

Country Profile

Republic of Namibia



Giraffe Conservation Status Report

February 2016

General statistics

Size of country: 825,418 km²

Size of protected areas / percentage protected area coverage: >16% in national parks (>36% including community conservancies)

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one species (*Giraffa camelopardalis*) and nine subspecies of giraffe (Muller *et al.* 2016) historically based on outdated assessments of their morphological features and geographic ranges.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 (*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 six 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, Thornicroft's giraffe is genetically similar to the Masai giraffe, and as such considered a separate subspecies of the Masai giraffe (*G. t. thornicrofti*) (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 Angola:

Species: Southern giraffe *Giraffa giraffa*

Subspecies: Angolan giraffe *Giraffa giraffa angolensis*, (formerly *Giraffa camelopardalis angolensis*)

South African giraffe *Giraffa giraffa giraffa*, (formerly *Giraffa camelopardalis giraffa*)

Conservation Status

IUCN Red List (IUCN 2012):

Giraffa camelopardalis (as a species) – Least concern

Giraffa camelopardalis angolensis – not assessed

Giraffa giraffa giraffa – not assessed

In the Republic of Namibia:

In Namibia, giraffe is one of ten species that are classified by the Ministry of Environment & Tourism (MET) as specially protected under Schedule 3 of No.4 of 1975 Nature Conservation Ordinance (Government of Namibia 1975). This classification does not limit hunting of giraffe, but rather requires hunters to obtain specific hunting permits from the Namibian Government before a licence is granted.

Issues/threats

Although the Republic of Namibia (known as South West Africa until 1990 and referred to as Namibia in this report) is one of the only countries in the world that addresses conservation as well as the protection of its natural resources directly in its constitution, conservation efforts in the country still face several challenges (Government of Namibia, 1990). Key threats to the successful conservation and management of biodiversity in Namibia include the impacts of continued population growth, consumption and production patterns, unsustainable land management practices, uncontrolled mining and prospecting, illegal hunting, human wildlife conflict and the effects of climate change (UNCBD 2010).

The absence of adequate land use planning and the low status and capacity of both the Ministry of Environment and Tourism (MET) and the Directorate of Forestry (DoF) of the Ministry of Agriculture, Water and Forestry (MAWF) threatens biodiversity and conservation efforts throughout Namibia (USAID 2010). The implementation of Namibia's policies and laws pertaining to biodiversity conservation and sound natural resource management may be inadequate (USAID 2010). Consequently, there is increasing pressure on terrestrial habitats and resources (water, forests, and wildlife) from a growing population dealing with increasing unemployment, poverty (especially in the rural areas) and the impacts of the HIV/AIDS epidemic (UNCBD 2010; USAID 2010).

Poverty in Namibia's rural areas is linked to deforestation and land degradation (USAID 2010). Poor families use wood fuel, rely on wild foods (particularly during times of drought), and depend heavily on unpredictable rain-fed crops and livestock for their livelihoods (USAID 2010). The controls on wood harvesting and selling of wood products in Namibia are inadequate and, as a result, high rates of deforestation are damaging wooded areas (UNCBD 2010; USAID 2010). The biggest losses of natural woodland have occurred from clearing of land for crop cultivation, cutting of trees for firewood and construction, and the frequent burning of trees as a result of veld fires in the north-east (USAID 2010). This results in the degradation and destruction of wildlife habitat and food resources that is vital for the survival of large mammals such as giraffe. Griffin (1999) wrote that giraffe in Namibia are likely to become endangered if present threatening factors such as over-exploitation, intensive destruction and fragmentation of habitat or other environmental disturbances persist.



Several other causes of concern pertain to the conservation of giraffe in Namibia. A combination of hunting pressure, human population expansion and disease led to the extinction of giraffe in southern Namibia in the late 1800s/ early 1900s, which were then absent from the region for over a century (Rookmaaker 1983; Shortridge 1934). Translocations of giraffe into southern Namibia from the north of the country only occurred in recent decades (Rookmaaker 1983; Joubert & Mostert 1975). Some authors indicated that the apparent disappearance of giraffe from the eastern Kunene Region in the early part of the 20th century was also the result of intensive hunting, predominantly for local consumption and use (Fennessy 2008; Viljoen 1981). Further decline in giraffe numbers occurred throughout the region in the 1980s, partly caused by continued small-scale illegal hunting, despite the inception of focused conservation initiatives (Carter 1990).

