



**MABULA GROUND
HORNBILL PROJECT**

ANNUAL REPORT

2019/2020



#UNDERSTAND-LOVE-PROTECT



OUR MISSION

To reverse the decline of the Southern Ground-Hornbill (*Bucorvus leadbeateri*) population in its historical range in South Africa, and support conservation efforts in the rest of its range.

OUR YEAR AT A GLANCE



5 peer-reviewed papers



27 schools in rural areas



19 popular articles



8 reintroductions

5454 school learners

1518 adults

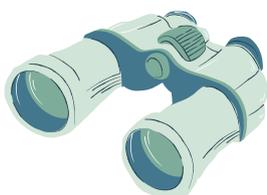


24 communities



8 traditional authority councils

1 national monitoring plan launched



8641 sighting records

CHAIRMAN'S REPORT

I write this report in unprecedented times, as the world fights the COVID-19 pandemic and grapples with how to dismantle systemic and structural racism. The team finished 2019 on a high, having achieved the goals they set out to do. They developed a sound year plan for 2020 during a three-day systematic planning workshop, and despite 2020 unraveling the team have kept the Project on course.

They have maintained all their team on site and on full salary and have continued to meet the targets that were set for them. Never have we been more grateful to have built a financial buffer over the years to ensure that even during a time like this COVID pandemic the team has been able to be maintained and will lose none of their momentum in doing all they can to ensure a future for Southern Ground-Hornbills.

The team has had a very productive year in terms of research:-

- Dr Samara Danel, a cognitive-behavior specialist, now at Oxford University, has unraveled the intelligence and cognitive capabilities of the species. This has allowed the team a much better understanding of what goes on in a ground-hornbill's mind.
- Our Project manager, Dr Lucy Kemp, supervised an Honours student, Andries Janse van Vuuren, who unraveled how the species use their large bills and bare facial skin to offload heat, which ability will be of great importance as we see our climate warm.
- Another of Lucy's students, Sophie Neller, also had her paper accepted for publication, investigating what why some males exhibit female colouration and what this means for individual fitness.
- Lucy together with intern Paige Ezzey published that the species is also capable of kidnapping.

These papers are all a great contribution to the knowledge base of the species, to enable better science-based decision making, and also shows the high quality of research that the team undertakes.

The Project has been privileged to have multiple awareness opportunities. The greatest is that BirdLife South Africa chose the Southern Ground-Hornbill as the BirdLife Bird of the Year 2020. This beautiful collaboration has, in turn, brought with it numerous additional opportunities for sharing the plight of the species with South Africans.

The team has been granted permission to continue the long-term monitoring project that has been running since 1966, in both Kruger and Mapungubwe National Parks. They, together with Dr Gareth Tate from the Endangered Wildlife Trust, will be able to re-analyze all the historic data and continue to ensure that South Africa's core population remains safe and protected within the boundaries of these protected areas.

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Beyond these boundaries the team have made much progress in outreach work in rural communities, particularly in Southern KwaZulu-Natal/Southern Zululand, in the Centocow-Creighton Area, Bulwer, Hlokizi-Highflats area, Howick, Dalton area and Durban. In Northern Zululand their outreach programs covered the Eshowe, Melmoth, Ulundi, Manyoni and Pongola areas. The team have also managed to successfully, together with the veterinary team at Onderstepoort, to recover an entire group of five individuals from lead toxicosis and saved the life of a juvenile that was hit by a car in Northern Limpopo.

Capacity-building within the team continues with both Dr Jarryd Alexander and Patience Shito having passed the Animals Ethics Course (University of Cape Town) as part of their efforts to become registered by the South African Veterinary Council. Patience Shito also passed her eLearning Wildlife Conservation Course WildCRU/ Oxford online course. The team, together with Dr Katja Koepfel (University of Pretoria/Onderstepoort), also hosted an avian first aid course to allow all field workers to work confidently with an injured or sick bird until it can be safely transported to a vet.

In terms of conservation leadership, Dr Lucy Kemp continued her training from the IUCN SSC Conservation Planning Specialist Group, in Buenos Aires, Argentina, and this led to the successful facilitation with the first formal intra-Africa collaboration, which brought about the Conservation Action Plan for ground-hornbills in Zimbabwe. She was also one of the panel at the Rufford Grants Conference, Livingstone, Zambia, helping to guide younger grant recipients on how to achieve as much as possible using these grants. As co-chair of the IUCN SSC Hornbill Specialist Group she also participated in the Chairs meeting in Abu Dhabi. She represents the species and the Project on both the national Wildlife Poisoning Prevention Working Group, and the Lead Task Force, which is working with industry and government to find policy and behaviour-change solutions to wildlife poisoning.

Thus far the biggest step for the year has been launching the National Monitoring Plan. This will allow for assessing population status and trends and allow for tracking of conservation targets. The team is utilizing all possible avenues to get more and more South Africans invested in caring for this species - with a total of 15 community Whatsapp group's now yielding sighting data every single day.

All in all the Project team have been extremely busy notwithstanding the lockdown and not being able to leave the reserve over this period, and are all to be expressly congratulated on what they have been able to achieve under these circumstances.



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MESSAGE FROM OUR FOUNDER



I just love all this wonderful world of technology, keeping us together through the world lockdown....And how I admire the work you all do to show the advances of the Project from when I left it 10 years ago in Lucy's capable hands. Thank you all and a huge well done. Onward and Upward!

Ann Turner 2020

PUBLICATIONS

PUBLISHED

Janse van Vuuren, Andries; Kemp, Lucy; McKechnie, A. **The beak and unfeathered skin as heat radiators in the Southern Ground-hornbill.** J. Avian Biol.

Kemp, L. V. et al. **Review of trial reintroductions of the long-lived, cooperative breeding Southern Ground-Hornbill *Bucorvus leadbeateri*.** Bird Conserv. Int.

Kemp, L. V. & Ezzey, P. **Report of kidnapping in cooperative breeding Southern Ground-Hornbill in South Africa with consequences for conservation reintroductions.** Ostrich J. African Ornithol.

ACCEPTED

Scheun, J., Neller, S., Bennett, N., Kemp, L. V. & Ganswindt, A. **Endocrine correlates of gender and throat colouration in the Southern Ground-Hornbill (*Bucorvus leadbeateri*).** Integrative Zoology.

Koeppel, K. N. & Kemp, L. **Immuno-efficacy of a Newcastle Disease Virus vaccine for use in Endangered Southern Ground-Hornbill *Bucorvus leadbeateri*.** J. Avian Med. Surgery.



OUR COVID-19 RESPONSE



The team is doing everything to ensure that they, and the people around them, are as safe as possible from contracting the COVID-19 virus. Two of the team are considered high risk and so the team has rallied to keep them safe. Masks, shields and sanitiser are the order of the day and the office has remained closed since the initial lockdown, and everyone is working from home.

The team has restructured their annual work plan to ensure that they can still achieve all of the objective targets. The time has been valuable as it has allowed the team to update databases, analyse data, prepare papers for publication, work on streamlining our Theory of Change, and build new partnerships.



GOVERNANCE

The Mabula Ground Hornbill Project has a multi-disciplinary Board of Directors. The Board meets regularly and is responsible for the key elements of governance, annual budget approval and financial management.

BOARD OF DIRECTORS

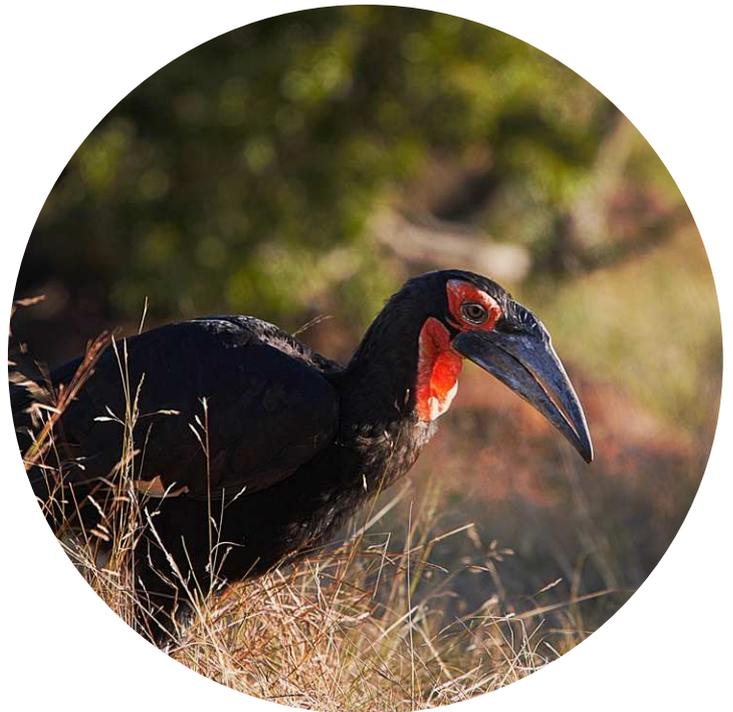
Malcolm Cumming (Chair)
Dr Rob Little (Vice Chair)
Mrs Elsa Taylor (Treasurer)
Prof Antoinette Kotze
Dr Hanneline Smit-Robinson
Mr Jaishankar Ramchandran
Mr Wouter Pienaar
Mr Kobus Havemann
Mr Bobby Godsell

