife Conservation*, *Ambio* 42(6):737-45 (October 2013), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3758820/>.

<sup>8</sup> Maine Department of Inland Fisheries and Wildlife, “Hunting with Nonlead Ammunition,” <https://www.maine.gov/ifw/hunting-trapping/hunting/nonlead-ammunition.html#effectiveness>.

<sup>9</sup> See, e.g., Anna Trinogga, et al., *Are lead-free hunting rifle bullets as effective at killing wildlife as conventional lead bullets? A comparison based on wound size and morphology*, *Science of The Total Environment* 443: 226–232 (January 2013), <https://www.sciencedirect.com/science/article/pii/S0048969712013848>.

<sup>10</sup> U.S. Fish & Wildlife Serv., 2022–2023 Station-Specific Hunting and Sport Fishing Regulations, 87 Fed. Reg. 57108 (Sept. 16, 2022), <https://www.federalregister.gov/documents/2022/09/16/2022-20078/2022-2023-station-specific-hunting-and-sport-fishing-regulations>.

**Ted Williams' Written Testimony on SB 983 (1).pdf**

Uploaded by: Ted Williams

Position: FAV



Ted Williams  
50 North St.  
Grafton, MA 01519  
Mobile: 508-733-7586  
E-Mail: [EWilli9767@aol.com](mailto:EWilli9767@aol.com)  
Social Security Number 011-36-2014

February 27, 2024

The Honorable Brian J. Feldman  
Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

The Honorable Cheryl C. Kagan  
Vice Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

RE: SB 983 - Lead Ammunition Phase-Out - SUPPORT

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

Re: A Lifelong Hunter, Outdoor Writer Urges YES on SB 983 to Phase Out the Use of Lead Ammunition in Sport Hunting

My name is Ted Williams. As a full-time freelance writer for the last half century, I've written exclusively about fish and wildlife for national publications such as *Outdoor Life*, *Audubon*, *Sierra*, *National Wildlife*, *Smithsonian*, *Modern Maturity*, *Yankee*, and *Slate*. I'm a lifelong hunter and own a dozen guns. As a former education officer for the Massachusetts Division of Fisheries and Wildlife, I worked closely with my fellow hunters. I continue to work with them.

It baffles me why so many of my fellow hunters insist on poisoning wildlife (including their game), themselves, their children, their wives, and their friends when they can use non-toxic copper bullets which cost something like \$2 more per box of 20 than lead. The added expense amounts to roughly the cost of a cup of coffee per hunting season. Any non-antique firearm can safely shoot copper.

In its program “Sportsmen Against Hunger” the Safari Club donates deer its members kill to the needy. Acting on data collected by University of North Dakota medical professor and Safari Club member Dr. William Cornatzer, the health departments of North Dakota and Minnesota impounded 17,000 pounds of donated, lead-impregnated venison.

Iowa requires this warning label on venison donated by hunters in the “Help Us Stop Hunger” program: “Lead fragments may be found in processed venison. Children under 6 years and pregnant women are at the greatest risk from lead.”

The Wisconsin Department of Health Services recommends “the use of non-lead ammunition as the simplest and most effective solution to lead poisoning, in both humans and wildlife, arising from the consumption of deer killed with lead ammunition.”

The U.S. Department of Agriculture certifies commercial meat lockers. But neither it nor the Food and Drug Administration regulates lead in donated venison.

The CDC reports: “No safe blood lead level in children has been identified. Even low levels of lead in blood have been shown to negatively affect a child’s intelligence, ability to pay attention, and academic achievement.”

I polled the most hardcore big-game hunters I know. They serve with me on the Outdoor Writers of America Association’s Circle of Chiefs. A few of their comments:

Jim Low: “I’ve been hunting whitetails exclusively with copper bullets -- center-fire and muzzleloader -- for about 15 years and have nothing but praise. Highly accurate, sturdy, excellent expansion and weight retention.”

Matt Miller: “I have found copper superior in every way in my hunting for mule deer, whitetail, pronghorn and feral hog.”

Scott Stouder: “Nothing but stellar performance and the knowledge that I’m not killing others out there from magpies to eagles.”

Larry Stone: “Accurate, hard-hitting, and no fragmentation.”

Mike Furtman: “As I hunted deer today, I sat within sight of the gut pile from the doe I killed two days ago. Much of it had been eaten already, but what remained was dined upon by two bald eagles, three ravens, two pileated woodpeckers, one hairy woodpecker, several blue jays, and numerous chickadees and nuthatches. Which is why I switched to copper bullets.”

Ammo companies developed copper bullets not to protect wildlife or humans, but to kill game more effectively than lead bullets. They do. Hunters have known this for years. In 2012 *American Hunter*, the official publication of the National Rifle Association, selected the Barnes VOR-TX copper bullet for its “Ammunition Product of the Year Award.” And *American Hunter* field editor Bryce Towsley writes that the Barnes all-copper X-Bullet “redefines what we think we know about hunting projectiles.” And in a good way: “I have lost count of the game I have taken with Barnes X-Bullets in various configurations.”

The North American Non-Lead Partnership -- committed to protecting wildlife from poisoning by lead bullets -- includes 46 partners, all of which represent hunters -- members like The Peregrine Fund (founded by hunters using falcons), Midwest and Northeastern Associations of Fish Wildlife Agencies, Arizona Game and Fish Department, Oregon Hunters Association, Arizona Elk Society, Wisconsin Sharp-tailed Grouse Society, and Arizona Wild Turkey Federation.

The Partnership sponsors demonstrations in which copper and lead bullets are fired into plastic bags filled with water and housed in plastic drums. Slugs and fragments fall to the bottom of the drums. In one typical demo, hosted by Allen Zufelt of the Arizona Game and Fish Department and Partnership co-founder Chris Parish, Zufelt fires a Federal Nosler AccuBond 180-grain lead bullet, then a 180-grain Federal Trophy Copper bullet. Parish retrieves and weighs the two mushroomed slugs. The copper slug weighs 179.9 grains. The lead slug weighs 137.5 grains, having shed and scattered 42.5 grains of fragments.

The toxicity of lead-hunting projectiles is ancient news. George Bird Grinnell published this warning in his sporting weekly *Forest & Stream*: “Until they reach the gizzard where the wildfowl grinds his food, these pellets do no harm, but, when reduced to powder...they become a violent poison.” The year was 1894.

Please support SB 983.

Links to some of my other pieces on the poisoning of wildlife with lead bullets (and fishing tackle):

<https://www.hatchmag.com/articles/lead-bullets-poison-wildlife-and-people/7715868>

<https://www.landcan.org/landcan-blog/Poison-Bullets/349>

<https://www.hcn.org/wotr/let-them-eat-copper/>

<https://blog.nature.org/2016/11/28/recovery-saving-common-loon-lead-fishing-tackle-poisoning-birds/>

# **Lead Ammunition - Wayne Pacelle Testimony - Senate**

Uploaded by: Wayne Pacelle

Position: FAV



February 27, 2024

The Honorable Brian J. Feldman  
Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

The Honorable Cheryl C. Kagan  
Vice Chair, Senate Education, Energy, and the Environment Committee  
Maryland General Assembly  
Annapolis, MD 21401

Dear Mr. Chairman,

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 983, by Senator Karen Lewis Young, to phase out the use of poisonous lead ammunition in sport hunting.

With an atomic number of 82, the poisonous characteristics of lead have been understood by peoples throughout the world 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 Journal 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](#).

Lead poisoning, or plumbism, is a serious threat to humans and animals, with lead exposure long known to be found in food, soil, water, cannabis, paint, gasoline, and a vast array of other products. While lead has been banned in many commercial products, the use of lead in ammunition and in storage batteries are the largest two commercial uses. There is no scientific debate about the extraordinarily detrimental effects of lead on human health and wellness and wildlife.

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.

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, including tens of thousands in Maryland. On the other hand, lead ammunition is slightly more expensive at this time, with the cost of switching to non-toxic ammo the price of an expensive cup of coffee, according to award-winning outdoor writer Ted Williams, who has extensively studied the issue, written about it for journals throughout the United States, and lived it as a lifelong hunter.

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 (< \$10/year for the average hunter) that is now widely available and regularly purchased online 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. The scales are tipped in the extreme on one side of this debate. This is not a close call when we balance the interests.

And let's remember the power of market forces. 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.

And 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 has been slowly seeing a decline in hunting participation, 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?

Remember, Maryland has a wanton waste law. The state essentially obligates a hunter not to leave a shot animal behind, and the presumption, grounded on hunting ethics and the responsible use of wildlife, is that the hunter will consume the meat of the animal or make it available to friends and family or even food pantries. In doing so, we are all but mandating that hunters and the recipients of their generosity consume lead in their diet even though we know 1) no level of lead is considered safe, and 2) it is impossible to cleanse the care of lead, which fragments on its way to the target and disperses even more widely when it hits the target.

In the United States, we have two federal agencies -- the U.S. Food and Drug Administration and the U.S. Department of Agriculture -- responsible for assuring food safety rules to keep us safe from dangerous substances in foods. But neither food safety agency would ever allow the levels of lead that impregnate the carcass of a deer or a dove that hunters take home for the pot or pan.

On SB 983, you'll hear from people who served as leaders or top scientists with the U.S. Fish and Wildlife Service and the National Park Service that we must put an end to the use of lead ammunition in sport hunting. 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.

### **Lead use as ammunition violates conservation and wildlife management principles.**

- Lead is a toxic metal that poisons millions of wild animals each year, diminishing game populations for hunters and other wildlife enthusiasts and putting hunting families at risk because of inadvertent but unavoidable ingestion of lead.

### **For humans or wildlife, no amount of lead in our environment is safe.**

- The most common form of lead exposure today is from hunting ammunition and fishing tackle. 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.**

- USFWS banned lead shot for waterfowl hunting in 1991. Lead poisoning mortality for mallards dropped 64% in short order. Maryland, long known as a waterfowl hunting mecca on the Atlantic Flyway, saw no drop-off in waterfowl hunting participation, but more ducks and geese survived, enhancing hunting success because birds were more abundant. Ten years later, research found lower blood and bone lead levels in waterfowl.
- It’s time to complete work in phasing out lead. Thirty-five states regulate, to varying degrees, lead ammunition use. [California phased it out completely](#), with [beneficial effects on wildlife](#) and no disruption in hunting participation.
- 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. Where lead has been banned – such as the nationwide ban on leader for waterfowl hunting – demand for alternative ammunition increased and price points declined.

SB 784 calls for an 11% excise tax on guns and ammunition in Maryland and there is talk around the capitol that the lawmakers are serious about enacting it. Please remember that those costs to all gun owners (not just hunters) would dwarf the costs of buying a slightly more expensive form of ammunition. Senator Lewis Young’s SB 983 doesn’t affect target shooting in any way, and its target shooting that accounts for a vastly larger share of ammunition costs, given the larger numbers of gun owners and their use of ammunition to refine their shooting skills.