Giraffe are a popular species on private game farms throughout Namibia due to their high tourism value. They occur widely across the country in small and fenced protected areas, both public and private, where their movements are restricted. This typically led to the isolation and fragmentation of wildlife populations, especially in the central regions. Similar to other wildlife in Namibia and South Africa, this requires careful management as it otherwise may result in local inbreeding and/or increased pressure on resources (The Windhoek Greenbelt Landscape 2013).

The cumulative impacts of higher temperatures and evaporation rates combined with lower rainfall, all resulting from climate change, are predicted to result in increasing aridification across most of Namibia, lower primary production of rangelands and reduced carrying capacity for wildlife, including giraffe (USAID 2010).

There are currently nine different giraffe subspecies recognised in Africa, two of which occur in Namibia: Angolan giraffe *Giraffa camelopardalis angolensis* and South African giraffe *Giraffa camelopardalis giraffa*. However, new research may show that they are actually the same. However, until their taxonomy has been clarified hybridisation poses a risk for giraffe in Namibia due to the close proximity of Angolan and South African giraffe, particularly in the Zambezi Region.

Small scale illegal hunting is currently not a major threat to giraffe in Namibia as giraffe mainly exist in protected areas (public, private and communal). However, with increasing human population growth and prolonged periods of aridity, this might change. Furthermore, local and international trade in giraffe and giraffe products poses a currently unknown risk to giraffe that should be further investigated as increased numbers of giraffe bones have recently been observed as carved items at local tourism markets.

However, the biggest threat to giraffe and their long-term sustainable future in Namibia and the rest of Africa is our lack of knowledge and understanding of giraffe. To date, no country-wide and only limited long-term research efforts have been undertaken on giraffe populations in Namibia. While giraffe are currently common both inside and outside protected areas in Namibia and the country's giraffe population is assumed to be one of only few growing giraffe populations on the continent, their numbers are essentially unknown as no accurate or standardised estimate of population numbers has ever been completed. This report is the most comprehensive study on giraffe numbers that has ever been undertaken in Namibia.

Estimate population abundance and trends

Historic

Although the first recorded account of giraffe in Namibia dates to the travels of Captain Hendrik Hop, who ventured north of the Orange River in 1761 (Scheepers 1990) giraffe have likely roamed Namibia for hundreds of thousands of years – or more. Petroglyphs, rock paintings and engravings of giraffe adorn many rock faces throughout the north-west Kunene Region (formerly known as Kaokoveld), and their importance as a ceremonial animal for the region's early inhabitants has also been reported (Fennessy 2004; Sherr 1997).



According to Skinner and Chimimba (2005) giraffe formerly occurred in the northern and north-eastern parts of Namibia, ranging south to about 20° south on the Botswana border and westwards into the semi-desert areas of the Kaokoveld in the north-west. The type specimen of *Giraffa camelopardalis angolensis* was collected approximately 240 km south west of Humbe, Angola, north of the Kunene River (Lydekker 1904). Lydekker (1904) reported that the Kunene and Kavango Rivers form a natural barrier between the Angolan and Namibian giraffe populations, thus effectively separating the ranges of *G. c. angolensis*, *G. c. infumata* (east) and *G. c. capensis* (south) (the latter synonym. with *G. c. giraffa*). However, Dagg's (1971) review showed that *G. c. infumata* was in fact synonymous with *G. c. angolensis*, while both Dagg & Foster (1982) and Seymour (2002) identified that *G. c. angolensis* range extends south and eastwards to the Kwando River, Caprivi, Namibia.

Cunningham (2014) summarized anecdotal accounts of early explorers and other authors regarding giraffe encounters in Namibia between the 1850s and 1960s. Explorer C.J. Andersson observed giraffe in the central areas of the country – Waterberg, Omaruru River and Omuramba-Omatoko areas in the mid to late 1860s (Cunningham 2014). When Andersson travelled from Walvis Bay to Otjimbingwe in 1856, he encountered giraffe in the lower reaches of the Swakop River. Ten years later, in 1866, Sea Captain T.G. Een stated that they had been extirpated from the area (Cunningham 2014). Explorer J. Chapman observed giraffe in the Otjimbingwe Region and in the Gobabis area in 1859 (Cunningham 2014). Hunter and explorer F.C. Selous observed numerous giraffe in the Chobe River area in 1880, while D. Reitz observed giraffe in the Khairos area (Etosha National Park) and between Otjitindua and Ubombo in 1925 (Cunningham 2014).

