

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	Fernanda Michalski
Project title	Use of riparian corridors by otters in a highly fragmented Amazonian landscape – a preliminary assessment
RSG reference	02.06.08
Reporting period	01 October 2008 to 01 September 2009
Amount of grant	£5890
Your email address	fmichalski@procarnivoros.org.br
Date of this report	14 September 2009

1. Please indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Partially achieved	Fully achieved	Comments
Assess the potential of otters and river corridors as "environmental umbrellas" for regional biodiversity conservation		✓	
Obtain baseline data which will allow endangered otter population trends to be monitored		✓	
Quantify the water quality of riparian corridors as water is a crucial link between the environmental and socio economic importance of riparian corridors	✓		The water test quality revealed that all rivers surveyed had at least some levels of presence of <i>Coliformes fecalis</i> . Initial results revealed that the tests applied were not sensitive enough to quantify differences in water quality between corridors, so we did not continue to quantify water quality in all corridors. However qualitative assessments (based on an Index of Biotic Integrity) revealed improved river quality in corridors where cattle access was restricted.

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

N/A

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

From October 2008 to August 2009 we monitored the occurrence of Giant otters (*Pteronura brasiliensis*) and the Neotropical river otter (*Lontra longicaudis*) in riparian corridors across a highly fragmented region of the Brazilian Amazon and simultaneously assessed the potential of otters to act as umbrella species for regional biodiversity conservation.

- 1) A total of 14 riparian corridors connecting forest fragments and 6 along perennial streams coursing through continuous primary forest were sampled through the use of non-invasive techniques to determine the distribution of otters across the fragmented landscape. In addition to the 20 corridors, river surveys in both the Teles Pires and Cristalino rivers, and a total of 151 interviews with local landowners were used to identify the presence of otters along riparian corridors and allowed us to assess landowners' attitudes towards otters and riparian corridors. Utilising complementary non-invasive techniques we were able to determine the distribution of both giant and Neotropical otters across a 5,352 km² study

area. These data now provide a baseline to allow monitoring of how both species respond to habitat loss and fragmentation in the neotropics.

- 2) The interviews revealed that landowners have strong positive perceptions towards riparian corridors – all those interviewed agreed that riparian corridors serve a function and should be preserved. However attitudes towards otters were neutral. Conservation activities which contribute towards maintaining riparian corridors are therefore likely to be well received if: 1) the positive attitudes of local landowners towards riparian corridors are supported and encouraged; and 2) riparian corridors are actively maintained we anticipate that at least for Neotropical and giant otters there is a chance that agricultural expansion may not result in local extinction in our study area.
- 3) However, despite such positive attitudes landowners are often unable to actively manage the corridors which remain in their property. We found that many (93.3% or 141 properties interviewed) do not prevent cattle from entering at least in some points along corridor, which means that hundreds of kilometres of corridors that we surveyed by interviews or during the field activities are potentially exposed to habitat degradation caused by cattle passing through to access water. Landowners frequently state they require assistance (financial and technical) to ensure cattle are able to access water without reducing the habitat or water quality of the riparian corridors.

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

A team of field assistants / technicians and students were key to the success of our research activities. In addition to 7 students from across Brazil (see table below) we worked with 3 students and a professor from the local university (UNEMAT). We provided technical training and although on a small scale this has set a strong foundation for future collaborations.

Name	Role	University
Geraldo Correa Araujo	Field Assistant	-
Alex Grandini Araujo	Field Assistant	-
Linda Maria Weber	Student	Universidade do Vale do Rio dos Sinos (UNISINOS), Brazil
Daniel Gomes Macedo	Student	Universidade Estadual do Mato Grosso (UNEMAT), Brazil
Paula Ribeiro Prist	Student	Universidade Presbiteriana Mackenzie, Brazil
Gabriela M. De Pinho	Student	Universidade Federal do Rio de Janeiro, Brazil
Mendelson G. de Lima	Lecturer	Universidade Estadual do Mato Grosso (UNEMAT), Brazil
Ricardo Gallo	Student	Universidade Estadual do Mato Grosso (UNEMAT), Brazil
Cintia Massumi Togura	Student	Universidade do Sagrado Coração (USC), Brazil
Olívia Miranda Francisco	Student	Centro Universitário São Camilo, Brazil
Aline Cristina Izepão	Student	Universidade Federal do Paraná (UFPR), Brazil
Ingrid Ribeiro	Student	Universidade Estadual do Mato Grosso (UNEMAT), Brazil
Marina Gea Peres	Student	Faculdades Metropolitanas Unidas (UniFMU), Brazil

5. Are there any plans to continue this work?

On the basis of the results obtained in the first year, the number of students interested in training and on the very welcoming attitude of landowners who received our field activities and visits for interviews we are already planning a continuation of this work in the mid-term. Our ambition is to work with local landowners in order to restore riparian corridors as well as reinforce environmental education aiming to help them finding intrinsic value in conserving wildlife species in agricultural frontiers along the arc of deforestation in the Brazilian Amazon. Our experience in Alta Floresta region showed that only with the cooperation of landowners and land managers conservation plans can be successful in this part of the Amazon.

