

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	Marcos Rubén Ortega Álvarez
Project title	Birds within multifunctional landscapes: Analyzing ecological patterns and processes for assessing and managing communal productive ecosystems
RSG reference	18893-1
Reporting period	December 2015 - December 2016
Amount of grant	£4954
Your email address	rubenortega.al@gmail.com
Date of this report	December 9th, 2016

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
Compare habitat use of bird communities between land uses				Following my initial protocol, I will start to track birds until next year. Nevertheless, I included a new objective to the project which consists in measuring and comparing bird behaviour across the surveyed landscape. To date, I have collected data to fulfil this new objective, and I have started to analyse it. Data analyses will be finished in the following months and I expect to publish the results in a scientific journal.
Compare occupancy of bird communities between land uses				Following the project's protocol, I have completed two of the four field seasons associated with this objective. I have analysed the data associated to the first year of the project. Currently, I am working in a scientific paper with such results. I hope to publish this work by the first semester of the next year. By January 2017, I will perform the third field season regarding this particular objective of the project.
Compare phylogenetic structure of bird communities between land uses				Following the project's protocol, I have completed two of the four field seasons associated with this objective. I have compiled part of the data associated to the first year of the project. I will analyse this data until the second half of the next year. By January 2017, I will perform the third field season regarding this particular objective of the project.
Training members of indigenous communities for monitoring birds				I performed a training workshop for local members of the community to monitor birds. Also, I developed a second workshop in order to evaluate and reinforce the

				knowledge that local people acquired during the training workshop. Some members of the communities have developed notorious skills to survey birds, in such a way that some of them are starting to monitor birds for local projects, as well as for guiding birders in the region.
Generation of scientific knowledge to manage community productive landscapes	of	to		I have written a theoretical scientific paper related with my project that is under review in a scientific journal (i.e., Community Development Journal). With the field data that I have generated so far, I am working on two scientific papers which will be ready by the first semester of 2017. All the results associated with this project will be presented to local communities in an accessible language, in order to be used for managing local landscapes.
Conformation of a protocol for surveying birds for the Community-Based Bird Monitoring Project of CONABIO				With the experience that I have gained so far, I am aiding the conformation of a standardized bird survey protocol for the Community-Based Bird Monitoring Project of CONABIO. This protocol might start to be used by the end of the next year.

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

Political conflicts that are not related with my study have arose in the region where the project is being performed. I had to modify some of the logistics to complete the field work that we have successfully performed so far. Moreover, the aid of local communities has been invaluable, as they support the project and have facilitated the logistics involved with the project's field work.

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

- The project is generating novel scientific information by using occupancy models, which have been poorly explored in Latin America despite their tremendous analytical power. This scientific knowledge will be accessible to others as it will be published in scientific journals and a postgraduate thesis.

- This project is generating robust scientific knowledge with the active aid of local communities, which might be applied for biodiversity management and conservation in a short, mid and long term.
- Through the means of the project, I have trained some members of the indigenous communities to identify, survey, and monitor birds. This training is resulting useful for communities to strengthen their appreciation towards nature, include avi-touristic activities within their eco-touristic projects, and participate on the assessment of their productive systems.

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

Local communities have been involved in the project in several ways:

a) Local capacities to identify and monitor birds are being developed with training workshops. Through them, members of the communities will be able to assess their productive systems by their own. Also, with bird identification training, some members of the communities are starting to guide tourists for observing birds, which represents a new opportunity to generate extra economical inputs for the communities.

b) Some of the habitat variables under study have been selected with the aid of local forestry technicians, with the aim of determining their effect on bird occupancy. The determination of their effect on birds will be useful to guide forestry management activities, which are expected to conserve the natural resources of local communities while maintaining the productivity of their forests.

c) As kids play an important role both for communities and biodiversity conservation, I have started to give talks about birds in local schools.

d) I expect that other communities will be benefited from this work as it will help on the conformation of a standardised protocol for surveying birds in other regions of the country.