FOUNDER

Ann Turner (1999)

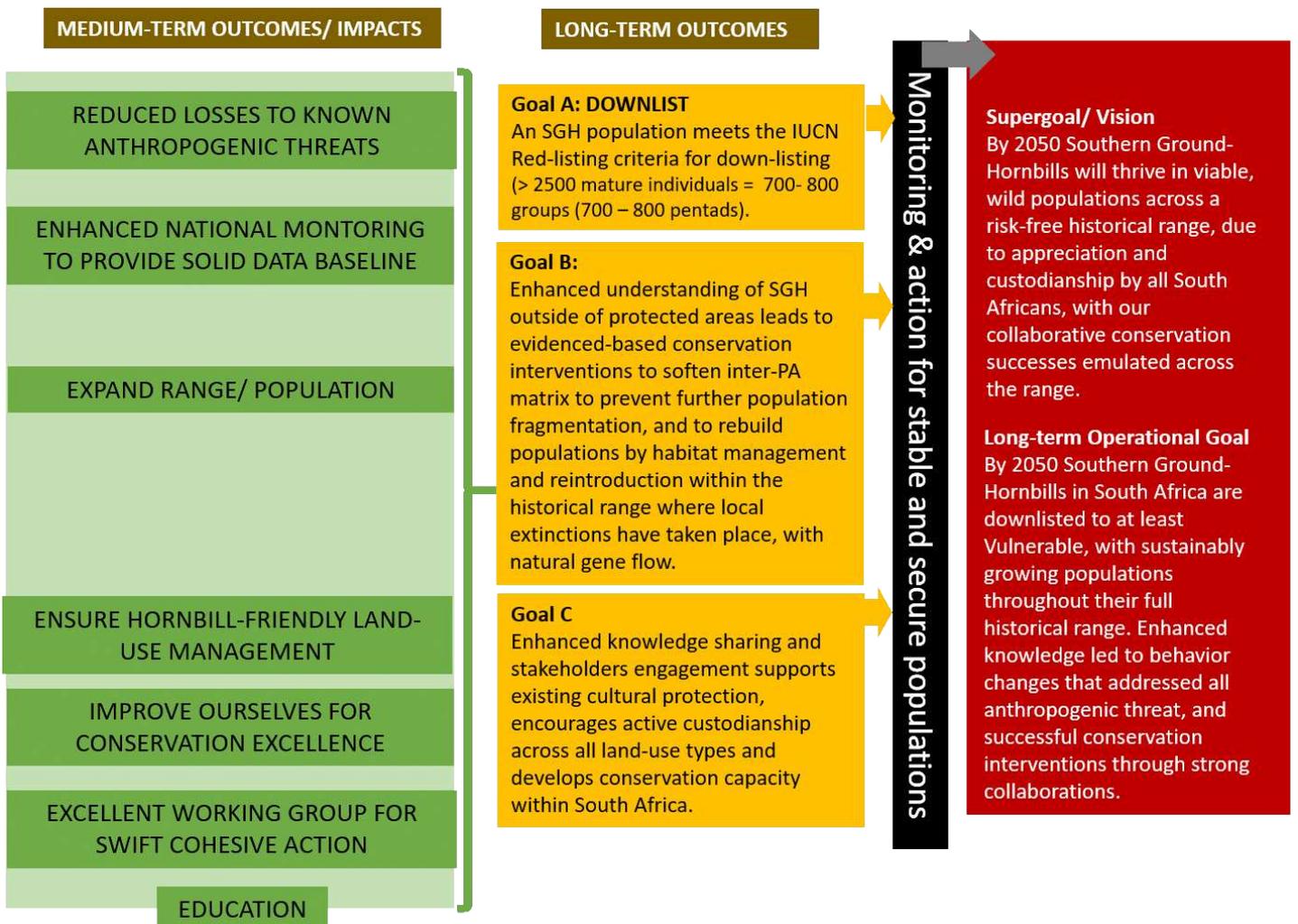
LEGAL STATUS

The Mabula Ground Hornbill Project is a non-profit organisation with NPO registration number 016-183 and is sanctioned by the South African Revenue Service as Public Benefit Organisation, number PBO 13/00/00/723.



OUR THEORY OF CHANGE

Our medium term goals are outline below, each with several, often inter-linking objectives.



OUR STRATEGY

All our activities are achieved in collaboration with local communities, collaborators and stakeholders with the intention of being a world-class conservation programme. Below are our three long-term goals:

goal 1



To **secure** current ecologically stable Southern Ground-Hornbill populations in South Africa, with no concomitant increase in persecution for window-breaking. This will require reducing all current threats – poison, persecution, electrocution, trade – and increasing community engagement.

goal 2



To **rebuild**, through a trans-disciplinary reintroduction programme based on best-practice and sound peer-reviewed research, Southern Ground-Hornbill populations in areas where they have become locally extinct. Focus will be on numerical targets that take into account the species complex social requirements in addition to being physiologically and genetically well chosen.

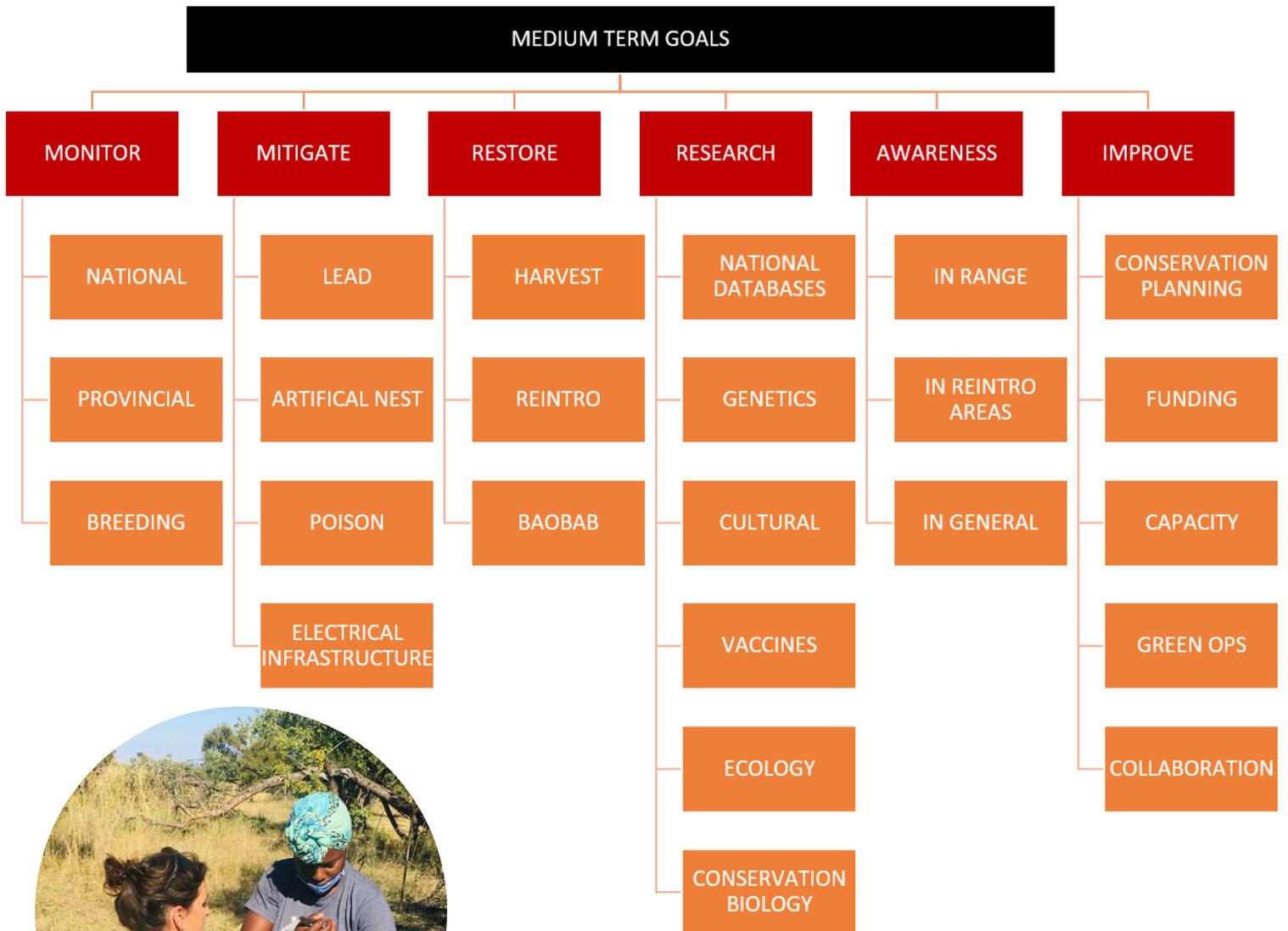
goal 3



To use the Southern Ground-Hornbill as flagship species for all savannah species. Any successful threat mitigations will thus be gains for species such as vultures and Secretary birds. In addition a locally relevant, sustainable environmental education and skills training program will enhance local landowner participation in conservation and continue to nurture conservation as a career option in these communities, ensuring MGHP is able to help grow conservation capacity in Africa.

