

THE ZULULAND VULTURE PROJECT STATUS REPORT

2019 - 2020



African White-Backed Vultures – *Gyps africanas*.



EXECUTIVE SUMMARY

Wildlife ACT works closely with the provincial conservation authority, Ezemvelo KZN Wildlife, to help protect vultures in KwaZulu-Natal. We are committed and active members of strategic collaborations including Project Vulture KZN, the Zululand Vulture Project, the Bearded Vulture Task Force and the South African National Vulture Task Force. We are guided by the Multi-Species Action Plan to conserve African-Eurasian Vultures (Vulture MsAP) (Botha et al., 2017) and our efforts contribute towards the National Vulture Conservation Strategy.

Using the latest **tracking technologies**, we have enabled the fine-scale monitoring of vultures to accurately identify “vulture hotspots” and thereby ensure that these areas are where our conservation energy and mitigation measures are focused. This included working with the government to inform the rerouting of a newly proposed, large scale powerline so as to avoid vulture hotspots and reduce collision incidents. The continued deployment of the tracking units will be crucial to further establish vulture safe zones and inform policy to mitigate impacts.

Wildlife ACT’s **rapid responses** and effective scene decontamination prevented mass mortalities of vultures and other wildlife during the surge in poisoning events in 2019. We have shown that the rehabilitation and subsequent release of poisoned vultures back into the wild is possible, and we will be monitoring the long-term recovery of these birds to see how they contribute to the growth of the population.

Wildlife ACT will build on the gains already made in the hunting industry and maintain the momentum to phase out **lead-based** firearm ammunition. We will work to ensure that during this phasing out period that the correct and safe disposal of lead-contaminated carcasses takes place, reducing the exposure to vultures. We will continue to test lead levels in wild caught individuals to monitor the effectiveness of these mitigation measures and ascertain the extent of compliance with the new regulations.

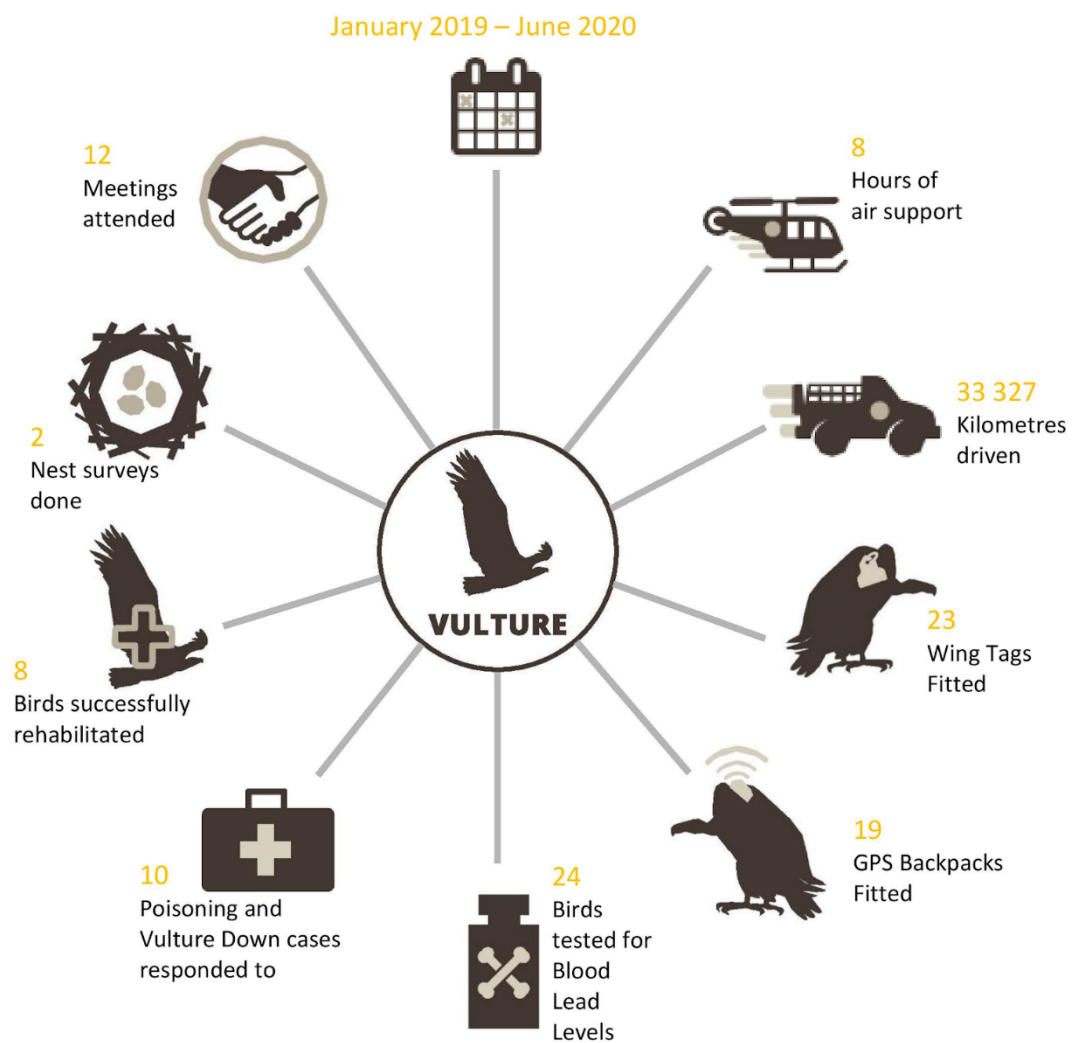
To further aid in our understanding of the population trends, the **nest surveys** have been pivotal. Our ground-truthing will continue to complement the aerial surveys to better understand causes of chick mortality, breeding success rate and help to identify the greatest threats to nesting pairs in KZN.

Understanding the demand for vulture parts in the traditional medicine sector is helping us work towards the development of meaningful demand reduction campaigns to ultimately reduce the poisoning of vultures for body parts. Our ongoing **engagement, awareness and education work** reduces the unintentional persecution of vultures and capacitates people to support vulture conservation in the region.

The work we do to save this vitally important group of birds would not be possible without the generous support of our sponsors, followers, ambassadors and dedicated team on the ground. This is a collaborative effort, one which we need to continue in order to save these endangered species.

