

The Kordofan Giraffe Project 2nd Quarterly Report; 01/05/2019.

Period: February, March April; second half of the first field season.

Throughout the second half of the first field season in Zakouma the priority continued on gathering as many giraffe id's as possible, assessing as much of the park as possible to inform decisions on the next three years of survey seasons...

Routes and Water in the Park:

The severity of the wet season in Zakouma coupled with the large elephant population means the ground is extremely difficult to drive, and walk on (See Figure 1). Not only is it difficult and uncomfortable, but more importantly, it is extremely damaging to the vehicles, which are in short supply in Chad, as are parts to repair them once damaged!

To this end, Zakouma uses tractors and graders to 'open the routes' each season, as soon as the ground is dry enough, the tractor breaks up the uneven ground, and the grader follows to flatten and create a drivable route.



Figure 1: Lead Researcher Dominique Rhoades standing in the footprints of elephants in Zakouma National Park.

Through February and March we were chasing the tractors and grader as they opened roads up, trying to see as much of the Park as possible before the season ended. By the end of March all open routes in the east of the Park had been driven and surveyed for giraffe and habitat, with just a few routes which had not been

opened yet still not drivable. The routes throughout the west of the Park were unable to be driven this year for various reasons, and it is hoped this is possible in future field seasons, however, it is now my thought that the majority of the ground surveying will be conducted throughout the east of the Park. This will be considered more over the next few months and reassessed each season depending on the severity of the wet season and the Park' ability to open up roads so they are drivable.

The Giraffe:

Throughout the second half of the season the priority continued on gathering as many giraffe ids as possible, and driving as many routes of the Park as possible to seek out giraffe, and suitable giraffe habitat.

As the dry season continued many of the animals, including large herds of giraffe moved towards Riguiek, which is the last remaining water in the park. While giraffe are not water dependant anywhere throughout their range, I suspect the giraffe move with the other animals for both security, and interaction, as we were seeing large herds of males gathered around the open pans. Fatagoki continued to be visited by female herds with juveniles feeding on the Balanites trees. There are thousands of photos still to be organised over the next few months, so by the beginning of the second field season we will be able to recognise a population number and structure of all the giraffe encountered during this first season. This will enable a starting place for the mark-recapture methodology of using the id book developed this season.

On the 3rd February we had a report of an injured juvenile giraffe outside of the park to the north, which we went to investigate immediately. We were able to find the giraffe with the help of Ali, one of the rangers, in a small herd of three adult females, and their three juveniles, all aged 2- 3 months. The injured juvenile had a very severe injury to its right hind



Figure 2: 'Maddies' the male giraffe, with blonde mane.

leg, and although was still managing to keep up with the herd, I felt it could not be long before it was predated and we retreated as soon as we had assessed the situation, not wanting to scare the herd into a run, which the juvenile would not have kept up with. It was a very distressing time for all concerned and although deeply moved by it, the park management felt it was a natural injury and therefore that there should be no human interaction. We tried to keep an eye out for it but did not see it again, only time will tell if it survived, but I feel certain it must have been predated soon after our viewing.

We had encountered a particularly impressive mature adult male giraffe (See Figure 2) in the Riguiek area of the Park in early March; a very dark individual, with lots of battle wounds, and a stunning blonde mane. He was also particularly friendly, standing still for photos, and allowing me to walk within 15 metres of him. We were lucky enough to see him again a week later while I was with the other AP staff on a jolly, so I was pleased to be able to share him with them!

Second Giraffe Carcass

On the 6th of February we came across a fresh kill early one morning in the Park (See Figure 3) south of Camp Tinga, where a lioness and her three cubs were resting having killed, and eaten the internal organs of a sub-adult giraffe, which I aged at 3.5-4 years old.



Figure 3: Second giraffe carcass with lioness.

Unfortunately due to the predation it was not possible to be 100% certain of the sex, though I suspect it was a male.

We were able to gather all bio-data needed; measuring all parts of the giraffe, retrieving a tissue sample, and as far as possible coat photos. Unfortunately the tail was already missing. I returned morning and evening over the next three days, to

check on the state of the carcass, the lion's activity, near-by giraffe and scavengers. It was on the third day when all signs of predators were gone, that I was able to scout around again to look for the tail, which I was sure the lions wouldn't have eaten, and to my joy I found the entire hair tail in one clump still, so this was gathered for testing.

At this point I retrieved the camera trap which had been set up on the first day, and was able to share the images on the social media pages; lots of interesting hyena/ lion interaction!

