

Mabula Ground-Hornbill Project

Progress Report

Reporting Period
April – September 2016



SUMMARY: The past six months have been a time of consolidation of our research. The team has been focused on analysis and writing up data: all sighting records, range-state conservation listings, analysis for reintroductions, and now the conservation genetics of the species. Hard-earned leave has been taken and camp maintenance completed. The education programme however has remained at full tilt and the various threat mitigation programmes have continued unabated by all the scholarly pursuits - the most exciting being the completion of the artificial nest prototype. In addition, the team is thrilled with our nomination for the Conservation of the Year Award and excited by the publicity and awareness this has brought with it for both the project and species, reaching a million viewers.

Executant: Lucy Kemp
Mabula Ground-Hornbill Project
(016-183 NPO & 13/00/00/723 PBO)

MISSION STATEMENT

The Mabula Ground Hornbill Project strives to halt and then reverse the decline of the Southern Ground-Hornbill. Our work is done in a multi-disciplinary, multi-pronged approach to ensure that, for such a long-lived and slow breeding species, we are able to make an impact as quickly as possible.

HIGHLIGHTS OF THE PAST SIX MONTHS

AWARD NOMINATION

We are thrilled to be one of seven nominees for this award. Last year this award went to the CEO of the South African National Parks so we are excited that our small team has been recognised in an arena like that and also with the amount of exposure this has brought both the species and the project. We are also glad that this reflects your involvement and support to this project over the years.

It is now up to the public to vote.



Jerry Mphamo very confidently telling the camera crew all he has learnt about the ground-hornbills in his area. We were very proud of him.



ARTIFICIAL NEST PROTOTYPE

The first artificial nest prototype developed in collaboration with the Industrial Design Department at the Tshwane University of Technology has been completed. These guys are building solar cars when they not helping us and it has been a great experience working with them. We put it up in a fig tree near the existing nest and the group started to bring leaf lining within a few hours. It is now being tested for insulation properties (using ibuttons that record temperature and humidity at various places in the nest to compare with ambient) to ensure it matches the preferable microclimate favoured in wild nests and see how it with stands up to the elements. This is the material that came out tops on the previous set of experiments in terms of both its chemical properties, match to wild nests and ease of use. So far so good.... An elephant knocked it down from the experimental platform and played soccer with it yet it is still intact! Experiments will be completed mid-November.



Winnie-the-.....what-has-Sophie-scraped-into-that-jar?

These young birds are watching as Sophie Neller, MSc student with Onderstepoort Veterinary Facility & the National Zoological Gardens of South Africa, collects faecal samples for her project to help us understand what drives sexual colouration and behaviours in these birds, what happens when that goes awry, and also what impact stress plays on them – specifically in the reintroduction context. She currently has 134 samples and will spend November in the laboratory discovering the hormonal secrets within.



CITES CoP17 Helmeted Hornbill ‘flying ivory’

Although our CITES proposal didn't make it through due to Tanzania, the major trading range state, not supporting the proposal we were still there. We were invited to present on behalf of the Helmeted Hornbill by the HH Working Group. The great news is the species now has the full backing of CITES and it looks like the major trading range state China is committing to local trade bans. Great news for Asia's largest hornbill.



Staff training

The new interns went through their first 'walking in Big 5' areas training with a FGASA Level 3 trainer and the rest of the team and release site monitors had a refresher. This time they also learnt about the snakes they may encounter in the area they work, and how to deal with any encounters.



Patience Shito has now completed her MSc proposal for her work looking into what drives such variable density in Southern Ground-Hornbill populations – ecological factors such as vegetation structure or cultural factors such as cultural protection. This will guide our understanding of how best to escalate the reintroduction programmes and shed further light on the importance of these birds to people across the African continent.

If anyone is looking for a capacity building investment opportunity this would be a stellar one.



