

The Kordofan Giraffe Project 1st Quarterly Report; 01/02/2019.

Period: November, December, January; the first three months on the project.

Arrival and setting up the project:

Arriving in Zakouma National Park (NP) on the 11th after a few days in N'djamena, was with the AP four seater Cessna plane, which reduced travel time from the 14 hours by road to just three hours by plane.



Figure 1: Goz Djerat, local village houses.

The Park is in the Salamat Region of Chad, and has several close villages (see Figure 1), and the town of Am Timan (see Figure 2) two to three hours' drive away.



Figure 2: Am Timan, the nearest town.

Park manager Leon Lamprecht showed me around; drove all the routes that were currently open, and areas he felt were best to start at with seeing the giraffe. Until our research vehicle is available we had the loan of Leon's, which was perfect.

The plan over the six months dry season was to drive as much of the park as possible, photographing each giraffe encountered, from left and right to form individual IDs for each, identifying the sex, life stage, location, feed source and if there is any sign of illness.

Camera traps are used to help ID giraffe at particular sites, as well as getting a broader idea of the wildlife in Zakouma NP.

Later in the season we would attach GPS satellites to some of the giraffe so it will be possible to monitor them year-round and gain a better understanding of how they are using the park.

Routes and Water in the Park:

When I first arrived most of the park was still very wet, and many routes could not be accessed. We were able to visit Fatagoki, Machtour, Sagma 1 and survey along the Tinga road and the main road up to Goz Djerat passed Koubouch, so we stuck to these areas for the first two months. Fatagoki is a great area to see the giraffe out in the open, although mostly at a distance.

Some routes have been possible to drive, although extremely bumpy and we have not been able to get close to any giraffe doing this, as the noise created from the bumpy vehicle scares them away before we can get close and it isn't possible to take photos or use the binoculars while the vehicle is moving on this ground.

Instead we spent time in these areas just sitting waiting for the giraffe to come close enough to us, we spent time waiting with the engine on, and off, and started the engine while at approximately 30 metres, to get the giraffe comfortable around the vehicle. Usable data was able to be collected this way, and also videos of the giraffe for anecdotal and social media use which has drawn the most attention to the project.

By the third week in January most routes are dry enough and the tractor and grader are making their way around to help open the roads so it has been possible to start exploring out towards Al Ham, Tororo and further south and east.

The park has stayed wetter later into the dry season than in previous years, and there have been issues with needing parts for the tractor so the roads have been opened later than normal; hopefully next season routes can be more accessible sooner in the dry season.



Vegetation:

I have begun to learn the main vegetation the giraffe are seen eating, and am working on a crude mapping of the habitat within the Park, by photographing the habitat everywhere we drive and taking a photo of the location on the map. This can be useful to me when I'm in the UK with GPS mapping data to understand the habitat where the giraffe are.

I am putting together a vegetation pressing guide with photos for myself to work from over the next three years and asking other knowledgeable staff for help when needed.

There is an abundance of thick Acacia Seyal (see Figure 3) woodland across the Park and the giraffe are frequently found browsing on it (see Figure 4). More and more we are struggling to get close to the giraffe and believe next season we would



Figure 3: Acacia Seyal, *Mimosaceae*, in flower, with thorns.



Figure 4: Acacia Seyal woodland with giraffe

be helped by using a Drone to be able to send up from the roads, to see if there are any giraffe in nearby vegetation which are not visible from the ground. Cameras attached can take photos and videos and be of immense help to ID and count individuals.

The Giraffe:

Over the first two months approximately 116 giraffe were individually identified; 82 females, 32 males and 2 unidentified juveniles. January was busy with collaring and some data is still to be sorted, though it is estimated we have encountered up to 250 individual giraffe at the end of January. The most difficult to identify due to vegetation coverage have been allocated to a folder to be sorted during the wet season months to keep on top of the easily identifiable ones for now (see Figure 5).

