

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	Jerome Amube
Project title	Ecological monitoring of flagship mammal species in Maiko National Park (NP), DR Congo
RSG reference	18864-1
Reporting period	June 2016 – April 2017
Amount of grant	£5,000
Your email address	congo2030@gmail.com
Date of this report	15 May 2017

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
<p>To build scientific knowledge on the distribution pattern of great apes, elephant and large ungulate species (okapi, buffalo) and habitats use in the park.</p>				<ul style="list-style-type: none"> - Direct and indirect observations data on mammal species was collected during the survey and used to compute the spatial distribution and the relative abundance of species using the encounter rate of all detected signs of animal species. - Distribution maps of flagship mammal species were made using GIS capabilities with species GPS locations recorded in 2016 and signs of human activities collected on patrols prior to the project from 2012 to 2016 for viewing the general trend. - A list of species' relative abundance was made using the species encounter rate of species with the SMART tool. - The camera trapping method failed to capture successful images of wild animals probably due to factors related to the selection of trapping sites.
<p>To provide relevant information to a network of protected area managers, scientists, and policy makers to adequately plan continuous actions to ensure survival of these flagship species in Maiko ecosystems.</p>				<ul style="list-style-type: none"> - Two training sessions were organised in the park HQ prior to field activities (staff capacity building and community mapping). - Two workshops were held with park managers, community representatives and NGOs operating in Maiko NP (WCS, FFI, JGI, DFGFI) where information on key mammal species distribution was shared and the Park's managing board held in December 2016 and February 2017 further emphasized the importance of the continuation of this project for future monitoring and conservation purposes.

<p>To set up a continuous and regular species-specific monitoring program in order to assess flagship mammal population dynamics</p>				<ul style="list-style-type: none"> - From 2017 and on, all patrols will be deployed following a strategic plan elaborated by the Inventory and Monitoring Unit and fully rely on the project's data collection method in regard to flagship mammal species and threats to animal resources. - The current Rufford project was fully integrated into the Park's 2017 Action Plan. - Comparison of succeeding patrol data will inform on the flagship mammal population dynamics.
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2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

The presence of local rebel groups and their daily activities bring insecurity to Maiko NP. These activities have delayed the deployment of patrol teams on schedule. The park managers have developed a collaborative strategy with the "Simba" rebel officers to control the situation through awareness and involving some of them in conservation activities but irregularities still persist.

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

Support from the Rufford Foundation to monitor flagship mammal species has been crucial to the management of Maiko NP. The three most important outcomes are listed below:

- 1) The distribution pattern - findings:
 - Generally, animal species tend to avoid human settlements (villages, mining and poaching camps) whereas human activities penetrate deeper and deeper inside the park for resources extraction (Figure 1 below). Large mammal populations have seriously declined from the eastern region of the Maiko southern sector due to long term hunting pressure and permanent base camps occupied by local rebel groups and many other people whose livelihood relies on mineral and biological resources.

