MEDIA RELEASE

For immediate release

Isotopes link lead poisoning in vultures to lead ammunition

Johannesburg, 25 October 2022 – BirdLife South Africa, in collaboration with the universities of the Witwatersrand and Johannesburg, has published ground-breaking research linking lead poisoning in Critically Endangered White-backed Vulture chicks to lead-based ammunition.

The study, funded by the Isdell Family Foundation and the Mary Oppenheimer & Daughters Foundation, used cutting-edged research to quantify the isotopic signatures of lead found in blood samples sourced from chicks at Dronfield Nature Reserve. This reserve, which is located close to Kimberley in the Northern Cape Province, is one of the most important White-backed Vulture breeding colonies in South Africa. "The results of the study allowed us to exclude several potential sources of lead poisoning in the vulture chicks, including lead from mining, industrial activity, coal, air, water and soil, as well as lead they may have persisted in the environment from leaded fuel (phased out in 2006)," says Linda van den Heever, Vulture Project Manager at BirdLife South Africa.

White-backed Vultures rely almost entirely on carrion as a source of food, which makes them particularly vulnerable to poisons in the carcasses of wild and domestic animals. In 2019 BirdLife South Africa's nationwide assessment of lead levels in Cape and White-backed Vultures revealed that, unlike other raptors and large terrestrial birds, such as bustards and cranes, over 65% of vultures suffer from lead exposure over and above what would be considered normal, background levels. Although the source of the lead poisoning has long been suspected to be lead ammunition, evidence was lacking until now.

This study, the first of its kind in Africa, provides scientific evidence that lead ammunition is the major source of lead poisoning in White-backed Vulture chicks. Since these chicks were still nest-bound at the time of sampling, the fragments of ammunition are probably imbedded in the carrion fed to them by their parents. Vultures can source fragments of lead ammunition in various ways, including offal resulting from game management, hunting and culling activities, as well as carcasses (or remains thereof) put out at vulture restaurants for scavengers to dispose of.

Lead ammunition fragments significantly upon impact, dispersing countless fragments of lead through-out the carcass of an animal. This may threaten not only the welfare of scavengers such as vultures, but also of humans who may inadvertently ingest fragments of lead when eating game meat shot with lead ammunition.

“The presence of high lead levels in the nest-bound chicks of a Critically Endangered bird is concerning”, says Dr Hanneline Smit-Robinson, Head of Conservation at BirdLife South Africa. “In related research which BirdLife South Africa will soon be publishing it will be shown that chicks fledging from Dronfield suffer from anaemia and liver damage, which may compromise their ability to thrive as free-flying juveniles”. This is especially critical for young birds that need to be in optimal health to deal with the myriad of anthropogenic threats they may face during their first year of life.

BirdLife South Africa urges all hunters, from the casual biltong or professional hunter to culling operators, rangers and reserve managers, including people working for our provincial reserves and national parks, to consider the potential impact of dispensing a toxic substance into the environment, and to make the switch to lead-free ammunition.

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Reference:

van den Heever, L., Elburg, M.A., Iaccheri, L. *et al.* Identifying the origin of lead poisoning in white-backed vulture (*Gyps africanus*) chicks at an important South African breeding colony: a stable lead isotope approach. *Environ Sci Pollut Res* (2022). https://doi.org/10.1007/s11356-022-23209-z

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BirdLife South Africa

BirdLife South Africa is the country partner of BirdLife International, a global partnership of conservation organisations that strives to conserve birds, their habitats and global biodiversity, by working with people towards sustainability in the use of natural resources. BirdLife International partners operate in more than 120 countries worldwide. BirdLife South Africa relies on donor funding and financial support from the public to carry out its critical conservation work.

BirdLife South Africa's Landscape Conservation Programme

BirdLife South Africa's Landscape Conservation Programme aims to see critical sites and ecosystems, and their associated ecological services, sustainably managed and protected to promote the preservation of diverse and healthy bird populations, other biodiversity, and people. Our mission is To prevent and/or reverse negative trends in terrestrial bird populations by identifying, protecting and managing a network of sites that are important for the persistence of birds, their habitats and other biodiversity, through scientifically-based projects and the improvement of the conservation status of important sites, that support the sustainable management and equitable use of natural resources, and through encouraging people to enjoy and value nature.

More information on vultures

South Africa's vulture populations are facing an uncertain future. Three of South Africa's nine vulture species, including the once-numerous White-backed Vulture, have declined to such an extent that they are now regarded as globally "Critically Endangered" by BirdLife International and the International Union for the Conservation of Nature (IUCN). This is one step away from extinction in the wild. By feeding on the carcasses of dead animals, vultures perform one of nature's most important tasks. Without the ecosystem services that vultures provide, carcasses would be left to decay, attracting less specialised scavengers, such as jackals, feral dogs and rats. This can then create the ideal conditions for the spread of diseases, such as rabies and canine distemper.

As consumers of carrion, vultures are susceptible to poisons, falling victim not only to unscrupulous poachers who target them deliberately, but also to livestock farmers who kill them inadvertently when targeting mammalian predators. Gut piles and carcasses, put out for scavengers to consume, may contain fragments of lead and veterinary drugs, which may be lethal to vultures. Collisions with, and electrocutions on, powerlines also play a major role in vulture declines, as do direct persecution and inadvertent disturbance of breeding vultures at their nest sites. Unfortunately, vultures are now at risk of disappearing from the African landscape, and we must do whatever is necessary to save these magnificent birds from extinction.