Please keep in mind the very minor costs that hunters will temporarily bear for non-toxic ammunition until market supply and demand forces take over and how the policy will benefit them the most. It will also better protect the people closest to them – their friends and family. And it will spare countless numbers of animals miserable deaths from plumbism. 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. Let's keep that streak going.

Sincerely,

Wayne Pacelle  
President  
Animal Wellness Action

cc: Sen. Malcolm Augustine, Sen. Benjamin Brooks, Sen. Mary Beth Carozza, Sen. Jason C. Gallion, Sen. Katie Fry Hester, Sen. Karen Lewis Young, Sen. Bryan W. Simonaire, Sen. Mary Washington, Sen. Ron Watson

Appendix I – Images of Lead-Poisoned Bald Eagles





Appendix II – Timeline on Lead and the Humane Experience

**Time to Get the Lead Out:  
A Brief History of Lead-Related Harms and Lead Abatement**

**c. 6500 B.C.:** Lead is thought to have been discovered and first mined in Anatolia (a region of what is now Turkey).<sup>i</sup> Its use becomes widespread due to its density, malleability, and resistance to corrosion.

**c. 200 B.C.:** Greek botanist Nicander documents colic and paralysis in lead-poisoned people.<sup>ii</sup>

**c. 100 A.D.:** Greek physician Dioscorides writes that ingesting lead or inhaling its fumes makes the mind “give way.”<sup>iii</sup>

**c. 500 B.C. to 300 A.D.:** Lead is used to build the Roman aqueducts. Roman engineer Vitruvius reports that “water conducted through earthen pipes is more wholesome than that through lead,” which “may be verified by observing the workers in lead, who are of a pallid color.”<sup>iv</sup>

**July 18, 1610:** Italian Baroque artist Caravaggio dies at the age of 38. In 2010, a forensic analysis of remains believed to be his suggests he may have been poisoned by lead in his paints.<sup>v</sup>

**1696:** In part of what is now Germany, the physician Eberhard Gockel traces a colic epidemic to wine sweetened with “sugar of lead,” a mixture of vinegar and litharge (a lead oxide). As a result, the Duke of Württemberg issues an edict banning the use of lead in winemaking.<sup>vi</sup>

**1757:** Théodore Tronchin of Geneva, the personal physician to French Enlightenment philosophers Voltaire, Rousseau, and Diderot, identifies lead poisoning as the source of an outbreak of the disease known as “Poitou colic” in western France in the 1610s.<sup>vii</sup>

**1760s:** The personal physician to King George III, Sir George Baker, traces a common and sometimes fatal illness known as “Devon colic” to the consumption of cider produced with lead equipment.<sup>viii</sup> His findings are met with resistance by cider manufacturers, but by the late 1810s lead is removed from the cider-making process and Devon colic is virtually eradicated.

**July 31, 1786:** Benjamin Franklin writes a letter to a friend about the “bad Effects of Lead taken inwardly,” enclosing a copy of a Massachusetts law banning lead in the production of rum.<sup>ix</sup>

**March 26, 1827:** German classical composer Ludwig van Beethoven dies at the age of 56. In 2005, studies on his hair by the U.S. Department of Energy find lead levels 100 times higher than normal, suggesting lead poisoning may have contributed to his death.<sup>x</sup>

**1839:** French physician Louis Tanquerel des Planches studies 1,200 lead poisoning cases at a Paris hospital and reports that workers exposed to lead fumes are at even greater risk than those working with lead in solid form. To describe the neuropsychiatric results of lead poisoning, he coins the term “encéphalopathie saturnine,” from which “encephalopathy” is later derived.<sup>xi</sup>

**1904:** In the July edition of its monthly publication, paint manufacturer Sherwin-Williams notes that a French expert had determined lead-based paint is “poisonous in a large degree, both for the workmen and for the inhabitants...”<sup>xii</sup> The same year, William James Furnival publishes a treatise noting the risks of lead in the ceramics industry and containing lead-free ceramic recipes.<sup>xiii</sup>

**1909:** France, Belgium, and Austria ban the use of white lead interior paints.<sup>xiv</sup>

**1922:** The League of Nations bans white lead interior paint.<sup>xv</sup>

**c. 1923:** Leaded gasoline is introduced to prevent engine knocking and valve seat wear.

**1924:** In one week in late October, 80% of workers at a Standard Oil plant in New Jersey die or suffer severe neurological symptoms such as palsies and hallucinations after prolonged exposure to leaded gasoline fumes. Leaded fuel production is halted for nine months the following year, and multiple jurisdictions (including New York state, New York City, and Philadelphia) temporarily ban leaded gasoline. New York City’s ban remains in place for three years.<sup>xvi</sup>

**1971:** Congress passes the Lead-Based Paint Poisoning Prevention Act, prohibiting the use of lead-based paints in federally supported residential construction or renovation projects.<sup>xvii</sup>

**1978:** Lead-based paint is effectively phased out in the U.S. by a Consumer Product Safety Commission regulation that also affects painted toys and furniture. The agency cites a need “to reduce the risk of lead poisoning in children who may ingest paint chips or peelings.”<sup>xviii</sup>

**1991:** The Bush Administration’s Fish and Wildlife Service finalizes a rule first announced by the Reagan Administration<sup>xix</sup> to prohibit the use of lead ammunition for all waterfowl hunting nationwide. The rule

follows decades of research showing a decrease in waterfowl populations due to collateral poisonings of fowl that ingest spent lead ammunition while foraging.

**1992:** Congress passes the Residential Lead-Based Paint Hazard Reduction Act, requiring pre-sale disclosures of possible hazards to buyers of homes that may contain lead paint.<sup>xx</sup>

**1996:** The U.S. completes a 20-year phase-out of leaded gasoline.<sup>xxi</sup>

**2000s:** Lead exposure in childhood is linked to violent crime by several peer-reviewed studies published during the decade.<sup>xxii</sup> One uses a regression analysis of murder rates in U.S. cities from 1985-1994 to conclude that “murder could be especially associated with more severe cases of childhood lead poisoning.”<sup>xxiii</sup> Another finds “the reduction in childhood lead exposure in the late 1970s and early 1980s was responsible for significant declines in violent crime in the 1990s.”<sup>xxiv</sup>

**2004:** The U.S. House of Representatives holds oversight hearings after the *Washington Post* runs a front-page story about lead levels in Washington, D.C., drinking water found to be at least 83 times higher than the acceptable limit.<sup>xxv</sup> The contamination is traced to a change in the treatment chemical used for the city’s pipes.

**2008:** President George W. Bush signs the Consumer Product Safety Improvement Act, which incorporates the Lead-Free Toys Act, reducing the allowable amounts of lead in toys.<sup>xxvi</sup> The same year, the Bush EPA issues its Lead Renovation, Repair, and Painting Rule, requiring certification for renovators whose work disturbs lead paint in homes, preschools, or child care facilities built before 1978.<sup>xxvii</sup>

**2016:** President Obama and Michigan Governor Rick Snyder each declare states of emergency after aging lead pipes poison the drinking water of 100,000 people (including about 12,000 children) in Flint, Michigan, when a state-appointed official changes the city’s water supply.<sup>xxviii</sup>

**2020:** The Trump Administration’s EPA issues its final Lead-Free Rule to implement a series of statutes enacted since 1986 limiting the amount of lead in plumbing fittings and fixtures (valves, joints, faucets, etc.).<sup>xxix</sup>

**2021:** Algeria becomes the last country on Earth to fully remove lead from gasoline.<sup>xxx</sup>

**2022:** The Biden Administration’s Fish and Wildlife Service publishes a final rule to require nontoxic lead-free ammunition be used for hunting on certain federal lands.<sup>xxxi</sup>

<sup>1</sup> Mark Miller, “Oldest Known Lead Artifact was Found with Skeletons, Suggesting Mystical Significance,” *Ancient Origins*, 5 Dec. 2015: <https://www.ancient-origins.net/news-history-archaeology/oldest-known-lead-artifact-was-found-skeletons-suggesting-mystical-020642>

<sup>1</sup> J.M.S. Pearce; “Burton’s Line in Lead Poisoning,” *Eur Neurol* 1 Feb. 2007; 57 (2): 118–119. <https://doi.org/10.1159/000098100>

<sup>1</sup> *Ibid.*

<sup>1</sup> Tim Harford, “Why did we use leaded petrol for so long?,” *BBC World Service*, 27 Aug. 2017: <https://www.bbc.com/news/business-40593353>

<sup>1</sup> Tom Kington, “The mystery of Caravaggio's death solved at last – painting killed him,” *The Guardian*, 16 June 2010: <https://www.theguardian.com/artanddesign/2010/jun/16/caravaggio-italy-remains-ravenna-art>

