

Position on Lead-Based Ammunitions

For the Hunters Forum

1. Background:

In the USA the controversy over what to do about the problem of lead toxicity in wildlife erupted in again in 2010, when two conservation organisations sought to ban the manufacture, sale, and use of ALL lead-based ammunition components. Over the strong objections of the Wildlife Centre of Virginia and many other groups, The Centre for Biological Diversity (CBD) and the American Bird Conservancy filed a petition with EPA to achieve this sweeping prohibition through the Toxic Substances Control Act.

As expected, EPA immediately rejected the petition, because the requested action would have affected not only those using lead for hunting purposes, but also all military and police agencies, as well as competitive and recreational shooters, in effect eliminating nearly all available ammunition for every firearm currently in use in the United States. Since the overwhelming majority of lead-based munitions components pose little or no threat to the environment, EPA refused to even consider such an over-reaching approach to a relatively finite problem.¹

Most of the preconceived ideas regarding lead poisoning are based on quasi science and it is a subject most often misunderstood or deliberately miss represented depending on a person's point of view. With regard to lead poisoning there are clearly two issues involved: the first is environmental pollution of lead dust and lead derivatives and the second is direct lead poisoning from the intake of the metal itself.

Since lead itself is a very stable metal, with a very slow oxidation rate in air or in water, the environmental pollution of lead is normally the result of the contamination of the environment by lead derivatives and not by the metal itself. The sources of environmental pollution by lead are normally from products or by products, which contain lead derivatives.

Direct lead poisoning is caused by the intake of relatively large particles of the metal itself, which then poisons the system of the organism. Again, because of the slow oxidations rate of lead the direct intake of lead by mammals, including humans, holds little or no threat to their health since the lead simply passed through the digestive system fast enough before any oxidation can take place. Examples of this are abundant, and most persons who eat shot game sooner or later swallow lead pellets. There are even reported cases where lead pellets accumulated in the appendix of humans, which caused no apparent harm.

However, because most gamebirds have gizzards, the lead does not pass through but accumulate in the gizzards where it is grinded in small particles

which rapidly oxidizes in the presence of digestive acids and then poisons the bird.

While the levels of lead pollution in the atmosphere, soils, water, and plants of the world, is a cause for concern, there is no evidence of extensive mortality from lead poisoning in wild animals.

Below are some excerpts of such studies:

Early Lead Poisoning Studies and Subsequent Ban on Lead Shot for Hunting Waterfowl²

“From 1983 through 1985, the U.S. Fish and Wildlife Service conducted a nationwide monitoring program for lead exposure in waterfowl. Samples from more than 8,000 waterfowl were collected on National Wildlife Refuges and analysed at the National Wildlife Health Centre.

During the first two years of monitoring, the prevalence of ingested lead shot was highest in diving ducks at nearly 10%, with lower frequencies in dabbling ducks, geese, and swans. The study provided data that addressed phase-in criteria for nontoxic shot zones, but the impetus for the implementation of the nationwide ban on lead shot for waterfowl hunting was lead poisoning of bald eagles. In addition, 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.”

*That is less than 1,7% of the entire 2000 bald eagles examined. **No mention is made of the causes of death of the remaining 1881 eagles!***

“Two recent publications based on NWHC diagnostic data describe lead poisoning in comparison to other causes of mortality in eagles and the demographic and pathologic characteristics of lead poisoning in eagles. – Sick and dead birds are usually observed in low numbers, if at all. Large scale mortality due to lead poisoning occurs rarely.”³

Review: Lead ammunition can be deadly, though mitigation may help
07/09/2014 – CORVALLIS, Oregon.

“Few studies have been done on population-level impacts of lead with the most complete studies conducted on waterfowl, where deaths from lead poisoning are estimated to be 2-3% overall, and 4% in mallard ducks.”

Again, studies actually prove that lead poisoning caused by lead in ammunition is almost negligible, compared to all other factors or causes.

About the OSU College of Agricultural Sciences: The college contributes in many ways to the economic and environmental sustainability of Oregon and the Pacific Northwest. The college's faculty are leaders in agriculture and food systems, natural resources management, rural economic development research, environmental toxicology and human health research.

