

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	Pedro Henrique Cipresso Pereira
Project title	Zoning, Conservation and Research of a Threatened Coral Reef Complex in the Northeastern Brazil
RSG reference	18473-B
Reporting period	December 2015 – March 2017
Amount of grant	£9750
Your email address	pedrohcp2@yahoo.com.br
Date of this report	March 2017

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
Create zoning maps and zoning implementation of the reef				Zoning implementation will encompass visiting areas (only for tourism), fishing areas (only for registered local fishermen's) and no-take areas; we are now selecting the sites for each activity and discussion it properly with the local community.
Display monthly underwater visual census				"Rediscovered" a very important complex of deeper reefs in the MPA (around 30 m of depth). These deeper reefs seems to be working as a refuge for fish and coral populations and we are now testing the deep refuge hypothesis using Brazilian reefs as a model. We have produced a video highlighting the importance of these reefs with Rufford Foundation support (https://www.youtube.com/watch?v=iOlw91p48eo&t=1s)
Empower community members to act as field agents conducting surveillance in the reef				
Oversee and monitor the area to avoid impacts caused by tourism				
Disseminate environmental education material for conservation project				

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

As already planned the zoning implementation was the most challenging part of the project and took a lot of effort from our team. Considering that the zoning discussion and implementation was well advanced and the demand for the zoning was initiated a couple of years ago by the local community members and Brazilian environment ministers we strongly believe that zoning implementation and site surveillance will not be a problem. The unique issue at the moment is to define the final details in order to adjust benefits for all stakeholders after zoning implementation. For instance, zoning implementation will encompass visiting areas (only for tourism), fishing areas (only for registered local fishermen) and no-take areas; we are now selecting the sites for each activity and discussing it properly with the local community.

Another major difficulty encountered by the project is related to personnel qualification and also the precarious socio-economic situation of the population of the area, fact that causes the lack of qualified manpower to work in conservation projects. This same problem was observed during our first Rufford project and from my point of view the unique solution is to keep working hard to provide locals opportunities and qualified education. During some activities of the project there were not enough members to perform it. However, establishing a connection between the local community, tourists, local government agency and federal researchers is also the only way to establish conservation and management of the coral reefs.

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

At the same time that the zoning is the most challenging issue of the project it is also the most reward activity from our initiative. This project will allow not only ecological benefits for the reef area but also social outputs for all the local stakeholders. Reef zoning is one of the most effective conservation measures on reef ecosystems already proving efficiency in Australia and many Pacific Islands. As previously mentioned, zoning implementation will encompass visiting areas (only for tourism), fishing areas (only for registered local fishermen) and no-take areas. Therefore, all the collected info such coral/fish diversity and abundance, reef complexity, preferred touristic areas, preferred fishing areas, etc. will allow us to select the sites for each activity together with local stakeholders consulting.

Another important outcome was the monthly underwater visual census and dives on site coral reef areas. In the end of last year our project has "rediscovered" a very important complex of deeper reefs in the MPA (around 30 m of depth). These

deeper reefs seems to be working as a refuge for fish and coral populations and we are now testing the deep refuge hypothesis using Brazilian reefs as a model. I have produced a video highlighting the importance of these reefs with Rufford Foundation support (<https://www.youtube.com/watch?v=iOlw91p48eo&t=1s>) and have a manuscript in preparation for publication for publication titled: "Effects of depth on reef fish communities: insights of a "deep refuge hypothesis" from Brazilian reefs" the first one in Brazilian waters so far discussion this topic.

Last but not at least, throughout the year, the project conducted numerous environmental education events towards the city. Events were held in the tourist centre, squares, on the beach and close to coral reefs. During all this events, t-shirts (100), stamps (1500), project flyers (500), project banners (15), and pens (50) were distributed for the audience - local community members and tourists.

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

Local community members were fully involved with the project activities since the beginning of the project. We tried to include and connect locals in all the activities related to the project. For instance, local community members were invited and actively participated in the discussion about the zoning of the reef areas. Their opinion was considered during the drawing of maps and which sites should be more controlled and supervised. Additionally, during the all the dive expeditions of the project we used a local boat driver and also one of the trained field agents (locals from the schools) in order to train them for coral reefs research and identification of reef fishes and corals.

In conclusion, we can assume that local community members benefited from this project in a broad way, either by training, by salaries or even increasing their information about coral reefs that expands their consciousness and shows them the importance of environmental preservation.

5. Are there any plans to continue this work?

Definitely. This project started a new age of ecological awareness in the region in which local members and researchers are extensively involved. The Reef Conservation Project currently has strong support from local manager agencies and thus larger facility to continue the activities. Therefore, the empowerment training sessions should continue beyond the inspection of the area, and deeper research should also be conducted. We are glad to let you guys know that since our first RSG the Reef Conservation Project is greatly improving and growing. We got additional

funding from several other institutions such as Brazilian government, Idea Wild, Mohamed bin Zayad Species Conservation Fund and The Ocean Foundation.

Additionally, the future renovation of our Booster Grant from Rufford Foundation will be vital to expand the zoning area and also support the supervision of the reef in the next year.

