

Mabula Ground-Hornbill Project

Progress Report

Reporting Period:
October 2014 – March 2015



Summary: The last six months have been a rollercoaster of highs and lows. We formed wonderful new collaborations, have designed the new 'home' of ground-hornbill chick rearing as a baobab of life, published a paper, found several new nests and completed a successful pilot project for our Custodianship Programme. These have kept us strong through some of the less wonderful times: suspected poisoning of three birds from our most successful release group, loss of a bird that swallowed a piece of wire found out in the bush which pierced its heart, two reported mortalities (one from disease and one poison) of wild free-roaming birds which put us in the level (three and more) that keeps the wild population declining, and the news that Tanzania has, for the second year in a row, set a completely unsustainable trade quota of 400 birds per year.

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

HIGHLIGHTS OF THE PAST SIX MONTHS

THE MATOPOS, ZIMBABWE

PLACE OF GIANT GRANITE BOULDERS, SOLITUDE AND MANY GROUND-HORNBILLS

We are now thrilled to be working closely with an NGO called Children's Nature Conservation Trust Zimbabwe who are continuing the monitoring of the Matopos area population and run a custodianship programme for each nest, similar to the programme we are initiating in South Africa. These nests in the granite boulders make our tree nests pale in comparison – so safe for the bird, so abundant and so much more logistically difficult to check. Patience Shito will be joining us as a conservation intern for three months of training. This study site is excellent for a number of land-use comparisons.



A FAIRLY GOOD BREEDING SEASON

Varied rainfall across our study sites played havoc on the harvest this season with the first hatchlings coming out at the end of October and a chick still hatching in early January. In the Melmoth district the rains arrived so late that the birds didn't bother to breed. All but one of the Limpopo River Valley nests were active. The harvest started very early (end October) and dragged through to just before New Year. A total of 11 chicks were harvested, of which five originated from the Associated Private Nature Reserve (APNR) and six out of the Kruger National Park (KNP) – we are grateful to our harvest partners, the Percy FitzPatrick Institute and Endangered Wildlife Trust, for their role in the harvest. Sadly only five of the harvested chicks survived to fledging so our stock for the reintroduction is slightly less than we had hoped but this reinforces our plans to continue to build a centralised hand-rearing centre. Montecasino Bird Gardens had a bumper year, successfully rearing four of their own stock, two harvested chicks and a Northern Ground-Hornbill. Epic! San Diego Zoo and Safari Park assisted us with two new hand-rearing puppets to join this one.



OUR LATEST PAPER: Koeppel, K.N. & Kemp, L. V. in press. Lead toxicosis in Southern Ground-Hornbills *Bucorvus leadbeateri*: a case from South Africa. *Journal of Avian Medicine and Surgery*.

CUSTODIANSHIP PROGRAMME

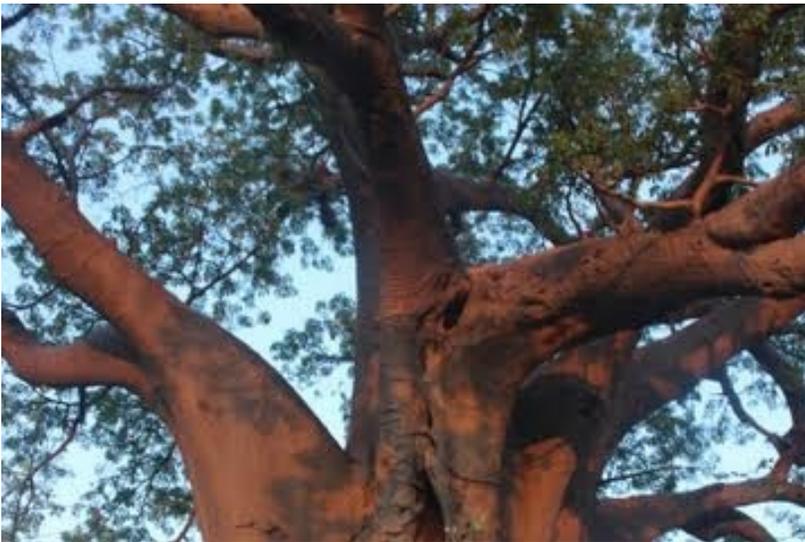


We have successfully completed a pilot project for our Custodianship programme. We chose one of the most difficult farming communities we work with, as we knew that they would ask questions no others would dare, and be sure to be frank if they thought we were asking too much. Expecting much criticism we were surprised by the overwhelming support for the programme and desire to be a part of it, and the feedback was very helpful in fine-tuning our approach. We will start with this commercial farming community and then use lessons learnt through the initial role out phase to guide the programme in other areas. We are focussing not just on commercial farm land but also communally owned land.

