

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	Prescillia Rindang Putri
Project title	Mammal Conservation within Palm Oil Plantations in Indonesia: Do Mammals Use Areas Set Aside as High Conservation Value Areas?
RSG reference	22290-1
Reporting period	
Amount of grant	£5000
Your email address	p.putri@ufl.edu
Date of this report	September 2018

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 provide information on HCVA attributes that (1) promote the occurrence of mammal and (2) enhance HCVA conservation value.				<p>I successfully collected data on mammal occurrence using camera traps and collected vegetation data needed for the supporting the study.</p> <p>I maintained good collaboration with sustainable palm oil team.</p> <p>I maintained a good relationship with local communities in surrounding villages who gave permission for me to enter their forest.</p> <p>I collaborated with CIFOR researchers that provided me with landcover map.</p>
To facilitate improved monitoring and design of conservation areas by conducting workshops and interacting closely with staff of the palm oil company that is serving as our partner on this project.				<p>Two workshops have been designed and delivered for the palm oil sustainability team (in Bogor and the field site).</p> <p>Two meetings with local people have been held to introduce and ask for permission from local people in villages surrounding the field site.</p> <p>Dr Lyn Branch visited and shared knowledge with palm oil workers on landscape sharing approaches in other cases.</p> <p>I managed to have six people from of sustainable team palm oil workers to work together with me during fieldwork for a field-based experiences knowledge and skills transfer.</p> <p>One workshop has been delivered to local university students on this project on using camera trapping as a method to survey mammals</p>

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

- Taxes for camera trap
For maximising the number of camera traps that we could purchase with the amount of funding, I purchased a camera trap from the US and transported it with

me to Indonesia. We already anticipated that we would have to deal with taxes on the equipment and had prior strategies to deal with the situation. I followed the formal procedure to deal with camera taxes in Indonesia which led to further confusion with Indonesian bureaucracy (which didn't help me in solving the problem). We managed to deal with the tax with the collaboration with CIFOR researchers.

- Unable to do flying camp

We originally planned to camp in the forest patches to achieved optimum number of camera traps being set up in every deployment. We could not execute this plan due to company's policy and also because most of the team were not used to camping in forest. We proceeded with the deployment by setting camera traps only during the day and went back to the housing at night. This was not maximising our camera trap deployment and we had to put more effort to deploy more camera traps (i.e., more walks), but we managed to deal with the situation.

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

- I sampled a total of 4,739 camera trap-days in the seven forest patches and 2,075 camera trap-days in the six transects in palm oil plantations, resulting in records of 26 species and a total of 917 independent images. In palm oil plantations, I detected only five species from five families in 147 independent images. All species detected in palm oil were also detected in forest patches (moonrat *Echinosorex gymnura*, tree shrews *Tupaia* spp, plantain squirrel *Callosciurus notatus*, Malayan weasel *Mustela nudipes*, and leopard cat *Prionailurus bengalensis*). In forest, I recorded 26 species of mammals, representing 15 families. Many of the species in the study area were generalists with low sensitivity to forest degradation. Ten species recorded in the seven forest patches are on the IUCN Red List. The Sunda pangolin (*Manis javanica*) is listed as Critically Endangered. The flat-headed cat (*Felis planiceps*) is listed as Endangered. Four other species are Vulnerable (Horsfield's tarsier *Tarsius bancanus*, pig-tailed macaque *Macaca nemestrina*, Bornean sun bear *Helarctos malaynu* and bearded pig *Sus barbatus*), and four are listed as Near Threatened. None of these species were recorded in palm oil plantations. In addition, in the hill forest only, I recorded the banded civet (*Hemigalus derbyanus*), another Near Threatened species.
- Results confirmed that species richness was much lower than in the forest as expected and seen in other studies, but the differences (between palm oil and forest species richness) was much stronger in my studies. Leopard cat was the most detected species in palm oil plantation.
- Most (75%) mammal species found in forest were in very low relative abundance. 65% of species had less than 10 independent photographs and 34% had 1 photograph.

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

We have no direct involvement with the local communities within the scope of the project, but we did present the study to local communities. This allowed local communities to understand the purpose and the plan of the project.

We work directly with several local guides who also a part of palm oil company sustainability team, therefore it is providing an opportunity for knowledge sharing. This work included planning logistics for conducting research, mapping resources to support fieldwork, deploying camera traps, utilising different equipment and methods, data upload and identifying mammals from camera trap photographs which benefitting them to upgrade their skill specifications as often time workers in palm oil are paid based on their skills. Besides that, working together with the project team providing additional income for the workers as the company give incentives for additional work hour their spending working together with me.