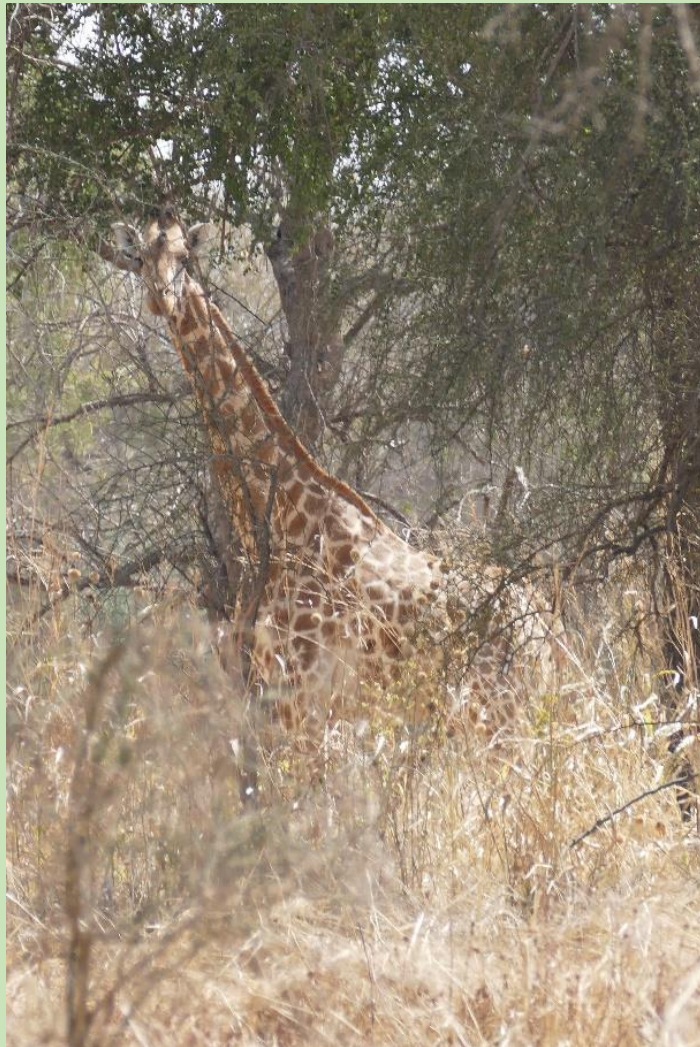


Figure 5: Giraffe behind vegetation

UK based research assistants from Hadlow College, Greenwich University London, are helping to check the database for duplicate giraffe profiles of each giraffe we encounter, which is one of the most time consuming tasks.

We are seeing both bachelor herds and female/crèche herds. There is an abundance of juveniles, with almost every female pregnant or with a juvenile on the hoof; this is to be expected within a recovering population as at Zakouma NP. We have encountered many solitary males, likely >10 years old and very dark. They tend to be less wary, or bolder.

An ID folder is being developed to use in the field in future years as a mark-recapture method to track the giraffe movements and includes information on sex, life stage, location first seen and conspecifics seen with (Figures 6 and 7).

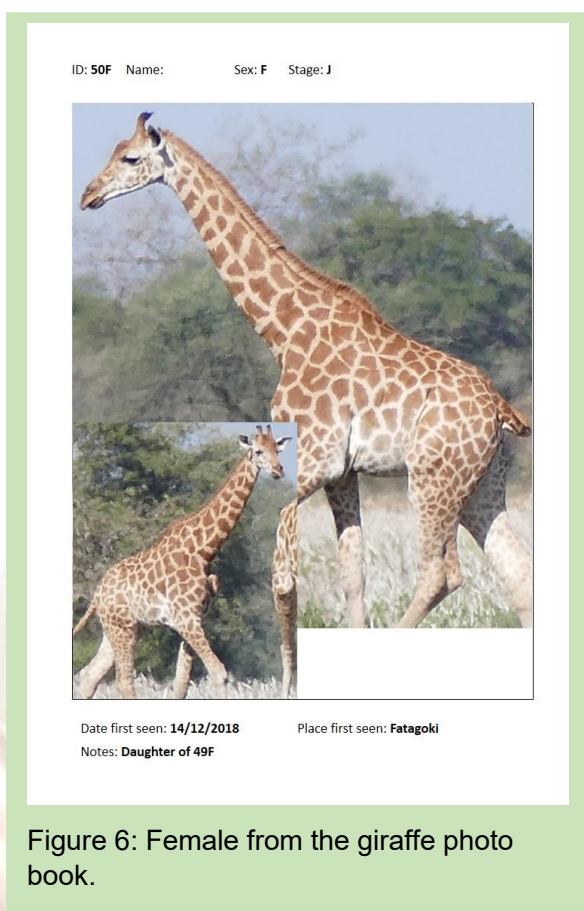


Figure 6: Female from the giraffe photo book.

