

## Inclusion of Giraffe *Giraffa camelopardalis* in Appendix II

**Proponents:** Central African Republic, Chad, Kenya, Mali, Niger and Senegal

**Summary:** The Giraffe *Giraffa camelopardalis* is the world's tallest land mammal. It remains widespread across Southern and Eastern Africa, with smaller isolated populations in West and Central Africa. Nine subspecies are currently recognised, with each subspecies associated with particular sub-regions and/or range States.

In 2016, based on evidence of declines of 36–40% over three generations (30 years, 1985–2015), the IUCN Red List assessment was revised from Least Concern to Vulnerable. The best available estimates indicate a total population in 1985 of around 152,000–163,000 Giraffes (106,000–114,000 mature individuals), and in 2015 a total population of 98,000 Giraffes (68,000 mature individuals). The main factors responsible for this decline are recognised as habitat loss, illegal hunting (poaching), civil unrest and ecological changes. The presence and severity of these threats, and the conservation strategies used to manage Giraffe populations, show large regional variations.

In Central and Eastern Africa, Giraffes have suffered the greatest declines. Despite national protection, threats including habitat loss and illegal hunting—particularly for meat and some traditional uses—have severely reduced some populations over the last 30–40 years. These include declines of Reticulated Giraffe (*Giraffa camelopardalis reticulata* native to Kenya, Ethiopia, Somalia) of between 56% and 67%, Kordofan Giraffe (*G. c. antiquorum* native to Cameroon, Central African Republic, Chad, Democratic Republic of the Congo (DRC), South Sudan) of 85% and Nubian Giraffe (*G. c. camelopardalis* native to Ethiopia, South Sudan) of 97%.

In other regions, however, particularly in Southern Africa, Giraffe populations have undergone large increases in size. These include the Angolan Giraffe (*Giraffa camelopardalis angolensis* native to Botswana and Namibia) of 195%, and the South African Giraffe (*G. c. giraffa* native to Botswana, Mozambique, South Africa, Zambia and Zimbabwe) of 167%.

Available international trade data are restricted to USA import data, which along with Europe is considered a major market for trophies. Between 2006 and 2015, around 3,500 Giraffe trophies were imported to the USA, among around 40,000 total Giraffe specimens (largely bone products). Ninety-four percent of these products (and 98% of trophies) were exported by South Africa, Namibia and Zimbabwe, where trophy hunting is legal. There is no evidence to suggest exports from these countries were sourced from Giraffes illegally killed elsewhere. Non-trophy products are generally sourced from the trophy hunting industry, from natural deaths, or from animals culled or hunted for meat.

Conservation measures in both Namibia and South Africa have been associated with an increase in Giraffe populations over the last 30 years. While concerns have been raised over the management of Giraffe populations in Zimbabwe, which declined by 70% from around 26,000 in 1998 to 8,000 in 2016, this appears largely attributable to land reform programmes which have seen the conversion of land to agriculture, and an increase in poaching for local consumption. As the annual offtake for trophy hunting is less than 150 Giraffes (<2% of the population), this is considered unlikely to be negatively affecting Giraffe populations within Zimbabwe.

In some regions of Central and Eastern Africa, the illegal trade in Giraffe meat is known to cross porous borders, particularly where militia are in operation, while a transboundary trade in tail hairs may also occur, following centuries-long traditions. In some regions of Africa, Giraffe products, including Giraffe hair bracelets, have been recorded within tourist markets and may therefore be exported. Giraffe products are also seen for sale online in other markets, including Europe. There is no evidence to suggest that Giraffes

are being harvested specifically in order to supply these markets (they are considered likely a “by-product” of the trophy industry, cropping and natural mortality) or that any significant international trade in products made from illegally killed Giraffes is occurring.

The poaching that has contributed to the decline of many Giraffe populations does therefore not appear to be driven by trophy hunting. The current levels of utilisation for trophy hunting in Southern Africa do not appear to be negatively impacting its regional populations of Giraffe, which overall are increasing.

**Analysis:** Although the Giraffe has experienced population declines of 36–40% over the last three generations, with illegal hunting having contributed to these declines, there is little evidence to suggest that the poaching of Giraffe is driven by international trade, rather it is for local/domestic use. The main populations that are subject to legal offtake for international trade are in Namibia, South Africa and Zimbabwe, where the hunting of Giraffe, mainly for trophies, and export is permitted, and populations are generally increasing, except in Zimbabwe where declines have not been attributed to international trade.

On this basis, it is not clear that regulation of trade is necessary a) to avoid the species becoming eligible for inclusion in Appendix I in the near future or b) to ensure that the harvest of specimens from the wild is not reducing the wild population to a level at which its survival might be threatened by continued harvesting or other influences. Regulation of international trade would also not address the principal threats affecting this species, with habitat loss, illegal hunting for either domestic use or to supply markets across porous borders within Africa, civil unrest and ecological changes, being the main causes of the observed decline in Giraffe.

### Summary of Available Information

*Text in non-italics is based on information in the Proposal and Supporting Statement (SS); text in italics is based on additional information and/or assessment of information in the SS.*

#### Taxonomy

Wilson and Reeder (2005) (the current CITES Standard Taxonomic Reference for mammals) and the IUCN Red List currently recognise a single species, *Giraffa camelopardalis*. Nine subspecies are also currently recognised, based on morphology (see Table 1).

*Recently, several authors have proposed more than one species be recognised. For example, based on genetic analysis, Fennessy et al., (2016a) and Winter et al., (2018) proposed four species, indicating that the taxonomic status of Giraffes may change in the near future.*

#### Range

**Native:** Angola; Botswana; Cameroon; Central African Republic; Chad; Congo; Democratic Republic of the Congo; Ethiopia; Kenya; Mozambique; Namibia; Niger; Somalia; South Africa; South Sudan; Tanzania, United Republic of; Uganda; Zambia; Zimbabwe.

