

## 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. 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. 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**

Grant Recipient Details	
<b>Your name</b>	Fernando Nájera
<b>Project title</b>	Identification of Disease Threats for the Sunda Clouded Leopard and Endangered Bornean Felids in a Fragmented Landscape - The Bornean Wild Cat Vet Project
<b>RSG reference</b>	13044-1
<b>Reporting period</b>	February 2013- May 2014
<b>Amount of grant</b>	£4707
<b>Your email address</b>	<a href="mailto:nanonaj@hotmail.com">nanonaj@hotmail.com</a>
<b>Date of this report</b>	29 <sup>th</sup> May 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
Capture of wild felids with special reference to Sunda clouded leopards		x		For the first time ever a Sunda clouded leopard was GPS-collared under our programme. A total of four Sunda clouded leopards have been trapped to date. Bornean leopard cats were trapped as well. No flat-headed cats were captured
Development of anaesthesia protocols for free-ranging Sunda clouded leopards			x	The chemical immobilisation protocol used by our team proved to be effective, safe and reliable for anaesthetising free-ranging Sunda clouded leopards.
Investigation of trapping effects in free-ranging Bornean felids			x	
Investigation of disease threats for free-ranging Bornean felids		x		Samples are in the University of Putra Malaysia (Department of Mammal Virology) being screened. The number of samples has not matched the original expectations due to the extreme difficulty to trap free-ranging and feral carnivores.
Capacity building veterinary students and recent graduates (local and international)			X	Malay students and recent graduates along with other international students benefited from the capture events and they assist during the immobilisation of free-ranging and feral carnivores
Capture and sampling feral dogs and cats		x		Although feral cats and dogs were sampled under our programme, the number of animals sampled were low in comparison with the initial project design



Above: "Taring" o Male 3. First ever GPS-collared Sunda clouded leopard.

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

a. Managing samples at the field centre. The research centre is located in the heart of the Lot 6 of the Lower Kinabatangan Wildlife Sanctuary where there is no electricity. Electricity is paramount to conserve the samples at -20°C. An agreement was done with the Sabah Wildlife Department to store the samples at the Wildlife Department office at Kota Kinabatangan and another agreement with the Sepilok Orangutan Rehabilitation Centre (in Sandakan) to use their facilities as well to store samples.

b. No continuity during the trapping session. Traps could not stay operative for more than 1 month at a time due to the presence of elephants in the area. For that reason, traps needed to be relocated in safe areas in the forest to avoid accidents with the elephants.

c. Broken traps due to elephant activity. In those cases where traps were not removed in time, elephants destroyed them, leaving us with less number of traps and therefore, fewer chances to trap clouded leopards

d. Human-related activity around small traps. Those traps located in oil palm plantations suffered from human and dogs disturbances. We needed to perform agreements with the managers of the plantations to get permission to locate the traps and to avoid disturbance by the plantation workers during the trapping events.

e. Capture and handling feral dogs. Dogs were very wary to traps; therefore they needed to be immobilised via blowpipe.

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

- Capture and GPS-collared first ever Sunda clouded leopard. To date, three males have been successfully anaesthetised, sampled and radio-collared.
- Development of safe and reliable anaesthesia protocols for Sunda clouded leopards.
- Investigation of capture effects on the physiology of Bornean felids.
- In preparation: screening of viral disease in free-ranging and feral carnivores of the Lower Kinabatangan Wildlife Sanctuary (waiting for results from the University of Putra Malaysia)

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

Local villagers were really helpful while capturing and handling feral dogs and cats. As well, they showed interest regarding the trapping operations and they assisted locating traps or giving information regarding visual sights of Sunda clouded leopards or Bornean leopard cats.

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

The project will develop more phases in different areas within the range of the Sunda clouded leopard

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

By developing scientific manuscripts, abstracts for conferences and presentations at congresses/conferences or seminars

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

The RSG fund was used from February 2013 - April 2014. The total duration of this programme was projected to last 18 months, proving that the RSG played a key role in the completion of the project.

## 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
Blood samples wild felids	748£	1,559.59 RM → £ 290.04	457.96 £	This amount indicates monies paid as of the current date. Currently I'm waiting for the final invoice from the University of Putra Malaysia. Tests were performed at the University of Putra Malaysia. For this unforeseen delay the actual difference at this time is not accurate. It was overestimated the actual number of samples
Round trip flight (USA-Sabah) + internal flight in Sabah (Sandakan-Kota Kinabalu)	1,000£	1,845 USD → 1,102.72 £ + 435 RM → 80.85£ = 1,183.57£	- 183.57 £	Underestimation due to high cost of flight (high season)
Aesthetic agents + other veterinary drugs and supplies (+ shipping costs)	374+ 85 = 459£	656.76 € + 65.22 € + 14.35 € (736.33 € → 598.94 £) + 20.10 RM (3.74 £) Total £: 602.68	- 143.68 £	Main purchase done in Spain. Some of the drugs needed to be shipped from Spain (not available in Sabah). It was underestimated the cost of the reversal agents and shipping costs
Stipend Research Assistant/Field Technician	2,500£	2,500 £		The field technician salary remained the same as initially budgeted
<b>TOTAL</b>	4,707£	£ 4,576.29	130.71	The difference will be used for the last invoice from the University of Putra Malaysia

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

The most important step after the field work is to finalise redacting manuscripts regarding the information gathered at the project. Currently we are analysing the data of the chemical immobilisations, the physiological response to the capture events and the prevalence of viral diseases in the Wildlife Sanctuary.

### 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?

The RSGF logo was used in every presentation performed during every field course at the research center. It was used as well for the presentations at the Sabah Wildlife Department and in every document handed to the Sabah Wildlife Department (medical, necropsy and anaesthesia reports).

Regarding publicity, The Rufford Foundation has been acknowledged in three scientific manuscripts:

-**Nájera, F.**, Cediél-Algovia, R., Hearn, A, Ross, J., Dench, R, Alcazar P., Nathan, S., Revuelta L. 2013. "Chemical Immobilization of Bornean Leopard Cats with tiletamine-zolacepam Under Field Conditions in Borneo". Thai J Vet Med 43(3): 445-448.

- **Fernando Nájera**; Andrew J. Hearn; Joanna Ross; Senthivel Nathan; Luis Revuelta. Alterations in selected serum biochemistry values of free-ranging Bornean leopard cats (*Prionailurus bengalensis borneoensis*) captured by box traps. 2014. Veterinary Research Communications. (DOI) 10.1007/s11259-014-9605-2

- **Fernando Nájera**, Gilmoore Bolongon, Nicola K. Abram, Benoit Goossens, Laurentius N. Ambu, Luis Revuelta, David W. Macdonald and Andrew J. Hearn. 2013. "Observation of a road-killed Sunda clouded leopard in Malaysian Borneo". Cat News 58: 42-43

Also The Rufford Foundation has been acknowledged in every press release regarding the capture and GPS collaring of the first Sunda clouded leopard.

Our project is still working in several scientific manuscripts where the financial help of The Rufford Foundation will be acknowledged as well.

### 11. Any other comments?

The Rufford Foundation has played an important role during the work of this programme. Its assistance has been vital to develop some aspects of the project. The principal researcher and the rest of the team are indebted to The Rufford Foundation.