



**ZAMBEZI DELTA ECOLOGY**  
**HOLISTIC ECOSYSTEM RESEARCH PROJECT**



**MONTHLY REPORT**  
**NOVEMBER 2019**

# OVERVIEW

NOVEMBER has drawn to a close and we are now only one month away from the end of 2019. This month has had some highs and some lows. Most notably, the loss of MKU-F002 from the Bad Boy Pride was a sad and difficult moment for everyone involved. However, this bad news was sprinkled with some hope as we were able to get visual of another uncollared lioness in Coutada 11.

Furthermore, the rains have started and we have already seen burnt areas transform into a bright green carpet within days! With this seasonal change, we are interested to see whether the lions show similar responses (in terms of movement and behaviour) compared to the previous year. Finally, we currently have four lion GPS collars that are faulty and we aim to re-collar these lions before the end of the year, to ensure effective monitoring of the entire population.



# A PLEASANT SURPRISE

## ANOTHER UNCOLLARED LIONESSE LOCATED

ON 22 November, our research team located an uncollared lioness with the Tembe 3 pride, along the Coutada 11 floodplain. This is very exciting news and there are two likely scenarios which would explain the appearance of this lioness. She could either be a:

### 1) reintroduced lioness

As per the recommendations of large carnivore reintroductions, at least one lion from each pride should be collared to monitor the movement and behaviour of the pride. Most of the lions reintroduced into the Zambezi Delta were fitted with GPS/VHF satellite collars, allowing us to track their movements and behaviour. A few of the twenty four lions were not collared, but these lions were within prides with at least one satellite collar.



**Figure 1.** Photograph of the uncollared lioness taken from a helicopter in Coutada 11 in November.

If this female is a reintroduced female that has been sighted for the first time since the release, it would not be a novel occurrence. In September, we got the first visual of the Tembe 3 since the release in August 2018. We were subsequently able to collar them and thus monitor their movement and behaviour. The only female currently without a collar is the Khamab female, KHA-F002.

## 2) local Mozambican lioness

It would also not be the first time that we locate a resident Mozambican lion in the Zambezi Delta. A resident male lion was sighted last year while tracking a collared female lion. It was the first time that this male had been sighted in the area, and the reintroduction of the females obviously caught his attention. Today this male is likely the father of more than 20 cubs!

If this female were to be a resident female, it could mean that there is still a natural movement of lions from other wildlife areas in Mozambique. It could also indicate that there is still a small remnant group of lions in the delta, although there have been no signs of females in the past few years.

We hope to find out more about this female before the end of the year.

WATCH THIS SPACE



# PUSHING THE BOUNDARIES

AFTER collaring a local Mozambican male lion (MOZ-M001), we have been following his movements on a daily basis. What we have learnt so far is that he moves between three prides (Mak Pride, Sirtracks and Tembe 3) and recently he was seen moving all the way to the Tame Pride.

While tracking the Tame Pride we were treated to a surprise visit from the Moz Male. The images below show a sequence of photos taken of the Moz male and the two lionesses of the Tame pride (TSW-F005 & TSW-F004). The male approached TSW-F004 in an attempt to mate with her, but she was not in oestrous and thus clearly not interested in his attempts. In fact, she took a few swipes at the male to show her lack of interest, but displayed submissive behaviour throughout the encounter. With good reason, he subsequently moved off, and returned to the Tembe 3 pride a few kilometres away, where he has been more successful in his mating endeavours.

To see the video of how this all went down, follow Zambeze Delta Conservation on Instagram or follow the link below:

[https://www.instagram.com/p/B4z3spjF-\\_i/?igshid=i52rwnu1wmhz](https://www.instagram.com/p/B4z3spjF-_i/?igshid=i52rwnu1wmhz)

