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.

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Bryan Maritz
Project title	Identifying target species for wildlife conservation in South Africa - implications for sustainable biodiversity use.
RSG reference	14608-2
Reporting period	Final report covering Jan 2014 - Jan 2015
Amount of grant	£5993
Your email address	bryanmaritz@gmail.com
Date of this report	24/2/2015

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
Quantify faunal community		X		Limited to avian and non-chiropteran mammals (see below)
Improved biodiversity data for region		X		Ongoing contribution of data to national databases
Quantify functional traits for species in region		X		Measures limited to species actually captured (as planned); other values from literature
iNaturalist group initiated			X	Ongoing
Publication: functional groups	X			Ongoing analysis
Presentation: functional groups	X			Ongoing analysis

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

The primary unforeseen difficulty from this project was the underestimation of the magnitude of the fieldwork initially proposed. It became apparent that simultaneous complete sampling of the faunal community in a rigorously quantitative fashion would be impossible in the timeframes outlined in the proposal. As such, and given the time constraints of the fieldwork, the projects scope had to be adjusted. Accordingly, focus was placed on confirming the presence for each vertebrate taxon in the study area, and limiting abundance-based estimates to the avifauna (because the nature of the survey designs allowed for this relatively easily).

Another unforeseen difficulty related to the installation and functioning of the Sound Meter used to sample bat communities. Finding suitable locations (away from potential thieves) was challenging in the landscape. Moreover, inclement weather during the fieldwork meant that detection rates were very low in areas that were sampled, and the data collected using this equipment is of marginal quality. In the future I plan to use the Sound Meter for conservation-related projects conducted by students and myself at the University for the Western Cape where I have been appointed as a lecturer in the Department of Biodiversity and Conservation Biology.

The final unforeseen difficulty was the weather during the fieldwork. During fieldwork, the region received record rainfalls - including 350 mm (approximately 40% of the annual rainfall) in 48 hours. This severely compromised local infrastructure, washing away road and bridges in the area and making certain remote field sites inaccessible.

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

a) Important contributions to the faunal lists of the region including confirmation of the occurrence of numerous previously undetected species in the study area.
Despite growing interest in the mapping of biodiversity in South Africa, especially through citizen science, large portions of the region remain very poorly sampled. This is especially true for taxa that

are difficult to survey such as amphibians, reptiles, rodents, and secretive carnivores. My projects surveys identified numerous regional records for species previously unreported from this region.

b) Data and equipment were used (and will continue to be used in the future) as part of a formal teaching exercise for conservation-oriented undergraduate students for the University of the Witwatersrand.
During fieldwork, third-year conservation biology students from the University of the Witwatersrand visited the field site (Jackson Field Station at Pullen Farm is a research facility owned and operated by the University of the Witwatersrand). During this time the students were given an opportunity to actively collect data related to quantifying faunal communities. Opportunities for students to be directly involved I such projects are rare, and most never get the opportunity to learn many of the techniques that we employed during the project. The station continues to host a variety of students from South Africa and abroad, all focusing on regional conservation issues. Following the completion of fieldwork, the acquired field equipment was donated to the research facility to ensure that it continues to serve conservation education purposes and research in the region.

c) iNaturalist
I initiated an iNaturalist Group within the iNaturalist framework to facilitate the collection of citizen science natural history observations in the region. The group is publically accessible making it possible for members of the public to contribute novel data, and for conservation scientists to access the resultant information.

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

During fieldwork I was able to interact with the majority of landowners in the area through a conservancy managed forum. Moreover, field sites were located on land owned by five separate farmers with whom I was able to discuss the project on a weekly basis. The shift of the field data collection to sites on private land unfortunately meant that I was unable to directly interact with local rural peoples on a frequent basis. However, numerous opportunities arose to informally discuss the objectives of the project, as well as ascertain local knowledge of certain charismatic species with local people employed on the various farms.

5. Are there any plans to continue this work?

Since receiving this grant I have taken up a full time faculty position at the University of the Western Cape, in Cape Town, South Africa. As such, the survey work itself will not be ongoing. However, the analysis and publication of data collected during the fieldwork conducted during the year will continue. Additionally, through the development of the iNaturalist Group for the region, I hope that further biodiversity cataloguing will continue to occur and that the resultant data will be available to conservation researchers working in the area.

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

The two primary forms of information communication will occur through the scientific literature as peer-reviewed papers and through presentations at conferences. As data analysis is at this point incomplete, the formal publication of papers and presentation of findings has not yet occurred. However, facets of the work have been reported informally at three levels: through informal

discussion with local landowners and farm workers; to undergraduate students from the University of the Witwatersrand as part of a field conservation teaching course; and though informal and formal discussion with the academic staff of the School of Animal, Plant and Environmental Sciences (responsible for decision-making within part of the study area).

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

The funding was primarily utilised during the fieldwork phase of this project. The bulk of the expenditure took place leading up to fieldwork and during field work. As such the majority of the funding was spent after the first 6 months. Remaining funds were utilised to fund follow up trips to the study site to gather data from camera traps and the bat detector that were left deployed within the study site. As anticipated, the project itself (including data analysis and reporting) continued following the used of the RSG. Unfortunately data analysis and reporting have taken longer than anticipated, meaning that they are still ongoing.

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.

All conversion are based on the rate I received the grant at (GBP 1.00 = ZAR 17.74). Financial shortfall was recovered with personal funds and funds from the University of the Witwatersrand.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Field Accommodation	888	677	211	I was able to secure a cheaper rate.
Travel Costs	1938	1825	113	Budget amount was based on estimated mileage
Food/subsistence	808	1030	-222	Food costs were slightly higher than anticipated. Moreover food was occasionally purchased for the field station maintenance worker from a local community
GPS unit	136	310	-174	First GPS unit (£170) was lost by field assistant, second unit (£140)had to be purchased
Anabat Bat detector (Song Meter)	1581	1411	170	The detector was obtained at a cheaper price than estimated. Some of the savings from this were used to purchase the accessories required to install and secure the device, as well as run it (batteries, SD cards etc)
Binoculars	380	380	0	
Snake safety equipment	133	160	-27	
Drift fence array equipment	129	0	129	Adaptation of the project design meant that drift array equipment was not

				needed.
Unforeseen field expenses	0	397	-397	Several project costs arose during the fieldwork that had not been budgeted for. These included (Rabies vaccination following a bite on the hand from a Bushveld Gerbil, flashlight replacement batteries, insect and tick repellent, containers for temporary storage of animals during processing, radiator protector net for the vehicle)
TOTAL	5993	6190	-197	

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

Undoubtedly the next major steps are to finalise data analysis and publish the findings in a peer-reviewed paper on the subject. Having taken up a faculty position geographically distant from the study system means that future work will be challenging. However, the data collected during my time working in this system have provided multiple datasets that could potentially produce conservation-related research.

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?

As relatively little reporting has taken place at this stage, the RSG logo has not been extensively used with regard to this project (although I continue to frequently use the logo in relation to work from my first RSG on Namaqua dwarf adders). Publicity for the RSG in this project was limited to informal discussion with colleagues and local landowners.