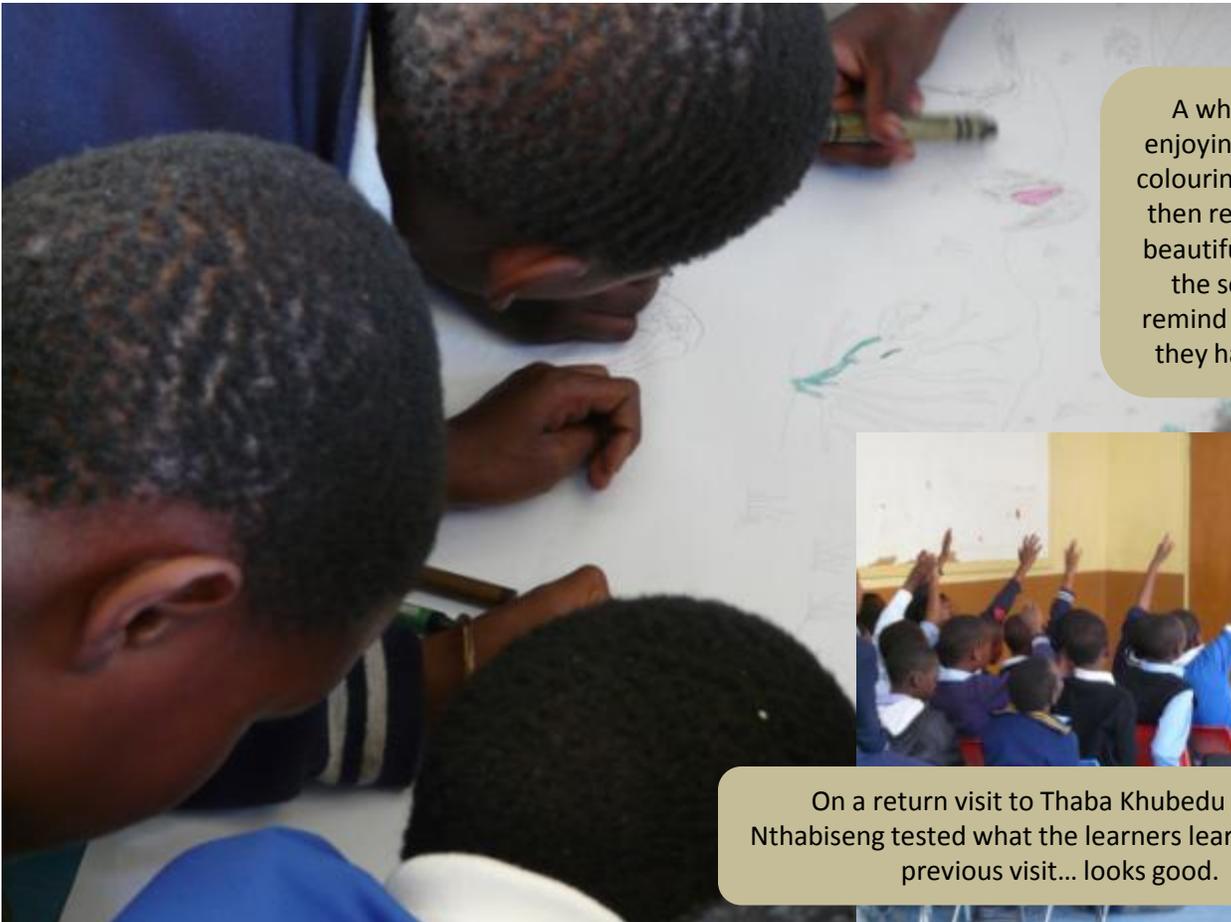
Our team ran the very fun Color Run. And survived.



Thanks to Rugged Wear for our amazing new uniforms.