- <sup>1</sup> Josef Eisinger, "Lead and Wine: Eberhard Gockel and the *Colica Pictonum*," *Medical History*, 1982, 26:279-302. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1139187/pdf/medhist00086-0053.pdf>
- <sup>1</sup> T. Tronchin, *De colica Pictonum* (Geneva, 1757): <https://archive.org/details/decolicapictonum00tron/page/n5/mode/2up>
- <sup>1</sup> R. M. S. McConaghey, "Sir George Baker and the Devonshire Colic," *Medical History* 11, no. 4 (1967): 345–60. <https://doi.org/10.1017/S0025727300012497>.
- <sup>1</sup> SL Tackett, "The Franklin letter on lead poisoning," *J Chem Educ* 1981;53:274.
- <sup>1</sup> Rick Weiss, Study Concludes Beethoven Died From Lead Poisoning," *The Washington Post*, 6 Dec. 2005: <https://web.archive.org/web/20170215071732/http://www.washingtonpost.com/wp-dyn/content/article/2005/12/05/AR2005120501937.html>
- <sup>1</sup> O. Walusinski, "Louis Tanquerel des Planches (1810-1862) and the history of discovering lead poisoning in the nervous system," *Revue Neurologique*, Vol. 178, Issue 6, pp. 521-531 (2022): ISSN 0035-3787, <https://doi.org/10.1016/j.neurol.2021.08.009>.
- <sup>1</sup> Richard Guenther, "Dangers of White Lead," Hathitrust, Sherwin Williams Co. (1904): <https://babel.hathitrust.org/cgi/pt?id=nyp.33433066401898&view=1up&seq=110>
- <sup>1</sup> WJ Furnival, *Leadless Decorative Tiles, Faience, and Mosaic, comprising notes and receipts on the History, Materials, Manufacture & Use of Ornamental Flooring Tiles, Ceramic Mosaic, and Decorative Tiles and Faience* (1904): W.J. Furival, Stone, Staffordshire.
- <sup>1</sup> Steven G. Gilbert and Bernard Weiss, "A rationale for lowering the blood lead action level from 10 to 2 microg/dL," *Neurotoxicology* Vol. 27,5 (2006): 693-701. doi:10.1016/j.neuro.2006.06.008
- <sup>1</sup> *Ibid.*
- <sup>1</sup> David Rosner and Gerald Markowitz, "A 'Gift of God'?: The Public Health Controversy over Leaded Gasoline during the 1920s," *American Journal of Public Health* Vol. 75, No. 4, April 1985: <https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.75.4.344>
- <sup>1</sup> P.L. 91-695.
- <sup>1</sup> U.S. Consumer Product Safety Commission press release, "CPSC Announces Final Ban on Lead-Containing Paint," 2 Sept. 1977: <https://web.archive.org/web/20100819015700/http://www.cpsc.gov/CPSCPUB/PREREL/prhtml77/77096.html>
- <sup>1</sup> Earl Gustkey, "Outdoor Notes: Lead Shot Outlawed in Waterfowl Hunting Areas, Starting in 1991," *The Los Angeles Times*, 27 June 1986: <https://www.latimes.com/archives/la-xpm-1986-06-27-sp-20586-story.html>
- <sup>1</sup> P.L. 102-550.
- <sup>1</sup> Elin Hofverberg, "The History of the Elimination of Leaded Gasoline," *Library of Congress Blogs*, 14 Apr. 2022: <https://blogs.loc.gov/law/2022/04/the-history-of-the-elimination-of-leaded-gasoline/>
- <sup>1</sup> Wayne Hall, "Did the elimination of lead from petrol reduce crime in the USA in the 1990s?," *F1000Research* Vol. 2, 156. 16 Jul. 2013: doi:10.12688/f1000research.2-156.v2.
- <sup>1</sup> Rick Nevin, "Understanding international crime trends: The legacy of preschool lead exposure," *Environmental Research* Vol. 104, Issue 3 (2007) pp. 315-336, ISSN 0013-9351: <https://doi.org/10.1016/j.envres.2007.02.008>
- <sup>1</sup> Jessica Wolpaw Reyes, "Environmental Policy as Social Policy? The Impact of Childhood Lead Exposure on Crime," *The B.E. Journal of Economic Analysis & Policy* 7, no. 1 (2007): <https://doi.org/10.2202/1935-1682.1796>
- <sup>1</sup> David Nakamura, "Water in D.C. Exceeds EPA Lead Limit," *The Washington Post*, 30 Jan. 2004: <https://www.washingtonpost.com/archive/politics/2004/01/31/water-in-dc-exceeds-epa-lead-limit/1e54ff9b-a393-4f0a-a2dd-7e8ceedd1e91/>

<sup>1</sup> P.L. 110-314.

<sup>1</sup> U.S. Environmental Protection Agency, Federal Register Vol. 73, No. 78 (Tuesday, April 22, 2008) Pages 21692-21769: <https://www.epa.gov/lead/lead-renovation-repair-and-painting-program-rules#rrp>

<sup>1</sup> Leonard N. Fleming, “Darnell Earley: The man in power during Flint switch,” the *Detroit News*, 16 March 2016: <https://www.detroitnews.com/story/news/michigan/flint-water-crisis/2016/03/14/darnell-earley-flint-water-crisis/81788654/>

<sup>1</sup> U.S. Environmental Protection Agency, *Use of Lead Free Pipes, Fittings, Fixtures, Solder, and Flux for Drinking Water*, 1 Sept. 2020: <https://www.federalregister.gov/documents/2020/09/01/2020-16869/use-of-lead-free-pipes-fittings-fixtures-solder-and-flux-for-drinking-water>

<sup>1</sup> Hannah Ritchie, “How the world eliminated lead from gasoline,” *Our World in Data*, 11 Jan. 2022: <https://ourworldindata.org/leaded-gasoline-phase-out>

<sup>1</sup> U.S. Fish and Wildlife Service, *2022-2023 Station-Specific Hunting and Sport Fishing Regulations*, 16 Sept. 2022: <https://www.federalregister.gov/documents/2022/09/16/2022-20078/2022-2023-station-specific-hunting-and-sport-fishing-regulations>

---

<sup>i</sup> Mark Miller, “Oldest Known Lead Artifact was Found with Skeletons, Suggesting Mystical Significance,” *Ancient Origins*, 5 Dec. 2015: <https://www.ancient-origins.net/news-history-archaeology/oldest-known-lead-artifact-was-found-skeletons-suggesting-mystical-020642>

<sup>ii</sup> J.M.S. Pearce; “Burton’s Line in Lead Poisoning,” *Eur Neurol* 1 Feb. 2007; 57 (2): 118–119. <https://doi.org/10.1159/000098100>

<sup>iii</sup> *Ibid.*

<sup>iv</sup> Tim Harford, “Why did we use leaded petrol for so long?,” *BBC World Service*, 27 Aug. 2017: <https://www.bbc.com/news/business-40593353>

<sup>v</sup> Tom Kington, “The mystery of Caravaggio's death solved at last – painting killed him,” *The Guardian*, 16 June 2010: <https://www.theguardian.com/artanddesign/2010/jun/16/caravaggio-italy-remains-ravenna-art>

<sup>vi</sup> Josef Eisinger, “Lead and Wine: Eberhard Gockel and the *Colica Pictonum*,” *Medical History*, 1982, 26:279-302. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1139187/pdf/medhist00086-0053.pdf>

<sup>vii</sup> T. Tronchin, *De colica Pictonum* (Geneva, 1757): <https://archive.org/details/decolicapictonum00tron/page/n5/mode/2up>

<sup>viii</sup> R. M. S. McConaghey, “Sir George Baker and the Devonshire Colic,” *Medical History* 11, no. 4 (1967): 345–60. <https://doi.org/10.1017/S0025727300012497>.

<sup>ix</sup> SL Tackett, “The Franklin letter on lead poisoning,” *J Chem Educ* 1981;53:274.

<sup>x</sup> Rick Weiss, Study Concludes Beethoven Died From Lead Poisoning,” *The Washington Post*, 6 Dec. 2005: <https://web.archive.org/web/20170215071732/http://www.washingtonpost.com/wp-dyn/content/article/2005/12/05/AR2005120501937.html>

<sup>xi</sup> O. Walusinski, “Louis Tanquerel des Planches (1810-1862) and the history of discovering lead poisoning in the nervous system,” *Revue Neurologique*, Vol. 178, Issue 6, pp. 521-531 (2022): ISSN 0035-3787, <https://doi.org/10.1016/j.neurol.2021.08.009>.

<sup>xii</sup> Richard Guenther, “Dangers of White Lead,” Hathitrust, Sherwin Williams Co. (1904): <https://babel.hathitrust.org/cgi/pt?id=nyp.33433066401898&view=1up&seq=110>

- 
- <sup>xiii</sup> WJ Furnival, *Leadless Decorative Tiles, Faience, and Mosaic, comprising notes and receipts on the History, Materials, Manufacture & Use of Ornamental Flooring Tiles, Ceramic Mosaic, and Decorative Tiles and Faience* (1904): W.J. Furnival, Stone, Staffordshire.
- <sup>xiv</sup> Steven G. Gilbert and Bernard Weiss, "A rationale for lowering the blood lead action level from 10 to 2 microg/dL," *Neurotoxicology* Vol. 27,5 (2006): 693-701. doi:10.1016/j.neuro.2006.06.008
- <sup>xv</sup> *Ibid.*
- <sup>xvi</sup> David Rosner and Gerald Markowitz, "A 'Gift of God'?: The Public Health Controversy over Leaded Gasoline during the 1920s," *American Journal of Public Health* Vol. 75, No. 4, April 1985: <https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.75.4.344>
- <sup>xvii</sup> P.L. 91-695.
- <sup>xviii</sup> U.S. Consumer Product Safety Commission press release, "CPSC Announces Final Ban on Lead-Containing Paint," 2 Sept. 1977: <https://web.archive.org/web/20100819015700/http://www.cpsc.gov/CPSCPUB/PREREL/prhtml77/77096.html>
- <sup>xix</sup> Earl Gustkey, "Outdoor Notes: Lead Shot Outlawed in Waterfowl Hunting Areas, Starting in 1991," *The Los Angeles Times*, 27 June 1986: <https://www.latimes.com/archives/la-xpm-1986-06-27-sp-20586-story.html>
- <sup>xx</sup> P.L. 102-550.
- <sup>xxi</sup> Elin Hofverberg, "The History of the Elimination of Leaded Gasoline," *Library of Congress Blogs*, 14 Apr. 2022: <https://blogs.loc.gov/law/2022/04/the-history-of-the-elimination-of-leaded-gasoline/>
- <sup>xxii</sup> Wayne Hall, "Did the elimination of lead from petrol reduce crime in the USA in the 1990s?," *F1000Research* Vol. 2, 156. 16 Jul. 2013: doi:10.12688/f1000research.2-156.v2.
- <sup>xxiii</sup> Rick Nevin, "Understanding international crime trends: The legacy of preschool lead exposure," *Environmental Research* Vol. 104, Issue 3 (2007) pp. 315-336, ISSN 0013-9351: <https://doi.org/10.1016/j.envres.2007.02.008>
- <sup>xxiv</sup> Jessica Wolpaw Reyes, "Environmental Policy as Social Policy? The Impact of Childhood Lead Exposure on Crime," *The B.E. Journal of Economic Analysis & Policy* 7, no. 1 (2007): <https://doi.org/10.2202/1935-1682.1796>
- <sup>xxv</sup> David Nakamura, "Water in D.C. Exceeds EPA Lead Limit," *The Washington Post*, 30 Jan. 2004: <https://www.washingtonpost.com/archive/politics/2004/01/31/water-in-dc-exceeds-epa-lead-limit/1e54ff9b-a393-4f0a-a2dd-7e8ceedd1e91/>
- <sup>xxvi</sup> P.L. 110-314.
- <sup>xxvii</sup> U.S. Environmental Protection Agency, Federal Register Vol. 73, No. 78 (Tuesday, April 22, 2008) Pages 21692-21769: <https://www.epa.gov/lead/lead-renovation-repair-and-painting-program-rules#rrp>
- <sup>xxviii</sup> Leonard N. Fleming, "Darnell Earley: The man in power during Flint switch," *the Detroit News*, 16 March 2016: <https://www.detroitnews.com/story/news/michigan/flint-water-crisis/2016/03/14/darnell-earley-flint-water-crisis/81788654/>
- <sup>xxix</sup> U.S. Environmental Protection Agency, *Use of Lead Free Pipes, Fittings, Fixtures, Solder, and Flux for Drinking Water*, 1 Sept. 2020: <https://www.federalregister.gov/documents/2020/09/01/2020-16869/use-of-lead-free-pipes-fittings-fixtures-solder-and-flux-for-drinking-water>
- <sup>xxx</sup> Hannah Ritchie, "How the world eliminated lead from gasoline," *Our World in Data*, 11 Jan. 2022: <https://ourworldindata.org/leaded-gasoline-phase-out>
- <sup>xxxi</sup> U.S. Fish and Wildlife Service, *2022-2023 Station-Specific Hunting and Sport Fishing Regulations*, 16 Sept. 2022: <https://www.federalregister.gov/documents/2022/09/16/2022-20078/2022-2023-station-specific-hunting-and-sport-fishing-regulations>

