

The Rufford Foundation Final Report

Congratulations on the completion of your project that was supported by The Rufford 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	Ana Carolina Oliveira de Meirelles
Project title	Ecology and Conservation of the Antillean Manatee (<i>Trichechus manatus manatus</i>) on Timonha and Ubatuba Rivers, northeastern Brazil
RSG reference	12411-2
Reporting period	Final report – October 2012 to December 2014
Amount of grant	£6000
Your email address	cameirelles@yahoo.com.br ; cameirelles@aquasis.org
Date of this report	28/03/2015

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
Verify the viability of the use of sidescan sonar to estimate the abundance of the Antillean manatee on the estuary			x	The sidescan sonar can be used to estimate manatee abundance in the study area
Describe the sound repertoire of the Antillean manatee on the estuary, checking the feasibility of using these tool to estimate abundance		x		Sounds emitted by shrimps and barnacles, at the same frequency of manatee vocalizations, masked the recorded sounds. Researchers from São Paulo University are trying to clean the recorded sounds.
Identify the threats and the human impacts on the Antillean manatee on the estuary			x	Human impacts can be visualised in a map.
Identify and monitor the environmental quality of the estuary, through estuary water and sediments analysis			x	Samples of water and sediment were analysed. Low concentrations of heavy metals were found. However, oil contaminations was recorded in the principal area of manatee occurrence.
Describe the variables (biotic, physiographic and physicochemical),			x	Manatees preferred shallow waters of a narrow river, with seagrass bed and low human presence.

that influence the spatial and temporal distribution of manatees on the estuary				
Identify food availability for the Antillean manatee on the estuary		x		The presence of algae, seagrass, saltmarsh and mangrove were recorded. However, the analysis of faeces samples collected during field trips was inconclusive due to items fragmentation.

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

In the beginning we found some difficult in the sonar images interpretation. Then, we asked for some help from Dr Daniel Gonzalez-Socoloske, from Andrews University, the first researcher to test the use of this kind of sonar with manatees. All our questions were solved with his help.

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

The viability on the use of sidescan sonar on abundance studies of manatees in the estuary, with a result of 70 animals inhabiting the area.

The high degree of fidelity of manatees to Carpina river, a narrow river with shallow waters and the presence of seagrass beds.

The preference of manatees for an area with a low level of fishing activity.

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

Eight lectures were performed in Cajueiro da Praia city, to inform local people about the project and the importance of protecting manatee and its habitat. Also, a local fisherman was part of the field crew, and we hope that he can act like a multiplier of the awareness information.

5. Are there any plans to continue this work?

Yes. We believe that continue monitoring the manatee population in the estuary and adjacent coastal areas is very important. With information on population abundance and mortality we can estimate the population viability, to verify the population status.

Also, we observed a change in the fishing activity in the estuary. Before, fishermen used to have sail or paddle boats. Now, most of them have motor boats. As boat strikes area a potential threat to the species, and one of the major threats in other countries, it is important to monitor the boat presence in important areas for the species, as Carpina River.

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

We presented part of the results on sidescan sonar use in the I Simposio sobre el estudio y la conservación de Sirenios en América Latina, in December 2014, during the 16a. Reunión de expertos en mamíferos acuáticos de América del Sur, in Cartagena, Colombia.

Most part of the results will be part of the PhD thesis of the biologist Katherine Fiedler Choi-Lima, member of the field crew of this project. Then, we will subscribe one or two article for publication in international journals.

We also pretend to publish the results in an access language in Aquasis website and present this results to local community.

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

From October 2012 to March 2014.

With the grant provided by RSG and the one provided by "Fundação Grupo O Boticário de Proteção à Natureza" it was possible to cover all the project expenses. Some costs were higher than expected, as fuel, but it was compensated by lower costs in other items, as food.

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
Salaries for field staff & assistants – Survey assistant (£150.00 x 18 months)	2700	2700	0	
Salaries for field staff & assistants – Survey assistant	0	0		
Food - Field "per diem" (3pax x 7 days x 2 meal x 8 trips)	1200	1100	100	We asked to the lodging owner to provided our meals and it was cheaper than expected
Lodging - Field "per diem" (3pax x 6 days x 8 trips)	1000	1000	0	
Equipment - Side scan sonar Humminbird 998c SI	0			
Equipment - Hydrophone	0			
Equipment - Digital recorder Marantz PMD660 Solid state recorder	0			
Equipment –Electric motor	0			
Expendable supplies & materials - Fuel (8 field trips x 1000 Km)	1096	1210		The quantity and value of fuel was higher than expected.
Expendable supplies & materials - Office supplies	0			
Expendable supplies & materials -Sunblock (8)	0			
Total	5996	6010		

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

I believe that first of all, it is very important, based on data obtained in this project, the managers of the Protected area APA Delta do Parnaíba try to insert some regulatory measure to reduce the use of Carpina river by fishermen and motor boat. This recommendation will be in a document that will be sent to the APA board.

Verify the oil contamination source and improve surveillance effort to guarantee proper storage and discharge.

Thus, a medium to long-term monitoring of the manatee population to perform a Population Viability Analyses.

10. Did you use The Rufford Foundation 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 logo in the field storage box (see images) and in the oral presentation during a Conference in Colombia, in December 2014.







IV CONGRESO COLOMBIANO DE ZOOLOGIA
XVI Reunión de expertos en Mamíferos Acuáticos de América del Sur
MA2-I Simposio sobre el estudio y la conservación de Sirenios
en América Latina

ACTIVE AND PASSIVE ACOUSTICS
FOR ABUNDANCE ESTIMATION OF
ANTILLEAN MANATEES, *Trichechus manatus*

Katherine Fiedler Choi-Lima; Juliana Umezaki; Ana Carolina Oliveira
Meirelles; Cristine Pereira Negrão Silva; Denis Moledo de Souza
Abessa; Leonardo Liberali Wedekin; Renata Sousa-Lima

Cartagena, 01 al 05 de diciembre de 2014





11. Any other comments?

This project was very important to understand some ecological aspects of manatee population in this estuary, that is one of the most preserved in northeast Brazil.

Some of the results obtained in the study will help the APA Delta Parnaíba managers to establish regulatory measures to help protect manatees and maintain the low mortality rate observed in the estuary.

It is also important to say that this project executed some of the National Plan for Sirenian Conservation (Brazil) goals, contributing to West Indian Manatee conservation.