OUR SIX PILLARS

Our medium term goals are outline below, each with several, often inter-linking objectives.



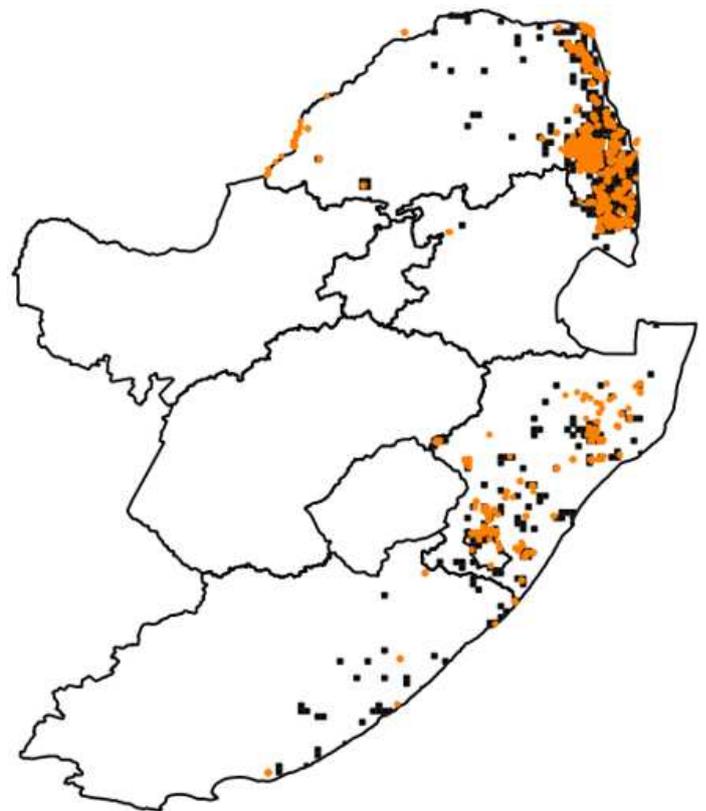
MONITOR

Provide long-term monitoring of the status of SGHs and their threats to assess trends in populations, success of interventions and determine thresholds of potential concern.

National monitoring plan:

Since the launch of the national monitoring plan in January 2020 we have successfully grown the number of Champions to 15 (local residents who run Whatsapp groups whereby all their community members submit local ground-hornbill sightings) and this now includes 3 corporate agroforestry groups for SAPPI, NCT Timber and Merensky. This has significantly expanded the areas we can reach, and secured records for areas from where no previous records exist.

Sighting database: 3283 new sighting records, mapped here in orange, and overlain on the base data, in **black**, for 2009 -2019, were accumulated in total of which 57 are from areas where no previous records exists, thus adding 57 new pentads, and thus by extension an additional 200 birds to previous estimates. This however assumes all previously inhabited pentads remain occupied.

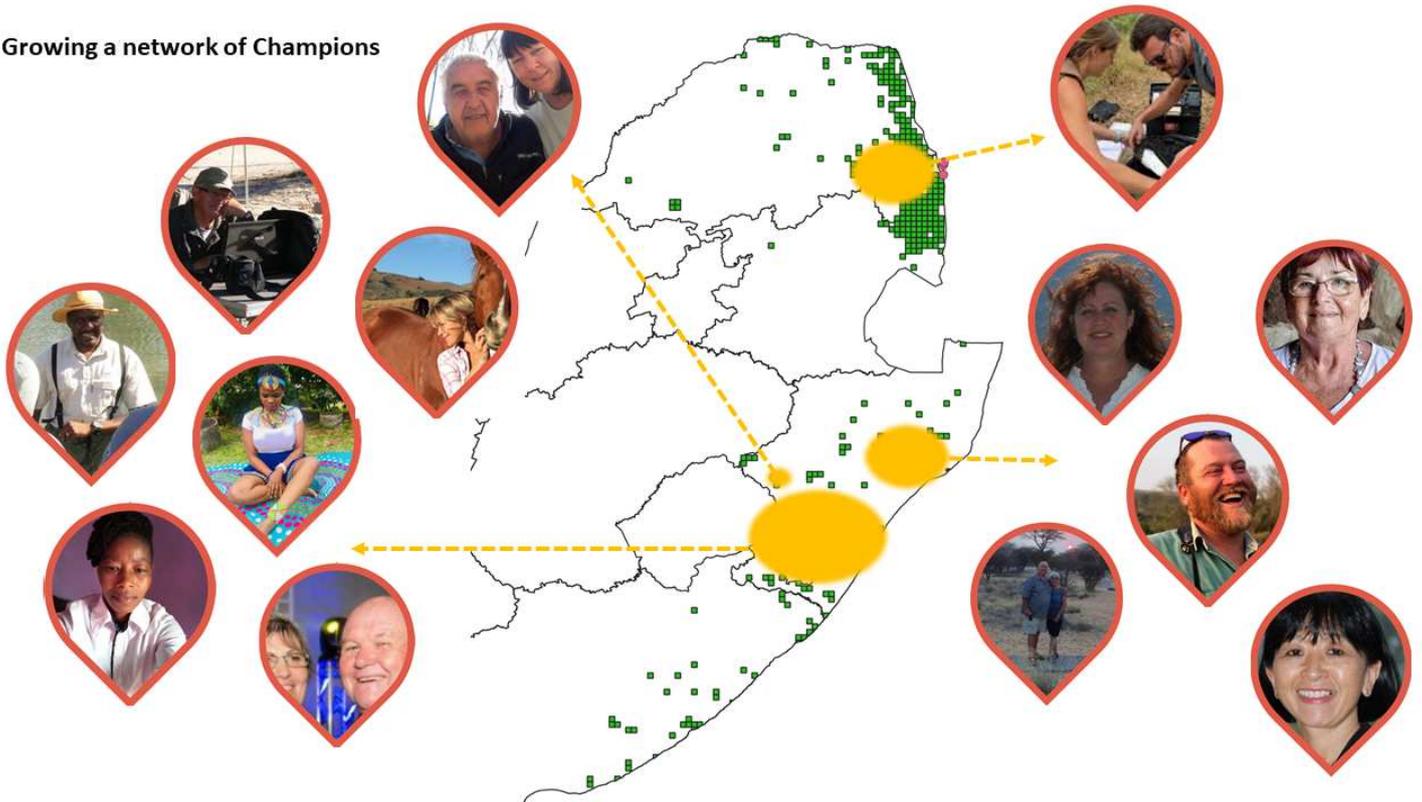


We continue to maintain a national database for the following:-

- Locality data
- Mortality data
- Threat incidence data
- Window-breaking data
- Newcastle disease vaccines
- Blood lead concentrations
- Veterinary interventions
- Post-mortems
- Nests

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Growing a network of Champions



We conducted our annual nest monitoring across KwaZulu-Natal and in the Limpopo River Valley, assessing productivity/ safety of known nests and then searching for new nests as we grow the Custodianship programme. This year saw the start of the team using drones to check very high or inaccessible nests and it worked incredibly well.

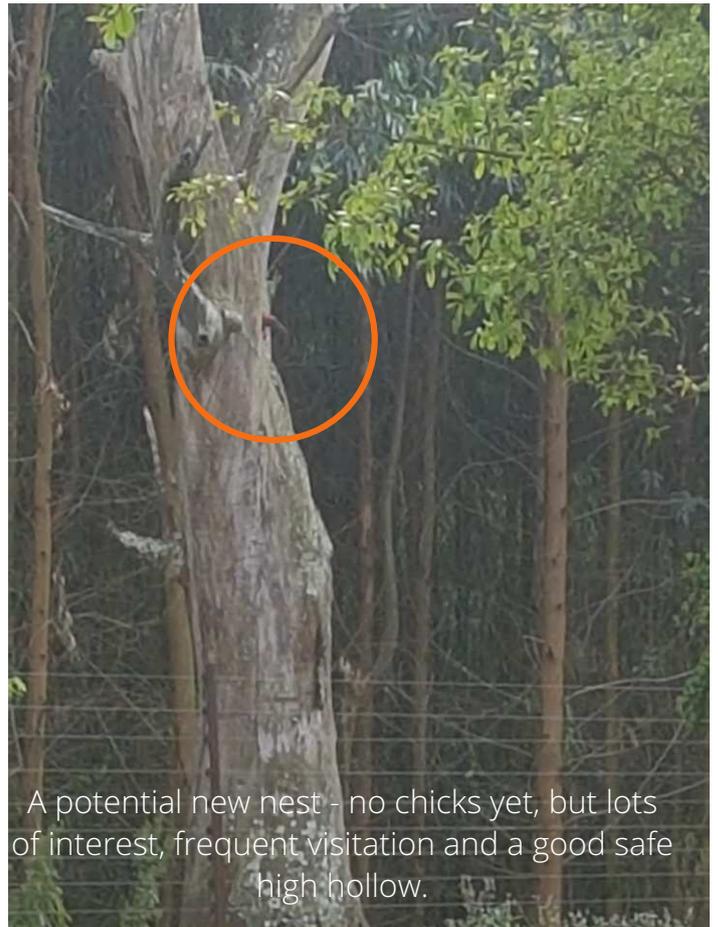
This time is always valuable to refresh relationships with Custodians and Champions, share information, give presentations, and simply enjoy the wild, wild spaces of both southern and northern Zululand.



