

## The Rufford Foundation Final Report

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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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
<b>Your name</b>	Alexander Mossbrucker
<b>Project title</b>	Securing a Future for Sumatran Elephants in Harapan Rainforest
<b>RSG reference</b>	17862-1
<b>Reporting period</b>	17 <sup>th</sup> July 2015 – 17 <sup>th</sup> July 2016
<b>Amount of grant</b>	£4995
<b>Your email address</b>	islandelephants@gmail.com
<b>Date of this report</b>	18 <sup>th</sup> July 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
Collaring of 1 female elephant			X	Delay due to difficulties to get all permits on time
Satellite telemetry of one female elephant (elephant monitoring)			X	-
Setting up an information network and early warning system		X		Information network and Early Warning System (EWS) were set up and are operational, with data downloaded and plotted twice a day and forwarded to field teams. However, local communities are not yet directly involved in the EWS, information is channelled through field ranger teams until a full scale Human-Elephant Conflict (HEC) mitigation project is set up in the project area. Process ongoing.
Data analysis and Conservation Action Plan (CAP)		X		Preliminary data analysis is completed, and vital conclusions were drawn that are currently used to set up a full scale HEC mitigation project. However, complete data analysis is delayed and will only commence after sufficient elephant data will be available (roughly 12 months of monitoring). The CAP, which is based on this

				analysis, will thus not be ready before end of 2016
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**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

A major challenge for conservation and research activities in Indonesia are difficulties in obtaining permits on time, even if applications are submitted far ahead of application deadlines. While all project activities were successfully implemented within the project performance period, permits required for elephant collaring were only granted with considerable delay by the Ministry of Forestry and local wildlife authorities (KSDAE), which has caused field activities to commence much later than planned. Thus, two main outputs of the project, the Conservation Action Plan (CAP) and the data analysis it will be based on could not be completed within the fix project period of 12 months. The project is thus still running by the time of writing, and will be continued for at least another 6 months (until late 2016 or early 2017). Additional funding is not required, as fieldwork has been completed and the Early Warning System (EWS) is supported in kind by Frankfurt Zoological Society (FZS) and International Elephant Project (IEP).

Some changes were necessary considering the EWS. The EWS, which will become a key component for Human-Elephant Conflict (HEC) mitigation in the project area, is only partially functional as information on elephant positions is currently still channelled through field ranger teams and not, as initially planned, already directly forwarded to local farming communities in conflict areas within the first year. Thus, elephant locations are forwarded to ranger teams in the field, which then make use of this information to track elephants and support farmers in HEC mitigation. The main reason for this change is that, based on our field observation and additional information gathered on ranger patrols in the area, elephant poaching is still a major problem in the project area. Providing direct information on elephant locations to local people is thus risky at this stage, as no full scale and continuous (24/7) HEC mitigation and elephant protection activities are operational yet in the project area. Recruitment and training of a special elephant conservation team will start in August 2016. After sufficient ranger teams that can assure the safety of the collared herd are then permanently on duty in the field, the EWS can become fully operational.

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

1) Elephant collaring and monitoring

After some difficulties with permits and logistics we eventually could head to the field for elephant collaring in January 14<sup>th</sup> 2016. The team consisted of a total of 18 persons, including research collaborator Dr Muhammad Ali Imron (holding the

research permit), veterinarian Christopher Stremme, elephant experts Nazaruddin and Hidayat, forest police officers Sartono and Benyamin, and 11 experienced field rangers of Frankfurt Zoological Society (FZS). One an adult female, named Jenny by the team, was darted and collared on January 18<sup>th</sup> 2016. The cow was estimated to be more than 30 years old, weighed 3.1 tons and was measured 2.27m at the shoulder. The movement of Jenny and her herd were monitored both remotely (downloading satellite telemetry data, plotting positions on digital maps) and directly by field teams of PT REKI. Based on our field observation we assume that currently only one herd resides in the project area, and that our monitoring data thus reflects the majority of animals present in the Harapan Rainforest.

## 2) Information network and early warning system.

Both our main conflict mitigation strategy (Community Based Conflict Mitigation CBCM) and elephant safeguarding are substantially supported by the Early-Warning-System (EWS). The EWS is based on GPS collar position data collected through satellite telemetry of collared elephants. Elephant positions and movement directions were forwarded to conservation ranger teams, which forwarded the information to local farmers when the animals approached fields and plantations. This allowed farmers to get ready for crop guarding on time, and our team to survey the surroundings where threats such as field chemicals and poachers are abundant. In the framework of the EWS elephant positions were downloaded, plotted, and communicated twice a day to the PT REKI elephant conservation team. An information network was established during elephant surveys and other field stays, with roughly 30 persons approached so far. Work is ongoing and we hope to have the majority of local people in the project area included soon.