**Regionally extinct:** Eritrea; Guinea; Mali; Mauritania; Nigeria; Senegal.

**Introduced:** Eswatini; Rwanda (Muller et al., 2018; J. Fennessy in litt., 2019)

#### IUCN Global Category

*Vulnerable A2acd (2018) ver 3.1*

#### **Biological and trade criteria for inclusion in Appendix II (Res. Conf. 9.24 (Rev. CoP 17) Annex 2a)**

**A) Trade regulation needed to prevent future inclusion in Appendix I**

**B) Regulation of trade required to ensure that harvest from the wild is not reducing population to level where survival might be threatened by continued harvest or other influence**

*Giraffa camelopardalis* was assessed in 2016 as Vulnerable on the IUCN Red List due to an observed, past (and ongoing) population decline of 36–40% over three generations (30 years, 1985–2015). *The best available estimates indicate a total population in 1985 of 151,702–163,452 Giraffes (106,191–114,416 mature individuals), and in 2015 a total population of 97,562 Giraffes (68,293 mature individuals) (Muller et al., 2018).* In 2010, *Giraffa camelopardalis* was Least Concern.

The pattern of population trends across Africa is not uniform, with some Giraffe populations stable or increasing, while others are in decline (Muller et al., 2018). Each of these populations is subject to threats, conservation management strategies and levels of utilisation that are specific to their range State or region. As each subspecies occupies a different geographic area, the population trends of each are also reflective of these regional differences. Table 1 summarises the current conservation status of the nine subspecies.

**Table 1.** Overview of the status of *Giraffa camelopardalis* subspecies.

Subspecies	Region of Africa	Range States	Status	IUCN Red List Subspecies Classification	Historic population estimate/Yr	Recent Population Estimate – Total Individuals/ (Yr)	Change in Pop. Size (No. of individuals)	% Change
<i>G. c. peralta</i>	West	Niger	Increasing	VU	50 (1990s)	607 (2017)	557	+1114%
<i>G. c. antiquorum</i>	Northern / Central	Cameroon, Chad, Central African Republic, DRC, South Sudan	Decreasing	CR	13,704 (1975-1986)	1,942 (2018)	-11,762	-85%
<i>G. c. camelopardalis</i>	Northern / Eastern	South Sudan, Ethiopia	Decreasing	CR	20,577 (1979-1982)	650 (2018)	-19,927	-97%
<i>G. c. reticulata</i>	Eastern	Kenya, Ethiopia, Somalia	Decreasing	EN	36,000-47,750 (1990s)	15,785 (2018)	-20,215 – 31,965	-56.2%-67%
<i>G. c. rothschildi</i>	Eastern	Uganda, Kenya	Increasing	NT	1,330 (1960s)	2,098 (2018)	768	+57%
<i>G. c. tippelskirchi</i>	Eastern	Kenya, Tanzania	Decreasing	Not assessed	66,449 (1977-1980)	31,611 (2015)	-34,838 (2015)	-52%
<i>G. c. thornicrofti</i>	Eastern	Zambia	Stable	VU	600 (1983)	600 (2018)	0	0%
<i>G. c. angolensis</i>	Southern	Botswana, Namibia	Increasing	LC	5,000 (1970-2004)	14,748 (2018)	9,748	+195%
<i>G. c. giraffa</i>	Southern	Botswana, South Africa, Zambia, Zimbabwe,	Increasing	Not assessed	8,000 (1979)	21,387 (2016)	13,387	+167%

Sources (historic): Fennessy et al., (2018a), Fennessy and Marais (2018a), Wube et al., (in prep, 2016), East (1999) Fennessy et al., (2018b). Bolger et al., (in prep, 2015) Bercovitch et al., (2018) Marais et al., (in prep, 2016) Dagg and Foster (1982).

Sources (recent): Fennessy et al., (2018), Fennessy and Marais (2018a), Wube et al., (2018), Muneza et al., (2018), Fennessy et al., (2018b). Bolger et al., (in prep, 2015), Bercovitch et al., (2018), Marais et al., (2018), Muller et al., (2018).

### Types of international trade

Giraffe are known to be trophy hunted in four Southern African countries: Namibia, South Africa and Zimbabwe as well as Zambia, and as such the international trade in their body parts (trophies, bones, skeleton, carvings, and hair) from these countries legally occurs (J. Fennessy in litt., 2019). There is also domestic consumption and associated trade within Africa for a variety of purposes.

As *Giraffa camelopardalis* is not listed within CITES, the only available data detailing imports of Giraffe products originates from the U.S. Fish and Wildlife Law Enforcement Management Information System trade database (LEMIS).

The following section draws on the information in the SS as well as our own rapid assessment of LEMIS data from 2006–2014. Note the time period differs by a year. The USA is probably one of the major destinations for trophies but Europe is also likely to be a key destination.

### International trade with the USA:

Between 2006 and 2015, 39,516 Giraffe specimens (Giraffes, dead or alive, and their parts and derivatives) were imported into the USA. Of these, 99.7% were classified as wild sourced (39,397 of 39,516). The proposal states that

of these USA imports, around 95% were for hunting trophy purposes. The SS reports that about 95% of individual Giraffes imported to the USA from 2006 to 2015 were for hunting trophy purposes (5,044 Giraffe specimens, representing at least 3,563 individual Giraffes including 3,561 trophies, 1 body, and 1 live animal; comparing the estimated 3,563 individual Giraffes imported for hunting trophy purposes to the estimated 3,751 individual Giraffes imported for all purposes). The principal exporters of these hunting trophies were: South Africa (3,065 or 60.8%), Zimbabwe (1,346 or 26.7%), and Namibia (575 or 11.4%).