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Listening for new groups in the early morning light with our colleagues from the Women's Leadership and Training Programme



A potential new nest - no chicks yet, but lots of interest, frequent visitation and a good safe high hollow.



Following up on leads for new nests led us to beautiful and remote places



Aaron Mngomezulu, our Mntonajeni District Community Liason Officer, his time supported by NCT Forestry Cooperative, was excellent fun to work with, as always.

MITIGATE

We work to reduce direct human impacts (abusive use of pesticides, lead poisoning, snaring, electrocution, trade) and reduce conflict (window-breaking) by developing and implementing sustainable and effective solutions in collaboration with local communities, NGOs, provincial and national conservation bodies.

LEAD TOXICOSIS & POISONING

- Lucy Kemp is now an active member of the National Wildlife Poisoning Prevention Working Group, and also the Lead Task Team.
- The team assisted the Lead Task Team in drafting Lead Toxicosis Best Treatment Practice Guidelines.
- An article “Silent Killer” on lead poisoning was published in Country Life, with mention of our work with ground-hornbill toxicosis.
- A sick ground-hornbill, in the Escourt area, sadly died at the Estcourt Veterinary Hospital soon after being admitted. The carcass showed no signs of trauma or infection. Samples were sent analysis and the results were negative for lead but positive for organophosphates.

REHABILITATION

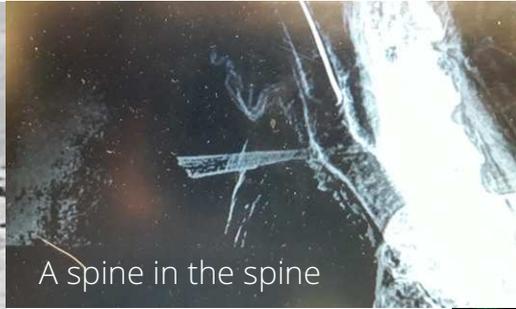


Dr Katja Koeppel caring for one of the birds in the Onderstepoort new wildlife hospital.

- An entire group suffered from lead toxicosis. The group was successfully trapped and transported to Onderstepoort where they received lead chelation treatment until their blood levels were reduced to negligible amounts. They were then successfully released back into the wild.
- Another young bird from the Musina area was rescued after being hit by a car. The team did everything possible to rehabilitate him but the damage to his pelvis was too much to allow for his return to the wild and he is now settled into one of the foster groups, where it is hoped he will become a foster father to harvested chicks one day.

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PORCUPINE INJURY: One of the reintroduced females had a nasty encounter with a porcupine. One quill went straight through her trachae and wedged between her vertebrae. The team managed to capture her and the Onderstepoort team saved her after three weeks in intensive care in hospital.



A spine in the spine



MONITORING TRADE: We continue to monitor trade to look for trends, novel markets, and any indications of increased demand. We monitor formal wildlife trade registers such as those of TRAFFIC, but we also trawl the internet and social media platforms.



The traditional authority and school council appraising the Contravision installation.

WINDOW BREAKING:

We continue to install Contravision on the windows at rural schools where window-breaking is a recurrent problem and we fear retribution for the ground-hornbill group. This school is thrilled with the intervention as they have not had a single window-breaking incident, even during the quiet of the school holidays. We were hoping to present our human-wildlife findings at a conference in Oxford but that has been postponed to next year due to COVID-19.

RESTORE

Reintroduction of sufficient numbers of viable founder groups to build sustainable new sub-populations, without having to use meta-population management but still ensuring that existing populations maintain sufficient genetic diversity.

BREEDING SEASON HIGHLIGHTS

New parents: One breeding pair that, although they have laid fertile eggs, have always destroyed their own chicks. The pair was moved to the Baobab rearing centre and the new, perhaps wilder environment, led to them successfully fledging their own chicks for the first time.

Fosters: Eggs are removed from captive pairs that are unable to rear or have genes that we do not need. These pairs then fostered chicks and rear them as their own. This past season we once again had two successful foster pairs.