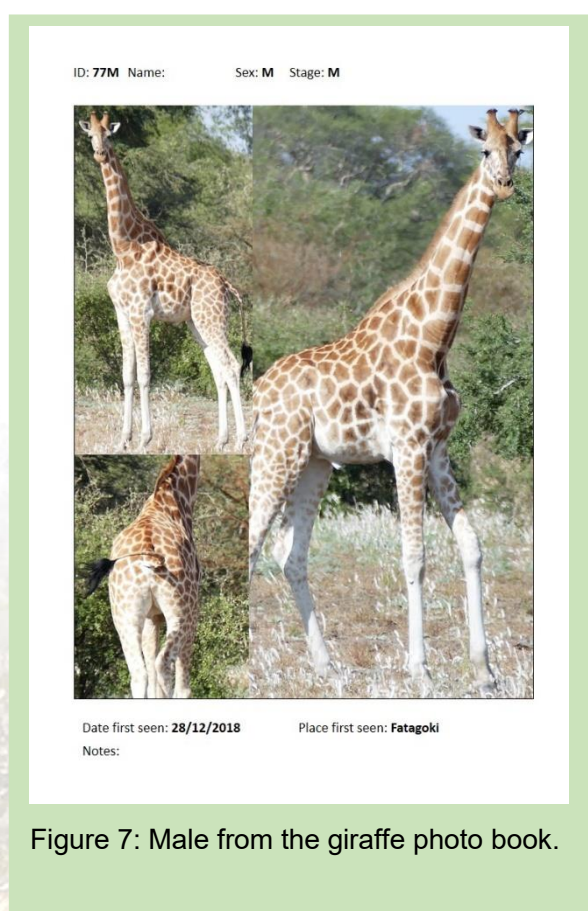


Figure 7: Male from the giraffe photo book.

At the end of this study a copy of this book will be provided to APN at Zakouma for any future reference.

GPS Satellite week:

The park management were already planning to do more elephant collaring for the security and protection of the large herds within the Park, so we had pre-arranged with APN / ZNP and vet Dr Pete Morkel to tag on fitting up to 15 GPS satellite units (see Figure 8) on giraffe in the park at this time. Between the 11th and 19th January Giraffe Conservation Foundation's director Dr Julian Fennessy brought the GPS giraffe Ossiunits to the Park and trained the staff the procedure with the giraffe capture for 'collaring' before we set off to find the giraffe.



Figure 8: The ossiunits developed and successfully tested by Savannah Tracking and GCF.

We worked together with the elephant capture team over the week, finding giraffe in the first few days, and then elephants and giraffe at different times throughout the day. By the end of the week, with a lot of hard work and effort from everyone, the Park had managed to collar 5 new elephants, and we had managed to fit 8 female giraffe with ossiunits. This was less than we originally anticipated, but is a massive achievement given how difficult the ground is to drive, how thick the vegetation, how wet some areas still are and how totally unhabituated the giraffe are!

The units will give great first year feedback; already able to monitor the giraffe's movements through the rest of the dry season, it will be possible to visually check up on them before the wet season.

In the week after the collaring two of the females have already been seen, looking very healthy, and integrated with herds and no sign of distress or infection in the ossicone (See Figure 9).

It is possible to 'collar' males, as it has been successfully done in at least three other countries; it just happened that the giraffe we were able to get near to were all female this time.

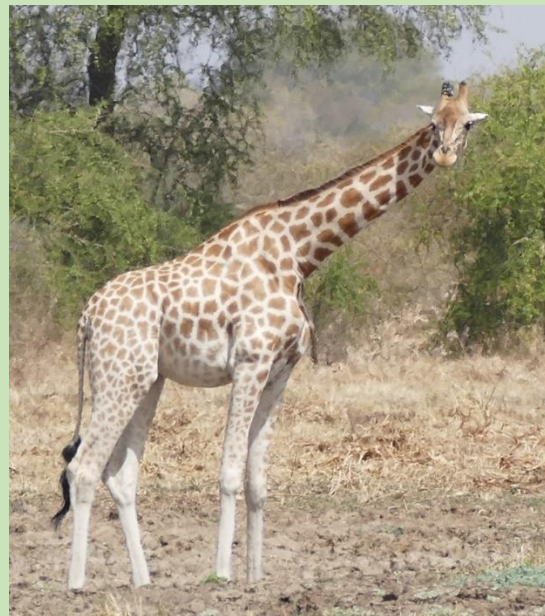


Figure 9: ZAK8 Seen two days after attaching the ossiunit.