*Our own analysis of US import data over a shorter period (2006–2014) shows different levels of trophy imports but this may be due to different analysis approaches (see Table 2). This also shows small amounts of trophies exported by Botswana and Zambia during the period.*

The SS states that, since 2010, there has been a marked increase in the number of trophies being imported into the USA (based on a low of 276 in 2010, to a high of 457 in 2015). *The total number of trophies compared to the size of the Giraffe populations in the principal exporting range States however, remains very low, (W. Crosmarty, in litt., 2019; J. Fennessy, in litt., 2019). Populations of the Giraffe subspecies within these trophy exporting range States have also undergone large increases during the last four decades, of 195% (G. c. angolensis) and 167% (G. c. giraffa) (Muller et al., 2018).*

**Table 2.** Source of imports of trophies to the USA between 2006–2014 (all purpose codes included, includes items rejected or seized).

	South Africa	Zimbabwe	Namibia	Botswana	Zambia	Ethiopia	Non-Africa Countries	Grand Total
Total quantity of trophies exported	1,838	832	441	16	4	1	9	3,141
Of which, quantity of trophies originating elsewhere	30 (18 ZW, 7, NA, 2, BW, 2, MZ, 1 SZ)	17 (ZA)	3 (2 ZA, 1 MA)			1 (ZW)	(9 ZA)	

Between 2006 and 2015, at least 33,321 other (non-hunting trophy) specimens made from Giraffe parts and derivatives were also imported into the USA for commercial purposes. The SS suggests that this is the equivalent of at least 157 individual Giraffes, *although the method of calculating this figure is not provided.* The most common of these items were: bone carvings (20,885), bones (3,768), skin pieces (2,820), bone pieces (1,857), skins (715), jewellery (766), shoes (526), hair (487), small leather products (314), feet (117), large leather products (138), and horn (ossicone) carvings (200).

*Table 3 shows the majority of non-hunting exports were from South Africa and Zimbabwe.*

The SS also reports 693 specimens as exported from Tanzania, “representing at least one Giraffe”. *An additional 1,651 items of jewellery were imported from Taiwan, Province of China.*

**Table 3:** Imports of a selection of products into the USA between 2006–2014. Selection based on largest quantities reported (e.g. bone related products (\*including bones, carvings and bone carvings, bone pieces and bone products), jewellery, leather products, hair products) and items that might indicate harvest levels (skeletons, bodies, skulls, rugs, tails and live) (all purpose codes included and includes items seized or rejected).

Product	Imported from								Non-range States
	South Africa	Zimbabwe	Kenya	Namibia	Zambia	Tanzania	Botswana	Nigeria	
Bone related products*	21,288	487	125	86	1				641
Skeletons	55								3
Bodies	4								1
Skulls	127	16		3					10
Skins	120	517		3			1	1	34
Rugs	58	15							1
Jewellery	65	55	3			690			1,651 (all TW)
Leather products large and small	196	190		1					1

Hair and hair products	166	400		5					35
Tails	14	38		3					2
Live									4

#### Trade within Europe:

*It is also likely that Europe is a key importer of trophies. However, no import or export data are available for the levels of trade into Europe.*

Between 2016 and 2018, volunteers conducted research into online markets in Europe with the following results. Within European Union (EU) countries, the most numerous Giraffe products available for sale online were: bone scales (170), knives with bone handles (82), bone carvings (10), skins (10), taxidermy busts (9), skulls (6), chef's knives with bone handles (6), and skin pieces (4). *As import data are lacking however, the provenance and age of these items remains unknown:*

- Belgium (search conducted 30th July 2018): 10 products including full body taxidermy, taxidermy busts, bone knife handles.
- France (13th and 14th June 2018): 58 Giraffe products, including 48 bone knife handles, one bone, one pen with a bone part, one set of four Giraffe feet taxidermy, one table featuring four Giraffe legs, two skulls, two revolvers with bone grips, one skin and one pair of bone scales.
- Germany (7th July 2018): 51 Giraffe products, including seven raw bones, seven full skins, four skin pieces, two taxidermy busts, one tail, one hoof, two taxidermy heads, four skulls, three pairs of bone scales, six knives with bone handles, one table featuring four Giraffe legs, 10 bone carvings, and one pen with a Giraffe bone part.
- Greece (30th July 2018): One Giraffe product—a knife with a bone handle.
- Italy (30th July 2018): 18 Giraffe products, including seven knives with bone handles, one taxidermy bust (trophies), two sets of bone scales, two chef's knives with bone handles, and one large hunting knife with a bone handle.
- Spain (11th July 2018): 171 Giraffe products being sold by sellers based in Spain, including seven knives with bone handles, 163 sets of bone scales, and one full skin.
- United Kingdom (23rd July 2018): 21 Giraffe products being sold by sellers based in the United Kingdom, including 11 knives with bone handles, four chef's knives with bone handles, three taxidermy busts (trophies), one pair of bone scales, one full hide, and one hair bracelet.

#### Transboundary trade within Africa:

*Some transboundary trade in Giraffe products, particularly meat, has been recorded in Central Africa, which is likely to have had a significant negative impact on some populations of Giraffe, including the Critically Endangered Kordofan Giraffe *Giraffa camelopardalis antiquorum* (Fennessy & Marais, 2018; Ondoua et al., 2017). This cross-border trade in wild meat is thought frequently to result from civil unrest and the action of militias and highly-militarised poachers (see Nouredine, 2012, in Marais et al., 2013; Ondoua et al., 2017), although a small trade in Giraffe tail hairs may also occur, following centuries long traditions (J. Fennessy, in litt., 2019). Okello et al., (2015), also states that poaching of Maasi Giraffe *G. c. tippelskirchi* occurs within borderland regions of Kenya and Tanzania, with Giraffe meat transported on donkeys across borders to market places and other demand areas for sale. Other examples include trade between Central African Republic and South Sudan/Chad (Bouche et al., 2009); between Cameroon and Chad/Nigeria (see IUCN PACO 2011, as cited in Marias et al., 2013); and within the Garamba-Bili-Chinko landscape of the Democratic Republic of the Congo and Central African Republic (Ondoua et al., 2017). However, as this trade in meat operates across highly porous borders, it seems extremely unlikely that a CITES listing would result in any additional enforcement effort being directed at controlling this illegal activity.*