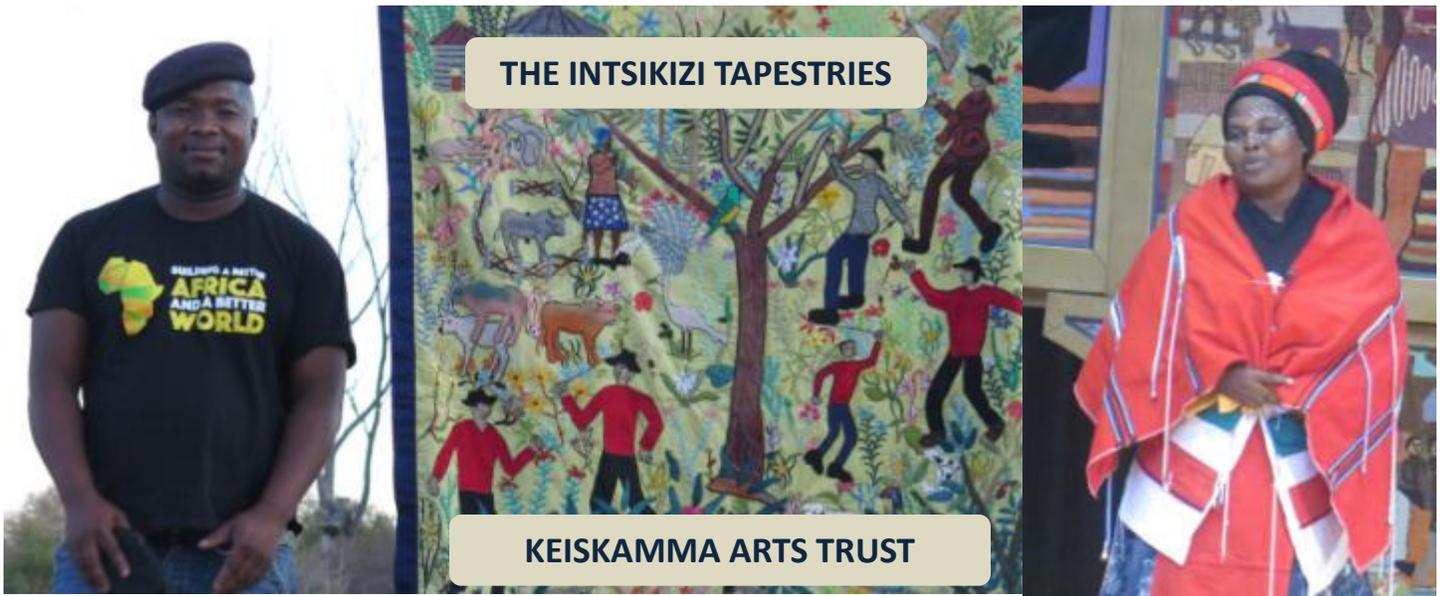
These are the last two striking oil paintings left that are part of a set painted for us by artist David Mocke to help with fund-raising, either by auction or sale.



A whole class enjoying our giant colouring page that then remains as a beautiful poster in the school to remind them of all they have learnt



