

Republic of Mozambique

Giraffe Conservation Status Report

July 2020

General statistics

Size of country: 801,590 km²

Size of protected areas/percentage protected area coverage: 25%

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one species (*Giraffa camelopardalis*) and nine subspecies of giraffe (Muller *et al.* 2018) historically based on outdated assessments of their morphological features and geographic ranges.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. tippelskirchi*), 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 are found in Mozambique:

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, most likely Least Concern

In the Republic of Mozambique:

Giraffe in the Republic of Mozambique (referred to as Mozambique in this report) are protected under the Forestry and Wildlife Law (Law No. 10/99) and Regulations of the Forestry and Wildlife Law (Decree No. 12/2002). Giraffe are listed in Annexure 2 of the Regulations as a protected species that may not be hunted. They are listed as one of the eight mammals on Mozambique's National Red List that are either extinct or in danger of extinction (MICOA 2009).

Issues/threats

Conversion, loss, degradation and fragmentation of natural habitats, over-exploitation of resources and wildlife, invasive species, pollution or contamination of natural habitats and climate change are some of the main threats facing Mozambique's biodiversity (Republic of Mozambique 2015; Beyers *et al.* 2013; Weyerhaeuser 2013; WWF 2013; Ölund Wingqvist 2011; MICOA 2009). Agricultural expansion, conversion of land to industrial plantations, logging, firewood cutting, charcoal production, uncontrolled wildfires and illegal hunting have altered natural environments and threaten the survival of many species (Beyers *et al.* 2013, Ölund Wingqvist 2011; MICOA 2009). Giraffe are one of the most threatened large mammal species in Mozambique (Beyers *et al.* 2013).

The Mozambican civil war (1977–1992) was among one of the most deadly conflicts in the world during the last 40 years and has severely impacted biodiversity conservation in the country (AWF 2019; Lindsey & Bento 2012; Moving Giants 2018). Most protected areas in Mozambique were established in the 1960s and 1970s (Beyers *et al.* 2013). During the war, these areas were mostly abandoned, and, without adequate management, infrastructure lapsed into a state of degradation (Beyers *et al.* 2013). Protected areas were invaded and occupied by local people from the surrounding areas as well as military troops (Beyers *et al.* 2013; Lindsey & Bento 2012; MICOA 2009). During this time, illegal and uncontrolled hunting was rampant and wildlife populations, particularly large mammals, were severely overexploited to the point of depletion (Beyers *et al.* 2013; Lindsey & Bento 2012; Miller *et al.* 2012; Le Bel *et al.* 2011; Ölund Wingqvist 2011; MICOA 2009; DEAT 2002). Unfortunately, as a result of the combination of corruption in law enforcement and ineffective regulations, the illegal hunting crisis continues unchecked (AWF 2019).

Since the end of the war, the national government has directed efforts on the establishment and rehabilitation of the protected areas network, recovering of lost wildlife populations, and bringing back tourism to Mozambique (Moving Giants 2018; Lindsey & Bento 2012; MICOA 1997). These efforts have been challenged by several constraints such as weak operational capacity, poor infrastructure, and a lack of funding for the protection of wildlife and human resources (Funk & Kruger 2018; MICOA 1997). Illegal hunting is reported to still continue on a large scale in many protected areas and human population growth combined with people's dependency on natural resource contributes to an increase in human-wildlife conflict (WWF 2013; Lindsey & Bento 2012; Miller *et al.* 2012; Le Bel *et al.* 2011; MICOA 2009). More recently, criminal gangs have been found to be poaching wildlife populations and forests in the last decade (WCS 2015).



Estimate population abundance and trends

Historic

Due to the historical political instability and selective focus directed towards protected areas, the known distribution of mammal diversity across Mozambique is poorly documented (Neves *et al.* 2019). South African giraffe (*G. g. giraffa*) formerly occurred in southern Mozambique, south of the Save and Limpopo Rivers in the Guija, Uanetze, Saute and Funhalouro Regions (Agreco 2008; East 1999; Dagg 1962¹).

By the early 1970s giraffe in Mozambique were extinct in most of their former range and the few surviving individuals were restricted to the area between the Limpopo River and the border with South Africa's Kruger National Park (NP) on the western South African border (East 1999). Mozambique's civil conflict took its toll on the wildlife in the following decades and by the late 1990s, giraffe were thought to have gone extinct in the country (East 1999).