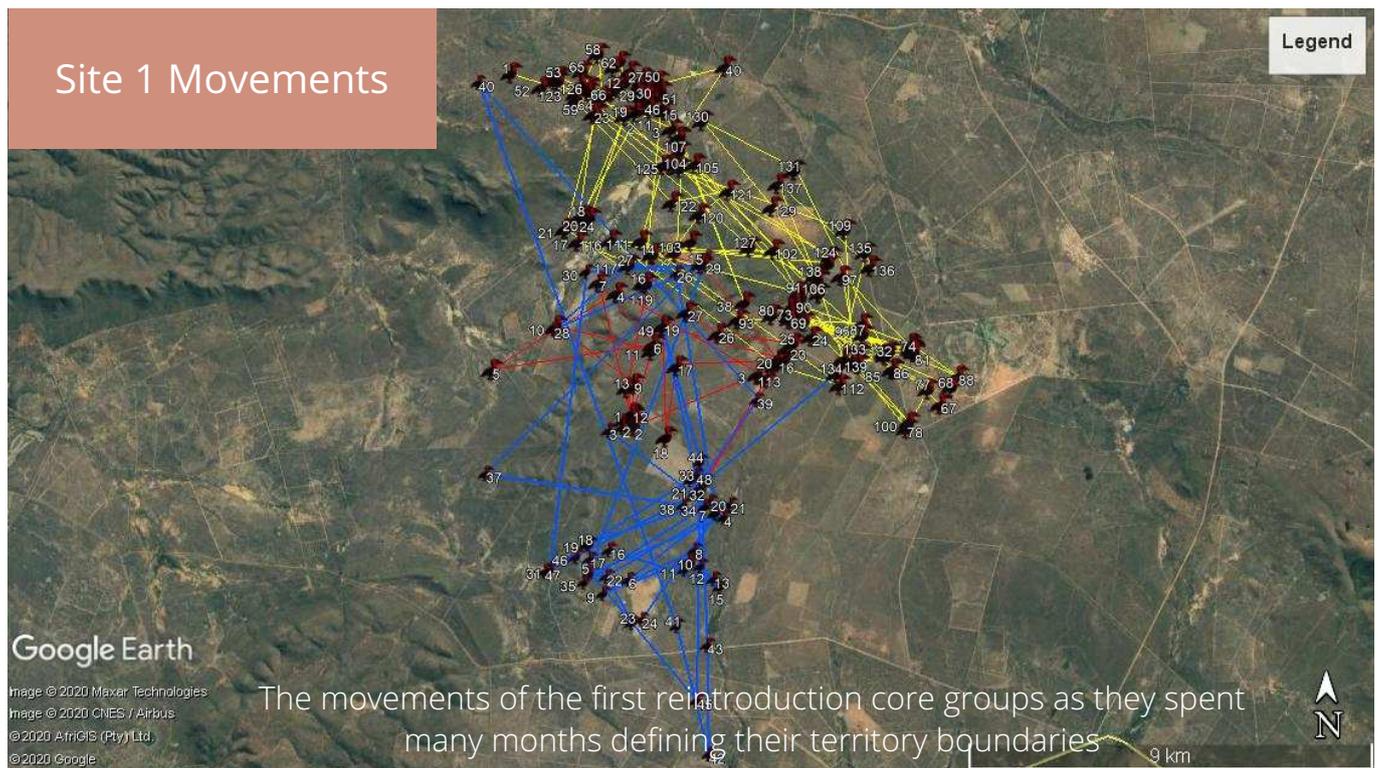


REINTRODUCTIONS: NEIGHBOURING GROUPS AND NATURAL DISPERSAL

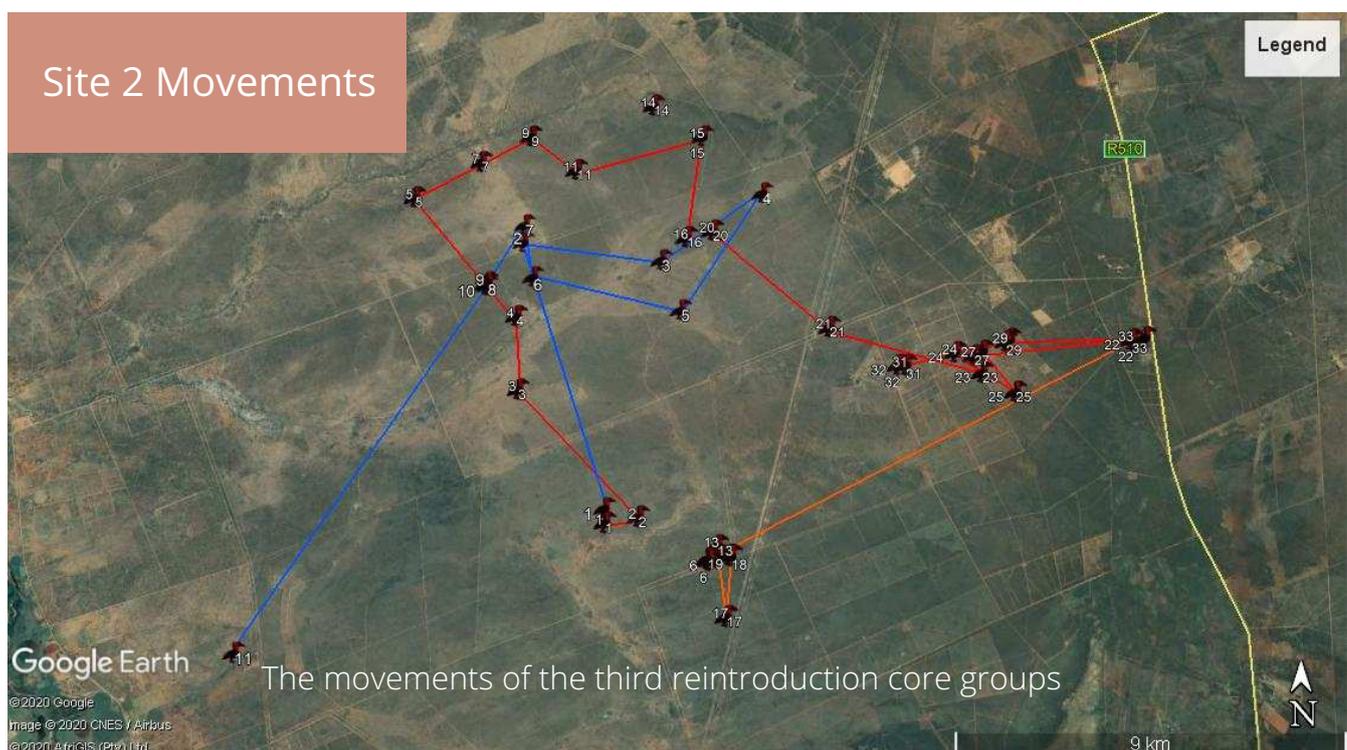
We have now had the privilege to witness several natural dispersal events, in all cases younger males being excommunicated from their natural group, often with hostility, by the alpha males. These have provided an incredible experimental platform for new group formation at two of the reintroduction sites.

New group formation: We successfully introduced three new groups. In the first case we added a female to a naturally dispersed male, and then later a second dispersed male joined their group. In the second case we, together with MTPA at Loskop Dam Nature Reserve, recaptured a natural dispersal, and bonded him in the flight aviary with a new female and sub-adult male. They were then re-released onto Loskop and are thriving. The third was a rescued wild bird from Tanzania. He was recovered from terrible conditions but never settled into captivity. As he is not genetically suitable for reintroduction in Southern Africa he was successfully vasectomised. This allows him his freedom again, and he is now the wild mentor for a new group.

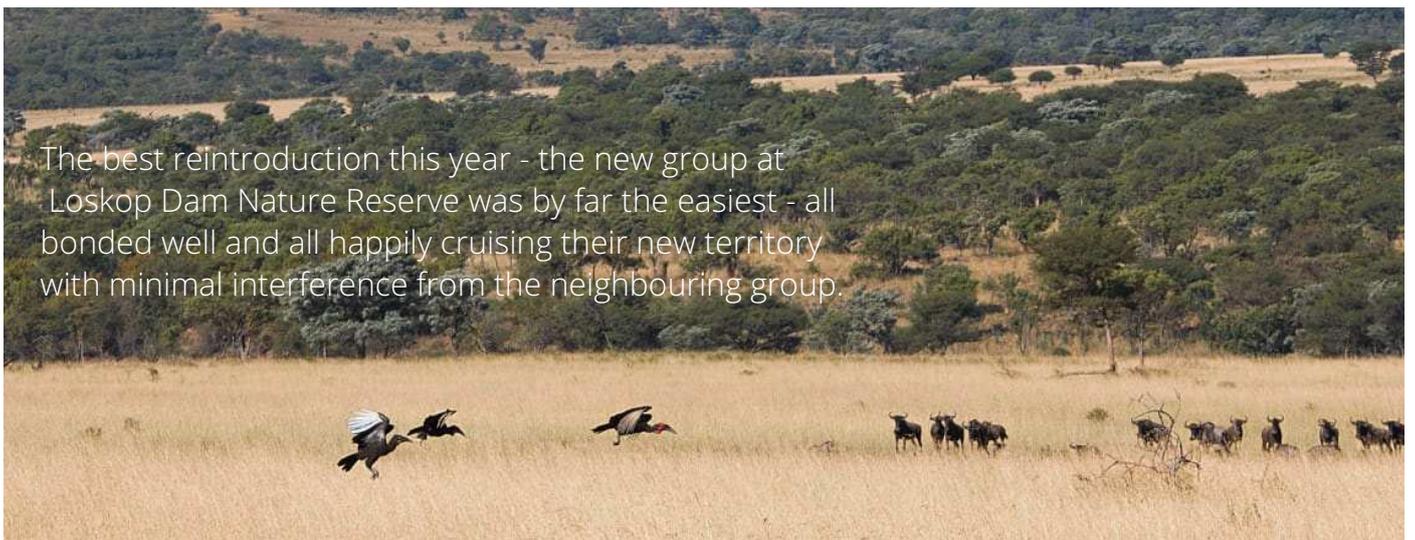
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AUGMENTATION: We attempted two augmentations of juvenile males into existing bush-schools, however both failed. In the first instance the group simply took no notice of the new bird post release, and sadly in the second case the group acted aggressively to the new male post-release and during their confrontation he managed to become impaled on a branch. This causes internal organ damage and the bird sadly succumbed. A very heart-felt loss.



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RESEARCH

Lead, collaborate in, support and encourage research into aspects of the ecology of the species relevant to their conservation management and ensure this information is easily available.

Chemical immobilization: the trials were successful, with two individuals being safely and quickly sedated to enable handling. Further clinical trials are now required for sufficient sample sizes before we can test the drugs in the field. This is a wonderful collaboration with SANBI-NZG, Wildlife Pharmaceuticals and Dr Katja Koepfel.

Kruger National Park:

KNP Harness removal project: We continue to try and retrap the harnessed individuals.

KNP as part of National Monitoring Plan: We are very grateful to be able to now include the Kruger National Park as one of the sub-sampling sites for the national monitoring plan.

Sharing our science: It is incredibly important that we don't just try and do the best science possible, but that we also ensure we can share it through various platforms. In addition to our five papers published, we also presented at the following conferences:

- Rufford Grants Conference, Livingstone, Zambia
- IUCN SSC Chairs meeting: Abu Dhabi, UAE Emirate of Abu Dhabi
- Conservation Symposium, Howick, KwaZulu-Natal.



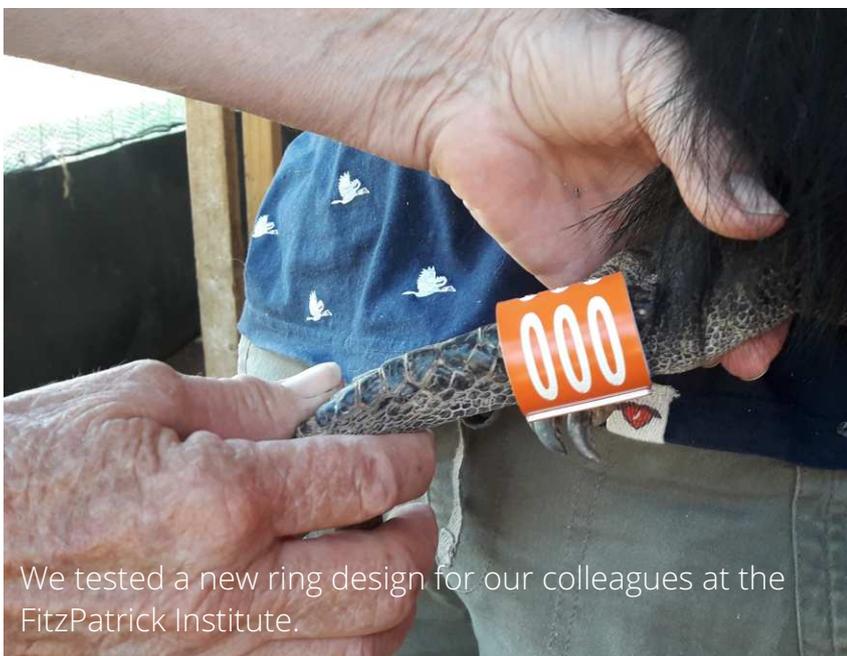
Sadly several conferences that we were expecting to present at, were postponed or cancelled due to the COVID-19 pandemic.

