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Scope(s): Global
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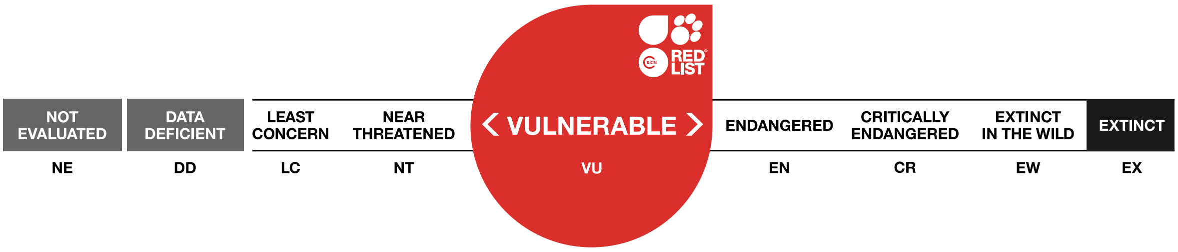
Gyps coprotheres, Cape Vulture

Assessment by: BirdLife International



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Aves	Accipitriformes	Accipitridae

Scientific Name: *Gyps coprotheres* (Forster, 1798)

Common Name(s):

- English: Cape Vulture, Cape Griffon
- French: Vautour chassefiente
- Spanish; Castilian: Buitre el Cabo

Taxonomic Source(s):

del Hoyo, J., Collar, N.J., Christie, D.A., Elliott, A. and Fishpool, L.D.C. 2014. *HBW and BirdLife International Illustrated Checklist of the Birds of the World. Volume 1: Non-passerines*. Lynx Edicions BirdLife International, Barcelona, Spain and Cambridge, UK.

Identification Information:

100-115 cm. Very large vulture with near-naked head and neck. Adult creamy-buff, with contrasting dark flight- and tail-feathers. Pale buff neck-ruff. Underwing in flight has pale silvery secondary feathers and black alula. Yellowish eye, black bill, bluish throat and facial skin, dark neck. Juveniles and immatures generally darker and more streaked, with brown to orange eyes and red neck. **Similar spp.** White-backed Vulture *G. africanus* is smaller and, usually, darker, with more streaking and different wing pattern. **Voice** Loud cackles, grunts, hisses and roars.

Assessment Information

Red List Category & Criteria: Vulnerable A2acde+3cde+4acde; C2a(ii) ver 3.1

Year Published: 2021

Date Assessed: February 25, 2021

Justification:

This species is listed as Vulnerable as it has a small population that is experiencing rapid declines.

Previously Published Red List Assessments

2017 – Endangered (EN)
https://dx.doi.org/10.2305/IUCN.UK.2017-3.RLTS.T22695225A118592987.en

2016 – Endangered (EN)
https://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22695225A93497824.en

2015 – Endangered (EN)
https://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T22695225A84339218.en

2014 – Vulnerable (VU)
https://dx.doi.org/10.2305/IUCN.UK.2014-2.RLTS.T22695225A62502298.en

2013 – Vulnerable (VU)

2012 – Vulnerable (VU)

2008 – Vulnerable (VU)

2006 – Vulnerable (VU)

2004 – Vulnerable (VU)

2000 – Vulnerable (VU)

1996 – Vulnerable (VU)

1994 – Vulnerable (VU)

1988 – Threatened (T)

Geographic Range

Range Description:

This species is found in **South Africa** where overall numbers were previously thought to be decreasing (Vernon 1999, Barnes 2000, Benson 2000) with a minimum of 630 pairs at 143 colonies and 2000 individuals in the Eastern Cape and 39% of colonies recorded between 1987-1992 now inactive (Boshoff *et al.* 2009), however, more recent data from the northern provinces suggests that the number of 'active' nests has increased since 2000 and a similar increase may be occurring in the Eastern Cape Province (Benson 2015, Pfeiffer *et al.* 2016, P. Benson *in litt*. 2015) whilst new roosts have been recorded in Free State Province (Botha and Krüger 2012), **Lesotho** (c.552 pairs at c.47 colonies, with a continuing decline at some colonies [Donnay 1990]), eastern and south-eastern **Botswana** (c.600 pairs [Borello and Borello 2002**,** Borello *in litt.* 2003]) and **Mozambique** (10-15 pairs near Eswatini [Parker 1999]). It formerly bred in **Eswatini** (declined to extinction [Parker 1994]), central **Zimbabwe** (declined to extinction - an isolated roost of up to 150 non-breeding birds persists [Mundy *et al.* 1997]), and **Namibia** (over 2,000 in the 1950s, but now considered extinct as a breeding species [Wolter 2011, W. Goodwin *in litt*. 2015]). By 2000 there were only 6-12 birds in Namibia (Simmons *et al.* 1998, R. Simmons *in litt.* 1999, 2000, Diekmann and Strachan 2006), with 16 birds released in October 2005 (Diekmann and Strachan 2006). Birds fitted with satellite transmitters in Namibia have been recorded making flights of up to 400 km into **Angola** (M. Diekmann *in litt.* 2006). Throughout the remaining range, 18 'core' colonies now hold 80% of the *G. coprotheres* population (Boshoff and Anderson 2007).

Country Occurrence:

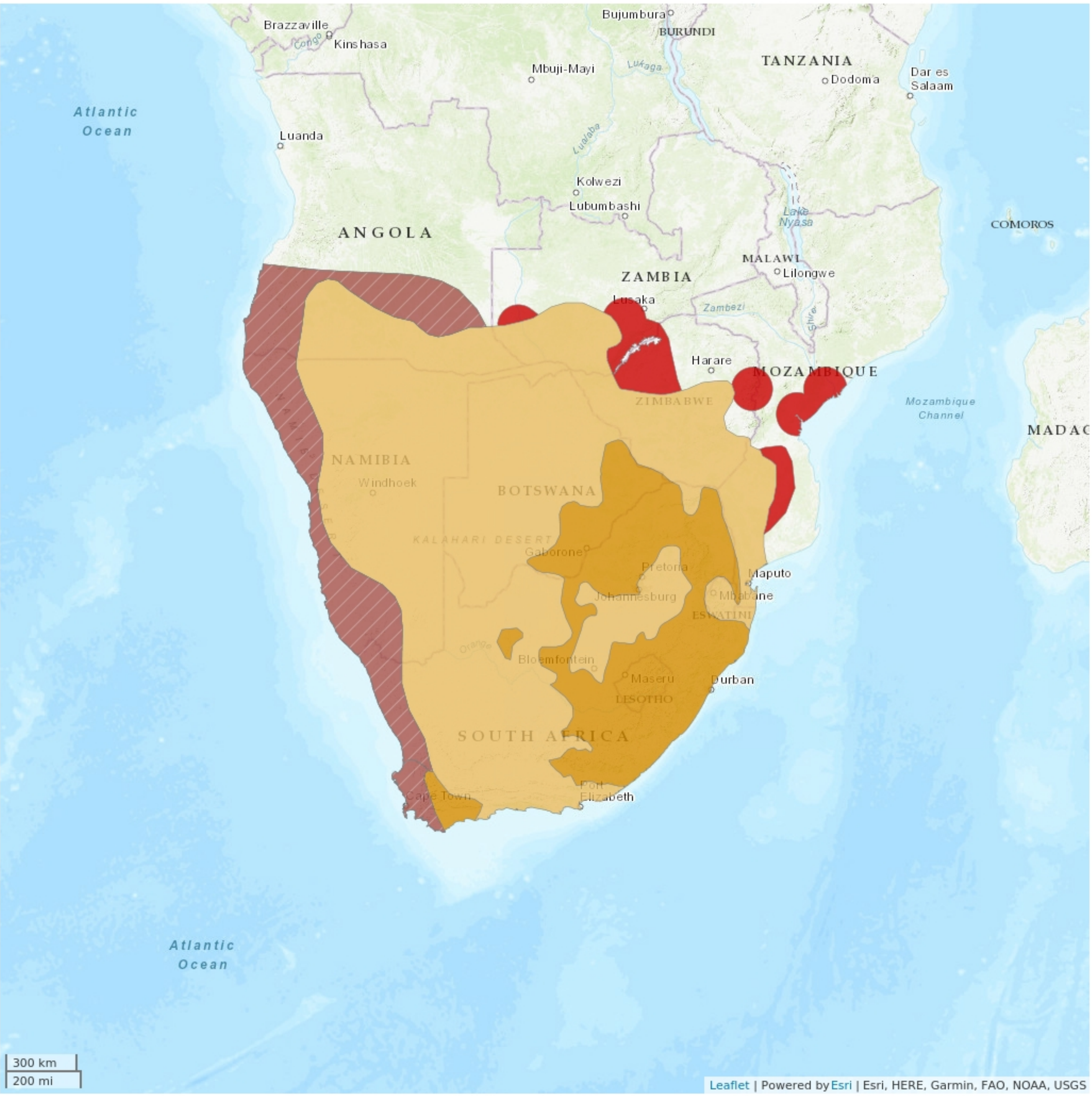
Native, Extant (resident): Botswana; Lesotho; Mozambique; South Africa