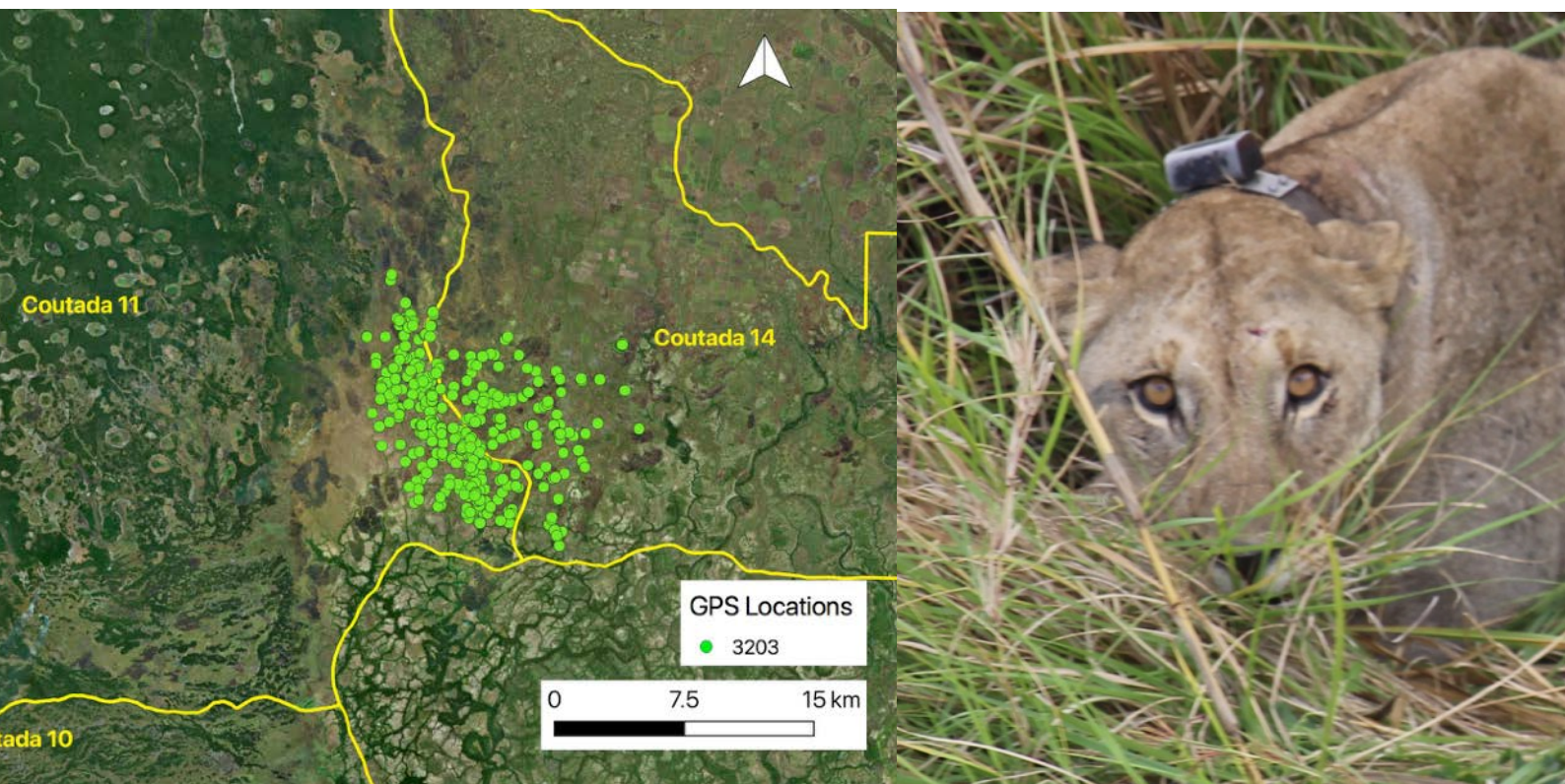


# TRIBUTE TO A LIONESSE

## *MKU-F002*

THIS past month was a sad one for the project. Unfortunately we had to say goodbye to one of our female lions from the Bad Boy pride after she had broken both legs. We were unable to confirm the exact cause, but we suspect that she might have been injured by a buffalo, certainly a natural factor which cause it. She died in Coutada 14, at the cluster furthest north-east of her range (Fig. 2).

MKU-F002 (collar nr. 3203) was sourced from Mkuze Game Reserve and was reintroduced with her sister (MKU-F003) and brother (MKU-M001). She occupied a fairly stable range along the Salone River between Coutada 11 and 14, which has a high herbivore density and is a very beautiful area. Her time was well spent and although she only served a relatively short period in Mozambique, she will always be remembered as part of the original 24 lions, which helped restore lions to the Zambezi Delta.