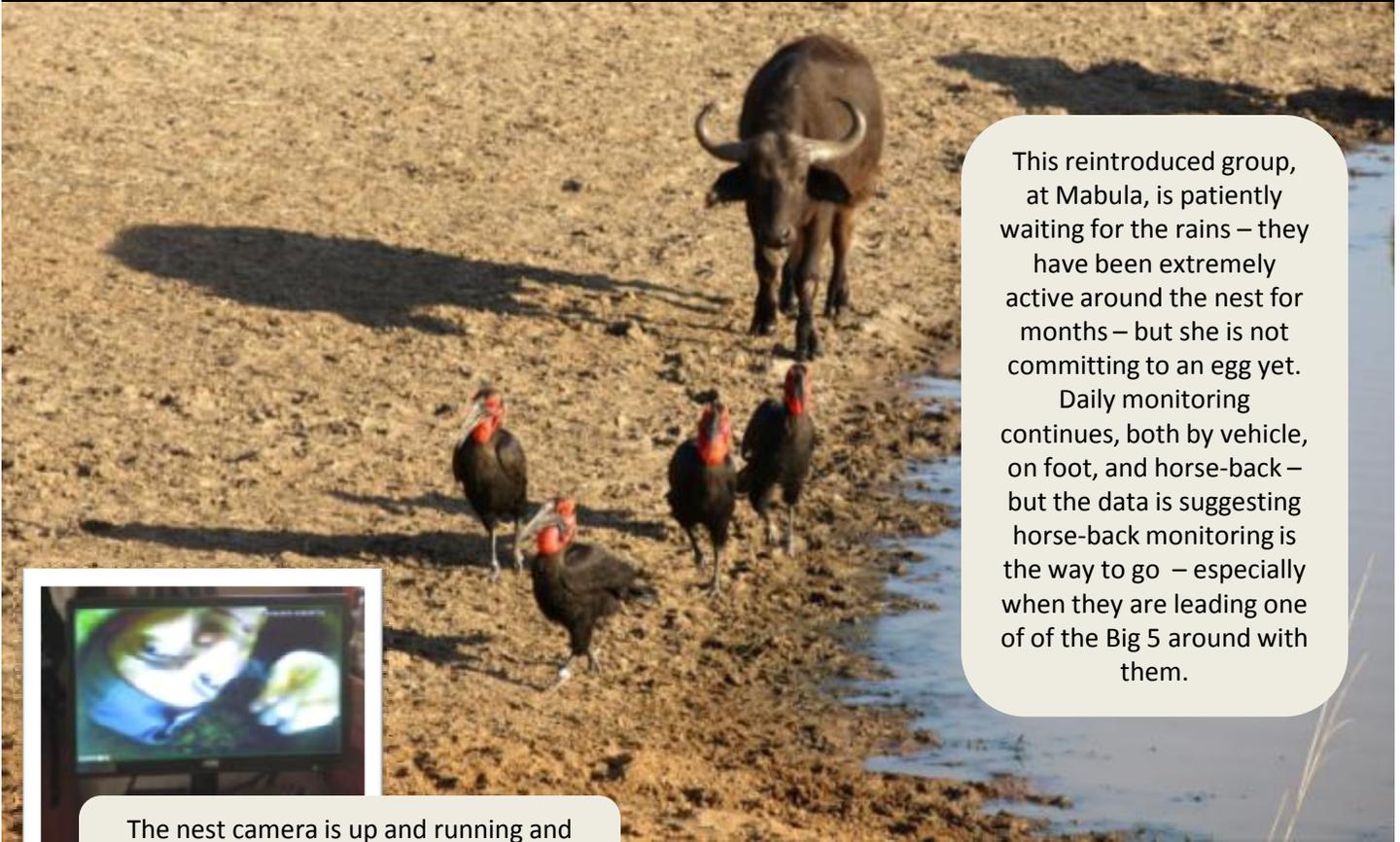
On a return visit to Thaba Khubedu school Nthabiseng tested what the learners learnt from our previous visit... looks good.



The **Keiskamma Arts Trust** have produced a set of six tapestries of the use of Southern Ground-Hornbill in Xhosa culture. The design of the tapestries is after the Normandy unicorn tapestries with the work just as intricate, but telling the story from a Xhosa perspective. It took seven artists (led by Cebo Mvubu (left) and including Nozeti Makhubalo), 24 embroiders and 6 felters over 10 000 hours to complete these six masterpieces which are now for sale. They have travelled the country on show – next stop the WITS art school in November. Although each tapestry can be bought separately we hope sincerely that a collector will buy all six and keep the full story together. This is an excellent corporate investment opportunity or for aviculture institutions looking to promote the ground-hornbills, their stories and their conservation. We took part in the exhibition at the Hermanus Arts Festival and are thrilled that the Keiskamma area now has a whole team of staunch ground-hornbill supporters and ambassadors.

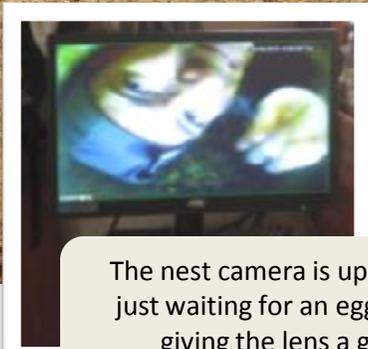


NEWS FROM RELEASE SITES



This reintroduced group, at Mabula, is patiently waiting for the rains – they have been extremely active around the nest for months – but she is not committing to an egg yet.