Signs of ill health in the giraffe:

Signs of ill-health is something I am monitoring with every giraffe encountered, and for the most part the population here have shown no signs of any illness, or even lameness.

It is common to see giraffe struggling to walk or run through wet mud, and stumbling across dried areas which are pot-marked with footprints of many animals but this is terrain and not a health issue.

We have encountered one female who appeared to have her rear/front Left hoof fused together with mud, and she was limping badly. This was seen in the Machtour to Riguiek road, and we assumed she would be predated soon, though no reports of such an incident have been reported.

During the 'collaring' week we took many photos of each giraffe while they were down and looked for signs of Giraffe Skin and Ear Disease.

There was one female, ZAK6, who had some skin lesions (see Figure 10), the same female had what appeared to be either an infestation or an infection in the crease of her back legs and crotch. It was difficult to get very close to inspect as the animal was wide awake and able to kick (See Figure 11).



Figure 10: ZAK6 skin lesions on side close to spinal ridge.



Figure 11: ZAK6 with 'skin infection' between rear legs

Since this we have spotted another female with the same looking crotch area; both females were lactating but appeared alert and otherwise healthy (See Figures 12 and 13).

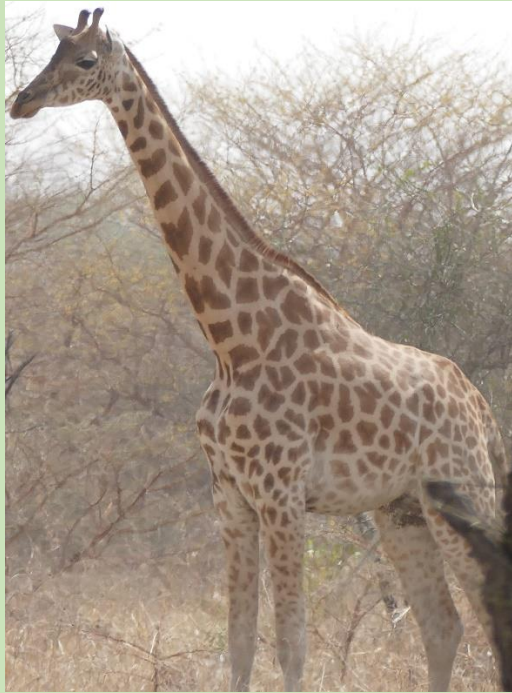


Figure 12: Second female seen with 'infection'.



Figure 13: Second female seen with 'infection', close up.

Carcass and camera trapping:

We had asked for the scouts and all the staff to report any giraffe carcass or skeleton seen within the Park from the first week, and on the 29th December we had our first report.



Figure 14: Puncture wounds to juvenile's neck.

A very young giraffe had been killed the 28th night, and it appeared the mother had managed to fend off the predator (suspected a Leopard due to the clean puncture marks on both sides of the infant's neck, see Figure 14) and was still standing guard over the infant when we arrived at midday on the 29th.

The mother briefly moved away, so we approached and quickly set up one of 6 camera traps donated to the project by the Rufford Foundation on a nearby tree, took photos of the carcass and assessed the cause of death and any other noteworthy information, such as sex, age, that it had a lot of ticks and also a red mite, and its right eye had a white oblong cloud across the pupil (See Figure 15). ID shots were taken of the infant and the mother so I could check if they were in my dataset already; they were not.

We continued monitoring at the site with the camera traps, and a few days later set up a second camera-trap at a scavenger site approx. 30metres away. The mother stayed vigil for more than two days nudging and licking the infant (See Figure 16), chasing away lions on the second evening until she couldn't stay



Figure 15: Giraffe carcass cloudy pupil and large ticks.

any longer at 5:40pm at which time two lions came to feed for ten hours, devouring almost all the carcass. All we found three days later were the four legs at the new scavenger site, and a partial skull with jaw bones.