The first recorded ground census of the Etosha Pan area and adjacent Ovamboland was conducted in 1926 and estimated 60 and 40 – 50 giraffe present respectively (Berry 1997).

Shortridge (1934) observed giraffe ranging throughout the former South West Africa, from the Kaokoveld in the north-west, Grootfontein District in the northeast and further east into the Caprivi, east of the Kavango River. Furthermore, Shortridge (1934) postulated that giraffe wandered frequently into the Outjo and Etosha Pan of north-central Namibia, and infrequently into Ovamboland in the north-east. Shortridge (1934) estimated 400 giraffe throughout Namibia, of which approximately 200 were in the Kaokoveld and the remainder in the Grootfontein and Caprivi Regions. By the early 1950s, L. Green estimated at least 1,000 giraffe in the Kaokoveld area (Cunningham 2014).

Records of giraffe distribution in Namibia in the mid-1950s to mid-1960s correlate with those of Shortridge (1934). At the time, giraffe were still widespread and numerous throughout the Kaokoveld, except in the coastal desert, and on farms in the Tsumeb and Grootfontein Districts northwards to the Okavango River, and eastwards into the Caprivi (Dagg 1962; Bigalke 1958; ZLS 1956). Giraffe was also reported to occur in the Etosha Pan region westwards to the coast (ZLS 1965; Bigalke 1958). In Ovamboland, the species was said to occur towards the border (ZLS 1965; Bigalke 1958) and in the Gobabis District, only on one farm in the eastern part of the district (Bigalke 1958). However, giraffe were reported as extinct in the Gobabis District by the mid -1960s (ZLS 1965).

According to Shortridge (1934), approximately 200 giraffe resided in the Kunene Region in the early 20th century and had a restricted range to the east. Local residents reported that no giraffe existed in the western desert reaches of the Kunene Region in the early 1900s (Shortridge 1934), but this may have been an inaccurate assumption from residents living in Kunene's east. Journalist and author L. Green estimated at least 1,000 giraffe in the Kaokoveld area in 1952 (Cunningham 2014). Almost two decades later, giraffe were widespread throughout this western region with low numbers observed in eastern Kunene (Owen-Smith 1986). This situation persisted until the beginning of the 1980s, when small populations of giraffe began re-establishing themselves in the east (Viljoen 1981).



The natural distribution of giraffe in southern Namibia is relatively unknown, although Brown compiled an unpublished historical review of large mammals occurring in southern Namibia that showed giraffe sporadic distribution (Brown et al. 2014). Rookmaaker (1983) referred to various travellers and expeditions that observed giraffe north of the Orange River. Early writers who met giraffe in the vicinity of the Orange River include Paterson (1790), le Vaillant (1796) and Lichtenstein (1812) (Cunningham 2014). Furthermore, the type specimen of the South African or Cape giraffe, *G. c. capensis* came from a sample shot near Warmbad in southern Namibia (Dagg & Foster 1982; Rookmaaker 1983). Therefore, it is likely that giraffe either persisted in low numbers or migrated frequently between southern Namibia and north-western South Africa (Fennessy 2004). This recent activity has done little to help understand the historic taxonomy and distribution of the species (Fennessy 2004). Shortridge (1934) noted that giraffe skull remnants were found in several areas previously assumed to be outside the natural distribution of giraffe. Skulls from a cave in the Karibib District in the central west region of Namibia, from Gobabis in the central east, as well as in the vicinity of coastal Luderitz in the southwest, supported the suggestion that giraffe may once have ranged over much of Namibia. In addition, Shortridge (1934) also stated that folklore surrounding giraffe is evident in the indigenous culture in southern Namibia. It is therefore unclear to ascertain their true historic distribution of giraffe countrywide.

In the 1970s, some 4,000 giraffe were estimated in Namibia (Joubert & Mostert 1975).

Recent

North-western Namibia

Giraffe numbers in the Kunene Region declined from a reported 317 individuals (Viljoen 1982) in the 1980s to an estimated 267 individuals in the mid-1990s (Fennessy et al. 2003). In 1991, 22 giraffe (twelve bulls and ten cows) were translocated from western Etosha National Park to the Purros area, Hoarusib River, to help re-establish the area's population (Fennessy 2004). However, neither pre- nor post-translocation surveys were undertaken, limiting any assessment of translocation success (Fennessy 2004).

