

### **Final Evaluation Report**

Your Details									
Full Name	Kudzanai Dhliwayo								
Project Title	Current breeding status of Lappet-faced and White- headed Vultures in the South-East Lowveld, Zimbabwe								
Application ID	27312-1								
Grant Amount	£5 000								
Email Address	kudzanaid@gmail.com								
Date of this Report	03/03/2020								



1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieve	Partially achieve	Fully achieve	Comments
To determine nesting success, nest density and preferred nesting conditions.				The number of nesting white-backed vultures that we sighted was low and most did not lay eggs. Those that laid eggs did not hatch the eggs for some reason. Only three nests were sighted with eggs. The other nests were occupied but we could not take photographs as the lappet- faced vultures are sensitive to disturbance. We could not obtain enough evidence to give conclusive results to determine the nesting success or failure. To determine nesting density, we had few nests and the distances between nests were too big. We may have missed some nests while we were doing our foot surveys. Nest trees were successfully measured to determine the preferred nesting conditions
To examine the population structure with regards to age and sexual maturity.				No white-headed vultures were sighted during our field surveys. This is the only species that exhibits sexual dimorphism as male and female wing patterns are different. Lappet- faced vultures do not exhibit sexual dimorphism and can only be characterised by age. We were only able to characterise lappet -faced vultures. The number of sighted vultures was too low to convince us that this was the population of vultures at Gonarezhou National Park.
To evaluate two potential risk factors: electrocution and community attitudes towards vultures				In Gonarezhou National Park they have had an electrical fault for over 2 years and have never had an electrical supply for the previous 2 years. The powerlines have been down and inactive for 2 years now.



		In addition, the powerlines only run
		where there are offices and staff
		quarters. We would not expect to
		quarters. we would not expect to
		see vultures perched on powerlines
		near places where there are people.
		Therefore, there were no vulture
		casualties in the park for those 2
		years.
		We failed to secure human ethics
		from the University of KwaZulu Natal,
		where I am registered as a PhD
		student. Hence, we could not
		administer questionnaires in the
		communities to assess the attitudes
		of communities towards vultures.

### 2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.

We thought that it would be easy to see vulture nests from the road, and we would go to the areas which they prefer to nest in. However, the park had not conducted a comprehensive survey for vultures and so we had to rely on 2008 historic nest sights to guide us as to where the vultures may nest. It took a very long time to make a follow up study but that was all the data we had. Luckily enough we found a few active nests while we visited the historical nests sites. We did not budget both timewise and financial wise for car breakdowns. We were working in a wild park characterised by wild roads. The roads have deep sands, rocky outcrops and steep depressions some of which were not maintained, and it was difficult to manoeuvre in such terrain. We sometimes had to walk for 4 km just to get to a nest because the road on which we were supposed to drive on had been closed as they were not working for a long time. The areas where the lappet-faced vultures used to nest are areas where most visitors do not go to so maybe that is why the park no longer maintained the roads. We had a few serious breakdowns from which we had to pay the park workshop to fix the car for us.

Our camping equipment gave in on us several times. Because we had cheap tents they tore easily, and my field assistants had to sleep with their tents open on two trips because their tents tore open and they lost their zips. This is highly dangerous as the park is known for having lethal scorpions and snakes and they could possibly have been attacked by wild animals such as lions. We also did not know that the park had introduced a conservation initiative where firewood was now sold to visitors or researchers, something that we did not budget for again. We had serious attacks by elephants while we were driving on our surveys. However, the rangers that escorted us were very experienced and handled the situation as best as they could, and we all came out alive.

In two of the campsites where were camped because it was close to the area where there are some of the nests that we wanted to survey, there were exclusive campsites with no water supply and only a long drop toilet. One of the sites, Tondo,



had a perennial stream which had run dry so there was no water at that time and the other, Lisodo, was next to the big river which was still flowing. There was no way we could carry enough water to sustain four of us for 10 days in a car. For Tondo where there the stream had run dry we moved camp after spending two nights and all the water we had was finished and went to Chinguli a campsite with water but which was further away from the nest sites which meant using more fuel. For Lisodo, the campsite had a river flowing next to it, but the riverbank was too steep and difficult to access, and this is where animals came to drink water. However, we had no choice but to go down to fetch water.

#### 3. Briefly describe the three most important outcomes of your project.

- a. We visited historical nest sites, a component which we did not consider in the proposal. This was a beneficial exercise as it made us understand the study area better. The historical nest sites acted as a guide for our surveys which made our surveys more effective as we did not waste resources driving around the whole park.
- b. We managed to get current breeding nest sites which we will use for mapping and determining nesting density. We have measurements of nesting tree sizes which gives us an idea of what size of trees vultures at Gonarezhou National Park prefer. However, there is need to conduct an aerial survey in the park for a more comprehensive survey which will cover the whole area and improve detection probability of vulture nests.
- c. The report that I sent to the Gonarezhou National Park office has made us have stronger ties with the park staff and they are now more willing to help us. The presentation that we gave at the Rufford Conference has made us be recognised in the region. As such we received an invitation to present at the Zimbabwe Vulture Action Plan in March 2020 in Victoria Falls.

## 4. Briefly describe the involvement of local communities and how they have benefitted from the project.

We did not manage to conduct surveys in the local communities as we did not have a human ethics form. However, I have made this my top priority objective of the project for this year.