Native, Extant (non-breeding): Angola; Eswatini; Namibia; Zimbabwe

Extant & Vagrant (non-breeding): Zambia

Extant & Vagrant: Congo, The Democratic Republic of the

Distribution Map



Legend

- EXTANT (RESIDENT)
- EXTANT (NON-BREEDING)
- POSSIBLY EXTINCT
- EXTINCT

Compiled by:

BirdLife International and Handbook of the Birds of the World 2021

The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

Population

In 2006, the total population was estimated at 8,000-10,000 individuals (M. Diekmann *in litt.* 2006), roughly equivalent to 5,300-6,700 mature individuals. The global population estimate has been revised with an estimate of 4,700 pairs or 9,400 mature individuals (Allan 2015). Based on surveys, Hirschauer *et al.* (2020) estimated that the species's stronghold in the north-east, contained 3,560 breeding pairs, and that the stronghold contained 56-74% of the global population of mature individuals.

If the 3,560 breeding pairs represent 56% of the population, then the global population size may equate to 6,357 breeding pairs (12,714 mature individuals). If the stronghold represents 74% of the population, the global population size may equate to 4,810 breeding pairs (9,621 mature individuals). The population size is therefore placed in the band of 9,621-12,714 mature individuals, rounded here to 9,600 - 12,800 mature individuals.

Trend Justification

Barnes (2000) estimated that the population declined by 10% between 1994-1995, which when expanded over 3 generation lengths (41.7 years [Bird *et al.* 2020]) equates to a decline rate of 58.4%. McKean and Botha (2007) also suggested that between 1992-2007, the populations in eastern South Africa declined by 60-70%, equivalent to a rate of 92-96% over 3 generation lengths, if the trend continued for that period. However, there is now evidence to suggest that the colonies have been increasing post 2007.

The north-eastern breeding region is likely to contain 56-74% of the mature individuals and is arguably the species stronghold (Hirschauer *et al.* 2020). In 1985, the best population estimate for the north-east region was 2,987 pairs. In 2019, the population was estimated at 3,560 pairs (Hirschauer *et al.* 2020), indicating that over the 34 years, the population in the stronghold has been stable to increasing. Between 2012-2019, 6 out of 10 colonies in the region were monitored every year by Hirschauer *et al.* (2020). During that time, the population at these colonies increased from a total of 1,561 breeding pairs in 2012 to 2,152 in 2019. This is an increase of c.38% in 7 years, equivalent to 4.7% per annum, however the smallest colony at Moletjie decreased during that time (Hirschauer *et al.* 2020). Data collected by Wolter *et al.* (2016) also suggests that multiple colonies in South Africa and Botswana are stable or increasing. This is further supported by Goikantswemang *et al.* (2021). The chick count at the Blouberg colony, the largest known breeding colony, has increased from 626 chicks in 2006, to 1,483 chicks in 2020 (J. van Wyk and D. Pretorius via A. Botha *in litt.* 2021). The Potberg colony in the south has also steadily increased c.2010-2019 (Hirschauer *et al.* 2020).

