

Country Profile

Republic of Malawi



Giraffe Conservation Status Report

July 2020

General statistics

Size of country: 118,480 km²

Size of protected areas / percentage protected area coverage: 15%

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one species (*Giraffa camelopardalis*) and nine subspecies of giraffe (Muller *et al.* 2016) historically based on outdated assessments of their morphological features and geographic ranges.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 are found in Mali:

Species: Southern giraffe (*Giraffa giraffa*)

Subspecies: South African giraffe (*Giraffa giraffa giraffa*)

Conservation Status

IUCN Red List (IUCN 2018):

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

Giraffa giraffa (as a species) – Not Assessed

Giraffa giraffa giraffa – Not Assessed

In the Republic of Malawi:

The Game Act (No. 26 of 1953) is the main act for the preservation, control and trade of game animals in the Republic of Malawi. Giraffe are not specifically protected under this act.

Issues/threats

The Republic of Malawi (referred to as Malawi in this report) is one of the least urbanised and poorest countries in Africa (MFCR 2010). The greatest threats to biodiversity in Malawi include habitat degradation, fragmentation, and destruction due to unsustainable land use practices (CHM 2013; Johnson *et al.* 2012; MFCR 2010). The cumulative effect of agricultural expansion, urbanisation, infrastructure development, mining and an increase in human settlements contributes to major land conversion in the country and destruction of natural habitat (CHM 2013; Johnson *et al.* 2012; MFCR 2010).

Over-harvesting and over-exploitation of natural resources by Malawi's ever increasing human population further decimates wildlife numbers (Johnson *et al.* 2012; MFCR 2010). Due to their low economic base Malawians depend on the existing natural resource endowment for energy (fuel wood), food, construction material, medicine and fodder; forcing them to trade-off long term sustainable resource use for short term consumption (MFCR 2010). This overdependence on the environment has contributed to the local extermination of some widely used natural resources (MFCR 2010). Inadequate enforcement of environmental policies further contributes to the indiscriminate exploitation of natural resources in the country (MFCR 2010).

Wildlife species in Malawi have been decimated by illegal hunting for meat, skins and horns (MFCR 2010; Munthali & Mkanda 2002). The southern part of the country especially is heavily populated and this forces communities to encroach into protected areas and exacerbates the illegal hunting of wildlife (CHM 2013; Johnson *et al.* 2012; Munthali & Mkanda 2002). While there are only very few giraffe in Malawi, so far they do not appear to be adversely affected by the abovementioned threats.

It was thought that more than one giraffe (sub)species had likely been introduced into Malawi (Briggs 2013; J. Mwalukomo pers. comm.). However, after recent genetic by GCF and Senckenberg BiK-F confirmed that all giraffe introduced to Malawi came from the same source population in Zimbabwe in 1993 and were South African giraffe (*G. g. giraffa*) (GCF and African Parks 2018).

Neonate mortality of giraffe has been very high in Malawi's Nyala Game Park, possibly due to genetic inbreeding and reduced genetic diversity (J Mwalukomo pers. comm.). Closely related individuals that have been mating since their introduction two decades ago appear to be producing weak and non-disease resistant offspring (J Mwalukomo pers. comm.). There have been more than ten neonate mortalities in the park (J Mwalukomo pers. comm.).



Estimate population abundance and trends

Historic

The historical occurrence of giraffe in Malawi remains uncertain. In a summary of giraffe distribution in Africa, Dagg (1962) made no reference to the existence of giraffe in Malawi. Neither did East (1999) in his summary of the conservation status of giraffe in sub-Saharan Africa.

According to Briggs (2013), giraffe were never indigenous to Malawi. The only documented historical record of wild giraffe in the country is that of an individual that strayed over the Zambian border into Malawi's Karonga District, where it was killed by local people (Briggs 2013).

In 1993, five giraffe (assumed to be *G. g. giraffa*) were translocated from Imire Park in Zimbabwe to the privately owned Nyala Game Park in Malawi's Southern Region (J. Mwalukomo pers. comm.).