*Crosmary (in litt., 2019) also notes that in countries where trophy hunting is legal, "meat and other body parts may be distributed or sold to villagers after the trophy hunts. It is possible that some of these body parts are also sold into neighbouring countries, as happens with other trophy hunted species such as lions".*

#### Provenance of Giraffes in international trade:

The SS suggests that the possibility exists for parts and derivatives from illegally hunted Giraffe to enter established legal trading routes. *However, research into the trade in Giraffe products has been limited (J. Fennessy in litt., 2019).*

Many parts and derivatives entering the legal trade are thought to be sourced from the trophy hunting industry itself. Wolfson (2018), found evidence of trophy hunting by-products being sold on to taxidermists and outfitters, and describes how virtually every part of the animal is utilised to make products for sale, which are marketed to sellers in the USA. The Management Authority of Zimbabwe (in litt., 2019), also confirms that “most parts and derivatives in international sale are sourced from the trophy hunting industry.”

Giraffe parts and derivatives entering legal trade are also from animals acquired via other sources, including natural deaths, and Giraffes killed by collisions with low power lines (Management Authority Zimbabwe, in litt., 2019). It is also likely that Giraffe parts identified for sale may come from Giraffes that have been culled or killed for meat (J. Fennessy in litt., 2019). This does not however, imply that illegally killed giraffe are entering trade. As Fennessy (in litt., 2019), notes, “the misinterpretation that it is all about trophy hunting is inaccurate”, but “without any additional information, it is assumed that all products come originally (and legally) from Southern Africa.”

A small number of products may enter international trade through tourist markets, with, for example, Giraffe hair bracelets found for sale in Maputo, Mozambique (TRAFFIC, 2002), and bone products sold at tourist markets in Namibia (Du Raan et al., 2016). However, Crosmary (in litt., 2019), reports that “in East Africa, at least in Kenya, Uganda and Tanzania, there is no evidence of any significant international trade, and for the other regions, there is no information.”

#### **Trade in live Giraffes:**

A trade in live specimens also exists, between game ranches in Southern Africa, and also between Africa and Asia (J. Fennessy in litt., 2019), and which may be greater than previously assumed (J. Fennessy in litt., 2019). Deacon and Parker (2016), note that South African Giraffes (*Giraffa camelopardalis giraffa*) have been moved from South Africa to Zambia and Senegal, while Angolan Giraffes (*G. c. angolensis*) have been transferred from Namibia and Botswana to South Africa. Without accurate data, however, the impact of live trade on Giraffe populations cannot accurately be assessed. Fennessy (in litt., 2019) notes that live Giraffes are not imported from East, Central or West Africa into Southern Africa, and as such the possibility that these populations are entering the trophy hunting industry is not a concern.

#### **Impacts of Trade**

Trophy prices range from USD 2,500–8000 in South Africa, USD 1,800–3,100 in Namibia, and USD 3,200 in Zimbabwe. The overall cost of a hunt is, however, much higher, and Giraffes are not usually the primary target, and instead are an additionally hunted species (J. Fennessy in litt., 2019). As indicated by the data in Table 1, in the range States where this legal hunting occurs, and which export the vast majority of Giraffe products (Namibia, South Africa and Zimbabwe), Giraffe populations have generally increased during the last 30 years. Further information about the Giraffe populations in countries that permit trophy hunting is presented below:

**South Africa:** In South Africa, total numbers and area of occupancy within South Africa are expanding, due in part to the game ranching industry, where they are highly favoured for their added tourism value (Deacon & Parker, 2016). Trading of Giraffe, including for ecotourism, live sales and hunting is controlled by each province’s nature conservation office (Deacon & Parker, 2016).

In 2016, populations of the *G. c. giraffa* within South Africa were assessed as Least Concern. In 2016, the total population was estimated to be 11,746–15,024 mature individuals living within their natural habitat (on all land types), based on a total population size of between 18,645 and 22,094. The total number inhabiting national parks within their natural distribution (Kruger, Augrabies Falls, Mapungubwe, Marakele and Mokala National Parks) was estimated to be 4,896–7,533 individuals (Deacon and Parker, 2016). Data from a sample of 13 formally protected areas with long-term data over at least two generations show an estimated increase for those sampled populations of 54% (Deacon & Parker, 2016).

**Zimbabwe:** In Zimbabwe, Giraffes are found in State-owned protected areas, private and communal land (ZPWMA, 2019). Giraffe populations in Zimbabwe declined by 70% from around 26,000 in 1998, to 8,000 in 2016 (Fennessy et al., 2016b), but this appears largely attributable to Land Reform programmes which have seen the conversion of wildlife producing land to agriculture, and an increase in poaching for local consumption (Bond et al., 2004; Degeorges & Reilly, 2007; Williams et al., 2016).

The population is reported to be increasing in parts of southern and western Zimbabwe (ZPWMA, 2019) although no recent assessments have been undertaken (Deacon & Parker, 2016; J. Fennessy, in litt., 2019). The Zimbabwe Management Authority states that the current annual trophy quota within Zimbabwe is for 800 Giraffes (10% of the

population). These are, however, optional rather than fixed quotas, and around 150 (<2% of the population) permits per year are actually utilised. The <2% offtake is unlikely to be a significant factor affecting the population, and there is no evidence to suggest that the reduction in Zimbabwe's Giraffe population over the last two decades is attributable to international trade (J. Fennessy, in litt., 2019). Trophy imports to the USA in Table 2 above showed an average of 92 over the years 2006–2014.

For all hunted species in Zimbabwe, the hunting of mature old males is recommended, and if young males are harvested, the operators are penalised (Zimbabwe Scientific Authority, in litt., 2019). In a 2019 Giraffe status report, the Zimbabwe Parks and Management Authority also states that Giraffe are valued as “an attractive species in photographic safaris” and that efforts are being made to research the conservation status of the species and to ensure long-term monitoring of population trends.