During the course of this project, we were also involved in several awareness and community development activities that were held by the palm oil company including fire free villages programme, sustainable livelihoods (collaboration with The Forest Trust to encourage in utilising small space for home garden), and developing alternative rubber.

5. Are there any plans to continue this work?

Yes. Some of the camera were being used by the company after data collection period of this project was finished. During the course of data collection, the sustainability team were trained to use camera traps and other equipment to collect data; therefore, they can survey more HCV and HCS patches beyond the project data collection period.

Besides that, I also collaborated with researcher in CIFOR, Dr Yves Laumonier for a future project in local own forest patches. We visited his field site located in the north west of this project study site. This site was not exposed by palm oil expansion just yet but slash and burn swidden agriculture practice is still on-going. Since the habitat type, patch size, landscape configuration and history are different, this site might offer an opportunity to compare the results with the current project. After the project, some of the cameras were also being used by Dr Laumonier's team for their preliminary survey of his site area.

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

- I delivered presentation through seminar at Wildlife Ecology and Conservation department and in seminar through Tropical Conservation Development in University of Florida.
- I delivered presentation of project progress through sharing project result progress with USAID and CIFOR at Washington DC.
- I delivered presentation through seminar for USAID and CIFOR at US Embassy in Indonesia.
- I plan to deliver our result in local student network based in Manado in sharing my research and results to student.

- We plan to deliver the research result with the palm oil company as well as delivering recommendations that were found through the project.
- We plan to deliver our results in ICCB 2019, but we have issue with the funding to attend the conferences, therefore we are planning to present the result in SCCS Cambridge 2020.

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

Rufford small grant was used from June 2017 to June 2018 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
Camera traps	£3740	£4072	+£332	
Workshop snacks	£150		-£150	
Cost of materials and communications	£30	£58	+£28	
Workshop room cleaning, security and rental cost	£30	£51	+£21	
Batteries	£380	£377	-£3	
Guide salary	£400	£467	+£67	
Meals, lodging, field logistics	£190	£181	-£9	
Local transport	£80	£217	+£137	I found more cost to travel with equipment from US and Jakarta to the field site. Cost is needed and essentials because equipment is not available or accessible in the field site, so we have to acquire the equipment or logistics from other countries or other cities
Total	£5000	£5423	+£423	Exchange rate used: 1 pounds = Rp. 17.100

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

Recommendation to both the palm oil company and certification body (RSPO certification) based on the results we found through the study. Based on our results, prioritising an area for forest reserves by high carbon stocks will not guarantee that

these reserves will have high mammal abundance. Patch size is found to be important factor for our capture rate data, and therefore needs to be considered in designating future forest reserves and potentially included in RSPO criteria for certification.

Besides that, since there's overlap between the reserve's status ownership between the palm oil company and local communities. Therefore, conservation efforts that involve local communities and palm oil company are required to ensure the long-term future of both these reserves and wildlife occupying these reserves.

10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did The Rufford Foundation receive any publicity during the course of your work?

Yes. We use Rufford logo in every presentation on the project during fieldwork and after. We use the logo for every publication, including outreach material for the palm oil workers and local university student as well as in conferences/meeting acknowledgement.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

Mohamad Rois Ridlo, Employee in a palm oil company who is our core team member in palm oil sustainability and management. He initiated this collaboration work with the palm oil company, facilitated project logistic and arranging the project to be in touch with the appropriate key contact person in the company to keep the project run smooth. Ridlo also help us manage to get the necessary data needed for the project.



Figure 1. Palm oil and forest reserves landscape. Figure 2. Species recorded: flat-headed cat (*Prionailurus placineps*).



Figure 3. Species recorded: yellow-throated marten (*Martes flavigula*). Figure 4. Species recorded: marbled cat (*Pardofelis marmorata*).



Figure 5. Species recorded: bearded pig (*Sus barbatus*). Figure 6. Species recorded: muntjac (*Muntiacus muntjak*).



Figure 7. Socialisation activities with local community. Figure 8. Field training on using camera trap with the palm oil sustainability team.



Figure 9. Dr. Branch and Dr. Laumonier field visit at Dr. Laumonier's site. Figure 10. Camera trap training with students from Universitas Tanjungpura.



Figure 11. Field training on setting up camera trap. Figure 12. Workshop for students in University of Tanjungpura, West Kalimantan.



Figure 13. Edge of High Conservation Areas forest and palm oil plantation. Figure 14. High Conservation Value Area forest patches.



Figure 14. Field training for palm oil sustainable team in data collection



Pangolin (*Manis javanica*).



Flat-headed cat (*Prionailurus planiceps*).



Otter Civet (*Cynogale bennettii*).



Sun bear (*Helarctos malayanus*).



Bearded pig (*Sus barbatus*).



Marbled cat (*Pardofelis marmorata*).