

Country Profile

Central African Republic



Giraffe Conservation Status Report

February 2020

General statistics

Size of country: 622,984 km²

Size of protected areas / percentage protected area coverage: 13%

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 were assessed in 2018 – 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one species (*Giraffa camelopardalis*) and nine subspecies of giraffe (Muller *et al.* 2016) historically based on outdated assessments of their morphological features and geographic ranges.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. tippeskirchi*), 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. tippeskirchi*), 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 Central African Republic:

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 the Central African Republic:

Under Section 27 of Ordinance No. 84/045 on the protection of wildlife and the regulating of hunting in the Central African Republic (l'Ordonnance no. 84 /045 portant protection de la Faune Sauvage et règlementant l'exercice de la chasse en République Centrafricaine), hunting, capturing and/or collecting of any individual listed in List A of the Ordinance, which includes giraffe, is strictly prohibited.

Issues/threats

Giraffe in the Central African Republic (CAR) only occur in the northern part of the country. The north of the CAR is a huge expanse of natural landscape with a very low human population (<0.5 inhabitants/km²) (Roulet 2005; Blom *et al.* 2003). The area comprises a network of protected areas consisting of two national parks (Bamingui Bangoran and Manovo-Gounda Saint Floris), a wildlife reserve (Vassako Bolo), hunting sectors and community hunting areas (Bouché *et al.* 2009). This gives the impression of optimum conditions for wildlife, while, in fact, the very low human density and near absence of State authority favour illegal activities throughout this vast landscape (Bouché *et al.* 2011; 2009; Roulet 2005; Blom *et al.* 2003; Ruggiero 1984). The CAR has been in a semi-continuous state of civil unrest since its independence in 1958 (BBC News 2018). As a result, wildlife populations in northern CAR have been largely depleted from continuous uncontrolled exploitation (WCS 2017; Bouché *et al.* 2009; Roulet 2005).

The overall large mammal density of the northern CAR decreased substantially between 1978 and 2017 and continues to do so, mostly as a result of commercial poaching and wildlife trafficking, civil unrest, a loss of habitat and disease transmitted by illegal movements of livestock (Losh 2019; WCS 2017; Bouché *et al.* 2011; 2009; Blom *et al.* 2003; Hamilton *et al.* 1985). The extension of cattle transhumance in search of better pastures caused a large rinderpest outbreak among giraffe populations in 1984 (Bouché *et al.* 2011; Roulet 2005). This decimated their population numbers and subsequently they have never fully recovered (Bouché *et al.* 2011).

Protected areas in the northern CAR are located along international borders (Chad and South Sudan); have sparse road networks; lack management plans and on-ground implementation of activities; have insufficient financial and human resources; and lack adequate anti-poaching measures (World Bank 2010; Bouché *et al.* 2009; Blom *et al.* 2003). This not only makes them effectively open to local illegal hunting, but also more vulnerable to foreign incursions from neighbouring countries (World Bank 2010; Bouché *et al.* 2009; Ruggiero 1984). This low populated area has been used as a refuge for multiple rebellions from the CAR as well as Chad and South Sudan (World Bank 2010; Bouché *et al.* 2009). Bamingui-Bangoran NP, one of the oldest national parks in the country for example, is split between two of CAR's militia – the Popular Front for the Renaissance of the Central African Republic and the Central African Patriotic Movement (Loch 2019). Ethnic conflicts have increased insecurity in the region and wildlife populations suffered heavy losses due to the widespread proliferation of firearms resulting from the socio-political turmoil (WCS 2017; Bouché *et al.* 2009; Roulet 2005; Ruggiero 1984).



Unable to afford meat produced from domestic livestock, most people in the CAR consume bushmeat (Bouché *et al.* 2011). Weak law enforcement and the involvement of some local officials in the bushmeat trade facilitate the availability of bushmeat in urban markets (Bouché *et al.* 2011). In addition to local consumption, the bushmeat industry has become commercialised by heavily armed groups moving across borders (CAR, Chad, South Sudan) (Losh 2019; WCS 2017; Bouché *et al.* 2009). In community hunting areas, anti-poaching and community-based wildlife programmes have curtailed illegal hunting at a local scale, but they do not prevent the international forays of illegal hunters into national parks (Bouché *et al.* 2009).