# **GHHI Written Testimony - SB983.pdf**

Uploaded by: Wesley Stewart

Position: FAV





2714 Hudson Street  
Baltimore, MD 21224-4716  
P: 410-534-6447  
F: 410-534-6475  
[www.ghhi.org](http://www.ghhi.org)

February 26, 2024

Senator Brian J. Feldman, Chair  
Senate Education, Energy and Environment Committee  
2 West  
Miller Senate Office Building  
Annapolis, Maryland 21401

Re: **FAVORABLE** – SB983 – Hunting – Lead and Lead-Based Ammunition – Phase Out

Dear Chairman Feldman and Members of the Committee:

On behalf of the Green & Healthy Homes Initiative (GHHI), I offer this testimony in support of SB983. I serve as Chair of the Maryland Lead Poisoning Prevention Commission and as a member of the EPA Children's Health Protection Advisory Committee, the CDC Lead Exposure and Prevention Advisory Committee and the Maryland Green and Healthy Homes Task Force. GHHI is dedicated to addressing the social determinants of health and advancing racial and health equity through the creation of healthy, lead safe and energy efficient homes. GHHI has been at the frontline of lead poisoning prevention and holistic healthy housing for over three decades.

Over its 30-year history, GHHI has developed the holistic energy efficiency, health and housing service delivery model that is implemented in our nationally recognized, Maryland-based direct service program. The model was adopted by the U.S. Department of Housing and Urban Development and is currently being advanced in partner jurisdictions nationally. In addition, GHHI helped to elevate Maryland as a national leader in healthy housing by helping reduce childhood lead poisoning by 99% in the state and helping design over 49 pieces of healthy housing legislation that became law in the State of Maryland and local jurisdictions. By delivering a standard of excellence, GHHI aims to eradicate the negative health impacts of unhealthy housing and unjust policies to ensure better health, economic, and social outcomes for children, seniors and families with an emphasis on Black and Brown low-income communities. GHHI's holistic intervention approach was recently cited by EPA and HUD as a model for effective coordination of federal healthy homes and weatherization programs and resources.

We are deeply committed in our mission to advance racial and health equity, economic mobility and climate resiliency through healthy and energy efficient low-income homes. By phasing out lead in ammunition for hunting, SB983 will address a source of lead in our environment that contaminates our soil, water and food chain - placing children, adults and wildlife at risk of exposure.

#### Impact of Lead Poisoning in Maryland

In 2021, there were 1,430 children with elevated blood levels (EBLs) of 5 µg/dl or higher in Maryland. Lead poisoning from primarily lead in paint, dust and contaminated soil contributes to significant learning disabilities, loss of IQ, speech development problems, attention deficit disorder, poor school performance and violent, aggressive behavior that heavily burdens low-income communities. Lead poisoning directly contributes to the cycle of learning disabilities, poor school performance, steep school dropout rates and juvenile delinquency that prevent low-income children in particular in Maryland from being able to thrive and which burdens the State through increased special education and criminal justice costs. Children poisoned by lead are 7 times more likely to drop out of school and 6 times more likely to be involved in the juvenile justice system. In 2012, the CDC determined that there was no safe level of lead in a child's body and lowered the blood lead reference level from 10 µg/dl to 5 µg/dl for children. In, 2021, the CDC reviewed all the available blood lead data in the United States and the scientific research and lowered the blood lead reference level accordingly to 3.5 µg/dl due to the impact of lead exposure even at lower lead levels. For adults, lead poisoning can cause high blood pressure, cognitive impairment, kidney damage, increased risk of cardiovascular disease and reproductive health issues for both men and women, especially pregnant women.

#### Addressing Sources of Lead in Ammunition

While significant progress has been made in the fight to end the tragic and insidious disease of childhood lead poisoning, children, adults and communities remain at risk due to the numerous sources of lead in our environment. Lead-based paint and lead dust in older housing remains the primary source of lead poisoning, but SB983 addresses an issue that has been overlooked and requires attention – lead in ammunition.

Children ingest lead at a greater rate than adults and are more susceptible to the toxic effects of lead. These sources of lead exposure can harm cognitive, behavioral and physical development of a child even at lower blood lead levels. Adults are also at risk from lead in ammunition that is unintentionally released into our air, soil and water ecosystems by hunters. Hunters can be exposed to lead vapors that are inhaled during the discharging of a firearm. Hunters, their families and other consumers can be directly exposed to lead bullets or shot that remains in wild game (deer, birds) and is consumed by unsuspecting hunters and others. Lead ammunition can also end up back in the food chain from lead that is extracted by vegetables from the soil where lead bullets and lead shot is deposited. Lead shot can make its way into our public water systems, or more acutely, into well water in individual homes that may become contaminated. be hunters risk. Lastly, hunters can be exposed to lead residue when cleaning their firearms or handling lead ammunition.

Lead from ammunition is a direct threat to wildlife, especially birds and other animals, that ingest lead shot when they mistake for a food source or when they consume an animal that has been shot with lead ammunition. This lead ingestion in animals can cause dramatic harmful health effects up to and including death.

GHHI Written Testimony – Senate Bill 983

February 26, 2024

Page Three

Lead free alternatives exist for ammunition including steel, copper, bismuth, and tungsten. Maryland should lead the way by passing this important legislative to phase out a known, preventable source of lead. The State of California passed Assembly Bill 711 which banned the use of lead ammunition for all hunting starting in 2019. Maryland must follow California's lead to avoid lead exposures and help achieve the over-arching goal of ending lead poisoning by reducing another source of lead exposure in our environment while also protecting wildlife from this harmful toxin.

We ask for a Favorable Report on SB983.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Ruth Ann Norton', with a long horizontal flourish extending to the right.

Ruth Ann Norton  
President and CEO

**Maryland Senate Bill 983\_Oppose\_SCI\_\_.pdf**

Uploaded by: Beebe Frederick

Position: UNF



February 26, 2024

Education, Energy and Environment Committee  
ATTN: Chair Brian Feldman  
2 West  
Miller Senate Office Building  
Annapolis, Maryland 21401

**RE: Senate Bill 983 – Oppose**

Dear Chair Feldman, Vice Chair Kagan and Honorable Members of the Education, Energy, and Environment Committee:

On behalf of Safari Club International (SCI), I write to you in opposition to Senate Bill 983 that proposes to phase out all lead ammunition for hunting purposes and respectfully ask for an unfavorable report for the reasons outlined below.

SCI is dedicated to protecting the freedom to hunt and promoting wildlife conservation worldwide. Our organization, along with active members who live, hunt, and recreationally shoot in Maryland, strongly oppose undue lead ammunition restrictions that would significantly restrict physical and economical access for these important user groups in Maryland. SCI believes that efforts related to non-traditional ammunition should not be blanket mandates but rather educational and voluntary.

Mandating non-traditional ammunition for hunting is unnecessary, unwarranted, and will undoubtedly hurt hunter recruitment and retention in the state. States throughout the country are grappling with ways to increase hunter participation, and these restrictions only add additional barriers to entry for hunters, especially new, novice, youth, or rural hunters.

Not only will access to, and availability of, non-lead-based ammo be limited, but the significant price difference between lead ammunition and non-traditional ammunition will provide yet another barrier for those wishing to hunt throughout Maryland. This bill would disproportionately affect those who may not be able to find and/or afford more expensive non-lead ammunition as well as hunters in rural areas throughout the state. The result of prohibiting lead ammunition is that hunters will simply not have the ammunition they need to hunt, or purchasing ammunition will become considerably more difficult, both of which stand to lead to less hunters afield and less conservation dollars generated through the sale of licenses, tags and ammunition.

This stance ignores the fact that hunting is a deep part of Maryland's heritage, and the state's sportsmen and women direct contribution the state's economy. Recent reports show that Maryland hunters contribute \$328 million to the economy while directly supporting over 4100 jobs and providing over \$29 million to state and local taxes. Additionally, the purchase of licenses and resulting federal dollars apportioned through the U.S. Fish and Wildlife Service's



Wildlife Restoration Program totaled nearly \$18 million last year, and these dollars go to support conservation projects, including access, habitat improvement, wildlife management, scientific research, hunter education, land acquisition and more.

A potential decline in hunter recruitment and participation, as well as resultant declines in conservation funding and hunting's role as a management tool, must be weighed against the potential benefits of a lead phase-out. Those benefits are far more limited than proponents of a lead ban like to admit. According to the most recent research, use of lead ammunition is **not** causing a reduction in bird populations. Rather, recent studies have indicated that ingestion of lead ammunition slows the population growth rate of eagles. Past studies have made similar findings—a slowing in the population growth rate—for loons and other waterfowl. Therefore, the end result of a lead ban is likely to be fewer hunters and hunter-generated dollars, and an eagle population that continues to increase just a little bit faster.

Sound, science-based conservation and management decisions is a key tenet of the North American Model of Wildlife Conservation. State wildlife agency professionals understand and use this model every day and are the ones best suited to make wildlife management decisions. Being so, I respectfully ask that you oppose Senate Bill 983.

Maintaining America's large number of hunters and target shooters is crucial to maintaining the revenues necessary to sustain abundant wildlife and wildlife habitat—for both game and non-game—conservation programs as well as access related programs. Funds generated through the sale of hunting licenses, tags, permits, and ammunition all go to the benefit of Maryland's natural resources.

Thank you for your time and consideration of this important measure.

Sincerely,

W. Laird Hamberlin, CEO – Safari Club International/Foundation

CC: Secretary Josh Kurtz  
Director Paul Peditto

# **Written Testimony on SB0983 from Craig Cockrell.pd**

Uploaded by: Craig Cockrell

Position: UNF

## Written Testimony on SB0983 from Craig Cockrell

I have enjoyed the outdoors in Maryland since before I can remember. I began fishing when I was 10 years old and grew to love and appreciate all the things this great state has to offer. When I turned 14 my father bought me a shotgun and that jump started my passion for hunting. Each fall and winter when I was not in school or at basketball I was out hunting. This bill will negatively impact hunting in the state of Maryland in a big way.