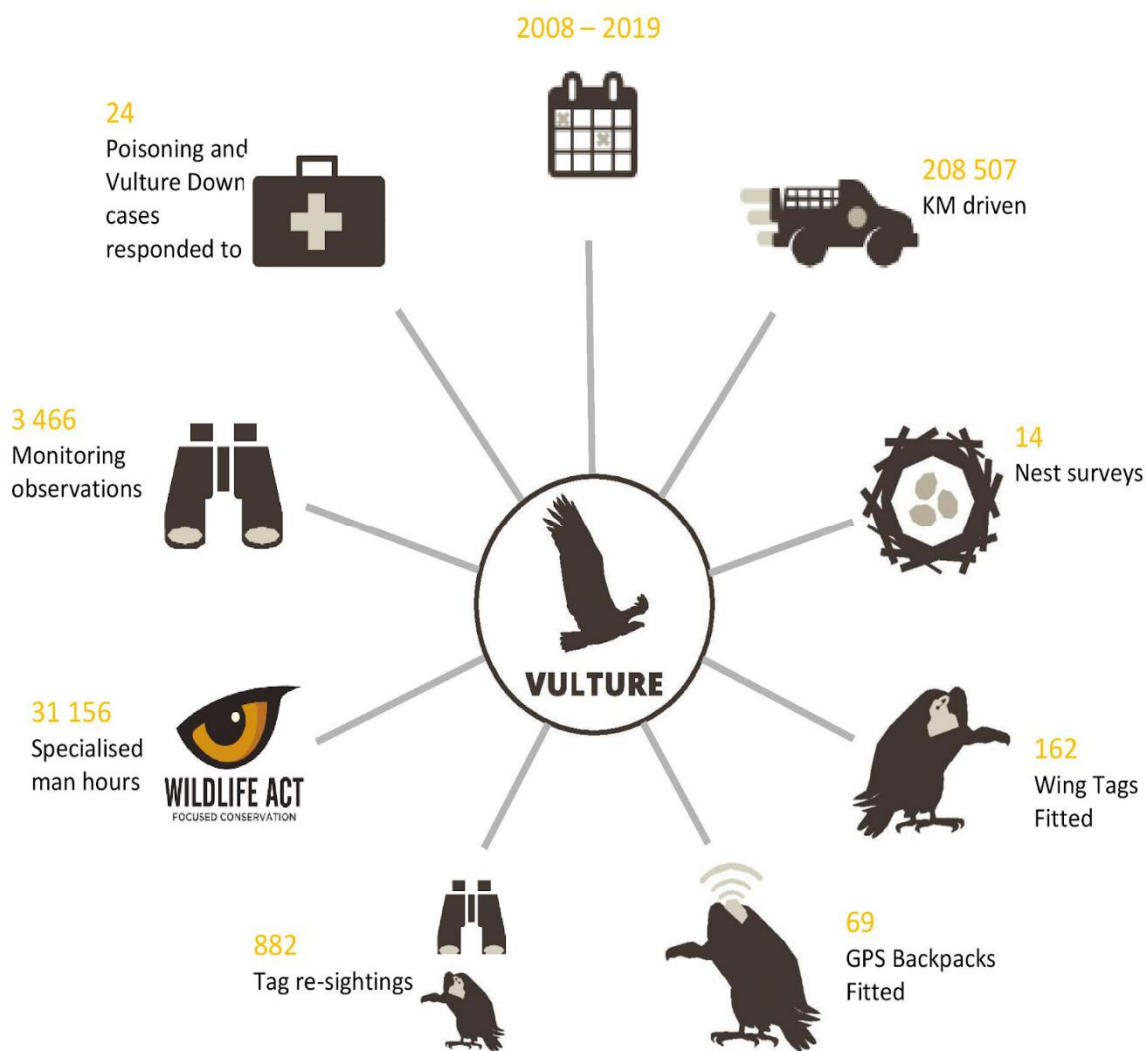


In aid of Vulture – 2019/2020 highlights.





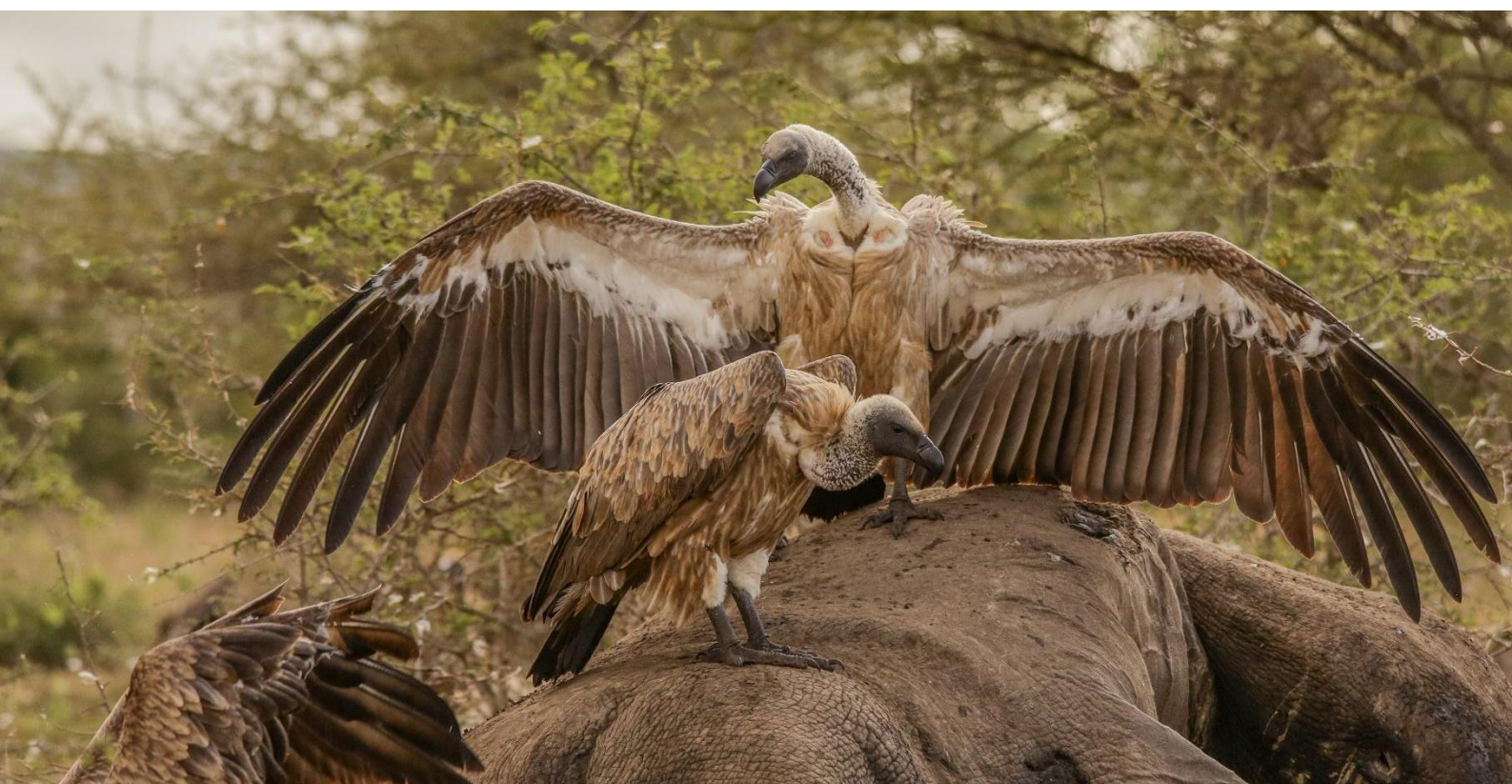
In aid of Vulture – 2008 - 2019 highlights.