Porous international borders have furthermore led to illegal grazing by Chadian and South Sudanese pastoralists inside protected areas (World Bank 2010). Additionally, artisanal diamond exploration, local mining, and uncontrolled bush fires within protected areas have damaged these fragile ecosystems (WCS 2017; World Bank 2010).

There still remains hope for recovery of wildlife populations as the vast habitats in northern CAR remain largely intact (Losh 2019; WCS 2017). However, without a strong commitment to provide adequate funding and prompt implementation of determined field management, wildlife populations of the northern CAR, including giraffe, will continue to decline (Bouché *et al.* 2011, 2009). More attention needs to be given to capacity building, long-term funding mechanisms, regional collaboration and political commitment to ensure such interventions are sustainable for the long-term (Bouché *et al.* 2011).

Estimate population abundance and trends

Taxonomic confusion has surrounded the (sub)species occurrence of giraffe in Central Africa. The giraffe population of CAR 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 CAR are Kordofan giraffe (*G. c. antiquorum*).

Historic

According to East (1999)¹, Kordofan giraffe occurred widely in the northern savanna woodlands of the CAR, but it has been reduced to very low densities or eliminated by illegal hunting over a large part of its former range. An estimated 5,000 – 6,000 giraffe occurred in Chad and the CAR in the late 1950s to early 1960s (Blancou 1963, 1958; Dagg 1962). Anecdotal records indicate that the giraffe population in the CAR was decimated by illegal hunting in the following years (Happold 1969). According to Happold (1969), few giraffe occurred in the Yata N'Gaya Reserve and the Andre Felix National Park in the north-east of the CAR by the late 1960s. Aerial counts carried out in the northern CAR in 1985 covering national parks, hunting reserves and community hunting areas, estimated the occurrence of some 1,757 giraffe in the region (Douglas-Hamilton *et al.* 1985). Of these, 1,731 were estimated to occur in Manovo Gounda St. Floris National Park and 26 in the Vassako-Bolo Nature Reserve in the heart of the Bamingui Bangoran National Park (Douglas-Hamilton *et al.* 1985).

Trends in large mammalian density in the northern CAR from 1985 to 2011 showed a decline in giraffe numbers of almost 70% (Bouché *et al.* 2011). Aerial counts carried out in 2005, covering national parks, hunting reserves and community hunting areas, estimated a total of 535 giraffe remaining in the area (Bouché *et al.* 2009). Of these, 254 individuals were estimated to occur in Manovo Gounda St. Floris National Park and 281 individuals in Bamingui Bangoran National Park, of which 12 occurred in the Vassako-Bolo Nature Reserve (Bouché *et al.* 2009; Renaud 2005). Numerous reconnaissance flights that have been

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.



undertaken to northern CAR since 2008 have shown that wildlife has disappeared from large parts of this area (Bouché 2010). Aerial counts of the area carried out in 2010 estimated a population of only 162 giraffe, occurring in the Bamingui Bangoran and Boungou Ouadda hunting areas (Bouché 2010).

Current

The most recent aerial survey completed in the northern CAR was performed in 2017 and was the first survey carried out since 2010 due to the high level of civil unrest (WCS 2017; Elkan *et al.* 2017). This survey revealed dramatic declines in all large mammal species compared to populations observed during the 2010 surveys (WCS 2017). One population of giraffe were observed during the survey, a small herd of two individuals with reports from local communities of others in the Bamingui Bangoran and Boungou Ouadda hunting areas (P. Elkan pers. comm.; Fennessy & Marais 2018; Elkan *et al.* 2017; WCS 2017). Another ground survey was performed in 2018 in Bamingui Bangoran NP and recorded a total of two populations – one herd of six individuals and another herd of two individuals (H. VanLeeuwe pers. comm.). Taking into account the threats that the species continues to face as well as the increasing isolation of the two populations seen during aerial surveys, Bouché (2010) suggested that there is little chance that the actual number of giraffe is larger than the mean estimate of 162 from 2010 and more than likely has been severely decreased since then (WCS 2017). There is a potential small population giraffe found in a sector of the Manovo Gounda St. Floris National Park, however this is still speculation and it could be that the species has disappeared from this area completely (O'Connor *et al.* 2019; Fennessy & Marais 2018; Elkan *et al.* 2017; P.A. Roulet pers. comm).