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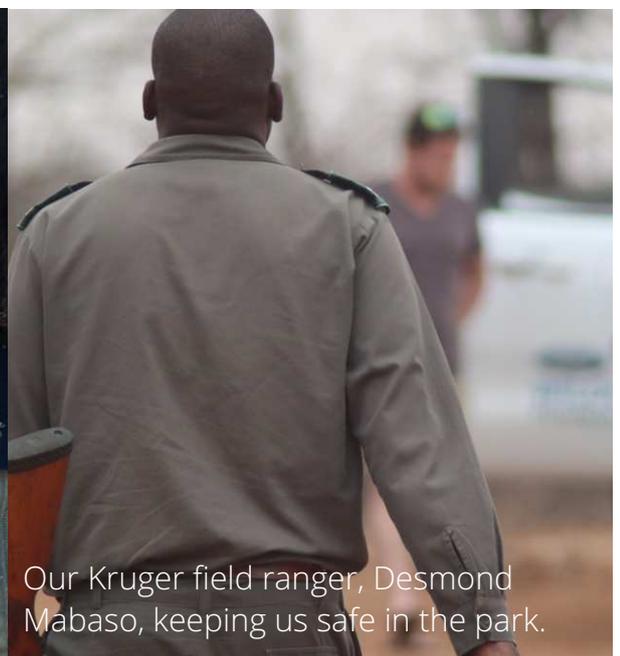
Cognitive behaviour: Dr Samara Danel completed her cognitive behavior research that will lead to at least 3 peer-reviewed papers, and gives us a valuable insight into the mind of the thunderbird.

ONGOING RESEARCH

- We hope to publish our genetic research, in collaboration with the South African National Biodiversity Institute, and the University of the Free State by the end of 2020.
- We are wrapping up a paper on modelling various reintroduction outcomes to ensure we are building a well thought-out and evidence-based plan for sustaining these reintroduced populations.
- We, together with SANBI and the University of the Witwatersrand, are conducting a full genomic assessment of both species of ground-hornbill.
- We have an additional three regions to cover with our 'Populations & Perceptions' surveys and then we will be able to publish for all language groups in South Africa and Zimbabwe.
- We are collating and analyzing all our poison data.
- We continue to collect blood lead levels whenever possible.
- We are completing a chapter for Fowler's Zoo and Wild Animal Medicine with Dr Katja Koepfel.



We tested a new ring design for our colleagues at the FitzPatrick Institute.



Our Kruger field ranger, Desmond Mabaso, keeping us safe in the park.

EDUCATION

Ensure an effective education programme that reaches all intended release zones and where the remaining wild populations occur outside protected areas

HORNBILL DRIVE: A total of 183 visitors came to the project for an experience with the birds.

MODJADJI TEA: Over 500 guests attended the weekly talks given by the team.

DURBAN BOOK FAIR We presented the 'Vusa the Ground-Hornbill Guardian' comic book.

THE AFRICAN BIRD FAIR The fair, held at the Walter Sisulu Botanical Gardens, was well attended, and the team was able to educate over 250 urban birders.

FILM

- Jason Boswell filmed a segment of the project for a German conservation series *Endangered birds sing again in South Africa*
- VHL Film: The Baobab Conservation Rearing Center by Florian Van Huffel.

PRESENTATIONS

- Students from the Julian Muller Primary School
- Mabula/Bushtime lodge staff children
- The greater Mabula community
- Bulawayo Museum of Natural History (over 120 people)
- Skierlik Community: This was done to secure the area for the second group of ground-hornbills released at Thaba Tholo.
- Presentations to all staff at both Safari Plains and Adventures with Elephants

COMMUNITY WORKSHOPS

- Representatives from Mnqundekweni, Dazini, Ngwangwane, Shushu, Bhobhoyi, Underberg, Makhongwane, Sibizane, Dazini Tribal Authorities
- Shiyabanye Tribal Authority: Hlokozi
- Amakhuze Tribal Authority, at Qaqeni, Gxalingenwa Forest Gwejane

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POPULAR ARTICLES

- Landbou Weekblad: **Help red die Voël van die jaar** By Anton Odendal
- Country life magazine: **Silent killer** by Tony Carnie
- Kruger Magazine **Hornbills, Avian characters of the Kruger** by Dr. Ian Whyte
- African Birdlife - **Fit for purpose** by David Allan
- **Study the thunderbird** by Dr Rob Little
- **Anything goes** by David Allan



Themba the ground-hornbill winning hearts and minds

 1289

 4988



How Southern Ground-Hornbills keep their cool

Few sounds are more evocative than the booming clats of Southern Ground-Hornbills, especially when they accompany the low, low whopps of larynxes, distant hoos, rous, deep boos of a Victoria Eagle-Owl and the saving cough of a ponding raven in the bald-dickens just where ducks coot the African bush. The number of these stately birds of the savanna and woodlands of southern and East Africa has been declining steeply in recent decades because of habitat loss, poisoning and other human impacts. As a result, the species is now red-listed as Vulnerable. Eagle-Owl and the saving cough of a ponding raven in the bald-dickens just where ducks coot the African bush. The number of these stately birds of the savanna and woodlands of southern and East Africa has been declining steeply in recent decades because of habitat loss, poisoning and other human impacts. As a result, the species is now red-listed as Vulnerable.

Help red die Voël van die Jaar

BirdLife Suid-Afrika het onlangs die bedreigde bronnoot as die Voël van die Jaar aangewys.

Die bronnoot is 'n klein, swart, rooibekke voël wat in die savanne en woude van Suid-Afrika voorkom. Dit is 'n bedreigde spesie omdat dit 'n baie klein gebied beset en baie sensitief is vir habitatverlies en besoedeling. Die bronnoot is 'n belangrike spesie omdat dit 'n deel van die ekosisteem is en baie nuttig is vir die natuur.

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Semi-finalist for Mrs South Africa, Marika Opperman, showing off our cover girl.

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BIRDLIFE SOUTH AFRICA

BIRD OF THE YEAR 2020

It has been a great year being able to boast that ground-hornbills are the official Bird-of-the-Year for 2020, though what a shame 2020 wasn't something to boast about. But nonetheless BirdLife South Africa and the Hans Hoheisen Charitable Trust have been instrumental in helping us create wide awareness about the plight of this species, and also just simply making ground-hornbills cool. The campaign has brought many reporters to our door and allowed us to expand our reach. Sadly the species will miss out of being the star of the African Bird Fair. The campaign has led to great merchandise, education plans, social media posts and simply greater love. A massive thank you to Mark Anderson and his team for this incredible support.



BirdLife SOUTH AFRICA Giving Conservation Wings

BIRD OF THE YEAR 2020

SOUTHERN GROUND-HORNBILL

Bucorvus leadbeateri

Welching in

Southern Ground-hornbills are avian giants and the world's largest hornbill. Males weigh about 4.5 kilograms and females about 3.5 kilograms. The beak is long and downward, with a curved casque at the base of the upper mandible, as in all hornbills. The bare skin of the face and throat is bright red, but females (and some males) show blue markings on the upper throat. The bird's pale-prow eyes are fringed by long, broad lashes that provide both shade and protection. Its plumage is entirely black except for pure white primaries and upper primary coverts that are normally only visible when the hornbill takes flight.

Dual nationality

Its range stretches across 14 countries in East, Central and southern Africa, from Kenya in the north to South Africa in the south. Its status is least well known in Angola, the Democratic Republic of Congo and northern Mozambique. An inhabitant of woodland as well as grassland areas that are completely treeless, it is the hornbill species least reliant on wooded cover.



Helping hands

This species usually lives in territorial groups of three to five birds, although groups as large as 12 have been recorded. Group territories vary widely from 6-10 square kilometers in private conservation areas adjacent to the Kruger National Park to 200 square kilometers or greater farmland in the Limpopo Valley. The core of the group comprises an alpha pair, while other group members are offspring of varying ages from previous breeding attempts by the dominant pair. They help to defend their permanent territory and to feed the female and any newly produced young. Most older helpers are males, as the older females depend to seek breeding opportunities elsewhere. This is the largest bird species in the world to show such cooperative breeding.



Bushveld baritone

The start of each day is typically heralded with a deep and rhythmic, booming chorus given by all older group members and it can be heard up to five kilometers away. The long tractors and, in particular, the large trillable tractors probably play a key role in the production of these impressive vocalizations, which give rise to one of its colloquial names, the trill-hornbill (it's also known as the calbird).

On the menu

The ground hornbill's diet is diverse and comprises any small invertebrate the hornbill can overpower. Invertebrates feature prominently, especially grasshoppers, beetles, termites, megalopae, worms, spiders, millipeds and scorpions, but also molluscs, centipedes and reptiles, mammals and crocodiles. Vertebrate prey includes hares, meerkats, squirrels, snakes (even venomous species), lizards and chameleons, tortoises and turtles, and frogs and toads. Avian prey is also taken, and the hornbill's talons are used to catch and crush its prey.

The beak, paired with the powerful neck, is a devastating weapon used for stabbing, grasping, manipulating and crushing prey. It is also used to dig for prey, especially in dry conditions. Larger prey is hunted by group members in unison and then rippled apart. To capture flushed prey, the hornbills follow herds of ungulates and are attracted to fires. Like most other hornbills, they never drink from open water and create their hydration through their prey.



Boom or bust?

This unique species has decreased throughout its range. Mozambique, Botswana, Swaziland and to some extent Malawi now support only remnant populations restricted to their protected areas. Kenya, Zimbabwe, Botswana, Namibia and South Africa host larger populations, but the species has lost 90-99 per cent of its original range in some of these states and is now common only in large protected areas. The global conservation status of this hornbill is considered Vulnerable, but Endangered in South Africa, Swaziland and Namibia. These birds face a wide array of threats. Habitat loss and degradation through extensive crop-farming, commercial afforestation, high human densities, bush encroachment, over- and untargeted, erosion and climate change impact the birds from their ancestral grounds. Indirect poisoning through baits set for mammalian predators is a particularly pernicious peril. Local poisoning from swallowing spent ammunition is a recently appreciated danger, and this is yet another species at risk from electrical infrastructure, with reported electrocutions at transformer boxes. No individual birds are susceptible to Newcastle disease. Harvesting for traditional use and the use trade events further pressure on Southern Ground-hornbills. One threat is peculiar to the species. On nesting their reflection in windows when foraging close to buildings, the hornbills peck at the glass, typically shattering it. In one instance, 750 windows were broken in a single morning at a retail school. Understandably this can result in redistribution from agitated parties.