DEDICATED HAND-REARING CENTRE

An in-depth analysis of all past release efforts indicated that the clearest and most sustainable way forward was to centralise and standardise the hand-rearing. Institutional pressures often meant that hand-rearers, although totally committed to the project, were not always able to follow the protocol as closely as they would have liked. This led to varied quality chicks, which further complicated the release procedures. We have been given land from the Mpumalanga Tourism and Parks Agency at Loskop Dam Nature Reserve for the construction of the site.

We held a workshop of all interested and affected stakeholders, including hand-rearers and harvest teams who have been with the programme since its inception. This long-term view of the development of techniques and processes was essential, and after a long day of discussion the concept was finalised.



The basic concept is a central hand-rearing room with radiating aviaries that hold the groups used for socialising. Pre-release conditioning aviaries, best quality food stocks and most importantly, the most natural start to life for the chicks that will come in from the wild nests. Like a baobab supporting numerous nests around its girth, that will be the natal nests of the next generations of ground-hornbills.

We have an excellent architect who has already made a site visit and is currently putting the first concept documents together. He already has experience on other avian research centres and so is an excellent fit for this job. Once we have a complete set of preliminary drawings and initial costings we will be able to start the fund-raising process. Once the initial plans are drawn up we will host a second workshop with all relevant stakeholders to ensure that all stakeholders are happy that the designs best suit the needs of the centre.

NEWS FROM CURRENT RELEASE SITES

MABULA

The youngest male released into this group showed signs of abnormal behaviour. Initially we suspected it might be due to lead toxicity as the birds had access to a squirrel, killed with lead shot. He was continually getting left behind by the group but we could not, despite hours of monitoring, discern any aggressive behaviour from the group. We assessed the hand-rearing records but could find no anomalies there that might lead to behavioural problems. We were finally able to capture him after many high-stress days of trying to find him in the long, summer grass where he took to hiding. He was transferred to Montecasino Bird Gardens hospital for a complete assessment and treatment. The x-ray showed that he had swallowed a piece of wire and it had pierced his heart. Dr Koeppel was able to operate on him and he survived the operation. However fourteen days after the operation he succumbed to heart failure. The rest of the group remains in good health.



THABA THOLO

This release site was the cause of much sadness. Our perfect release: a complete socially functional group made up of one wild mentor bird and four hand-reared birds, replicating a combination of techniques that our analysis of past re-introductions showed to be most successful. The wild alpha cared, led and protected the group for a full year. This was our first site where we were confident enough to not use supplementary food, and the group survived an extremely harsh dry winter with no ill effects. Then tragedy – three of the birds disappeared from the group, including the precious alpha male. Weeks of intense searches – helicopter, on foot, by vehicle and interviews with farmers and labourers, yielded nothing but information that the farm where the birds were last seen uses aldicarb, a virulent poison. Investigations yielded nothing but two burnt vulture carcasses but we have to assume the worst, as the group had been so tightly bonded that it is unlikely they would have split. The remaining two birds were extremely trap shy, but after several attempts over several weeks we were able to re-trap them and return them to the safety of the release aviary, while we work hard to 'clean' up the area before considering another release in this region. We now have the full support of Wildlife Ranching South Africa, who will assist in awareness amongst their members, to ensure their land-use practices are no longer a contributor to the decline of the species.

LOSKOP DAM

We now have a wild sub-adult male for this release. He has passed all his health checks and the release is in progress. An exciting new step. Given what we have learnt from Thaba Tholo, much greater need for engagement with landowners on surrounding properties is required prior to release.

