

Written for GCF to adjust and use as you like:

**Twigga Tracker Continues: Kordofan Giraffe Project GPS Satellite tagging operation, Zakouma National Park, Chad,**

**January 2019.**

***Twigga Tracker is the Africa-wide collaboration of GCF, Smithsonian Conservation Biology Institute, San Diego Zoo Global and Wildlife Conservation Alliance to gather data on the spatial movements of giraffe all over Africa, aiming to satellite tag at least 250 individual giraffe across their range, our latest population to be tagged is the Kordofan Giraffe of Chad, based in Zakouma National Park.***



In January 2019, The Giraffe Conservation Foundation, in partnership with the Kordofan Giraffe Project and African Parks Network (APN) undertook the first giraffe satellite tagging operation in The Republic of Chad's history. Successfully tagging 8 giraffe in the unfenced Zakouma National Park (NP), which is home to more than half the entire estimated population of Kordofan Giraffe in Africa.

Zakouma NP has one of the few increasing giraffe populations throughout Africa, using APN aerial surveys the Zakouma numbers have risen from 537 in 2010 when APN began managing the park to the estimated 1200 today.

Zakouma NP was created in 1963 to preserve the last 50 Kordofan Giraffe in Chad; it has an extreme wet season, with more than half the park's 3201km<sup>2</sup> under water for 6 months of the year between May – October; this is surely one of the most extreme wet seasons giraffe anywhere in Africa will experience so could make for some interesting movements!

The 8 solar powered GPS satellite units were fitted to the inner side of an ossicone on each giraffe, weighing 185g they cause no interference with the giraffe's natural behaviour and movements, and will enable us to monitor the giraffe's movements year-round to see how the extreme wet and dry season affect the giraffe.

The Kordofan Giraffe Project is the first dedicated research of Kordofan Giraffe within Chad, beginning in November 2018, and currently set to run until 2022, the research gathered on this project will provide vital base line data including an accurate population count, population structure (recording how many males, females, juveniles and deaths), how the giraffe fit into the Zakouma ecosystem, by monitoring giraffe predation, and scavengers at giraffe carcass sites, as well as

identifying the most important habitats and vegetation species for the giraffe, and now, using the GPS units, how the giraffe move within the park, especially in relation to the wet and dry season and movement of water availability, and importantly, if they are leaving the park.

The operation took place the 11<sup>th</sup> – 17<sup>th</sup> January, with GCF Director Dr Julian Fennessy and recent winner of the Tusk Prince William outstanding achievement lifetime award for conservation, vet Dr Pete Morkel flying into Zakouma to join Dominique Rhoades, lead Kordofan Giraffe Project researcher, and the APN team on the ground.

After a few days prep and planning on the how's, where's and who's responsible for what, we all know our roles and operation Twigga Tracker Chad 2019 can begin...

With Zakouma's thick vegetation, difficult to drive terrain and even in January with large areas of the park inaccessible, it's tough to locate the giraffe, who aren't habituated to vehicles or people at all... So this is going to be a challenge!

Eventually over the course of a week we located 8 females in different areas of the park, some with herd, some alone, and managed to get close enough for Pete to dart them from the vehicle.

All activities during an operation like this are meticulously noted; time of dart entering giraffe, time giraffe went down, time giraffe was released, and everything in between...The whole process takes on average 15-20 minutes.

While each animal is down and having its health assessed before attaching the GPS unit, numerous other bio-data are taken, measuring every part of the animal, assessing for signs of skin disease or any other potential health issues, a small skin biopsy will also be taken to assess the Kordofan giraffe's DNA and build a better picture of where they fit into the wider African giraffe population.

The giraffe is awake throughout the whole process, with Pete having given a reversal of the tranquilising drug as soon as we reach the animal and are able to restrain it by sitting on its neck, holding its head, which by this point has had a mask put over to reduce stress. The giraffe's stature is such that by sitting on the neck, the animal, wide awake, is unable to get up. The last thing to be done is to remove the face mask and as soon as we get up off the neck the giraffe is able to get up and walk or run away.

The GPS units were already operating before we fitted them to the giraffe so they have monitored the 8 giraffe through their first week now and while none have moved very far from where we darted them so far, we expect the real changes to become apparent throughout the wet season from May onwards.

This is a critical population to gather information on, as after years of poaching through civil wars, it is now increasing rapidly under the safe management of African Parks in cooperation with the Chadian Government, and there could be the potential for translocations of this critically endangered subspecies to other safe zones within Chad. The GPS units will help us to understand the habitat needs of the giraffe and develop an informed management conservation strategy for the future.

Written for Dominique's Project page:

In January 2019, our partners The Giraffe Conservation Foundation (GCF), joined us in Zakouma National Park (NP) to undertake the first giraffe satellite tagging operation in The Republic of Chad's history.

Supported by APN Zakouma management, the Kordofan Giraffe Project will be able to monitor this critically endangered subspecies now year-round thanks to the backing and support of GCF, which will not only help our dedicated research into this population, but the data will join an Africa wide study carried out by GCF and partners to determine the habitat use of all four species of giraffe across Africa.

*“Developed in partnership with Savannah Tracking, Kenya, GCF has continued to adapt and fit these new light-weight solar powered units on giraffe in three African countries already... Twiga Tracker is a collaboration between GCF, Smithsonian Conservation Biology Institute, San Diego Zoo Global and Wildlife Conservation Alliance that aims to better understand spatial movements of all four giraffe species and their use of habitat. Using science as a base to support long-term giraffe conservation, Twiga Tracker plans to study >250 giraffe across their range.” (GCF, 2019).*

GCF have been monitoring giraffe with satellite technology since Dr Julian and Steph Fennesy trialled units on giraffe in Namibia in 2001. The units we are using here in Zakouma are the latest design which have already been trialled and tested and are successfully in operation in three other African countries, and are small, durable, unobtrusive and solar powered.

The week saw 8 solar powered GPS satellite units fitted to the inner side of an ossicone on each giraffe, weighing 185g they cause no interference with the giraffe's natural behaviour and movements.



***The 'ossiunit' which run off solar power being charged – with Dominique and Julian***

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***Practising the ropes which can sometimes be needed to help guide a giraffe once darted.  
Dominique playing the giraffe here with Julian and AP guard on ropes.***

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***Pete preparing to dart a giraffe***

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***Pete monitoring the giraffe while Zakouma park manager Leon Lamprecht and AP guard sit on the neck and support the head.***

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***'ZAK8' with her new ossiunit attached to right ossicone a few days later.***

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Big thanks to African Parks for welcoming me into Zakouma to study the giraffe, Giraffe Conservation Foundation for all their help and support, Dr Pete Morkel and to the AP guards who helped us with the operation; Ali, Soudi and Isa and Ramadan.