



THE  
KAFUE LION  
PROJECT

**MONTHLY REPORT**

**OCTOBER 2011**



## Summary

During the first part of October, we completed our track counts for the season in the Lufupa area. From 11 October to 22 October we utilised the services of Dr Harvey Kamboyi for our lion collaring operation. During this time we managed to collar 8 lions, of which 5 were females and 3 males. Three of the collars (2F, 1M) were replacements, while 5 were on new lions. After our capture operation, we were stuck in Lusaka for 6 days arranging a new project vehicle, and spent the last 3 days of the month in the Lufupa area observing collared lions.

## Fieldwork

### Track counts

During the first 10 days of October, we conducted track counts to the north and south of Lufupa Camp, on two 20km transects which we established earlier in the season. Between these two transects we drove a total of 340km, always starting at first light, and counting only tracks of large carnivores judged to have been made within the preceding 24 hours.

After 340km, we had observed 31 incidences of fresh lion tracks, 98 of fresh hyaena tracks and 59 of fresh leopard tracks. We have yet to analyse these data in any detail, but the observed track density for lions is 9.87 tracks/100km, while the track frequency is 10.13 km/track.

These measures are comparable with those of Davidson et al. (2011) from their study in Hwange National Park Zimbabwe, where track density ranged from 6.93 to 9.45 tracks/100km and track frequency from 10.85 to 14.43 km/track.

These data will be analysed further at a later stage using formulae derived by Funston et al. (2010) to convert track count data into density indices. We will then combine these density estimates with those from call-up surveys and home range analyses to build our estimate of Kafue's lion population.

### Telemetry flight

On the morning of 31 October, we conducted an hour long flight from Lufupa to the Papyrus region and back again, radio-tracking in the hope of picking up a signal from the collars of either M008 or M031. Unfortunately no transmissions were detected. However, given that 3 of our 4 collars recovered so far have failed, this does not conclusively prove that either of these lions is no longer around.

### Collared lions

On Thursday 29 September 2011, we took delivery of 10 new GPS/Iridium satellite collars. These collars are the latest generation in animal tracking





technology. Similarly to the existing collars that we have in the field, each collar obtains and stores 6 GPS fixes per night, giving us a detailed picture of movement patterns and home range usage for our collared lions. The new collars, however, take this one step further in that the GPS data collected are transmitted via satellite as an SMS message to a computer server in Germany, from where they are converted into email and sent directly to the lead researcher's email address. In a system the size of Kafue, this results in an enormous time saving for the research team, and also negates the issues that we have faced with not being able to find two of our collared lions from 2010 this year.



Figure 1. ZAWA veterinarian Dr Harvey Kamboyi and Neil Midlane fit a new GPS collar to Lufupa female F039.

From 11 October to 22 October, with the assistance of Dr Harvey Kamboyi, ZAWZ veterinarian, and Mr Emmanuel Mwale, ZAWA WPO, we managed to locate, immobilise and collar 8 lions. The operation was conducted smoothly, and we thank Dr Kamboyi and Mr Mwale for their assistance and dedication.

Of the 8 lions collared, in 3 cases we replaced old collars, on the Busanga male (M016), the Papyrus female (F021) and the Treeline female (F028). In addition, we collared F018 in the Busanga pride as a replacement for F019, who is still in





poor condition following injuries sustained early in the season and subsequent infection (see September report).

Four more new lions were also collared, being 2 males and 2 females. The males are the Lushimba male (M048), collared in the Papyrus area, the young Lufupa male (M037), the old Lufupa female (F039) and the young Lufupa female (F053).



Figure 2. Neil Midlane with Lushimba male M048.

At the time of writing this report, we have two more collars which remain to be deployed, both for male lions. The first will be used for M043, whose VHF collar we will replace. The second collar will be deployed on a male in the Musanza area, either M008, the old Musanza male, or a new male if we are still unable to locate M008.

#### Snared lions

On 22 October we received an urgent message from McBride's Camp that another snared lion had been found in their area. This time it was a male, following on from the 3 females previously treated (see August and September 2011 reports). Fortuitously Dr Kamboyi was still in camp, and headed to McBride's immediately by boat. Dr Kamboyi was able to immobilise the lion and



remove the snare, which had already cut to the bone. With the authorisation of Mr Milanzi, ZAWA Regional Manager, a puku was shot to feed to the lion, as he was severely emaciated. This lion was seen about a week after treatment feeding on a hippo carcass, and, according to Chris McBride, his condition has improved somewhat, although his survival is by no means guaranteed.



Figure 5. The snared lion near McBride's Camp.

This incident serves to highlight again the levels of poaching and wire-snaring that are occurring in parts of Kafue National Park. The situation requires urgent attention.

#### *Work for November*

With the rains approaching, field work will soon be more limited. However, our immediate priority is to deploy our 2 remaining GPS collars, and we have been advised that Dr David Squarre of ZAWA will be in Kafue from 4 November to assist us in this operation. We will also be making a last attempt to locate male lions M008 and M031, before the rains arrive.



## References

Funston, P., Frank, L., Stephens, T., Davidson, Z., Loveridge, A., Macdonald, D. M., Durant, S., Packer, C., Mosser, A. & Ferreira, S. M. 2010. Substrate and species constraints on the use of track incidences to estimate African large carnivore abundance. *Journal of Zoology*, **281**, 56-65.

Davidson, Z., Elliot, N., Loveridge, A., Funston, P., Murindagomo, F. & Macdonald, D. 2011. Measuring Carnivore Abundance: A first application of the combined track indices model. *In press*.

