

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

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The Vulture Conservation Foundation's work on reducing the risk of contamination and exposure to lead:

The Vulture Conservation Foundation is working actively to minimise the threat of environmental lead contamination and toxicity to vultures and other avian scavengers with several actions within some of the LIFE projects that we are involved with as well as in other non-EU funded projects. These include promoting voluntary testing of non-lead ammunition by local hunters in the French Alps and Cevennes (<u>GYPHELP</u>, <u>GYPCONNECT</u>) and analysing levels of lead in the corpses of dead vultures (<u>LIFE</u> <u>Vultures Return back to LIFE</u>, <u>LIFE RUPIS</u>).

The VCF is also the lead partner on a newly proposed EU LIFE-funded project – "LIFE ALPSLEADFREE - Moving towards the use of non-lead rifle ammunition for the benefit of the Bearded Vulture in the Alps (LIFE19 NAT/NL/001094)"- which has been invited for submission of a full proposal following the successful review of the concept note in the call for applications. This project aims to significantly reduce the risk of lead poisoning in Bearded Vultures in the Alps (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of fledged Bearded Vultures in the Alps between 2005-2018 (International Bearded Vulture Monitoring network, unpublished data) by engaging with the hunting associations and protected area authorities to promote the use of non-lead ammunition through a variety of means.

General comments on the ECHA call for evidence.

The Vulture Conservation Foundation (VCF) welcomes the call for evidence and information on the use of lead in gunshot outside of wetlands, bullets in any terrain and in fishing tackle.

The VCF hopes that this call for evidence will ultimately lead to further restrictions of the use of lead ammunition across all habitats in Europe, not only wetlands, facilitating the removal of an unnecessary source of lead pollution in the environment.

This decision is particularly important for vulture conservation because 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 ingest lead either directly when they consume hunted carcasses that contain ammunition fragments³; from the offal left in the field by the hunters²³; or indirectly from lead incorporated by the animals on which they feed⁴; or even from topsoil at feeding sites ⁵. Lead poisoning from ammunition sources played a major role in the decimation of California Condor populations⁶, and elevated blood levels are frequently recorded in raptors and vultures across Europe⁷, particularly in areas with increased risk of exposure to lead ammunition^{1,2,4,8}. The risks to human health from lead contamination are also well documented and merit careful consideration when assessing the costs and benefits of banning lead ammunition ^{9,10}.



In response, 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 USA¹¹ and a partial ban in Spain resulted in reduced lead ingestion by wildfowl and decreased risk of exposure to lead for game meat consumers¹². These examples demonstrate that restrictions can be enforced effectively and that hunters are able to use safer sources of ammunition to the same effect¹³.

As a result, the long-term environmental and human health benefits of restricting the use of lead ammunition for hunting and shooting activities will surely outweigh the costs, and the sustainability of retaining lead ammunition for hunting and recreational purposes has been questioned on numerous occasions^{9,14}.

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

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 drugs¹⁵. As a result they are now being targeted for conservation action in the Convention on Migratory Species Multi-species Action Plan to Conserve African-Eurasian Vultures (<u>CMS-MsAP</u>), and reducing the threat of lead toxicity has been identified as a priority across the range states. 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, the benefits of which are summarised below.

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 ¹⁶. 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 ^{15,17}. 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 ¹⁸. 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^{19,20}. As a result, vultures are highly valued by farmers, hunters and other stakeholders including tourists ^{21,22}.

Vultures and raptors are long-lived species at the top of the food web^a and are severely affected by lead poisoning⁸, making them valuable sentinels for monitoring environmental lead contamination^{4,7}. Restricting the use of lead ammunition is therefore an important step towards restoring vulture populations and the ecosystem services that they provide across Europe, and the VCF fully supports this call for evidence and information. Ultimately, the VCF calls for and supports widespread restrictions of lead ammunition to be implemented as soon as possible throughout

^a These characteristics also make vultures and raptors good indicators for monitoring the effectiveness of restrictions of the use of lead ammunition and ongoing monitoring of lead levels in European vultures and raptors is recommended.



vulture ranges, particularly in high risk areas identified through robust monitoring and research⁴.

References.