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Vulture Conservation: An Overview

The critical ecosystem services that vultures provide in our environment is grossly underestimated and goes largely underappreciated. These incredible scavengers are remarkably efficient at disposing of rotting carcasses and reducing the spread of disease amongst wildlife, livestock and to humans (Houston and Cooper, 1975; Ogada et al., 2012). Without the presence of vultures, carcasses will remain exposed to the environment for weeks. The resultant build-up of extremely harmful diseases and bacteria such as anthrax, botulism and rabies have an impact on not only our wildlife but humans as well. Vultures therefore play a critical role in abating the ever-increasing global risk of pathogen spillovers to humans, saving us billions of dollars in fighting these diseases, as we have seen happen infamously in India when vulture numbers plummeted (Markandya et al., 2008).

Due to their wide-ranging habits, most vulture species are exposed to a wide variety of threats. These include poisoning for a number of different reasons; habitat degradation, population fragmentation, limited food availability, human disturbance, as well as electrical infrastructure collisions and electrocutions (Ogada et al., 2016).

Over the last two decades, conservationists have recorded steep vulture population declines across Africa, which has led to the development of various vulture conservation initiatives. Amongst these initiatives was an assessment carried out from 2013 to 2015 aimed at accurately assessing and reporting on the population status of all African vulture species. From this, the IUCN upgraded four vulture species to critically endangered and another three to endangered on the Red List of Threatened Species (Botha et al., 2017).

Of the six true vulture species occurring in South Africa, all are now classified as either Critically Endangered or Endangered (Table 1). All of these species have experienced major declines in recent times and in many areas up to 90% of the breeding populations have been wiped out (Ogada et al., 2016).

Table 1: The six resident species of vulture in South Africa

Bearded Vulture <i>Gypaetus barbatu</i>	Critically Endangered
African White-Backed Vulture <i>Gyps africanus</i>	Critically Endangered
White-headed Vulture <i>Trigonoceps occipitalis</i>	Critically Endangered
Cape Vulture <i>Gyps coprotheres</i>	Endangered
Lappet-faced Vulture <i>Torgos tracheliotos</i>	Endangered
Hooded Vulture <i>Necrosyrtes monachus</i>	Critically Endangered



Putting the Zululand Vulture Project into Perspective

During the early 2000's, the obvious decline in vulture numbers across Africa led to a workshop on reviewing the status of vulture conservation in South Africa (Monadjem et al., 2004). The Northern KwaZulu-Natal (KZN) region, also known as Zululand, has historically supported the southern-most range of all three tree-nesting vulture species found in South Africa. These are the Lappet-faced, White-Backed and White-headed Vultures. The population decline of these species was also recorded in the Zululand region which led to the development of The Zululand Vulture Project. This group was set up in order to provide guidance to the conservation management of vultures in Zululand, in line with the KZN Vulture Conservation Strategy. The Zululand Vulture Project was further guided by the Multi-species Action Plan to Conserve African-Eurasian Vultures (Vulture MsAP), when it was adopted in 2017 (Botha et al., 2017).

The Vulture MsAP was developed to cover the entire geographic range (128 countries) of the 15 species of old-world vultures. Its purpose is to promote concerted and collaborative international conservation actions to achieve three aims. These aims have been adapted by the KZN Vulture Conservation Strategy and are as follows:

- 1. To rapidly halt the current population declines of all vulture species in KwaZulu-Natal;**
- 2. To reverse recent population trends to bring the conservation status of each vulture species back to a favourable level; and**
- 3. To provide vulture conservation management guidelines applicable to all areas in KwaZulu-Natal.**

Following the development of the Vulture MsAP, the South African Department of Environmental Affairs implemented the development of the National Task Force. This initiative brings together representatives from relevant government departments and other stakeholders, including Wildlife ACT, for the benefit of vulture conservation through the following Multi-Species Biodiversity Management Plan (BMP) (Figure 1).

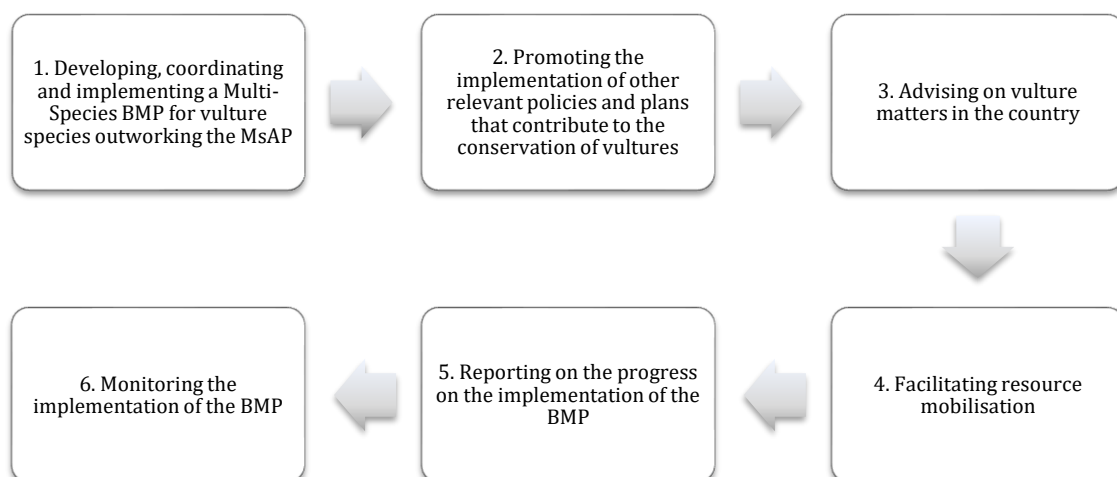


Figure 1: Implementation of the Multi-Species BMP developed for the conservation of vultures by the National Task Force.

The development of the BMP is still being completed with guidance from both the Vulture MsAP and the KZN Vulture Conservation Strategy.



