

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	Mr Ross Culloch
Project title	The ecology and apparent threats to cetaceans within the Arabian Sea region of the Indian Ocean Sanctuary (IOS)
RSG reference	43.09.07
Reporting period	September 2007-December 2010
Amount of grant	£3,780
Your email address	ross.culloch@dur.ac.uk
Date of this report	13 th January 2011

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
Systematic beach surveys between November 2007 and March 2008			X	Despite issues with civil unrest throughout the country (see Section 2) the Cetacean Conservation Pakistan (CCP) team managed to carry out more than 50 systematic beach surveys, which resulted in over 20 samples from dead, stranded cetaceans.
Capacity building			X	See Section 3 for a detailed description of the capacity building element of the project.
Community Surveys/ Questionnaires			X	See Sections 3 & 4 for more details
Distributing leaflets, identification guides, and sightings cards in local languages			X	See Sections 3 & 4 for more details
Fisherman Workshops			X	See Sections 3 & 4 for more details
Raising Awareness of the public			X	See sections 3 & 4 for more details
Sightings and strandings network			X	See sections 3 & 4 for more details
Marine mammal module at Karachi University January			X	I was invited to talk on species identification and cetacean strandings. Unfortunately, due to timetable clashes with many of the organisations and groups wishing to attend it was postponed and was not rescheduled during my time in Pakistan. However, the module was run at a later date, with teaching done by Dr. Mauvis Gore and other members of the CCP team
Genetic Analysis			X	Howard Gray carried out the genetic analysis under the supervision of Professor Rus Hoelzel at Durham University. From the 37 samples Howard Gray received, 24 yielded DNA and were identified successfully to species level and sexed. The principal issue with the 13 unsuccessful samples was that they were too degraded to yield DNA despite several attempts by Howard Gray.
Pollutant Analysis	X			Unfortunately, we found no samples that were fresh enough to allow for pollutant analyses.
Age Analysis			X	All thirteen samples collected were successfully analysed.

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

Delays in gathering data, exporting samples and analysing the samples occurred despite the team's best efforts and were due largely to civil unrest in the Balochistan province and bureaucratic needs by different Pakistani government departments. Ultimately, the combination of these issues did result in a significant delay in the completion of the project.

The only significant deviation from the proposal was that the analysis of the teeth samples were not carried out by Dr Tom Jefferson as he was not able to accommodate the analyses in time. Dr. Christina Lockyer kindly agreed to take this job at short notice. Dr. Lockyer is regarded as one of the best in this field, although her quote for the analysis was significantly more. The outcome of this unforeseen need to have the teeth analysed elsewhere is reflected in the budget, with fewer teeth being analysed for a similar cost.

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

The capacity building element of the project has been very important in the overall success of the Cetacean Conservation Pakistan (CCP) team. The most significant and most important outcome in this respect is the two CCP team members (Shoaib Kiani and Babar Hussain) that have been involved since the beginning of the project in 2005-2006. They are now in the position to run all aspects of the project from data collection, analysis, public awareness and training other members of the CCP team. During this field season the team focused on training newer members of the team along with other interested individuals from the Zoological Survey Department and Sindh Wildlife Department. The skills taught by the established members of the CCP team included how to carry out systematic beach surveys, data collection, sample collection, use of field equipment such as GPS, species identification and how to assist a live stranded cetacean. This has ultimately led to the success of the project, allowing these activities to continue without the UK members of the team having to be in Pakistan to oversee the project. This is a credit not only to those involved in the training but to the team itself, and in particular Shoaib Kiani, Babar Hussain and Umer Waqas for their commitment to the project.

Involving the community and raising the public's awareness of cetaceans has been a very important factor in the success of this project. Most importantly, the CCP team made every effort to communicate with as many people and representatives from fishing communities, government organisations, non-government organisations and Universities as possible. This not only raised awareness, but it also resulted in support for the work of the CCP team, often in the form of publicity, which aided the growth of our strandings network. Also, from the point of view of data collection, by devoting a significant proportion of our time to these community-based activities (such as public talks, workshops, visiting communities, etc) we managed to increase our sample size for genetic and age analyses through the strandings network. We also gathered important qualitative data on the abundance, distribution and seasonality of cetacean species by giving out almost 200 questionnaires to fishermen from over 40 villages.

The third of the most important outcomes of the project is undoubtedly the data that the CCP team collected over the course of this project (including the data collected in 2005-2006 under the 1st RSGF). Since there is very little known about cetaceans in this region of the Indian Ocean these data will hopefully begin to inform local authorities about the species in their waters, which we hope will

lead to members of the CCP team advising these authorities on how to best manage and conserve these populations in order to maintain and improve the biodiversity in Pakistani waters. These data will also be of international importance, with the International Whaling Commission (IWC) taking a very keen interest in any research being carried out within the Indian Ocean Sanctuary. Of the work carried out during this project the detailed analysis on the genetics is likely to be of the greatest interest to the international community. These data can tell us about how distinct the species are compared to other regions and can give us an insight into how isolated populations are. Based on the importance of this information with regards to the successful management and conservation of cetaceans in this region we are now beginning to collaborate with the Environment Society of Oman Whale & Dolphin Research Group (formally the Oman Whale & Dolphin Research Group) in trying to establish if cetacean populations in Omani and Pakistani waters are isolated from one another.

