

Country Profile

Kingdom of Swaziland

Giraffe Conservation Status Report

March 2016

General statistics

Size of country: 17,360 km²

Size of protected areas / percentage protected area coverage: 5%

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one species (*Giraffa camelopardalis*) and nine subspecies of giraffe (Muller *et al.* 2016) historically based on outdated assessments of their morphological features and geographic ranges.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 possibly occur in the Kingdom of Swaziland:

Species: Southern giraffe (*Giraffa giraffa*)

Subspecies: South African (or Cape) giraffe (*Giraffa camelopardalis giraffa*)

Conservation Status

IUCN Red List (IUCN 2012):

Giraffa camelopardalis (as a species) – least concern

Giraffa camelopardalis giraffa – not assessed

In the Kingdom of Swaziland:

Giraffe in the Kingdom of Swaziland (referred to as ‘Swaziland’ in this report) are classified as royal game under the Second Schedule of the Game (Amendment) Act of 1991, an Act to amend the Game Act of 1953 and to provide for matters incidental thereto. A valid permit issued under the provisions of section 16 of the Game Act is required to hunt or attempt to hunt, or be in possession of a trophy of any royal game.

Issues/threats

The environment of Swaziland is rapidly changing as a result of population growth, industrialisation, urbanisation and increasing agricultural demands (SEAP 2012; USAID 2007; BSAP 2001). Many of these changes are negatively affecting the natural environment and the wildlife it contains (USAID 2007). Major threats to wildlife include habitat degradation, fragmentation and loss due to the conversion of natural land to other forms of land use (BSAP 2001; M. Reilly pers. comm.).

The clearing of natural vegetation for the cultivation of sugarcane has been the main land use conversion and subsequent cause of habitat loss affecting the savanna ecosystem in Swaziland (USAID 2007; BSAP 2001; M. Reilly pers. comm.). This clearing has continued unabated despite limited water availability (BSAP 2001). Other irrigated agriculture that has resulted in the clearing of large tracks of land, and subsequent destruction of habitat, include monocultures such as pineapple and citrus, as well as large-scale timber plantations (Menne & Carrere 2007; USAID 2007).

Human settlement and increased anthropogenic activity is further exacerbating habitat loss in Swaziland (USAID 2007; BSAP 2001; M. Reilly pers. comm.). Wildlife resources have been decimated on Swazi National Land and, as a result, very few large mammals still survive there (BSAP 2001; Monadjem 1998). The presence and distribution of most large mammals in the country is therefore limited to national parks and reserves as well as privately owned ranches (Monadjem 1998). Giraffe in Swaziland are found only within the boundaries of these protected areas (M. Reilly pers. comm.).

People living in poverty are concerned with their immediate survival rather than possible environmental concerns looming ahead (USAID 2007). The growing human population is expanding into protected areas and unsustainable harvesting of woody vegetation for timber, fuel wood and building materials as well as bushmeat are occurring at increasingly higher rates (USAID 2007; BSAP 2001). There is insufficient government interest and support in developing parks and nature reserves, which leads to insufficient human and financial resources being made available for their promotion and management (SEAP 2012; BSAP 2001). Due to insufficient socio-economic incentives, neighbouring communities often do not support parks and reserves (SEAP 2012; BSAP 2001). Incidental targeted as well as non-targeted illegal hunting of giraffe occurs within these protected areas (SEAP 2012; M. Reilly pers. comm.). Giraffe are used as bushmeat, while certain parts of the body are also used for traditional muti¹ (M. Reilly pers. comm.). Inadequate size of protected areas provides further challenges as large areas are needed for large mammals like giraffe to thrive (USAID 2007). Protected areas can no longer guarantee shelter from increasing human effects.

There is further concern that recent efforts by certain human rights activists to curtail Swaziland’s zero tolerance approach to illegal hunting is encouraging criminal activity in protected areas (Saving Rhinos 2011; M. Reilly pers. comm.). The initiative to protect suspects who have broken the law, as well as sponsored civil

¹ Muti is a term for traditional medicine used in Southern Africa.



litigation against game reserves, may encourage the increase of illegal hunting (Saving Rhinos 2011). Although the act of illegal hunting is liable to prosecution, some NGOs are citing law enforcement actions as human rights abuses, thus reducing the will of private sector and parks staff from conducting effective anti-poaching (M. Reilly pers. comm.).