In summary, current giraffe numbers for CAR are estimated at <100 Kordofan giraffe occurring in the Bamingui Bangoran and Boungou Ouadda hunting areas and possibly a small section of the Manovo Gounda St. Floris National Park.

Future Conservation Management

The following are proposed conservation management options for giraffe in the CAR:

- Greater understanding of giraffe population numbers, range and conservation status across the country, including (sub)speciation;
- Support to dedicated giraffe conservation, habitat protection, anti-poaching, education and awareness initiatives (government, NGO and academic);
- Development of National Giraffe Strategy for the CAR; and
- Identification of priority conservation efforts for giraffe conservation, specifically for viable remaining and any transboundary populations.

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References

BBC News. 2018. *Central African Republic profile – Timeline*. <https://www.bbc.com/news/world-africa-13150044>. Downloaded April 2019.



- Blancou, L. 1958. Distribution géographique des ongulés d'Afrique Equatoriale Francaise en relation avec leur écologie. *Mammalia* **22**: 294-316.
- Blancou, L. 1963. A propos de la distribution de la girafe en Afrique. *Mammalia* **27**: 311-312.
- Blom, A., Yamindou, J. & Prins, H.H.T. 2003. Status of the protected areas of the Central African Republic. *Biological Conservation* **118**: 479-487.
- Bouché, P., Renaud, P., Lejeune, P., Vermeulen, C., Froment, J.M., Bangara, A., Fiongai, O., Abdoulaye, A., Abakar, R. & Fay, M. 2009. Has the final countdown to wildlife extinction in Northern Central African Republic begun? *African Journal of Ecology* **48**: 994-1003.
- Bouche, P. 2010. *Inventaire aerien 2010 des grands mammiferes dans le Nord de la Republique Centrafricaine*. Programme ECOFAC IV - FINANCEMENT 9th FED, Composante Zones Cynetiques Villageoises Nord.
- Bouché, P., Nzapa Mbeti Mange, R., Tankalet, F., Zowoya, F., Lejeune, P. & Vermeulen, C. 2011. Game over! Wildlife collapse in northern Central African Republic. *Environmental Monitoring Assessment* (published online: 15 December 2011).
- Dagg, A.I. 1962. *The distribution of the giraffe in Africa*. School of Graduate Studies, University of Waterloo, Waterloo, Ontario, Canada.
- Douglas-Hamilton, I. 1985. *Recensement aérien de la faune dans la zone nord de la République Centrafricaine*. Unpublished Report FOA. FO CAF/78/006. Document de travail 5.
- East, R. 1999. *African Antelope Database 1998*. IUCN/SSC Antelope Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK.
- Elkan, P., Hilde Vanleeuwe, Orad Eldar, Blaise Mandaba, Antoine Abdulaye, Simplicite Yadjouma, Alexi Peltier, Bertrand Dilla, Donatien Zelaba, Ndourou Boris Harding 2017. *Aerial Surveys of Wildlife and Human Activity in Key areas of Northern Central African Republic: Bamingui-Bangoran, Manouvo Gounda St. Floris and Andre Felix NP, Vassako-Bollo, Gribingui-Bamingui, l'Aouk Aoukale, Yata Ngaya Reserves, The Presidential Park Awakaba, and surrounding areas March-April 2017*. Technical report for Government of Central African Republic, EU, ECOFAUNE+, Great Elephant Census - Paul G. Allen Foundation, and Wildlife Conservation Society.
- Fennessy, J. & Marais, A. 2018. *Giraffa camelopardalis ssp. antiquorum*. The IUCN Red List of Threatened Species 2018: e.T88420742A88420817. <http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T88420742A88420817.en>. Downloaded on 29 March 2019.
- Fennessy, J., Bidon, T., Reuss, F., Kumar, V., Elkan, P., Nilsson, M.A., Vamberger, M. Fritz, U. & Janke, A. 2016. *Multi-locus analysis reveal four giraffes species instead of one*. *Current Biology*, **26**: 2543-2549.
- Happold, D.C.D. 1969. *The present distribution and status of the giraffe in West Africa*. *Mammalia* **33**: 516-521.
- Hassanin, A., Ropiquet A., Gourmand, A.L., Chardonnet, B. & Rigoulet, J. 2007. *Mitochondrial DNA variability in Giraffa camelopardalis: consequences for taxonomy, phylogeography and conservation of giraffes in West and central Africa*. *Comptes Rendus Biologies* **330**: 265-274.
- IUCN 2012. *The IUCN Red List of Threatened Species. Version 2012.1*. <http://www.iucnredlist.org>. Downloaded on 24 August 2012.
- Losh, J. 2019. *Central Africa's Rangers Are as Threatened as the Animals They Guard*. <https://foreignpolicy.com/2019/10/06/central-africas-rangers-are-as-endangered-as-the-animals-they-guard/>. Downloaded December 2019.