5. Are there any plans to continue this work?

Yes. The whole project will last about 4 years, including both office and fieldwork. Currently, 1 year of fieldwork has passed. To date, I have completed a pilot visit, a prospective visit, and two field surveys as planned since the beginning of the project. In January and June 2017, I will perform the third and fourth surveys, respectively. As the project is going well, I may extend surveys one more year in order to have a fifth and a sixth surveys.

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

I plan to share my results in different ways in order to impact a diverse array of publics. For example, at least, I expect to publish three original research papers in scientific journals. Then, I will present results from this project in international workshops and conferences. Also, I will present my results to local communities by oral presentations. These will be presented in an accessible language, in order to inform them about those effects that productive activities have on local birds, so they can make management decisions for their landscape by relying on solid scientific information. Moreover, I am seeking for new funding to develop a local bird identification guide. I expect that this guide might result useful for facilitating the training of new members of the communities on bird identification, serving as a product that can be used by local tourists to bird in the region, and promote the importance of birds and birding in public local schools.

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

As mentioned before, the whole project will last about 4 years. The grant has been fundamental for my 1st year, because during this period I bought most of the equipment that I will be using to perform all of the surveys included in the project. Nevertheless, I still have some money from the grant as I have reserved it to be used in the upcoming stages of the project.

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
Antennae for bird tracking: 2 items	160			Not bought yet as they will be used until next year.
Headphones for bird tracking: 2 items	306			Not bought yet as they will be used until next year.
Binocular: 3 items	798	796	(+)2	
Radio and touchscreen GPS navigator: 3 items	1098	1095	(+)3	
Photographic camera	200	215	(-)15	Prices on the item varied between

				the time when it was budgeted and when it was bought.
Computer	391	419	(-)28	Prices on the item varied between the time when it was budgeted and when it was bought.
Chronometer: 3 items	60	44	(+)1 6	Prices on the item varied between the time when it was budgeted and when it was bought.
Field guide to the birds of Mexico and Central America: 3 items	60	58	(+)2	
Camping tent: 2 items	120	105	(+)1 5	Prices on the item varied between the time when it was budgeted and when it was bought.
Headlamps: 3 items	93	94	(-)1	
Sleeping bags: 3 items	120	127	(-)7	
Camping back packs: 3 items	120	140	(-)20	I bought a different model from that budgeted as it was sold out.
Notebooks: 12 items	24	30	(-)6	Prices on the item varied between the time when it was budgeted and when it was bought.
Boxes for carrying equipment: 2 items	40	37	(+)3	
Camping knife: 3 items	96	86	(+)1 0	I bought a different model from that budgeted as it was sold out.
Digital calliper	20	20	0	
Set of iron rulers	66	60	(+)6	
Digital scale	66	65	(+)1	
Additional travel expenses	1116	500		This money has not been entirely spent as it will be used during the upcoming field seasons.
Total	4954	3891	(-)19	

Rate of exchange: \$25.6 Mexican Pesos = \$ 1 Pound Sterling

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

The important next steps are:

- 1) Finish field surveys.

- 2) Gradually present survey results to communities, in order to maintain their interest and support to the project.
- 3) Continue to reinforce the knowledge on bird identification of local members of communities that assisted to the training workshop.
- 4) Publish results in scientific journals.
- 5) Promote the use of the results of the project to manage local productive ecosystems.
- 6) Obtain my PhD degree.

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

Yes. I was invited to give a talk in the Cornell Lab of Ornithology, New York, about community-based monitoring projects in Latin America, and I used the logo in there. Moreover, I have used the logo when presenting the project to my tutorial committee back in the university. Finally, I have acknowledged the Rufford Foundation's support in a scientific paper that is currently under review in a scientific journal. I will acknowledge the foundation in all the upcoming papers related with my project.

11. Any other comments?

I just want to thank the Rufford Foundation for its support, as it has been a fundamental one for developing this project. I believe that through this type of grants the foundation promotes the generation of scientific knowledge.