Daily monitoring continues, both by vehicle, on foot, and horse-back – but the data is suggesting horse-back monitoring is the way to go – especially when they are leading one of the Big 5 around with them.



The nest camera is up and running and just waiting for an egg: meet Hein Nel giving the lens a good clean 😊



LOWLIGHTS OF THE PAST SIX MONTHS

At an augmentation of one of the release sites the resident alpha female took a very serious dislike to one of the young males released. She attacked him and in the scuffle he lost his transmitter. We were able to locate him a day later but since then he has not been sighted and we must assume that he is no longer.

NEWS FROM RELEASE SITES

The Loskop Dam release has taught us so much more about reintroductions of Ground-Hornbills, including being patient and remembering their time scales. The group has made it successfully past the one year mark but during that entire time the three males kept to themselves and the female to herself. And then one morning she tried to join the group and spent the day with the males, then left again. A few days later she rejoined them and they have been together ever since, spending more time in the vicinity of the nest.



Many of the stakeholders out on a site visit to see the birds, some of them for the first time since the reintroduction....

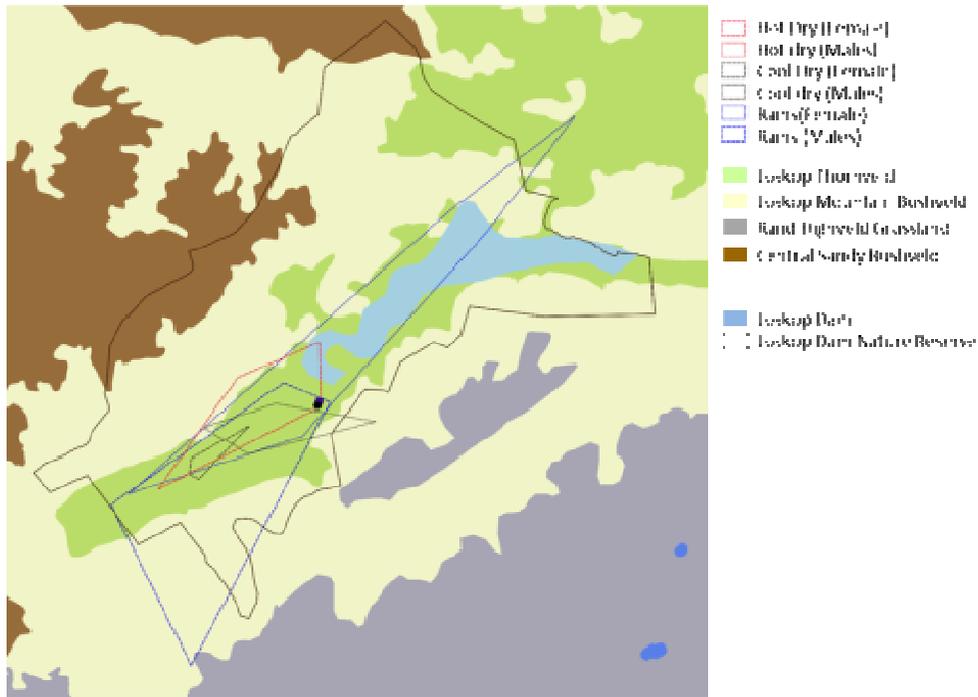
...and see them they did, strong and wild as can be.
With cake to celebrate.