Conflicting population estimates exist for giraffe in the Kunene Region for the early to mid-1990s (Scheepers 1992; Loutit 1995). In 1998 the estimate was 548 individuals and in 2000 it was 1,105 (Craig 2000). This increase of almost 100% is not biologically feasible in the two-year period between surveys, considering that giraffe have a mean gestation period of 457 days (Hall-Martin & Skinner 1978) and a mean calving interval of 19.9 months (Skinner & Hall-Martin 1975).

Above average rainfall during the late 1990s and increased conservation awareness and monitoring may have contributed to increased numbers reported since the 1980s (Fennessy 2004). Improved survey methods and analytical techniques have probably also provided better estimates of the population in the Kunene Region, despite the discrepancies noted above (Fennessy 2004; Craig 2000).

An aerial sample count of North-western Namibia was conducted in 2005 (MET 2005a). The survey was originally planned to cover an area of 102,156 km², but delays as well as staff and equipment constraints resulted in only 31,144 km² of the area being surveyed (MET 2005a). One hundred and fifty-three giraffe were estimated to populate the area, of which 93 occurred in the Palmwag Concession and another 60 in the Etendeka Concession (MET 2005a).

In 2007, another aerial survey of North-western Namibia was conducted (MET 2007). This survey was also intended to cover an area of 102,156 km², but financial constraints and equipment failure resulted in only 56,612 km² of the area being counted (MET 2007). A total of 877 giraffe were estimated to populate the area, of these 135 were estimated in the Palmwag Concession, 90 in the Etendeka Concession, 179 in #Khoadi//Hôas Conservancy, 59 in Torra Conservancy, 20 in Doro !nawas Conservancy, 34 in Sesfontein Conservancy and 21 in Sorris Sorris Conservancy (MET 2007). The totals derived for this survey should perhaps be deemed



as absolute minimum numbers as the survey was undertaken by a completely inexperienced crew (MET 2007).

Limited comparison can be made between the 2005 and 2007 surveys as a much smaller area was surveyed in 2005 (MET 2007). The good rainy season of 2006 is however apparent from the data when comparing the areas surveyed in both 2005 and 2007: Etendeka's giraffe population increased from an estimated 60 giraffe in 2005 to an estimated 90 in 2007; the Torra Conservancy's population increased from 13 to 59; the #Khoadi-//Hôas Conservancy's population increased from 79 to 179; while 17 giraffe in Sesfontein increased to an estimated 34 individuals in 2007 (MET 2007).

Conservancy	2002	2003	2004	2008	2010	2011	2012
Anabeb				5	13	15	22
Doro Inawas*	20	16	16	15	14	22	37
Ehi-Rovipuka	100	300	300	158	197	229	456
Etendeka	100	100	400	250	279	258	284
Hobatere	100	100	160	321	107	42	54
Huab	5						
#Khoadi-//Hôas	140	156	150	54	137	126	145
Marienfluss	2	7		5	1		
Okangundumba	10	4	4				
Okondjombo					1	7	29
Omatendeka	40	40	60	20	28	37	63
Orupembe	10	13	20		31	27	47
Orupupa		5	5				4
Otjimboyo							1
Otuzemba			60				
Ozondundu		2			4	3	5
Palmwag	200	200	300	137	179	135	202
Purros	50	100	150	123	92	108	165
Sanitatas	15	30	41	49	31	18	22
Sesfontein	20	170	400	93	43	40	78
Sorris Sorris	10	5	5		10	8	27
Torra	100	40	20	44	81	83	132
Total	922	1288	2091	1269	1235	1143	1751

Source: NACSO 2015

In the Outjo Region, Etosha Heights Game Safaris counted 142 giraffe in 2007, 116 in 2009, 157 in 2011 and 154 in 2013.

North-central Namibia

Aerial surveys have been conducted in Etosha National Park since 1968. Apart from a series of elephant surveys, these surveys were strictly speaking not comparable as they were undertaken at irregular intervals with different sampling intensities and area cover. The first comprehensive multi-species sample count was conducted in 1995, and repeated in 1998, 2000, 2002, 2004 and 2005 (see table below).

Year	1995	1998	2000	2002	2004	2005
Giraffe numbers in Etosha NP	1837	1502	2,740	3063	3,550	3,143

Source: H. Kolberg pers. comm.