<http://oregonstate.edu/ua/ncs/archives/2014/jul/review-lead-ammunition-and-tackle-can-be-deadly-though-mitigation-may-help>

2. Impact and relevance discussion:

To date no studies regarding the potential impact of lead pellets on gamebirds have been recorded in South Africa. While there are reports of lead poisoning in birds, none were attributed to lead pellets. There are also no reports of substantial numbers dying of lead poisoning.

Siegfried *et al.* (1972) found a significant difference in the mean content of lead in laughing doves (*Streptopelia senegalensis*) collected in the city of Cape Town, South Africa, and those collected in a rural area 50 km away. They concluded that the difference resulted from the higher level of lead in the city atmosphere.

Adendorf, van Eeden & Schoonbee (1994) found low concentrations of lead in the breast muscles of Redknobbed Coot and Egyptian Goose from three different localities in the Witwatersrand.

There is no disputing the fact that if ingested, lead shot will kill birds. So also will disease, agricultural poisons, cars, power lines, habitat destruction and predators.

It is also clear that lead poisoning from shot shell pellets affect only certain species of waterfowl related to their feeding behaviour and habitat. Non mud probers, terrestrial gamebirds and birds occurring outside shallow waters with a impervious bottom and thin mud layers appear to have low risk of swallowing lead pellets.

There is no evidence of large numbers of birds succumbing to ingested lead shot poisoning. In South Africa, the leading cause of mortality in gamebirds is the misuse of agricultural poisons with 14% of farms reporting gamebird-poisoning (Viljoen, 1998). This is followed by habitat destruction, mainly replacement of natural habitat by monoculture systems, destruction of wetlands and pollution.

Lead pellets are not the only source of lead metal in the environment. Most of the gamebird hunters in South Africa pursue terrestrial gamebirds and most waterfowl are shot on grain fields or on flight lines en route to grain fields. A

survey amongst SA Wingshooter members (in 2003) indicated that less than one percent of waterfowl are shot in or near wetlands where it can be a risk to our dabbling waterfowl species.

In South Africa, and in fact, in all studies done globally, the risk of lead poisoning by shotgun pellets, rifle and handgun ammunition is insignificantly small compared to other sources of lead and other threats to our wildlife to warrant any restrictions on the use of lead shot in any ammunition.

3. Conclusion:

Due to the fact that all global studies done on this issue, report minimal impact findings of lead poisoning directly caused by lead in firearms ammunition, and almost none in South Africa, there is no overwhelming proof that lead-based ammunitions cause a serious threat. The percentages of lead ammunitions being the cause of wildlife poisoning shown in all the studies (some of which were noted earlier in this document) are so low, that it can by no means have any considerable impact currently. Therefore, the policy should be, that any unwarranted restrictions on the use of lead-based ammunition in South Africa should be opposed. Discussions and decisions about possible restriction of lead-based ammunitions must fully involve shooting interests to ensure that decision makers take social, environmental and economic consequences fully into account. The justification for any proposed restriction must be science-based and substantial.

4. Final thought as per the statement made by Adrian Blackmore, Director of Countryside Alliance, UK:

“The conclusion now reached by the Norwegians that there is insufficient evidence to justify the continued ban of lead shot outside of wetlands” ...clearly shows that one should only act on firm scientific evidence when considering restrictions to types of ammunition. We should also not be told to use alternatives when the full impact of those to the environment and human health remain unknown.”

– end.

– Information compiled by André van der Westhuizen – 20 April 2016.

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British Association for Shooting and Conservation.

SA Wingshooters Association.

¹ *Wildlife Center of Virginia. www.wildlifecenter.org*

² *Russell, R.E. and J.C. Franson. 2014. Causes of mortality in eagles submitted to the National Wildlife Health Center 1975-2013. *Wildlife Society Bulletin* 38:697-704.*

³ *Franson, J.C. and R.E. Russell. 2014. Lead and eagles: demographic and pathologic characteristics of poisoning, and exposure levels associated with other causes of mortality. *Ecotoxicology* 23:1722-1731.*