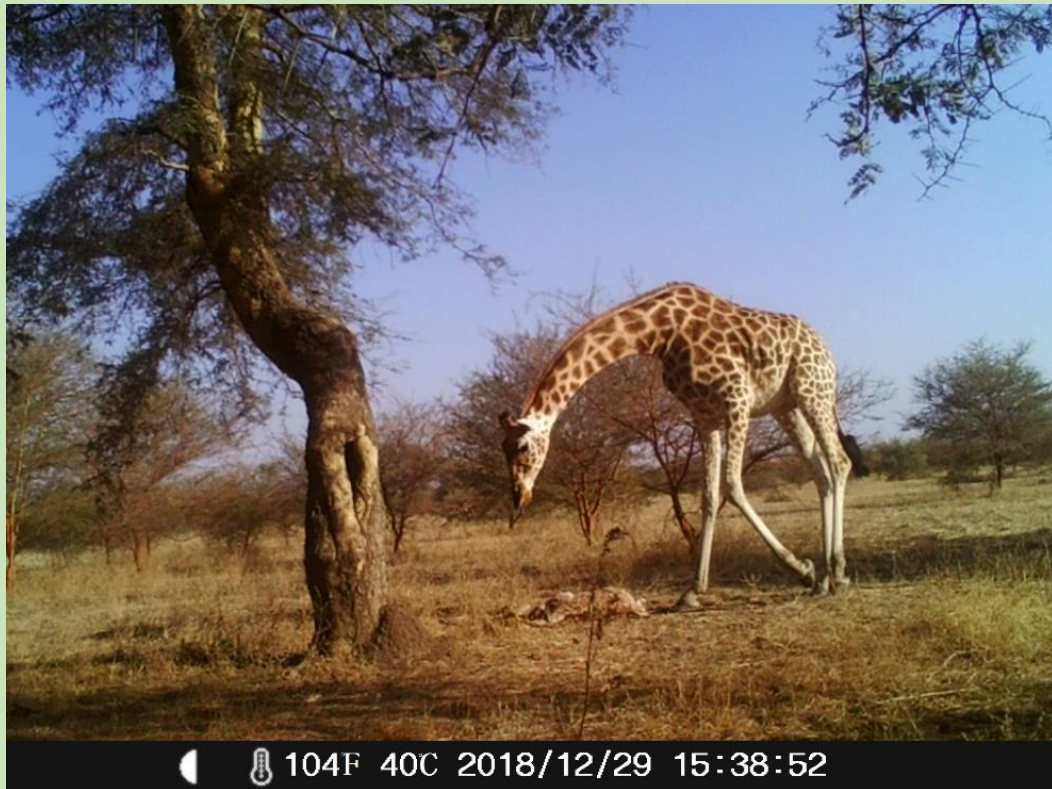
