

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	Fernanda Michalski
Project title	Towards a better understanding of conflict management in tropical conservation units: The case of giant otters and fishermen in the northeast Brazilian Amazon
RSG reference	9453-2
Reporting period	01 March 2011 to 01 February 2012
Amount of grant	£5946
Your email address	fmichalski@procarnivoros.org.br
Date of this report	15 February 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
Quantify overlap in fish species and size consumed by otters and local people		✓		We collected data on fish species consumed by local residents around the protected area. However, despite an intensive 10 month fieldwork campaign of 2272.3 km of census on motorised boats along rivers in the study area, we found only 30 scat samples of giant otters. Focal observations of fish species caught by giant otter groups were not obtained during field activities. As such, the quantification of overlap in species and size of fish consumed by otters and local people was only partially achieved due to the low sample size.
Quantify abundances of otters and spatial distribution in relation to fishing activities			✓	During the field activities we identified three groups of giant otters in the study area, quantified all individuals and obtained data on the spatial distribution of giant otters and fishing activities through the detection of fishing nests located along the rivers.
Determine local attitudes of local communities towards otters			✓	Although our original aim was to interview at least 100 residents, during our fieldwork we found that only 41 permanent residents live along the river in and around FLONA. As such, although smaller than originally planned, our interview data present an effective representation of the riverine population in the study area.
Initiate outreach activities with local communities			✓	We initiated outreach activities with local residents during informal conversations during interviews and field activities. We did return for a second visit to speak with all people we interviewed to give feedback of our study. A general workshop with local residents, managers of FLONA, researchers, and partners (NGOs) was conducted in February 2012. During this workshop we presented the main results of our work and suggested management actions in order to improve a sustainable

				co-existence between giant otters and local residents in the study area.
Dissemination of results through publications and presentations		✓		We presented results of our study in one local conference, and one national conference (see supplementary material). We have an article accepted for publication in the IUCN Otter Specialist Group Bulletin, which presents the main results of the attitudes of local people towards giant otters obtained in our study. However, we have yet to present the main results in an international conference due to lack of funding for travel expenses.

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

The rainy season in 2011 was atypical in the Amapa State. Water levels of the Araguari River (where our work was conducted) rose by 9.43 m (see http://www.amapadigital.net/noticia_view.php?ID=2004) and our research base in FLONA was flooded for several weeks. As such, our fieldwork in April and May 2011 was cancelled. This produced a slight delay in our activities but we managed to maintain our original target by conducting an extra few days in the field during the following months of activities in 2011.

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

a) We obtained the first data on the population of giant otters in the eastern Amazonia. In approximately 157 km of river we identified 17 giant otter individuals divided in three groups (group 1 with 10 individuals, group 2 with two individuals, and group 3 with five individuals). We also mapped the spatial distribution of otters and fishing nests, which can be a vital data to be used in the management plan of the protected area (FLONA).

b) We investigated the perceptions of riverine residents living around a sustainable-use protected area towards giant otters. These interviews revealed a strong negative attitude towards giant otters, highlighted by recent reports of otters being killed in 12.2% of the interviews. Our interview data revealed that older respondents and those with the longest time in education were less likely to dislike otters and to consider giant otters as damaging income or fishing activities. These results suggested that to conserve giant otters in this region efforts should focus on environmental education.

c) We established a positive relationship with riverine residents based on our monthly activities in and around the protected area. This can contribute positively for future conservation activities in the study area. We also managed to establish a network of collaborators joining researchers from the local university where I work (UNIFAP), local NGOs, managers of the protected area (ICMBIO) and riverine residents. The participation of more than 50% of the riverine residents that live in and around the protected area in the workshop conducted in the first week of February 2012 and their

interest in our research results demonstrates that generating positive attitudes towards conservation of otters and natural resources is viable in our study area.

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

A team of field assistants and students were key to the success of our research activities. In addition to 5 Brazilian students we worked with 2 local field assistants (see table below). I provided technical training and although on a small scale this has set a strong foundation for continuing research activities.

Name	Role	University
Paula Caroline F. da Conceição	Student	Universidade Federal do Amapá (UNIFAP)
Joyce A. Amador	Student	Universidade Federal do Amapá (UNIFAP)
Juliana Laufer	Student	Universidade Federal do Amapá (UNIFAP)
Lia Kajiki	Student	Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP)
Cintia M. Togura	Student	Universidade do Sagrado Coração (USC)
Alvino Pantoja	Field Assistant	-
Dinael Soares	Field Assistant	-

5. Are there any plans to continue this work?

On the basis of the results obtained during the fieldwork, the number of students interested in training, the abundance of giant otters in the study area, and on the very welcoming attitude of riverine residents who were willing to answer our questions and receive us in their houses, I am already planning a continuation of this work. My ambition is to carry on a step further and work with environmental education of adults and children aiming to help them appreciate the intrinsic value in conserving wildlife species and consider options for long-term sustainable development around Amazon Rivers and protected areas. I expect that if environmental education would be successful that giant otter mortality will be reduced in the region. My experience in and around FLONA showed that only with the cooperation of landowners and park managers can conservation plans be successful around sustainable-use reserves in the Amazon.

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

Based on the success of our results my next step will be to disseminate the results of the project and integrate my findings into local and national debates on the conservation of biodiversity in and around protected areas. To date I have disseminated results obtained during the period supported by The Rufford Small Grants Foundation as follows:

- 1) Internet: via the blog of my research group (<http://lecov.blogspot.com/>);
- 2) Presentations: I have presented the results of the project in one local and one national scientific conference (see copy of posters presented in the supplementary material and references below).