Lead ammunition is the cheapest ammunition available on the market today to hunt with. Ensuring affordable ammunition will allow for people from diverse economic backgrounds to get out and enjoy the sport of hunting and provide food for their families. I view this law as discriminatory to low-income households that may not be able to afford ammunition to enjoy the outdoors. For such a progressive state this seems like a step in the wrong direction on being diverse and inclusive. On a personal basis, my son and I enjoy the opening day of dove season each year in Maryland. Last year we had our best hunt and probably shot over 250 shells between the two of us. We joked at all the missing and made memories that will last a lifetime. Those boxes of shotgun shells we approximately \$8.00 a box. With this new legislation it would force my son and I to buy ammunition that is \$30 to \$50 a box. Doing the math you can see that for my son and I this hunt could come to an end. He is 12 and there is nothing we love more than making memories outside together.

Shouldn't this committee and the Department of Natural Resources be encouraging residents to get outside and enjoy the outdoors? I would also like to know what the basis is for this regulation. I have not seen any data presented by the representatives that shows why this ban is beneficial. I also would offer to wager neither of the representatives responsible for these ridiculous bills have ever hunted. I hope the Department of Natural Resources steps up to denounce this infringement on the hunting in Maryland.



# **SB 983 Hunting-Lead and Lead-Based Ammunition Phas**

Uploaded by: Cyndy Watts

Position: UNF



**Senate Bill 983**

*Hunting—Lead and Lead Based Ammunition Phase Out*

Position: **UNF**

Date: **February 26, 2024**

To: **Education, Energy, and  
the Environment**

The Caroline County Commissioners **OPPOSE** SB 983. This bill aims to phase out the use of lead or lead-based ammunition for hunting in Maryland. This bill, while well-intentioned, poses significant challenges and potential negative impacts, particularly for Caroline County, an agricultural community with a robust hunting tradition.

Caroline County is renowned for its agricultural heritage and is home to avid hunters who play a vital role in deer herd management. Hunting is not only a cherished tradition but also a necessary tool for controlling wildlife populations, mitigating human-wildlife conflicts, and protecting crop production. Unfortunately, Senate Bill 983 threatens to undermine these efforts and jeopardize the delicate balance between wildlife management and agricultural sustainability.

One of the primary concerns with the proposed phase-out of lead ammunition is the potential increase in deer populations, which could have detrimental effects on crop production and exacerbate human-wildlife conflicts. Maryland is already facing extreme challenges with human-wildlife conflicts, including deer-vehicle collisions and crop depredation.

Phasing out lead ammunition would limit the effectiveness of hunters in managing deer populations, leading to increased crop damage and safety risks on roadways. It is important to note that revenues from hunting licenses directly fund the Department of Natural Resources (DNR), which is tasked with managing wildlife populations and mitigating human-wildlife conflicts. Decreased hunting participation resulting from the phase-out of lead ammunition would lead to decreased revenue for the DNR, impairing its ability to fulfill its mandate effectively.

The Commissioners respectfully urge an unfavorable report on SB 983, due to its potential impacts on Caroline County and other rural communities across Maryland.

Sincerely,

J. Travis Breeding, President

# **NSSF McGuigan MD Testimony Re Ammo Tax SB 784 Oppo**

Uploaded by: Jake McGuigan

Position: UNF



**JAKE MCGUIGAN**

Managing Director, Gov't Relations - State Affairs

jmcguigan@nssf.org | 203-426-1320 x238 | nssf.org

400 N. Capitol Street NW, Suite 475, Washington, D.C. 20001

February 14, 2024

**Position: Opposed**

Senator Guy Guzzone  
Chair  
Budget and Taxation Committee  
3 West  
Miller Senate Office Building  
Annapolis, Maryland 21401

**Re: SB 784 Comprehensive Community Safety Funding Act (Excise Tax)**

Dear Chair Guzzone and Members of the Budget and Taxation Committee:

The National Shooting Sports Foundation ("NSSF") is the trade association for America's firearms, ammunition, hunting, and recreational shooting sports industry. Its mission is to promote, protect and preserve hunting and the shooting sports. NSSF has a membership of more than 10,000 manufacturers, distributors, firearms retailers, shooting ranges, and sportsmen's organizations. Our manufacturer members make the firearms used by law-abiding Maryland sportsmen, the U.S. military and law enforcement agencies throughout the state. This is to notify you of our strong opposition to SB 784.

In the wake of continued efforts to enact new burdens on gun ownership, lawmakers in some states and localities are now seeking a back-door approach to gun control through the use of taxes. Supporters of restricting citizens' Second Amendment rights see no problem implementing a "poll tax" on the right to bear arms. What these proposals ignore is the fact that beyond the dangerous concept of pricing citizens out of a constitutional right, levying new taxes on the purchase of firearms, ammunition, and accessories poses significant negative consequences for law-abiding citizens and for the taxing jurisdictions themselves.

- **New taxes on the purchase of firearms and ammunition are unconstitutional "poll taxes."**
- **Unlike law-abiding citizens, criminals do not legally purchase guns and will not be affected.**
- **Raising taxes puts a jurisdiction at a competitive disadvantage and hurts legitimate businesses.**

Anti-gun advocates are quick to compare such tax proposals to taxes on cigarettes and other so-called "sin taxes." However, unlike cigarettes or other commercial products, owning a firearm is a constitutional right. A more apt comparison to levying an additional tax on firearms is the Jim Crow-era practice of restricting citizens' right to vote by imposing "poll taxes." Both would force law-abiding citizens to pay for exercising a constitutional right. Current law already imposes restrictions on gun ownership, like banning ownership by felons or the mentally ill. But these restrictions are not based on ability to pay. Setting conditions on the Second Amendment based on socioeconomic status sets a dangerous precedent for all Americans.

**Taxing Jurisdiction Loses**

States and localities seeking to levy these new taxes will also put themselves at a competitive disadvantage compared to their neighboring states. *In many cases, residents of the taxing area will be able to go to a business in another jurisdiction to purchase ammunition, accessories and even certain long guns, taking not only the "excise" tax revenue away, but also depressing the sales tax revenue paid by the law-abiding businesses in the jurisdiction.* This double hit on the taxing jurisdictions fiscal condition explains why some states have taken the opposite tact and established Second Amendment tax-free holidays to spur economic activity, not hamper it. States

themselves stand to lose from a decrease in the federal Pittman-Robertson excise tax revenue already paid on the sale of firearms and ammunition and dedicated to wildlife conservation efforts.

### **Pittman-Robertson Excise Tax (A Tax We Support)**

In the early 1900s, when many wildlife species were dwindling in numbers or disappearing, the firearms and ammunition industry stepped forward and asked Congress to impose an excise tax on the sale of firearms and ammunition products to help fund wildlife conservation in the United States. The Federal Aid in Wildlife Restoration Act (also known as the Pittman-Robertson Act (PR)) became law in 1937. The revenue generated from the excise tax is apportioned to state wildlife agencies for conservation efforts, hunter's education and shooting projects and programs.

Since the program's inception, \$12.5 billion has been collected from manufacturers and awarded to states through PR making the firearms and ammunition industry America's largest contributor to conservation and access. Over the past 75 years, PR revenue has helped to rebuild the population of numerous species and extend their ranges farther than they were in the 1930s. In fiscal year 2022 Maryland received nearly \$11 million in PR wildlife restoration funds with over \$4.5 million being used for wildlife restoration throughout the state. Since inception Maryland has received over \$100 million in excise tax revenue.

### **Strong Industry for the State of Maryland**

The firearm industry has contributed close to \$1 billion in economic activity to Maryland in 2022 and employs over 4,200 people in the state. While Maryland faces difficult budget choices, the firearms industry is still one of the few industries that has continued to contribute increased tax revenues to the state (to the tune of \$14 million).

An additional excise tax would result in the loss of jobs in Maryland, similar to what we have seen in other municipalities nationally, major losses of sales revenue to Maryland businesses and, as a result, the loss of substantial tax revenue for the state.

### **Taxes Will Not Stop Criminals**

Surveys conducted by the federal government show that criminals overwhelmingly gain access to firearms illegally through the black market or theft or obtain firearms from family and friends. Imposing a new tax on firearms and ammunition will have zero impact on their behavior. In fact, areas with largest increases in gun ownership also have the largest drops in violent crime. This raises the question of whether states and localities should instead seek tax rebates for gun ownership as a method of crime reduction, rather than a tax to discourage the purchase of firearms.

### **Proposals Disguise the Real Debate**

In addition to being poor policy, the proposed state excise tax is nothing more than an underhanded method of enacting more gun control policies. The result of such a policy in the form of a tax code change will have an adverse impact on firearms safety education and hunting throughout the state. Fortunately, NSSF leads the way in advocating for the industry and its businesses and jobs, keeping guns out of the wrong hands, encouraging enjoyment of recreational shooting and hunting, and helping people better understand the industry's lawful products. Tax proposals, such as the one before you, will only impact federally licensed dealers along with licensed residents with no increase to public safety.

We must all work together to help prevent those who exhibit reckless disregard for human life and values access to firearms for criminal purposes. But we must also preserve the constitutional rights of tens of millions

of law-abiding Americans to safely and responsibly own, store and use firearms for personal protection, hunting and recreation.

America's firearms industry welcomes the opportunity to be a part of a respectful and constructive dialogue on this important topic.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jake McGuigan', with a long horizontal flourish extending to the right.

Jake McGuigan  
Managing Director State Affairs

# **NSSF**<sup>®</sup> *The Firearm Industry Trade Association*

## **REAL SOLUTIONS SAFER COMMUNITIES**

The firearms industry welcomes participation in the national conversation to make our communities safer. Our trade association, **THE NATIONAL SHOOTING SPORTS FOUNDATION**<sup>®</sup>, has long advocated for effective solutions to prevent access to firearms by criminals, children and the dangerously mentally ill.

We run programs that make a real difference.



NSSF has led the way in improving the FBI National Instant Criminal Background Check System (NICS) through our **FixNICS**<sup>®</sup> Initiative that has reformed the law in 16 states and improved the reporting of disqualifying records.



**The Don't Lie for the Other Guy**<sup>™</sup> program helps firearms retailers prevent illegal straw purchases and is conducted in cooperation with Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF).



**Project ChildSafe**<sup>®</sup> has distributed more than 37 million free gun locks since 1999.



Our partnerships with federal and state agencies, as well as a leading national **suicide prevention** organization, are building public education resources for firearms retailers, shooting ranges and the firearms-owning community.



**Operation Secure Store**<sup>®</sup> is a comprehensive joint initiative with ATF to help Federal Firearms Licensees make well-informed security-related decisions to deter and prevent thefts.

