Country Profile

Chad

Giraffe Conservation Status Report

March 2020

General statistics

Size of country: 1,284,000 km²

Size of protected areas / percentage protected area coverage: 11%

Species and subspecies

In 2016, the International Union for the Conservation of Nature (IUCN) completed the first detailed assessment of the conservation status of giraffe, revealing that their numbers are in peril. This was further emphasised when the majority of the IUCN recognised subspecies where assessed in 2018 and 2019 – some as *Critically Endangered*. While this update further confirms the real threat to one of Africa's most charismatic megafauna, it also highlights a rather confusing aspect of giraffe conservation: how many species/subspecies of giraffe are there? The IUCN currently recognises one species (*Giraffa camelopardalis*) and nine subspecies of giraffe (Muller *et al*. 2018) historically based on outdated assessments of their morphological features and geographic ranges. The subspecies are thus divided: Angolan giraffe *(G. c. angolensis),* Kordofan giraffe *(G. c. antiquorum),* Masai giraffe (*G. c. tippleskirchi*), Nubian giraffe *(G. c. camelopardalis),* reticulated giraffe *(G. c. reticulata),* Rothschild's giraffe *(G. c. rothschildi),* South African giraffe (*G. c. giraffa),* Thornicroft's giraffe (*G. c. thornicrofti*) and West African giraffe *(G. c. peralta).*

However, over the past decade GCF together with their partner Senckenberg Biodiversity and Climate Research Centre (BiK-F) have performed the first-ever comprehensive DNA sampling and analysis (genomic, nuclear and mitochondrial) from all major natural populations of giraffe throughout their range in Africa. As a result, an update to the traditional taxonomy now exists. This study revealed that there are four distinct species of giraffe and likely five subspecies (Fennessy *et al.* 2016; Winter *et al.* 2018). The four species are Masai giraffe (*G. tippelskirchi*), northern giraffe (*G. camelopardalis*), reticulated giraffe (*G. reticulata*) and southern giraffe (*G. giraffa*). Nubian giraffe (*G. c. camelopardalis*), Kordofan giraffe (*G. c. antiquorum*), West African giraffe (*G. c. peralta*) are the three subspecies of the northern giraffe, while Angolan giraffe (*G. g. angolensis*) and South African giraffe (*G. g. giraffa*) fall under the southern giraffe. Rothschild's giraffe is genetically identical to the Nubian giraffe, and thus subsumed into it. Similarly, preliminary data suggests that the Thornicroft's giraffe is genetically similar to the Masai giraffe, however, additional research is necessary to determine if they are genetically identical or should be considered a subspecies of Masai giraffe (Winter *et al.* 2018). Based on this research, GCF in all publications refers to the updated giraffe taxonomy of four species, while a taxonomy review by the IUCN is ongoing.

The following species and subspecies of giraffe occur in the Chad:

Species: Northern giraffe (*Giraffa camelopardalis*)

Subspecies: Kordofan giraffe (*Giraffa camelopardalis antiquorum*)

Conservation Status

IUCN Red List (IUCN 2018):

Giraffa camelopardalis (as a species, old taxonomy) – Vulnerable (Muller *et al.* 2018)

Giraffa camelopardalis antiquorum – Critically Endangered (Fennessy and Marais 2018)

In Chad:

Under Article 25 of Ordinance No. 002/PR/88 on the Conservation of Wildlife, giraffe are classified as a Category A species. Category A species benefit from full protection and may not be hunted.

Issues/threats

Chronic economic and political instability have put severe pressure on protected areas and wildlife across Central Africa (RRF 2010; IUCN PACO 2008). Despite some progress on improving security, the continuing smuggling of weapons and the movement of refugees and internally displaced persons, as well as increased activity from terrorist organisations continue to threaten the integrity of countries across the region (Hoinathy 2019; Cylkel 2012). Illegal hunting of wildlife plays an ongoing role in this perilous circumstance (Cylkel 2012). Increasingly, militias, insurgents and terrorist groups are using the easy money obtained from wildlife crime to buy arms and fund insurgencies (Cylkel 2012).

Zakouma National Park in south eastern Chad has been described as one of the last strongholds for wildlife in Central Africa (African Parks 2012). The park provides a refuge for the largest surviving giraffe population in the country and >50% of the Kordofan giraffe population in all of Africa (Nuwer 2018; East 1999; Fay *et al.* 2006). However, it is located about 260 kilometres west of the Sudanese conflict area of Darfur, and in the path of recent rebel activity and warfare in Chad (Wildlife extra 2008). Overall security within the park has greatly improved but the international border remains porous in this isolated region (African Parks 2019; IUCN PACO 2008; Wildlife extra 2008).