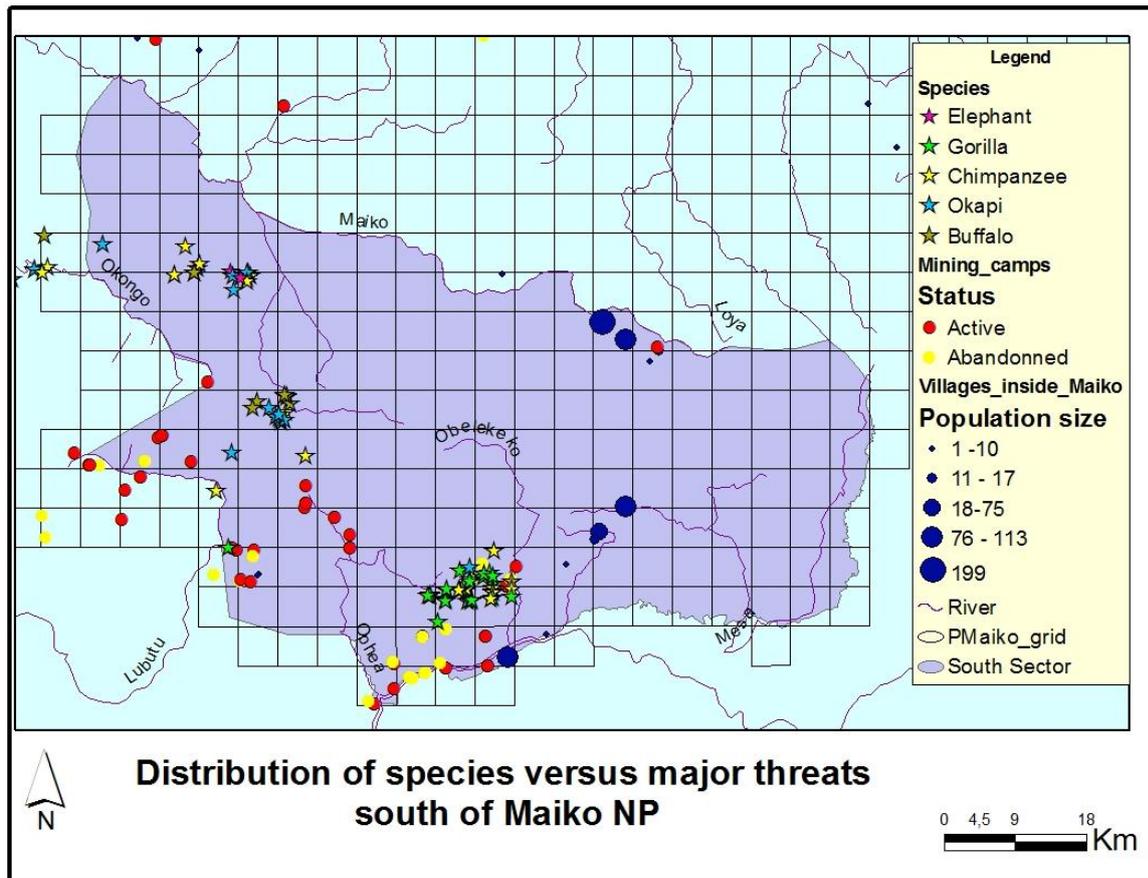


Fig. 1. Distribution of signs of flagship mammal species and human threats to wildlife resources south of Maiko NP

- Elephant, okapi and buffalo distributions are likely to concentrate in the south and west of the Maiko south sector as an avoidance strategy to human pressure from the eastern region.
- Chimpanzees use similar zones as gorillas but seem to explore various habitat types in a wide area whereas gorilla individuals are more localised in restricted areas. Signs of presence of both great ape species were repeatedly recorded within the same 25km² grid cells where base camps were also found, making these great apes more vulnerable to poaching. This is possibly why gorillas manage to occupy isolated, slopes and topographically inaccessible areas as a specific species survival strategy.
- Four gorilla family groups were located in heterogeneous primary forest, with dense undergrowth, between 547m and 868m altitudinal range, within 100 km² (4 connected 5kmx5km grid cells) in Obelekeko-Njula-Aadungba areas.
- A list of flagship mammal species and corresponding encounter rate was provided giving an idea on the species abundance.
- Chimpanzee and okapi have got a higher encounter rate as compared to other flagship mammal species (although the encounter rate values were generally low for each species).

- However, gorilla, buffalo and elephant populations are rare because they have declined in numbers and therefore restricted in smaller ranges and are certainly undergoing continuous pressure.