#### 5. Are there any plans to continue this work?

Yes. We have 2 to 3 more years of working on this project. The objectives that we did not achieve we plan on doing them. This year we intend to concentrate on the local communities. Working with communities to find out their attitudes towards vultures. Local communities are an important aspect of the research as they are the end users of vulture parts in muti trade and contribute directly and indirectly to the decline in population numbers. We have started the groundwork on how and where to secure permission to work with the local communities as well as to make a follow up on the human ethics permit that we previously applied for. After we administer questionnaires, we are going to educate the local communities on the importance of vultures at the International Vulture Awareness Day 2020 commemorations (IVAD) of which a month from the commemorations we will interview them to find out their



attitudes. This will help us determine whether the IVAD had an impact on the local communities' attitudes. Six months after IVAD we will interview the communities and see if their attitudes have changed since the IVAD commemorations.

I have also secured a donation to conduct an aerial survey from The Bateleurs. This will help us increase our sampling effort, cover a bigger area and be able to sight more vulture nests. Thereby making our survey more efficient. We hope to sight more nests during the aerial survey than in the previous foot surveys.

I want to make a map to compare historical nest sites and current nest sites to determine the change in distribution range of nest sites over the years. This will be the first publication of the work.

We are continuing with the nesting tree size of vultures. We will measure tree sizes of the new nests that we will sight. These nesting tree sizes will be compared with the non-nesting trees to determine which tree size vultures select for nesting.

We have received a donation of three satellite tracking devices from Hawk Mountain Sanctuary. These would be used to determine movements of three lappet-faced vultures tagged at Gonarezhou National Park. This will help us determine the home range and the core home zone of the vultures.

We will include white-backed vultures in our study since they are found in the park and they are now classified as Critically Endangered. It is important to include them in the study as it has been recently found that their numbers are decreasing.

#### 6. How do you plan to share the results of your work with others?

Already we submitted a report to Gonarezhou National Park. They are the custodians of vultures and our findings will help them plan for management purposes. We will give a presentation of our results at the Zimbabwe Vulture Action Plan Stakeholders Meeting. This year we have planned to do a radio talk show where I will share with the whole nation my findings from my research so far. I also intend to produce a map and make a publication on the change in nesting vultures at Gonarezhou National Park. However, when I have enough data, I intend to publish on movement patterns of vultures in the park, nest tree size selectivity and the attitudes of local communities towards vultures.

## 7. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?

The grant was used for a year. The project needs to run for an additional 2 years.



8. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount £	Difference	Comments	
Vehicle Hire, fees & repair	1986	2583			
Research permit, park entry & camping fees	1900	976			
Fuel	1114	1244			
Purchase of map		4		Use of unused funds	
Conservation fees		161		agreed by The Rufford	
Purchase of firewood		32			
TOTAL	5000	5000			

### 9. Looking ahead, what do you feel are the important next steps?

To conduct more field surveys searching for vulture nests in the park. To conduct and aerial survey so as to be able to sight more nests. To include white-backed vultures as they now need more conservation attention too due to the decline of their population numbers in recent years. To enhance relations with the park authorities so as to work together to help save the vultures. To build strong and open relations with local communities and the leadership, that is the community chief, Rural District Council, District Administrator, the headmen and villagers. When this is done it will be easier for communities to open up to us and be honest when they give us feedback during interviews. We will also be able to convince them to change their attitudes towards vultures because conservation is people driven. We cannot conserve vultures without involving the local communities.

# 10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

Yes. We made a poster and it had a Rufford logo.

## 11. Please provide a full list of all the members of your team and briefly what was their role in the project.

**Professor C. Downs** is a terrestrial vertebrate biologist with broad and interdisciplinary research interests and believes that research must contribute to conservation. She is an academic who crosses the gap between academia and applied conservation. Her research includes conservation, ecology, physiology and the behaviour of



terrestrial vertebrates in unpredictable environments and with changing land use. She is interested in how changing land use affects biodiversity and ecosystem health. She has contributed to the understanding of the relationships between the physiology, behaviour and ecology of terrestrial vertebrates, including various bird species and small mammals. She is always there and ready to jump into the situation when things are not going well. She makes things happen and I never would have got halfway of where I am without her assistance.

**Dr L. Thompson** co-supervisor and has recently completed a post-doctoral study on the breeding ecology of Hooded Vultures in the Kruger Park and the APNR. Her fieldwork involved nest surveys, installing camera traps at nests in tall trees, and monitoring vulture restaurants. She completed a five-day tree climbing and aerial rescue course and is a licensed bird ringer. She has assisted post-graduate students with fieldwork involving birds. She does regular public talks to help change negative perceptions about vultures. She has located Hooded Vulture nests and monitored breeding activity. She has helped me write the chapter on local communities' perceptions. Her experience in ringing and tracking vultures has been useful and has given me guidance on how I can go about the methods for trapping and tagging vultures. She has helped me a lot both emotionally and technically. She lends an ear every time and gives so much encouragement. She can think fast.

**Dr L. Goodrich** is my co-supervisor and studies migration ecology and monitoring, ecology of forest birds, conservation biology of raptors, avian behaviour, habitat use, and ecology and Broadwinged Hawk full life cycle ecology. She has studied raptor nesting success and habitat use as well as and migration patterns and home range based on telemetry data. She helped me to get funding for satellite tracking devices. Her experience in movement ecology has helped me to work on my methods for when I tag the vultures. She can get me going in a second and is very resourceful.

**Mr L. Temba** is my research assistant. He is a bird and tree identification expert. He possesses technical skills such as vehicle maintenance, tree climbing and trapping birds for ringing. He has worked at Zimbabwe Parks and Wildlife Authority and is good at locating nests. I never have to worry about technicalities when he is there.

My F. Nyathi is my driver and research assistant. Has a keen eye for direction and angles. He uses the old methods for directing us around the park, but they are effective.

Park Rangers- They were there to keep us safe. They knew the routes in the park better than we did.

### 12. Any other comments?

Thank you, Rufford Foundation, for making my dreams come true.