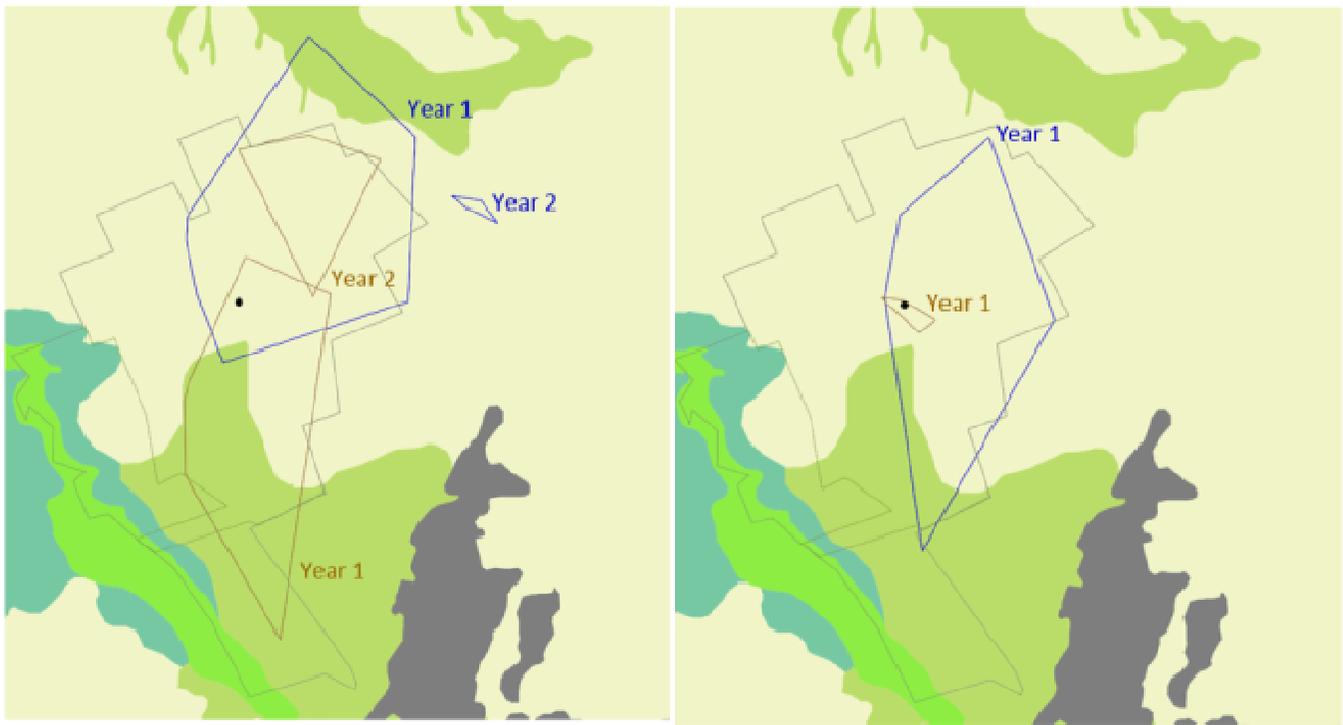
PROGRESS ON THE BAOBAB

We have successfully raised sufficient funds to commence building. Logistics with the pending breeding season and other commitments has led to us deciding to rather break ground in March 2017 rather than now as it would have been too rushed. This allows us a few more months of fund-raising and means we can ensure that the temporary housing is fully satisfactory before we move the current stock to start building. Another, very exciting factor is that three of the pairs are currently on eggs so we don't want to disturb their very important work of making the next generation of ground-hornbills.





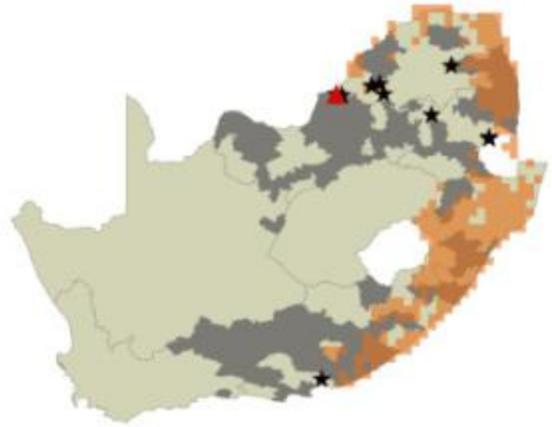
Some of the mapping we have been working on for each release site to understand habitat choices and preferences to guide future releases, looking at both annual and seasonal movements



