

## Final Evaluation Report

---

We ask all grant recipients to complete a project evaluation that helps us to gauge the success of your project. This must be sent in **MS Word and not PDF 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 – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

**Please DO NOT fill in and submit this form until the project has been completed.**

Complete the form in English. Note that the information may be edited before posting on our website.

Please email this report to [jane@rufford.org](mailto:jane@rufford.org).

---

Your Details	
<b>Full Name</b>	APOUAGOUO Mouliom Zouléatou
<b>Project Title</b>	Status and conservation challenges of the common hippopotamus ( <i>Hippopotamus amphibius</i> Linnaeus 1758) in Bénoué National Park, North Cameroon
<b>Application ID</b>	42560-1
<b>Date of this Report</b>	7/8/2025

**1. 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
Local Ecological Knowledge assessment				<p>210 persons were interviewed in 11 villages bordering the Benoue National Park (BNP). The perception of local communities largely varied between villages. About 70% of respondents perceived hippopotamus as a threat for reasons including damage to crops (80%) and human security (20%). These conflicts are exacerbated during the dry season when Hippos come out of water to get food. On the other hand, 20% of respondents recognised the ecological importance of Hippos especially in soil fertilisation and maintenance of the health of the water body. The other 10% of the population remained neutral/indifferent on the subject</p>
Waterway count				<p>A team of nine persons (2 surveyors, 2 eco-guards, 2 military, 2 porters and 1 tracker) was formed for the count. Observations were made between 7:30 a.m. - 12 p.m. and 2 p.m. - 5:30 p.m. The average speed of progress depended on the vegetation along the Benoue River as well as the immersion time, the number and size of the groups of Hippos encountered and the topography because the</p>

			<p>bed of the Benoue is very uneven in certain places. 150 Hippos (99 adults, 35 sub adults and 16 juveniles) were counted along about 140km of the Benoue river.</p> <p>We also recorded tracks and droppings of hippos during the survey. These data are currently being processed for a joint publication, together with data collected by another colleague on hippos in Faro National Park as part of his master's research. The aim is to make a landscape-level comparison and highlight the overall trends across the larger landscape.</p>
<p>Camera trapping</p>			<p>Eight camera traps were deployed along the Benue River during the survey mission at key locations with high hippopotamus presence, in order to record their activity budget. These cameras remain in the field with the aim of collecting data during both the dry and rainy seasons, allowing for a comprehensive analysis of hippopotamus activity within the park. By the end of September 2025, I have approximately 1,024 trap-nights. The cameras remain in the field with the aim of collecting data during both the dry and rainy seasons, allowing for a comprehensive analysis of hippopotamus activity within the park.</p> <p>Training on monitoring was organized, focusing on novel technologies, including camera</p>

			<p>traps, drones, acoustic technology and forest navigation techniques. It was delivered to 11 participants, including ecoguards, park conservation support staff recruited from nearby villages, and the two lion guards with whom BEDD collaborates on various projects in the Bénoué area.</p>
Drone count			<p>Only a partial aerial survey was conducted during the hippopotamus count, but this was merely a preliminary exercise. A more focused drone-based monitoring mission is currently being planned in collaboration with the Cameroonian forestry authorities. The aim is to carry out a more comprehensive monitoring effort for the hippopotamus population in this landscape, as the species remains a national conservation priority in Cameroon. The absence of a full-scale drone mission was mainly due to limited resources, as the river-based survey absorbed a significant portion of the available budget. This component should therefore be considered in the next phase of Rufford funding for this project in the Northern Cameroon landscape.</p> <p>The preliminary survey went well. Minor issues, such as adjusting flight altitude for optimal visibility over the water and ensuring battery efficiency for longer stretches, were noted and need to be addressed during the full survey.</p>

**2. Describe the three most important outcomes of your project.**

- a). Understanding of the perception of local communities vis-a-sis Hippopotamuses in the Benoue National Park
- b). Provision of updated data on hippopotamus populations in the BNP, a scientific decision-making tool for Hippopotamus monitoring.
- c). Provision of up to date data on the gold diggers in the park and its impact on the park's hippopotamus, as well as new poacher encampments.

We collected data on the locations and intensity of gold-digging activities within the park, recording the number of signs at each site and, when possible, the number of people engaged in the activity. The aim is to map the distribution and overlap of these activities with key hippo habitats using the location data, and to apply a kernel function to visualize intensity at each site on a map. This will help assess the impact of gold digging on hippo patterns and habitat use.