If the private sector cannot retain the ability to effectively protect their wildlife assets, game ranging might decline as private land owners might shift to other, more competing agricultural forms of land use (M. Reilly pers. comm.). This could reduce the range and number of wildlife such as giraffe considerably (M. Reilly pers. comm.).

Where public roads and train rails pass through wildlife areas, as in the case of Hlane Royal National Park, giraffe mortalities have occurred due to collisions (M. Reilly pers. comm.). An increase of such traffic therefore fragments habitat and increases the risk for wildlife mortalities (M. Reilly pers. comm.).

Estimate population abundance and trends

Historic

Although most large herbivores in Swaziland were hunted to extinction by the early 20th century (Reilly 1985), uncertainty remains regarding the historical presence of giraffe in the country (Monadjem 1998; Goodman & Tomkinson 1987; East 1999). Goodman & Tomkinson (1987) suggested that giraffe probably did not occur in Swaziland in recent historical times. According to East (1999), giraffe may have formerly occurred in northern Swaziland, to the north of the Komati River. It is furthermore believed that giraffe historically occurred in the lowveld savanna region in the eastern parts of the country (M. Reilly pers. comm.). Any indigenous populations that might have existed have however gone extinct (East 1999). The impacts of rinderpest on giraffe populations in Swaziland are unknown, but many believe that it played a significant role in causing their early extinction in the country. Anecdotal information suggests that giraffe may have gone extinct in Swaziland during the rinderpest outbreak of 1896 (M. Reilly pers. comm.).

Swaziland remained without giraffe until 1965, when one male and one female South African giraffe (*G. c. giraffa*) were introduced to Mlilwane Wildlife Sanctuary (M. Reilly pers. comm.). These animals were translocated from the Hoedspruit area in the South African lowveld (M. Reilly pers. comm.). Some giraffe were later translocated from this founder population to Hlane Royal National Park in Swaziland.

Six giraffe from Namibia were introduced to Hlane Royal National Park in the 1970s (East 1999). Although taxonomic confusion has surrounded the (sub)species occurrence of giraffe in Namibia, evidence provided by Fennessy (2004), Brown *et al.* (2007) and Brenneiman *et al.* (2003) indicated that giraffe in Namibia can be subsumed into *G.c. angolensis* (commonly known as Angolan giraffe) and not *G. c. giraffa*, as historically classified (Fennessy 2008). According to East (1999), these Angolan giraffe introduced to Swaziland never bred. However, Ted Riley (pers. comm.) indicated that the giraffe from Namibia did in fact breed with the South African giraffe, but that minimal genetic diversity exists as tick related diseases caused the death of all originally introduced giraffe from Namibian, as well as their offspring.

Recent

Since the first re-introduction, further giraffe were introduced to Hlane Royal National Park and Mkhaya Game Reserve, as well as to other privately owned properties, including Mhlosinga and Mbuluzi Nature Reserves, mainly from what are now known as the Limpopo, Mpumalanga and Kwa-Zulu Natal Provinces of South Africa (East 1999; M. Reilly pers. comm.).

With the evolvement of private ownership of game and game ranching in Swaziland, the private sector has invested heavily in giraffe and their numbers and range increased steadily over recent years (M. Reilly pers. comm.). Apart from the imports into Swaziland, a number of the re-established populations have provided giraffe for further re-location within the country (M. Reilly pers. comm.).

By the new millennium, six giraffe populations occurring in protected areas throughout Swaziland amounted to an estimated total number of 80 giraffe (T. Reilly pers. comm.). Of these, approximately 10 individuals occurred in Mbuluzi Game Reserve, 13 in Mhlosinga Nature Reserve, 12 in Mkhaya Game Reserve, 25 in



Hlane Royal National Park, 12 on Nisela Ranch and one in Mlilwane Wildlife Sanctuary. No giraffe were found outside of these protected areas (T. Reilly pers. comm.).

Current

At present, it is estimated that there are a total of 209 giraffe in Swaziland (M. Reilly pers. comm.). An estimated 75 giraffe occur in two proclaimed protected areas that are managed by Big Game Parks: ground censuses of 2012 indicate a population of approximately 30 individuals in Hlane Royal National Park, while Mkhaya Game Reserve is home to an estimated 45 giraffe (M. Reilly pers. comm.). Although giraffe formerly occurred in the Mlilwane Wildlife Sanctuary, they no longer exist there as it does not provide an ideal habitat for giraffe.

