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# LEAD AMMUNITION

## National Eagle Center Board Position

The National Eagle Center supports efforts to reduce the amount of lead available to wildlife in the environment. Lead is a known neurotoxin that can cause disorientation, visual impairment, organ failure, and death in humans<sup>1</sup>. Lead has been systematically removed from many uses by our society, such as lead in paint and gasoline<sup>2</sup>.

Lead is also detrimental to wildlife<sup>3,4,5,6,7</sup>. It is well documented scientifically that lead used in both hunting and fishing causes non-target death and unnecessary loss in many species of wildlife including ducks, geese, loons, swans, condors, and eagles. Lead is extremely persistent in the environment and its toxic impacts on wildlife can be felt long after its initial sporting use.

Eagles are at particular risk<sup>8</sup>. Eagles ingest lead fragments when feeding on gut piles or unrecovered deer. Tiny fragments are enough to kill an eagle in just a few days. The bald eagle's powerful digestive juices dissolve lead, and once in the bloodstream lead causes mental and physical impairment. After a few days, organs fail and the eagle will die<sup>9,10</sup>.

Fortunately, there is a solution. Hunters and anglers can use non-toxic alternatives. The switch to non-toxic shot for waterfowl hunting significantly reduced lead toxicity from ingestion by waterfowl, and waterfowl hunting continues as a strong tradition today.

Nationally there is a strong and allied conservation community that recognizes hunting and fishing as valued parts of our outdoor heritage. Hunters and anglers are among the country's greatest conservationists and that is a legacy The National Eagle Center respects and supports. By using non-toxic alternatives, which are readily available and economically feasible, hunters and anglers can reduce or eliminate unintended harm to eagles, loons and other wildlife.

The National Eagle Center recommends the use of non-toxic alternatives in hunting and fishing and encourages hunters and anglers to voluntarily switch if they are currently using lead<sup>11,12</sup>. The website [www.huntingwithnonlead.org](http://www.huntingwithnonlead.org) provides information on making this switch. The National Eagle Center also supports regulations that establish responsible limits for lead in the environment.

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### Resources:

- 1) **World Health Organization:** <http://www.who.int/mediacentre/factsheets/fs379/en/>
  - Facts and information about lead poisoning and human health
- 2) **National Institute of Environmental Health Sciences:** [https://www.niehs.nih.gov/health/materials/lead\\_and\\_your\\_health\\_508.pdf](https://www.niehs.nih.gov/health/materials/lead_and_your_health_508.pdf)
  - Facts and information about lead effects on human health, and sources of lead exposure.

**Adopted by the Board of Directors December 22, 2017**



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- 3) **USGS National Wildlife Health Center:**  
[https://www.nwhc.usgs.gov/disease\\_information/lead\\_poisoning/](https://www.nwhc.usgs.gov/disease_information/lead_poisoning/)
  - Effects of lead poisoning on wildlife
  - Of more than 2,000 bald eagles examined by the Fish and Wildlife Service from 1963 to 1986, 119 were diagnosed as having died of lead poisoning.
- 4) **USGS: Lead Poisoning in Wild Birds:**  
[https://www.nwhc.usgs.gov/publications/fact\\_sheets/pdfs/lead\\_poisoning\\_wild\\_birds\\_2009.pdf](https://www.nwhc.usgs.gov/publications/fact_sheets/pdfs/lead_poisoning_wild_birds_2009.pdf)
  - Information on lead poisoning in wild birds
- 5) **Impacts of lead ammunition on wildlife, the environment, and human health – A literature review and implications for Minnesota, Minnesota Department of Natural Resources**  
<https://www.peregrinefund.org/subsites/conference-lead/PDF/0307%20Tranel.pdf>
  - Over 130 species of animals (including upland birds, raptors, waterfowl, and reptiles) have been reported in the literature as being exposed or killed by ingesting lead shot, bullets, bullet fragments, or prey contaminated with lead ammunition.
- 6) **The Wildlife Society** <http://wildlife.org/>
  - Wildlife science, management, and conservation
  - Impacts to loons from lead fishing tackle and ammunition  
<http://wildlife.org/jwm-lead-tackle-sinking-nh-loons/>
- 7) **The Peregrine Fund** <http://peregrinefund.org/challenges>
  - Research and information on effects of lead on raptors and other wildlife
- 8) **The University of Minnesota Raptor Center:**  
<https://www.raptor.umn.edu/our-research/lead-poisoning>
  - Rehabilitation for sick and injured raptors
  - 90% of the bald eagles received each year (120-130) for all types of problems have elevated lead residues in their blood.
  - 20–25% percent of these eagles have sufficiently high levels to cause clinical lead poisoning. Most of these birds die or are euthanized.
  - In the last 24 years, over 500 eagles received or admitted to our clinic have either died or had to be euthanized due to lead poisoning.
  - Data on location of origin and seasonal timing of lead poisoning events in eagles clearly indicate that spent lead ammunition from both shotguns and rifles is the source of lead exposure.
- 9) **Cruz-Martinez, L., Redig, P.T., Deen, J. 2012.** Lead from spent ammunition: a source of exposure and poisoning in bald eagles. *Human–Wildlife Interactions* 6(1):94–104.
- 10) **Neumann, K. 2009.** Bald Eagle lead poisoning in winter. 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.2009.0119



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- 11) **Hunting with Non-lead** [www.huntingwithnonlead.org](http://www.huntingwithnonlead.org)
  - Information to aid in switching to non-lead ammunition. Hunters and wildlife biologists dedicated to promoting hunting and wildlife conservation through the use of non-lead ammunition. Their mission is to promote the positive contributions of hunting and the use of non-lead ammunition by providing accurate information and resources to hunters and wildlife managers.
- 12) **US Fish and Wildlife Service National Wildlife Refuge**  
[www.fws.gov/midwest/refuges/leadfree.html](http://www.fws.gov/midwest/refuges/leadfree.html)