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	Malini Laetitia Pittet
Project title	The impacts of recent climatic fluctuations on the distribution of threatened mammals in a neotropical flood forest of North Eastern Peru.
RSG reference	10301-1
Reporting period	July 2011- July 2012
Amount of grant	£5910
Your email address	Malini.pittet@gmail.com
Date of this report	12/08/2012

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
Long term monitoring methodology using camera traps and line transects			YES	A long term monitoring methodology using camera traps and line transects was created in detail. The data obtained from such a long term monitoring was shown to have several uses and applications for determining the health of the fauna and the ecosystem. The proposed methodology includes the use of the two methodologies LT and CT, separate transects, limited effort, two team field procedures which can be carried out by successive groups of volunteers over several years. It is a simple repeatable system with simple protocols and is cost effective with low effort. The whole system including deployment, data collection, entry, processing and analysis has been standardised to allow for continuity.
Training Peruvian biologists, research students and guides to carry out this methodology			YES	Despite the intensity and arduousness of the project, several Peruvian biologists, guides and overseas research students learnt to use camera traps and collect data on line transects as well as the utility of combining the two methodologies.
Gathering data to study species distributions, population status, current habitat and resource use for key species		Partly		Data gathered for key species helped answer some of these questions: ocelot distributions and movements were determined, jaguar populations were examined, prey species activity patterns were also studied. However, this monitoring has a few limitations: a limited data set which limits the statistical treatment and a focus on relative data and not absolute values. Due to a small data set, populations cannot be determined, and there is no meaningful capture-recapture data as this would require a longer period of fieldwork.

Studying the response of various species to the fluctuations in water level through long term monitoring		Partly		One of the key limitations during this fieldwork was the fact that my locations and duration of stay for deployment in these locations was determined by pre-planned expeditions. This led to uneven durations of deployments in each location. It would have been interesting to go back to the first location when the water level was high (to see if there was a migration due to the high flooding), however due to these constraints it was not possible. Key areas for camera trapping and a combined long term methodology using camera traps and line transects were proposed. The monitoring is carried out over several seasons and over several years providing data on how species are affected by the changes in water level and the corresponding changes in resource availability.

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

1. Harsh terrain: There are no maintained paths and transects in the reserve; new paths are created at the start of each field work mission. This was overcome by working extra long hours and increased intensity to cut open the paths by having two sessions each day, one in the morning and one in the afternoon.
2. Uneven deployment durations: Logistics is complicated by the fact that all research has to be carried out from research boats. During April and May, I was the only researcher in the area. This gave me great independence to decide the trapping duration in a location and allowed me to work a 100 percent on my research. As we were a small team, there was very little disturbance caused during the line transects making the data collected very reliable. In the following months expeditions consisting of research students dictated the amount of time spent in a study site. This was overcome by taking into account all the data from the camera traps from the time they were set in the field till the last date they were removed. I was expected to spend part of my time teaching and training research assistants. The line transects were often done with more than eight persons hindering the data collection. My research depended on the schedule of these expeditions.

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

1. This was the first camera trapping project carried out in the Pacaya-Samiria National Reserve. The data obtained from this study was of great value to the park managers who now have a confirmation of the species present in the area, how they interact and, to some

extent, the effect the changes in water level has on these species. A key objective of my research was to determine the effectiveness of using camera traps in such a challenging landscape and subsequently create a simple repeatable system. This project has demonstrated the essential contributions that camera trapping can make to the monitoring of terrestrial mammals. It also shows that even with a limited effort, significant data can be collected and used to monitor changes in population via statistics such as encounter rates for arboreal mammals through line transects and capture rates for terrestrial mammals through camera trapping. The major outcome of the project is certainly the pragmatic methodology I have developed and proposed for a long term monitoring of terrestrial mammals.

2. The study has been instrumental in developing a new application for camera trap: for the rapid assessments of the health of key species in the area and therefore a novel way of monitoring the health of these species over the various seasons and years. Using a database of the jaguars and ocelots created during the study, following the health of these species over time can help us understand their natural history in greater detail.
3. The study allowed us to understand the effect of human disturbance on the various species in the study area. By understanding the influence that research groups have on local species we can determine the quality of data obtained during such studies.

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

All the guides were people from local villages in and around the reserve: they were chosen due to their extensive knowledge of the fauna in the area. There was huge interest generated by the that the camera trap photographs among the local community, starting with all trackers as this was the first time many of them saw some of the more elusive species. Also the PSNR is an example of joint reserve management with community involvement. This work and the proposed long term monitoring methodology shall reinforce the park management and it is expected that the local community will play a role in the deployment of camera traps as data gathering tools.