Longer-term studies have also evidenced population increases. One of the largest colonies in the north-east is the Kransberg colony (Hirschauer *et al.* 2020). Analysis by Benson and McClure (2020) found that this population declined between 1983-2003 from 916 pairs to 579 pairs (a rate of decline of 2.25% per annum). Between 2004 and 2017, the colony then increased from c.579 pairs to 849 pairs (a rate of increase of 2.65% per annum). The overall trend of the colony from 1983-2017 was a decline at a rate of 0.24% per annum (Benson and McClure 2020). Over three generations, a 0.24% pa decline equates to a 9.5% reduction. While the authors of this study state that globally, the Cape Vulture population is in decline, they also project that if the overall trend of 1983-2017 continues, the Kransberg colony will likely be stable. They alternatively project that if the 2004-2017 trend continues, there is a 98% likelihood that the Kransberg population will increase into the future (Benson and McClure 2020).

The composite index by Ogada *et al.* (2016) suggested an annual rate of decline of 5.1% for this species, and an equating projected decline of 89% over 3 generations. However, according to Benson and McClure (2020), the data used by Ogada et al. (2016) was collected pre-2000, and consequently would not have taken into account the population increases in the Kransberg colony. Therefore, if the northern colonies are increasing, such a high decline is unlikely to be correct (K. Shaw *in litt.* 2015). Benson and McClure (2020) also found that when they added the trends for 1983-2017 and 1983-2003 to the index, the trend inference remained the same as Ogada *et al.* (2016). However, when they added the 2004-2017 trend, the uncertainty of the model greatly increased, and the trend switched from almost certainly declining to possibly increasing.

The south-eastern breeding region, which may hold up to 42% of the breeding individuals (Allan *et al.* 2015), has contracted, and the peripheral colonies in Namibia, Zimbabwe, and Eswatini have all been extirpated within the last 40 years (Hirschauer *et al.* 2020). However, the remaining colonies have shown increases in the number of active nests between 2000-2013 (Benson 2015). Data from the Oribi Gorge colony in South Africa indicates that the number of breeding pairs has increased from 39 in 2011, to 94 in c.2019 (K. Shaw *in litt.* 2021).
Numbers at some colonies appear to have dropped between 2020 and 2021, with a reduction of 27% at Skeerpoort, 16% at Kransberg, and 8% at Manutsa (Wolter *et al.* unpublished data via R. Kemp, K. Wolter and C. G. Hannweg *in litt.* 2021). However, this may have been due to emigration to other colonies or other specific factors relation to this particular breeding season, and it is difficult to draw any conclusions from this in comparison to the long-term trend data (W. Goodwin *in litt.* 2021).

Allan (2015) estimated that the species declined by 66-81% between c.1960-2015, equivalent to a rate of decline of 55-71% over 3 generations. However, these figures relied on individuals not moving between breeding colonies (P. Benson *in litt.* 2016). Genetic evidence from Kleinhans and Willows-Munro (2019) suggests that the south-eastern region facilitates movement between the north-east, and the geographically isolated Potberg colony in the west, and therefore the rate of decline may not be so high.

While the population overall is declining (Benson and McClure 2020), the overall rate of decline is unlikely to be as high as previously thought. Previous estimates of rates of decline range from 55-96% [55-71% (Allan 2015), 58.4% (Barnes 2000), 89% (Ogada *et al.* 2016) and 92-96% (McKean and Botha 2007)]. However, the figure from McKean and Botha (2007) was from the north-eastern population, which is not the species stronghold, and the models used by Ogada *et al.* (2016) to derive their figure did not account for recorded population increases. Therefore, they are not likely to be representative of the true global decline rate. Furthermore, the declines suggested by Allan (2015) are dependent on there being no movement between populations, and evidence now confirms that there is cross movement, and that the suggested figures are likely too high. While rates of decline may vary in different areas, taking into consideration the inefficacy of previous models, new information on population dynamics, and evidence of recent increases in stronghold colonies, it is suspected that the rate of decline likely falls in the band 30-49% Given that the threats causing declines are likely to continue, it is tentatively assumed that the decline will continue at the same rate into the future.

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

It is a long-lived (Oatley *et al.* 1998) carrion-feeder specialising on large carcasses. It flies long distances over open country, although usually found near steep terrain, where it breeds and roosts on cliffs (Mundy *et al.* 1992). It was shown to display a preference for protected areas and woody vegetation for foraging (Martens *et al*. 2018), and optimal nest sites were locations with a ledge depth of 1m, at a height of 180m (Pfeiffer *et al.* 2016). There is some movement of individuals between breeding colonies (Borello and Borello 2002; P. Benson *in litt.* 2016; Kleinhans and Willowa-Munro 2019), and so the lack of use of a colony site may not signify the extirpation of all individuals from that colony (P. Benson *in litt.* 2016).