Family time

Breeding starts in spring and takes place in large cavities in trees or in colonies in cliffs. Occasionally the birds will dig out a hollow in an earth bank or a donga, the only known cases of hornbills excavating their own nests. The same site will often be used for many years. Unlike other hornbills, breeding female ground-hornbills are not sealed into the cavity during nesting. The typical clutch is two eggs and only the alpha female breeds, fed by other group members. The eggs hatch up to six days apart and the second hatched chick usually dies of starvation within a few days, unable to compete with its larger sibling.

All older group members defend the nest, even mobbing predators as formidable as kites and hawks if they approach too closely, while a hornbill's eagle was killed by the group members when it nested too close to a nest. Brooding success is naturally low. At best, groups fledge only a single chick every two to three years, though perhaps more typically every five to 10 years. Fledged youngsters are fed by group members until they are about two years old. Full adult appearance is attained at four to six years and birds in captivity only begin breeding when they are at least eight years old. In the wild they are probably much older, as they first need to achieve alpha breeding social status. Adults on long-lived, a captive bird survived to 66 years.



Cultural icon

These compelling birds feature prominently in African lore. They are famed as makers of rain, and not just of drizzle but of downpours, reflecting the perception of them as custodians of crucial potency. Other associations, rooted in the bird's dignified demeanor, relate to wisdom and to promoting calmness in people of agitated disposition. Based on its light fan-like bones, the species is also seen as a protector of homes and kin. Its unforgettable call holds a special place in folklore and is widely interpreted as a metaphor for bitter-sweet love. However, the awe in which this bird is held rarely turns to dread and it can signify bad tidings.



SECOND CHANCES

The Malaba Ground Hornbill Project (www.ground-hornbill.org.za/) is the BirdLife South Africa Species Guardian for this threatened bird and coordinates conservation efforts throughout its range. A key conservation strategy involves rearing in captivity second-hatched wild chicks that would otherwise naturally perish. These naive youngsters are re-wilded in bush schools where they are monitored by wild free-rearing groups until they are bush savvy enough to form independent sub-populations. Some wild groups, and semi-populations, are limited by the availability of suitable nest sites, so artificial nests are being provided and these enhance breeding success. The Malaba Ground Hornbill Project also spearheads measures to mitigate direct threats. These include reinforcing risks from poisoning and electrocutions, and screening window panes in susceptible buildings to eliminate reflections. So, threatened birds are protected against Newcastle disease. Perhaps the most crucial aspect of the project is an informative awareness programme that focuses on increasing local community understanding of the importance and vulnerability of this wonderful bird.

TEXT BY GAVIN ALLAN

SCHOOLS

Limpopo, Tshipise

Hlane Primary

Mangwele Primary

Gogogo Primary

Mavhode Primary

Vele Secondary

Tshamulungwi Primary

Phophi Secondary

St Bernard Primary

KwaZulu Natal, Umzimkhulu

Engwaga Secondary

Creighton

Engwaga Primary

Luphongolo Primary

Mtshibeni Secondary

Highflats

Corinth Primary

Highflats Primary

Skeyi Primary

Kwathathani Secondary

Zwelithule Primary

Endwebu Primary

Elwazi Secondary

Oyemeni Primary

Empangeni

Ezakheleni Secondary

Ziqhobebe Secondary

Mthunzini

Endloveni Primary

Felixton Yetheni Primary

Lindelihle Primary



IMPROVE

Improve and retain the capacity, efficiency and stability of the MGHP to ensure that it continues to make a long-term contribution to conservation in South Africa and beyond.

Build local capacity nationally and regionally through provision of training, mentorship and, where possible, funding.

Capacity building:

- Both Patience Shito and Jarryd Alexander completed the Animal Ethics Course (for SAVC accreditation), Univ. of Cape Town, Cape Town
- Patience Shito also passed the Wildlife Conservation eLearning Course hosted by Oxford Univ/ WildCru.
- Together with Dr Katja Koepfel, University of Pretoria Onderstepoort Veterinary Academic Hospital, we hosted an avian first aid course at no costs for all the field researchers who work with ground-hornbills, and who may be called to help with an injured, sick or poisoned ground-hornbill. This training will make all the difference in the critical time before the bird can be transported to a vet.



International: Lucy Kemp presented at the IUCN SSC CPSG conference: Buenos Aires, Argentina

'Dude, what's wrong with you?'

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

MABULA
GROUND-HORNBILL
PROJECT

ONE-DAY AVIAN FIRST AID COURSE
Southern Ground-Hornbill
Presented by Dr Katja Koepfel



#UNDERSTAND-LOVE-PROTECT



Another great Traditional Authority Council meeting. We learn so much from each and every one of these meetings and are welcomed like old friends when we return.



We have had super-fun collaborations this past year like this colouring page by Russian artist Masha Kirikova



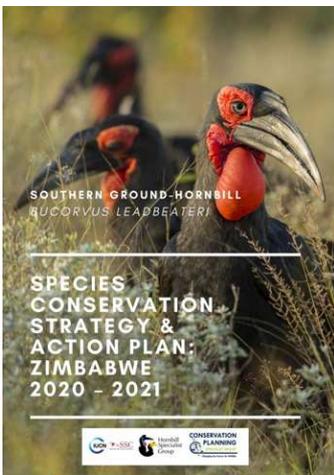
We have almost finished our online shop where delights like this Swazi Candle ground-hornbill will be available for sale.





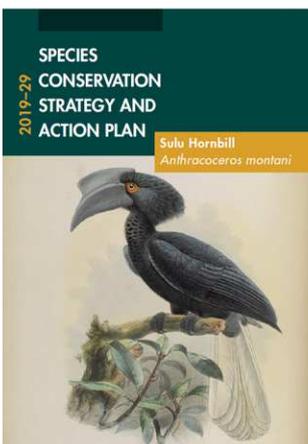
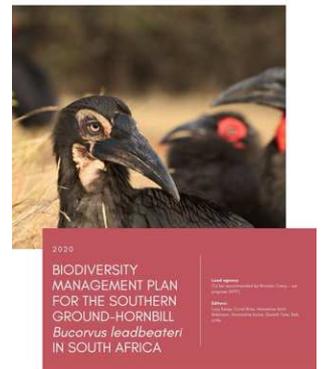
SPECIES ACTION PLANS

Conservation planning is critical as only by using scientifically sound, collaborative processes that bring together people with diverse perspectives and knowledge to catalyze positive conservation change.



Lucy Kemp and Patience Shito had the privilege to facilitate the first conservation planning workshop for the Southern Ground-Hornbill in Zimbabwe. The workshop was very productive with a sound starter plan published and a team of really motivated Zimbabweans researchers, bird watchers, academics and resource managers are ready to fill the data gaps and achieve the short-term objectives that the group collectively decided what was most important for achieving conservation support for the species.

The last year has seen an additional three stakeholder workshops undertaken to grow the input into the Biodiversity Management Plan draft to ready it for submission to the Department of the Environment, Forestry and Fisheries. Over 100 stakeholders have direct input into this plan and we hope that, once gazetted, government support for the conservation of the species will increase.



Lucy Kemp co-facilitated the conservation action planning workshop in the Philippines in 2019 for the Critically Endangered Sulu Hornbill. This year saw the publication of the plan, but more excitingly the planning workshop has already catalysed much conservation action from local partners on the island of Tawi Tawi, where this species clings on.

#UNDERSTAND-LOVE-PROTECT

ALF REWIN SCHOLARSHIP



Although we, and the world, lost Alf Rewin we are doing everything, together with his folks, Dee and Barrie, to create a legacy scholarship fund, to enable us to support young African researchers to gain their academic dreams and add to the knowledge base for this incredible bird that Alf loved so much.