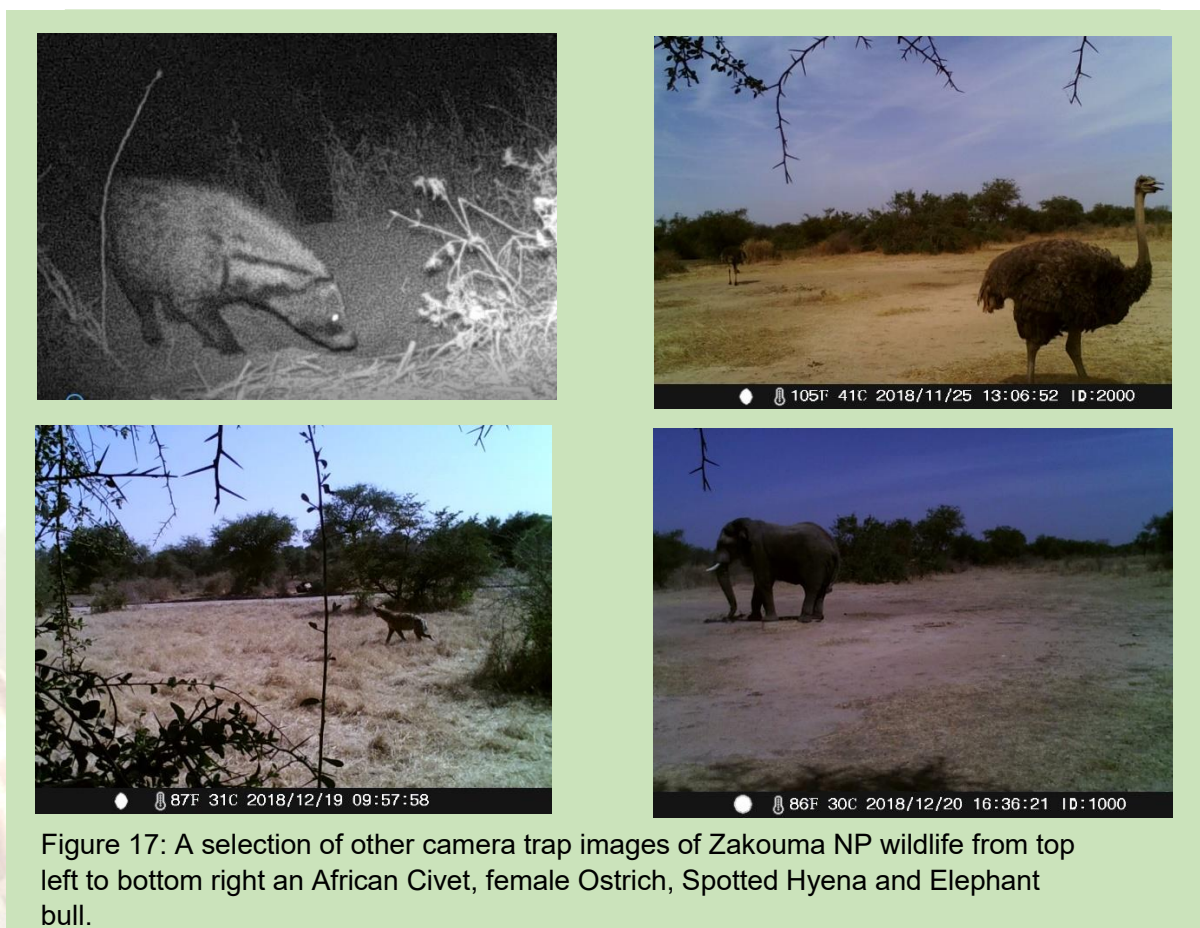