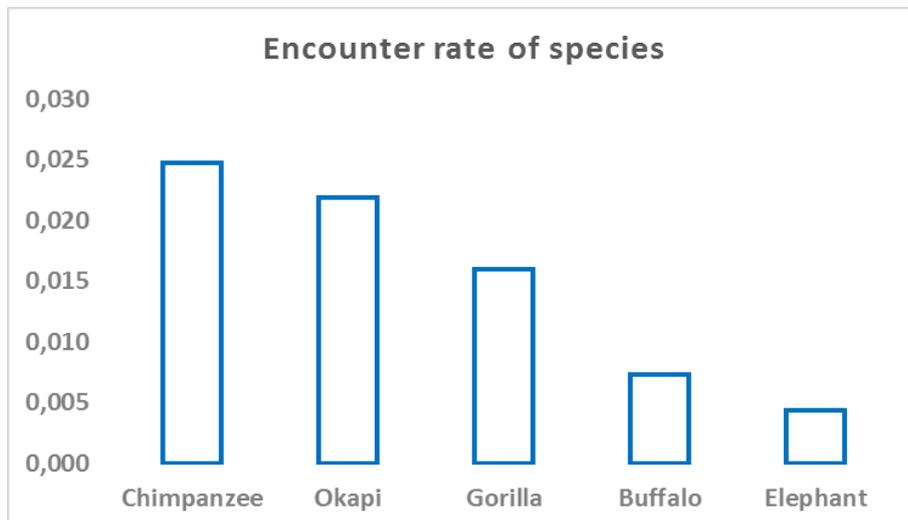


Fig.2. Encounter rate of observed signs of flaship mammal species during the project

2) Law enforcement

Important deterrent law enforcement actions were taken against illegal activities during surveys in the park with a search effort of 563 km distance walked and approximately 15 grid squares of 5 x 5 km² covered.

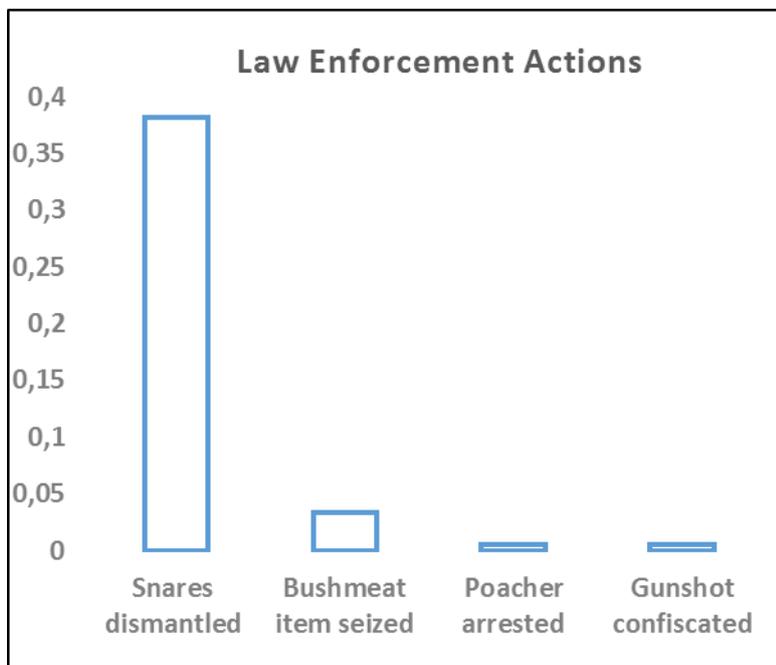


Fig. 3. Law enforcement actions taken against wildlife offenders in the park.

A total of 137 snares were dismantled; 12 bushmeat items seized, among which were chimpanzee smoked meat including the head, two poachers were arrested, two

shotguns were confiscated and several awareness sessions with local people found within mining camps were held by rangers.

- 3) Community involvement in monitoring activities was very active. Participation of former hunter and local chiefs from surrounding villages, to contribute in a participative mapping exercise of known gorilla sites and active Edo/Bai in the park. And also the fact that locals were incorporated in patrol teams as trackers or carriers was an implementation of the integrative conservation approach of the park.

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

- Local community members attended a workshop in the park HQ in July 2016 to discuss how they can contribute to better locate recent Grauer's gorilla sites and active salt-works (saline) in the southern sector of the park. They also fully contributed to the production of a collaborative map of gorilla sites and microhabitat (Bai/Edo) distribution.
- Community members participated in the research as carriers and animal trackers while on patrol with park rangers, and were paid for these services. Food and medicine were also provided to them during field operations.
- Community members were empowered and gained improved self-esteem as they demonstrated skills and knowledge and an ability to contribute to wildlife protection.