- Conceição, P.C.F., Amador, J.A., Laufer, J., & Michalski, F. 2011. A influencia do nível de escolaridade das comunidades ribeirinhas na captura de ovos de tracajá (*Podocnemis unifilis*), Amapá, Brasil. 2° Congresso Amapaense de Iniciação científica da UEAP, UNIFAP, IEPA, e EMBRAPA Amapa, 6° mostra de TCCs e 2° Exposição de pesquisa científica, Macapá, AP.
- Amador, J.A., Conceição, P.C.F., Laufer, J., & Michalski, F. 2011. Abundancia relativa e distribuição de vertebrados de médio e grande porte na FLONA do Amapá, Brasil. 2° Congresso Amapaense de Iniciação científica da UEAP, UNIFAP, IEPA, e EMBRAPA Amapa, 6° mostra de TCCs e 2° Exposição de pesquisa científica, Macapá, AP.
- Conceição, P.C.F., Amador, J.A., Laufer, J., & Michalski, F. 2012. A renda mensal pode explicar o consumo de ovos de tracajá (*Podocnemis unifilis*) em comunidades ribeirinhas no Amapá, Brasil? XXIX Congresso Brasileiro de Zoologia, Salvador, BA.
- Amador, J.A., Conceição, P.C.F., Laufer, J., & Michalski, F. 2012. Abundancia relativa de vertebrados de médio e grande porte na FLONA do Amapá, Brasil. XXIX Congresso Brasileiro de Zoologia, Salvador, BA.

I also presented the results of the Project in the workshop organized by researchers, managers of FLONA, and NGOs, on 07 February 2012. In this meeting, I had the opportunity to present the main results of the Project to several riverine residents that live in and around FLONA (see some results presented at [http://www.iwm.org.br/noticias/causa/desenvolvimento-local/flona-amapa/282-Instituto Walmart apoia pesquisa sobre biodiversidade na Flona do Amapa .html](http://www.iwm.org.br/noticias/causa/desenvolvimento-local/flona-amapa/282-Instituto+Walmart+apoi+a+pesquisa+sobre+biodiversidade+na+Flona+do+Amapa+.html)).

3) Scientific publications: One article entitled “Local perceptions and implications of giant otter (*Pteronura brasiliensis*) conservation around protected areas in eastern Brazilian Amazon” by Michalski, F., Conceicao, P.C.F., Amador, J.A., Laufer, J., and Norris, D. was accepted for publication in the IUCN Otter Specialist Group Bulletin (see PDF in the supplementary material).

I will continue analysing the results and I aim to publish the results in at least another international journal such as Oryx (<http://www.fauna-flora.org/oryx.php>).

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

February 2011 to January 2012 – as 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
Local field assistant	1008.00	994.34	13.66	Worked one day less than anticipated.
Local boat pilot	1008.00	994.34	13.66	Worked one day less than anticipated.
Car hire	605.00	603.77	1.23	
Boat hire	300.00	301.89	-1.89	
Boat maintenance	75.00	65.28	9.72	Boat maintenance was cheaper than anticipated.
Fuel	1800.00	1800.23	-0.23	

Notebooks (Rite in the Rain)	130.00	130.43	-0.43	
Postage	50.00	55.36	-5.36	
Rechargeable batteries	80.00	82.64	-2.64	
GPS	300.00	351.64	-51.64	GPS obtained at a higher price than originally requested.
Binoculars	60.00	45.28	14.72	Binoculars obtained at a cheaper price than originally requested.
Food and lodging	530.00	527.58	2.42	
Total	£ 5,946.00	£5,952.78	£-6,78	

Based on exchange rate of £1.00 = R\$2.65

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

As next steps I will follow two general lines of activity to facilitate conservation actions as follows: 1) continue to publish results of the project in scientific meetings and through oral presentations in the local university, 2) look for ways to integrate research activities closer with existing conservation initiatives in the study region, 3) plan and implement next steps of research activities involving environmental education in and around the protected area in order to minimize negative perceptions of local residents towards giant otters.

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?

RSGF Logo was used on:

Internet: on the blog of my research group (<http://lecov.blogspot.com/>);

Presentations on local scientific conference: 2° Congresso Amapaense de Iniciação científica da UEAP, UNIFAP, IEPA, e EMBRAPA Amapa, 6° mostra de TCCs e 2° Exposição de pesquisa científica, Macapá, AP;

Presentations on national conference: XXIX Congresso Brasileiro de Zoologia, Salvador, BA;

Presentations of talks to riverine residents, NGOs and park managers: Workshop conducted in 07 February 2012 were main results of the project were presented.

RSGF Publicity was obtained through:

Locally: via (1) presentations of results to riverine residents, NGOs and park managers; and (2) presentations on local scientific conferences;

Nationally: via (1) blog of my research group; and (2) presentations on national scientific conferences;

Internationally: via (1) publication of scientific articles in journals freely accessible online (see article accepted for publication in IUCN Otter Specialist Group Bulletin).

11. Any other comments?

I would like to thank the Rufford Small Grant Foundation for supporting this project. The funding provided has enabled me to collect vital information on the current status of giant otter populations in and around a protected area in Amapa state as well as data on riverine residents perceptions towards otters. All this information will help the management of this endangered species in our study area and in the Brazilian Amazon.