Using both the Vulture MsAP aims and the KZN Vulture Conservation Strategy, the Zululand Vulture Project has identified the following priority actions and objectives:

1. To ensure that guidance and, when applicable, support is provided to all properties (whether state, private or communally owned in KZN), on vulture conservation and management issues.
2. To ensure the promotion of the conservation of vultures in KZN to all stakeholders.
3. To achieve a significant reduction in mortality of vultures caused by intentional poisoning including targeted belief-based use poisoning and sentinel poisoning.
4. To achieve a significant reduction in mortality of vultures caused by unintentional poisoning including lead-based ammunition poisoning, the misuse of non-steroidal anti-inflammatory drugs (NSAIDs) and other accidental poisoning.
5. To substantially reduce vulture mortality caused by electrocutions linked to energy generation and transmission infrastructure.
6. To ensure availability of an appropriate level of safe food sources in order to sustain healthy vulture populations.
7. To ensure availability of suitable habitat for vultures to nest, roost and forage as well as identify new potential sites for vulture research and monitoring.
8. To use marking and GPS tracking of vultures to determine long-term survival, dispersal and foraging movements of birds in order to identify potential threats and hot-spot areas where birds are particularly vulnerable and to help in identifying poisoning incidents.
9. To identify direct persecution and disturbance of vultures caused by human activities.
10. To support vulture conservation through cross-cutting actions that contribute to addressing knowledge gaps.
11. To support the implementation of vulture conservation education and awareness in KZN.
12. To ultimately advance vulture conservation by effective promotion and thorough implementation of the KZN Strategy.





The Zululand Population and its Decline

The resident breeding vulture population in Zululand can be divided into 2 clusters: the Hluhluwe-iMfolozi Park (HiP) cluster and the Northern-cluster, the latter including the uMkhuze, Pongola and Magudu breeding groups. The Northern-cluster crash has been the most severe, with an estimated 75% decline in nesting pairs since 2010 (Figure 2).

Table 2: The observed nesting pairs of the resident vulture species from the aerial surveys in KwaZulu-Natal for 2019.

Species	Northern-cluster Pairs	HiP-cluster Pairs	Regional Red Data Status
African White-backed	33	617	Critically Endangered
Lappet-faced	5	10	Endangered
White-headed	0	1*	Critically Endangered

*unconfirmed

The African White-Backed Vulture population has remained stable within Zululand, due to the increasing number of nesting pairs in the HiP cluster, even though they have declined in the Northern-cluster; however the Lappet-faced Vulture numbers have declined substantially from 20 pairs to just 12 pairs in the last decade, while the White-headed Vulture population in the region has plummeted, from seven to only one unconfirmed breeding pair remaining (Figure 3).



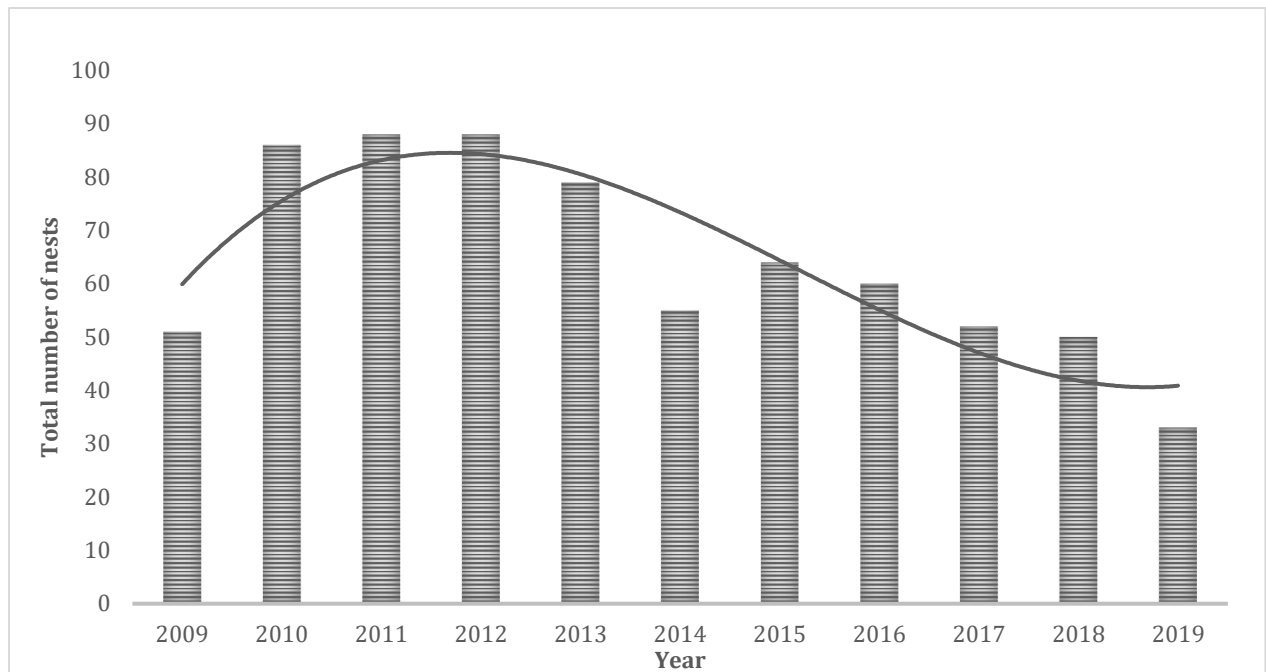


Figure 2: The known nesting pairs of all resident vulture species observed from the aerial surveys in the Northern-Cluster in KwaZulu-Natal.