- 1. Gangoso, L. *et al.* Long-term effects of lead poisoning on bone mineralization in vultures exposed to ammunition sources. *Environ. Pollut.* **157**, 569–574 (2009).
- 2. Bounas, A. *et al.* First confirmed case of lead poisoning in the endangered Egyptian Vulture (Neophron percnopterus) in the Balkans. *Vulture News* **70**, 22–29 (2016).
- 3. Carneiro, M. A. *et al.* Lead Poisoning Due to Lead-Pellet Ingestion in Griffon Vultures (Gyps fulvus) From the Iberian Peninsula. *J. Avian Med. Surg.* **30**, 274–279 (2016).
- 4. Mateo-Tomás, P. *et al.* Mapping the spatio-temporal risk of lead exposure in apex species for more effective mitigation. *Proceedings. Biol. Sci.* **283**, 20160662 (2016).
- 5. Naidoo, V., Wolter, K., Espie, I. & Kotze, A. Lead toxicity: consequences and interventions in an intensively managed (Gyps coprotheres) vulture colony. *J. Zoo Wildl. Med.* **43,** 573–578 (2012).
- 6. Finkelstein, M. E. *et al.* Lead poisoning and the deceptive recovery of the critically endangered California condor. *Proc. Natl. Acad. Sci. U. S. A.* **109**, 11449–54 (2012).
- 7. Gómez-Ramírez, P. *et al.* An overview of existing raptor contaminant monitoring activities in Europe. *Environ. Int.* **67**, 12–21 (2014).
- 8. Haig, S. M. *et al.* The persistent problem of lead poisoning in birds from ammunition and fishing tackle. *Condor* **116**, 408–428 (2014).
- 9. Kanstrup, N., Swift, J., Stroud, D. A. & Lewis, M. Hunting with lead ammunition is not sustainable: European perspectives. *Ambio* 1–12 (2018). doi:10.1007/s13280-018-1042-y
- 10. Johnson, C. K., Kelly, T. R. & Rideout, B. A. Lead in Ammunition: A Persistent Threat to Health and Conservation. *Ecohealth* **10**, 455–464 (2013).
- 11. Kelly, T. R. *et al.* Impact of the California lead ammunition ban on reducing lead exposure in golden eagles and turkey vultures. *PLoS One* **6**, e17656 (2011).
- 12. Mateo, R. *et al.* Reducing Pb poisoning in birds and Pb exposure in game meat consumers: The dual benefit of effective Pb shot regulation. *Environ. Int.* **63**, 163–168 (2014).
- 13. Thomas, V. G., Gremse, C. & Kanstrup, N. Non-lead rifle hunting ammunition: issues of availability and performance in Europe. *Eur. J. Wildl. Res.* **62**, 633–641 (2016).
- 14. Poppenga, R. H., Redig, P. T. & Sikarskie, J. G. Are there legitimate reasons to retain lead ammunition and fishing gear? *J. Am. Vet. Med. Assoc.* **245**, 1218–1220 (2014).
- 15. Buechley, E. R. & Şekercioğlu, Ç. H. The avian scavenger crisis: Looming extinctions, trophic cascades, and loss of critical ecosystem functions. *Biological Conservation* **198**, (2016).
- 16. O'Bryan, C. J. *et al.* The contribution of predators and scavengers to human well-being. *Nat. Ecol. Evol.* **2**, 229–236 (2018).



- Mateo-Tomás, P., Olea, P. P., Moleón, M., Selva, N. & Sánchez-Zapata, J. A. Both rare and common species support ecosystem services in scavenger communities. *Glob. Ecol. Biogeogr.* 26, 1459–1470 (2017).
- 18. Ogada, D. L., Keesing, F. & Virani, M. Z. Dropping dead: causes and consequences of vulture population declines worldwide. *Ann. N. Y. Acad. Sci.* **1249**, 57–71 (2012).
- 19. Morales-Reyes, Z. *et al.* Supplanting ecosystem services provided by scavengers raises greenhouse gas emissions. *Sci. Rep.* **5**, 7811 (2015).
- 20. Donázar, J. A. *et al.* Roles of Raptors in a Changing World: From Flagships to Providers of Key Ecosystem Services. *Ardeola* **63**, 181–234 (2016).
- Dupont, H., Mihoub, J.-B., Bobbé, S. & Sarrazin, F. Modelling carcass disposal practices: implications for the management of an ecological service provided by vultures. *J. Appl. Ecol.* 49, 404–411 (2012).
- Cortés-Avizanda, A., Martín-López, B., Ceballos, O. & Pereira, H. M. Stakeholders perceptions of the endangered Egyptian vulture: Insights for conservation. *Biol. Conserv.* 218, 173–180 (2018).
- 23. Jenni, D. *et al.* The frequency distribution of lead concentration in feathers, blood, bone, kidney and liver of golden eagles Aquila chrysaetos: insights into the modes of uptake. *J. Ornith.* **156**, 1095-1103 (2015).