**Real solutions that protect lives and preserve our citizens' liberties – making our communities safer.**

## Seattle's Failed Firearms and Ammunition Tax

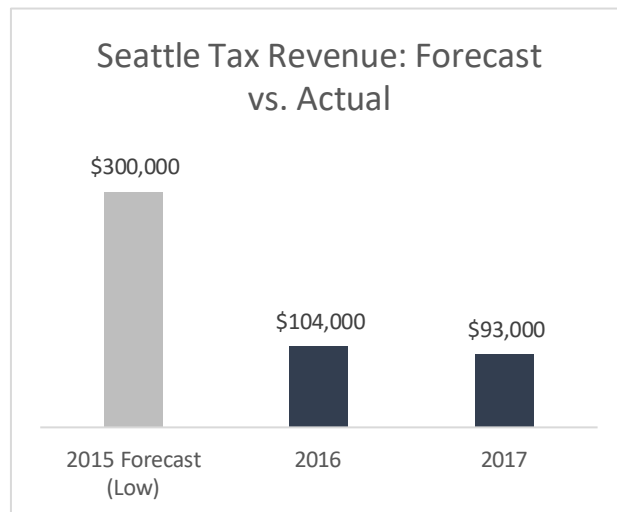
In 2015, Seattle's City Council enacted a tax of \$25 per firearm and 2-5 cents per round of ammunition.

Retail sale of firearms	Tax rate
Each firearm sold at retail	\$25
Retail sale of ammunition	Tax rate per round
.22 caliber or less sold at retail	\$0.02
All other ammunition sold at retail	\$0.05

### Revenue Impact

When the tax was adopted in 2015, then-Councilmember Tim Burgess said the city projected the tax would raise \$300,000 to \$500,000 a year.

Taking the lower end of the forecast range, revenue has come in at less than a third of the estimate.



The city collected \$104,000 in 2016, when the law took effect.

In 2017, the revenue dropped by another 11 percent to \$93,000. That year, the tax was paid on 1,929 firearms and about 1.1 million rounds of ammo, according to the Department of Finance and Administrative Services.

Meanwhile, the tax drove businesses and jobs out of the city. When the law was enacted, Seattle had 40 FFLs. As of November 2018, there were only 27.

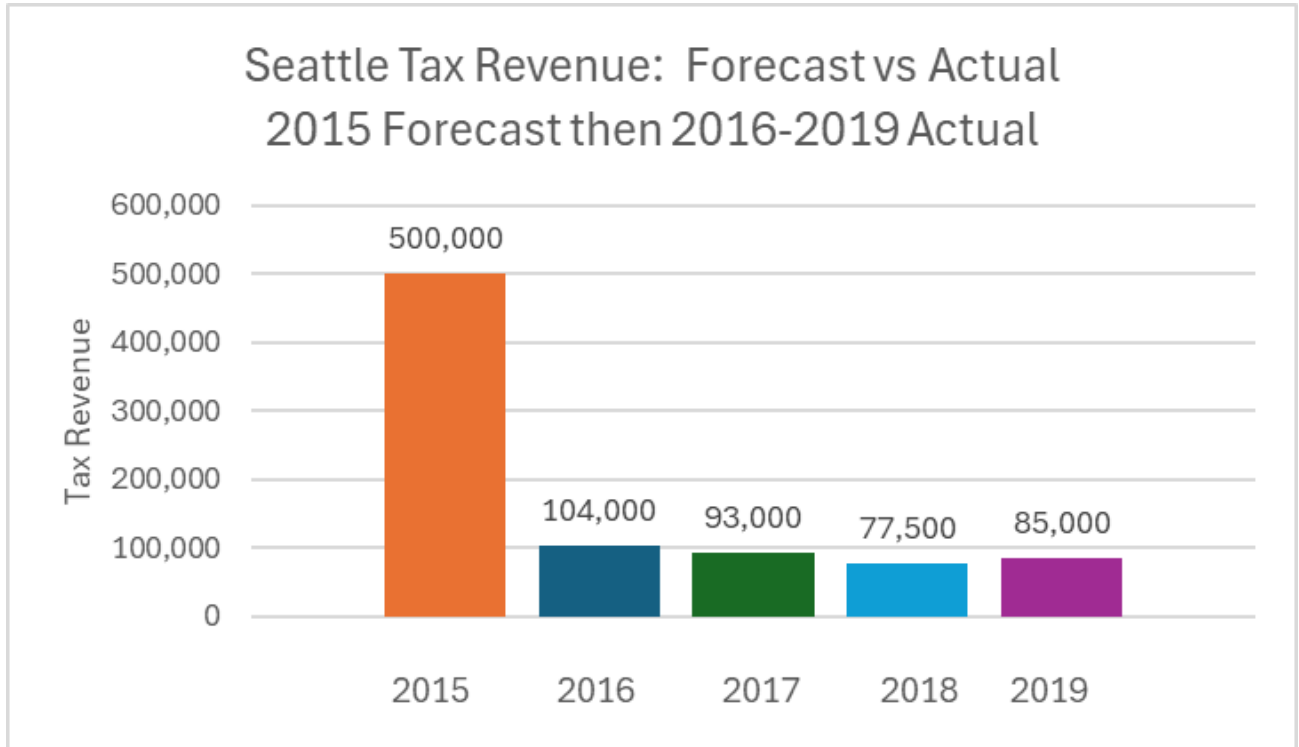
### Violent Crime Impact

Despite falling 70% short of the revenue forecast, and driving out 13 businesses, the tax has also not had an impact on firearm-related crimes in the city.

According to the Seattle Police Department's crime data, crimes involving firearms rose by 7 percent from 2015 to 2018.

Crime Category	2015	2018
Homicide	16	16
Rape	6	13
Robbery	270	266
Aggravated Assault	218	249
Total	510	544





**SB0983\_Testimony\_2A\_Maryland.pdf**

Uploaded by: John Josselyn

Position: UNF



**Senate Bill 983**  
**Hunting – Lead and Lead-Based Ammunition – Phase -Out**  
**UNFAVORABLE**

Senate Bill 983 is not unlike the non-toxic legislation passed to help protect the endangered California Condor. Our opposition to Senate Bill 983 should not be construed to stem from a lack of concern for the environment or wildlife. It is based upon practical technical concerns and logistics issues, plus the bill language which places excessive and arbitrary power in the hands of an appointed official.

The provisions in this bill will make it difficult and expensive for many deer hunters in Maryland to continue to hunt deer. The net result will be fewer Maryland citizens hunting deer in Maryland. Hunters are an integral part of the Department of Natural Resources' conservation plan.

The ecology and terrain of Maryland is quite different than that in California. Accordingly, the type of firearms and cartridges used are also different. In Maryland, most deer are taken in heavy brush and timber at ranges under 100 yards. Hunters use short, easy to maneuver firearms chambered for firearms with an effective range of approximately 150 yards.

Two of the most popular cartridges, .30-30 Winchester and .35 Remington have origins dating back to 1895 and 1906 respectively. Due to their geriatric vintage, the designers never envisioned, much less designed them, to utilize the new non-lead projectiles. There are technical limitations involved which limit which projectile can be employed. Consequently, ammunition manufacturers have no incentive to produce non-lead ammunition for these cartridges because the customer's firearms cannot use them. The net result being no market for their product.

From a public policy perspective, empowering an appointed official to ban anything the moment the law becomes effective is unwise.

Until more research has been done on this issue, we must recommend an unfavorable report on SB 983.

John H. Josselyn  
2A Maryland  
02/27/2024

**2024 MD SB 983 - Lead Ammo Phase-Out Plan - LOO.pd**

Uploaded by: Kaleigh Leager

Position: UNF



**To: Hon. Brian J. Feldman  
Chair, Senate Education, Energy, and the Environment Committee  
2 West  
Miller Senate Office Building  
Annapolis, MD 21401**

**Re: Senate Bill 983 – Hunting – Lead and Lead-Based Ammunition – Phase-Out**

**Position: Oppose**

**Date: 2/27/2024**

---

Chairman Feldman, Vice Chair Kagan, and Honorable Members of the Maryland State Senate Education, Energy, and the Environment Committee,

As the Senior Coordinator, Mid-Atlantic States for the Congressional Sportsmen’s Foundation (CSF), and as a generational Eastern Shore Native and a resident hunting and fishing license holder, I respectfully urge an unfavorable report on Senate Bill 983 (SB 983) – Hunting – Lead and Lead-Based Ammunition – Phase-Out. This bill will require the Department of Natural Resources (DNR) to create a lead ammunition phase-out plan in addition to an ammunition certifying process on or before December 31, 2026. The long-term effects of a statutory ban on lead hunting ammunition are extremely detrimental to conservation funding, which is directly funded and supported by hunters. Moreover, there is no shortage of proven-successful voluntary and incentive-based programs run by other states to encourage hunters to switch to lead alternatives that avoid these unintended, but foreseeable consequences. CSF strongly suggests that Maryland look instead to a similar program that could be managed by the DNR which would allow them to meet their management objectives without compromising their funding stream.

Founded in 1989, the Congressional Sportsmen's Foundation (CSF) is the informed authority across outdoor issues and serves as the primary conduit for influencing public policy. Working with the Congressional Sportsmen's Caucus (CSC), the Governors Sportsmen's Caucus (GSC), and the National Assembly of Sportsmen's Caucuses (NASC), CSF gives a voice to hunters, anglers, recreational shooters, and trappers on Capitol Hill and throughout state capitols advocating on vital outdoor issues that are the backbone of our nation's conservation legacy.

When it comes to lead ammunition bans, the negative impact to hunter participation, and ultimately conservation funding, is one of the greatest concerns of CSF. As of 2023, there were 116,422 certified paid hunting license holders in Maryland that generated \$6,337,975 in hunting license sales and \$11,426,411 in USFWS Wildlife Restoration dollars, totaling more than \$17.7M in conservation dollars from hunting alone. Hunters are boots-on-the-ground conservationists that continue to provide the most efficient and cost-effective method of managing wildlife populations.

In the current market, non-lead ammunition is not sufficiently available and is more costly, which will likely prevent hunters from participating in a time-honored tradition that is a pillar of the state's culture. Additionally, like many states in the region, Maryland is continuing to see a steady increase in human-wildlife conflicts, particularly with White-tailed deer populations. The passage of SB 983 will ultimately eliminate sufficient opportunity for hunters to take game, as they will ultimately not be able to hunt if they cannot access non-lead ammo. This unintended, but foreseeable consequence of the proposed lead ammunition ban will ultimately result in the legislature creating a new barrier for hunters to keep wildlife populations such as White-tailed deer within acceptable biological and social carrying capacities.

Creating this participation barrier harms more than just Maryland's sportsmen and women and the wildlife that will no longer be properly managed through hunting; it also has significant negative financial impact on both the DNR and the state's economy. As noted above, Maryland's DNR receives significant funding through the unique "user pays – public benefits" structure of the American System of Conservation Funding<sup>1</sup>. Sportsmen and women support wildlife management through purchasing sporting licenses, as well as a manufacturer-level excise tax that is levied on outdoor goods such as firearms and ammunition (Pittman-Robertson). Because non-lead ammunition is not sufficiently available to hunters in the current marketplace or for all hunting calibers, phasing out lead ammunition will ultimately lead to fewer sales of hunting licenses, and consequently the DNR will have less money to manage the state's wildlife resources.

