



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	Kendyl Le Roux
Project title	Identification of ecosystem linkages and macrobenthic zonation in the iSimangaliso Wetlands Park for the inclusion in Marine Protected Area planning
RSG reference	17872-1
Reporting period	2015-2016
Amount of grant	£4,200
Your email address	kendyllr@gmail.com
Date of this report	20 September 2016

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
Processing of macrobenthos and food sources for isotope analysis			X	All work has been completed for the sampling and preparation of isotopes for analysis. All of my samples are now at the University of Cape Town Archaeology Isotope Department, which due to backlogs on their side, some samples are still awaiting analysis (~1 year waiting period). I have received 90% of my results and it is indicated that all samples will be processed by the end of September 2016.
Assessment of Marine Protected Areas using ecosystem linkages		X		I am currently writing up my PhD thesis and have completed my first two chapters. Further chapters cannot be completed until my isotopic results are available.
Liaise with Ezemvelo Wildlife for the improvement of MPAs for unconsolidated benthic environments		X		This process is also delayed. Once the results of my isotopic analysis are completed and I have undertaken my analysis, only then will I have a clear idea of the information I should convey regarding MPA planning.

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

Sampling, identification of macrobenthos and preparation for isotope analysis all went well and on schedule. Unfortunately, the closure of the Rhodes University Isotope Unit has resulted in other facilities, of which there are only two in the country, being inundated with samples. Samples once received at the Isotope Unit take between 9 months and 1 year to be analysed. Like anything in life you cannot plan for these things; but you can use the additional time to improve your project which I have done by spending more time writing.

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

High macrobenthic diversity, impacted by the turbulent nearshore environment has been noted in the areas, resulting in limited spatial changes. The impact of the outwelling from the Mgobozeleni Estuary was however noted to have a significant impact on the macrobenthic community of the area. Once the isotopic analysis has been completed it is hoped that that the results will further inform us on the importance of the estuary to the macrobenthic food supply in the area. The impact of the coral and rock reefs, while not seen in macrobenthic assemblage changes may also be more evident once isotopic analysis is completed.

Additionally, new depth and geographical ranges of macrobenthic species have been identified.

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

Direct involvement with the local community was not undertaken as part of this project, although the overall improved protection of the marine environment in the area will indirectly serve the community. The iSimangaliso Wetlands Park, where the project was undertaken, is community run with assistance from Ezemvelo Wildlife, therefore if the park is better protected and run it is in the best interest of the local community who rely on it primarily for subsistence and tourism.

5. Are there any plans to continue this work?

Yes, but expanding my focus area to include the whole of the KwaZulu-Natal coastline and hopefully feed into the new Offshore Marine Protected Area plans that are being implemented throughout South Africa as part of Operation Phakisa.

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

The research that I am undertaking will be published through my university in thesis form which will be available to whomever wishes to see it. I will also be publishing as much of my work as possible to journals thus improving knowledge of macrobenthos and its connectivity in the region.

Additionally, my work will be made available to Ezemvelo Wildlife, allowing for baseline knowledge of an area that has not been adequately sampled and that they do not have the funds to undertake. Should the results of my work highlight areas of concern regarding unconsolidated macrobenthic protection this will allow for them to identify and rectify these gaps in future planning.

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

It was anticipated that it should be used over the period of 1 year. I was able to stick to this timeframe with all samples submitted early in 2016 for analysis. To date most isotopic results have been received; while the last should be received before the end of the month September 2016.

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
Isotope Analysis	3900	3100	-800	Meiofauna samples were removed from isotope analysis as after sampling it was found that there was insufficient animal tissue available for isotopic analysis
Consumable	250	750	+500	Additional preparation of the isotopes including defatting was required. Thus additional chemicals had to be purchased.
Transport	50	230	+180	It was hoped that all prepped samples could be sent at once. However, it was

				indicated by the isotope analysis facility that as samples were identified and prepared for analysis that they should be sent through to avoid delay. Thus resulting in increased couriering costs.
TOTAL	4200	4080	-120	

Exchange Rate is 1£= 18.4635 ZAR (South African Rand) (<http://www.xe.com/> access on the 24h of April 2014).

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

Should my isotopes arrive by the end of the month, September 2016, I would like to complete my isotope analysis by the end of the year. This will allow me to submit my PhD thesis early next year, as well as submit papers for publication. The result of completing these steps will mean that I am in a position to provide advice to Ezemvelo Wildlife in the holistic protection of unconsolidated subtidal benthic areas.

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?

Yes, I undertook a poster presentation of my project at Western Indian Ocean Marine Science Association (WIOMSA) Scientific Symposium of which the RSGF logo appeared.

11. Any other comments?

I would like to just thank Rufford for affording me the opportunity to expand my project and add value to the research that I am undertaking through the provision of funding. Work undertaken in Northern KwaZulu-Natal is very limited by the remoteness of the site and the lack of funding available. My passion for marine research and understanding the functionality of the benthic environment can only take me so far without having the finances to do so. This grant came at a time where I doubted my ability to accomplish my project and now I am almost at the end. Thank you!