

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. 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.

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Jonathan Murray Handley
Project title	Regional variation in foraging ecology of Gentoo penguin at the Falklands in relation to fisheries
RSG reference	12372-1
Reporting period	October 2012 – October 2013
Amount of grant	£3150
Your email address	jonorow@gmail.com
Date of this report	1st October 2013

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
Deploy GPS/TDR/video cameras			X	
Stomach Content Analysis			X	
Stable Isotope, Adult Feathers			X	
Stable Isotope, Chick Feathers			X	
Stable Isotope, Humerus Bones			X	
Local Volunteers			X	
Work with Falkland Islands Fisheries Department			X	
Report on diet and foraging		X		A report of progress to date has been given to Falklands Government
Comparison of diet across sites		X		Within report above. Does not go into in-depth detail yet.
Detail of overlap with fisheries		X		We have obtained Vessel Monitoring data from the Falkland Island Fisheries Department. Still to be analysed
Detail of overlap with oil	X			No data obtained. We hope to do this in the upcoming season
Isotopic mixing model development		X		A full complement of prey items were collected during a research cruise in October 2012 and will be again in October 2013. These still need to be processed towards the model.
Report to Falkland Islands Government		X		A report of progress to date has been given to Falklands government
Progress report in Falkland Conservation magazine			X	Two articles detailing the project were written.
Progress to international media	X			We still hope to do this in the future
Results in local press/radio		X		Not local press or radio, but a presentation was given in March 2013 at the town hall.
Peer reviewed publications	X			This will be done in the future
Increased equipment to Falklands Conservation			X	Excess gear for GPS deployment and waterproof clothing was left at Falklands Conservation. It will be used again in

				upcoming season.
Additional volunteer to Falklands Conservation			X	I was able to assist other projects at Falklands Conservation. This project incorporated 17 volunteers who contributed significantly.
Continuation of project			X	This project will continue further.

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

No major difficulties in data collection, apart from obtaining data on oil operations. The main issue arose as the scope of the project was not considered sufficiently. The volume of data was beyond my ability as a master's student and sole investigator to complete the anticipated analyses and a detailed report in the given time frame. However, see 5. below.

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

Currently these involve

- A. Presentation to the local community about the project informing them not only about the project itself but also the importance in the work that we do. The presentation focused on the techniques we are using in the study and how the information can be better used for the conservation and management of the species.
- B. An organised day with Falkland Islands Government High School. This was another fantastic educational opportunity where we were able to get samples of both fish and squid for school children to dissect. It enabled hands on practical work where children were able to identify various parts of the animals, and provided a unique opportunity to present information on why we study animals. We also discussed a potential career in biology and conservation.
- C. We have collected the largest spatial scale data set on at-sea distribution of Gentoo penguins at the Falklands to date, and also showed that the use of miniaturised video cameras can be a critical tool in understanding the foraging ecology of these animals. Not only this, it appears these will be a vital tool in confirming the many inferences made from other devices used on penguins from which important conservation and management decisions are made (see letter of support).

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

Throughout the field season no less than 17 volunteers from the local town actively participated in the project, giving each member a unique perspective into research design and various methods used to establish links between man and the environment. Additionally the project was greatly supported by the local Falkland Islands Fisheries Department where samples were analysed. This increased the already strong relationship between the fisheries department and the NGO, Falklands Conservation.

5. Are there any plans to continue this work?

Yes. The current data set became far beyond the scope of what was feasible in a year. We have confirmed another field season of work, which will further our opportunities for community engagement. An in depth analysis of all data obtained will now continue into a PhD study. During this time we expect to collaborate with other investigators studying Gentoo penguins, both at the Falklands and in other localities to form an extremely comprehensive understanding of this species across its range.

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

- A. We recently attended the 8th International Penguin Conference, in Bristol, UK. An overview of the project, with particular emphasis on video camera work was presented to all delegates studying penguins across the world.
- B. We aim to further publish in both popular press and peer reviewed journals.
- C. The upcoming season in the Falklands will allow further opportunity for public presentations
- D. Owing to time constraints last season we were unable to present the work on the local Falkland Islands TV Channel and Radio Station, but hope to do so this coming season. We have planned for a greater period of time to be spent out of the field, and in the town for this.
- E. We will apply for a presentation opportunity at the World Seabird Conference in 2015 and again at 9th International Penguin conference in 2016.
- F. We hope to give more public talks about the project in South Africa next year. Discussing why and what we study and how the information can be used in conservation and management of species.
- G. I hope if time permits to try and organise a RSG conference in South Africa.
- H. Once video data has been analysed and sent for publication we will aim to release a video clip along with the paper.

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

Oct 2012 – Mar 2013. The budget for the field work was used within the defined periods. The option to continue the project means that the remainder of the budget will be used beyond the anticipated time frame.

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
Land Rover Fuel	975	371	+604	During the previous seasons field work we were using two land rovers, therefore budgeted for this. Due to additional projects by Falklands Conservation we only had access to one this season.
Subsistence	975	1167	-192	Underestimated subsistence needs.

Courier of samples	0	204	-204	Taking biological material back to South Africa via Chile is extremely limited without necessary permits. In the previous season we sent material back to South Africa via one of the yachts sailing there. We hoped to do the same this season and were able to for the majority of the material, kindly supported by Peter Smith sailing the Kiwi Roa (http://www.petersmith.net.nz/). The remaining material was collected much later in the season by which time it was too late to find a yacht to transport goods.
Additional sampling equipment	0	94	-94	We underestimated the amount of material we would need for deploying units. This cost was for waterproof TESA tape and Loctite 401 superglue
Stable Isotope Analysis	1200	0	+1200	We will instead use funds through our university to complete the processing of these samples
Total	3150	1836	1314	The difference in funds will be used toward an additional field season

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

The full analysis of all data will increase our understanding of Gentoo penguin foraging ecology. Obtaining the data on oil operations will be important. Joining forces with Birdlife International who are currently looking at data derived from penguins and how this can be used in the development of Marine Protected Areas will be an important step for connecting this project to regions outside of the Falkland Islands. Following this PhD I hope to be actively involved in Marine Protected Area establishment and the use of penguins and other seabirds as tools for monitoring the marine environment.

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?

No material has been produced yet. The logo, and RSGF, was always used and acknowledged during all presentations mentioned above.