

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. 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	William Marthy
Project title	Bird seed dispersal and restoration of the Sundaland biodiversity hotspot in Sumatra
RSG reference	9760-1
Reporting period	September 2011 – August 2012
Amount of grant	£6000
Your email address	serambirds@yahoo.com
Date of this report	30 August 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
The potential of bird dispersal service in assisting the restoration of tropical lowland dry forest in Sumatra, Indonesia			?	The survey managed to collect frugivore bird species distribution across gradient habitat type. The preliminary analysis (see discussion and conclusion in the final report) indicates that despite the difference in habitat structure, seed dispersals service was still operating. The clumping of trees, tree height, number of dead trees, number of saplings, and amount of open area had high significant effect on presence absence of frugivorous bird species. A much more detailed analysis will be conducted later on to verify this preliminary conclusion, especially incorporating species detection history to adjust for species occupancy.
Possible habitat manipulations to increase seed dispersal service hence greatly assist natural forest recovery and decrease anthropogenic interventions		?		The seed traps survey yielded very little information that can be used to implement seed germination success of dispersed seeds. Nevertheless, data collected from the seed traps revealed that seeds were still being dispersed by birds even in the 'most' degraded secondary habitat condition.

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

There are actually no real difficulties in tackling the field surveys. However, because my study site is in the illegal encroachment active zone, it was always difficult to maintain the seed traps and also the habitat disturbances in the survey transects. Unfortunately, from 11 bird survey transects, one transects was completely damaged hence data collection in that transect was not possible not only due to the destruction but also security reason. Nevertheless, data were still available for the seed traps (even though not as much as I expected) and from the 10 bird transects.

In addition, the seed trap survey yielded very little data mainly because most of the seeds were damaged due to long collection time period (every 2 weeks). However, the long collection time was due to access and availability of resources.

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

1. I was able to verify that frugivorous bird species still visited/use the most degraded secondary forest in the study area. This indicates that seeds were still being dispersed into that area.
2. Most of the important frugivorous bird species recorded was small (21-40 gram), which also indicated the rareness of large frugivorous bird species (> 1280 gram) in the study area hence there were potentially limited dispersal service provided by this group for large seeded plant species.
3. The presence of bird dispersal service may indicate that avoiding further disturbances is one of the first important approaches in restoring the degraded secondary forest.

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

5. Are there any plans to continue this work?

This study is the main backbone of my PhD research. I am certainly wanting to continue after my PhD study to deepen my understanding on the bird seed dispersal in the assisting the restoration of secondary forest.

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

The current report only covered preliminary analysis of the data collected, where detail report and analysis will be developed later on within the duration of my PhD study (aim to be completed in October 2013). In this sense, several scientific articles will be produced and publish as part of my dissertation and also publish in the international scientific journal.

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

I used the RSG between September 2011 and August 2012. The preliminary analysis can be finalised within the duration of the project. However, final analysis will be completed later on as part of my PhD dissertation which is aimed to be completed by October 2013.

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
Daily subsistence /honorarium (2 field research assistants for 8 months)	2500	2500	0	
Seeds and plants specimen identification fee	500	500	0	

Fieldwork (food, transportation, porter, misc)	1100	1430	- 330	More transects had to be made, i.e. some transects had to be abandoned due to illegal encroachment activities.
Seed trap materials and construction (200 seed traps)	1100	980	+ 120	The price was lower than predicted.
Germination planting boxes (@ £ 4/box)	120	114	+ 6	The price was lower than predicted.
Vegetation plot quadrat (200 quadrates)	300	224	+ 76	The price was lower than predicted.
Clinometer (1 unit, @£80/unit)	80	120	- 40	Increasing price of the equipment.
Compass (4 units, @ £4/unit)	16	23	- 7	Increasing price of the equipment.
GPS (1 unit)	284	252	+ 32	The price was lower than the predicted original budget.
Total	6000	6143	-143	Some of the prices were higher than expected, also several transects had to be relocated due to illegal encroachment activities

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

As part of the data analysis, the important next step is to complete the data analysis and verifying the preliminary results. Moreover, experimental studies to assess the 'real' impact of stopping seed dispersal service by birds (by using exclusion cages) might also be an interesting idea to explore in the future, combining with study on bird spatial movement using radio tracking method. Some suggestions provided by Rufford Small Grant Assessor(s) might also be important to follow up: focusing on specific fruit plant species and examining the importance of seed dispersal agents on that particular plant species.

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?

RSFG logo had been used in the power point presentation that I presented in my department (as a progress report in my department). I have not produced any publish material to date. However, as part of my PhD study I will produce poster presentation in which RSFG logo will be put on. RSFG funding contribution will also be mentioned in any scientific publication arise as part of PhD dissertation.

11. Any other comments?

As this study is part of my PhD project, unfortunately full data analysis cannot be completed yet. However, once I complete the full data analysis and writing up my dissertation (and/or some scientific articles), the publication will be sent to RSFG. My PhD study is due in October 2013.