**Namibia:** In Namibia, Giraffes mainly exist in protected areas, which may be public, private or communal (Du Raan et al., 2016), and are valued as a popular species on private game farms because of their high tourism value (MET, 2019). While a lack of standardised methods has created challenges in calculating population estimates, Fennessy (2004) estimated the population of Giraffes in Namibia to be around 5,000 individuals (although a national wildlife inventory completed in 2004 estimated it at 10,415 individuals (Barnes et al., 2009)). The current population of Giraffes in Namibia is estimated to be around 12,000 animals of which 6,500 occur on privately owned land, 2,000 on communal land, and 3,500 within national parks (Du Raan et al., 2016). The population is thought to be increasing on all land types (J. Fennessy, in litt., 2019), with above average rainfall and increased conservation awareness and monitoring thought to have contributed to this observed increase in numbers (MET, 2019).

With regard to trophy hunting, the Namibian Ministry of Environment and Tourism reports that the country has a well-established and strictly controlled wildlife utilisation system, i.e. no person may hunt any species without a permit (MET, 2019). They also report that between 2010 and 2017, a total of 1,115 Giraffes have been trophy hunted in Namibia, at an average of 139 Giraffe per year. Of these 1,115 animals, 96% (n = 1,068) were reportedly hunted on private land, and 4% (n = 47) on State land. (table 4). Some hunting on communal land by conservancies is also known to occur for both trophies and meat for local consumption (J. Fennessy, in litt., 2019).

**Table 4.** Number of Giraffes hunted in Namibia (2010–2017)

Year	2010	2011	2012	2013	2014	2015	2016	2017
<b>Number</b>	85	168	142	143	120	131	162	164

Data indicate that the USA is the destination for some of these trophies. It is also likely that the EU, and in particular Germany, also serves as another export destination (J. Fennessy, in litt., 2019). Within Namibia, Giraffe bones are also sold at local tourist markets (Du Raan et al., 2016), and Giraffe hair in jewellery stores (J. Fennessy, in litt., 2019).

**Zambia:** At present, and as reflected by the US Trade data described above, very little trophy hunting of Giraffes takes place in Zambia, and Zambia is not thought to supply another international market beyond the USA (Fennessy in litt., 2019). Chomba and Nyirenda (2015) make no reference to Giraffes when analysing the levels of safari hunting utilisation for 40 other species within the country. The country's population of Thornicroft's Giraffe (*G. c. thornicrofti*) is stable, while its other resident subspecies (*G. c. giraffa*, in the south west of the country), is not threatened by illegal hunting in Zambia (J. Fennessy, in litt., 2019) and is generally increasing within Southern Africa.

**Botswana:** In the 1990s, Botswana adopted a Community Based Natural Resource Management (CBNRM) programme, which initially focused on safari hunting as the main tourism activity (Mbaiwa, 2018). In 2014, however, Botswana banned safari hunting, which was no longer deemed part of the “national commitment to conserve and preserve local fauna or the long-term growth of the local tourism industry” (Scott, 2013; Mbaiwa, 2018). However, Scott (2013), states that Giraffes acted as a secondary species on Okavango hunts, and that offtake had been minimal, which appears to be corroborated by the low number of Giraffe trophies exported from Botswana to the USA between 2006–2014. Amitzen et al., (2003), reported that the population of Giraffes in one CBNRM case study region increased from an estimated 4,248 in 1989, to 7,217 individuals in 2001.

**Summary:** The general increase in Giraffe populations within Southern Africa, in range States where trophy hunting is permitted, suggests that this legal offtake of Giraffe is not adversely affecting these populations or contributing to the overall decline of the species. Equally, there is no evidence to suggest that the legal trade in Giraffe trophies has

played a significant role in the population declines in Zimbabwe from 1998 to 2016. These observed increases are due to a range of factors including climatic conditions and increased conservation awareness, although in part, are also likely related to changes in policy regarding the legislation and ownership of wildlife, and subsequent benefit of their use (J. Fennessy in litt., 2019).

In areas of Africa where legal hunting is not permitted, however, Giraffe populations have generally declined, due to a range of factors. While illegal hunting (poaching) remains a serious ongoing threat to Giraffes, no evidence currently exists of a connection between this and any significant form of international trade, other than the suspected transfer of illegally killed animals across porous borders within some parts of Africa (see Threats for more detail).

Finally, while trophy hunting is predominantly focused on adult male specimens, there does not appear to be any evidence to suggest that this selective hunting is negatively impacting the genetic integrity of Giraffe populations. Fennessy (in litt., 2019), did not consider this to be a research priority, as “trophy hunting is minimal, and most trophy hunts are on small private land which have a limited genetic diversity anyway.”

### **Inclusion in Appendix II to improve control of other listed species**

#### **A) Specimens in trade resemble those of species listed in Appendix II under Res. Conf. 9.24 (Rev. CoP17) Annex 2 a or listed in Appendix I**

Products that make use of the hide could potentially be distinguished due to the Giraffe’s distinctive pelage, although there is currently no method of easily identifying Giraffe bone to species level, in some of the forms in which it is traded (J. Fennessy, in litt., 2019).

### **Additional Information**

#### **Threats**

Four main threats have been identified as being responsible for the decline of some Giraffe populations: habitat loss, civil unrest, illegal hunting and ecological changes. *These threats have not ceased and may not be reversible throughout the species’ range. Their presence and severity, however, varies by region (Muller et al., 2018).*

In West Africa, the main threats are habitat loss due to increasing human populations and human–wildlife conflict. In East and Central Africa, the main threats are habitat loss through rapid conversion of land for farming and increasing human populations, drought, illegal hunting for meat and hide, and armed conflict throughout unstable regions.

