BATELEUR | *Terathopius ecaudatus*

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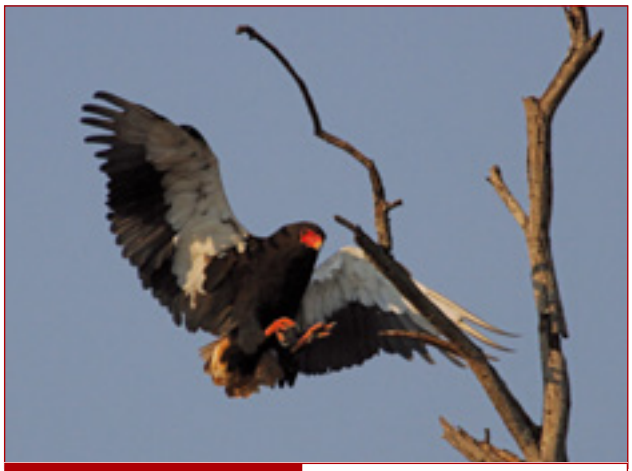
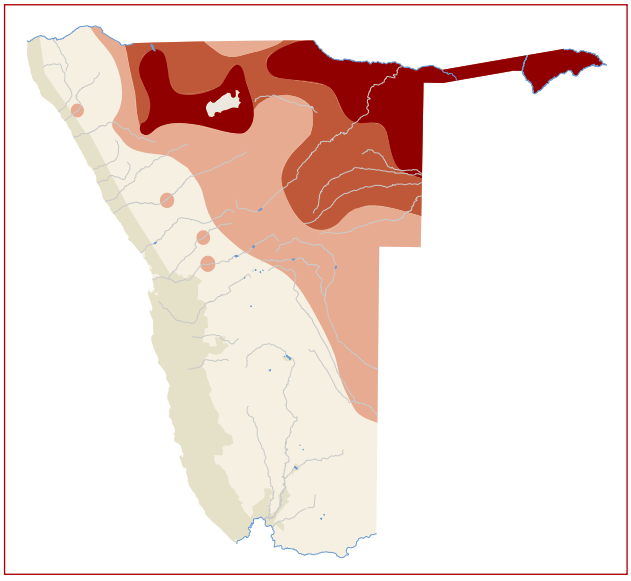


Conservation Status:	Endangered
Southern African Range:	Namibia, Botswana, northern South Africa, Zimbabwe
Area of Occupancy:	258,400 km^2
Population Estimate:	Approximately 1,130 pairs; up to 3,000 birds
Population Trend:	50% decline in last three generations
Habitat:	Mopane, Kalahari and semi-arid savannah woodlands
Threats:	Poisons, declining prey base, human disturbance at nests



DISTRIBUTION AND ABUNDANCE

This species is widely distributed across West and East African woodland savannahs and in central southern Africa, but is absent from tropical rainforests. It is largely absent from South Africa, except for its northern parks (Tarboton & Allan 1984, del Hoyo *et al.* 1994, Simmons 1997b). It requires large territories (Tarboton & Allan 1984, Watson 1986) and is therefore not abundant anywhere in its range.

From historical records from the 1900s, it is clear that this unmistakable species has undergone massive range reductions in South Africa (Boshoff *et al.* 1983), shrinking into large protected areas such as the Kruger National Park and the Kgalagadi Transfrontier Park (KTFP) (Watson 1988a, 1990). Previous estimates of population size in South Africa have been around 2,500 pairs (Steyn 1982, Boshoff *et al.* 1983), a figure that now stands at 600 pairs for the Mpumalanga, Limpopo and Gauteng provinces (Tarboton & Allan 1984), 22 pairs for the KTFP (Herholdt & de Villiers 1991) and eight to 10 pairs outside it (Anderson 2000a). This represents a 75% reduction in numbers, suggesting similar reductions in numbers in Namibia because of similar threats. Populations in southern Mozambique number more than 1,600 birds (Parker 1999).

No density estimates are available for Namibia, but SABAP1 reporting rates from Etosha National Park are similar to those from the Kruger National Park (at under 50%), suggesting similar densities, including in adjacent conservation areas (Simmons 1997b). Nesting density varies from 2.2 to 3.3 pairs per 100 km^2 (Tarboton & Allan 1984, Watson 1990, Simmons 1994). Outside these areas, density drops to around 0.2 to 1.0 pairs per 100 km^2 in unprotected areas (Tarboton & Allan 1984).