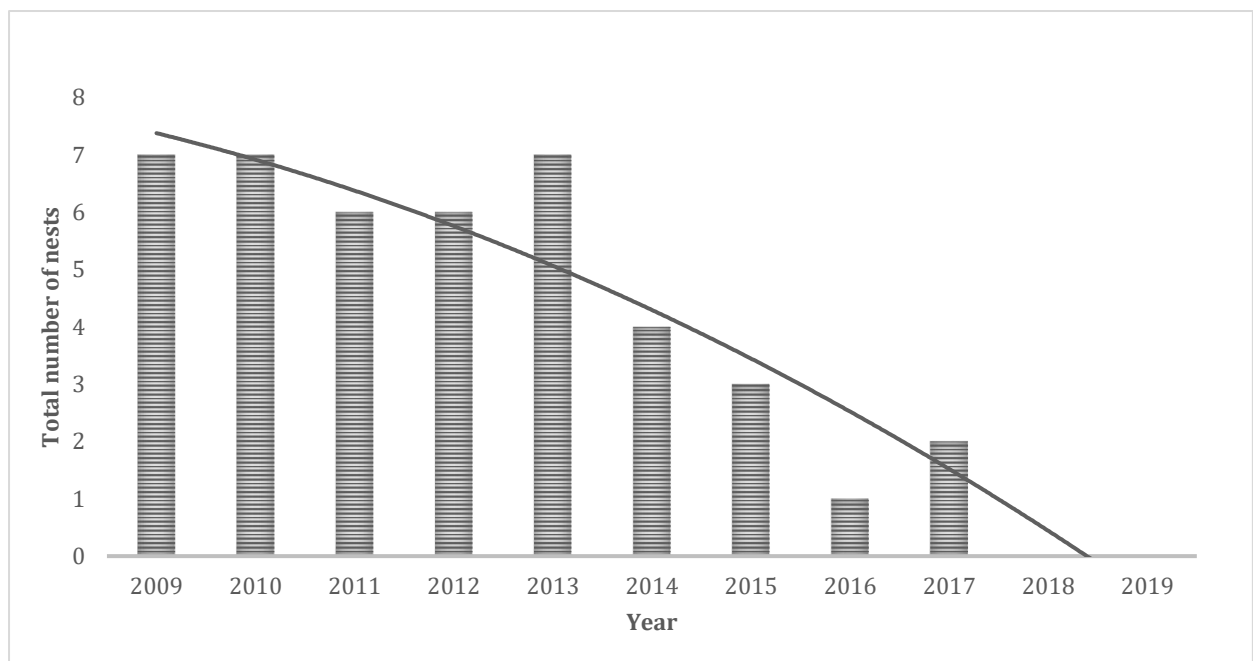


Figure 3: The nesting pairs of White-headed Vultures observed from the aerial surveys in KwaZulu-Natal.



Wildlife ACT

Wildlife ACT was established in South Africa in 2008 with a vision to save Africa's iconic and endangered species from extinction, thereby enabling broad-scale biodiversity conservation.

Through strategic partnerships and sustainable funding models, our mission is to:

- 1. Implement professional and strategic monitoring and research in order to enable and inform effective conservation management of wildlife;**
- 2. Identify and develop programmes within communities to support wildlife conservation;**
- 3. Secure existing protected areas and support range expansion of African wildlife.**

Wildlife ACT believes that partnerships are crucial to effectively carry out the work required in the conservation arena. Partnerships bring stability, accountability and consistency of approach with the benefits of continuity.

An Overview of Wildlife ACT's Vulture Conservation Programme

Wildlife ACT works closely with the provincial conservation authority, Ezemvelo KZN Wildlife, to help protect vultures in KwaZulu-Natal. We are committed and active members of strategic collaborations including Project Vulture KZN, the Zululand Vulture Project, the Bearded Vulture Task Force and the South African National Vulture Task Force. We are guided by the Multi-Species Action Plan to conserve African-Eurasian Vultures (Vulture MsAP) (Botha et al., 2017) and our efforts contribute towards the National Vulture Conservation Strategy.

Wildlife ACT is a longstanding and instrumental partner of the Zululand Vulture Project. Through our own Vulture Conservation Programme; our strategy is to use the following actions to firstly stabilise the population and then increase the breeding population of vultures in KZN and South Africa:

- Gain a better understanding of the ecology and fine-scale habits of vultures through the development and deployment of next-generation tracking technologies.
- Provide, train and equip personnel to swiftly identify, report and respond to vulture poisonings in order to reduce the total number of fatalities.
- Carry out lead level testing on all the individuals we capture in the field, to help monitor temporal changes, spatial changes and demographic patterns in lead levels across KZN. This will help us monitor the impact and effectiveness of the mitigations in place.
- Carry out comprehensive ground-truthing nest surveys to allow us to record fine-scale data from



the various nest sites across the breeding clusters, to better understand breeding success rate and causes of fledgling mortality.

- Gain a better understanding of the demand for vulture parts in the traditional medicine sector so as to develop meaningful demand reduction campaigns to ultimately reduce the poisoning of vultures.
- Through engagement, awareness and education, reduce the unintentional persecution of vultures and capacitate people to support vulture conservation in the region.

Vulture Monitoring

Tracking and tagging Project

One of the objectives, set during the early phases of the Zululand Vulture Project, was to determine the detailed demographics, movement patterns and habits of each vulture species occurring in KZN. Vultures have enormous ranges (Kane et al., 2016; Reading et al., 2019) and spend a small portion of time on the ground. Therefore, they cannot be contained or managed by conventional protected area management approaches. This presents a unique challenge for the monitoring and protection of these birds; therefore we deploy a number of innovative techniques to track their movements.

In order to observe movement data, over 150 patagial tags or rings have been fitted (Figure 4), 61 specially designed, lightweight GPS backpacks have been deployed to adult birds or fledglings (Figure 5), and 34 nest surveys have been carried out to date. The fine-scale data and frequent GPS locations we receive has dramatically increased our knowledge of vulture ecology helping to guide conservation action. Although there is still much to learn, monitoring and information-gathering resulted in a number of significant conclusions.





Figure 4: A camera trap image showing tagged African White-Backed Vulture, individual M042, in Zululand. Our team of specially trained biologists fit individual vultures with uniquely numbered wing tags which enables everyone, from members of the public through to protected area managers, to record and report on the locations of individuals. This information helps us understand movement patterns and habits, survival rates and other trends. To date there have been 882 tag re-sightings of individuals that were tagged by the Zululand Vulture Project.

Although survival rates continue to be evaluated and a better understanding of fine-scale movement continues to be defined, we can now accurately identify “vulture hotspots” using data from the GPS backpacks (Figure 5). This knowledge is crucial when establishing “vulture safe zones” (Bhusal, 2018; Botha et al., 2017) for the protection of breeding and roosting sites; identified flight corridors and feeding areas. Therefore, we can ensure that these “vulture hotspots” are where our energy is focused.

Further to this, Wildlife ACT uses the aforementioned tracking techniques to monitor poisoned vultures that have been rehabilitated and released back into the wild. This helps us to determine the success of their rehabilitation by recording the survival success of these compromised individuals.

Wildlife ACT are proud of what has been achieved through our application of novel tracking technology to monitor these extraordinary birds across their ranges. We have seen the far-ranging behaviour of these vultures, and we recognise the need for and thus welcome large-scale collaborations and conservation efforts that entail cooperation between state, private and communal entities that work across provincial, national and continental borders.



Figure 2: A young African White-Backed Vulture fitted with a GPS tracking unit. While data continues to be evaluated to determine survival rates and better understand fine-scale movements, we can now accurately identify “vulture hotspots”, crucial when establishing “Vulture safe zones” (Bhusal, 2018; Botha et al., 2017) for the protection of breeding and roosting sites; identified flight corridors and feeding areas.