Systems: Terrestrial

Use and Trade

In southern Africa, vultures are caught and consumed for perceived medicinal and psychological benefits (McKean and Botha 2007, Anon. 2008). It is estimated that 160 vultures are sold and that there are 59,000 vulture-part consumption events in eastern South Africa each year, involving an estimated 1,250 hunters, traders and healers. At current harvest levels, the populations of this species in the Eastern Cape, KwaZulu-Natal and Lesotho could become locally extinct within 44-53 years. Should the populations of White-backed Vultures *G. africanus* become depleted first, the resultant increase in hunting pressure on *G. coprotheres* could cause a population collapse within the subsequent 12 years (McKean and Botha 2007, Anon. 2008). Extrapolation from a limited study of traditional healers in Maseru, Lesotho, suggests that, conservatively, nearly 7% of the breeding population in that country would be lost annually for such use (Beilis and Esterhuizen 2005). A study in South Africa found that should current rates of exploitation for market trade continue then the populations in Lesotho, KwaZulu-Natal and Eastern Cape could be exhausted within 54 years (McKean *et al*. 2013).

Threats (see Appendix for additional information)

The species is assumed to be declining throughout much of its range in the face of a multitude of threats (Boshoff and Anderson 2007). Sixteen known or suspected mortality factors were identified and ranked at an expert workshop with a decrease in the amount of carrion (particularly during chick-rearing), inadvertent poisoning, electrocution on pylons or collision with cables, loss of foraging habitat and unsustainable harvesting for traditional uses considered the most important factors (Mundy *et al.* 1992, Barnes 2000, Benson 2000, Borello and Borello 2002, Boshoff and Anderson 2007). The primary threats are currently thought to be contamination of their food supply and possibly a shortage in food supply, negative interactions with human infrastructure and hunting for use in the traditional health industry (Allan 2015). Further threats include disturbance at colonies, bush encroachment and drowning (Anderson 1999, Borello and Borello 2002, Bamford *et al.* 2007). In southern Africa, vultures are caught and consumed for perceived medicinal and psychological benefits (McKean and Botha 2007, Anon. 2008). It is estimated that 160 vultures are sold and that there are 59,000 vulture-part consumption events in eastern South Africa each year, involving an estimated 1,250 hunters, traders and healers. At current harvest levels, the populations of this species in the Eastern Cape, KwaZulu-Natal and Lesotho could become locally extinct within 44-53 years. Should the populations of White-backed Vultures *G. africanus* become depleted first, the resultant increase in hunting pressure on *G. coprotheres* could cause a population collapse within the subsequent 12 years (McKean and Botha 2007, Anon. 2008). Extrapolation from a limited study of traditional healers in Maseru, Lesotho, suggests that, conservatively, nearly 7% of the breeding population in that country would be lost annually for such use (Beilis and Esterhuizen 2005). A study in South Africa found that should current rates of exploitation for market trade continue then the populations in Lesotho, KwaZulu-Natal and Eastern Cape could be exhausted within 54 years (McKean *et al*. 2013).

The species suffers mortality from the ingestion of poison left for pests (not vultures) (Diekmann and Strachan 2006) and potentially diclofenac, a non-steroidal anti-inflammatory drug often used for livestock, and which is fatal to *Gyps* spp. when ingested at livestock carcasses (BirdLife International news www.birdlife.org/news 2008). In 2007, diclofenac, was found to be on sale at a veterinary practice in Tanzania (BirdLife International news www.birdlife.org/news 2008). In addition, it was reported that in Tanzania, a Brazilian manufacturer has been aggressively marketing the drug for veterinary purposes (C. Bowden *in litt*. 2007) and exporting it to 15 African countries (BirdLife International news www.birdlife.org/news 2008). A single poisoning incident can kill 50-500 birds, making the species susceptible to sudden local declines (M. Diekmann *in litt.* 2006). The collapse of a key colony in eastern Botswana has been attributed to human disturbance, especially insensitive tourism (Borello and Borello 2002). The ongoing urbanisation around Hartbeespoort Dam and the Magaliesberg Mountains, South Africa, has limited the extent of natural areas for foraging by vultures, perhaps resulting in their reliance on supplementary food at vulture "restaurants" (Wolter *et al*. 2007). If such restaurants were closed, vultures might be exposed to unsafe carcasses (Wolter *et al*. 2007).