According to Briggs (2013), an unknown number of Thornicroft's giraffe (*G. c. thornicrofti*) from the Luangwa Valley in Zambia were introduced into the privately owned Kuti Wildlife Reserve in Malawi's Central Region and into Nyala Park in the early 2000s. However, the apparent introduction of Thornicroft's giraffe into Nyala Park could not be confirmed by the current park staff. In 2007, one male and one female giraffe were translocated from Nyala Park and introduced into Game Haven Park in Malawi's Southern Region (G. Gange-Harris pers. comm.). Genetic testing has confirmed that all giraffe in Malawi are in fact South African giraffe (GCF and African Parks 2018).

During a game count of Nyala Park in 2008, a total of 21 giraffe were counted, while 25 giraffe were recorded in 2009 (J. Mwalukomo pers. comm). Four giraffe died during the capture operation, possibly due to intense heat and stress (J. Mwalukomo pers. comm). A follow up game count of Nyala Park in 2010 recorded a total of 16 giraffe and in 2011, 14 giraffe (J. Mwalukomo pers. comm). This number had decreased to 13 giraffe by 2012 (J. Mwalukomo pers. comm).

Current

Currently, very few giraffe are present in Malawi (A. Salb pers. comm.). Kuti Wildlife Reserve is home to one adult male and one subadult giraffe (formerly assumed to be *G. c. thornicrofti* but confirmed *G. g. giraffa*). A single adult female giraffe on the reserve died in 2013 from an unknown cause (G. Crisford pers. comm.). Nyala Park is home to 15 giraffe (*G. g. giraffa*). Game Haven Park also holds a small population of South African giraffe.

In late 2018, 13 South African giraffe were translocated from a private game reserve in South Africa to Majete Wildlife Reserve (GCF and African Parks 2018; Vega 2018). The translocation was very successful and the 13 giraffe were joined by another four giraffe from Nyala Park, making a total population of 17 giraffe in Majete Wildlife Reserve (GCF and African Parks 2018; Vega 2018). This translocation not only represented the (re)introduction of giraffe to Majete, but bolstered Malawi's national giraffe population to 30 individuals (GCF and African Parks 2018).

In summary, the current giraffe numbers for Malawi are estimated at 30 South African giraffe and currently only found in Majete Wildlife Reserve, Nyala Park, Game Haven Park, and Kuti Wildlife Reserve.



Future Conservation Management

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

- Continued understanding of giraffe (sub)speciation across the country;
- Continued support of conservation translocation operations;
- Development of a National Giraffe Strategy for Malawi;
- Support dedicated giraffe conservation, habitat protection, education, and awareness initiatives (government, NGO and academic).

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References

- Briggs, P. 2013. *Malawi*. Edition 6. Bradt Travel Guides Ltd, England.
- CHM. 2013. *Biodiversity in Malawi*. Malawi Clearing-House Mechanism, Convention in Biological Diversity <http://www.chmmw.org/biodivmw.asp> (Accessed 10 August 2013).
- Dagg, A.I. 1962. *The distribution of the giraffe in Africa*. School of Graduate Studies, University of Waterloo, Waterloo, Ontario, Canada.
- East, R. 1999. *African Antelope Database 1998*. IUCN/SSC Antelope Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK.
- 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.
- Giraffe Conservation Foundation & African Parks. 2018. *Operation Kadyamsonga: introduction of giraffe into Majete Wildlife Reserve, Malawi*.
- Laws of Malawi. 1953. *Game Act*. Federal Republic of Malawi.
- MFCR 2010. *Malawi Fourth Country Report to the Convention on Biological Diversity (CBD)*. Environmental Affairs Department Ministry of Natural Resources, Energy and Environment, Malawi.
- 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. 2018. *Giraffa camelopardalis*. The IUCN Red List of Threatened Species 2016: e.T9194A51140239. www.iucnredlist.org/details/9194/0 (Accessed February 2019).
- Munthali, S.M. & Mkanda, F.X. 2002. The plight of Malawi's wildlife: is trans-location of animals the solution? *Biodiversity & Conservation* **11(5)**: 751-768.
- Johnson, T., Menczer, K., & Mwanjela, G. 2012. *Malawi Environmental Threats and Opportunities Assessment (ETOA)*. United States Agency for International Development (USAID). Washington DC, USA.
- Vega, T. 2018. *Malawi: African Parks Restore Giraffe Population in Majete*. <https://allafrica.com/stories/201811270526.html> Downloaded May 2019.



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

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Map