Figure 16: Giraffe carcass

The cameras will remain at the carcass and scavenger site for the remainder of the dry season, as well as placing camera traps at other points of interest; such as at mineral spots frequented by giraffe, den sites and water holes to investigate general wildlife as well as giraffe (see Figure 17).



Social media and project backing:

Social media is an important part of any project these days; to engage with members of the public and to promote the support of backers. One of the biggest issues with giraffe conservation is 'the silent extinction', with giraffe numbers all over Africa dropping by 40% over the last 30 years, almost unnoticed. For this reason the project will promote the work of this and other giraffe conservation initiatives as much as possible.

A Facebook Page and YouTube Page have been set up for the Kordofan Giraffe Project, and linked to my personal Twitter and Instagram accounts, the profile names have been changed to GiraffeGirlChad and Girafe_Girl_In_Chad linking all the pages to maximise the educational and social reach of the project.

I appointed a volunteer social media assistant in the UK, whom I DropBox various photos, videos, giraffe ID's and information to post as and when appropriate. She

has been mostly handling the Facebook account, and I have been able to post to Instagram from the field and share to Twitter and Facebook.

With her continued dedication to the promotion of the project and giraffe conservation all the pages have grown in subscribers, views and shares with Facebook leading the way (See Figure 18).

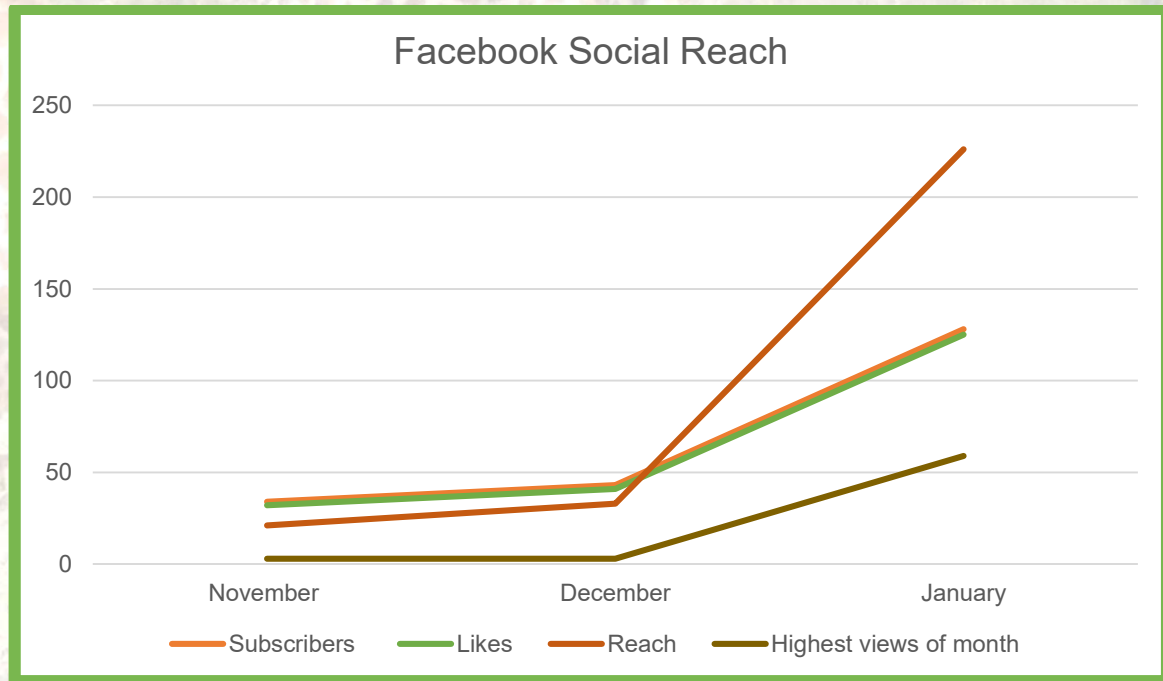


Figure 18: Facebook Social Reach over first three months of project.

Assistants:

Prior to arrival in Chad adverts had been sent to the university and the AP staff to display locally, and having just one response, we appointed a man to assist on the project, however immediately as he arrived it was clear he had miss-sold himself in both his abilities and his living situation, and he was unable to help with the work, so he was let go with a week's wages.

Adverts have been re-posted, for which there has been some minimal response, and I continue to look for one or two suitable assistants.

As part of the agreement with APN the project should have a Chadian assistant who can learn and benefit from the project, but this is more difficult than it sounds, as the project needs someone fluent in French, with good English and preferably a little Arabic too, and it is essential they have working experience of using word, excel and general computer skills. It would also be preferable to have someone who has knowledge of Chadian flora, can be taught to use a camera competently and can be left unattended to get on with work both in the office and in the vehicle with a guard.

With Zakouma managements permission I am looking into the prospect of appointing, for the next field season, one Chadian who can speak French and English, and one other assistant, perhaps from Europe, USA or Southern Africa who speak French and English and can act as a mentor to train the Chadian for long term project use. Assistants from these countries are willing to work as volunteers to gain experience, which most Chadians cannot afford to do, so the cost of this will still be minimal to the project.

Going forward

Over the next three months:

- I will continue to monitor the carcass and scavenger site of the juvenile giraffe over the first season to see if the mother or other giraffe return.
- All the drivable routes will be mapped to formulate a repeatable survey plan for the second season, if only for the main areas reachable throughout the entire dry season, such as Fatagoki, Machtour and Tinga road, devising a more ad-lib plan for the other areas later in the season when reachable.
- I will contact the university again before I leave Chad this season, and arrange to set up interviews for a Chadian assistant on my return before the next field season.
- With APN's consent I will arrange for a foreign field assistant to join the project in Oct/Nov 2019.
- I will apply for grants for the second field season, including a Drone in the budget.

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 we would like all our social media pages at over 200 subscribers.



- I will continue to apply for more grants 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 camera if feasible, stronger binoculars, an ipad to ID giraffe in the field and 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.
- We will aim to have more UK based students to check the ID database for duplicates. All this extra help 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.