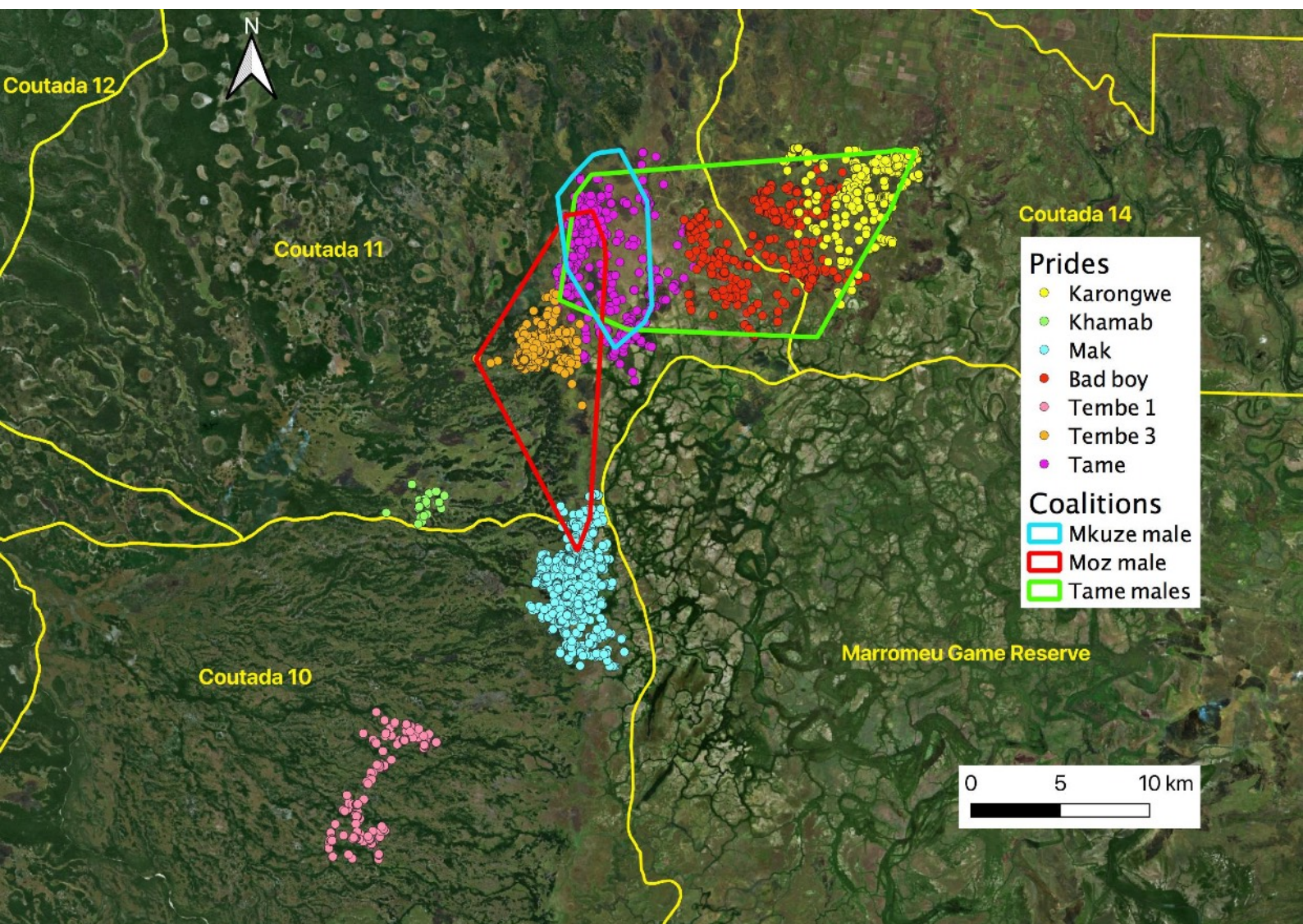


**Figure 2.** Map showing the movement of MKU-F002 in Coutada 11 and 14 (left) and a photograph of her crouching down (right).