Poor grassland management in some areas has promoted bush encroachment, making finding carcasses more difficult for vultures (Schultz 2007, Bamford *et al.* 2009). There are records of at least 120 individuals (21 incidents) of this species drowning in small farm reservoirs in southern Africa between the early 1970s and late 1990s (Anderson *et al*. 1999), although modifications to many reservoirs have now been made (Boshoff *et al.* 2009). Raptors are thought to drown after attempting to bathe or drink, with mass vulture drownings probably due to the triggering of group behaviour by the actions of one bird (Anderson *et al*. 1999). In Magaliesberg a large number of fatalities have been associated with powerline collisions and electrocutions, and this is one of the main factors causing the ongoing decline of the species in South Africa (K. Wolter *in litt*. 2007). It is estimated that a minimum of 80 vultures are killed annually by collision with powerlines in Eastern Cape Province (Boshoff *et al*. 2011). Also, due to an increase in incident reporting in South Africa, it is becoming evident that this threat to the species is severe. The strategic partnership between The Endangered Wildlife Trust and South Africa's energy supplier, Eskom, has been recording wildlife-energy infrastructure interactions since October 1996. This database has 403 incidents involving the Cape Vulture; totaling 1,022 individuals, of which 866 individuals have died as a result of electrocution incidents on power lines, while 156 have been killed colliding with overhead cables (S. Page-Nicholson and C. Hoogstad *in litt.* 2016).

A controversial wind farm development in Maluti-Drakensberg, Lesotho, an important site for Cape Vulture was given approval in 2014 (Anon. 2014), and even relatively small-scale wind energy developments in the Lesotho Highlands pose a threat to the species (Rushworth and Krüger 2014), especially as, even after rehabilitation, injured (or poisoned) individuals have increased mortality compared to individuals of a similar age (Monadjem *et al.* 2014). It is reported that a lack of adult females in the relict Namibian population may have led to four males breeding with *G. africanus*, although this is not thought to be a problem across southern Africa (Diekmann and Strachan 2006). Patterns in the contraction of the species's range since the 1950s imply that climate change could be an underlying factor driving its decline through changes in habitats and decreases in prey populations, though further research is required to confirm a link (Simmons and Jenkins 2007).

Conservation Actions (see Appendix for additional information)

Conservation and Research Actions Underway

CITES Appendix II. CMS Appendix II. It is legally protected throughout its range. A multi-species action plan for African-Eurasian vultures was produced in 2017 (CMS 2017), and a Biodiversity Management Plan is being produced by the Cape Vulture Task Force, driven by The Endangered Wildlife Trust and BirdLife South Africa (S. Page-Nicholson and C. Hoogstad *in litt.* 2016). Some breeding colonies lie within protected areas (Barnes 2000, Theron 2013). Non-governmental organisations have successfully raised awareness among farming communities in South Africa of the plight of this species (Barnes 2000). Many nestlings of this species were colour-ringed in southern Africa in the 1970s and 1980s (Botha 2006). The national electricity supplier in South Africa, in partnership with The Endangered Wildlife Trust, has replaced pylons in some regions with a design that reduces electrocution risk to large birds (Barnes 2000, S. Page-Nicholson and C. Hoogstad *in litt.* 2016), and breeding numbers have increased in some areas (Hirschauer *et al.* 2020).