Further giraffe populations occur on non-proclaimed private establishments. Ground censuses of these establishments indicate giraffe populations of approximately 40 individuals in Mbuluzi Game Reserve, 11 in Mhlosinga Nature Reserve, 25 on Nisela Ranch, 25 at Oberland, 20 at Inyoni Yami Swaziland Irrigation Scheme (IYSIS), three at Panata River lodge and six at Canterbury estates (M. Reilly pers. comm.). Three giraffe were translocated from South Africa's Kwa-Zulu Natal Province and introduced to the Royal Jozini Private Estate in 2011, which now hosts four individuals (J. Brown pers. comm.).

While some government managed parks in Swaziland show suitable habitat, there are no giraffe in any of these parks. There have also been no attempts to re-introduce giraffe, despite several government subventions in the past 40 years (M. Reilly pers. comm.).

In summary, current giraffe numbers for Swaziland are estimated at <210 giraffe, occurring in two proclaimed protected areas and on non-proclaimed private establishments.

Future Conservation Management

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

- Any future introductions should only be the same (sub)species as previously re-introduced – *G. c. giraffa*;
- Development of National Giraffe Strategy for Swaziland; and
- Support to dedicated giraffe conservation, habitat protection, anti-poaching, education and awareness initiatives (government, NGO and academic)

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References

Brenneman, R.A., Louis, E.E. Jr, & Fennessy, J. 2009. Genetic structure of two populations of the Namibian giraffe, *Giraffa camelopardalis angolensis*. *Afr. J. Ecol.* **47(4)**: 720–728.

Brown, D.M., Brenneman, R.A., Georgiadis, N.J., Koepfli, K-P., Pollinger, J.P., Milla, B., Louis Jnr, E.E., Grether, G.F., Jacobs, D.K. J Wayne, R.K. 2007. Extensive population genetic structure in the giraffe. *BMC Biology* **2007(5)**: 57.

BSAP 2001. *Swaziland National Biodiversity Strategy and Action Plan*. Final draft. April 2001. Swaziland Environment Authority. Ministry of Tourism, Environment and Communications. Mbane, Swaziland.

East, R. 1999. *African Antelope Database 1998*. IUCN/SSC Antelope Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK.



- Fennessy, J. 2008. An overview of *Giraffa camelopardalis* taxonomy, distribution and conservation status, with a Namibian comparative and focus on the Kunene Region. *Journal Namibia Wissenschaftliche Gesellschaft/Namibia Scientific Society* **56**(1758): 1-16.
- Fennessy, J. 2004. Ecology of desert-dwelling giraffe *Giraffa camelopardalis angolensis* in north-western Namibia. PhD Thesis. University of Sydney, Australia.
- Goodman, P.S. & Tomkinson, A.J. 1987. The past and present distribution of giraffe in Zululand and its implications for reserve management. *South African Journal of Wildlife Research* **17**:28-32.
- Government of the Kingdom of Swaziland. 1953. *The Game Act*. Kingdom of Swaziland.
- Government of the Kingdom of Swaziland. 1991. *The Game (Amendment) Act*. Kingdom of Swaziland.
- IUCN 2012. *The IUCN Red List of Threatened Species. Version 2012.1*. <http://www.iucnredlist.org> Downloaded on 24 August 2012.
- Menne, W. & Carrere, R. 2007. *Swaziland: The myth of sustainable timber plantations*. World Rainforest Movement, Uruguay.
- Monadjem, A. 1998. Distribution patterns and conservation status of mammals of Swaziland, southern Africa. *Koedoe* **41**(2): 45-49. Pretoria. ISSN 0075-6458.
- Reilly, T.E. 1985. *The Mlilwane story. A history of nature conservation in the Kingdom of Swaziland and fund raising appeal*. The Mlilwane Trust, Mbabane.
- Saving Rhinos 2011. Swaziland warns of rhino poaching threat. SavingRHINOS.org <http://www.rhinoconservation.org/2011/04/07/swaziland-warns-of-rhino-poaching-threat/> (Accessed 18 December 2012).
- SEAP 2012. The Swaziland Environment Action Plan (SEAP) www.environment.gov.sz/files/seap.pdf (Accessed 18 December 2012).
- USAID. 2007. *Swaziland: 118/119 Biodiversity and forest assessment*. Prepared by the Biodiversity Analysis and Technical Support team for the United States Agency for International development. Washington, DC, USA.

Citation

Marais, A.J., Fennessy, S. & Fennessy, J. 2013. *Country Profile: A rapid assessment of the giraffe conservation status in the Kingdom of Swaziland*. Giraffe Conservation Foundation, Windhoek, Namibia.



Map

