WHITE-BACKED VULTURE | *Gyps africanus*

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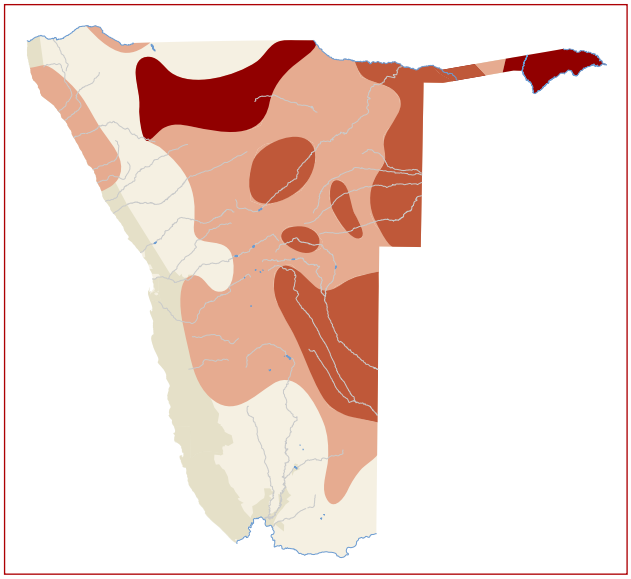
Conservation Status:	Endangered
Southern African Range:	Namibia, Botswana, South Africa, Zimbabwe, Swaziland, Mozambique
Area of Occupancy:	305,000 km^2
Population Estimate:	About 10,000 birds
Population Trend:	Declining
Habitat:	Dry woodland savannah
Threats:	Poisons, both as incidental to predator control and used by poachers to avoid detection, power line collision and electrocution, drowning, traditional medicine, human disturbance



DISTRIBUTION AND ABUNDANCE

Widespread throughout suitable woodland savannahs of sub-Saharan Africa, the White-backed Vulture is probably Africa's most abundant vulture (Mundy *et al.* 1992). It is less widespread than the Lappet-faced Vulture *Torgos tracheliotos,* but is more abundant because of its colonial nature. African populations have been estimated at 270,000 individuals (Mundy *et al.* 1992) with approximately 40,000 individuals (15%) in southern Africa (Anderson 2000e, 2004). Its core areas are northern South Africa eastwards to the Kruger National Park, Swaziland, Botswana, most of Zimbabwe, and all but the treeless areas of Namibia (Mundy 1997b). Core areas in Namibia include Etosha National Park and the Caprivi Strip, but it is also relatively common throughout the central and eastern parts of Namibia.

Population densities calculated from SABAP1 data for north-eastern South Africa (2,600 pairs in 400 quarter-degree squares: Tarboton & Allan 1984, Mundy 1997b) and for Swaziland (300 pairs in 24 quarter-degree squares: Monadjem *et al.* 2003) suggest that Namibia's population, which occupies an area of 305,000 km^2 (Jarvis *et al.* 2001), numbers between 2,900 to 5,600 pairs, somewhat lower than a previous estimate of 6,000 pairs (RE Simmons in Anderson 2004). Using a factor of 2.7 to convert from pairs to individuals (Mundy *et al.* 1992, Murn *et al.* 2002), gives a population estimate of 7,830 to 15,050 birds for Namibia. Because breeding colonies in Swaziland are known to be particularly dense (A Monadjem pers. obs.), the Namibian population probably falls into the lower end of this range,

at approximately 10,000 birds or 25% of southern Africa's total population. However, a more rigorous assessment is required. An aerial survey at a colony near the Waterberg Plateau indicated a density of 3.8 nests per 10 km^2 (Doulton & Diekmann 2006), but as colonies are widely scattered between suitable sites with large trees, particularly along ephemeral rives, it is unwise to extrapolate to larger areas. Road counts in Etosha National Park and other arid regions of Namibia varied from 0.1 to 146 birds per 1,000 km driven (Jarvis *et al*. 2001); these densities are considerably higher than those of any other vultures occurring in Namibia.

