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	Badrul Azhar Md. Sharif
Project title	Conservation Status of Sun Bears and other Native Mammals in Threatened Tropical Peat Swamp Forest
RSG reference	12747-1
Reporting period	Final
Amount of grant	£5990
Your email address	b_azhar@upm.edu.my
Date of this report	5th February 2014

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
To estimate the density and/or site occupancy of targeted species		Yes		Ongoing work. To date, we have sampled 15 sites (continuously for seven months; 3,150 trap-nights) where we set up one trail camera at each site. Sun bears were detected at eight out of 15 sampling sites (53%) over the 7-month period. Black leopards were recorded at two out of 15 sampling sites (13%). Asia tapirs were recorded at five out of 15 sampling sites (33%). We need to sample more sites (at least 45 sites) in order to estimate the accurate site occupancy/density of targeted species.
To identify native mammals			Yes	We have identified 12 native mammal species so far. Our sampling efforts were clustered in the north-west, western, and south-west regions of the peat swamp forest.
To examine the effect of poaching on forest animals	Yes			We have yet to interview local people who use the peat swamp forest. Information from interview will be used to assess the impact of logging on native animals.
To examine the relationship between species richness and habitat quality		Yes		Ongoing work. We have measured vegetation structure attributes at 15 sites and we need to sample more sites (at least 45 sites). These attributes include canopy cover, number of saplings, number of timber trees (DBH < 45 cm and > 45cm), tree height, palm number, and number of fallen logs and stumps.

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

First, we did not establish sampling points between 5-6 km apart (from roads) inside the peat swamp forest because parts of the forest was cleared to establish oil palm cultivation in March 2013. In addition, we could not access the interior parts of the peat swamp forest by land. Because of that, we placed the trail cameras less than 1 km apart.

Second, we received all trail camera units of trail cameras some times in April 2013 because it was not easy to get local suppliers/dealers that can import directly these trail cameras into Malaysia (without paying custom tax on imported item). We are currently using Bushnell model (Trophy Cam XLT; 8 mega pixel) which were imported from Hong Kong. Our initial plan to set up 35 trail cameras is still in progress as we are finding funds to purchase more cameras. Alternatively, we will set up 15 trail cameras simultaneously, but move them to new sampling sites every three or four months.

Third, one trail camera was severely vandalized by wild animal (possibly wild boar or human). Three trail cameras have been sent back to supplier for repairs because technical problems. We purchased three new units of trail camera in order to replace any broken or stolen units.

Fourth, we have experienced three attacks by wasps in the peat swamp forest. Injured students were admitted to nearest rural clinics to get medical treatment.

Fifth, we were unable to compute the 'true' density or abundance of targeted species. This is because we could not identify individual animals according to physical markings on animal bodies as there was only one trail camera at each site.

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

First, we have identified 12 species of native mammals in the peat swamp forest. In summary, we collected 22 images of sun bear, five images of black panther, eight images of Asian tapir, seven images of bearded pig, four images of Malayan porcupine, 15 images of lesser mouse deer, one image of leopard cat, one image of small-toothed palm civet, 38 images of wild boar, six images of long-tailed macaque, 18 images of pig-tailed macaque, and one image of silvered leaf-monkey.

Second, we have trained local students to use trail cameras for sampling elusive animals in peat swamp forest. At presence, we have two full-time postgraduate students (Master research) and an undergraduate student who run this project on the ground. We have involved volunteers (3-5 forestry students) in each field trip. This project has provided a good opportunity and first-hand experience for local university students to study peat swamp forest animals.

Third, we have informed the relevant stakeholders, both government agencies and environmental NGOs that we are working actively in the peat swamp forest. The baseline biodiversity information gathered from this study will be useful for the stakeholders in order to strengthen the protection of the peat swamp forest.

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

Not applicable.

5. Are there any plans to continue this work?

We will continue to sample other parts of the peat swamp forest for the next two years. To get better estimations of site occupancy of targeted species, we will sample at least another 45 sites scattered within the peat swamp forest.

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

Our students have presented this study at postgraduate faculty seminars in Universiti Putra Malaysia. In addition, our postgraduate students have attended a workshop on wildlife sampling techniques organized by Wildlife Conservation Society where they have presented this peat swamp project to

other agencies including WWF Malaysia and Department of Wildlife and National Parks. We contributed an article about this project online on 16th October 2013 (http://ideas4sustainability.wordpress.com/2013/10/16/field-report-threatened-peat-swamp-mammals-in-the-tropics/).

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

The RSG grant money has helped us substantially to kick-start this project. We set up all trail cameras in May 2013 (cameras were inspected bimonthly) and all were collected in January 2014. We were able to establish 15 sampling sites inside the peat swamp forest. Our sampling effort will be expanded into other parts of the peat swamp forest i.e. 45 new sites in the near future. This may require 12-18 moths to be completed.

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
Trail camera (18 units)	3,075.00	4,390.71	-1,315.71	Instead of purchasing 25 cameras in the original budget, we bought 18 units including security cases. Three cameras are spared for emergency use.
Memory card (30 units)	310.00	100.68	209.32	Instead of purchasing 70 units in the original budget, we bought 30 units (8GB). Memory cards are swapped in every maintenance trip.
Battery (240 units)	744.00	350.98	393.02	Energizer Lithium that can last up to six months.
Handheld GPS (1 unit)	215.00	127.89	87.11	Garmin GPS 72H
Travelling to sites (8 visits)	1584.00	730.79	853.21	Accommodation, boatman, and gas costs are included.
Portable image viewer	62.00	0	62.00	Digital camera was used to substitute this gadget.
Total	5,990.00	5,701.05		

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

To date, we have sampled the north-west, western, south-west parts of the peat swamp forest over 7 months. We will sample the northern, southern, and eastern parts of the peat swamp forest in the following 12-18 months. Some of these areas are only accessible by rivers. We now know that the sun bears were recorded at 53% of the study sites. This may indicate the peat swamp forest, although it was logged years ago, is still valuable for biodiversity conservation. We have yet to detect Malayan tigers in the peat swamp forest. Therefore, we have high hope that we will record at least one by accessing the remote areas within the peat swamp forest. We will also interview local people who

depend on forest resources to understand the impact of their activities, particularly hunting, on native animals.

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?

RSGF logo was used by our postgraduate students during a project proposal seminar in January 2014. We will continue to use the RSG logo in presentations and acknowledge RSG in our scientific publications.

11. Any other comments?

Our study in the peat swamp forest is important as government agencies (e.g. Wildlife Department) and environmental NGOs have yet to study this forest ecosystem. Due to its water-logged and swampy conditions, the peat swamp forest was ignored by conservation scientists. So our survey work at the peat swamp forest will be useful for the stakeholders because of the valuable baseline biodiversity information. Moreover, this project is important with respect to capacity building of new researchers (by providing field experience at the study sites), especially for local students.