MURCHISON FALLS NATIONAL PARK, UGANDA ROAD PROJECT

PHASE ONE FIELDWORK REPORT (06/08/2025 to 01/09/2025)

Background

My project titled ‘Roads and traffic impacts on mammals in Murchison Falls National Park’ (hereafter MFNP) received funding from the Rufford Foundation, UK in June 2025. I then embarked on planning to start fieldwork on this project. I divided the activities into 3 phases, i.e., 2 phases of fieldwork (data collection), and 1 phase of community education or schools outreach. From 06/08/2025 to 01/09/2025, I conducted phase 1 of this project. I collected data to answer a question: ‘do common mammals avoid tar roads more than dirt roads?’

Data collection protocol

We systematically recorded the presence and sighting distances (using a range finder; Nikon Aculon AL 11) of common medium-to-large mammals along dirt and tar roads daily from 08:00 hr to 14:00 hr in the northern bank of MFNP. For each road-type, we had a starting point of 1.5 Km from human infrastructures (camps, bridge, lodges) and then sampled systematically at 500 m intervals spending 10 minutes at each sampling point. We sampled 37 points on the tarmac and 40 points on the dirt roads. We had three replicates for each road type and sampling point over the four weeks of data collection.

In addition, we recorded the traffic volume as the numbers of vehicles passing during the 10 minutes we spent at each sampling point. Other variables noted included season, dominant vegetation type, and weather.

Data handling

The data were recorded into a data collection application known as Cyber tracker. The data have since been downloaded from the application and stored as a Microsoft Excel CSV file.

Field observations

Several field observations were made during our fieldwork. Firstly, we observed a stark contrast in traffic volume between dirt and tar roads with tar roads having significantly higher traffic volumes. Secondly, we observed that some motorists do not observe the recommended 40 Km/hr speed within MFNP. This increases the likelihood of wildlife-vehicle collisions. Indeed, we encountered some road kills during our fieldwork. However, since road kills attract a fine of over 100 dollars, we learnt that motorists immediately hide the carcasses after killing the animals; hence, it is very difficult to determine the number of road kills in MFNP. Thirdly, our field observations show a similar likelihood of recording common mammals on both tar and dirt roads suggesting habituation of common mammals to roads and traffic in MFNP; however, this is still pending empirical analysis. Analyses will be done after

phase 2 of the project as we shall be collecting the same type of data. Lastly, we observed a likelihood of a plant invasion by Borassus spp. (Figure 6). This plant likely outcompetes and excludes other plants from growing near it. For instance, we observed that combretum species within the eastern section of the Northern bank were dying with no regeneration, whilst Borassus spp. species is taking over the whole area. Additionally, we observed and think that this species is replacing acacias and several grass species (key food sources for most wildlife) in many parts of MFNP.

Conclusion and next steps

In conclusion, I wish to thank the Rufford foundation for supporting the execution of this project. I am grateful to my field team which included Mr. Allan Kakuru (co-researcher), Mr. Isma Kasule (driver & research assistant), and Ms. Rose Nabwire (Uganda Wildlife Authority ranger and research assistant). I also wish to extend my sincere gratitude the Dr. Herbert Kasozi (and the Centre for Strategic Ecological Practice, CSEP) for his support including offering guidance on the study design and helping with the field logistics. Going forward, I have a 1-month research training/mentorship at the Max-Planck Institute, Germany from October 1, 2025, and I will return to Uganda on November 3, 2025, to plan and execute the second phase of data collection of this project.

Appendix (Field photos; all the photos were taken by Mr. Allan Kakuru)

Figure 1: Rodney Naleba (Rufford grantee) noting down field observations in the eastern section of Murchison falls national park, Uganda.

Figure 2: Conducting our fieldwork in the eastern section of Murchison falls National Park, Uganda.

Figure 3: Buffalo crossing the main road in the Northern bank of Murchison falls national park, Uganda

Figure 4: Four hartebeest and a female Kob in the main road within the northern bank on Murchison falls national park, Uganda. Hartebeest expressing vigilance and seem to be bothered by our presence.

Figure 5: Uganda Kob expressing vigilance behaviour to humans and vehicles in Murchison falls national park, Uganda.

Figure 6: Borassus species that seems to be invading most of the northern section of Murchison falls national park in Uganda