Tracking Results

The following distribution maps (Figure 6 & Figure 7), have been created using GPS location data from the satellite backpacks. These were deployed as part of the Zululand Vulture Project’s work towards a better understanding of the local population of African White-backed, Lappet-faced and White-headed Vultures. With their small solar panels, these lightweight backpacks can last for more than five years, and the data recorded includes flight altitude and speed. The data has, and will continue to reveal important behavioral information for these Zululand vulture species.

For example, electrical powerlines are a major threat to vultures, killing them through collision and electrocutions. Figure 6 (below) illustrates how hotspots and flight paths can be accurately identified by analysing data received from backpacks fitted to resident vultures. During 2019, data points were used to help determine the best vulture-safe route for a new powerline route in Zululand.

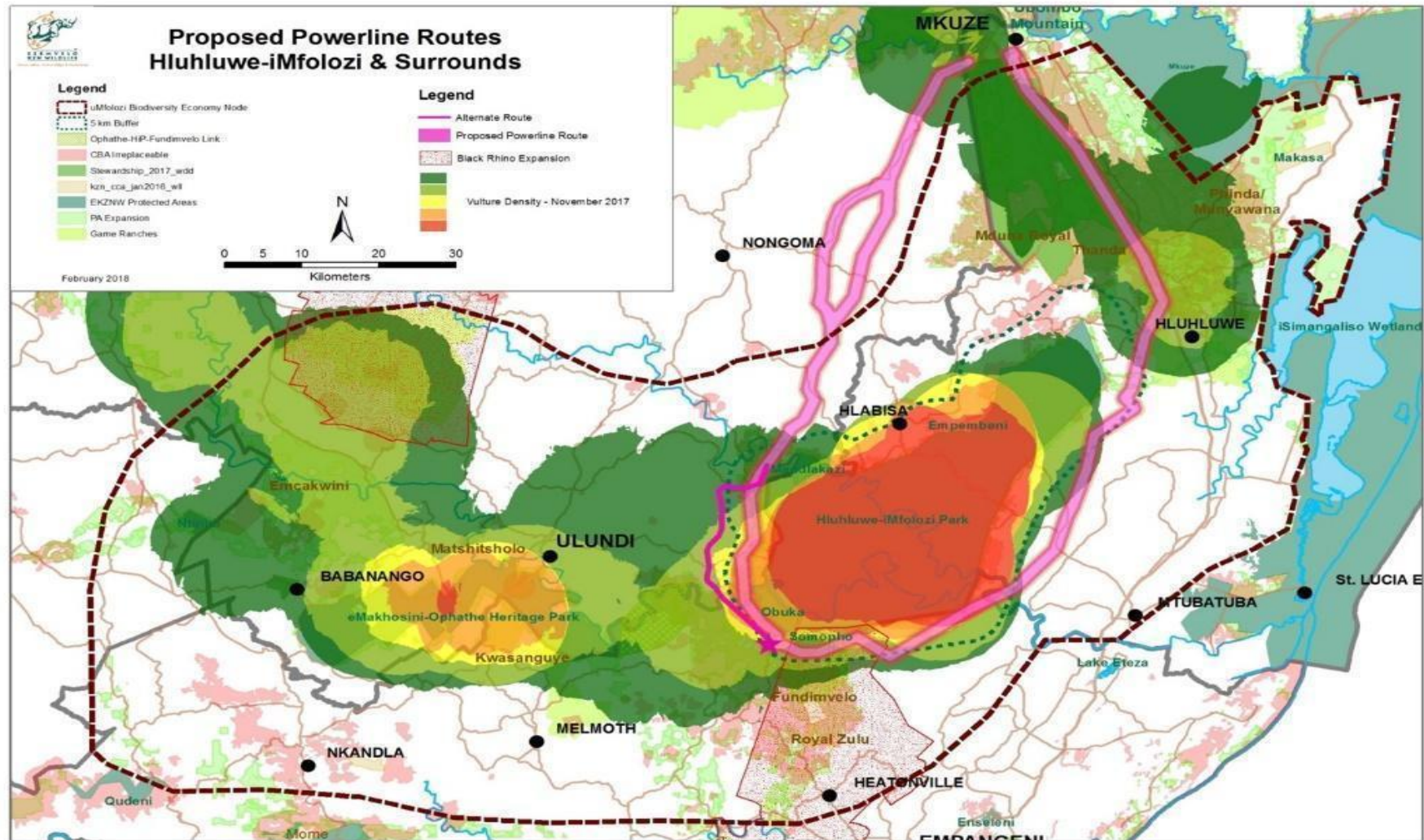


Figure 3: Hotspots and flight paths accurately identified using fine-scale data from GPS units fitted to resident vultures. These data were used to determine and guide Eskom to use the best route for a new powerline construction, a major success. B. Coverdale & Ezemvelo KZN Wildlife, 2019



Figure 7: A comparison of a Sub-Adult White-headed Vulture's movement over 3 years and a Sub-adult African White-Backed Vulture's movement over a period of 4 months.



Furthermore, species-specific behavior can be inferred from GPS movement data. This is illustrated by Figure 8 (above) where a White-headed Vulture appears to utilise a relatively small home range, compared to the vast range of an African White-Backed Vulture. This suggests a delayed recruitment period for White-headed Vultures in the Zululand region. This also highlights that conservation measures need to be adapted accordingly for each species.

Emergency Response Team

The Wildlife ACT Emergency Response Team (ERT) was established in 2011 with the aim of providing emergency support to endangered species in peril. The ERT manifests itself through a dedicated rapid response team of technically trained staff with the appropriate equipment. A dedicated fund for emergency response further enables the upskilling of our field-staff, as well as the funding of field operations and veterinarian support. The unit is staffed with eight senior members and continues to grow, providing a vital resource for endangered species recovery within the Zululand region.

Vulture Poisoning Response

In KwaZulu-Natal, poisoning in various forms is a major threat for vultures and has a detrimental impact on these dwindling populations. Deliberate killing of vultures for illegal trade and belief-based use (superstitions) is one of the main drivers of these intentional poisonings (Ogada et al., 2016). Poachers lace carcasses with pesticides that are lethal to any living species and within hours hundreds of vultures and other scavengers may be killed. The poachers collect the dead birds, harvest the favoured body parts and then sell them at traditional markets (McKean and Mander, 2007). The pesticides used are extremely toxic, resulting in death within hours and sometimes even minutes. Some birds, however, manage to fly away after feeding and later die far away from the original carcass. These poisoned birds create additional poisoning sites, which when scavenged upon spread the number of fatalities across a much larger area. The poison most commonly used is a pesticide called Aldicarb, also known as Temik. Although the use and possessions of this pesticide was banned in 2013 it is still easy to obtain through neighbouring countries.