In recent years, giraffe have been re-introduced into Limpopo NP, Zinave NP and Maputo Special Reserve in southern Mozambique (Beyers *et al.* 2013; MICOA 2009). Eighty-two giraffe were translocated from Kruger NP in South Africa to the Limpopo NP between 2002 and 2007 as part of the development of the Great Limpopo Transfrontier Park (I. Engelbrecht pers. comm.). In 2002, sections of the boundary fence between Kruger and Limpopo NPs were removed to allow for cross-border movement of wildlife (Peace Parks Foundation 2012). In 2008, another 33 giraffe were introduced into Limpopo NP (A. Alexander pers. comm.). A country-wide aerial wildlife census conducted in 2008 reported the only giraffe in Mozambique occurred in Limpopo NP (MICOA 2009; Agreco 2008). At the time of the census, the population was estimated at 125 individuals (Agreco 2008).

Current

In 2010, an aerial census of Limpopo NP estimated the giraffe population at 116 individuals (Stephenson 2010). These numbers were likely an undercount as anecdotal observations from patrols indicated more (A. Alexander pers. comm.). Giraffe had grown in numbers and range increased within Limpopo NP, including the eastern sandveld area (A. Alexander pers. comm.). However, a recent aerial survey of Limpopo NP conducted in 2014 revealed the giraffe populations had declined from the previous 2010 estimates and were now estimated at 71 individuals (Grossman *et al.* 2014). This decline may be attributed to increased anthropogenic factors from both livestock and human presence allowed within the park as well as unchecked poaching of elephant, rhino, and mammals for bushmeat (J. Almeida pers. comm.; Everatt *et al.* 2014). However, there is hope for the park with support being directed to anti-poaching units through the provision of paramilitary and helicopter access by the Dyck Advisory Group (J. Almeida pers. comm.).

In 2011, seven giraffe were translocated from Kruger NP in South Africa to Zinave NP as part of an initiative to rehabilitate the park as it forms part of the larger transfrontier conservation area surrounding the Great Limpopo Transfrontier Park (Masala 2012; Miller *et al.* 2012). Another 11 giraffe were introduced to Zinave in 2019, with the total estimated population now between 20-30 individuals (J. Almeida pers. comm.).

The Greater Lebombo Conservancy consists of four private concessions that lie adjacent to Kruger National Park. This region has seen seasonable movements of giraffe from Kruger NP into the conservancy over the recent years. The resident giraffe population has become well established with transient individuals remaining permanently within the Lebombo region (J. Almeida pers. comm.). The current estimate for giraffe in this conservancy is approximately 80-100 individuals (J. Almeida pers. comm.).

¹ *G. c. wardi*, as referred to by Dagg (1962) is now considered to be a synonym of *G. c. giraffa* (Dagg 1971).



During a wildlife restocking initiative implemented as part of a collaboration between the Mozambican and South African governments, six giraffe from Hluhluwe Game Reserve and two from Tembe Elephant Park in South Africa's KwaZulu-Natal province were translocated to Mozambique's Maputo Special Reserve in 2012 (A. Guenha pers. comm.; Peace Parks 2013). Maputo Special Reserve forms part of the Lubombo Transfrontier Conservation Area with South Africa (Peace Parks 2012). An aerial census later in that year confirmed that the translocated animals had adapted well to their new environment and in 2013, an additional 12 giraffe, six from Ndumo Game Reserve and six from Pongola Nature Reserve in KwaZulu Natal, were introduced into the reserve (A. Guenha pers. comm.; Peace Parks 2013). In 2017, an additional 12 giraffe were translocated into Maputo Special Reserve, bringing the estimate of giraffe to approximately 50 individuals (Peace Parks 2017; J. Almeida pers. comm.).

In summary, many of the giraffe in Mozambique were re-introduced and estimated at ~250 South African giraffe, with approximately 71 in Limpopo NP (some naturally occurred and others recolonized naturally), 20-30 in Zinave NP (a handful naturally also surviving the war), 50 in Maputo Special Reserve, and 80-100 in the Greater Lebombo Conservancy (again, some naturally occurred and others recolonized naturally).

Future Conservation Management

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

- Development of National Giraffe Strategy and Action Plan for Mozambique;
- Future giraffe introductions into Mozambique should only be the same (sub)species as previously introduced and ideally genetic analysis of current populations undertaken to confirm taxonomic status in different protected areas;
- Anti-poaching efforts to conserve the key population in Limpopo National Park, and other key giraffe expansion areas;
- GPS satellite tagging of giraffe populations to help with monitoring and anti-poaching support; and
- Support to dedicated giraffe conservation, habitat protection, education and awareness initiatives (government, NGO and academic).

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Map