In Southern Africa, the main perceived threats are illegal hunting and habitat loss caused by conversion of land for agriculture, human development, and cutting of trees for firewood and construction. The poaching of Giraffes is, however, considered less of a threat in Southern Africa than in Eastern and Central regions.

*Two of the most chronic threats—habitat loss and illegal hunting—are considered in more detail below.*

#### **Habitat loss:**

Expansive habitat is a prerequisite for healthy Giraffe populations, given their relatively large home ranges—which average between 68 km<sup>2</sup> and 514 km<sup>2</sup>—and their seasonal migration patterns. Across its range however, *Giraffa camelopardalis* has experienced severe habitat loss and fragmentation, due to: increased human settlement; expansion of agricultural activities; conversion of land to industrial plantations; the uncontrolled harvesting of timber and wood for various uses, including firewood, logging, and charcoal production for both personal and commercial purposes; and poor land use planning. As a result, the Giraffe’s range has contracted significantly over the past century. This has resulted in geographical isolation of local populations and some herds surviving at the edge of the species’ preferred range. In addition, habitat loss due to aridity may be compounded by climate change in the future. *Lado (2019) reports that in South Sudan, political instability and armed conflict have forced many people to seek refuge and grazing areas within in the preferred habitat of this species. In Ethiopia, the cutting of Acacia trees (an important food source for G. camelopardalis) for charcoal is thought to be a major factor contributing to declines, along with habitat degradation due to expansion of agriculture (Abate & Abate, 2017).*

#### **Illegal Hunting:**

*Giraffa camelopardalis is targeted by illegal hunters particularly in Central and Eastern regions (Muller et al., 2018). In some areas, such as South Sudan, this is the main threat to Giraffe populations (Lado, 2019). In addition to the actions of militias noted in the trade section of this report, other examples include the poaching of Giraffe in Botswana’s Okavango Delta, where an estimated 99 animals are killed each year, representing 12% of illegal meat harvest (by weight), sourced from the region (Rogan et al., 2017). Poaching of Masai Giraffe (G. c. tippelskirchi) is also common in protected areas in Tanzania and poaching may have caused certain populations in the country to be designated as “population sinks”. In Botswana, meat hunting for local use may be increasing, a trend that many*



*suggests is potentially correlated with the socioeconomic impacts of hunting bans for other animals within the country (J. Fennessy, in litt., 2019). In Zambia, Giraffes are not thought to be threatened by direct illegal hunting (J. Fennessy, in litt., 2019), although Thornicroft's Giraffe (G. c. thornicrofti) have occasionally been caught in snares that are probably aimed at other animal species (Du Raan et al., 2015).*

*Giraffes targeted by illegal hunters are valued for medicinal, magical and practical purposes. For example, Giraffe products may be used as aphrodisiacs or headache cures, to treat nose bleeds (Abate & Abate, 2017), and, in Tanzania, as a supposed cure for HIV/AIDS. Giraffe hair and tails are also valued for use as flyswatters, bracelets, necklaces and thread, while their skin is used for shields, sandals and drums (Abate and Abate, 2017). In Ethiopia, Giraffes have been hunted with automatic rifles by local people for their tails (and meat), which are used to make traditional for wedding dowries (Wube, 2013).*

*Giraffes are also hunted for meat for human consumption (Muller et al., 2018). As noted above, some transboundary movement of meat may occur, while in some areas (including within Kenya), local markets have been identified as places of trade for poached Giraffes (Muneza & Fennessy, 2017). In some areas of East Africa, however, illegal hunting appears to be less prevalent. For example, the Management Authority of Uganda (in litt., 2019) reports that there is no evidence of targeted Giraffe poaching within Uganda, although Giraffa camelopardalis are occasionally caught in snares and traps targeting other herbivorous species.*

### **Conservation, management and legislation**

*Conservation management strategies for Giraffe and the extent of State protection varies across Africa. Populations may be privately owned and managed or may inhabit protected areas where they are owned by the State (J. Fennessy in litt., 2019).*

*Many range States have laws prohibiting the hunting of Giraffes, including Angola, Botswana, Cameroon, Central African Republic, Chad, DRC, Kenya, Mozambique, Niger, Rwanda, South Sudan, Tanzania, and Uganda. Despite these protections, however, the success of Giraffe conservation across Africa is highly variable and declines in Giraffe populations have occurred in many of the countries noted above (Muller, et al., 2018). As noted in the trade section above, Giraffes occur in a number of other range States where hunting is permitted. The principal countries where trophy hunting occurs on this basis are Namibia, South Africa and Zimbabwe. While national Giraffe management plans in these countries have not yet been developed (Deacon & Parker, 2016; Zimbabwe Scientific Authority, in litt., 2019; Namibian Management Authority, 2019), hunting is only permitted following the issuance of a government permit (J. Fennessy, in litt., 2019).*

*In Namibia, Giraffes are listed under National Legislation as "Specially Protected Game", which prevents the hunting of Giraffes or the trading of Giraffe products, unless a permit is issued (MET, 2019). Due to a steady increase in the Giraffe population since the 1970s, no specific Giraffe management plan has been put in place (Namibian Management Authority, 2019).*

*In Zimbabwe, there is also currently no management plan in place for Giraffes (Zimbabwe Scientific Authority, in litt., 2019). The Management Authority also states that efforts are being made to consolidate available information, and to research the conservation status of the species to ensure long-term monitoring of population trends.*

### **International agreements:**

*The Giraffe was recently listed on Appendix II of the Convention on Migratory Species (CMS). While 31 countries have ratified the Convention, many with Giraffe populations have not, including Angola, Chad, Ethiopia, Namibia, Somalia, South Africa, South Sudan, and Zimbabwe.*

### **Artificial propagation/captive breeding**

*Giraffes have been bred in zoos, but there is no evidence of commercial breeding operations, and captive breeding is not considered to have any relevance to the conservation of this species (J. Fennessy, in litt., 2019).*

### **Implementation challenges (including similar species)**

*While whole Giraffe trophies are readily identifiable, smaller parts and derivatives may be more cryptic. There is currently no method of easily identifying Giraffe bone to species level in some of the forms in which it is traded (J. Fennessy, in litt., 2019).*

**Potential risk(s) of a listing**

A listing could conceivably result in a fall in demand for Giraffe trophies, due to potential difficulties in obtaining a CITES permit, or the additional stigma that this may attach to the sport (J. Fennessy in litt., 2019). Given that Giraffe numbers have generally increased in several Southern Africa range States in the last 30 years where hunting is permitted, it could be argued that the value attached to Giraffes through trophy hunting has contributed to this increase in population numbers. A fall in demand and consequent decrease in the value of Giraffes to landowners might conceivably contribute to a decrease in Giraffe ownership, and a subsequent decrease in the populations of Giraffe within these countries.

