



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

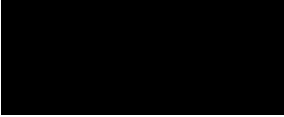
Grants Director

Grant Recipient Details

Your name	Gustavo Adolfo Castellanos Galindo
Project title	Tides and Seascape configuration: determinants of reef fish intertidal migration in the tropical eastern Pacific (Colombia)
RSG reference	RSG 49.07.07
Reporting period	September 2007 – January 2009
Amount of grant	£ 3328
Your email address	gustavo80@yahoo.com
Date of this report	February 20 th 2009

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
Understand which mechanisms determine fish migration in rocky intertidal areas of Colombia			X	A complete description of the fish assemblages migrating to intertidal areas was generated. It was identified that responses are species-specific and not clear at the assemblage level. The need to study other intertidal systems (i.e. mangroves, mud-flats) was raised.
Project dissemination at different levels			X	I consider that the project was disseminated at different levels (academic and social) and generates a clear impact in all of them.
Participation of young people in the project (undergraduate student)		X		At the beginning of the project it was intended to work with an undergraduate student from my former University. I had two students interested in the project, but that could not join it before 2008. Due to my restrictions in my stay in Colombia, I had to decide to work with a young biologist living in the study area that was available to work immediately (Mr. Angel Villa).
Create networks between Colombian and German Scientist			X	The project served to create networks between scientists at my former University (Dr. Alan Giraldo and Fernando Zapata) and the Centre for Tropical Marine Ecology in Germany. Nowadays, a joint proposal is being developed and a visit from my German supervisor to Colombia is being scheduled.
Successful completion of my Master course			X	I successfully completed my Master course at the Bremen University. My thesis and its defense received the maximum possible grade (A). I plan to continue with my PhD at this University.



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

The project suffered a delay at the beginning due to the need of permits from the National Park Authorities in Bogotá DC. During this time, a preliminary visit to the park and nearby villages was done. This time served to present the project to local stakeholders.

In the field I had some difficulties trying to understand the fishermen sense of time. Since I was doing sampling at different stages of the tide and I depended on fishermen to move to my study sites, it was difficult to make them understand the importance of being on time. After some initial headaches I had the help of really nice fishermen that understood this need.

The final product of the project (educative poster) had difficulties in its production due to my leave to Germany. It was difficult to coordinate things to do in Colombia. Only when I came back to my country (October 2008), it was possible to accelerate the process and finally in January 2009 the poster became real.

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

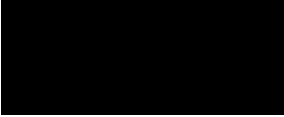
At the academic level, the project gives an important framework to continue studying tidal and seascape influences on fish (and other marine animals) coastal movements. There were no studies on these influences in the whole tropical eastern Pacific region (mostly a macrotidal area), and this effort calls attention on the importance of these factors. Results indicate that certain fish do respond to tidal changes and that these movements may connect adjacent habitats. Conservation strategies in coastal areas of the region might benefit from this understanding.

At the social levels, the project successfully reached different local stakeholders and international institutions. Local people, through fishermen got involved in the project and in a joint effort with them a product (poster) was generated. National environmental authorities understood the relevance of the project and granted access to the park to carry out the research. They also realized the importance of this kind of projects for the management plans of the area. A protocol for reef fish monitoring was developed for them.

Finally, I consider that a very important outcome of the project was my training as a young marine ecologist and conservationist. I learned many things concerning planning and developing a project in a remote location. I gained more experience in the field and working with local people. And I made a lot of contacts at different levels that will help me in my future career.

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

The involvement of local communities began when I presented the project to local villagers at El Valle (closest town to Utría National Park). They were interested in the project and suggested to work closely with the local fishermen association ("Los Piqueros"). With members of this association



I worked during the whole project. I explained them the project and receive feedback from their traditional knowledge. I think they will benefit from the project results by knowing the great fish diversity that lives on rocky shores. They use some of these resources but many of them are not known because they are not used as food. The educative poster produced will be an excellent tool to create awareness on the importance of preserving these resources and the habitats where they live.

5. Are there any plans to continue this work?

Yes. I would like to move forward in two specific research directions. One deals with the examination of fish movements over larger spatial and temporal scales. This will enable a better understanding of the importance of seascape configuration in establishing connectivity between habitats. The other direction is the examination of tidal and seascape influences in other systems of the coast of Colombia. I would like to examine how fish react to tides in mangroves and compare this results with the ones obtained during the present project. I would also like to continue working with artisanal fishermen and create awareness on the importance of conservation of fisheries resources.

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

The results of the project have been disseminated at different levels. At the academic level, my Master thesis has been already presented at the University of Bremen (September 2008). I have also presented the preliminary results of the project in an international symposium (ICRS 2008) and several presentations have been made at Universities in Colombia and Germany. This year I will present part of this work at a national ichthyologist meeting and I will work in the publication of two articles for peer-reviewed journals.

I have submitted a report to the National Park Authorities in Bogotá DC with a protocol to monitor reef fish assemblages at the park. This year (May) I also plan to travel to Utría National Park to disseminate the project results with stakeholders. I will present the educative poster and distribute copies among these people.

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

September 2007 to January 2009. The last product of the project (educative poster) suffered a delay in the production. Thus, the project extended more than it was initially expected.

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 (1 Pound = 3800 Colombian	Actual Amount	Difference	Comments



	pesos)			
1. Field assistant (Angel Villa – biologist)	319.69	526.32	206.63	I had to pay an extra amount of money for field assistance, since I worked with a biologist and not an undergraduate student.
2. Scuba diving equipment (mask, snorkel, suit, fins, regulator, octo and BCD)	726.88	657.89	68.99	The price of the equipment was slightly cheaper at the shop where it was bought.
3. Transport	491.05	400	91.05	Since I did not travel with the student to the park I saved the transportation money for one person. However, at the end of the project I had to pay for a local airplane ticket from Bahia Solano to my hometown (Cali). This was done because I could not find any other secure way of travelling back to be on time for my travel back to Germany.
4. Lodging	920.72	574.22	346.5	Since I worked with the local biologist I did not have to pay lodging for this person while we were not sampling. The remaining money was used to cover items 1 and 6.
5. Meals	767.26	767.26	-	
6. Poster painting and design (by a professional painter)	-	300	-	The item was not initially included in the budget, but after RSGF authorization, I redistributed money to cover this item.
7. Office supplies and publishing requirements	102.30	102.30	-	



TOTAL	3328	3328		
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9. Looking ahead, what do you feel are the important next steps?

I consider my project a very successful experience in all senses. I conducted a project in a very remote area of Colombia where research efforts are scarce. The site (Utria National Park) is an exceptional area to conduct conservation projects. As a next step I would like to continue with research initiatives there through my PhD project. I also feel that it is important to continue working closely with local people creating awareness, especially with young people, about the importance of protecting and using their (fisheries) resources in a sustainable manner.

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. The RSGF logo was used during each of the power point presentations made at the University of Bremen (Germany), Universidad del Valle (Colombia), Colombian National Park Authorities and Local communities. The logo was also used in a scientific poster presented at the International Coral Reef Symposium –ICRS held in the USA last year. Finally an educative poster was produced at the end of the project (January 2009), in which RSGF is one of the supporting institutions.

11. Any other comments?

I would like to express my utmost sincere gratitude to Rufford Small Grants Foundation for your help in making true my project.

12. I agree to this report being published on the Rufford Small Grants website

Signed (or print name) Gustavo Castellanos