- Dwaalboom Thornveld
- Western Sandy Bushveld
- Waterberg Mountain Bushveld
- Limpopo Sweet Bushveld
- Subtropical Alluvial Vegetation
- Rainy season
- Cool Dry season
- Thaba Tholo Boundary
- Release aviary

ACTIVE THREAT MITIGATION

Disease: Our collaboration with Dr Katja Koeppel and Dr Louis Maarten at Deltamune on the development of Newcastle's Disease (ND) vaccines has borne fruit with the successful development of a vaccine that is specifically designed for the reintroduction environment. There seems to be some inherent immunity in wild-hatched birds that hand-reared birds lack. The map presented here shows the overlap of ND outbreak areas (in grey) and ground-hornbill range (in orange), with the black stars indicating reintroduction sites and the red triangle where two hand-reared reintroduced birds were lost to ND events, that prompted this research.



The vaccine is inserted into a developing chicken embryo that can then be fed out to the reintroduced birds eliminating the need and risk of capture.

Loss of nests: The prototype is up and experiments underway.

Poison: Organizing a farmer's day to Mabula for farmers where the Thabazimbi area where poisoning of 'pest' species is still rife.

PLANS FOR THE NEXT FEW MONTHS

- Lucy Kemp will complete and submit her PhD thesis by the 30th of November.
- The education programme is being revised in light of what the team learnt at the IZE and PPAZA workshop so that we can maximise the positive outcomes of our outreach programme.
- The annual nest checks and harvest of redundant second-hatched chicks.
- Continue with the artificial nest design until we have a workable mould from which to produce as required.
- Faecal hormone analysis at the NZG laboratory for all of November.
- Farmers visit to Mabula from farming community where poison use is still rife.
- Training of new monitors from the Thaba Tholo release site.
- Prepare the Elandsberg site for release of a new group of ground-hornbills.
- Continue with preparations and fund-raising for the Baobab hand-rearing centre.
- School visit to Mabula to encourage young learners to take up conservation as a career.
- Engaging with the sangoma community on how best to proceed with an integrated conservation plan.

EDUCATION & AWARENESS OVER THE PAST SIX MONTHS

*all sponsors and collaborators are acknowledged in presentations and reports

Print media: Farmer's Review May/June edition, Sunday Times newspaper,

Online: Facebook, Twitter, Youtube

TV: Wild treasures TV show: <https://youtu.be/T-5LeixnzXk>, ANN7 SATY Conservationist of the Year 2016 footage aired in September and October.

Presentations, meetings and workshops:

Dr Katja Koepfel presented the findings from the Newcastle's Disease Vaccine development programme at the AAVA conference in the USA: ***Newcastle's Disease vaccine in Southern Ground-Hornbills: A tool to reduce mortality in avian reintroductions.***

Sophie Neller presented a poster at the University of Pretoria Veterinary Faculty Open Day: ***The importance of faecal androgen metabolite monitoring in the conservation of the endangered Southern Ground-Hornbill .***

Ray Jansen presented our work at the PAAZA conference: ***The Mabula Ground Hornbill Project: Trials, tribulations and success of the Southern Ground-Hornbill in situ and ex situ conservation program*** North Gauteng Birdclub (+ visit to Mabula), Modderfontein Conservation Society, Cuckoo Bird Club, Ikwazi Bird Club, Middleberg Bird Club, Greater Mapungubwe Networking Forum.

Land Owner & Community Engagement:

Our reach with the youth:

- Thaba Khubedu Primary School trialed our new giant colouring page.
- Twenty school (7 108 learners and 154 teachers) were reached in the Limpopo Valley region.

Community outreach:

44 community members in the Musina, Cambell and Vivo areas.

Other:

- Interns at Johannesburg Zoo held a fund-raising breakfast to raise funds for the Project.
- BirdFair at the Walter Sisulu Botanical Gardens, Johannesburg.
- NAMPO agricultural fair courtesy of SASOL Ltd.
- Montecasino Bird Gardens Environment Day outreach.



