

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	Ruthmery Pillco Huarcaya
Project title	The conservation of Geoffroy's woolly monkey (<i>Lagothrix cana</i>), an endangered species in regeneration forest of the Cultural Zone of Manu Biosphere Reserve.
RSG reference	14473-1
Reporting period	March 2014-December 2014
Amount of grant	£5856
Your email address	ruth.pillcohuarcaya@gmail.com
Date of this report	27-2-14

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
Generate management plans for the conservation of woolly monkey	x			Management plans will be created and presented to SERNANP after full analysis is completed.
Describe behaviour patterns, diet and use of space by a group of woolly monkeys in a regenerating forest.			x	The behaviour patterns and diets of two groups of woolly monkeys were collected through two forest types present in the study area: selectively logged now regenerating forest and the partially cleared now regenerating rain forest. Data was collected in both the dry and the wet seasons.
Compare if there are any changes in their diet composition and behaviour patterns between groups of woolly monkeys in regenerating forest and pristine primary forest		x		Data collection in the pristine forest did not happen for security reasons, due the presence of uncontacted tribes "The Mascho Piro" close to the study area in the pristine forest. In response to this, we changed the study site to the Native community of Shipetiari, an area of pristine forest, where the presence of woolly monkeys has been reported. After 3 weeks of intense searching, no groups of woolly monkeys were found in the area. This suggests that even in primary forest with abundance food resources the hunting pressure has a negative effect on woolly monkeys. Hunting could either result in woolly monkeys moving out of the area completely or change their behaviour to make them less detectable by humans.
Conduct workshops to young local people and show the importance to protect woolly monkeys and their habitat.			x	In April 2014, two workshops "Knowing the forest and the woolly monkey" were conducted in the local community of Salvacion. One was presented to Chaskawasi, an organisation that houses people from native communities of Manu National Park, and one to local students of ecotourism.
Produce an identification field guide of monkey's feeding fruits and plants.		x		We are currently in the process of making the field guide. It will be completed by the end of 2015.

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

During the study period groups of uncontacted tribes came to the bank of the Madre de Dios River in the Manu National Park, due to safety reasons, the research in the pristine forest was cancelled. However, the research was moved to the Native community of Shipetiari, where we visited the community and asked for information about woolly monkeys in the area. They told us that there are at least two groups of woolly monkeys living in the community. However, after 3 weeks of intensive search no groups of woolly monkeys were found.

The guided visit to see the woolly monkeys in the study area for Chaskawasi's students was postponed, due the heavy rains and the rising of the Madre de Dios River. The final workshop was given in Salvacion to show the main outcomes of the project instead.

Apart from these issues, I did not encounter major problems during the project. I faced minor difficulties, which I would regard as normal in the field, such heavy rains, abrupt geographical conditions and others. However, it has also been a great adventure and a great learning experience.

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

- Woolly monkeys (*Lagothrix cana*) in the regenerating forest of the Manu Biosphere reserve, were predominantly frugivorous. Their diet comprised of 50% fruits; the next most common food type in the diet was leaves 34%, insects 11%, flowers 4% and others 2%. During the study period 81 species of fruits, leaves and flowers were consumed. In general, the richness of species in the woolly monkey diet is high. Comparing with other primary forest studies, we found that woolly monkey from regenerating forest share two of the three major plant families used: Fabaceae (23%) and Moraceae (14 %). The most consumed plant genera was Inga of the Fabaceae family, both in the dry and wet season. We highlight the importance of leaf consumption over the year, especially in the driest months of August and September, where leaves were the main food resources. The families Moraceae, Araceae and Poaceae contributed greatly to the leaf consumption as they produce stipules, shoots and new leaves respectively.
- Over the course of the year, most time (45%) was spent moving. Feeding constituted 31% of the yearly budget (feeding or searching for fruits, leaves, flower, insects, and attempting to capture animal prey). Total rest time (solitary plus social rest) combined with rain sheltering another 17%. The remainder of the budget (5%) included various self-directed and social behaviours, including mating, grooming, and play. Comparing the overall pattern of activity with other studies in primary forest, we found that our values have higher proportions of movement rather than feeding. This suggests that the food patches are further apart as forest productivity is low in comparison with primary forest. Their strategy to survive in these forest conditions is to travel long distances in order to access to their favourite food resource.
- Throughout the late wet season (March-April) woolly monkeys used higher altitude primary forest, but after these months they started to come down to feed in the lower areas of regenerating forest. As food is often scarce in the dry season, the use of regenerating forest by woolly groups provides evidence of its value. The home range calculated for 16 individuals using minimum convex polygon (MCP) was 122 ha. Woolly monkeys in regenerating areas have a smaller home range than those in pristine forest but spend more of their time moving. This suggests that they travel long distances to obtain fruits, but they do not used a large home range because in the process they complement their diet with young leaves, which constitute an important part of their diet.

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

I carried out a workshop focused on the research results for the young students of the organisation Chaskawasi. Throughout the project field work I delivered presentations to the groups of national and international volunteers that came through the Manu Learning Center. These volunteers worked together with me in the field where I trained them more in the project methodologies and the importance of the research. We also presented the research to tourism students from the local community of Salvacion and from Universidad Andina de Cusco. This project was part of a wider presentation delivered to some of the local authorities, governmental officers and local NGOs which demonstrated that by doing research, practicing sustainable alternatives to get incomes and through sustainable ecotourism, we could help in the conservation of our wildlife, especially endangered species. I also trained a local assistant who was actively involved in all parts of the practical field research. Through this, he obtained skills in the research and monitoring of woolly monkeys, and the ability to identify the sex and age of individuals. Furthermore, we had the help of a local guide in the Native community of Shipetiari.

5. Are there any plans to continue this work?

More field research is needed in different forest types in the Manu Biosphere reserve in terms of population and ecological information in both pristine forests, regenerating forest and in a native community with hunting pressure. This information will give us a complete picture of state of woolly monkeys in the area; in order to know how they cope with forest productivity, hunting pressure, landscape history, food availability and seasonality. I will continue sharing the project results. I am also planning to continue woolly monkey monitoring in some these areas and develop a plan of conservation activities in the area to be implemented in collaboration with local authorities.

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

I am planning to have one or two journal articles published before 2017: one on habitat use in regenerating forest with different disturbance histories, and one on the ecological strategies of woolly monkeys in regenerating forest. I am also planning to make a colouring book for children, about ecological history of the woolly monkey in three languages: Matchiguenga, Spanish and English. I am in the process of making a rapid field guide "Fruits and plant consumed by woolly monkey (*Lagothrix cana*) in the Manu Learning Centre" and it will be available on the web page of the Chicago field Museum. The results will also be given to the Manu National Park authorities.

In 2015 I have applied to give a talk at the: 1st International Meeting: Biodiversity of the Tropical Andes and the Amazon Rainforest in Peru.

As member of the Crees Foundation I will continue sharing my result with the volunteers, tourists, students and local groups that come to the Manu Learning Centre.

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

I have used the Rufford Foundation grant from March to December 2014 to conduct fieldwork for my undergraduate thesis. The RSG was used during the expect time period.

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	Comment
Manu Learning Centre Field stay cost-accommodation	2373	2373	0	
Manu Learning Centre food cost	1138	1138	0	
Transport from Cusco to Manu Learning Centre and vice versa.	253	506	-253	Had to travel to Cusco many times to get materials
Garmin GPS map 62 x2	380	390	-10	The cost was more expensive than estimated
Binoculars x2 (Bushnell 10 x42)	202	228	-26	The cost was more expensive than estimated
Headtorches x3 (1LED lenser H14, 2 LED lenser H7r)	114	270.37	-156.37	The cost was more expensive than estimated
H2N zoom recorder an USB charger	63	194.02	-131.02	The cost was more expensive than estimated
Betron (Xmini) speakers	19	16.73	2.27	
Directional microphone	44	24.92	19.08	
Battery charger	63	25.91	37.09	
Rechargeable batteries (2 sets of AA, 2 sets of AAA)	50	42.05	7.95	
DTSE9 8GB memory stick	19	6	13	
Book "Seeds of Amazonian plants-Fernando Cornejo"	63	30	33	
Compasses x3	19	19	0	
Tape measure	6	6	0	
Notebook and pencils	76	76	0	
Cocha Cashu Field stay-food costs :/ 1 month/ 2 people (1 main research+1 field assistant)	474	224	250	Shipetiari stay food cost: 3 weeks / 2 people (1 main research+1 field assistant)
Cocha Cashu transport return - boat: MLC-Romero-Cocha Cashu; Cocha Cashu-Romero-MLC	253	180	73	Shipetiari transport return - boat: MLC-Shipetiari-MLC
Transport to Salvacion -boat to elaborate workshops :/ 2 workshops/MLC-Salvacion; Salvacion-MLC/	38	106	-68	The guided visit did not happen, and we had to do another workshop with the final result in Salvacion, and we had to transported to Salvation to coordinate the event
Guided visit to Manu Learning Centre for local students: / 20 students/	209	0	209	This activity could not happen for safety reasons.
	5856		0	

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

The important next steps are to engage with local stakeholders and authorities to further the project in term of conservation activities as well to promote the value of regenerating forest for the conservation of the woolly monkeys.

To continue engagement with local communities, schools and organizations to increase the awareness of woolly monkeys and their threats. This could be done through extending the workshops to other local communities around the Manu National Park.

In terms of research, it would be necessary to collect data on habitats with different levels of present and historical disturbance. This will allow us to have a complete data set to develop an adequate management plan for the conservation of woolly monkeys.

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, we used the RSGF logo in all main (printed) materials in relation to this project, together with logo of the Crees Foundation. The RSGF will appear in the front or back covers of the coloured book and in the fruits field guide. RSGF will also be stated as a funder in any future publications.

In addition, the RSGF name was mentioned in all the workshops, presentations and formal documents (e.g. letters) with local institutions and participating schools.

In 2015 I will use the RSGF logo in the material I will present at the following conference: I International Meeting: Biodiversity of the Tropical Andes and the Amazon Rainforest.

11. Any other comments?

I am extremely grateful for the financial support provided by the RSGF. It permitted the fieldwork and successful data collection on the ecology and habitat usage of the endangered woolly monkey in regenerating forest.