23 September 2021

General comments on the European Chemicals Agency (ECHA) restriction proposal on the use of lead in gunshot outside of wetlands, bullets in any terrain and in fishing tackle.

The IUCN VSG's work on reducing the risk of contamination and exposure to lead:

The IUCN Vulture Specialist Group (VSG) is working actively worldwide to promote the use of appropriate mitigation measures to address threats to vultures and other avian scavengers including environmental lead contamination and toxicity. The IUCN VSG welcomes the ECHA restriction report on lead in gunshot outside of wetlands, bullets in any terrain and in fishing tackle. The IUCN VSG hopes that this restriction proposal will ultimately lead to the end of the use of lead ammunition across all habitats in the EU, with knock on pressure for change in the rest of Europe, facilitating the removal of an unnecessary source of lead pollution in the environment.

1-Impacts of lead ammunition on vulture conservation

Vultures in global decline

The ingestion of lead is the main cause of elevated blood lead levels that results in lethal and sub-lethal toxicity for many vultures and raptors[1,2]. Vultures and facultative scavengers ingest lead either directly when they consume hunted carcasses that contain ammunition fragments[3]; from the offal left in the field by the hunters[4]; or indirectly from lead incorporated by the animals on which they feed[5]. **Lead ammunition is an important source of mortality for raptor species throughout Europe**. For example, a recent review examining 114 studies that reported data for 30 raptor species across Europe showed high occurrence of lead contamination, especially in scavengers[6]. Lead poisoning from ammunition sources played a major role in the decimation of California condor populations[7].

Such mortality rates hamper decades of conservation efforts and funding aimed at restoring raptor and vulture populations in Europe. The return of the Bearded vulture *Gypaetus barbatus* in the Alps, for example, is often cited as a conservation success. Yet this population is still vulnerable (less than 1000 breeding pairs) and lead intoxication was detected in >13% of all mortalities of fledged Bearded Vultures in the Alps between 2005-2018 (International Bearded Vulture Monitoring network, unpublished data). Overall, vultures are the most threatened avian functional guild on the planet, with 73% of the 22 species found worldwide being threatened with extinction, mainly due to dietary toxins such as poisons and harmful

veterinary drugs[8]. **For example, the population of Egyptian vulture *Neophron percnopterus* has declined by 50% over the last three generations in Europe, and the species has been listed as Endangered at a global level by the IUCN red list[9]**. Vultures are now being targeted for conservation action in the Convention on Migratory Species Multi-species Action Plan to Conserve African-Eurasian Vultures (CMS-MsAP), and reducing the threat of lead toxicity has been identified as a priority across the range states. **The potential effects of lead on vulture demography could be a silent threat causing long-term population declines that are difficult to detect[10,11]**. Therefore, further restrictions on the use of lead ammunition in all terrestrial habitats will directly contribute to this action by reducing the risk of exposure to lead for vultures across their European ranges.

In addition, **lead poisoning also affects animal welfare**, **which is a fundamental value of the EU** (art. 13 of the Treaty on the Functioning of the European Union). Clinical alterations in the case of acute poisoning include blindness, paralysis of wings and legs and convulsion resulting in a long and painful agony for affected vultures[12].

Impacts on human health

Finally, there are great risks to human health from lead contamination[13]. **Neurodevelopmental risk (IQ reduction)** in children and **cardiovascular effects and nephrotoxicity in adults have been reported**. These risks to human health merit careful consideration when assessing the costs and benefits of banning lead ammunition[14,15]. Vultures and raptors are long-lived species at the top of the food web and are severely affected by lead poisoning[16]. These characteristics make them valuable sentinels for monitoring environmental lead contamination[4,17] and therefore **a warning system of potential hazards to human health.**

2-Banning lead ammunition is feasible

In response to the environmental impacts mentioned previously, lead ammunition has been banned in some circumstances in order to reduce environmental contamination and to enable threatened species to recover. For example, a ban on lead ammunition was instrumental in reducing lead exposure in vultures and raptors in the USA[18]. Denmark and the Netherlands banned the use of lead gunshots decades ago[18]. **These examples demonstrate that restrictions can be enforced effectively and that hunters are able to use non-lead ammunitions to the same effect[19].**

Pain et al.[13] estimated that **the continued use of lead ammunition associated with impacts on wildlife, people and the environment, cost €383 million–€960 million per year across the EU**. Therefore, the long-term economic, environmental and human health benefits of restricting the use of lead ammunition for hunting and shooting activities will surely outweigh

the costs. As a result, the sustainability of retaining lead ammunition for hunting and recreational purposes is being seriously questioned[14,20] particularly in areas with increased risk of exposure to lead ammunition[1,2,5,7].

3-Additional ecological and economic benefits of restricted use of lead ammunition in the context of avoided secondary poisoning of vultures and other avian scavengers.

The positive contributions of predators and scavengers to environmental health and human well-being are increasingly being recognised, despite historically being perceived negatively by many sections of society[31]. As the main consumers of carrion in many ecosystems, **vultures play a key role in maintaining nutrient recycling processes, regulating populations of competing scavengers and reducing the development and spread of certain diseases, providing valuable ecosystem services to humans[8,22,23]**. If vulture populations continue to decline, trophic cascades are expected to occur, with increases in populations of mammalian predators and scavengers and potential consequences for human health as carrion persists for longer[24]. In the European context vultures play a crucial role in removing livestock carcasses from both intensive and extensive farming systems, reducing the financial costs and carbon footprint that would be required to dispose of the carcasses in their absence[25,26]. As a result, vultures are highly valued by farmers, hunters and other stakeholders including tourists[27,28]. A recent study revealed that tourism activities linked to avian scavengers at Spanish feeding sites alone provide a relevant income (almost US $5 million per year) to the Pyrenean community[29]. Restricting the use of lead ammunition is therefore an important step towards restoring predator and scavenger populations and the ecosystem services that they provide across Europe.

Ultimately, the IUCN VSG calls for and supports widespread restrictions of lead ammunition to be implemented as soon as possible throughout vulture ranges, particularly in high-risk areas identified through robust monitoring and research[5]. We shall be watching the development of the restriction proposal closely and hope for a successful outcome.

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