ECOLOGY

The White-backed Vulture prefers the drier tall-tree savannahs of southern Africa, particularly in the Kalahari sand of Namibia and Botswana, and Mopane woodland belts (Mundy 1997b). In Namibia, it is found most abundantly in Etosha National Park and in regions to the north-east where populations of large ungulates are intact (Mundy 1997b). The tallest trees are used for breeding and roosting (Mundy *et al.* 1992). Breeding occurs in winter, with egg-laying recorded from March to July, but with 96% of clutches laid in April to June and 65% in May (n=872). The median laying date for White-backed Vultures in the Etosha region of north-central Namibia (1998–2012) was 13 May (n=345), and 18 May for the central areas of Namibia (2003–2013, n=347). The median laying date for Lappet-faced Vultures was about three weeks later, but again about a week earlier in the north of Namibia than the central and Namib areas (Brown *et al*. 2015). Nearly 1,000 White-backed Vulture nestlings have been ringed over the past 17 years and it appears that breeding success is generally high. White-backed Vultures feed by scavenging from carcasses of medium to large mammals, including domestic livestock, and they are most often seen circling together above food and feeding in large noisy flocks at large carcasses in protected areas, on game and cattle farms or at vulture restaurants (Steyn 1982, Mundy *et al.* 1992). In recent years, as wildlife and tourism has replaced small-stock farming as the primary form of land use on the edge of the central Namib, White-backed Vulture numbers have started to increase in this area. For the 10-year period up until 2012, there were only isolated reports of individual birds. In 2014 they were more common at carcasses than Lappet-faced Vultures at a ratio of about 2.6:1 (CJ Brown pers. obs.).

THREATS

Like other vultures, this species suffers from continuous poisoning in Namibia as collateral damage to farmers' attempts to poison predators such as jackals, hyenas and leopards (Simmons & Bridgeford 1997, P Bridgeford, RE Simmons unpubl. data). This is a widespread problem across southern Africa (Mundy *et al.* 1992, Anderson 2000e). In the seven-year period between 1995 and 2001, 41 birds were known to have been poisoned, at a rate second only to the Lappet-faced Vulture (P Bridgeford, RE Simmons unpubl. data). However, this is only the tip of the iceberg, as most carcasses of poison victims are not found or reported. It has been estimated that, for every target predator poisoned, over 100 non-target animals, mainly scavenging birds, are killed (Brown 1988a). The impact of the use of poison on vultures is illustrated by a study on freehold farms in Namibia in which the theoretical population size, based on food supply, was compared to actual population density. In the northern farming areas, where large-stock and wildlife were the main forms of land use, about 30% of farmers reported using poisons for predator control and the vulture population was at about 70% of its estimated potential, based on food supply. In the central areas, where mixed large- and small stock and wildlife were the main land uses, about 45% of farmers used poisons and vultures were at 50% of their potential population, while in the largely small-stock farming south, more than 80% of farmers admitted to using poisons and vulture numbers were at just 15% of their potential numbers based on the food supply (Brown 1988b). Since this study, there have been two important developments. Firstly, the Veterinary Council of Namibia resolved that veterinarians should no longer prescribe strychnine poison, state vets stopped doing so and strychnine is no longer imported into Namibia; secondly, large areas previously under domestic stock have been converted to wildlife and tourism. As a result, there has been a decline in the number of poisoning incidents reported resulting from collateral poisoning of predators (CJ Brown, L Komen, M Diekmann pers. obs.).

Since 2013, a major new threat has arisen, currently confined to the north-east of Namibia and particularly the Zambezi region. Commercial poachers of mainly elephants, but also buffalo and giraffe, have started poisoning the carcasses, specifically to kill as many vultures as possible, to reduce the likelihood of spiraling vultures alerting the wildlife authorities to their poaching. Such poisoning events are particularly devastating because of (a) the large amount of food that an elephant carcass provides over many days and even weeks which attract many hundreds of vultures and (b) the foraging behaviour of vultures, which form a vast 'foraging net' of birds in the sky searching not only the ground, but also watching one another and thus all being drawn into a food source from a great distance. At one elephant carcass in the Bwabwata National Park, an estimated 600 White-backed Vultures were killed, together with a number of other scavenging birds and mammals. At least seven such incidents are now known from the Zambezi region and northern Botswana, with between 150 and 450 vultures estimated killed per incident. At least 2,500

vultures have been killed and the number could be as high as 3,500. The effect of such mass poisoning is seen at some considerable distance away for the crime sites. The number of vultures present at a vulture feeding station in the Otjiwarongo district, some 740 km from the poisoning incident in the Bwabwata National Park, dropped from about 140 to 50 birds immediately after the incident and has remained at this smaller number. Each of these poisoning incidents will have killed birds breeding in Namibia, Botswana, Zambia, Angola and Zimbabwe. Two immature birds ringed as nestlings in South Africa were found poisoned at the Bwabwata mass poisoning incident. Such events have devastating regional impacts and implications (Brown *et al*. 2013, Hancock 2013).