**Potential benefit(s) of listing for trade regulation**

An Appendix II listing would produce data that would provide a clearer picture of a). the full extent of international trade, and b). the provenance of some Giraffe products in trade. It would also provide a more detailed picture of the extent of trade in live specimens.

However, as there is currently no scientific basis to suggest that the current levels of international trade pose a threat to Giraffe populations, this may not ultimately prove useful to the future conservation of the species.

**References**

- Abate, D. & Abate, T. (2017). Factors Affecting the Survival of Giraffe in Ethiopia. *Advances in Life Science and Technology*, 55.
- Arntzen, J.W. Molokomme, D.L., Terry, E.M., Moleele, N., Tshosa, O. & Mazambani, D. (2003). *Final Report of the Review of Community-Based Natural Resource Review in Botswana*. Report by the Centre for Applied Research for the National CBNRM Forum.
- Barnes, J., Nhuleipo, O., Baker, A., Muteyauli, P. & Shigwedha, V. (2009). Wildlife resource accounts for Namibia, 2004. *DEA Research Discussion Paper Number 79*. Ministry for Environment and Tourism (MET), Namibia.
- Bercovitch, F., Carter, K., Fennessy, J. & Tutchings, A. (2018). *Giraffa camelopardalis ssp. thornicrofti*. The IUCN Red List of Threatened Species 2018.
- Bolger, D.T., Ogutu, J.O., Strauss, M., Lee, D.E., Fennessy, J. & Brown, D. *In prep*, [2015]. Masai Giraffe (*Giraffa camelopardalis tippelskirchi*) conservation status report. IUCN/SSC Giraffe and Okapi Specialist Group.
- Bond, I., Child, B., de la Harpe, D., Jones, B., Barnes, J. & Anderson, H. (2004). Private land contribution to conservation in South Africa. In *Parks in transition*: 29–62. Child, B. (Ed.) UK: Earthscan. pp.267.
- Bouche, P., Renaud, P.C., 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*.
- Chaber, A., Allebone-Webb, S., Lignereux, Y., Cunningham, A. & Rowcliffe, M. (2010). The scale of illegal meat importation from Africa to Europe via Paris. *Conservation Letters*, 3: 317–323.
- Chomba, C. & Nyirenda, V. (2015). Status of Trophy Hunting in Zambia for the Period 2003 – 2012: Is Hunting Justified in Zambia? *Global Journal of Biology, Agriculture and Health Sciences*, 4(3): 137–153.
- CMS. (2018). Appendix I & II of CMS. Available online at: <https://www.cms.int/en/page/appendix-i-ii-cms>
- CoP18 Inf. 6. (2019). Supplemental information supporting the CITES CoP18 proposal to list *Giraffa camelopardalis* on Appendix II, as submitted by the Central African Republic, Chad, Kenya, Mali, Niger and Senegal.
- Crosmary, W. (2019). *In litt.* to IUCN/TRAFFIC Analyses Team, Cambridge, UK.
- Dagg, A.I. & Foster, J.B. (1982). *The Giraffe: its anatomy, behavior and ecology. Second Edition*. R.E. Krieger Publishing Co., Malabar.
- Deacon F. & Parker D. (2016). A conservation assessment of *Giraffa camelopardalis giraffa*. In Child MF, Roxburgh L, Do Linh San E, Raimondo D, Davies-Mostert HT, editors. *The Red List of Mammals of South Africa, Swaziland and Lesotho*. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.
- Degeorges, A. & Reilly, B. (2007). Politicization of land reform in Zimbabwe: impacts on wildlife, food production and the economy. *International Journal of Environmental Studies*, 64(5): 571–586.
- du Raan R., Marais, A.J., Fennessy, S., Bercovitch, F., Fennessy, J. (2015). *Country Profile: A rapid assessment of the Giraffe conservation status in the Republic of Zambia*. Giraffe Conservation Foundation, Windhoek, Namibia.
- du Raan. R, Marais, A.J., Fennessy, S., Fennessy, J. (2016). *Country Profile: a rapid assessment of the Giraffe conservation status in the Republic of Namibia*. Giraffe Conservation Foundation, Windhoek, Namibia.
- East, R. (1999). *African Antelope Database 1998*. IUCN, Gland, Switzerland and Cambridge, UK.
- Fennessy, J. (2004). *Ecology of desert-dwelling Giraffe Giraffa camelopardalis angolensis in northwestern Namibia*. University of Sydney.