5. Are there any plans to continue this work?

Yes, we intend to accomplish the following three goals:

Define critical species distribution factors and specific gorilla ranges

Intensify search efforts on areas where gorilla presence was confirmed (Obelekeko, Abadungbo, Gbugbuambongo and Njula) by subdividing the 25 km² grid cells into smaller grids cells of 2.5 x 2.5 km or 1.25 x 1.25 km and search within them until groups are precisely located (Nixon S, pers com). Then we will perform dung sample collection for possible individuals' recognition.

Document park mammal species through photographs

Extend flagship mammal species search to areas that were not covered during the grant period due to limited access (especially OBILASO and NDONGANI areas) and capture photographs of keys mammal species using camera traps for further possible individuals' recognition.

Get updated information for setting up a continuous and regular species-specific monitoring program and adapt the law enforcement strategy of the park.

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

- A copy of the report will be submitted to the Director of ICCN (National wildlife authority) and shared with the Conservation NGOs backing conservation efforts in Maiko NP.
- A scientific report will be uploaded to the Rufford webpage for the public.
- Manuscripts will be prepared for publication in form of journal articles to share with scientists worldwide.
- Three presentations were already given in different occasions to the park staff and conservation partners and additional presentations will be held in the future.

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 project grant was received in June 2016 and activities began in July 2016. The activities ended in April 2017.

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 RSG amount	Budgeted ICCN amount	Actual amount	Difference	Comments
1. Shipping costs for field equipment	£100	£0	£100	£0	
2. Travel to research centers and meeting with community	£276	£200	£300	£176	The park also supplied us with a vehicle
3. Field guide books, map, journals articles and other printed materials	£140	£0	£140	£0	
4. Capacity building	£300	£0	£300	£0	
5. Workshop with park staff	£100	£100	£100	£100	The projector was supplied by the park
6. Scientific field equipment	£773	£0,0	£750	£23,0	
7. Photographic equipment and stationary	£243	£0	£519	-£276	Included were GPS and camera trap batteries
8. Camping equipment	£0	£840	£840	£0	
9. Medical kit for patrol teams	£100	£0	£100	£0	
10. Field expeditions and data collection	£2688	£0	£2921	-£233	Needed to add Thuraya

					communication cards and outreach to local stakeholders
11. Data sorting, validity, and analysis	£50	£0	£50	£0	
12. Informative seminar	£100	£80	£100	£80	
13. Dissemination and publication	£130	£0	£0	£130	Held back to compensate for unexpected expenses. Will be funded by the park after the termination of the project.
TOTAL	£5000	£1220	£6220	£0	Rated to 1£ = 1680 CDF

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

This project was completed with the generous support of the Rufford Foundation and we would like to apply for continuation funding in order to implement the three following important steps:

- i. Extend flagship mammal species search to areas that were not covered due to limited access, especially in OBILASO and NDONGANI areas.
- ii. Focus on the critically endangered Grauer's gorilla population by intensifying search efforts within areas where nests were located identifying precise regions with high gorillas' occurrence and defining the composition of each family group (age/sex structure).
- iii. Set up a reasonable number of camera traps in very probable areas for flagship mammal species and perform gorilla dung sample collection for possible individuals' recognition.

These three steps are essential to the achievement of our overall goal of setting up a long term monitoring program in Maiko NP.

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?

The Rufford Foundation Logo was used in all documents pertaining to the organisation of workshops and in the shared reports.

For further visibility in the future, we will print the adhesive logo so that all items purchased for the project will be labelled with it.

11. Any other comments?

I would like to express my sincere gratitude to the Rufford Foundation for having granted my project for the very first time. I enjoyed working with the foundation staff very much and found the entire procedure very effective and user-friendly.

I hope this project will continue to fit in the broad objectives of the CAP (Conservation Action Plan) for great apes and other conservation target species in the Maiko-Tayna-Kahuzi Biega Landscape, Albertin Rift Valley.



Traversing a river on patrol



Edo or Bai microhabitat



Gorilla site in Abandungbo foothill



On patrol



On patrol



Getting GPS position



Park officer sensitizing wildlife offenders



Arrested poacher holding shotgun with dead chimpanzee head



Old elephant carcass



Chimpanzee hunted for meat



Confiscated shotguns



Pile of dismantled snares