Implementation practices of the government, aided by international organisations, have been insufficient in protecting Chad's wildlife against illegal hunting (Wikipedia 2012). The political and social conflicts in the area have in the past greatly challenged conservation efforts as complex poaching and smuggling systems have been in operation in Zakouma National Park in recent years (RRF 2010). These impacts have been exacerbated by a protected area framework with complicated decision-making processes that have proven inadequate in the fight against illegal hunting (RRF 2010). As a result, animal numbers in the park have been decimated (RRF 2010) and several park guards have been shot and killed over the years (Wildlife extra 2008).

In addition, the extension of cultivated areas and the presence of large herds of cattle along the park boundaries further increase the pressures on Zakouma National Park (Fay *et al.* 2005).

Since 2010, Zakouma National Park has been managed in partnership between African Parks and the Chadian Government, and both wildlife populations and safety conditions have improved significantly (Nuwer 2018; African Parks 2012). With improved park facilities and communications systems, better training and equipment provided to rangers, removal of corrupt staff, and stringent security measures, Zakouma has not suffered from a poaching incident since 2016 (Nuwer 2018; McCarthy 2018). As a result of this success, in 2017 the Chadian government granted African Parks management of even more land around Zakouma National Park – nearly doubling the areas now under protection (African Parks 2019). There is however still a need for ecological monitoring of the biodiversity in the park and its buffer zone and of, among other endangered and vulnerable species, giraffe (Fontaine 2008).

Unfortunately, the terrorist group Boko Haram, based in the northern regions of Nigeria and Cameroon, have expanded their territory into Chad, with increased attacks being documented since 2018 (Hoinathy 2019). With the expansion of Boko Haram's activities, the Multinational Joint Task Force was re-activated, but many challenges remain with controlling the terrorist group not only within south-west Chad but also the neighbouring countries of Cameroon, Nigeria, and Niger (Hoinathy 2019). While terrorist activities remain relatively far from Zakouma NP, they do pose threats to other regions that may have remnant giraffe populations.

Estimate population abundance and trends

Taxonomic confusion has surrounded the (sub)species occurrence of giraffe in Central Africa. The giraffe population of Chad were formerly thought to be West African giraffe (*Giraffa camelopardalis peralta*) (Dagg 1962), but genetic work undertaken by Hassanin et al. (2007) and recently supported by Fennessy et al. (2016) and Winter et al. (2018) clearly show that giraffe in Chad are Kordofan giraffe (*G. c. antiquorum*).

Historic

According to East (1999)[1], Kordofan giraffe occurred widely in central and southern Chad, but it has been eliminated from substantial parts of its former range by uncontrolled hunting and the effects of drought. The main surviving giraffe population in the country occurs in and around Zakouma National Park in south eastern Chad (East 1999). Although East (1999) suggested that giraffe populations elsewhere in the country are generally low and decreasing, knowledge regarding their occurrence and distribution remains limited.

Prior to the 20th century, vast herds of giraffe were found in central Chad (GIWA 2004). An estimated 5,000 – 6,000 giraffe occurred in Chad and the Central African Republic (CAR) in the late 1950s to early 1960s (Blancou 1963, 1958; Dagg 1962). Although anecdotal records indicate that giraffe were heavily hunted in the following years, subsequently reducing their numbers in northern CAR, giraffe numbers were said to have increased in south eastern Chad (Happold 1969).

Since the mid 1980s, wildlife censuses of Zakouma National Park have been undertaken at irregular intervals and with different sampling rates across different times of the year, resulting in widely varying population estimates for giraffe. However, the general trend indicates an increase in giraffe numbers since the mid-1980s while numbers appeared to remain stable throughout the 1990s. The first aerial survey of Zakouma National Park was conducted in 1986 and estimated approximately 300 giraffe (Bousquet 1986). In 1991, the giraffe population was estimated at 890 individuals (Bousquet 1991), in 1995 at 800 giraffe (Dejace *et al.* 1995), and East (1999) estimated the giraffe population at approximately 839 individuals.

In the new millennium, an aerial survey estimated the giraffe population of Zakouma National Park at approximately 800 individuals (Dejace *et al.* 2000). However, in the same year, Planton (2000) counted a mere 154 giraffe inside the park, although, compared to the general trend throughout the years, this appeared to be an undercount. Mackie (2002) estimated the giraffe population at approximately 942 individuals. This was however likely an overestimate as the majority of Mackie's observations was conducted in the north-eastern parts of Zakouma National Park where giraffe concentrate and then extrapolated to the rest of the park (Fay *et al.* 2005, Potgieter *et al.* 2009).