## 3) Analysis of home range and habitat preferences.

Satellite telemetry data from the GPS collar was processed twice a day and already partially analysed. A total of 1,819 elephant locations were recorded since the collar was attached in January 18<sup>th</sup> 2016, with the collar producing fairly regular updates with a frequency of roughly one location every 2 hours. Based on this data we were able to get a first impression on elephant habitat preferences and ranging behaviour (both quantitatively and qualitatively). Jenny's herd used an area of roughly 65 km<sup>2</sup> covered mostly with secondary forest. Her home range fell to approximately 80% into the comparatively safe area of Harapan Rainforest (ecosystem restoration concession), with the remaining 20% spent in adjacent production forest concession areas (rubber trees, pulpwood, and unattended land). While no legal village fields were included into Jenny's home range, direct field observation confirm that Jenny and her herd have raided illegal crops of encroachers at the border between Harapan Rainforest and the rubber tree plantation of PT ALN. However, we still consider the analysis to be preliminary, as so far only six months of data are available. It would be hasty to draw final conclusions

based on our current data basis, and we thus decided to continue monitoring for at least another 6 months to make sure to be able to produce a reliable Conservation Action Plan.

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

All rangers involved in the elephant conservation project (funded by Rufford and the joint activities funded by IEP and PT REKI) are locals, thus through our elephant conservation initiative nature conservation jobs were created. As we are planning to continue this project, these jobs will likely not be lost during the upcoming years (PT REKI is willing to include elephant conservation into its routine operations). This does ensure that we are well connected to local communities, and increases the chances of knowledge transfer, in particular considering site-specific conservation issues that are targeted by our project.

Crop raiding elephants can be a massive problem for local people. In the worst case, a herd of elephants can ruin a farmer within a single night, and occasionally also people lose their lives during conflicts. The EWS and HEC mitigation part will contribute to realise peaceful coexistence between elephants and people in the area over the mid-term. While this has to be understood as a process in progress, I believe that we are on the right track to make sure that neither wildlife nor locals fall behind, and that our activities can really secure a save future for both parties.

**5. Are there any plans to continue this work?**

Yes, as already outlined above, we need to continue for at least 6 months. It is likely that project activities such as elephant monitoring using GPS collars and the EWS as key component of HEC mitigation and elephant protection will be continued in the framework of a full scale elephant conservation project in the future.

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

The Conservation Action Plan (CAP) including all key outcomes of this project and the derived conservation strategy will be presented to the local wildlife authority KSDAE in a joint meeting with important stakeholders such as PT REKI, PT ALN and other forest concession holders in the area. Furthermore, the CAP document will be sent to additional concerned stakeholders such as NGOs active in the area, the Indonesian Elephant Conservation Forum, and the Indonesian Forest Department. It is likely that, in addition, a research paper will be published in cooperation with Gadjah Mada University (Yogyakarta, Indonesia).

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

After purchasing a GPS collar at the beginning of the project performance period project activities came to a temporary halt until permits were eventually granted in January 2016. Thus, actual field activities (collaring a female elephant, elephant monitoring, EWS) were limited to the second half of the project performance period (January – June 2016). As we need to continue our field activities for at least another 6 months, the actual project length is longer than the project period funded by The Rufford Foundation.

**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.**

The project budget breakdown below shows the total project budget. The funds of 4,995.00 Pound provided by Rufford were spent completely. Additional project expenses of 1,168.10 Pound (6163.10 - 4,995.00) were paid by the International Elephant Project (IEP).

Item	Budgeted Amount	Actual Amount	Difference	Comments
Darting equipment, anaesthesia & medical equipment	£335.00	£69.79	£265.21	darts and most of anaesthesia & medical equipment was provided by IEP in kind
Forest police officers support	£180.00	£233.92	-£53.92	field operation took slightly longer than estimated
Elephant expert team fees	£402.00	£559.16	-£157.16	field operation took slightly longer than estimated
Logistic & food supply	£1,005.00	£1,059.63	-£54.63	field operation took slightly longer than estimated
Travel costs collaring team & Vet	£804.00	£1,160.51	-£356.51	ticket prices went up
Field transport costs	£804.00	£1,023.43	-£219.43	field operation took slightly longer than estimated

GPS collars & telemetry (all inclusive)	£3,015.00	£2,056.67	£958.33	collar important and fees were covered in kind by IEP
Operational costs early warning system	£1,000.00	£0.00	£1,000.00	all costs covered in kind by IEP
<b>Total</b>	£7,545.00	<b>£6,163.10</b>	£1,381.90	£4,995.00 provided by Rufford were spent completely, the balance of £1,168.10 was paid by IEP

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

After having completed the CAP for the Harapan Rainforest elephant population we need to step up the pace and get field teams on the ground for elephant protection and HEC mitigation. The EWS will continue to be a vital key tool supporting both activities. I just secured sufficient funds to establish the first elephant conservation team in Harapan Rainforest together with the management of the ecosystem restoration concession Pt REKI. This team will consist of four to five personnel, the recruitment and training phase will start in August 2016. The team will basically implement my preliminary suggestions (based on results of this project) on elephant conservation for the area.