Muller, Z., Bercovitch, F., Brand, R., Brown, D., Brown, M., Bolger, D., Carter, K., Deacon, F., Doherty, J.B., Fennessy, J., Fennessy, S., Hussein, A.A., Lee, D., Marais, A., Strauss, M., Tutchings, A. & Wube, T. 2016. *Giraffa camelopardalis*. The IUCN Red List of Threatened Species 2016: e.T9194A51140239. www.iucnredlist.org/details/9194/0 (Downloaded February 2019).

O'Connor, D., Stacy - Dawes, J., Muneza, A., Fennessy, J., Gobush, K., Chase, M.J., Brown, M.B., Bracis, C., Elkan, P., Zaberirou, A.R.M., Rabeil, T., Rubenstein, D., Becker, M.S., Phillips, S., Stabach, J.A., Leimgruber, P., Glikman, J.A., Ruppert, K., Masiaine, S. and Mueller, T. (2019), Updated geographic range maps for giraffe, *Giraffa* spp., throughout sub-Saharan Africa, and implications of changing distributions for conservation. *Mam Rev*, 49: 285-299. doi:10.1111/mam.12165

Ordonnance No. 84 /045 portant protection de la Faune Sauvage et règlementant l'exercice de la chasse en République Centrafricaine.

Renaud, P.C. 2005. *Recensement aérien de la faune dans les préfectures de la region Nord de la République Centrafricaine*. Rapport. ECOFAC III.

Roulet, P.A. 2005. *Etude Socio-Economique Dans les Préfectures de la Vakara et du Bamingui Bangoran*. Nord-Est de la République Centrafricaine. COPPI, Cybertracker Foundation, Union Européenne 79pp.

Ruggiero, R.G. 1984. *Central African Republic hit by poachers*. *Pachyderm* 4: 12-13.

Wildlife Conservation Society. 2017. *Wildlife of northern Central African Republic in danger: Urgent actions required to secure remaining wildlife populations and contribute to stabilization of the region*. ScienceDaily. ScienceDaily. www.sciencedaily.com/releases/2017/06/170629132001.htm (Downloaded April 2019).

Wildlife Conservation Society. *Wildlife of northern Central African Republic in danger* (2017, June 29) retrieved 24 May 2019 from <https://phys.org/news/2017-06-wildlife-northern-central-african-republic.html>.