During the survey, awareness-raising sessions were conducted on-site whenever gold diggers were encountered, to inform them about the impact of their activities on hippo populations. However, for the next phases of the project, more advanced awareness programs need to be implemented, targeting a larger audience across the entire landscape, to initiate a long-term process of encouraging alternative livelihoods.

**3. Explain any unforeseen difficulties that arose during the project and how these were tackled.**

The only minor challenge encountered was related to seasonality, which complicated the scheduling of inventories during the project period. After completing the initial phase focused on studying local ecological knowledge to engage local communities in the project, the rainy season arrived in the region. This prevented us from conducting the planned hippopotamus monitoring missions within the original timeframe, and subsequently delayed the submission of the final project report, which was initially scheduled for February 2025. To address this issue and ensure the project's objectives were met, we contacted The Rufford Foundation to request an extension of the project deadline. Following their approval, we were able to complete the hippopotamus survey and now have a robust dataset on hippopotamus populations in the Benoue area. Combined with the existing data from Faro National Park, this provides a comprehensive overview of hippopotamus trends across the Northern Cameroon landscape and will support Cameroonian forestry authorities in developing an effective hippopotamus management plan.

**4. Describe the involvement of local communities and how they have benefited from the project.**

The local community members were actively involved in project implementation, working as local guides, trackers, porters, during field missions. During this time, they gained practical skills and hands on experience in Hippopotamus counts and survey approaches.

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

Yes there are. To further research on the social will and effectiveness of local community involvement in protected area management in the context of Cameroon's economic crisis and exponential population growth. The vision is to better understand the perception of communities in the local context in the Bénoué Ecosystem on wildlife and hippopotamus in particular to define with these communities and others partners a national framework for hippopotamus conservation in Cameroon. Furthermore, to get Cameroonian women more involved in hippopotamus conservation. Also to carry out sensitisation sessions in schools and community groups, creating Hippo clubs to enhance awareness and foster Human-Hippo coexistence in the Benoue National Park area.

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

The results of this project will be published in peer review journal with impact factor on the topic 'hippopotamus of Cameroon, what trends from 2016 to date and what perspectives for the future?' to keep informed the scientific community. We will disseminate the outputs through national and international conferences such as ICCB Congress, American Society of Mammalogy Congress, Student Conference on Conservation Science but also for local communities to inform them about the importance and threats on hippopotamus. The database will be kept at BEDD and at Garoua Wildlife College, CITES scientific authority for fauna in Cameroon.

The data have not yet been shared because we are currently cleaning and organizing them, and combining them with data from Faro landscape to create a robust dataset to share with the Garoua Wildlife School, the CITES Authority for fauna in Cameroon, the Ministry of Forestry and Wildlife, and then IUCN SSC Hippo Group.

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

Given the persistent threats to Hippopotamus recorded, we realise Hippos need continued protection in order to thrive in their habitat in the Benoue National Park area. We need to continue with the promotion of the species, creating awareness about the species and the threats they face. We need to work with the local communities on how they could deal with the human hippo conflicts in that area. We need to include Hippopotamus in different management plans of protected areas.

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

Yes, The Rufford Foundation logo has also been used on project reports. In addition to these, The Rufford logo will also be used in subsequent national and international

conferences where the findings of this project will be presented. The Rufford foundation will also be acknowledged in publications to be made in scientific journals.

#### **9. Provide a full list of all the members of your team and their role in the project.**

**APOUAGOUO Mouliom Zouléatou (Project leader):** Was in charge of coordinating all project activities

**Dr Serge Alexis KAMGANG:** Project supervision

**Bénoué National Park manager:** Provided agreement and oriented activities to harmonise project objectives and conservation service activities

**Lecturer, Garoua Wildlife School:** Constituted part of the data collection team especially during the waterway counts

**Eco-guards:** Constituted part of the data collection team and contribute to ensuring team security

**Military:** Constitute part of the data collection team and contribute to ensuring team security

**BEDD NGOs' team:** Was in charge of monitoring and evaluation through all the project phases

**Trackers:** Local community members who led the team during the Hippo count along the Benoue River

**Local guides:** Local community members who worked with field team during interviews as translators, guides and porters during the various project activities

#### **10. Any other comments?**

We are thankful to the Rufford Foundation for this grant that has enabled us make a significant contribution to wildlife monitoring in Cameroon in general, and in the Benoue National Park in particular. Furthermore, we appreciate the support of all partners and stakeholders for their immense contribution towards the success of this project.

**ANNEX – Financial Report**

**[Intentionally deleted]**