

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	Alice Milton
Project title	Algal diversity, growth and herbivory by grazers in tropical forest streams along a land-use gradient.
RSG reference	17100-1
Reporting period	
Amount of grant	£3225
Your email address	alice.milton@hotmail.co.uk
Date of this report	28.04.2016

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
Assess the algal and macroinvertebrate communities in Borean streams across a land-use gradient		✓		Unforeseen time constraints meant the scope of the project was reduced; I assessed the algal community and the impact of invertebrate herbivory but was unable to complete surveys of the macroinvertebrate community.
Establish the importance of riparian buffer strips in protecting algal and macroinvertebrate communities		✓		I was able to quantify the importance of high quality buffer strips in mitigating against land-use change, and to highlight the importance of point-sources of disturbance. These findings have been passed on to the Malaysian government's Forestry Research Centre where they will be available to State Forestry managers.
Form part of a high-impact paper investigating multiple ecological functions in streams and riparian zones at SAFE		✓		My results have been submitted to the SAFE central scientific committee, but authoring of the paper has been delayed due to waiting for other researchers to complete their data; I hope this objective will be completed in the next 6 months.
Make findings available to other researchers at SAFE, Maliau Basin, and the Sepilok Forest Research Centre.			✓	
Provide training in aquatic ecology methodology to local Research Assistants in Sabah		✓		I worked with 8 different local RAs on site, who learnt to build exclusion cages, identify periphyton to group level, and collect in-stream variables. However, the invertebrate sampling aspect of the project was significantly reduced as a result of time constraints so I was not able to provide training in this area.

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

Red-tape concerning the issuing of permits and illness meant I was under some time constraints and had to reduce the scale of the project (removing the macroinvertebrate community analysis); however, this aspect of the biodiversity will be studied by others in the future.

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

1. Quantifying the importance of good quality riparian forest on algal growth and community structure in tropical streams.
2. Providing local research assistants and students with training in aquatic fieldwork techniques.
3. Designing, building and testing a novel form of equipment for running algal growth rate and invertebrate exclusion experiments, using materials readily available worldwide.

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

All the work on site was done with research assistants from the local community, who received training in aspects of aquatic ecology. The SAFE project is a significant employer for the local community, providing jobs, training and opportunities for advancement for individuals and families, most of whom previously worked unskilled jobs in the logging or palm oil industry.

The project also provides opportunities for local students to get hands-on experience of working in field research; some of these students (from the University of Malaysia in Sabah, UMS) accompanied me in the field and were able to learn new techniques.

5. Are there any plans to continue this work?

I do not plan to continue this work; however, my findings will contribute to ongoing research at the site. I do plan to continue the outreach element of my work by contributing time and materials to local primary schools here in Norfolk.

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

The findings have already been shared with several groups (see table, above), and I am investigating opportunities to share the work in presentation or poster format at relevant conferences.

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

The start of the project was delayed by approximately 2 months due to problems obtaining permits and illness; once started, the project took place over 12 weeks, as planned.

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
Camp fees	£407	£220	£187	Throughout 2015 the Malaysian Ringgit significantly decreased in value, from 5.3/GBP to 6.6/GBP when I paid my camp fees in mid September.
Research permits	£102.57	£91.80	£11	
Vehicle hire	£1,098	£1,015	£83	
Research Assistants	£978	£568	£410	Removing the macroinvertebrate element meant most of the work was done with one RA at a time, rather than 2; this also removed the need to pay for an RA to help identifying samples.
Return Flights	£545	£707.25	-£162	
Field equipment	£442	£857.80	-£416	I significantly underestimated the cost of materials for the cages in Tawau.
Total	£3,572	£3,460	£112.3	

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

To ensure my findings re. riparian buffers are noticed by forestry management and policy makers by contributing to a paper combining the findings of various researchers investigating the value of riparian forest for other taxa, and passing this in text and presentation form to the state forestry research department.

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?

Not so far.

