

## 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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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#### Grant Recipient Details

<b>Your name</b>	Gabriela Echevarría Díaz
<b>Project title</b>	The Catfishes of the Apure River Floodplain: what do we really know about this exploited community?
<b>RSG reference</b>	14179-1
<b>Reporting period</b>	25th October 2013 – 25th October 2014
<b>Amount of grant</b>	£5953
<b>Your email address</b>	hydrosichidae@gmail.com
<b>Date of this report</b>	03/12/14

**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
To generate a field guide with information of the ecology and biology of the catfishes for the fishermen and fisheries managers.		X		So far, information about the reproduction, trophic ecology and abundances of 17 catfish species has been produced but we expect to raise the number of species after the next two field trips to be conducted in February and May of 2015.
To make the information about the catfishes available through the online website "The Catfishes of the Apure River"		X		We have included information about the catfish diversity in the Orinoco and Apure basins, we provided an updated list of the catfish species and have included a section about the tropical floodplains and their fish communities, the variables that regulate them and the models that try to explain their organisation. Fact sheets by species are under preparation with the data obtained through the field expeditions and the laboratory analyses.
To prepare a photographic register of the catfish species.		X		We have taken photos of 17 species in life and after preservation. We expect to increase the number of species in the photographic register after the field trips in February and May 2015.
To prepare several scientific articles about the catfish community structure and the species reproductive and trophic ecology.		X		We are currently carrying out the statistical analyses with the data of the first two samplings. The manuscripts will be completed after the sampling in May and February 2015.
To give an oral presentation with the results of the research to the personal of the Venezuelan Institute of Fisheries.		X		As with the other objectives, we want to include the data of the next field trips in order to prepare the presentation, so it will be more wholesome and accurate.
To prepare a report with recommendations for a better fisheries management.		X		We have delivered two reports to the owner and the staff of the cattle ranch where we are working, including information about the catfish species population traits, their habitats and ecology. However, some important information about the commercial fisheries in the area will be obtained

				during the field work of February 2015, which is the main fishing season of the year. We are going to observe these activities to gather an idea of the extraction rates and capture sizes per species, and with this information a final report will be written considering the best management practices for the area.
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**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

There were three obstacles that caused a delay in the execution of the activities of the project. The first one was that due to the legal frame of Venezuela, the money was only made available from January of 2014. This meant that the field trips had to be postponed until we could buy all the materials needed to conduct the sampling. The second obstacle was the scarcity of certain materials that were necessary to conduct the sampling and to preserve the fishes, for which we were forced to import them from abroad, and the materials had to expend some time in customs, causing more delays. The final and bigger obstacle was that we had to change the study area that had been initially chosen, because we were informed that this area was risky due to piracy and guerrilla activities, and also that the commercial fishing activities there were too intense and that as a result, the fish communities were highly disturbed and that they would not be adequate for the study. All these difficulties caused a delay of 8 months in the execution of the project, and for that reason the fish sampling could only start in August 2014, and two sampling trips are still to take place in February and May 2015 in order to gather all the necessary data to finish the project. However, despite all the obstacles, the objectives will be fully achieved in the course of next year.

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

i. Data on the catfish species ecology and biology. We are gathering data on the species biology and the catfish assembles that is important for an adequate fisheries management. This includes two species of important commercial value, *Pseudoplatystoma orinocoense* and *P. metaense*, as well as other species of ornamental and ecological value such as those of the family Loricariidae, Heptapteridae, Doradidae and Auchenipteridae. As an extra result, we are gathering quality information about two migratory Characiformes: *Colossoma macropomum* and *Piaractus brachipomus*, that are highly appreciated in the commercial fisheries and also have a very important role in the freshwater aquatic ecosystems as seed dispersers.

ii. Participation of local fishermen and the involvement of the cattle ranch Santa Luisa. Three fishermen from San Fernando de Apure are participating in the project. They have learnt some aspects related to measuring the fishes and taking data about their habitats. We have also benefited from their knowledge about the feeding and breeding habitats of the catfishes and the techniques to catch them. Working in Santa Luisa has represented a great opportunity for the conservation of the catfishes. The owner of the ranch, Carlos Rodríguez, is very interested in the project and in establishing a sustainable fisheries management and since the area is private, it will be easier to control the way the fishes are harvested. This particular floodplain segment is really important because as we have been able to observe, the creek and the lakes are nursing areas for the catfishes.