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

Based on the success of this first year our next steps will be to disseminate our results and integrate our findings into local and national debates on the conservation of biodiversity in agricultural deforestation frontier. To date we have disseminated results obtained during the period supported by The Rufford Small Grants Foundation through the following channels:

1. Talk "Uso de corredores em uma paisagem fragmentada na Floresta Amazônica, Brasil" at the local university UNEMAT (Universidade Estadual do Mato Grosso – UNEMAT, Alta Floresta) in October 2008.
2. Mongabay: http://news.mongabay.com/2008/1007-michalski_interview.html, published October 2008.
3. Talk "Consequências ecológicas da fragmentação e perturbação de habitat na Floresta Amazônica: resultados gerais e perspectivas futuras" at the State University of Sao Paulo in Rio Claro (UNESP, Rio Claro) in February 2009.
4. The IUCN Otter Specialist Group Bulletin: "Are otters an effective flagship for the conservation of riparian corridors in an Amazon deforestation frontier?" (<http://www.otterspecialistgroup.org/Bulletin/IUCNOSGBull.html>), published September 2009.
5. Globo Amazonia: published September 2009 (<http://www.globoamazonia.com/Amazonia/0,,MUL1301383-16052,00-CIENTISTA+USA+DNA+E+ARMADILHAS+FOTOGRAFICAS+PARA+ESTUDAR+MAMIFEROS.html>)

We will continue analysing our results and aim to combine the results from this project with previous findings to determine the predictors of otter occurrence in our study region. If our models have a good fit, we then aim to extend this to predict the distribution of both species of otter across the 'arc of deforestation' of the Brazilian Amazon and aim to publish these results in an international journal such as Oryx (<http://www.fauna-flora.org/oryx.php>). To integrate our activities on a local level we are speaking with local landowners and NGO's to inform discussions and development of actions to ensure the long term maintenance of riparian corridors.

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

01 October 2008 to 01 September 2009 – as per original proposal.

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.

Description	Budgeted Amount*	Actual Amount*	Difference	Comments
Personnel				
Local field assistants	636.30	627.21	9.09	Worked one day less than anticipated
Local technician	2,165.80	2165.80	0.00	
Local boat pilot	242.40	242.40	0.00	
Subtotal Personnel	3,044.50	3,035.41	9.09	
Local travel				
Car hire	242.00	242.00	0.00	
Car maintenance	846.00	849.80	-3.80	
Boat hire	102.00	102.00	0.00	
Boat maintenance	70.00	65.74	4.26	
Car / Boat Fuel**	424.20	843.22	-419.02	
Subtotal Local Travel	1,684.20	2,102.76	-418.56	
Materials and Services				
Water test kits	113.00	0.00	113.00	
Water sampler	99.00	0.00	99.00	
Postage	146.00	146.14	-0.14	
Subtotal Materials	358.00	146.14	211.86	
Permanent equipment				
GPS - Garmin eTrex Vista	340.00	166.13	173.87	Bought from UK at reduced price.
Binoculars	43.00	18.48	24.52	Bought in sale.
Subtotal Permanent equipment	383.00	184.61	198.39	
Food and lodging				
	420.00	421.23	-1.23	
Subtotal Food and lodging	420.00	421.23	-1.23	
Total (UK£)	5,889.70	5,890.15	-0.45	

* exchange rate of £1.00 to R\$ 3.30

** Reallocation of funds (for water test and sample collection) to car fuel in order to increase number of interviews with local landowners agreed with Jane Raymond by email.

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

As next steps we will follow two general lines of activity to facilitate the transition from research to conservation actions: 1) continue to disseminate the results obtained so far (for example talk already accepted at the Latin American Internacional Association of Landscape Ecology conference <http://www.eventus.com.br/ialebr2009/> on 06 October 2009); and 2) look for ways to integrate our activities closer with existing conservation initiatives in the region.

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?

Use of logo:

Talk in UNEMAT, Alta Floresta, MT, in October 2008

Talk at UNESP, Rio Claro, SP, in February 2009;

Talk at IALE 2009, Campos do Jordão, SP, to be presented in October 2009.

Publicity:

1. Talks at the local university UNEMAT (Universidade Estadual do Mato Grosso – UNEMAT, Alta Floresta) in October 2008.
2. Mongabay: http://news.mongabay.com/2008/1007-michalski_interview.html, published October 2008.
3. Talks at the state university of Sao Paulo in Rio Claro (UNESP, Rio Claro) in February 2009
4. The IUCN Otter Specialist Group Bulletin (<http://www.otterspecialistgroup.org/Bulletin/IUCNOSGBull.html>), published September 2009.
5. Globo Amazonia: published September 2009.

11. Any other comments?

We would like to thank The Rufford Small Grants Foundation that made our project feasible.