

## The Rufford Small Grants Foundation

### Final Report

Congratulations on the completion of your project that was supported by The Rufford Small Grants Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to [jane@rufford.org](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

Grant Recipient Details	
<b>Your name</b>	Machawe Maphalala
<b>Project title</b>	Breeding biology of the African White-backed Vulture ( <i>Gyps africanus</i> ) in Swaziland
<b>RSG reference</b>	154821
<b>Reporting period</b>	May 2014-May 2015
<b>Amount of grant</b>	£3896
<b>Your email address</b>	Machawe158@gmail.com
<b>Date of this report</b>	May 2015

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

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Survey for active nests and determination of breeding success			√	The entire length of the Siphiso River within Mlawula Nature Reserve, which is a nesting site for African white-backed vultures, was surveyed once in May and twice in June 2014. Breeding success was successfully determined based on proportion of successful nests.
Produce growth curves of wing, tail, bill, tarsus and weight			√	Biometric measurements were taken regularly every 14 days for chicks of age 12 days to 100 days (few days before fledging).
Determine how food provision rate and brooding time changes with time			√	Motion sensitive cameras were used to monitor food provision and brooding behaviour at nests. The cameras were set to take still photos day and night throughout the breeding period.
Raise awareness by visiting neighbouring high schools			√	Two schools (Dlalisile High School Shewula High School) were visited where students were taught about ecosystem services provided by vultures and the general threats faced by these birds in the region which have contributed to their population declines.

**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

There were no unforeseen difficulties in the duration of the project. Challenges like finding suitable camera position were expected. We did an experiment with one nest to determine safe distance between camera and nest. We found that when the camera is too close (less than 1 m) to the nest the bird was spooked by the camera but when it was placed more than 1 m away from the nest the bird seemed not to be bothered by the camera. Therefore we maintained a safe distance of at least 1 m for the other nests.

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

1. This study revealed causes of African white-backed vultures nest failures such as egg infertility and inclement weather which have not been reported in the past for the study area. Results of the study showed that in order to investigate causes of nest failures it is necessary to monitor breeding vultures throughout their breeding season.

II. Mean food provision rate at African white-backed vulture nest was found to be 0.7 bouts/day. Growth curves of weight, wing, bill, tarsus and tail were produced from this study. Such information is important for future studies that are interested in the breeding biology and general ecology of this species.

III. High school students were taught about the general ecology of vultures and ecosystem services provided by vultures in order to raise awareness. Students know very little about vultures and the little information they have is from traditions passed from generation to generation. This study therefore bridged the gap between science and community knowledge.

**4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).**

The community was involved through the school visitations. Students were very interested to learn about vultures and the school principals invited us to visit them again and give them more information about biodiversity conservation.

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

Currently there is no funding to continue this work. However, in the future I would like to do the same study for another season to get more conclusive results on the availability of food for breeding vultures. It will also be interesting in the future to track the movements of fledglings and also assess their survival rates considering the current threats that this species is facing.

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

- Results of this work will be shared with Swaziland National Trust Commission, a parastatal responsible for nature conservation in the country.
- There will be a paper published on this work in a peer reviewed journal. The manuscript is currently being prepared for submission.

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

May 2014 to May 2015: The project was done within the anticipated period.

**8. Budget: Please 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.**

Item	Budgeted Amount	Actual Amount	Difference	Comments
Binoculars	136	136	0	
Batteries	1185	1097	88	Some nests failed very early during the breeding season so the number of cameras in the field decreased. I therefore bought fewer batteries than anticipated.
SD cards	326	326	0	

Food & accommodation	963	1013	50	One of the chicks fledged later than the anticipated time because it had hatched late into the breeding season. I spent more days at camp than I had budgeted to ensure that cameras were brought down after the very last chick had fledged. Money for the extra days was taken from what remained from the batteries budget.
Transport	760	798	38	Since I spent more days at camp the budget for the car was slightly exceeded. Again money for the extra costs was deducted from the batteries budget.
Phone and internet	76	76	0	
Mini Laptop	244	244	0	
Step ladder	81	81	0	
Telescope	125	125	0	
<b>Total</b>	<b>3896</b>	<b>3896</b>	Note: GBP 1= R 18.27	

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

It will be important to further investigate the availability of food for breeding vultures and this may include estimating foraging ranges of breeding vultures. It is likely that providing supplementary feeding will attract more vultures to breed in this colony and also improve the breeding success. It is therefore important to arrange for supplementary feeding at the reserve at least during the breeding season. This will also help ecologists studying the feeding ecology of vultures. It is also necessary to do more school visitations in order to teach students about biodiversity conservation and also reach out to cattle farmers because vultures also feed from disposed livestock carcasses. Such activities will help reduce the risk of vultures feeding on poisoned carcasses which is something that has been a problem for other countries in the region.

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

The Rufford logo was used during all presentations including several talks at the University of Swaziland, talks at schools and a presentation at a conference organised by Endangered Wildlife Trust in South Africa.

### 11. Any other comments?

This project was fully funded by the Rufford foundation and therefore would like to sincerely thank the Rufford Foundation for the generous funding which made this work a success. I am very thankful to my advisor Prof Ara Monadjem who supervised the research project from the beginning to the end, I have benefited a lot from his experience. I also want to thank Mduduzi Ngwenya from All Out Africa and Muzi Sibiyi from the Savanna Research Centre who provided assistance in the field. I am also indebted to Dr Bob McCleery from the University of Florida for allowing me to use their cameras

for this study. Finally I would like to thank my colleagues from University of Swaziland and every person who contributed to the success of this project.