Identifying poisoning events and responding quickly to these in order to mitigate mass mortalities is critical. In 2019 we carried out eight emergency response operations, saving hundreds of vultures through the rapid and effective decontamination of poisoning sites, and rescuing 6 poisoned vultures directly (Table 3). Due to Wildlife ACT's position as a leading wildlife monitoring organisation in KZN - monitoring endangered species across five reserves daily - and as an active partner in the Zululand Vulture Project, our staff are often first respondents in emergency situations. A dedicated emergency response fund has allowed us to empower our field staff with the right training and equipment to respond rapidly and efficiently to poisoning incidents and "Vulture Down" scenarios, while the ERT is en-route in a dedicated vehicle with specialized equipment. We also have a dedicated budget to call on a helicopter, which is a vital tool allowing for better coverage and surveillance from the air to locate poisoned vultures that have flown away from the scene.



Table 3: Summary of the eight incidents that the Emergency Response Team responded to in 2019.

EVENT	Date	Birds Killed	Birds Rescued	Successfully Rehabilitated	KM Driven	Man Hours	Hours Flown
Event 1	June 2019	7 AWB, 3 LFV and 1 WHV	0	0	100	22	1
Event 2	June 2019	17 AWB	2 AWB	2 AWB	400	14	1
Event 3	August 2019	9 AWB	2 AWB	2 AWB	1600	44	3
Event 4	September 2019	1 Cape Vulture	-	-	700	16	1.5
Event 5	October 2019	2 LFV	-	-	60	4	0
Event 6	October 2019	-	1 LFV	1 LFV	370	4	0
Event 7	October 2019	-	1 AWB	1 AWB	400	18	0
Event 8	December 2019	15 AWB and 1 LFV	-	-	600	30	1.5
Total	June-December 2019	48x AWB, 6x LFV, 1x Cape Vulture and 1x WHV	5x AWB and 1x LFV	5x AWB and 1x LFV	4230	152	8

Awareness campaigns and well-integrated local networks lead to swift incident feedback, allowing for rapid response by our expert staff, which is paramount. Mass killings in Botswana and other countries illustrate cases where delayed detection and a lack of rapid emergency response resulted in the death of hundreds of vultures amongst other species. As such, we aim to increase our engagement with protected area management teams, and capacitate more personnel through poisoning training programmes to help support vulture conservation both in the local region and throughout the country.





Lead-poisoning

We continue to carry out lead level testing on all the individuals we capture and sample in the field, with an aim to sample 50 individuals in KZN annually. This will aid in monitoring the levels over time and help to determine the impact and effectiveness of the mitigations in place. Since a portable field-testing device is used (Figure 8) we can immediately treat those vultures with a high level of lead toxicity.

Lead-poisoning has been largely overlooked in the past, but more recently has been identified as a threat to vultures (Krüger and Amar, 2018). The irresponsible use of lead-based ammunition results in vultures feeding on contaminated carcasses, consisting of both wild game and domestic animals. Tiny fragments are ingested, which impact both the nervous and reproductive systems. Birds with lead poisoning will exhibit loss of balance, gasping, tremors and an impaired ability to fly. Emaciation follows and death can occur within two to three weeks after lead ingestion.



Figure 4: Portable device that is used to test for lead levels from individuals sampled in the field.

Studies have revealed that vultures have elevated lead levels across most of Southern Africa, including KZN (Krüger and Amar, 2018; Naidoo et al., 2017). This has been linked to irresponsible use of lead-based ammunition in the region (Naidoo et al., 2017).

As we proceed in further investigating the degree to which this form of poisoning impacts vultures, we continue to carry out awareness and mitigation measures in attempt to reduce the chances of vultures being exposed to lead in carcasses. While officials and various stakeholders are exploring ways to halt the use of lead-based ammunition entirely; protocols have been established to ensure the correct management and disposal of lead-contaminated carcasses.



Nest Surveys

Breeding success can be used to measure the health of vulture populations and it is therefore an important aspect of life history to be closely monitored. Vultures are currently only breeding within well-established protected areas in KZN and as a result, the breeding populations of the region's vultures are restricted to small, fragmented parcels of land. A long-term aerial survey is carried out annually by Ezemvelo KZN Wildlife to support the KZN Vulture Strategy. The aerial nest survey is integral to understanding long term trends in nesting pair abundance and success in Zululand. Although they are showing a steep decline in all three tree-nesting species in the northern breeding cluster, the HiP breeding cluster is increasing.

Wildlife ACT compliments these aerial nest surveys by carrying out comprehensive ground truthing surveys at these sites. These allow us to record more fine-scale data from the various nest sites across the breeding clusters and are essential when trying to understand success rate and causes of mortality. They also give insight into other important information such as tree selection (species and size), elephant damage (Rushworth et al., 2018) and other potential threats.

A clear example of the importance of ground truthing can be taken from last year's survey, during which the team discovered the remains of a male Lappet-faced Vulture below a nest (Figure 9). His body showed clear signs that poison was the cause of death. Further inspection found a dead chick in the nest above. The dead adult was confirmed, from a ring tag, to be H036, who was tagged as a fledgling on 13 October 2015. This discovery informed us of two important things: 1) Poison has a far reaching impact and through adult mortality, may be impacting the breeding success of the population, and 2) although previously believed to only breed at 7 years old, this is our 3rd discovery of a Lappet-faced Vulture to possibly be breeding as early as 4 years old.



Figure 5: Lappet-faced Vulture H036 recovered during the 2019 ground-truthing survey, along with a dead chick in the nest above. This information would have remained unknown without these on the ground surveys.



Understanding and Responding to the Demand for Traditional Medicine

Vulture and other wildlife body parts have long been utilised by humans to treat certain physical and emotional ailments (McKean and Mander, 2007). In many cases the effect of these animal parts has not been medically proven. However, in the traditional markets they are still used as per the advice of traditional healers. This has led to increased pressure on wildlife for their medicinal use, especially as human populations expand and disposable income in urban settings increases.

In order to better understand the factors influencing the traditional medicine market, the Zululand Vulture Project, Wildlife ACT and Ezemvelo KZN Wildlife have undertaken a project to better understand some of the variables within the market, including:

- **Species targeted and their availability**
- **Targeted body parts**
- **Price**
- **Demand**
- **Market supply**
- **Source of supply**

By developing an understanding of the elements in the demand-and-supply chain, we can better understand the factors driving the demand for live species inside (and outside) of protected areas. Simultaneously, Wildlife ACT, through our Community Conservation Programme, can leverage off our community engagement and conservation education programmes to develop conservation ambassadors who promote the value of live wildlife and intact environments. This helps to spread the conservation message as an alternative to the short-term benefits of poaching.

Wildlife ACT's community conservation team visited both the Mona and Warwick Junction markets in KZN during the year.

