

SHORT COMMUNICATIONS, NOTES AND REPORTS

Vulture poisoning incidents and the status of vultures in Zambia and Malawi

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Asia and Africa have experienced recent catastrophic declines in populations of most species of vultures (Thiollay 2006, Ogada *et al.* 2011, Virani *et al.* 2011). While the declines in Asia have been linked to poisoning by the veterinary drug diclofenac (Oaks *et al.* 2004), the reasons for the declines across Africa remain poorly understood (Ogada *et al.* 2011), and are likely to have multiple causes, such as poisoning and a decline in food supply. Little is known about the status of vultures in Zambia and Malawi, but due to its large tracts of protected areas, Zambia in particular is likely to hold a significant proportion of southern Africa's vulture populations. Although poisonings of vultures occur in these two countries, few, if any, incidents have been published.

Five vulture species are resident in Zambia and Malawi, namely Hooded (*Necrosyrtes monachus*), African white-backed (*Gyps africanus*), Lappet-faced (*Torgos tracheliotus*), White-headed

(*Trigonoceps occipitalis*) and Palm-nut (*Gypohierax angolensis*) vultures (Dowsett *et al.* 2008; Dowsett-Lemaire & Dowsett 2006). In addition, Cape Vultures (*Gyps coprotheres*) are occasionally seen, particularly in southern Zambia (Dowsett *et al.* 2008). However, we only deal with the first four most common species here.

In Zambia sightings of all four species are regularly noted within protected areas (see *Zambian Ornithological Newsletter*, published by the *Zambian Ornithological Society*; *Zambiabirds* Yahoo mailing list; McDougall unpubl. data), suggesting that their populations are still healthy, although there appears to be a decline in vulture observations outside of protected areas (McDougall, unpubl. data). Zambia has several large National Parks, for example, South and North Luangwa, Lower Zambezi, Liuwa Plain and Kafue NPs – all above 3500 km² in size (Jachmann, 2000) - which are at least partially well protected, for example, in areas with good

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tourist infrastructure, and have sizeable large mammal populations. In addition there are large Game Management Areas (or GMA), for example – Kafue Flats (5175 km²), West Zambezi GMA (38070 km²), Bangweulu GMA (6470 km²) which usually surround National Parks, and act as buffer zones around parks (Jachmann, 2000). Altogether National Parks cover 8% and GMAs cover 22% of the total landmass of Zambia, and human population density is 17.3 people/km² (Central Statistics Office, 2011). Thus human impact on the environment remains relatively low .

In contrast, in Malawi human population density is high (139 people/ km² ; National Statistical Office, 2008), and thus pressure on natural resources and land outside of protected areas is high, and buffer zones around protected areas are non-existent. Several protected areas, including some national parks, are largely depleted of large mammal populations, and populations of all four vulture species are likely to have undergone a precipitous decline in the past two decades. During a recent road count of vultures and other raptors in Malawi (Kamoto & Mzumara 2011), only 20 vultures were seen over a transect distance of 1250 km, in only 6 groups. This decline is undoubtedly strongly related to reduction in population sizes of large mammals, due to poaching, but evidence provided here suggests that deliberate poisoning of vultures may also have played a significant role in the decline in vulture populations in Malawi.

Here, we describe three recent incidents of likely vulture poisoning in Zambia, and two older cases from Malawi. These are summarized in Table 1. All incidents are described from e-mail communications, usually from eye-witnesses, and sources are indicated in each incident. Locations of each incident are shown in Figure 1.

1) Zambia

a) Chiawa Game Management Area – July 2011

According to Jealous Nyandowo and Brendan Raiseck of Conservation Lower Zambezi (CLZ), 18 dead or dying vultures were found in late July 2011 near Mtondo (15°46'56"S 29°11'42"E). This is a site outside of Lower Zambezi National Park, in the bordering Chiawa GMA. Ten of the vultures were dead and were found with their heads removed. The remaining eight vultures died soon after they were found. The CLZ team took photographs of the vultures and burned the carcasses. Two of the vultures were white-headed, the remaining vultures were white-backed.

