

## The Rufford Foundation

### Final Report

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

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. 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. Please note that the information may be edited for clarity. 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**

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Grant Recipient Details	
<b>Your name</b>	Dr. Morgan B. Pfeiffer
<b>Project title</b>	Cape Vultures and Wind Energy: Unravelling the Effect of Threats and Possible Mitigating Measures
<b>RSG reference</b>	24428-B
<b>Reporting period</b>	1 March 2018 – 1 March 2019
<b>Amount of grant</b>	£10,000
<b>Your email address</b>	Morgan.pfeiffer@gmail.com
<b>Date of this report</b>	11 March 2019

**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
Create a risk map				We created home range maps for multiple Cape vultures across South Africa.
Data collection				Methods were tested near the university. Still need to collect data at the study site.
Population viability assessment				We continue to review the literature in preparation for this objective.
Determine roost site characteristics				We have submitted a manuscript for review on this topic.

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

The use of predictive spatial modelling of Cape vulture movements can be used to create risk maps. However, the best methods to do so are constantly changing. We had difficulty in updating our risk map because of the amount of time needed to comprehend and perform the analyses. Instead, we calculated home ranges in the form of kernel density estimates of multiple individuals. This allowed us to calculate core areas which can be used in wind farm planning and development.

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

1. We created a country wide home range map for Cape vultures.
2. We started data collection to estimate flying height of Cape vultures. This may be prove to be more accurate than other methods.
3. Submitted a manuscript on the preferred roost site characteristics to the journal Ostrich.

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

This grant has helped support a South African student in her PhD studies.

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

Yes. The South African PhD student has another year to complete their studies. We plan to complete the objectives outlined above.

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

This research will be shared at ecological conferences and through multiple peer-reviewed papers in international journals.

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

This grant was used over 1 year. We anticipated the project lasting 2 years.

**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
Accommodation field work	2002	1570	-432	Field work still in progress
University admin levy (15%)	1500		-1500	Admin fee waived, allocated amount to equipment costs
Video cameras + tripods	478		-478	Received cameras on loan allocated amount to equipment costs
Wind speed direction sensors	2977	3878	+901	Cost higher than planned
Weather station	531	531		Wind meters measures basic weather parameters
Vehicle rental	2512	1524	-988	Field work still in progress
<b>TOTAL</b>	<b>10000</b>	<b>7503</b>		
NOTE: Remaining monies will be used for transportation (vehicle hire and petrol) to the study site (approximately 500km round trip), accommodation at the study site, as well as for subsistence of field work for the primary researcher and three field assistances.				

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

We want to finish data collection on the topographic characteristics and building our model to more accurately predict flight height of Cape vultures.

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

Yes the Rufford Foundation logo was displayed during a presentation we gave at the 2018 Raptor Research Foundation conference in Kruger National Park, South Africa. The Rufford grant was also acknowledged in the following paper: Post-fledging movement and spatial ecology of the endangered Cape Vulture (*Gyps coprotheres*). *Journal of Ornithology* 159(4):913-922. We have also acknowledged the grant in our manuscript submission to the journal *Ostrich*. The title of the manuscript is "Cliff roost site selection of the endangered Cape Vulture (*Gyps coprotheres*) in the Eastern Cape Province, South Africa".

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

**Francis R. Martens PhD** – candidate developing accurate models to predict Cape Vulture flight height. In charge of data collection and lead author for manuscripts.

**Dr. Jan A. Venter** – Senior Lecturer in Wildlife Ecology, School of Natural Resource Management, Nelson Mandela University. Over-sees the management of the project including the PhD candidate. Reviews the budget and helps with data collection and manuscript writing.

**Professor Colleen T. Downs** – Professor at University of KwaZulu-Natal. Helps with data collection and manuscript writing.

**Dr. Morgan B. Pfeiffer** - Post-doc with the National Wildlife Research Center, USDA. Helps with manuscript writing and data processing/analysis.

**12. Any other comments?**

Thank you for this award and past ones. It has allowed us to continue this research and has had a positive impact on the conservation of the Cape vulture in South Africa.