# LION MOVEMENTS

NOVEMBER 2019

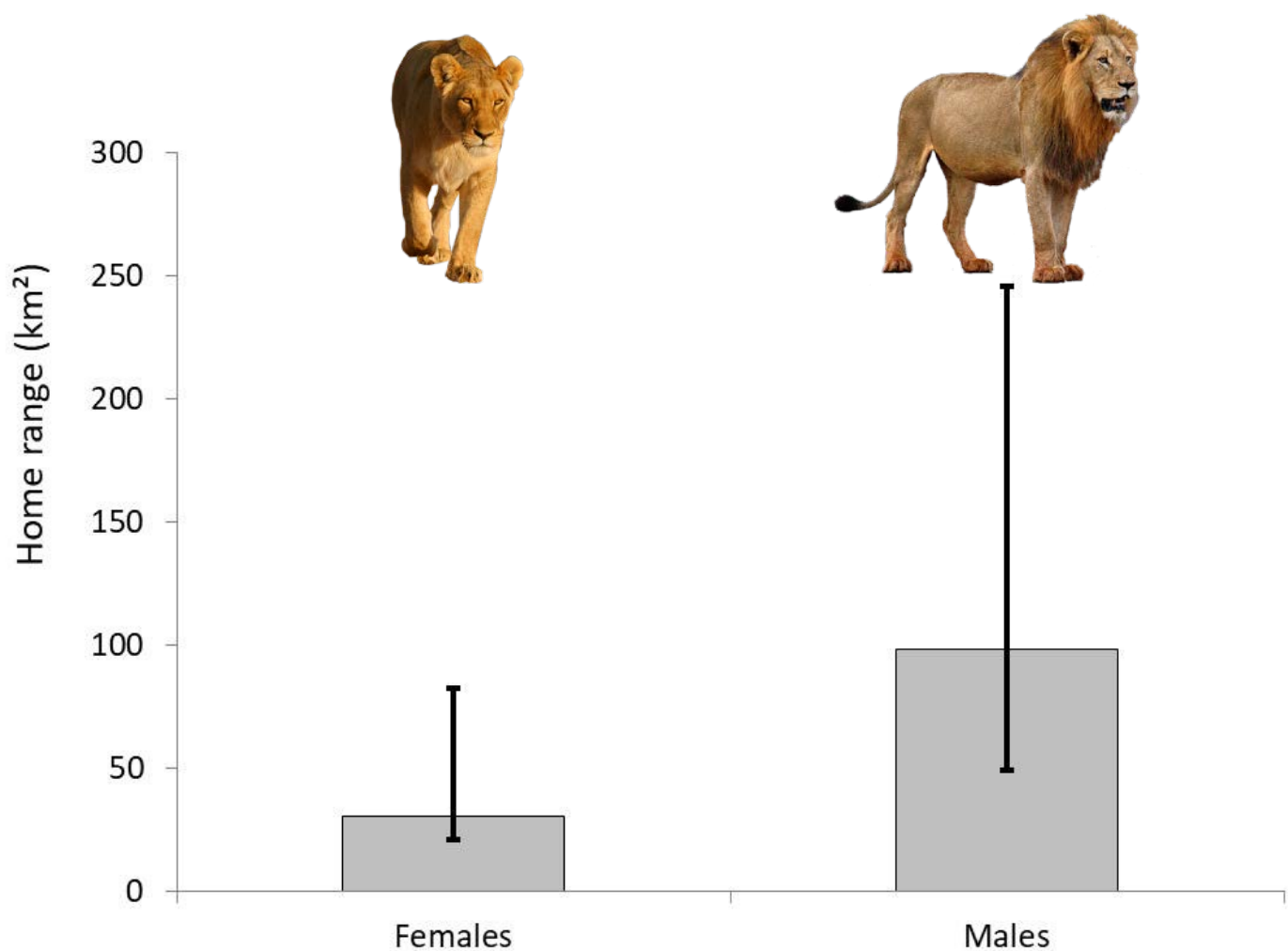
FIGURE 3 shows the movement of all prides and coalitions across the Zambezi Delta for November 2019. The overlap of male coalitions is centred along the Coutada 11 floodplain, with only the Tame pride shared between them. The prides display almost zero overlap, except for the Karongwe (yellow dots) and Bad Boy (red dots) prides. With the unfortunate death of MKU-F002, it will be interesting to see how her Bad Boy pride partner (MKU-F003) will respond in terms of her movement.



**Figure 3.** Map showing lion movements in the Zambezi Delta for November 2019. Movement of prides (i.e. females and cubs) are indicated by GPS locations (circles), while coalition (i.e. males) movements are represented by 95% home ranges (polygons).

There have been no major changes in home range over the past month, the only exceptions being TEM-F001 from Tembe 1 and the Mkuze male (MKU-M001). The Tembe 1 female has started moving slightly further south, now that her cubs are about four and a half months old. We still have not been able to get a visual on the cub(s), but her movements still indicate that she has them. After his venture to the Zambezi River in September/October, the Mkuze male has settled down in the floodplain of Coutada 11. In October he was seen mating with TSW-F004 from the Tame pride and he has since remained in the same area, with occasional visits to the Tame pride females.

On average, lions had smaller home ranges ( $38 \text{ km}^2$ ) and similar core ranges ( $13 \text{ km}^2$ ) compared to the previous month (HR =  $59 \text{ km}^2$  and CR =  $13 \text{ km}^2$ ). Home ranges of males ( $98 \text{ km}^2$ ) and females ( $31 \text{ km}^2$ ) were comparable to those from the previous month (M =  $93 \text{ km}^2$ ; F =  $28 \text{ km}^2$ ) (Fig. 4).



**Figure 4.** Male and female home ranges for November 2019. Standard error bars are indicated in black.



# December 2019

- Change faulty collars
- Collar 'new' lioness



**#24LIONS**