An impala (*Aepyceros melampus*) carcass was found nearby a few days later. It had apparently been laced with Temik, the active ingredient of which is Aldicarb, a carbamate insecticide and nematicide. An empty packet of Temik was found in the bush nearby. This carcass was also burnt by CLZ to prevent further poisoning.

CLZ report that they are aware of other vulture poisoning incidents in or around the park. In these cases, water-holes or

baites have been poisoned allegedly to kill vultures so that they do not alert scouts to carcasses and snare lines. However, this incident was the first time that they know of that vultures have been killed, apparently for their heads.

b) Kafue National Park – August 2009

Three dead white-headed vultures were found by Chris McBride, all within a 2 km radius of McBrides’ Camp (14°41’35”S 26°23’09”E) in Kafue National Park. These carcasses were all located within a week of each other in early August. Another dead vulture (possibly white-backed) was found dead near an impala carcass. The estimated age of the vulture carcasses was two to three weeks. After this incident, about a month later, the resident Zambia Wildlife Authority (ZAWA) Wildlife Police Officer

at McBrides Camp was on patrol and found a pile of about 15 dead vultures of more than one species. The heads of the vultures had been removed and the remains burnt. They were found near a carcass that had presumably been poisoned.

c) South Luangwa National Park – October 2011

Two dead vultures were noted in October 2011 by Simon Thomsett and Egil Droge at Nsefu Hot Springs (12°56’39”S 32°02’02”E) in South Luangwa National Park. This was assumed to be a vulture poisoning incident as the vultures were found next to each other and had died within a short time of each other. The ZAWA rangers that they spoke to indicated that vulture poisoning for use in traditional medicine was not uncommon in the Luangwa Valley.

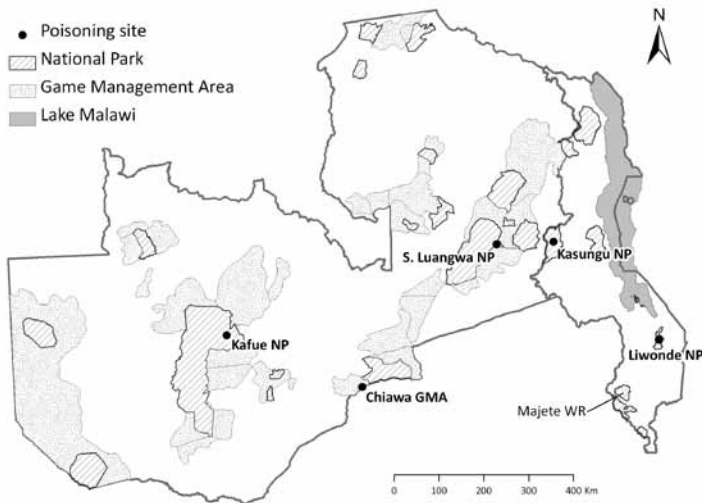


Figure 1. Location of vulture poisoning incidents in Zambia and Malawi

2) Malawi

a) Kasungu National Park – 1990s

According to Alphius Lipiya, current Divisional Wildlife Manager for the Central Region of Malawi, and Park Manager for Kasungu National Park, vultures were abundant during the 1980s in the park, and, as poaching of elephants in particular was a problem during this period, the circling of vultures over a carcass was used by park law enforcement personnel to locate poached animals (Lipiya, 2011). Due to this practice, poachers reportedly started to lace carcasses of elephants from which the tusks had been removed with Temik or Logo (Dimethoate – an organophosphate insecticide), so that the vultures that fed on the carcass died afterwards. It is common knowledge, in the villages surrounding the park, that Temik is the main chemical used in poisonings. In addition, in one incident involving poisoned pumpkins and maize, tobacco farmers who witnessed the incident confirmed that the chemical used was Logo, based on physical evidence at the site. Kasungu NP is surrounded by tobacco-growing farmland and these chemicals are readily available and are used by farmers to treat tobacco nurseries and other crops. After 1997, poaching in the park declined because animal populations had been decimated by the previous decade of poaching. The last vulture in Kasungu NP was apparently seen in 1998 by a DNPW staff member. This vulture was already dead. There have been no reports of vulture sightings

in the park since then. It is not known which species of vulture were affected by the poisonings, but all four species were present in the park in the 1980s.