KINGSTON UNIVERSITY, LONDON

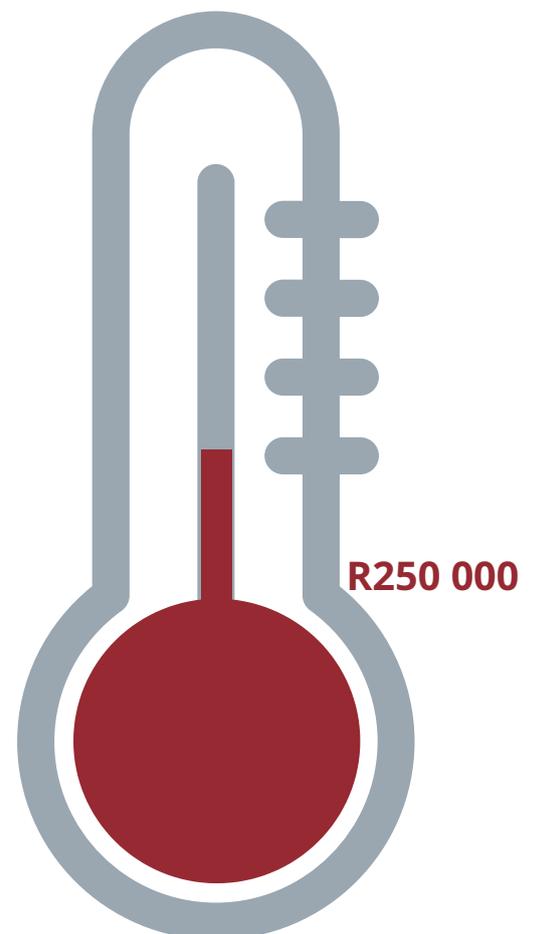
Alf was awarded his Science Foundation degree posthumously in January 2020. David Mackintosh, Dean of Science, Engineering and Computing said a few words about Alf, before Prof Martyn Jones, the deputy vice-chancellor, conferred the degree, handing over the certificate to his mum, Dee.

target R1 million

To ensure that the Scholarship is sustainable we are targeting a capital base of R1 million. The interest generated from this will be able to sustain a student every year, into perpetuity.

This is a fitting legacy for Alf who found peace in the African bush and was determined to continue his studies to ensure he could continue to make a difference. He was a staunch vegan and lived true to his principles, whilst still being the most fun.

If you would like to help us grow this fund, to grow conservation capacity in South Africa, please contact us.



STRATEGIC PLAN

2020-2021

EDUCATE

- Distribute 10 000 comic books.
- Launch animation for distribution in three languages.
- Reach new areas where wild groups still occur.
- Expand work in the Eastern Cape

MONITOR

- Publish the national monitoring plan.
- Expand camera trap installations at known nests.
- Creating a daily growth chart of Southern Ground-Hornbill chicks as the rearing season progresses.

IMPROVE

- Gazetting of the Biodiversity Management Plan.
- Climate change workshop to future-proof conservation work for the species.
- Support two MSc students.

RESEARCH

- Complete Lowveld historical analysis.
- Publish 3 more papers in peer-reviewed scientific journals for completed research.
- Complete the experiments in development of a drugging protocol.

RESTORE

- Publish the national reintroduction plan.
- Reintroduce three new groups.
- Expand artificial nest programme.

MITIGATE

- Support the national Wildlife Poison Prevention Working Group.
- Initiate research into impacts of windfarms.
- Expand Custodianship programme.
- Extensive traditional medicine council engagement.



PROJECT TEAM



PROJECT MANAGER
DR LUCY KEMP



ASSISTANT
MAPULA MOKWELE



RESEARCH SUPPORT
PATIENCE SHITO



ENVIRONMENTAL EDUCATOR
NTHABISENG MONAMA



RESEARCH COORDINATOR
DR JARRYD ALEXANDER



EX SITU COORDINATOR
NATASHA NEL



RESEARCH ASSISTANT
HEINRICH NEL



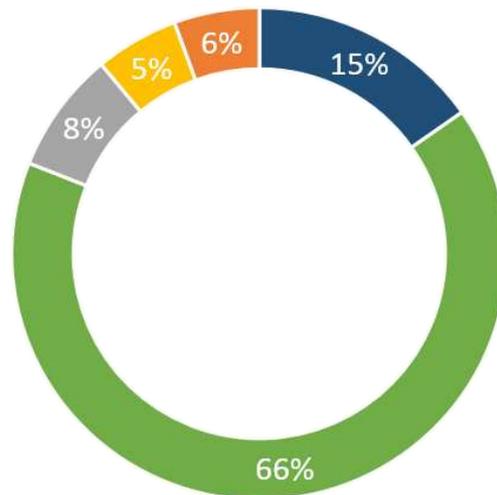
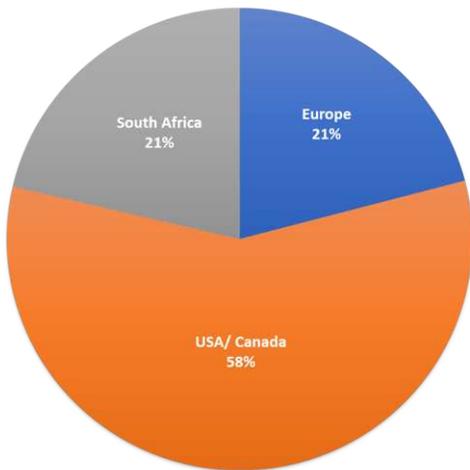
MAINTENANCE
NOMPHELO MKETO
(PART-TIME)



MAINTENANCE
LERATO MAHLAELA
(PART-TIME)

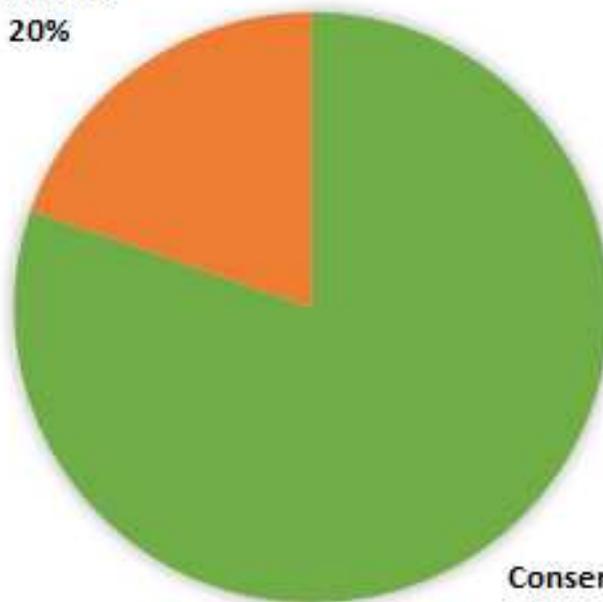
FINANCIAL REPORT

Our aim is to increase our operating reserve to R2 500 000 by 2022 to ensure we have sufficient funds to cover costs for a year and start an Emergency Response Fund to R50 000. This will go a long way to stabilising our programs in these uncertain times. Please contact us if you are able to provide funds for our operational reserve or donate to the ongoing conservation and community activities.



- Corporate
- Grant
- Global public
- SA Public
- Self generated

Overheads
20%



**Conservation
action**
80%

ACKNOWLEDGEMENTS & THANKS

MGHP is incredibly grateful for support from these individuals, organisations and companies who supported us to the value of R1000 and above, either as financial support or as in-kind support during the financial year July 2019 – June 2020

Artis Zoo
Assoc. Boissiere Mervent
Chamberlains
Chessington Zoo
Disney Conservation Trust
Organisation For Tropical Studies
Friends of the Smithsonian Zoo
Honolulu Zoological Society
Inkwazi Bird Club
Kolmarden Zoo
Lion Country Safari Inc
Mabula Private Game Reserve
Modjadji Tea & Drives
Mokaikai Private Game Reserve
Montecasino Bird Gardens
Myschool Myplanet Programme
National Zoological Gardens of South Africa
Natural Encounters
NCT Forestry Co-Operative Limited
Omaha Zoological Society
Sacramento Zoological Society
Seaworld And Busch Gardens Fund
The Rufford Foundation
Tulsa Zoo
Virginia Zoo

WITHOUT YOU WE CAN DO NOTHING
BUT WE, TOGETHER, CAN DO IT



INDIVIDUALS

Our supporters of the MySchools MyPlanet Programme; patrons of the weekly Modjadji Tea and Hornbill experience drives; supporters of our craft and skills development initiative and Pat Goss, Andrew Haggard, Martin Brown, Kristi Edwardes, Karien Schmidt, Sylvia Pleskot, Laura Rost; Tudor Owen; Donald Leitch

#UNDERSTAND-LOVE-PROTECT

HOW CAN YOU HELP

If you are a proud South African, then a financial donation to the Mabula Ground-Hornbill Project is tax deductible (reducing the amount of tax you pay) and is the most cost-effective way to support us. But there are many other ways you can get involved and support our work. We welcome any offers of support of building materials, office furniture or anything on our wish list.

ONCE-OFF DONATION

Your donation can be attributed to a specific objective of our work (monitor, mitigate, restore, educate, research or improve), or can be a general donation which allows us to allocate it to where it is needed most, for less sexy items such as vehicle maintenance, salaries, tyres and so forth. You can donate online or by direct deposit.

REGULAR DONATION

A regular and ongoing donation, such as a monthly gift, is easy for you because you can 'set and forget', and instead of donating a large sum each year, you can donate in smaller increments throughout the year. Regular donations allow us to plan ahead, knowing that we have a steady and predictable source of income.

FUNDRAISE

The Mabula Ground Hornbill Project enthusiastically supports individuals, groups or companies who wish to fundraise on our behalf. Simply pick a fundraising idea and we'll provide you with the assistance you need to make it a success.

CHARITABLE GIFTS IN WILLS

Many people do not have the means to leave a significant gift to conservation during their lifetimes. Leaving a gift for ground-hornbill conservation in your will is a powerful way of supporting our work and will ensure you leave an ongoing legacy for future generations.



CONTACT US

DR LUCY KEMP

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