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

As mentioned in the third section of the report the involvement of the local communities has been an important part of this project. The community surveys that the Cetacean Conservation Pakistan (CCP) team carried out were beneficial for both the team and the communities. The CCP team distributed leaflets, guides and sightings cards to the villagers that were interested. These handouts gave information on cetaceans, how to identify common species, and how to record sightings at sea. With the aid of the identification guides the CCP team helped the fishermen identify the species that they had seen. It was clear that many of the people from these villages were keen to learn more about cetaceans and to pass on their experiences with cetaceans. In addition to the questionnaires carried out at these fishing villages the CCP team also ran two fisherman workshops, one in Karachi (Sindh province) and one in Gwadar (Balochistan province). These workshops brought a total of 49 community leaders together to learn more about cetaceans and to discuss their thoughts and concerns about cetaceans. It also allowed the leaders of these communities, who in some instances had never met before, to communicate with one another on a broader scope of issues effecting fisheries in Pakistan and provided them with information and material to discuss with their own communities. The CCP team also gave public talks to over 1400 people at the WWF-Pakistan Wetland Centre in Karachi and the WWF-Pakistan centre at Jiwani. They also carried out talks on request to 2 sport fishing associations, 6 government departments, 4 NGOs and 4 universities.

5. Are there any plans to continue this work?

If more funding can be secured, then the Pakistani members of the Cetacean Conservation Pakistan (CCP) team are very keen to continue and evolve their work. The collaboration between the Environment Society of Oman Whale & Dolphin Research Group and the CCP team is in its infancy but we do hope that this will prove to become a longstanding collaboration that will strengthen any applications for funding.

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

We expect to get at least one paper published in a peer-reviewed journal. We will also pass reports to interested organisations within Pakistan, such as WWF-Pakistan, Zoological Survey Department, Sindh Wildlife Department, relevant departments in Pakistani universities and to those that have shown an interest in the work of the CCP team. We will also pass this information on to the

International Whaling Commission (IWC) in the hope that these data will help to inform them on future decisions regarding the Indian Ocean Sanctuary.

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

The application was accepted in September 2007 and the project was not completed until January 2011. This is a significant delay regarding the proposed timeline of one year for the completion of the project, however we did meet with a number of substantial issues that we could not have foreseen (detailed in section 2) but the outcome was more than we anticipated.

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
Return travel from Scotland to Pakistan	£700	£653	+£47	
Business Visa (Single Entry)	£80	£80	£0	
Cost of living @ £5 a day for 60 days*	£300	£300	£0	It was not possible to calculate the total cost over the course of the 60 days as many grocery items are bought from market stalls and no receipts are given. The daily average was calculated based on my time spent in Pakistan in 2005-2006.
Diesel Fuel @ £10 a day for 30 days *	£300	£300	£0	The project made sure as to utilise the entire funds for fuel in order to maximise the number of surveys undertaken.
Maintenance of Vehicle @ £5 a day for 30 days*	£150	£150	£0	The vehicle we inherited from Karachi University was not in the best condition at the start of the field trip so the majority of these funds were spent before fieldwork in order to get the vehicle road worthy.
DNA analysis @ £50 a sample for 25 samples	£1250	£1665	-£415	Despite Howard Gray carrying out a minimum of 3 attempts at DNA extraction on every sample 13 did not yield DNA. Nevertheless, all 37 samples were paid for, which is a typical arrangement with genetic laboratories as the major cost of the process (both in time and in materials) is extracting the DNA. Each sample was charged at £45.

Pollutant analysis @ £30 a sample for 5 samples	£150	£0	+£150	With RSGFs consent the money for these analyses was reallocated to allow for additional genetic samples to be analysed.
Small tooth analysis quoted @ £15 a sample for 10 samples	£150	£185	-£35	This was charged at 320 DKK, which converted to approximately £37 a sample (1 GBP = 8.75 DKK). A total of 5 samples were analysed.
Large tooth analysis quoted @ £30 a sample for 20 samples	£600	£440	+£160	This was charged at 475 DKK, which converted to approximately £55 a sample (1 GBP = 8.75 DKK). A total of 8 samples were analysed.
Shipping & packaging of samples (DMSO, suitable containers, courier costs, licence fees)	£100	£50	+£50	This included the cost of shipping the samples from Pakistan to the UK. And for the tooth samples to Denmark and back to the UK after analysis was complete.
Total	£3780	£3823	-£43	

**For all expenses in Pakistan the exchange rate used was 1 GBP = 135.190 PKR*

**The information given in the 'Item' column is the same as that given in the original grant application – the relevant reason(s) for any variation from the original quotes or expenses are noted in the 'Comments' column.*

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

Continuing to build on the work the Cetacean Conservation Pakistan (CCP) team has done is very important, this includes continuing the efforts to raise awareness and to continue to collect data from dead, stranded cetaceans. The most likely way to continue this given the limited funding available for such projects is to try and involve dedicated volunteers in these activities. However, these programs always have their cons too, such that training volunteers is labour intensive and their contribution is often short lived, which requires training a lot of people over a short period of time. Again, this would still be dependent on finding funding to pay the salaries of the established Pakistani CCP team members, as this would have to be a full-time job. Nevertheless, we are confident that the work of the CCP team will continue and funding will continue to be found to allow this important research to be carried out.

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 RSGF logo was used on leaflets and species ID cards that were handed out to members of fishing villages. I was interviewed for a Pakistani TV show on two occasions and on both occasions, I mentioned that the research I was involved in was funded by the RSGF. For any talks or training I did use PowerPoint the RSGF logo was always on the first and final slide. The RSGF has also been noted on reports submitted to partners and other funding agencies by Dr. Mauvis Gore (the Cetacean Conservation Pakistan project leader).

11. Any other comments?

Given the delay in the completion of the project I would like to thank RSGF for their patience, understanding and their continued support.