

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	Pedro López Del Castillo
Project title	Watershed Conservation in Cuba: Bio-monitoring, Training and Environmental Education
RSG reference	10252-1
Reporting period	Whole study
Amount of grant	£ 5745
Your email address	ffturquino@enet.cu
Date of this report	October 20th, 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
Bio-monitoring		✓		In progress.
Characterising threats to conservation on Yara watershed			✓	
To create a collection of freshwater fauna in Museum of Natural History Tomás Romay		✓		In progress.
Environmental Education			✓	
Training to the head office of protected areas, coffee enterprises and farmers			✓	

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

None.

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

Bio-monitoring

New patterns of distributions and abundance by microhabitats using new methods of monitoring and collecting for the first time in Cuba mainly to the most sensible group to change on watershed: The Caddisflies.

New localities of different species, new reports of different species that were never collected before except the Holotype, mainly in mayflies (e. g. *Hagenulus (traverina) oriente* and *Paracloeodes lilliputian*), and new reports of the caddisfly's family has been reported, Hidrobiosidae, Philopotamidae and Xiphocentronidae. New larvae stage never related have been associated and highly considered to be new species to science. Highly updated information referred to bio monitoring, related to the soil use and variables of different communities for the first time in Cuba. It will be published in magazines (Caddispress, Biotropica, Madmeso book and Newsletter of Cuban Society of Zoology). The most important collection of freshwater fauna is being registered at the Museum of Natural History "Tomas Romay".

Environmental Education

We carried out the Festival "Protecting Watershed for the Future" which included painting and theatre competition at the final period (September 2012). Painting contests among schools were carried out in the watershed communities. We also had walks through the rivers to teach the children about the freshwater fauna and bio monitoring. Other important result was the insertion of the Library and the Culture House town that included these subjects in their programmes.

Training:

The survey carried out showed a little knowledge about watershed conservation and bio-monitoring on the part of the watershed settlers. This survey was applied to different age brackets (farmers, workers of coffee plantation and protected area workers). Taking this outcome into account we

proceeded to train them about Bio-monitoring and Watershed Conservation awareness. The training was carried out by means of lectures, seminars, talks, speeches and audio-videos films.

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

The communities are playing an important role in the Project because one of the goals is “to insert the communities into science and vice versa. Specifically, training and environmental education related on bio-monitoring and watershed conservation.

Firstly, we stayed at smallholders’ houses, the biological station and at doctor family houses. This allowed us to get close to reach their motivation and interest about watershed conservation.

Secondly, we shared lectures, films and articles related to the watershed conservation (main subjects: bio-monitoring, freshwater fauna, stressing action into watershed conservation, healthy practice of agriculture, organic fertiliser etc.). These lectures and articles were shared with the farmers’ families and all the smallholders inside the watershed. It allowed them to increase their knowledge and awareness into conservation of natural resource. For example, they knew about bio-monitoring, freshwater fauna and conservation in watershed and the most relevant of all is that they could apply the knowledge acquired into conservation and as a result there were a significant increasing of the watershed health.

We carried out the Environmental Education by means of different artistic manifestation that involved children and parents. The students in schools represented natural characters on watershed (e.g. the forest, endemic animals, flora, hunters, farmers and themselves as well), they took their characters to their houses and talked to their parents and family about the importance and the meaning of their role in the play. They also took to their houses the drawings in order to share the ideas with the rest of the family and exchanged experiences and drawings among children of different schools of the same level.

5. Are there any plans to continue this work?

Yes, of course. After these lessons, first experience, we plan to continue the work in two ways. First increasing in time (one year or more and if it is successful a second RSGF) and secondly increasing in space with other watershed in protected areas of my area and administrated by Turquino Head Office belonging to National Enterprise for the Protection of Flora and Fauna. The main objectives will be training and environmental education relating to watershed conservation, we intend to train and give environmental education in order to reach more persons involved inside the protected areas and adjacent watersheds that are connected (e.g. more schools, communities, coffee plantations areas and smallholders). Simultaneously for this period we intend to obtain more information referred to bio-monitoring and characterisation of stressing actions on watersheds, increasing the collection of freshwater fauna in Cuba.

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

We have gradually presented the results of this project as in the XIV International Symposium on Trichoptera held in Vladivostok, Russia; XVII International Congress of Mesoamerican Society to Biology and Conservation (in special commission of freshwater fauna, bio-monitoring and watershed

conservation) held in Panama and International Symposium S. O. S Natura held in Santiago de Cuba, Cuba. We are writing articles to several magazines for the scientific and popular reader. For example, Caddispress, Biotropica, Flora and Fauna magazine and the magazine of Cuban zoological society "Cartacuba". When published, it will be sent to Rufford Small Grants.

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

The RSG was used over 12 months from September 2010 to October 2011

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
Laptop	700	700		
Digital projector	600	400	-200	I used this budget for Luggage and food in Panama congress
Digital camera	400	200	-200	I used this budget for Luggage and food in Panama congress
Electro generator	300	300		
Laser printer	200	100	-100	I used this budget for luggage and food while being in Santiago de Cuba identifying species
Printer toners	105	105		
Head torches	120	60	-60	
Theatre materials	200	200		
Environmental education materials	250	250		
Rechargeable Batteries	160	160		
Field tent	120	120		
Backpack	150	150		
Sleeping bags	100	100		
Sleeping pads	40	40		
Working materials	200	200		
Printing services	300	200	-100	I used this budget for luggage and food while being in Santiago de Cuba identifying species
Shipping cost	300	300		
Transport to field area	800	800		
Food for worker and snack to student	700	700		
TOTAL	5 745	5 085	210	

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

- To continue with the process of the data, to publish its results and to keep sharing information in meeting, workshops, and symposiums.
- To use updated information referred to watershed conservation in the Management Plan of the Turquino NP.
- To consolidate the relationship among Turquino Administrative Unit, BIOECO, Library and the Culture House of town to work in the environmental education programme.
- To apply for a second RSGF to develop similar activities in protected areas of my town, Turquino National Park it is a Head Office of Protected Areas in my town, they administrate three protected areas and have not personal to develop the programme of environmental education. These actions are going to be assumed with a holistic view point.
- To continue with research referred to Bio-monitoring, systematic and ecology groups on freshwater fauna and conservation of watersheds.
- To work in the book of Cuba freshwater fauna.

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?

Naturally, the RSGF logo was included in all our presentations (meetings, symposiums and workshops), as well as in all lectures and talks in schools, enterprises and residential homes for the elderly, it will be published in the acknowledgement of all written papers as result of the project, so you may receive a poster presented in the International Symposium on caddisflies held in Russia so as pamphlets used in Training and Environmental Education.

11. Any other comments?

We are very thankful for the support Rufford Small Grants Foundation has granted us.