Electrocutions are mentioned as a major cause of the slow decline in this species (van Rooyen 2000). A collaborative partnership between NamPower and the Namibia Nature Foundation was established in 2008 to provide a multidisciplinary mechanism to assist NamPower to manage its impacts on the natural environment and vice versa. As part of this programme, all incidents of electrocution and power line collision are documented, mapped and response mechanisms implemented. For the five years from 2010 to end 2014, there were 10 reported incidents of electrocution (on average two per year), most in the Aranos area of eastern Namibia. There was only one case of collision, just east of Windhoek (NamPower/NNF Partnership 2015). Over a 15-month period of power line monitoring for bustards, covering 350 km of transmission lines each quarter (in total 1,750 km), only one White-backed Vulture mortality was found, resulting from a collision with a 132kV line, close to a springbok carcass, some 70 km south-east of Karasburg (JR Pallett *in litt*.). While the actual incidents for White-backed Vultures may be somewhat higher than the reporting rate suggests, because of limited coverage and carcasses removed by scavengers, mortality of White-backed Vultures from power lines is not currently considered to be a significant factor in Namibia.

A more recently identified potential problem for *Gyps* vultures is the use of the drug diclofenac and related generics. The use of this drug in India for the treatment of cattle has decimated vulture populations there (Oaks *et al.* 2004). Its apparent use in southern Africa by veterinarians for the treatment of cattle (M Anderson pers. comm.) could be a threat if unchecked. Considerable work has been done and is ongoing by the Namibia Animal Rehabilitation Research & Education Centre (NARREC) to raise awareness on this issue with the Veterinary Council of Namibia, the Ministry of Agriculture, Water and Forestry and companies supplying drugs for livestock (L Komen pers. comm.).

Drowning of vultures in farm reservoirs is commonly reported in arid areas of South Africa (Anderson *et al.* 2002), where White-backed Vultures were ranked third among all species drowned. Several cases are known in Namibia (Bridgeford 2001, 2002, P Bridgeford, RE Simmons unpubl. data), but the level of threat is considered low.

The use of nestlings or adult birds by traditional healers is probably high in Namibia, with eight of 17 interviewed healers indicating that they use body parts such as brain, skull, heart and eyes from birds they kill themselves or that they obtain from birds that have been killed (Hengari *et al.* 2004). The deliberate killing of nestlings as an allegedly traditional measure to prevent drought has not been confirmed (P Bridgeford pers. comm.) and the number of birds actually taken per year has yet to be determined. While nest disturbance, cited as a problem in South Africa (M Anderson *in litt.*), has not been reported as such in Namibia, the demand by traditional healers and the high visibility of White-backed Vulture colonies makes them easy targets.

CONSERVATION STATUS

This species is classified as *Endangered* in Namibia; recent mass poisoning incidents have caused a severe decline in the population in north-eastern Namibia. Apparent increases in population along the edge of the Namib have been very small compared to the huge losses in the north-east. Until 2004, when the White-backed Vulture was classified *Near Threatened*, it was not considered globally threatened. In 2012, its status was again revised to *Endangered* because of its recent rapid decline (IUCN 2012a). In South Africa, it was classified as *Vulnerable*, based on a suspected 10% decline (Anderson 2000e), but that has been revised to *Endangered* in 2015 (Taylor *et al*. in press) as a result of increased poisoning and harvesting for traditional medicines. In Swaziland, it is given *Near Threatened* status (Monadjem *et al.* 2003). It needs to be given *Specially Protected* status under any revised or future Namibian Parks and Wildlife legislation.

