

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	Norman Lim
Project title	Impacts of habitat disturbance and effectiveness of forest rehabilitation for scavengers in Borneo
RSG reference	9059-1
Reporting period	11/2010 – 09/2012
Amount of grant	£5850
Your email address	ntlim@ucdavis.edu
Date of this report	20th September 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
Objective 1: Assess differences in scavenger community composition in the various land use types.			X	This objective has been fully achieved, with the field work ended in August 2012. Detailed data analysis is still ongoing.
Objective 2: Assess impacts of land use types on carcass removal by scavengers.			X	This objective has been fully achieved, with the field work ended in August 2012. Detailed data analysis is still ongoing.
Objective 3: Assess effects of forest rehabilitation on scavenger community and carcass removal.	X			This objective has been changed halfway during the project because recently published articles point to a general lack in benefits of forest rehabilitation efforts for a number of fauna taxa. Instead, the objective has been altered to investigate the impacts of logging practices (particularly once-logged versus twice-logged) on the scavenger community and carcass removal. This new objective has been fully achieved, with the field work ended in August 2012. Detailed data analysis is still ongoing.

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

The main unforeseen difficulty was the unexpected developments in the scientific literature during the course of the research (see Objective 3). As such, I made the decision to not pursue the original objective of assessing the effects of forest rehabilitation; instead, I focused on the impacts of single round of logging and repeated rounds of logging on the vertebrate scavenger community. This also resulted in the extended duration of the field work.

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

This is the first attempt to investigate the impacts of land use changes on the ecological functional group of scavengers in tropical Asia. Although scavenging is a widespread phenomenon in nature, scavengers have received very little scientific attention. By focusing on this multi-taxon group, we can gain a more holistic understanding on the impacts of habitat alteration, and the authorities can make better informed decisions on land use.

Additionally, the project quantified the impacts of land use changes on the ecosystem function of carrion removal by scavengers. By consuming dead animals, scavengers influence nutrient and energy flows in the environment and thus are involved in the ecosystem process of nutrient cycling. This allows a better understanding of the ecological roles and significance of scavengers.

Lastly, throughout the duration of the project, I was able to work with the local communities, particularly research assistants from the Royal Society at Danum Valley Field Centre and the employees of oil palm plantation workers. I was able to share with them the significance of the project and increase the public awareness on the importance of biodiversity conservation.

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

During the conduct of the field work, I employed the local research assistants from the Royal Society at Danum Valley Field Centre. Besides contributing financially to the operations of the Royal Society, I often communicated with the local staff on the ecological significance of scavengers as it is a much-neglected group. I also shared interesting findings of the project with the external parties (such as oil palm plantations staff) whenever possible in a bid to increase their appreciation of biodiversity conservation.

5. Are there any plans to continue this work?

Yes, I intend to continue more research into the ecological significance of scavengers in the near future.

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

Besides publishing the findings in scientific journals, the results and management recommendations from this study will be made available to the Malaysian wildlife authorities, Danum Valley Management Committee, and the various oil palm companies I worked with.

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

The RSG was used from November 2010 to August 2012. This was longer than the anticipated duration of the project due to the unforeseen midway changes in the project (please see Objective 3 above).

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
Research assistant	2440	1637.02 (USD2655.26; USD1.62201	+802.98	I was able to get volunteers who could help me for free occasionally.

		= £1.00)		
Field accommodation and rations	1980	912.42 (MYR4550; MYR4.98676 = £1.00)	+1067.58	Free accommodation and rations were provided at some of the study sites.
Vehicle running and fuel costs	1430	3319.96 (USD5385.01; USD1.62201 = £1.00)	-1889.96	There was more traveling by vehicle than expected, and both the vehicle rental and fuel costs have increased substantially since the start of the project.
Total	5850	5869.40	-19.40	

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

I feel that the important next steps are to research on the ecological significance of scavengers in tropical terrestrial systems in order to better appreciate the impacts of extensive land use changes in Southeast Asia. Additionally, I endeavour to increase the amount of scientific attention on scavengers as they are ubiquitous in both natural and altered ecosystems and occupy an integral position in food webs.

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?

No, I have not used the RSGF logo in any ways. I have acknowledged RSGF in scientific publications and I will continue to do so in future publications and presentations.