SUMMARY FINANCIAL REPORT: SUSTAINABLE

The Mabula Ground Hornbill Project has one bank account from which we manage our running expenses. The hand-rearing facility funds are kept in a linked high interest account until we are ready to break ground. A detailed annual financial report is available on request.

TABLE 2: DETAILS OF SPONSORSHIP RECEIVED OVER THE LAST SIX MONTHS

SPONSORSHIP RECEIVED OVER THE PAST SIX MONTHS

Primary (>R100 000):

Mabula & Mokaikai Private Game Reserves.
Montecasino Bird Gardens
Seaworld & Busch Gardens Conservation Fund
Sasol Ltd

Contributing:

American Association of Zookeepers - Battle Creek Chapter
Association Boissiere Mervent Conservation
Beauval Nature
Bester Birds
Birdlife Northern Gauteng
Toronto Zoo
Darling Brewery
Honolulu Zoological Society
Mallafri Bird Club
Middelburg Bird Club
Modderfontein Bird Club
Modjadji tea
MySchool-MyPlanet programme
R Ford painting - Bird Fair
Sacramento Zoo
Tulsa Zoo
Val Kupferberg
Virginia Zoological Society
Z. Schoeman
Zoo Knoxville - Quarters for Conservation

In-Kind:

Mabula Private Game Reserve (accommodation and hospitality support)
Dr Katja Koeppel (veterinary consultations – horses and hornbills).
Cell C (calls and phones).
IDEXX (blood samples).
National Zoological Gardens of South Africa (pathology & molecular laboratory).
Montecasino Bird Gardens Hospital (use of hospital).
Keiskamma Arts Trust
David Mocke (paintings for sale or auction)



Thank you to all who supported our drive for clothing and toys for the ground-hornbill nest custodians in the Matobo District for Children and Nature Conservation Trust, Zimbabwe. This made life a little easier in the face of a continuing drought.



SUMMARY OF SOME OF THE ACTIVITIES OF OUR LOCAL COLLABORATORS AND PARTNERS:

| | |
|---|--|
| National Zoological Gardens of South Africa | Manages the PAAZA African Preservation Programme captive propagation programme, provides post-mortem support, nutritional & behavioural advice and undertakes all genetic analyses at their state-of-the-art laboratory. |
| Percy FitzPatrick Institute of African Ornithology | Undertakes APNR harvest, wild capture, research into spatial use of habitats and dispersal. |
| Mpumalanga Tourism and Parks Agency | MTPA is our partner on the hand-rearing centre, providing the land and logistical support. Delecia Gunn rears harvested chicks, continues education and awareness, and acts as the main advisor on hand-rearing and captive socialisation. |
| Johannesburg Zoo | Hosts captive birds, rearing harvested chicks, grow rearing capacity, continued education and awareness. |
| Endangered Wildlife Trust | Undertakes nest monitoring, harvest and ringing of fledglings in Kruger National Park, research into habitat use & dispersal. |
| Montecasino Bird Gardens | Hosts two breeding pairs, awareness campaign, fund-raising support, rears both harvested and captive-bred chicks. |
| Bester Birds | Hosts birds for the captive breeding programme. |
| Umgeni River Bird Park | Hosts a pair for captive breeding and is increasing awareness in KwaZulu-Natal. |
| Boscia Birds | Hosts a captive pair and young birds, and hand-rears harvested chicks. |
| Zaagkuilsdrift Bird Sanctuary | Hosts birds for the captive breeding programme. |
| Lory Park Zoo | Hosts birds for the captive breeding programme. |
| Hoedspruit Endangered Species Centre | Hosts birds for the captive breeding programme and provided a wild female for a release. |
| University of Pretoria Veterinary Facility, Onderstepoort | Provides veterinary care and advice, vaccine development and research support. |
| Deltamune | Provides vaccine development and provision and assist when a BLS 3 facility is required for inactivation of blood samples. |



Training on how to attach a VHF transmitter

THANK YOU TO ALL OUR CURRENT SPONSORS

PRIMARY LOCAL CORPORATE SPONSORS:



IN-KIND SPONSORSHIP:



CONSERVATION GRANTS:

