

## Final Evaluation Report

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Your Details	
Full Name	Camilo Loaiza Gómez
Project Title	Demographic variation of the bird species barred antshrike ( <i>Thamnophilus doliatus</i> ) in habitats with different quality in a tropical dry forest
Application ID	23981-1
Grant Amount	4750
Email Address	Cloaiza_81@yahoo.com
Date of this Report	07/06/19

**1. 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
Evaluate how habitat quality varies for the barred antshrike ( <i>Thamnophilus doliatus</i> ) around the hydroelectric project of "El Quimbo in Colombia.				We have evaluated five microhabitat variables, four in the field and two by Geographical Information Systems (GIS). We calculated HIS (Habitat Suitability Index) was based on those variables, and expressed it spatially by maps done in GIS.
Analyse how varies survival and recruitment of the barred antshrike ( <i>Thamnophilus doliatus</i> ) populations in areas of different habitat quality around the hydroelectric project of "El Quimbo in Colombia.				We have evaluated three times all the count points with passive and active counts (playback) during one complete year (taking account the three climatic seasons of the region (dry, rainy and transition). With those data we used the microhabitat variables (see objective 1) and additional six macrohabitat variables to run the "Dail and Madsen "populations dynamics model to fix covariables (microhabitat and macrohabitat variables) to survival and recruitment parameters and select with AIC the best combination of covariables. All the exercise allowed us to understand the relation of habitat quality and population dynamics of this bird species.

**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.**

We had problems with the number of count points because the field was without walking trails. The mobility between count points was difficult and, in many cases, took us more than 30 minutes between two points. For that reason, we marked 62 points per zone (a total of 186 count points) instead of the 90 points per zone as was proposed.

Additionally, we changed many of the microhabitat variables proposed, especially because of the difficult of measuring them in the field. We didn't measure the insect biomass because we tried a pilot sample and the results were no significant. Instead we measured the structure of the vegetation as a proxy of the feeding resources availability.

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

- a) The area of the field represents a gradient of habitat quality for the barred antshrike (*Thamnophilus doliatus*) with zone 1 being the best area with most resources for the species and a better conservation value.
- b) Recruitment and survival are demographic parameters that was estimated, intensively related with many microhabitat variables, especially with the category of vegetation structure and the altitude.
- c) This species is generalist because was detected in many vegetation covers and his habitat requirements vary along the study area. Besides, it is a territorial species whom is very reactive to the playback. For that reason, is very detectable with the methodology applied.

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

First of all, many peasants that currently works at the compensation area with restoration of tropical dry forest employed by Natura Foundation helped us in all the field execution of the project, especially marking and finding the count points. The zone didn't have trails, so their help was crucial in the beginning of the project. During the field trips they (more than five peasants) learnt a lot of bird's census techniques and biology of the barred antshrike.

Secondly, we have planned the last field trip (around July 3rd 2019) as a presentation for all the workers of the station (nearly 60 people: peasants of the zone and professionals working with restoration at the environmental compensation area with Natura Foundation) and also for Gigante, Agrado, Garzón y Paicol municipalities' leaders (convoked by Natura Foundation). During the presentation we would like to present the main results of the project and outline some restoration recommendations related with habitat quality of local understory insectivorous birds. Finally, the meeting would be an invitation for conservation of the birds of the area. The community are the keystones of the information that could help other peasants of the zone to understand conservation ecology and improve the environmental conditions of the zone.

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

I earned a scholarship of Fulbright Colombia to make a research internship at the University of Massachusetts. The main goal of this internship will be to complete all the analysis of the population dynamic model and write a paper with one teacher of the institution whom will support me in the process. This trip is planned to be from August 2019 to December 2019.

Finally, I expect to present my PhD thesis dissertation around May 2020.

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

Firstly, we have planned to present two scientific papers (each one corresponding to one of the objectives of the project) at international Journals as "Journal of Wildlife Management" and "Tropical Conservation Science".

Additionally, we would like to present the results in national and international Congresses as "Neotropical Ornithology Congress", "Conservation Biology Congress" and/or "Colombian Ornithology Congress".