Supplementary feeding at vulture restaurants may have helped to slow declines in some areas (Barnes 2000). The establishment of a restaurant at Nooitgedacht, South Africa, is thought to have helped promote the recolonisation of the former colony there, and another restaurant has possibly contributed the species's recovery in Magaliesberg (Wolter *et al*. 2007). Supplementary feeding is known to significantly increase the survival rate of first-year birds in the Western Cape Province of South Africa (Piper *et al*. 1999), and appears to have increased the number of breeding pairs at the Mzimkhulu colony in southern KwaZulu-Natal (Schabo *et al.* 2016), although there seems to not have been an effect on breeding success (Schabo *et al.* 2016). Additionally, in the Eastern Cape and KwaZulu-Natal, adult vultures did not appear to be dependent on vulture restaurants, but could find enough food from subsistence rural farmland (Pfeiffer *et al.* 2015).

Thirty-seven individuals were held in captivity in Namibia in 2011, with 7 breeding pairs from which at least 2 chicks have been hatched (Anon. 2011). The VulPro project in South Africa holds over 80 non-releasable Cape Vultures in captivity, this includes 10 breeding pairs, with the first successful hatching in September 2011 (Wolter 2011, Wolter *et al*. 2014). The programme aims to release captive-born chicks into the wild to supplement wild populations. In February 2015, seven birds from VulPro and three from the National Zoological Gardens of South Africa were released into an open-topped enclosure so that they could eventually disperse into the wild (Hirschauer 2015). In October 2005, 16 birds from South Africa were released in Namibia and, although at least two perished (Diekmann and Strachan 2006). Data on flight patterns and breeding behaviour have been recorded from two birds that were fitted with satellite transmitters (Anon. 2006). By 2006, five birds had been fitted with satellite tracking collars (Diekmann and Strachan 2006, Bamford *et al.* 2007). In Namibia, both communal and commercial farmers have been educated about the benefits that vultures bring and thus the disadvantages of poisoning carcasses, whilst there is also an education centre and education programme for schools (Diekmann and Strachan 2006).

A press release was circulated in July 2007 to raise awareness of the impacts of hunting for medicinal and cultural reasons in southern Africa (McKean and Botha 2007). The threat posed by anti-inflammatory drugs in southern Africa is under investigation (K. Wolter *in litt*. 2007). The Hawk Conservancy and The Endangered Wildlife Trust are currently providing training and equipment for anti-poisoning teams so that field staff will have the skills and equipment to respond to a neutralise poisoned carcasses (C. Murn *in litt.* 2016). An expert workshop on the species's conservation was held in South Africa in March 2006 (Boshoff and Anderson 2006). Rehabilitation and release of injured vultures has become an important conservation action (Allan 2015). The species is listed as Endangered in the Eskom Red Data Book of Birds of South Africa, Lesotho and Eswatini, and Critically Endangered in Namibia (Allan 2015, Simmons and Brown 2015).

Conservation and Research Actions Proposed
Develop conservation plans for each of the 18 'core' colonies through the Cape Griffon Task Force (Boshoff and Anderson 2007, Jenkins 2010). Protect breeding colonies (Barnes 2000), and prevent uninhibited access by tourists to nesting sites (Borello and Borello 2002, Hancock 2008). Develop captive-breeding projects and mitigate impacts from poisoning and electrocution (Barnes 2000). Increase availability of livestock carcasses to *G. coprotheres* in areas where current practices do not allow this. Develop conservation partnerships with the farming community (Barnes 2000). Investigate the burgeoning exploitation for traditional medicine (Barnes 2000). Reduce hunting for medicinal and cultural reasons (McKean and Botha 2007). Monitor food availability, especially through the nestling period. Carry out a complete survey of its breeding sites (Barnes 2000). Continue population monitoring and demographic studies (Barnes 2000). Conduct research to assess the potential impact of climate change compared with other threats (Simmons and Jenkins 2007). Raise awareness amongst pastoralists of the dangers of using diclofenac for livestock (BirdLife International news www.birdlife.org/news 2008). Lobby governments to outlaw the sale of diclofenac for veterinary purposes (BirdLife International news www.birdlife.org/news 2008).

A number of recommendations were produced at the 2012 Pan-Africa Vulture Summit (Botha *et al*. 2012, Ogada *et al*. 2016): 1) Regulate import, manufacture and sale of poisons; 2) Legislate and enforce measures to prosecute those involved in illegal killing and trade in vulture species; 3) Protect and effectively manage breeding sites; 4) Ensure new energy infrastructure is 'vulture-friendly' and modify existing unsafe infrastructure; 5) Support activities to conserve vulture populations, including research and outreach activities.