Summary of findings:

- The general trend seems to be that the town markets rely on the Mona for supply.
- Poisons are readily accessible and mainly on sale for the destruction of pests in the household, such as rodents.
- The majority of traders say that the birds are shot. This may, however, be to hide the fact that they were poisoned since people are now slightly more aware of the problems around poison.
- It is not clear as to who actually does the killing and if the dealers are reliant on collectors. Traders may find it in their interests to say that the parts were obtained personally because it creates trust between buyer and seller.
- There seems to be little to no price difference between the different vulture species.
- Generally, the sellers were not afraid to talk openly about the subject and some at Mona had the vulture body parts out in full view.



- The vast majority of birds observed were African White-backed; likely due to their greater numbers in the wild.
- There is no monitoring or control over what is sold at the Mona Market which is by far the biggest supplier to all the sub-markets in the greater area. There is a huge variety in what is available, from plants and genet skins to elephant bones.

In addition, Wildlife ACT, SANBI, Ezemvelo KZN Wildlife and the University of KwaZulu-Natal are collaborating to support and guide research by a PhD candidate, Nomthandazo Sam Manqe. The research topic aims at *Addressing the traditional medicine use of Vultures through social change in communities surrounding illegal Vulture harvesting hotspots in KwaZulu-Natal, South Africa*.

Education and Awareness

All too often, communities who live around game reserves are ostracised from conservation areas, which frequently leads to conflict rather than cooperation. Engagement between protected areas and communities can unfortunately be minimal and often only carried out reactively under high stress situations, thus leading to a poor understanding from both sides of each other's situation. We cannot expect rural communities who are desperate to sustain themselves, to view protected areas as anything other than as a potential means of survival.

Wildlife ACT, through our Community Conservation Programme (CCP), works to develop awareness of, and build empathy towards, wildlife and conservation amongst children and youth from communities bordering game reserves in Zululand (Table 4). Through this programme, we aim to inspire a broad base of support through primary school engagement; to strengthen the skills and appreciation at the high school level; and to provide career guidance and leadership development for school leavers. Wildlife ACT also works with the traditional leadership to strengthen governance within target communities and establish networks through which conflict and opportunities with wildlife can be effectively communicated. During the discussions at these various stages, Wildlife ACT community liaison staff members communicate the important role that vultures play in the environment, highlighting their value as scavengers in the ecosystem, as well as their cultural value.

By creating knowledge and developing opportunities within the conservation sector, we can move to a point where the benefits of wildlife can accrue locally, rather than the current status quo in which local residents experience few benefits and many of the costs.

Table 4: Wildlife ACT carried out the following community engagement work during 2019.

Focused Conservation Education Bush Camps			Individuals reached through Experiences and Presentations				Community Meetings
School Bush Camps	Participating Children	Participating Adults	School Presentations	Community Presentations	School Game Drives	Community Game Drives	Formal Meetings Attended
14	378	104	1352	2049	903	45	95

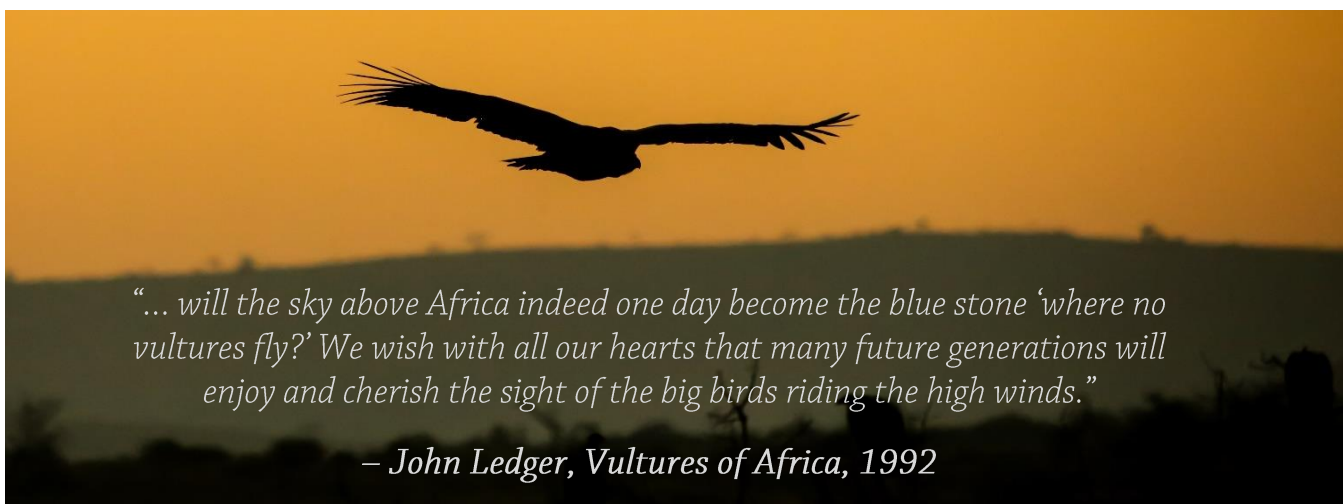


Conclusion

These are uncertain times. We are living through a global extinction crisis, and are currently faced by a global pandemic that has brought the world to a standstill, causing havoc within the socio-economic sphere. Here, in Zululand, the extinction crisis can be felt on the ground with the local extinction of White-headed Vultures looming on the horizon as well as the sudden upsurge of mass poisoning events in the northern cluster. While much is still unknown on the Pandemic, the link between the virus and the exploitation of wildlife has caused humans to take a step back and consider the risks involved in these trade forms, and it has underlined the importance of healthy ecosystem services, of which vultures play a critical role. The severity of the challenges that face our vultures is becoming ever more tangible and seemingly confounding but we must not lose hope. Wildlife ACT and the Zululand Vulture Project have founded solutions that do work towards saving Zululand's vulture populations.

Over the 2019/2020 period we have continued our valuable support to vulture conservation and the Zululand Vulture Project by providing consistent and reliable effort through monitoring and the use of the latest tracking technology, rapid response, lead testing, nest ground-truthing and research and awareness. Our work has been instrumental in supporting vulture conservation in KwaZulu-Natal and South Africa. Together with our partners, Wildlife ACT will continue to work towards stabilising the breeding population in northern KwaZulu-Natal through the actions outlined by the Zululand Vulture Project. As members of the National Task Force we will support the implementation of the newly developed Multi-Species Biodiversity Management Plan (BMP) for vulture species.

Together we need to continue to do all we can to save the vultures. Thanks to the support from our sponsors, followers and ambassadors, without whom, the work we do to save this vitally important group of birds would not be possible. Thank you to all of you for your support, but also a special thanks to our dedicated team on the frontlines who have spent countless hours collecting information we need and who have endured some harrowing scenes while actively responding to vulture emergencies.





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