In Namibia, the Bateleur is absent from the south and west, uncommon in central and eastern farmlands, relatively common in Etosha National Park and the north-central regions, and most common in the wetter Kalahari broad-leafed woodlands of the Caprivi (Simmons 1997b). The area of occupancy in Namibia is 34,000 km^2 in protected areas and 224,400 km^2 in unprotected areas (Jarvis *et al.* 2001). An approximate population figure using the minimum densities derived from protected (2.2 pairs per 100 km^2) and unprotected areas (0.2 pairs per 100 km^2) in South Africa projected over these areas of occupancy, gives 680

pairs in protected areas and 450 pairs in unprotected areas of Namibia. The total population is thus about 1,130 pairs or up to 3,000 birds.

ECOLOGY

The Bateleur is found in open and closed-canopy savannah woodlands, including *Acacia* savannah, Mopane and miombo woodlands (Brown *et al.* 1982, Steyn 1982, Tarboton & Allan 1984). It is commonest in broad-leaved woodland in the Okavango Delta, where reporting rates are more than 60% (Simmons 1997b). It occurs rarely in heavily forested, mountainous or largely treeless habitats (Tarboton & Allan 1984). In Namibia, it is often found over tall woodland near drainage lines, and ephemeral rivers in north-eastern Namibia and within the more arid Etosha National Park (Simmons 1997b).

This eagle is a solitary, tree-nesting species with a large home range of 21 km^2 to 40 km^2 (Tarboton & Allan 1984). Nest densities are unknown in Namibia, but nests are found at an average distance of 5 km apart in the densest nesting areas of north-eastern South Africa (Tarboton 2001), and 13 km to 16 km apart in Zimbabwe (Steyn 1982). Egg-laying records for Namibia (n=27) are from December to July, with a peak from January to April (Brown *et al.* 2015). The rate of breeding success in Namibia is unknown, but averages 0.47 to 0.58 young per pair per year in protected areas in South Africa (Tarboton & Allan 1984, Watson 1986), and 0.81 young per pair per year at four monitored nests in Zimbabwe (Steyn 1982).

This species feeds on a variety of prey, including mammals, birds and reptiles. It kills and scavenges during long-distance foraging, and its ability to locate very small pieces of carrion makes it highly susceptible to poison-laced carcasses (Brown *et al.* 1982, Tarboton & Allan 1984, Watson 1988a). It also pirates prey from other species (Watson & Watson 1987).

THREATS

The Bateleur suffers direct persecution through poisoning at both large and small carcasses (Watson 1986). Because it forages over wide areas, it covers many farms and thus it is at risk from even a small proportion of farmers who use poisons in Namibia (Brown 1991) and South Africa (Davies 1988). Birds occur outside protected areas in the central and northern farming areas and communal lands of Namibia, probably because these hold fewer small-stock farmers who lay poison baits for mammalian carnivores (Brown 1986b). Farmers frequently use poisons on the edge of conservation areas such as Etosha National Park (Komen 2002), regularly killing vultures there (P Bridgeford, RE Simmons, TO Osborne unpubl. data). While Bateleurs are not among the recorded victims of poisoning in these areas, they almost certainly are affected, as young birds disperse from these 'safe' breeding areas to the surrounding farmlands. Poisoned Bateleurs are found within other protected areas in South Africa (Herholdt *et al.* 1996).

The long-term survival of Bateleurs in many protected areas is at risk because of the high rate of mortality of young birds. Young birds cover huge areas of southern Africa before reaching maturity. This makes them vulnerable to poisons and other threats. In species such as the Tawny *Aquila rapax* and Martial Eagles *Polemaetus bellicosus*, mortality during the short post-nestling dependence period was 23% and 40%, respectively (Brown 1991), making it highly unlikely that many birds would survive to adulthood. The same pressures face young Bateleurs. A slow decline in the breeding density of all large, slow-breeding and wide-ranging scavenging species can be expected in the protected areas of southern Africa because there are not enough surviving young birds to replace old adults. This situation will continue as long as poisons are in widespread use.

It has been demonstrated that a poison ban in western Europe resulted in a remarkable recovery in vulture populations there. This suggests that Bateleurs and all scavenging raptors in Africa do have the possibility of recovery to viable population levels. It has also been shown that diclofenac and its generics, which are as lethal to vultures in India as strychnine is to scavengers in Africa (Oaks *et al.* 2004), needs only to occur in 0.13% to 0.75% of all carcasses in the environment to cause a 30% annual decline and eventual population crash of Indian vultures (Green *et al.* 2004).

Since 2013, there has been an upsurge in the commercial poaching of high value wildlife, particularly in north-eastern Namibia. The poachers poison carcasses to deliberately kill vultures so that their presence does not alert wildlife authorities to their illegal activities (Hancock 2013). These poisoned carcasses pose a significant threat to both territorial adults and young birds.

Poisons may not account for all reductions in population density. This is apparent because the Bateleur densities are highest in protected areas with intact wildlife populations, rather than in surrounding unprotected regions where there is no poison use. For example, the Okavango Delta and Chobe National Park have higher densities of Bateleurs than the unprotected areas surrounding them, despite the fact that there is no use of poison in the surrounding farmlands (Simmons 1997b). It is not clear whether the removal of large wild ungulates and their predators provides the explanation (e.g. less carrion, particularly for young birds), or whether rangeland condition under livestock management supports a lower Bateleur prey diversity and biomass. Habitat modification

and destruction have also been suggested as reasons for reductions (Steyn 1982).

Bateleurs are sensitive to disturbance during the nesting period, particularly during the egg stage (Steyn 1982, Watson 1988b). Although traditional healers use vulture parts in Namibia, there are no current records of Bateleurs being caught and killed (Hengari 2002). Some birds are trapped for use by traditional healers in South Africa because the feathers are used for predicting future events (R Watson, P Steyn unpubl. data).

CONSERVATION STATUS

Bateleur populations in Namibia are certainly declining, given the level of poison abuse in Namibia (Brown 2002) and the high rate of scavenging vultures poisoned (P Bridgeford, RE Simmons unpubl. data). This species is classified as *Endangered* in Namibia because of a suspected decline of at least 50% in the last three generations. This rate is based on two comparisons. Firstly, the feeding ecology similarity of this species with the Tawny Eagle, which in central Namibian farmlands declined by 71% in just six years (Brown 1991); these two species are more susceptible to poisons than any other scavenging eagles (Steyn 1982, Tarboton & Allan 1984, Watson 1986). Secondly, the decline in Bateleurs in South Africa was estimated at 75% over the last few decades. As a long-lived species, laying at best one egg every year (Watson 1986), the Bateleur, like other slow-maturing, slow-breeding species, is unlikely to recover quickly from depressed adult populations. For that reason, it should be given *Specially Protected* status in revised or new Namibian Parks and Wildlife legislation. The Bateleur is classified as globally *Near Threatened* (IUCN 2012a); in South Africa it was classified as *Vulnerable* because it had lost at least 20% of its range in the last three generations through poisoning and direct persecution (Anderson 2000d), but this has now been upgraded to *Endangered* (Taylor *et al*. in press).

ACTIONS

Decreasing and ultimately eliminating the use of poisons in carcasses and small baits is essential to preventing further population declines in the Bateleur and all scavenging species (Watson 1987). Two strategies are needed to address, respectively (a) the use of poisons by commercial poachers where the killing of vultures is a deliberate objective, and (b) the use of poisons by farmers where the killing of scavenging species is collateral damage resulting from attempts to kill mammalian predators. For the first strategy, a protocol has been developed to assist the Ministry of Environment and Tourism to address the use of poisons by commercial poachers (Brown *et al.* 2013), summarised in the White-backed Vulture text. This protocol should be seen as part of a larger initiative and should be embedded in the actions of the local, national and regional networks established to eliminate commercial poaching.

The second strategy, to address collateral poisoning on farmlands, requires making the use of poisons for predator control illegal. Experience from other countries, with far more sophisticated and well-resourced awareness and education connectivity to farming communities and the general public than Namibia, has shown that attempts to encourage a voluntary reduction in 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 1985a, 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 have also shifted their approach from killing predators to protecting their livestock. The main actions required for reducing and ultimately eliminating collateral poisoning of Bateleurs and other scavenging birds on farmlands in Namibia are:

- Ensure that new Parks and Wildlife legislation specifically prohibits 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 scavenging species, emphasising the fact that the use of poisons is illegal, including the penalties for transgression.
- 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 with penalties.
- Provide information and training to relevant law enforcement and investigative agencies and individuals on the new legislation, the obligations of suppliers of toxic substances, pesticides and poisons, and ‘scene of crime’ training at poisoning events.
- Distribute material to farmers, rural communities and schools on the beneficial and important role that scavenging birds play in the environment and the threats that face them.

Research and monitoring programmes should be established on (a) the effect of a poison ban, (b) the impact of awareness programmes for farmers, and (c) population trends in the Bateleur and other scavenging species using breeding density and success, raptor road counts and survival of young birds to adulthood as key indicators.