LOWLIGHTS

The greatest lowlight has been the loss of the young bird at Mabula and the three from Thaba Tholo. Severe lessons have been learnt and there was little we could have done to avoid either but a disappointing outcome none-the-less. The trade quota of 400 for Tanzania is entirely unsustainable, even in the healthiest population, and given that entire breeding groups are reported to be captured. We will do everything we can to try and reduce the quota to something sustainable. And

ACTIVE THREAT MITIGATION

- Trade:** The SANBI Scientific Directorate have given us the go ahead to submit a proposal to the Committee for review for a CITES Appendix II application to be brought to the Conference of Parties in Cape Town in 2016. This we hope will be successful as Tanzania has, for the second year in a row, set a quota of 400. Data on trade however is very difficult to come by.
- Electrocution:** No progress this quarter. One new wild mortality reported. We have requested feedback from the EWT-ESKOM partnership.
- Poisoning:** One individual tested positive for an anti-helminthic and it is may have been the victim of accidental poisoning- the intestine that was sent for testing was degraded but if there was aldicarb present the sample would have tested positive regardless so it likely to be methomyl, a carbamate compound, that breaks down within a few hours - days. The alternative is that the veterinary drug was consumed in sufficient quantity to kill the bird outright.
- Lead poisoning:** Two article has been submitted to Wildlife Ranching South Africa, as this is the forum best suited to reach the majority of game farmers in the country.
- Disease:** We have found the first positive signs of avian malaria in a wild bird, and are currently running lab tests to determine what kind.
- Window-breaking:** Good old-fashioned ash mixed with water is working best on homes that are infrequently visited. The windows are washed while the house is occupied and then re-ashed on departure.
- Habitat destruction & degradation:** We have two new collaborations to understand the basic habitat requirements across the range, and ways of quantifying grass cover change in South Africa.
- Loss of nests:** We have completed the first phase of experiments with the five prototype nests we built, and a preliminary analysis of the data suggests that a plastic nest with wood lining or the resin-polystyrene materials are the best to develop. Given that the birds will with time destroy an internal wood layer, thus increasing the heat in the nest by removing the insulation, it is likely we will proceed with the resin- polystyrene material and develop better designed nests for testing in the field in the 2015 breeding season.

PLANS FOR THE NEXT FEW MONTHS

- Wild capture:** We will be starting the fieldwork to collect baseline health and genetic samples from the wild population. We will be starting in Mozambique in Gorongosa National Park, and then move to Namibia to ground-truth the 1st South African Bird Atlas, undertaking a 'population and perception' survey and continuing the health and genetic material sampling.
- Hand-rearing Centre:** The architects will continue to work on the drawings and we will start fund-raising.
- Loskop release:** We are in progress with this release with the bird expected to be at liberty by mid-May.
- Mabula release:** We will return the two birds currently being temporarily housed in the aviary and move a release quality bird in for release into the group.
- Museum samples:** We will continue gathering museum samples for analysis.
- Reintroduction plan report:** We continue to refine this draft before submission to the IUCN Reintroduction Committee for comment.

EDUCATION & AWARENESS in the last six months

Print media:

- We published an article in Farmer's Weekly.
- We have prepared an article for WRSA Magazine on lead poisoning.
- We have written a report for the BirdLife Annual Report.
- We had an article in the Thabazimbi local newspaper.
- We have written an article for the Airlink in-flight magazine for publication in the March 2015 issue.

Online:

- We are featured in this documentary: <https://youtu.be/T8c6lbntP3A>. This is part of a series of the National Zoological Gardens involvement in various conservation projects
- Our FaceBook page is updated regularly.
- We have been fortunate to have four blog posts published on Africa Geographic.
- BirdLife 'Vote for South Africa's favourite bird': we campaigned for the species and came 7th out of 52.

Newsletter:

January 2015

Presentations:

- Witwatersrand Bird Club committee;
- Sabi Sands head rangers;
- Mapungubwe National Park conservation director, section and field rangers;
- Weekly Modjadji teas and hornbill drives;
- We presented to the Leeupoort Conservancy meeting about lead poisoning.



Land Owner Engagement: We spent much time over the breeding season, whilst checking known nests and looking for new ones, engaging with the farming communities and now have good relations with the timber companies operating in some of these areas.