On day two it was possible to remove the head from the carcass; there isn't much meat on the head so the scavengers wouldn't miss out on much but it gave me an opportunity to assess the skull, and skinned it to reveal the ossicones were totally unattached (See Figure 4). Fusing to the skull has been reported to happen in males at approx. four years and in females at approx. seven years.

It has been surprising not to find more giraffe kills, but it is likely they are happening in areas inaccessible or just unseen to us, the park staff and rangers, but we continue to keep a keen eye out.



Figure 4: Skull with ossicones not fused yet.

GPS Ossiunits Update

Six of the eight female giraffe with Ossiunits attached had been spotted in the second half of the season; all looking healthy, with their respective companions, and showing no abnormal behavioural issues. None were anticipated, with this well developed and previously tested unit, but it's always good to have the peace of mind

of seeing with your own eyes. None have moved very far from where they were 'collared', though I expect this to change as the wet season arrives, and they will continue to be monitored digitally from my UK base. Figure 5 shows ZAK 6 with her Ossiunit.



Figure 5: ZAK 6 with Ossiunit on left ossicone, approx. A six weeks after unit attached.

Camera Traps:

It's been a great season with the camera traps bought using a grant from The Rufford Foundation; we've been able to stake out two giraffe carcasses, showing insight into giraffe behaviour, predator and scavenger interactions as well as general animal behaviour around the Park.

Unfortunately the first camera was totally destroyed by the Baboons, of which there is a large and growing population, after which I asked Moustaffa at the garage to build a cage to protect the camera traps. We tested one successfully and so I asked Moustaffa to make five more... The results were brilliant, giving opportunities for multiple wildlife viewing throughout the Park, and at carcass sites, and I was so happy to be able to share the results with Moustaffa (See Figure 6).



Figure 6: Camera traps with cage made by Moustaffa, successfully standing up against lion attack.

Vegetation Identification and Mapping:

At the beginning of February Cyanne Young arrived in Zakouma to visit staff for a few weeks from South Africa and was keen to see and ground truth the vegetation map AP had done last year. As a visitor on a personal visit she didn't have a vehicle to do this, I offered her a space in the giraffe survey vehicle once a week in exchange for her teaching me all the vegetation, focussing on trees. This was a really excellent and quick learning experience, and enabled me to put together a guide of fresh pressings, with common and scientific names, and with the French and Arabic names where known. This is the guide I will use over the next three years to identify what the giraffe are eating and more broadly to identify the habitat they are in, but I was immediately able to start recording giraffe feeding observations from learnt knowledge without the guide.

This season the giraffe were mostly observed browsing on *Acacia nilotica*, *Acacia seyal*, *Balanites* and *Caperis* (See Figure 7).



Figure 7: Giraffe browsing

Survey Vehicle

African Parks offered to hire the project an old guard vehicle for the first season, as cars and car parts are not easy to come by in Chad, as most people do not have cars I'm glad I took them up on this offer as I am now able to recognise it would have been almost impossible to find a reliable car to purchase on a first visit to Chad!

We were able to use the park managers Land Cruiser double cab with open back for the first two months, until the hire car was ready, and in this car we were able to move around very freely, utilising the back seat to move around from window to window to gather photos without constantly having to reposition the vehicle. It was also good to stand on the back for portions of the park and having the closed cab meant evening drives were possible.

Although the Zakouma garage employees worked very hard on preparing a vehicle for us, it was not without its issues, and meant we had many days where we either broke down in the field, or were waiting for parts to arrive before we could resume driving surveys routes. The vehicle also did not have a working speed or distance gauge, fuel tank gauge, windscreen wipers or full beam headlights.

Unfortunately this situation meant I felt I had to take the decision not to drive at night or weekends, in case we had an issue when the garage workers were not available to help us. I felt this cut down a lot on our monitoring potential this season as well as allowing for an enjoyable day or evening off drive to clear the mind (which can be important when you work and live in one remote place) on occasion but was unavoidable. The vehicle served us well enough for the season, but it is my hope to be able to secure funding for a vehicle for the project; a Toyota Land Cruiser double

cab with open back would be ideal, having experienced the work in this make and model, and knowing the garage workers are familiar with it and that parts will be available should they be needed, as well as looking forward to the end of the project, when the car can either be sold or part exchanged for goods / services to African Parks or the next research project in the region.