5. Are there any plans to continue this work?

The methodology proposed has been specifically designed to ensure that it is implementable at a reasonable cost and effort, along with the regular scientific expeditions that take place every few months in the reserve. The long term monitoring methodology proposed would greatly increase our knowledge and understanding of the effect of the changing water level on the various terrestrial species, their interactions with each other and mostly the seasonal effect their health. While the current study has reached its end, it is hoped that the park authorities and the various organisations involved in this study will continue the work in the future based on the methodology proposed.

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

My master's thesis was submitted in July 2012. A first paper has been accepted for presentation at the first colloquium on Camera Traps in wildlife Management and Research to be held in Sydney in September 2012. I hope to publish other aspects of the data analysis in a number of journals of ecology, conservation and veterinary science.

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

Due to logistics constraints I had already started the field work for this project before receiving the grant and had to start on borrowed money. However, I was able to complete the proposed work and all data analysis by the completion target date of July 2012.

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
Travel (air ticket London-Lima-Iquitos return)	0.00	1197.10	1197.10	One airticket was budgeted under the Panthera grant I had applied for but which did not materialise. As moreover I had to return to the UK for administrative reasons during the course of field work, I covered the cost of one ticket from this grant.
Camera Traps	1830.00	1300.00	-530.00	In view of the success of this project the manufacturer of the camera traps agreed to leave 10 of them with AmazonEco at a discounted price.
GPS	280.00	289.90	9.90	OK
Batteries	570.00	613.50	43.50	For logistics reasons most batteries had to be procured in Iquitos at a cost slightly higher than budgeted
Transport and accommodation	1610.00	1631.90	-1098.10	See comments in text before the table
Supplies	1120.00			See comments in text before the table
Salaries	500.00	65.80	-434.20	See comments in text before the table
Participation to Registration and travel cost for camera trap colloquium at Sydney	0.00	812.24	812.24	See comments in text before the table Registration AUS Dollars 600 equv GBP 422 contribution to tavel cost for Sydney conference GBP 390
Total	**5910.00**	**5910.44**	**0.44**	

Exchange rates used as per OANDA site on date of expenses	EUR	0.858790
	USD	0.631360
	CHF	0.712410
	PEN	0.219480

When submitting my project proposal to RSG, I had also applied for a grant from Panthera and had worked out my budget accordingly, distributing the expenses envisaged between the two sources of fund. I planned it so as to be able to carry out the field work even if only one grant was to come through. This turned out to be the case as the project was only cleared by Rufford Small Grant. In this new situation, I had to redistribute the different budget heads to ensure a successful field work in spite of limited resources. I was in trouble as the total amount for the expedition costs (transport + accommodation + salaries + supplies) had been estimated at £6460. I must place on record that AmazonEco, the organisation in charge of the expeditions, was very supportive. They offered me a

solution in which, besides carrying out my field work, I was to work for them during the major part of the expedition. I had to provide organisational and educational support to all the student and researcher assistant expeditions. AmazonEco provided me the possibility to carry out my field work at the same time and use all infrastructure (including their boats) and logistics. Instead of paying me a salary for this work they offered me a substantial discount, bringing the total expedition cost to just £1836 (including transport, accommodation, food, trackers salaries, etc.). This represents a saving of £4624 to compensate for my work. Consequently, after paying for another 10 camera traps to be retained by AmazonEco for further monitoring work, I used part of the saved budget to cover the registration fees and a part of the air fare to attend the first colloquium on Camera Trapping in Wildlife Management and Research, to be held in Sydney. This will be an excellent platform to publicise the work I have done in the Amazon as my paper for this colloquium has been accepted and will be published by the Royal Zoological Society of NSW. As the savings achieved on the original budget result from my work during these 6 months in the Amazon, I hope that the Rufford Small Grants Foundation will not consider the expenses towards my participation to the colloquium in Sydney as unethical.

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

It is important to continue monitoring the terrestrial fauna in the reserve using the methodology proposed. A database of the jaguars and ocelots has been made and it would be useful for park authorities to continue maintain and adding to this database so as to follow the health and understand the population dynamics of these predators. I will continue to keep in touch with the organisation heading the scientific expeditions to encourage them to continue this activity and provide them with advice and support if necessary for example for data processing.

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 RSG logo and been used in my thesis with due acknowledgement. The logo and acknowledgements will also find place in my presentation in Sydney and in all publications based on this project.

11. Any other comments?

RSG has been instrumental in making this conservation oriented research project possible and that, in spite of a limited budget due to the Panthera grant not being realised, I was able to still carry out the intended work, tough in very demanding conditions. I would like here to sincerely thank the Rufford Small Grants Foundation for its support at a critical time in my formation as a conservation ecologist.