As the elephant population in Harapan Rainforest is small and no males were detected, I am currently discussing the option of translocating a young bull to the area with the Indonesian conservation authorities. My long term goal is to restore and protect a viable elephant population in Harapan Rainforest.

### 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?

As the final CAP is not completed yet, I did not yet use the Rufford Foundation logo, but will of course include the logo in all products, reports and publications resulting from the work funded by RSGF.

### 11. Any other comments?

My project commenced with delay due to problems with obtaining mandatory permits on time. I believe that this is a common problem in Indonesia (many colleagues experienced similar delays), and might be also an issue in other areas. A solution would be to grant a flexible project performance period, e.g. to limit the field work time to 12 months (as it currently is), but allow a flexible project starting

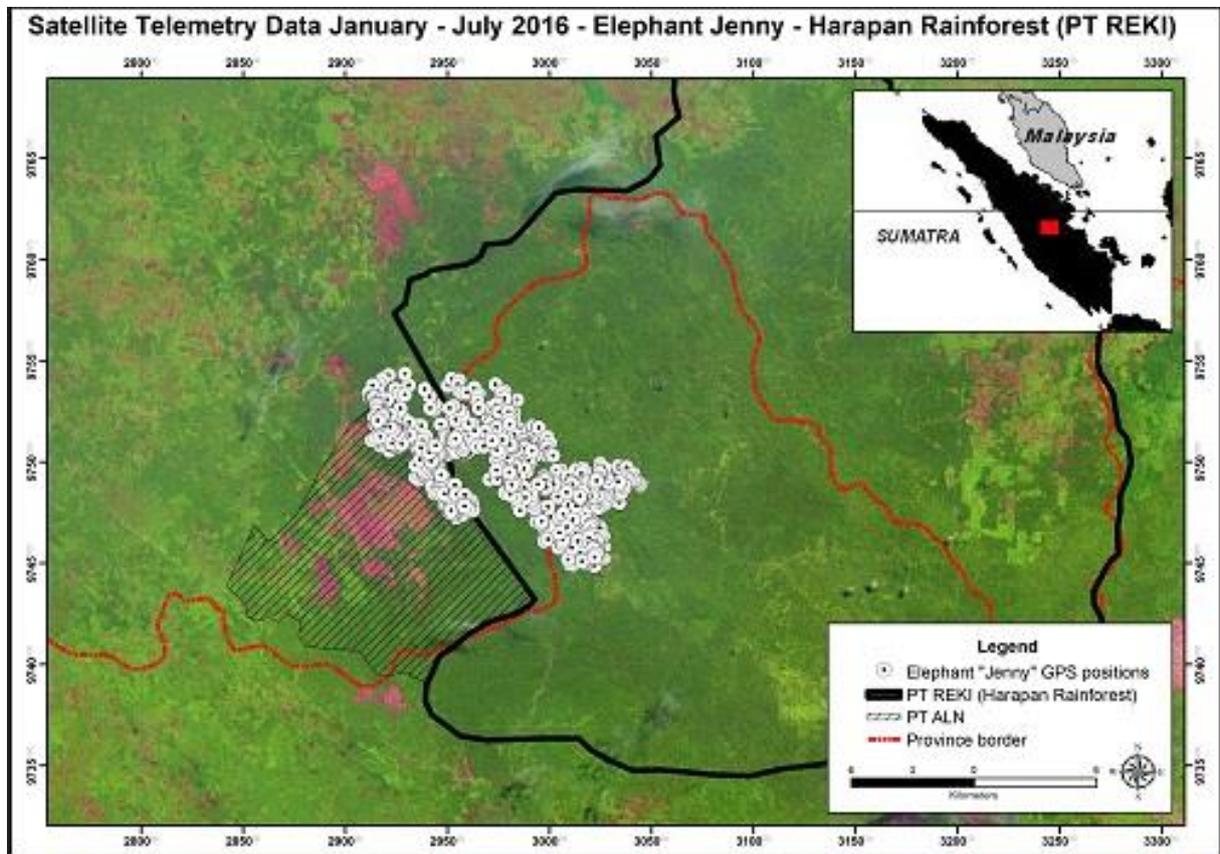
date (e.g. the project has to commence within 12 months after the grant was obtained, but the date can be chosen by the project manager). In addition, I think that it would be good to grant three months for data analysis and report writing after the 12 months of field work. Getting it all done within 12 months is likely only practicable for the most basic projects and analysis, with the risk that results remain preliminary.



Left: Alex & Nazar collaring Jenny – compressed. Right: Jenny with her new collar – compressed.



Left: Radio telemetry – compressed. Right: Team getting ready to dart Jenny – compressed.



Map - elephant GPS positions Jan to July 2016 - compressed