Upon request, CSF is more than willing to provide this body and the DNR, years of documented evidence from existing voluntary and incentive-based programs. Management objectives to address localized concerns with the use of lead ammo can be addressed effectively, and in a manner that does not create the wide-spread and foreseeable unintended consequence of hurting all conservation efforts in the state through decreasing conservation funding. CSF encourages the legislature to work with the DNR to develop and implement such a program should science support the need.

In closing, CSF encourages the legislature and the Department of Natural Resources to work together to implement incentive-based programs for the use of non-lead hunting ammunition by hunters if there exists demonstrable scientific evidence that such an effort is needed to address population-level impacts of lead exposure in specific wildlife species. CSF further recommends that such a program be developed and tested prior to any further consideration of a statutory ban on lead ammunition with its attendant and consequential diminishment of conservation funding. For these reasons, we respectfully request an unfavorable report on SB 983.

Sincerely,



Kaleigh E. Leager  
Senior Coordinator, Mid-Atlantic States | Congressional Sportsmen's Foundation  
110 North Carolina Ave, SE | Washington, DC 20003  
[kleager@congressionalsportsmen.org](mailto:kleager@congressionalsportsmen.org) | 202-543-6850 X 20

---

<sup>1</sup> [American System of Conservation Funding \(ASCF\)](#)

## **24 MGPA\_SB983\_Lead based ammunition.pdf**

Uploaded by: Lindsay Thompson

Position: UNF



Maryland Grain Producers Association  
118 Dundee Ave, Chester, MD 21619  
Lindsay.mdag@gmail.com (p) 443-262-8491  
www.marylandgrain.com

Date: February 27, 2024

Senate Bill 983 - Hunting - Lead and Lead-Based Ammunition - Phase-Out

Committee: Education, Energy and Environment

MGPA Position: OPPOSE

The Maryland Grain Producers Association (MGPA) serves as the voice of grain farmers growing corn, wheat, barley and sorghum across the state. MGPA opposes Senate Bill 983 which would require the Department of Natural Resources to phase out the use of lead based ammunition by 2026, prioritizing ammunition used to harvest deer.

The National Agricultural Statistics Service estimated in 2012 that farmers experience over \$10 million in crop damage annually with 75% of that being attributed to deer. The density of deer to suitable habitat in Maryland is high and therefore causes conflict with not only farmers and their crops but also vehicles and homeowners. Responsible hunting and utilization of depredation permits are ways we can help control deer over-population.

Deer cooperator permits and deer depredation permits allow farmers to harvest deer outside of regulated hunting seasons to protect their crops from harm. Some deer cooperators harvest more than 150 deer per year. Many farmers using deer depredation permits harvest approximately 30 deer per year. This bill would exponentially increase the cost of harvesting deer and decrease the efficiency of the ammunition used to do so.

The ammunition of choice for many farmers is lead based. Lead based ammunition is less expensive than lead-free alternatives, more widely available and more effective. A lead based rifle bullet used for harvesting deer costs about \$2 per round. The lead free, copper alternative is \$3.50 making it 75% more expensive. Hunters also report that copper is less effective.

Maryland has a wanton-waste law that requires hunter to retrieve harvested deer from the field or forest and utilize them. This means they are often processed and the carcasses disposed of by the butcher.

We ask that you not force farmers to use more expensive and less effective ammunition to protect their crops and vote no on Senate bill 983.



**2024-SB0983-UNFav.pdf**

Uploaded by: Nelda Fink

Position: UNF

## SB0983 – UNFAVORABLE

Nelda Fink

MD District 32

Lead really does do a better job at being a shot pellet than steel. Lead owes its superior ballistic performance to its higher density. The heavy metal typically has a density in the vicinity of 11 g/cc (meaning one cubic centimeter weighs 11 grams).

If you only use steel the likelihood of having injured animals instead of killing them is greater. Injured animals will wonder off and suffer until they die. The hunter may not be able to find them or may not always be incentivized to look for them.

Using steel will require more of the pellets in a shot and therefore more of the pellets possibly entering the animal making it less likely to be eaten as food by the hunter.

This bill seems senseless and is not guaranteed to accomplish anything except to infringe on the rights of hunters.

100% OPPOSE this bill.

Thank you.

Nelda Fink

**SB0983 Written testimony.pdf**

Uploaded by: Nicholas Andraka

Position: UNF

# SB 983 - Hunting – Lead Ammunition phase out.

## OPPOSE SB983

Nicholas Andraka  
5725 Saint John's Chapel Rd  
Owings, MD 20736  
[nickandraka@verizon.net](mailto:nickandraka@verizon.net)  
410-693-3207

Committee Members,

I have been a Maryland hunter for decades; I am a member of Deer management with 2 counties, and a DNR Maryland Hunter Education instructor.

(I am placing the conclusion at the beginning, for those who do not want to read the details)

### **Conclusion**

- A "one size fits all" approach will not work with hunting ammunition.
- While there is copper ammo that performs in High powered rifles, Copper does not perform well in slower moving slugs used in the majority of MD counties. There are a limited number of copper shotgun slugs, but not yet perfected or in numbers to supply hunters.
- Traditional Muzzle Loaders (Black powder) would be banned.
- Some Straight wall cartridge (SWC) rifles used by MD hunters do not have a lead free alternative that meets the Minimum 1200 ft/lb for deer hunting (44m, 357m are two)
- MD deer hunters do not leave the carcass in the woods like western hunters, MD could simply have hunter bury the gut pile or remove it to alleviate any fears.
- Many hunters buy ammo in bulk once a round is found to pattern in their gun,, It will take a few years to run through this ammo.
- 22 rimfire ammo does not have a viable lead free alternative.
  
- The KEY to reducing the use of lead based ammo in hunting is education. Information about the hazards of lead should be added to the MD DNR Hunters guide and added to the Hunter safety Education curriculum. Then as viable Lead free alternatives become available, incentives should be given to use lead free ammo. This has worked well in western states that primarily hunt with high powered rifles. A blanket outright ban that would ban many hunting weapons and types of hunting is NOT the way to go about this change. I would be more than happy to work with any legislator who wants to work on a common sense education and incentive based transition to alternative ammunition types.

## Deer Hunting

I received a copy of SB 983 (Lead ammo ban) and contacted Senator Young's office and requested background information/studies pertaining specifically to Issues in Maryland with lead based ammo, Specifically Shotgun slugs and Straight wall cartridge (SWC) rifle ammo that is legal in most of the counties.

Senator Young's office forwarded me a copy of an article relating to hunters in Norway using high powered rifles. A high Powered rifle fires a smaller streamlined bullet at over 3000 Feet per second (FPS), A copper bullet will marginally expand at these extreme speeds.

A shotgun and SWC fires a heavy, slow slug at typically 1200-1500 FPS.

A copper slug will not expand moving at this slow speed, resulting in injured and unrecovered deer.

Over 25 years I have shot around 90 deer with all lead 20gauge shotgun slugs, I recovered 90% of the slugs just inside the opposite side hide of the deer,, Not a single slug had ever "fragmented". The slow moving slugs required to be used in a majority of Maryland simply do not fragment, but require soft lead to expand. Years ago I attempted to use "Remington Copper Solid Slugs" , they did not perform and have since been discontinued.

The Article links to a 2007 and 2009 paper discussing high powered rifle bullets fragmenting. High powered rifle bullets went through drastic re-designs in the last 15 years as they pushed them faster and faster. "Fragmentation" is no longer a problem even in high powered rifles using bullets such as the "Swift A-frame" and similar.

Another major issue this ban would place an undo hardship on many Maryland hunters.

Maryland deer regulations require a rifle/ammo produce a minimum energy of 1200 FT/LB of energy, I personally will not shoot a deer with less than 1500 FT/LB.

Some of the more popular SWC Lever action rifles bought by MD hunters do not have a copper ammo that meets this min requirement.

I purchased a Henry 44m lever action rifle last month to start using next season (\$1200),

There are NO commercially available copper base ammo that is advertised to meet the 1200 FT/LB min. (the min is marginal, 1500 is my bottom), most of the copper based 44m ammo is advertised at 900-1000 FT/LB. Same goes with 357m rifles.

It is physically impossible for a copper bullet to achieve the energy levels in these carbine cartridges. And if they did, they would not expand to transfer that energy.

Traditional muzzle loaders will be out of luck, no hunting with those weapons either.

MD hunters do not leave the deer carcass in the woods, the entire deer is taken from the hunting grounds. "IF" there was a possibility that the gut pile had lead, a simple, NO COST to the state solution would be to have hunters remove the gut pile or bury it.

### Small game Hunting – 22 rimfire.

.22 rimfire is commonly used for small game hunting, Squirrel in particular.

1<sup>st</sup> - Currently there is no readily available non-lead .22 ammo produced.

2<sup>nd</sup> – it is impossible to produce a subsonic 22 cartridge. In more populated states such as MD, one typically uses a subsonic 22 ammo moving at 720-970 FPS,, The since discontinued copper 22 rounds had a velocity of 1700-1800 FPS. you do NOT want to be shooting into trees with a high velocity round, that would be highly unsafe.

3<sup>rd</sup> – all domestic (USA) attempts to produce a non lead 22 ammo have been abandoned.

CCI Copper-22 : discontinued

CCI 21 grain Green HP – Discontinued

Winchester 26 grain HP – X22LRHLF : out of stock across the board, does not appear to have been produced for almost a year?

The reason there is no US made non lead 22 ammo is that it plain does not work.

Below pictures are from video <https://youtu.be/RRtrbsPujYE?t=390>



# CCI Copper-22 Ammunition 22 Long Rifle 21 Grain Copper Hollow Point Lead-Free

★★★★☆ (62) Write a Review Q&A (7)

Product Family #: 953365521



List Price: ~~\$14.99~~ - ~~\$1499.00~~  
Our Price: **\$11.99** - **\$1207.99**  
(\$0.24 - \$0.24 per round)

**Discontinued**

Made in USA

Select Quantity:

Cartridge:  
22 Long Rifle

[View Important Delivery Info](#)

[Email To Friend](#)



# **2024 Written Senate Testimony Bill 983.pdf**

Uploaded by: Peter Heller

Position: UNF



Peter D. Heller Jr  
7383 Maple Grove Road  
Chestertown Md 21620  
[pheller@cbchesapeake.com](mailto:pheller@cbchesapeake.com)

February 26, 2024

The Honorable Brian J. Feldman  
Education, Energy, and Environment Committee  
Miller Senate Office Building  
2 West Annapolis, Md 21401

**RE: Opposed to Senate Bill 983 Hunting- Lead and Lead Based Ammunition- Phase Out**

Dear, Chair Feldman, Vice Chair Kagan and the members of the Education, Energy, and Environment Committee

My name is Peter Heller and I am in **opposition of Senate Bill 983 Lead and Lead Based Ammunition- Phase Out**

I am a lifelong resident of Chestertown Md, avid hunter, conservationist, and landowner. I am writing to you with my opposition to Senate Bill 983. There are many repercussions from this bill that concern me, but I will just focus on a few of them. The first is by passing this bill you will make the ability to hunt small game and deer even less equitable than it currently is in Maryland. Hunting is already a very expensive sport and by making lead shot no longer available for use the cost of steel or non toxic loads more than doubles in price. There also becomes an issue of access to ammo and supply. Currently ammunition makers focus the bulk of their production on lead based ammunition due to its affordability and common use nationwide. If they are not focused on making steel or non toxic loads in all types of rounds used for hunting in Maryland there will be a shortage. By having this shortage, you will take away the ability for some to hunt due to the fact they cannot get the steel or non toxic loads needed while also driving the prices even higher due to the demand. If this bill were to pass, the rich history and heritage of hunting in this great state would be compromised forever.