b) Liwonde National Park – 1990s

The decline in vultures in Liwonde appears to have occurred at a similar time to that in Kasungu National Park. According to Mike Labuschagne, who started work in Liwonde National Park in 1996 as a Law Enforcement Advisor, there was a total absence of vultures in the park (except for palm-nut vultures), a situation that continues to this day, apart from rare sightings. In old Department of National Parks and Wildlife (DNPW) patrol reports, he read that in 1994 a dozen vulture carcasses were found around a dead hippo. DNPW patrol reports were not frequently done however, and it is unlikely to be possible to plot the decline of vultures in the park from these. Nevertheless, vultures were still present in the park in 1994, but not by 1996. Even today poisoning of wildlife in and around Liwonde NP is a common practice, and Mike Labuschagne has encountered scores of incidents of poisoned elephants, hippos, and bush pigs, and poisoning of waterholes during the dry season. The animals are poisoned to protect crops or for their ivory. Waterholes are poisoned to catch fish and sometimes for game meat. Temik has been found as physical evidence on captured poachers, and has also been indicated in interrogations of poachers as a poison that

is commonly put into bread and pumpkins to poison elephants and other wildlife in the park. Thus it appears likely that the vulture poisonings were secondary. Again,

it is not known which species of vulture were affected by the poisonings, but all four species were present in the park in the 1980s.

Table 1. Summary of vulture poisoning incidents in Zambia and Malawi.

Location	Date	Poison used	Vulture species affected	Reason for poisoning
Chiawa Game Management Area , Zambia	July 2011	Temik (an empty packet found near an impala carcass)	16 white-backed and 2 white-headed	Intentional - Removal of heads for use in witchcraft
Kafue National Park, Zambia	August 2009	Unknown	3 white-headed, 15 others unidentified	Intentional -Removal of heads for use in witchcraft
South Luangwa National Park, Zambia	October 2011	Unknown	2 unidentified	Unknown
Kasungu National Park, Malawi	1990s	Various (likely Temik and Logo)	Unknown – probably hooded, white-backed, white-headed and lappet-faced	Intentional - to prevent vultures attracted to carcasses from bringing poaching to the attention of law enforcement officers
Liwonde National Park, Malawi	1990s	Temik (found on poachers and implicated in interrogations)	Unknown – probably white-backed, hooded, white-headed and lappet-faced	Probably secondary

The incidents in Zambia thus appear to be related mainly to the collection of vulture heads, which are known to be used in the traditional medicine trade (Cunningham, 1991). In contrast, the poisonings in Malawi appear to be related to poaching of other wildlife. Vultures were deliberately poisoned, to prevent them from bringing poaching to the attention of law enforcement officers. However, they were also accidentally or secondarily poisoned, by consuming other wildlife that had been intentionally poisoned. Although the reasons for the vulture deaths differ, better control of poaching in protected areas in both countries should lead to a reduction in poisoning incidents. Although vulture numbers have declined precipitously in Malawi (Kamoto & Mzumara, 2011), there is evidence of an increase in vulture numbers in Majete Wildlife Reserve, in southern Malawi (Figure 1), where reintroductions of wildlife and good control of poaching over the past 10 years has led to an increase in reporting rates of vultures here (McDonald, 2011 and others

in Vocifer; Paul Taylor, Dorian Tilbury and Mark McKenzie, pers. comm.). Because of the geography of Malawi and the proximity of Kasungu NP and Liwonde NP to protected areas in neighbouring countries, recovery of vulture populations in these parks is still likely to be possible provided that poaching is brought under control and wildlife populations recover.

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