- Fennessy, J., T. Bidon, F. Reuss, V. Kumar, P. Elkan, M. A. Milsson, M. Vamberger, U. Fritz, & Janke, A. (2016a). Multi-locus analyses reveal four Giraffe species instead of one. *Current Biology*, 26(18): 2,543–2,549.
- Fennessy, J., Du Raan, R., & Fennessy, J. (2016b). *Country profile: A rapid assessment of the Giraffe conservation status in the Republic of Zimbabwe*. Giraffe Conservation Foundation, Windhoek, Namibia.
- Fennessy, J. & Marais, A. (2018). *Giraffa camelopardalis ssp. antiquorum*. The IUCN Red List of Threatened Species 2018.
- Fennessy, J., Marais, A. & Tutchings, A. (2018a). *Giraffa camelopardalis ssp. peralta*. The IUCN Red List of Threatened Species 2018.
- Fennessy, S., Fennessy, J., Muller, Z., Brown, M. & Marais, A. (2018b). *Giraffa camelopardalis ssp. rothschildi*. The IUCN Red List of Threatened Species 2018.
- Fennessy, J. (2019). *In litt.* to IUCN/TRAFFIC Analyses Team, Cambridge, UK.
- IUCN PACO. (2011). *Evaluation de l'efficacité de la Gestion des Aires Protégées*. Parc National de Waza Cameroun International Union for Conservation of Nature, Westand Central Africa Programme. IUCN, Gland, Switzerland and Cambridge, UK.
- Lado, T. (2019). The status of *Giraffa camelopardalis* in South Sudan. Prepared by Thomas Lado, PhD. Department of Wildlife Sciences, College of Natural Resources and Environmental Studies, University of Juba.
- Management Authority of Uganda (2019). *In litt.* to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.
- Marais, A.J., Fennessy, S. & Fennessy, J. (2013). *Country profile: A rapid assessment of the Giraffe conservation status in Cameroon*. Giraffe Conservation Foundation, Windhoek, Namibia.
- Marais, A., Fennessy, J., Fennessy, S., Brand, R. & Carter, K.D. *In prep.* (2016). Angolan Giraffe (*Giraffa camelopardalis angolensis* Lydekker 1903) conservation status report. IUCN/SSC Giraffe and Okapi Specialist Group.
- Marais, A., Fennessy, J., Fennessy, S., Brand, R. & Carter, K.D. (2018). *Giraffa camelopardalis ssp. angolensis*. The IUCN Red List of Threatened Species 2018.
- Mbaiwa, J. (2018). Effects of the safari hunting tourism ban on rural livelihoods and wildlife conservation in Northern Botswana. *South African Geographical Journal* 100(1): 41–61.
- Ministry of Environment and Tourism (MET). (2019). Information on the Namibian Giraffe Population. Supplied by the Ministry for Environment and Tourism, Namibia, *In litt.* to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.
- 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* (amended version of 2016 assessment). The IUCN Red List of Threatened Species 2018.
- Muneza, A. & Fennessy, J. (2017). *A Rapid Analysis of Giraffe Conservation in East Africa*. Giraffe Conservation Foundation, Windhoek, Namibia.
- Muneza, A., Doherty, J.B., Hussein Ali, A., Fennessy, J., Marais, A., O'Connor, D. & Wube, T. (2018). *Giraffa camelopardalis ssp. reticulata*. The IUCN Red List of Threatened Species 2018.
- Namibian Management Authority (2019). Information on the Namibian Giraffe population. *Document supplied to the IUCN/TRAFFIC Analyses Team, Cambridge, UK*.
- Nouredine, A. (2012). *Situation du braconnage des éléphants dans le Mayo Rey (Secteur de Parc National de Bouba N'Djida, Nord Cameroun)*. Garoua, Cameroon.
- Okello, M., Kenana, L., Maliti, H., Kiringe, J.W., Kanga, E., Warinwa, Bakari, S., Ndambuki, S., Kija, H., Sitati, N., Kimutai, D., Gichohi, N., Muteti, D., Muruthi, P. & Mwita, M. (2015). Population status and trend of the Maasi Giraffe in the Mid-Kenya-Tanzania Borderland. *Natural Resources*, 6: 159–173.
- Ondoua, G., Moundjim, E., Marindo, J., Jiagho, R., Usongo, L. & Williamson, T. (2017). *An Assessment of Poaching and Wildlife Trafficking in the Garamba-Bili-Chinko Transboundary Landscape*. TRAFFIC.
- Rogan, A., Lindsey, P.A., Tambling, C.J., Golabek, K.A., Chase, M.J., Collins, K. & McNutt, J.W. (2017). Illegal bushmeat hunters compete with predators and threaten wild herbivore populations in a global tourism hotspot. *Biological Conservation*, 210: 233–242.
- Scott, S. (2013). Botswana bans hunting. *Africa Hunting.com*. Available online: [www.africahunting.com/threads/botswana-bans-hunting.15316/](http://www.africahunting.com/threads/botswana-bans-hunting.15316/).
- TRAFFIC (2002). Maputo's Ivory Markets, Mozambique. *TRAFFIC Bulletin*, 19(2): 57.
- Williams, S., Williams, K., Joubert, C. & Hill, R. (2015). *The impact of land reform on the status of large carnivores in Zimbabwe*. PeerJ 4:e1537; doi 10.7717/peerj.1537.
- Winter, S., Fennessy, J. & Janke, A. (2018). Limited introgression supports division of Giraffe into four species. *Ecology and Evolution*. Wiley Open Access. doi: 10.1002/ece3.4490.
- Wilson, D. & Reeder, D. (eds). (2005). *Mammal Species of the World. A Taxonomic and Geographic Reference* (3rd ed), Johns Hopkins University Press, pp.2,142.

- Wolfson, S. (2018). Nearly 40,000 Giraffe parts have been imported to the US in last 10 years. *The Guardian* 23rd August, 2018.
- Wube, T. (2013). Status of Giraffes in Ethiopia – the case of Mago National Park and Tama Wildlife Reserve. Unpublished Report. Department of Zoological Sciences, Addis Ababa University, Addis Ababa.
- Wube, T., Doherty, J.B., Fennessy, J. & Marais, A. *In prep* (2016). Nubian Giraffe (*Giraffa camelopardalis camelopardalis*) conservation status report. IUCN/SSC Giraffe and Okapi Specialist Group.
- ZPWMA – Zimbabwe Parks and Management Authority (2019). Zimbabwe Giraffe status report.
- Zimbabwe Scientific Authority (2019). *In litt.* to the IUCN/Traffic Analyses Team, Cambridge, UK.