We also have a project ongoing regarding the potential invasion of the lionfish in Brazilian waters. Lionfish is an invasive species throughout the Caribbean that disturbs functioning of coral reefs via fast and intense consumption of small fish and invertebrates. It represents the worst marine invasion in history; therefore, urgent management actions are critical. Unfortunately, lionfish invasion is now also a reality in Brazilian waters (the extreme south limit of coral reefs in the Atlantic Ocean) and the massive invasion in our coral reefs seem inevitable. Following the unsuccessful example of the Caribbean, where actions started very late, our project aims to start actions involving local community, researches and dive centres to earlier mitigate the consequences on this dramatic biological invasion on Brazilian reefs. In addition, this project will expand protection of deeper reefs in the largest Brazilian MPA ("APA Costa dos Corais").

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

The project results will be shared in different ways, trying to reach all kinds of individuals.

Our social network link is updated weekly (<http://www.facebook.com/projetoconservacaorecifal>) with all the information and new facts from the project. Moreover, the project website (also periodically updated) has just been released with a huge amount of information on coral reefs in general (www.conservacaorecifal.com).

Furthermore, the material called "Conscious conduct on reef ecosystems" created by the Brazilian government is being used in an approach to tourist will be available in full on the project site including downloadable expanding the disclosure of the material.

In preparation is paper. Effects of depth on reef fish communities: insights of a "deep refuge hypothesis" from Brazilian reefs" the first one in Brazilian waters so far discussion this topic.

Participation in many different events and lectures disseminating the project and RSG foundation.

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

The RSG was used from December 2015 – March 2017 with a small delay in the final report and activities due to the Organization and coordination of the first Rufford Conference in Brazil (see post - <https://www.facebook.com/projetoconservacaorecifa/posts/1743683085657175>).

Apart from that all activities outlined in the application for funding were completed within the timescales specified. Efficient communication between all the project members contributed to the correct execution of all the aims. The project coordinator is always in contact with the community and has great power of organization and reports execution. Thus, monthly meeting were performed for a greater control of the project in terms of enforcement and financial aspects.

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
500 m of rope, 100 buoys, 15 small signalling boards for the zoning area and 08 big zoning boards for the anchoring area	£ 1310	£ 1010	- £ 300	This difference was used during dives expeditions
Field Trips - Tanks rental and fill up	£ 500	£ 500	-	-
Field Trips - Ground transport for dive sites	£ 1000	£ 1300	+ £ 300	Fuel price has increased in Brazil
Field Trips - Local boat driver daily bases including boat fuel	£ 1600	£ 1600	-	-
Field Trips - Food and accommodation	£ 2000	£ 2000	-	-
Empowerment sessions - Grand transport for locals (truck hire all the sections)	£ 750	£ 1000	+ £ 250	Fuel price has increased in Brazil - This extra + £ 250 was covered by the Brazilian government.
Empowerment sessions -	£ 250	£ 250	-	-

Basic material for classes				
Oversee and monitor the area to avoid impacts – community members transport and food	£ 1500	£ 1500	-	-
Oversee and monitor the area to avoid impacts – basic materials for monitoring process	£ 300	£ 300	-	-
Disseminate environmental education material - (caps, shirts and pamphlets)	£ 540	£ 540	-	-
Disseminate environmental education material - events preparation	£ 750	£ 750	-	-
TOTAL	£ 9750	£ 10750	--	

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

It is critical important now to implement strong network in the area to conduct reef supervision. Additionally, it is important to continue with all the activities so far, such as the realisation of more training for local community members, keep with the supervision with field agents on the reef ecosystem and also further research on coral reefs involving.

Regarding the zoning plan we are now initiating the proposal of the zoning of a new area in the MPA. This area will have multiple-use. For instance, zoning implementation will encompass visiting areas (only for tourism), fishing areas (only for registered local fishermen's) and no-take areas; we are now selecting the sites for each activity and discussion it properly with the local community. The real plan is to have at least 10 zoning areas in the next 5 years in the reef complex (largest Brazilian MPA).

Another important goal is to keep working on the new "rediscovered" deeper reefs in the MPA (around 30 m of depth). No effective research has never been conducted in the area and we are now planning to collect much more data on fish community, coral cover and testing the deep refuge hypothesis using a series of micro chemical mechanisms collected from coral tissue (this is an ongoing project already).

A renovation of the Booster Grant from Rufford Foundation will be vital to expand the zoning area and also support the supervision of the reef in the next year.

10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did The Rufford Foundation receive any publicity during the course of your work?

The RSGF logo was used on all the distributed and produced materials, presentations and over the duration of this project as outlined below. All the publicity with the logo was sent for the project and more of them are still in preparation. We can highlight some of the most important occasions that the Rufford Small Grants Foundation was used:

- T-shirts (100), stamps (500), project flyers (1000), project banners (15), and pens (100) used during the whole project and also distributed for local community and tourists.
- Presentations for the local community and tourists and also meetings with local manager agencies and major.
- Website of the project just created - www.conservacaorecifal.com and Social Network of the project with weekly updates - <http://www.facebook.com/projetoconservacaorecifal>
- Acknowledgments from RSG on scientific papers and also magazine articles.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

12. Any other comments?

On behalf of The Reef Conservation Project (PCR) and in the name of all the project team, I would like to acknowledge and thanks the Rufford Small Grant Foundation for this support and amazing opportunity for us to work in Brazilian coral reefs promoting conservation and education. It was an honour to work together with you guys and disseminate our results for all the word. We were very pleased with the outcomes of this project and we hope to receive a next grant to continuous with this amazing work.

We have organized a Rufford Conference in Brazil this year.