In the event the funding is not available for this, Zakouma management have kindly offered the same hire agreement for the duration of the project for their ex guard car.



Figure 8: Survey vehicle and suitable Land Cruiser vehicle sought for next three seasons.

Figure 8 shows the survey vehicle and the Toyota Land Cruiser vehicle which would be ideal for future survey seasons.

Social media and project backing:

The Kordofan Giraffe Project Facebook group now has over 300 likes and followers, giraffe_girl_in_chad Instagram page has 135 followers, Giraffe_Girl_In_Chad KordofanGiraffeProject YouTube page has 40 subscribers with 698 views so far, and has prompted two TV networks to contact us to use our videos to talk about giraffe conservation on their programmes;

- GMA Network Inc. – AngPinaka (The Most): Popular Animal Newsmakers, Philippines.
- Fuji Television Network Inc. – Sakagama Animal Kindom, Japan.

Passport and Visa Issues:

I arrived in Chad in early November 2018 having secured a three month visa at the Chadian Embassy in Belgium (there is no Chadian Embassy in the UK and no British support in Chad). Upon arrival in Chad it is necessary to register at the Police Station; which Youssef from African Parks Network helped me with quickly and easily.



With my current visa due to run out on the 6th February 2019 I was instructed to send the passport to the visa office in late December to get the visa extended until the beginning of May. Although it's not normal for UK citizens to let their passports leave them, it is the practice in Chad to send it off with companies personnel. Unfortunately the passport was lost in the journey, so my visa was never renewed, and then I was left without a passport.

Unfortunately added to this it took at least five weeks of continued emails to get a clear answer that the passport was indeed lost.

From there I had to contact the nearest British Embassy which is in Cameroon. As there is no postal system in Chad it would have been impossible for a new passport to be sent and received in Chad, so it was decided I would have to travel home on an Emergency Travel Permit (ETP), kindly issued by the French Embassy in Chad, on the proviso I travel before March 28th as none of the Embassies were sure of the protocol after this 'Brexit' deadline. So I did this, meaning the first season I had to return home 6 weeks earlier than planned. However, this is not a bad thing for the project, as all that could be achieved in this first recce season had been and there was more than enough to be getting on with to prepare for the second season and planning for the second, third and fourth seasons.

These visa and passport issues will be negated in future years, as I intend to return to Ndjamena or the UK/Belgium myself to renew the visa, and use the opportunity to re-stock food and equipment for the field.

Going forward

Over the next three months:

- A Chadian student will be appointed for the second field season, having already started discussions with Dr Dolmia from the University of N'Djamena.
- A foreign field assistant will be appointed to join the project for the second field season to help manage the data and train the Chadian student.
- Funding will continue to be sought for the second field season, with the aim of purchasing a survey vehicle for the remainder of the project, as this will prove more cost effective and reliable, giving us more time in the field.
- Thousands of photographs will be organised, with giraffe ID's created and added to the ID Book for the beginning of the second field season.

Further Ahead:



- In 2020 with the continued support of GCF we would like to fit more Ossiunits, and continue to do so until 25 giraffe at Zakouma are monitored in this way; if the population is indeed ~1200, to have 25 individuals fitted with units, would represent ~2% of the total population.
- I will continue to ask ZNP staff to keep reporting carcasses, skeletons and any signs of illness in the giraffe. I am working with GCF and other researchers throughout Africa to collect skulls and leg bones of each sub/species so we can jointly investigate the differing morphology of each.
- By the second year of the project the aim is to have over 100 YouTube subscribers; we currently have 40 subscribers and need 100 to get our own channel url.
- Further grants will be sought for better distance equipment for the second season, now knowing the difficulty in approaching the giraffe close enough to photo and monitor; a drone, scope, with attached (phone) camera if feasible, an iPad to ID giraffe in the field without needing to print off hundreds of id sheets, and a more practical vehicle. I'm very grateful to APN/ZNP for the rental and hard work on the vehicle from this season, but if possible (and especially in recognising the need for bigger more expensive equipment) the project needs a closed vehicle to protect the equipment from the dust as far as possible. With the need for one or multiple assistants, a double cab and open rear to stand on would provide the space and ability to work more effectively that we require.
- Continued support from UK based students to check the ID database for duplicates will allow for more time in the field collecting data, as there will be more people to sort the data.

Many thanks to the Project's partners APN and GCF as well as the first field season's supporters The Rufford Foundation, Woburn Safari Park, Opticron and IDEA Wild.