Credits

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Partner(s) and Institution(s):	BirdLife International

Authority/Authorities: IUCN SSC Bird Red List Authority (BirdLife International)

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External Resources

For Supplementary Material, and for Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.6. Forest - Subtropical/Tropical Moist Lowland	Non-breeding season	Suitable	No
2. Savanna -> 2.1. Savanna - Dry	Breeding season	Suitable	No
3. Shrubland -> 3.5. Shrubland - Subtropical/Tropical Dry	Non-breeding season	Suitable	No
4. Grassland -> 4.4. Grassland - Temperate	Non-breeding season	Suitable	Yes
8. Desert -> 8.1. Desert - Hot	Non-breeding season	Suitable	No
14. Artificial/Terrestrial -> 14.1. Artificial/Terrestrial - Arable Land	Non-breeding season	Suitable	No
14. Artificial/Terrestrial -> 14.2. Artificial/Terrestrial - Pastureland	Non-breeding season	Suitable	Yes

Use and Trade

(http://www.iucnredlist.org/technical-documents/classification-schemes)

End Use	Local	National	International
1. Food - human	Yes	Yes	No
3. Medicine - human & veterinary	Yes	Yes	No
13. Pets/display animals, horticulture	No	No	Yes

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
3. Energy production & mining -> 3.3. Renewable energy	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
4. Transportation & service corridors -> 4.2. Utility & service lines	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality		

5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.1. Intentional use (species is the target)	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.2. Unintentional effects (species is not the target)	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.3. Persecution/control	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
6. Human intrusions & disturbance -> 6.1. Recreational activities	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	2. Species Stresses -> 2.2. Species disturbance		
7. Natural system modifications -> 7.3. Other ecosystem modifications	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Ongoing	Minority (50%)	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		

Conservation Actions in Place

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action in Place
In-place research and monitoring
Action Recovery Plan: No
Systematic monitoring scheme: Yes
In-place land/water protection
Conservation sites identified: Yes, over entire range
Occurs in at least one protected area: Yes
Invasive species control or prevention: No
In-place species management
Successfully reintroduced or introduced benignly: Yes
Subject to ex-situ conservation: Yes
In-place education
Subject to recent education and awareness programmes: Yes
Included in international legislation: Yes
Subject to any international management / trade controls: Yes

Conservation Actions Needed
(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action Needed
1. Land/water protection -> 1.1. Site/area protection
2. Land/water management -> 2.1. Site/area management
3. Species management -> 3.1. Species management -> 3.1.1. Harvest management
3. Species management -> 3.2. Species recovery
3. Species management -> 3.4. Ex-situ conservation -> 3.4.1. Captive breeding/artificial propagation
4. Education & awareness -> 4.3. Awareness & communications
5. Law & policy -> 5.1. Legislation -> 5.1.2. National level
5. Law & policy -> 5.2. Policies and regulations

Research Needed
(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed
1. Research -> 1.5. Threats
3. Monitoring -> 3.1. Population trends

Additional Data Fields

Distribution
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): No
Estimated extent of occurrence (EOO) (km^2): 1230000
Continuing decline in extent of occurrence (EOO): Yes
Extreme fluctuations in extent of occurrence (EOO): No
Continuing decline in number of locations: Unknown
Extreme fluctuations in the number of locations: No
Lower elevation limit (m): 0
Upper elevation limit (m): 3,100
Population
Number of mature individuals: 9,600-12,800
Continuing decline of mature individuals: Yes

Population
Extreme fluctuations: No
Population severely fragmented: No
No. of subpopulations: 1
Continuing decline in subpopulations: Unknown
Extreme fluctuations in subpopulations: No
All individuals in one subpopulation: Yes
No. of individuals in largest subpopulation: 9600-12800
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 13.9
Movement patterns: Full Migrant
Congregatory: Congregatory (and dispersive)

The IUCN Red List Partnership

The IUCN Red List of Threatened Species™ is produced and managed by the IUCN Global Species Programme, the IUCN Species Survival Commission (SSC) and The IUCN Red List Partnership.

The IUCN Red List Partners are: ABQ BioPark; Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; Missouri Botanical Garden; NatureServe; Re:wild; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.