Finally, we will be fine if the dissertation at the Universidad Nacional de Colombia convoke many students and teachers to spread our conclusions.

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

We used the grant between June 2018 and June 2019. It was the Data getting phase of the project, the first year of two and a half of the duration of the project. After July 2019 I will be in the internship, dissertation and finally getting the PhD title in December 2020.

**8. Budget: 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. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion. 1 POUND = 3873.68421 PESOS**

Item	Budgeted Amount	Actual Amount	Difference	Comments
Alimentation	2500	463	-2037	Natura foundation (NGO) in charge of the restoration of the environmental conservation area support us a lot with alimentation during the field trips. It was not planned in this way, they helped because the availability of the money, it was unexpected. The main expenses of alimentation with Rufford's money were during the trips to the work site.
Peasant from the site	2250	987	-1263	Natura foundation support us a lot, so many days we didn't have to pay for the service of guidance by peasants.

				Nevertheless, we had to pay for gasoline for peasants' motorcycles and some special days for their services.
Transportation to and from the site of work		866	+866	Especially at the beginning of the field trips phase the only source of finances was Rufford money. Although later we only had to pay part of the journey with Rufford because Universidad Nacional gave us money for plane tickets from Bogotá to Neiva.
Equipment and personal needs		449	+449	Especially at the beginning of the field trips we had to fix some old devices to measure habitat quality and also to buy new ones. Also, in the middle of field trips we had to buy products of first necessity like deodorant or tooth care and many pharmacological products for example for headache.
Materials		193	+193	This item was for buy batteries for electronic devices like GPSs, or for printed maps, pencils, pens, flagging type, etc.
<b>TOTAL</b>	<b>4750</b>	<b>2958</b>	<b>-1762</b>	Unused funds returned

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

The most important next steps are three: a) complete data analysis successfully, b) write excellent papers and finally c) make good conference papers for thesis dissertation as well as to congress presentations.

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

All the presentations planned to show the logo of the Rufford Foundation will take place in the near future. This year I only presented a short presentation at the Colombian Congress of Zoology, but it was only four slides, talking about the methodology and objectives of the project, the time was 5 minutes, so I did not use any logos. Also, I hope to make comments of acknowledge in both two scientific papers.

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

**Olga Lucía Montenegro:** Tutor. She advised me in every aspect of the project, during the proposal conception and its execution.

**Agustín Rudas:** Advisor. He helped me with some GIS aspects and also with vegetation sample techniques.

**Hernan Serrano:** Advisor. He helped me with the GIS analysis, especially the spatial HIS.

**Daniela Díaz:** Field Assistant. She helped me in the first field trip, marking count points.

**Angela Sierra:** Field Assistant. She helped me in the second field trip, surveying of habitat quality variables and population counts at the zones 2 and 3.

**Jeniffer Rojas:** Field Assistant. She helped me during the third field trip, surveying of habitat quality variables and population counts at zone 1.

**Lilibeth Palacio:** Field Assistant. She helped me during the Field trips 5, 6 and 7 at zones 1, 2 and 3 surveying of habitat quality variables and population counts.

**Alirio Betancour:** Peasant guide. He helped us for guidance in the field and with the common names of plant species for plant architecture microhabitat variable.

**Victor Quila:** Peasant guide. He helped us for guidance in the field and with common names of plant species for plant architecture microhabitat variable.

**Jose Luis Borrero:** Peasant guide. He heled us for guidance in the field and with common names of plant species for plant architecture microhabitat variable.

**Fabián Cubillos:** Peasant guide. He heled us for guidance in the field and with common names of plant species for plant architecture microhabitat variable.

**Carlos Hernán Orozco:** Peasant guide. He heled us for guidance in the field and with common names of plant species for plant architecture microhabitat variable.

**Francisco Torres:** Manager of the environmental compensation area, member of Natura Foundation. He helped us a lot, especially with logistical aspects of the field trips.

**12. Any other comments?**

Thanks so much to The Rufford Foundation, your help was crucial to the successful of the project.