**Therefore I urge you to oppose Senate Bill 983 Hunting- Lead and Lead Based Ammunition- Phase Out**

Sincerely,

Peter D. Heller Jr.  
Vice President, Maryland Wildlife & Heritage Association

**lead ammo sb983.pdf**

Uploaded by: Webb Johnson

Position: UNF

Dear Chairman and vice Chair, and the rest of the Education, Energy, and the Environment Committee. I'm Webb Johnson, the vice president of the Maryland Outfitter and guides Association. We are unfavorable to senate bill 983. Please vote no to this bill.

lead ammunition bans having no sound scientific basis, restricting the use of common lead ammunition can lead to other problems. According to NRA-ILA, non-lead ammunition is **more expensive** than traditional ammunition and is not available in the wide range of calibers and options that lead ammo is.

- A decrease in the purchase of traditional ammunition would adversely affect conservation funding. Hunters and target shooters are the largest supporters of conservation through excise taxes levied on ammunition, firearms and hunting equipment by the Pittman-Robertson Act of 1937, which has generated more than \$7.2 billion in funding for wildlife conservation programs.
- In the 1980s, the U.S. Fish and Wildlife Service (USFWS) conducted studies to determine the effect of lead shot on waterfowl and raptors. The results persuaded the USFWS to propose phasing out lead shot for waterfowl hunting in zones with a high incidence of eagles consuming waterfowl that were wounded by lead shot or not retrieved.
- At that time, bald eagles were listed as an endangered species. In 1985, the National Wildlife Federation sued the USFWS to expand the proposed prohibition, citing violations of the National Environmental Policy Act, the Endangered Species Act, the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act and the Administrative Procedure Act.<sup>[iv]</sup> In 1991, the USFWS implemented a nationwide ban on lead shot for waterfowl hunting. The federal regulations apply only to waterfowl—ducks, geese, swans and coots.

hunters and anglers have always been at the forefront of conservation efforts, and many have already switched to non-lead ammo and tackle as a personal decision. Lead rifle ammunition unquestionably leaves minuscule fragments in the game, but most hunters can remove it all with careful processing. Voting yes to this bill makes prices that are already high on hard to find ammo even harder to find and even higher price. There is always talk of 3rs but passing this bill might make people/youths not be able to afford to hunt or shot. At certain speeds and weights of blended metal ammunition becomes armor piercing round. Or other penetrator rounds...

please vote no to the bill sb983

thank you for your time.



# Hunters of Maryland - SB 983 Opposition.pdf

Uploaded by: william miles

Position: UNF



P.O. Box 501  
Huntingtown, Maryland 20639

February 27, 2024

## OPPOSE

### *Senate Bill 983 (Hunting – Lead and Lead-Based Ammunition – Phase Out)*

---

The HUNTERS OF MARYLAND, LLC represent the interests of Maryland's hunting community at both the State and local level. Few realize that hunters underwrite almost 100% of all wildlife management and research costs through their purchase of hunting licenses, stamps, and equipment. For the record: (1) hunters do so willingly b/c of **American System of Conservation Funding**, a user-pay model celebrating its 85<sup>th</sup> Anniversary which also underscores the noble story of hunters as America's original conservationists; and (2) hunting in Maryland is a powerful economic engine as noted in the link below.

<https://sportsmensalliance.org/wp-content/uploads/2022/02/2020-Economic-Impact-of-Hunting-and-Shooting-Technical-Report-V2.pdf>

Steve Keithley, Founder (301/785-4774 [sssbkeith@comcast.net])  
William R. Miles, Advocate (443/404-7449 [billmilesmd@comcast.net])

---

The HUNTERS OF MARYLAND, LLC oppose Senate Bill 983 which would impose a statewide ban on the use of lead-based ammunition effective no later than December 31, 2026. We suggest a 2-fold alternative for legislative consideration as explained below.

FIRST: Why not pursue a more measured approach by having Maryland's Department of Natural Resources consider joining the North American Non-Lead Partnership ("Partnership") – formed in 2017 by the Peregrine Fund and the Institute for Wildlife Studies – whose primary mission is to "design and promote voluntary measures to increase the use of non-lead ammunition" (<https://nonleadpartnership.org/resolution/en> -- ATTACHED)? Since inception, 3 state wildlife agencies have joined the Partnership: Arizona Game and Fish Department; Utah Division of Wildlife Resources, and Oregon Department of Fish & Wildlife. Most agree the evolution of going lead-free for hunting will be education and the learning curve.

SECOND: Change the 2026 date to 2028 thus affording the market more time to facilitate conversion from lead-based ammo to non-lead-based ammo in recognition of states moving in that direction (as shown in the link below) coupled with the need for more hunters to accept non-lead-based ammo for hunting. Indeed, those who have shifted to non-lead ammo for hunting report of its consistency, accuracy and, and penetration.

<https://www.longrangeshooting.org/articles/state-regulations-concerning-the-use-of-lead-free-ammunition>

IN THE FINAL ANALYSIS, Maryland's hunting community recognizes that non-lead-ammo used for hunting could ultimately become the law of the land; not unlike steel shot required for waterfowl hunting since 1991. In Maryland, however, why not consider the two alternative strategies identified herein before imposing a 2026 statutory ban?

## RESOLUTION TO JOIN THE NORTH AMERICAN NON-LEAD PARTNERSHIP

**WHEREAS**, the North American Non-Lead Partnership ('Partnership') was established to conserve wildlife and hunting heritage; and

**WHEREAS**, part of the stated mission of the Partnership is to provide a *'mechanism to minimize unintentional impacts on wildlife health while protecting the public image of hunting and the associated benefits to the conservation of wildlife and habitat'*; and

**WHEREAS**, the stated mission of the Midwest Association of Fish and Wildlife Agencies (MAFWA) includes initiating *'action to benefit the management and conservation of fish and wildlife resources'*; and

**WHEREAS**, sound research has unequivocally determined lead from hunting ammunition and fishing tackle poses a health hazard to wildlife and has shown the increased use of non-lead ammunition reduces inadvertent impacts of lead on wildlife; and

**WHEREAS**, the Partnership seeks to expand the coalition of hunters, anglers and other conservationists dedicated to improving ecosystem and wildlife health by voluntarily choosing non-lead options; and

**WHEREAS**, efforts to improve the health of our native fish and wildlife species are most successful when employed across multiple landscapes and jurisdictions; and

**WHEREAS**, the Directors of several state wildlife agencies, namely Arizona, Oregon and Utah have already joined the Partnership; and

**WHEREAS**, the Northeast Association of Fish & Wildlife Agencies recently joined the Partnership and encourages its members to consider joining the Partnership at a level they deem appropriate;

**NOW, THEREFORE, BE IT RESOLVED**, the support of the North American Non-Lead Partnership is an appropriate and justifiable action to increase the use of non-lead ammunition to improve ecosystem health; and

**BE IT FURTHER RESOLVED**, the Midwest Fish and Wildlife Health Committee encourages the Midwest Association of Fish and Wildlife Agencies directors to join the North American Non-Lead Partnership at the "Supporting Partner" level, thereby endorsing the efforts of the Partnership and providing either direct funding or in-kind support; and

**BE IT FURTHER RESOLVED**, the Midwest Fish and Wildlife Health Committee encourages individual member states/provinces to consider joining the North American Non-Lead Partnership at a level appropriate to their program; and

**BE IT FURTHER RESOLVED**, the Midwest Fish and Wildlife Health Committee encourages the Midwest Association of Fish and Wildlife Agencies directors to adopt this resolution at their annual meeting in 2020.

**SB0983\_DNR\_INFO\_EEE\_2-27-24.pdf**

Uploaded by: Dylan Behler

Position: INFO





Wes Moore, Governor  
Aruna Miller, Lt. Governor  
Josh Kurtz, Secretary  
David Goshorn, Deputy Secretary

---

February 27, 2024

**BILL NUMBER: SENATE BILL 983 - FIRST READER**

**SHORT TITLE: HUNTING - LEAD AND LEAD-BASED AMMUNITION - PHASE-OUT**

**DEPARTMENT'S POSITION: LETTER OF INFORMATION**

**EXPLANATION OF DEPARTMENT'S POSITION**

---

The Department of Natural Resources provides the following information regarding SB 983. While some evidence suggests that it is appropriate to phase out the use of all lead ammunition for hunting purposes, the availability of suitable non-lead ammunition must be readily available to fill the void. Currently, the most popular rifle calibers are available in non-lead variants but can be of varying effectiveness when compared to lead variants. Unfortunately, less common calibers that are still widely used, particularly for deer hunting, are not consistently available in non-lead versions. Likewise, .22 rimfire ammunition, which is widely used by many hunters for small game, in general is less accurate and less lethal than lead ammunition.

The Department recommends action be taken at the federal level regarding the phasing out of lead ammunition. A federal approach would bring consistency across states and encourage ammunition manufacturers to increase production of non-lead alternatives. Presently, there is little incentive for manufacturers to undertake a major shift in hunting ammunition production and it is unlikely that the availability of this type of ammunition will change significantly by December 31, 2026 as specified in SB 983.

**BACKGROUND INFORMATION**

---

The U.S. Fish and Wildlife Service instituted a nationwide ban on non-toxic shotgun ammunition in 1991. Currently, California is the only state with a complete ban on lead ammunition.

**BILL EXPLANATION**

---

SB 983 would prohibit the use of all lead or lead-based ammunition for hunting by December 31, 2026 and require the Department of Natural Resources to create a certification program for non-lead ammunition that could be used for hunting purposes. The department would be required to prioritize deer hunting when codifying the lead prohibition.

Contact: Dylan Behler, Director, Legislative and Constituent Services  
dylan.behler@maryland.gov ♦ 410-260-8113 (office) ♦ 443-924-0891 (cell)