Schools:

- None this quarter. It was too close to exam time and so this will be a quiet time for school outreach every year.
- We are preparing an Ambassador programme as an extension to the existing schools programme.

Other: We hosted the Home Brew film crew from Cape Town for three days to film the birds for a Waterberg documentary they are working on.



FINANCIAL STATE OF THE PROJECT: SUSTAINABLE

Table 2: Details of sponsorship over last six months and staff developments.

SPONSORSHIP	STAFF
<p>Primary: Mabula & Mokaikai Private Game Reserves Montecasino Bird Gardens Virginia Zoo Chester Zoo Augsburg Zoo</p> <p>Contributing: Vogelpark Avifauna Albuquerque BioPark Sacramento Zoo Jardin Zoologique Tropical Aquarian Church Sandi Calverlely Brenton Head Val Kupferberg</p> <p>In-Kind: San Diego Zoo and Safari Park (hand-rearing puppets) Roger Sweeney (binoculars) Virginia Zoo (laptop) Minolta South Africa (printer/copier) Natural Encounters (telescope) Dr Katja Koeppel (veterinary consult) Cell C (calls and phones) IDEXX (blood samples) National Zoological Gardens of South Africa (pathology & molecular laboratory) Montecasino Bird Gardens Hospital (use of hospital) Matopos Hills Lodge (accommodation)</p>	<p>Sophie Lenoir joined the team as a conservation intern for a six months – contributing significantly to the CITES and artificial nest box research.</p>



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

National Zoological Gardens	Maintains the stud book and 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	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, veterinary support and vaccine development.
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	Host a captive pair and young birds and hand-rear 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.



THANK YOU TO ALL OUR CURRENT SPONSORS

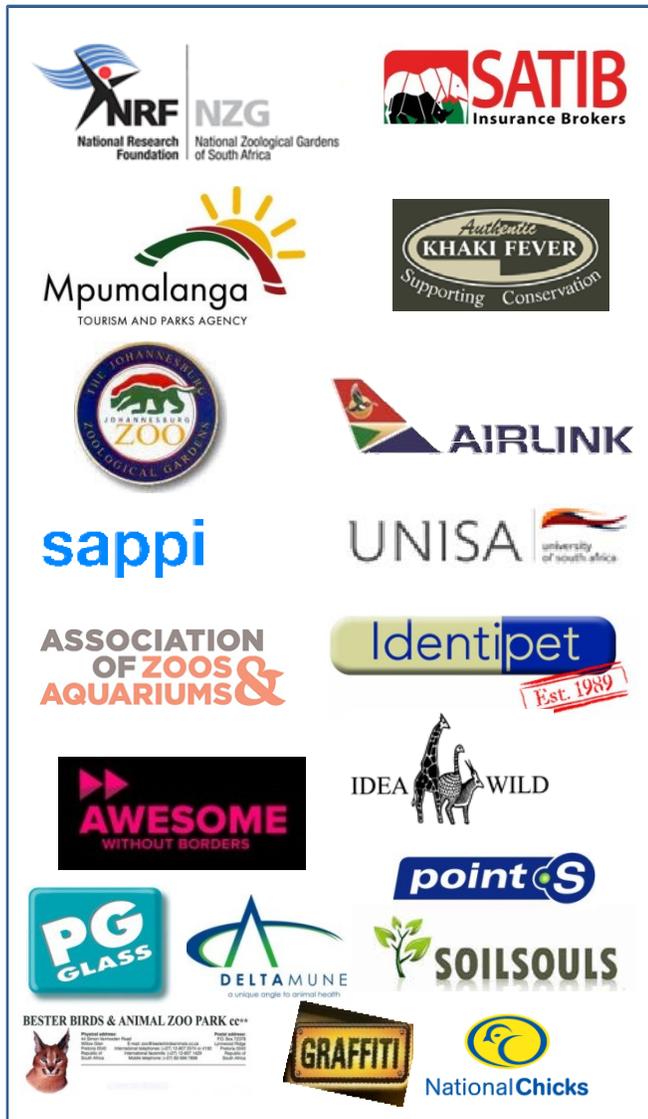
PRIMARY CORPORATE SPONSORS:



CONSERVATION GRANTS:



IN-KIND SPONSORSHIP:



Thank you