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	Sergio Nolazco
Project title	Land-Use Impact on Peruvian Lowland Dry Forest Bird Assemblages
RSG reference	11554-2
Reporting period	August 2012 – May 2013
Amount of grant	£4218
Your email address	sergio_atm55@hotmail.com
Date of this report	25-05-2013

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
Determine if there are or not area of use displacements between seasons.		YES		Against our expectations some Tumbes tyrant individuals were very difficult to capture for short-life transmitter replacements and displaced areas of use continuously making impossible to be followed at all times. For this limitation we got a partial understanding of the reasons involving these differences.
Estimate seasonal core areas and home ranges.		YES		For the same limitation above it was not possible to follow each tagged Tumbes tyrants that continuously displaced areas of use to get nearly complete home range estimations for every bird.
Determine if these species exhibit territoriality and the degree of it in a time-space scale.			YES	
Determine frequencies of foraging techniques and foraging location.			YES	
Determine if there is selection for plants that serves as substrate for invertebrates in the diet.			YES	
Obtain all relevant information on reproductive biology and behaviour.		YES		Unfortunately, it was not possible to find nests of Tumbes tyrant during the period of time evaluated. This despite radio-tagged and several not tagged individuals were followed inside the study area.

Objectives here are just summarized for the part of the project funded by the 2nd RSG.

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

Across the study area abundant herds of domestic goats usually interrupted the calm of our research and also broke some mist nets affecting our work schedules. Furthermore, the main threat corresponds to encounters with illegal loggers (who are very common) but we always try to avoid areas the days when we listened to chainsaws. Working with local people help us a lot to contact landowners and herders to avoid as much as possible these drawbacks. Though, due to the characteristics of most sites frequented by some target species where high perches dominate difficult catches. Also using playback to attract birds to mist nets worked for rufous flycatcher only very close to nests and in the case of Tumbes tyrant it induced vocal responses but most of the time

the birds were very cautious and do not get near enough to traps. This makes impossible for us to accomplish consecutive recaptures of every individual of Tumbes tyrant tagged with short life VHF-transmitters for replacement, especially for the birds that makes frequent area of use displacements.

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

A. Clear understanding of lowland dry forest bird assemblage response patterns to human land-use alterations.

As our first goal we gained a better understanding of the response patterns, especially related to unique restricted-range species. We clarify how most of them are well adapted to extreme climate conditions and in this way to low and medium forest anthropogenic alterations which not involved complete land transformation. This explains how most of the lowland dry forest avifauna remains despite the severe landscape alteration across coastal northwest Peru where nearly none intact forest remains.

B. Key habitat requirements for the conservation of most sensitive bird species revealed.

As part of our research we identified three of the most threatened bird species and in this sense at higher risk of extinction: Peruvian plantcutter, rufous flycatcher and Tumbes tyrant. All of these have a low altitude small range (endemic to Peru and/or Tumbesian Region of Endemism) and depends on native vegetation. We made specific research on each one to elucidate habitat requirements as being crucial information for their conservation. We had identified the main variables that explain occupancy and which resources directly or indirectly are selected, as well as crucial resources for reproduction and territory establishment in most cases. With this information we can predict not just actual distribution and density patterns but also determine adequate corridors, small scale connectors at human highly modified landscapes and produce useful information for habitat restoration.

C. Important unpredicted patterns for most sensitive bird species revealed.

During our research on the most sensitive bird species, the monitoring procedures (months to years in some cases) for marked individuals and the use of transmitters for the first time allow us to obtain information which would not have been possible otherwise. We found unpredicted changes in population patterns related to a variety of aspects form resource availability to predators' presence and abundance, but also changes triggered by extreme climate vagaries which in some cases were apparently powered by the severe state of forest as a consequence of human land-use activities.

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

In our research visits we contact local people to be our guides and field assistants; furthermore, local transportation was provided by some of them. In some cases, young local people voluntarily accompanied us and we explained them about the importance of forest conservation and its unique biodiversity. All of those interactions resulted in positive responses and in nearly most of the cases people learned that the type of forest where they live is unique as many of their species, some of them endemic to Peru, information that they never learnt at local schools. Farmers and agricultural companies were also informed about the impacts on unique species as a consequence of land

transformation and the importance of maintaining hedgerows with native shrubs and trees as connectors between forest patches to maintain most threatened bird populations.

5. Are there any plans to continue this work?

Our work resulted not just in a better understanding of the effects of human land-use activities on highly threatened dry forests bird assemblages, but also on the first studies trying to infer habitat requirements for their most threatened and restricted-range species at lowlands of northwest Peru. From this, much research is needed to be done to gain a vast knowledge on the biology and ecology of those species, but also to put in practice the available information for effective conservation initiatives. We know that the unique diversity of dry forests is linked to the multiple functions offered by them and that a well managed landscape will help to mitigate the desertification process and also appease climate change effects. In this matter, we are committed to be part of it and our next steps are going to be focused on a more direct involvement with protected area managers and private landowners as our key stakeholders.

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

All the information gained here is being disseminated in national and international reviewed articles, more upcoming talks. We are also going to use already published articles to share them with our future stakeholders, mainly area protected managers and agricultural companies, including meetings to promote integrative conservation planning.

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

Since the actual project involves several specific studies on different threatened species, the RSGF with its 2nd RSG support us in our research on Tumbes tyrant and Rufous flycatcher threatened species for around a year. Now we are continue taking data on one of the most threatened bird species from the region, the Peruvian plantcutter, at thresholds locations. For this second period of our project we extended the anticipated length of it at least till August which sum more than 2 years of research by now.

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
VHF transmitters (10), receptor and antenna	1645	1645		
Long-lasting skin glue + remover	54	50	4	
Cords for leg harness	20		20	No harness was applied, instead just glued transmitters worked fine.
Mist nets (10)	190	194	4	
Aluminiun rings		25		Other funding sources (CORBIDI).
Plastic colour rings and anodization of metalic rings	50	48	2	

Ringing plier	57	57		
Binoculars		291		Other funding sources (BIRDER'S EXCHANGE).
Playback equipment		101		Other funding sources.
Spotting scope + tripod		380		Other funding sources (BIRDER'S EXCHANGE).
GPS		190		Other funding sources (IDEA WILD).
Camera		316		Other funding sources.
2-channel Tº data loggers (3), probes and software		317		Other funding sources (AFO).
Batteries		13		Other funding sources.
Total transportation	432	564	132	Extra costs due to unexpected conditions.
Stipend (includes water, food and support from locals for 150 days)	1800	2235	435	Extra costs due to unexpected conditions.
TOTAL	4218	**6426**	2208	Besides the donation of equipment by other institutions (£1633), extra costs for stipend and transportation of £575 were covered by the recipient.

Exchange rate by 2012 is 1 pound = 4.2534 nuevos soles (local currency).

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

As I had mention above, more research on the most threatened species need to be done but also conservation strategies need to be initiated with the available information as an adaptative process before threatened species become extinct. It is necessary that ongoing and upcoming projects involving forest recovery and restoration consider the available information as a tool to preserve forest biodiversity. Next steps have to be also focused on working with landowners to mitigate human activities effects which result not just in direct habitat destruction but also on the loss of connectivity between threatened populations, so determinant to maintain their viability in the long-term.

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 RSGF logo was used in presentations since our 1st RSG, including materials distributed in mini discs. Now we are preparing talks and posters for the upcoming Ornithological National Congress presenting our results on research funded by RSGF where we are going to use the logo. Besides this, several papers in review acknowledge the Foundation.