An aerial count of Zakouma National Park in 2005 estimated the giraffe population at 292 individuals (Fay *et al.* 2005), while the estimated population count for 2006 estimated 383 giraffe (Fay *et al.* 2006). A total of

[1] Although East (1999) referred to *G. c. peralta and G. c. antiquorum* collectively as western giraffe, *G. c. antiquorum* is now assumed to be Kordofan giraffe as referred to throughout this document.

612 giraffe were counted during an aerial survey in 2009 (Potgieter *et al.* 2009). According to the survey report, the 2009 estimate could have been a slight undercount as the authors noted that giraffe were particularly cryptic from the air when they take to the shade of large trees (Potgieter *et al.* 2009). Aerial survey counts for 2010 indicated the giraffe population at approximately 572 individuals (Potgieter *et al.* 2010), while the estimated population count for 2011 estimated 753 giraffe (Potgieter *et al.* 2011). Potgieter *et al.* (2011) suggested that this is likely to have been an undercount. In 2012, an aerial survey of the park counted 703 giraffe (Potgieter *et al.* 2012). As the aerial survey was slightly postponed to the late dry season, giraffe were once again cryptic from the air, which likely resulted in another undercount (Potgieter *et al.* 2012). Potgieter *et al.* 2012 suggested that the giraffe population possibly numbered around 1,000 individuals.

There have also been reports of giraffe residing in the Yamoussa transboundary area, incorporating the Sena-Ouara National Park in Chad and the Bouba Ndjidda National Park in Cameroon. A survey performed in 2008 by Prodalka indicated at least 64 giraffe were in the area (Prodalka 2008, J. De Winter pers. comm.).

Current

During an aerial total count of Zakouma National Park in 2014, 934 giraffe were counted, mostly occurring in the eastern half of the park (Antonínová *et al.* 2014). In 2016, the aerial survey of Zakouma National Park was repeated and 947 giraffe were counted (D. Rhoades pers. comm.). As of the 2018 aerial survey, the total giraffe population was estimated at 1,200 individuals (D. Rhoades pers. comm.). The giraffe population in the park has continued to increase and seems to be doing well and with improved management under African Parks, so the future for the species in Zakouma National Park looks positive (M. Antonínová pers. comm.; Potgieter *et al.* 2011).

However, uncertainty remains regarding the occurrence of giraffe in the rest of the country. In 2014, 6 giraffe (3 adults and 3 young) were observed in the Binder-Lere area and another 5 giraffe (3 adults and 2 young) were observed in the Chari Baguirimi area (M. Antonimova pers comm). As of 2018, the giraffe population estimates of Binder-Lere area remain at less than 10 individuals (D. Rhoades pers. comm.). There are thought to be between 4-20 giraffe in the Sinniaka-Minnai Faunal Reserve while no giraffe have been reported in the Ennedi area (D. Rhoades pers. comm.). A survey performed in 2018 by WCS of the Yamoussa transboundary area which includes the Sena-Ouara National Park, estimated a total of 160 giraffe, however no mention of giraffe observed specifically in Sena-Ouara was made (J. De Winter pers. comm.). In September 2019, 4 giraffe were observed in Sena-Ouara NP (J. De Winter pers. comm.).

In summary, current giraffe numbers for Chad are estimated at approximately 1,200 Kordofan giraffe, mainly occurring in Zakouma National Park, with a few occurring in the Binder Lere, Chari Baguirimi, Sinniaka-Minnai, and Sera-Ouara areas, of which the actual numbers are essentially unknown.

Future Conservation Management

The following are proposed conservation management options for giraffe in Chad:

- Greater understanding of giraffe population numbers, range and conservation status across the country, especially outside Zakouma National Park and including (sub)speciation;
- Development of National Giraffe Strategy for Chad;
- Continuing anti-poaching efforts to conserve the key population in Zakouma National Park and;
- Support to dedicated giraffe conservation, habitat protection, education and awareness initiatives (government, NGO and academic).

Acknowledgements

We would like to thank Marketa Antoninova, Dominique Rhoades, and Jan De Winter for their valuable input and assistance. This updated Country Profile was financially supported by the Giraffe Conservation Foundation and The Woodtiger Fund.

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Citation

Marais, A.J., Fennessy, S., Ferguson, S. & Fennessy, J. 2020. *Country Profile: A rapid assessment of the giraffe conservation status in Chad.* Giraffe Conservation Foundation, Windhoek, Namibia.

Map