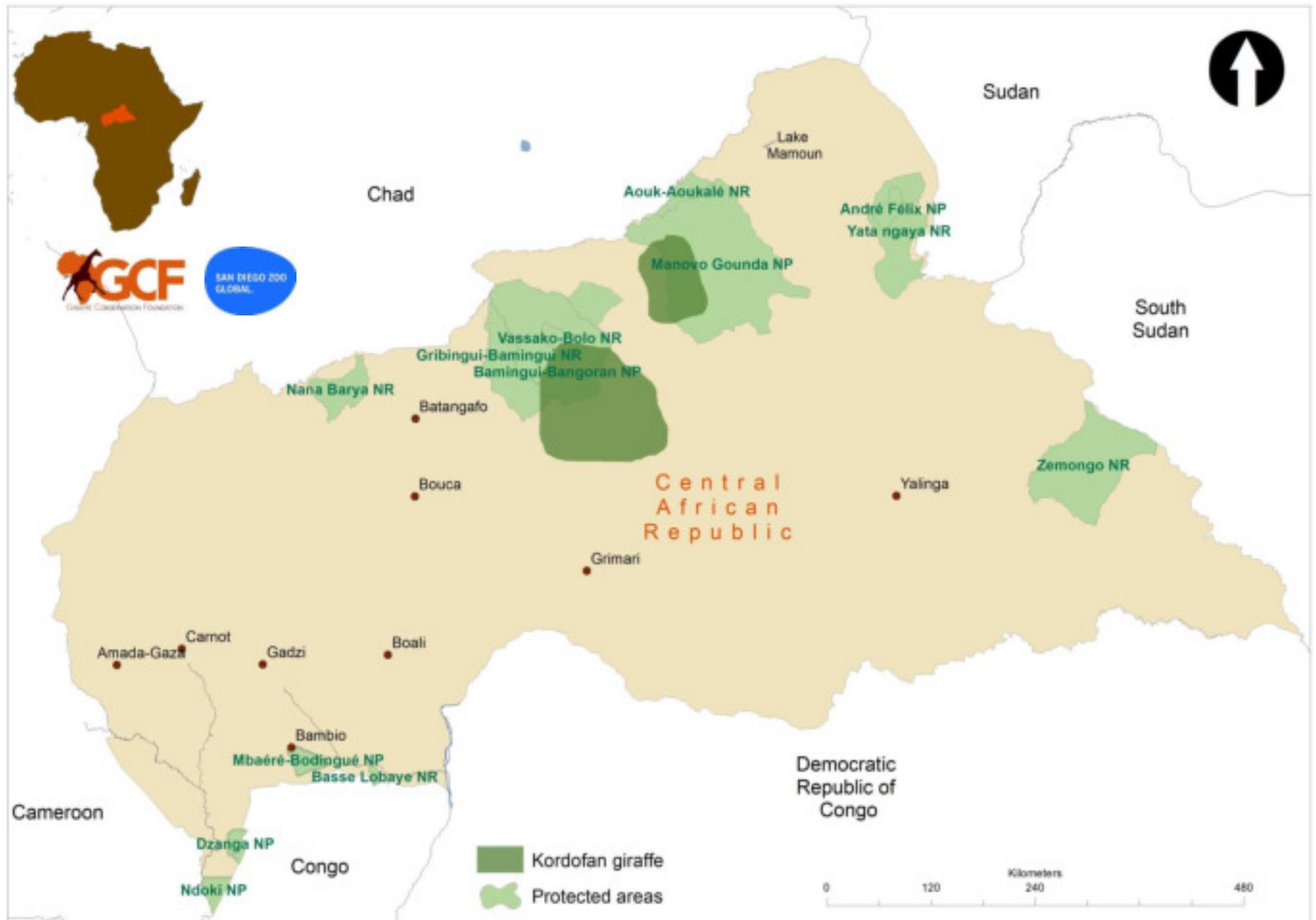
Winter S, Fennessy J, Janke A. 2018. *Limited introgression supports division of giraffe into four species*. *Ecol Evol.*; 8:10156–10165. <https://doi.org/10.1002/ece3.4490>

World Bank 2010. *Central African Republic Country Environmental Analysis: Environmental Management for sustainable growth Volume I: Main report 2010* <https://africaknowledgelab.worldbank.org/akl/sites/africaknowledgelab.worldbank.org/files/Full%20report%20CAR%20CEA.pdf> (Downloaded 29 July 2012).

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GCF is dedicated to securing a future for all giraffe populations in the wild.