iii. Links with other institutions. We have built links with other institutions such as the University of los Llanos Ezequiel Zamora (UNELLEZ), Institute of Tropical Zoology and Ecology of The Central University of Venezuela (IZET) and the National Institute of Agriculture Research (INIA). The UNELLEZ collaborated with the project by putting at our disposition their boat and trailer. We samples are being analysed in the Ichthyology lab of the IZET, and Dr Antonio Machado – Allison, an acknowledged Venezuelan ichthyologist in charge of this laboratory, is assessing us in the process. Also, some of the samples obtained through this project are being used to learn new skills such as techniques of cartilage and bone dyeing, as a part of a course dictated by Dr Ana Bonilla of the IZET. Another important outcome came through the link with Dr Yamilis Carreño of the INIA. She has taken tissue samples from the fish collected through the project and will continue to accompany us in our future field trips to obtain information about the genetic diversity of the catfishes and other fishes of commercial interest.

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

So far the fishermen who are working in the project, Mr Pedro Carrillo, his son Pedro Martínez, and his nephew Pedro Fernández are learning certain aspects such as measuring the standard length of the fishes, using different kinds of weights, how to collect gonads and stomachs, and how to fix the fishes in formalin. They have also adopted a new attitude towards the fishes, and now when they fish they return the juveniles to the water. Also, relevant information about the fish species ecology and biology is being passed to the owner and the staff of the ranch. We have agreed to present a final report with guidelines to a sustainable fisheries management and an oral exposition to the ranch staff, after Mr Carlos manifested his interest in this kind of harvesting. This report will have information about the minimum recommendable sizes of capture per species, the sensitive areas where no fishing activities should be allowed and the periods of the year when no fishing should take place. On the other hand, the staff of the ranch is in conversations with Mr Carrillo and his family so that they become the official fishermen of Santa Luisa.

**5. Are there any plans to continue this work?**

There are two field trips planned for February and May 2015, and we are considering conducting another one in August 2015. After delivering the fisheries management guidelines we expect to conduct a follow up visit to the ranch.

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

The results will be shared through the delivery of a field guide of catfishes to the staff of the ranch and the staff of the Institute of National Fisheries. They will also be made available through the website “The Catfishes of the Apure River”. Several manuscripts will be written and submitted to scientific journals. An oral presentation of the project will be given to the general community at the Venezuelan Institute of Scientific Research.

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

The RSG has been used for a period of 11 months. This represents a 50% of the time needed to complete the project. However the funds were enough to secure that the project will be finished by July of 2015.

**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.**

Bs 1 = £ 0.10104

Item	Budgeted Amount	Actual Amount	Difference	Comments
Food, field expenses	2020	2335.4	515.41	Apart from the expenses in food, we had to buy some equipment to work in the field, such as tools, tents, boots, sleeping bags, formalin and alcohol. We also had to cover the expenses of the driver during the two field trips.
Services of the fishermen	3579	3233.28	345.72	The field trips took less days than expected, which implied less days of work to pay to the fishermen.
MS-222 Anaesthetic	254	254		
Boxes for storing, plastic bags to save and classify the samples	100	50		Since we are reusing the boxes and plastic bags, the expense in these items was less than expected.
<b>TOTAL</b>	5953	<b>5872</b>	81	The extant money will be used to pay for the repairs of the fishing nets.

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

The immediate most important step is to carry out the next sampling expeditions. Once all the data is gathered, the second step, after delivering the management guidelines to the staff of the ranch Santa Luisa, is the follow up visit, in order to assess if the recommendations are being taken properly and to make the necessary adjustments.

**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?**

The logo is in the website "Los Bagres del Río Apure":  
(<https://sites.google.com/site/losbagresderioapure/home/quienes-somos>)

The logo will also appear in the catfishes field guide and in the sheets that will be showed during the oral presentation of the project.

**11. Any other comments?**

We want to thank the Rufford Foundation for its support, which was essential to carry out the project. We are hopeful that this experience will transcend the limits of the project by rendering useful information for the fisheries management in the Apure – Arauca floodplains.