ACTIONS

Decreasing the incidence of poisoning is paramount in preventing further population declines in all species of vulture. The current top priority is to address the commercial poaching of high-value wildlife, especially elephants, and the associated poisoning of carcasses. This required local, national and regional approaches and strong collaboration with neighbouring countries. A protocol was developed for Namibia by members of the six main conservation organisations working with birds, namely the Ministry of Environment & Tourism, the Namibia Nature Foundation, Vultures Namibia, NARREC,

REST (Rare and Endangered Species Trust) and the Namibia Bird Club, to (a) help prevent such poisoning incidents and (b) respond quickly and decisively if an incident does occur. This protocol is part of the larger national and regional initiative to control commercial poaching and should be embedded in that larger initiative. The main points of the protocol on helping to prevent poisoning incidents are:

- Develop local, national and regional networks of key organisations and 'contact point' individuals on wildlife poisoning, including state, non-governmental and community-based organisation stakeholders, toxicology laboratories, veterinarians and their national councils, government agencies responsible for regulating toxic chemicals, commercial importers, wholesalers and retailers of chemicals, and the media; and support each network to develop and implement a programme of work relevant to their level of operation.
- Promote and support the development of similar protocols in neighbouring countries and ensure that regional initiatives are harmonised.
- Ensure that these networks are given priority support at the highest levels of government and within the respective participating organisations.
- Integrate the protocol and the work of the networks with the larger initiatives on preventing commercial poaching.
- Establish a reward system across the region for information leading to the prosecution of perpetrators of poaching and poisoning, of sufficient value that people will be disinclined to risk such actions.
- Focus on poison and pesticide outlets and tighten up on their accountability, their record-keeping and their controls. Together with the responsible authorities (MAWF, MHSS, Registrar of Poisons and Pesticides, etc) review all authorised outlets, carry out inspections, monitor their records and ensure that the sector knows that it is under close scrutiny.
- Promote, support and implement public information, education and mobilisation campaigns and activities to raise and maintain awareness, volunteerism and action for the conservation of scavenging species and against poisoning, reaching specifically into rural communities within the areas experiencing commercial poaching and poisoning.

The next priority is to address collateral poisoning on farmlands where farmers are targeting predators. Experience from other countries, with far more sophisticated and well-resourced awareness and education connectivity to farming communities and the general public, has shown that attempts to reduce the use of poisons, and to influence how poisons are used so as to avoid non-target animals, has had little impact. Endangered scavenging species have continued to decline. The same results have been found in Namibia, despite concerted efforts to reach farmers (Brown 1986a, Brown & Mostert 1989, Brown 2002). In those countries that have banned the use of poisons for predator control, and backed up the legislation with good enforcement, populations of scavenging birds and mammals have almost immediately started to recover. Farmers also have shifted their approach from killing predators to protecting their livestock. The total ban on poisons for predator control, and its firm enforcement, is the only way that poisoning of endangered scavenging species will be brought under control and the populations of these species will start to recover. Many of the actions needed to conserve the White-backed Vulture in Namibia are the same or similar to those required by the Cape Vulture *G. coprotheres*. These are set out in the Cape Vulture Action Plan for Namibia (Anon 2010), the main objectives and actions of which are summarised in the Cape Vulture text. The main actions required for reducing collateral poisoning of White-backed Vultures and other scavenging animals on farmlands in Namibia are:

- Ensure that the Parks and Wildlife Bill specifically legislates against the use of all poisons, pesticides and toxins for the killing of predators and all wildlife in Namibia, and that penalties are sufficiently severe to be effective.
- Prepare and widely distribute up-to-date information on vultures and other scavenging species, highlighting their ecological role, the illegality of the use of poisons and the penalties for transgression.
- Provide information and training on the protected status of vultures and other scavengers, the fact that poison use for killing protected wildlife is illegal, obligations of suppliers under the law and 'scene of crime' training at poisoning events to relevant law enforcement / investigative agencies and individuals.
- Tighten procedures around the sale of toxic substances and specifically make it obligatory to record identification details of all purchasers, their intended use, and to provide information on the illegal use of these substances, emphasising penalties.

To address other threats and information deficiencies, it is recommended that more specific information on breeding distribution, breeding success, movement patterns and survival of adult and young birds be undertaken. Ringing of nestlings should be continued, to involve land owners and custodians in hands-on vulture conservation. An initiative to gather information on the extent of drowning in farm reservoirs should be initiated, and mitigation measures be disseminated to farmers. The work of the NamPower/NNF power line programme should be continued and expanded through greater farmer and public involvement.