According to these counts, the giraffe population of Etosha National Park increased from an estimated 1,837 giraffe in 1995 to 3,143 individuals in 2005 (MET 2005a; H. Kolberg pers. comm.). According to Killian & Kolberg (2004), the steady increase in giraffe numbers could have been attributed to an increase of browse in the park.

In 2005, a total aerial count of the Kaross and Hobatere Concessions were conducted. 224 giraffe were counted, of which 48 and 176 occurred in Karros and Hobatere respectively (MET 2005b). The state of the game-proof fence around both Kaross and Hobatere are in a dire state (MET 2005b). In Kaross there are several gaps in the fence on the southern and western boundary due to flood damage and elephant breaks (MET 2005b). The southern boundary fence of Hobatere is virtually non-existent and the western boundary, which is part of the veterinary cordon fence, even has many gaps (MET 2005b).

In 2005, an aerial survey of the Waterberg Plateau Park estimated the giraffe population at 140 individuals (MET 2005c).

North-eastern Namibia

Aerial surveys of north-eastern Namibia were conducted in 2004 (Kolberg 2004; Stander 2004a). The surveys covered an area of 55,247km², and estimated a population of 883 giraffe (Kolberg 2004; Stander 2004a). Of these, 419 occurred in Khaudum Game Park, 101 in #Na-Jaqna Conservancy, 89 in Nyae Nyae Conservancy and 40 in Bwabwata National Park (21 in Mahango Game Reserve and 19 in Susuwe) (Kolberg 2004; Stander 2004a).

An aerial wildlife census of the Caprivi river systems in Namibia's North East was also conducted in 2004 (Stander 2004b). During this total count, which concentrated on the water bodies and floodplains of the Caprivi and Kavango perennial river systems (Kavango, Kwandu, Linyanti, Chobe and Zambezi Rivers), 21 giraffe were recorded: eight occurred in the Linyanti/Chobe survey stratum and 13 in Mamili National Park (Stander 2004b).

Another survey of north-eastern Namibia (not including Mangetti National Park) was conducted in 2008 (Kolberg 2008): 118 giraffe were counted in Khaudum Game Park, two giraffe in East Caprivi, one in Kavango, two in Mahango Game Reserve, 12 in #Na Jaqna Conservancy, seven in Nyae Nyae Conservancy and one in Susuwe (Kolberg 2008). However, estimates were not calculated for these areas as the number of observations were too low. The survey was flown with inexperienced observers, many of them participating in their first ever survey. Only the Khaudom blocks were flown with an experienced crew. Practical experience has shown that inexperienced crews tend to see less than experienced crews as they tend to look around instead of concentrating on the counting strip, thus resulting in a possible undercount (Kolberg 2008). The inexperience of the observers is apparent when comparisons are made between the data of the 2008 count and that obtained in the survey of the same area in 2004.

It is important to note that recent genetic research has shown that the giraffe in Susuwe are South African giraffe, while all other giraffe in Namibia are Angolan giraffe.

Central Namibia

The small parks in Namibia, Daan Viljoen, Hardap, Naute and von Bach Game Parks, are counted by means of a total count (Kolberg 2004). During total counts of game in the Von Bach Game Park in both 2004 and 2005, 12 giraffe were recorded (Kolberg 2004; MET 2005e). In 2005, 4 giraffe were recorded during a total count of Daan Viljoen Game Park (none were present in 2004) (MET 2005e). Regrettably no previous count data is available for any of the parks (Kolberg 2004).

Southern Namibia

During an aerial survey of the Hunsberge, a mountain complex in the extreme south of Namibia that falls mainly within the Ai-Ais Hot Springs Game Park, in 2005, five giraffe were observed (MET 2005d). Some bordering farms that are deemed important to the ecology of the area were included in the survey (MET 2005d).



In 2006, as part of Gondwana Canyon Park's wildlife reintroduction programme, four giraffe were captured and translocated from a farm in the Maltahöhe District some 250km to the north and released in the Gondwana Canyon Park (Brown et al. 2013). The Gondwana Canyon Park is a private protected landscape that forms part of the Fish River Canyon ecosystem and borders on the Ai-Ais National Park (Brown et al. 2013). One 'problem giraffe' was later shot by a farmer (Brown et al. 2013).

Seven giraffe were introduced to NamibRand Nature Reserve in 2007. The population increased to nine giraffe with the birth of two calves in 2008, but one female disappeared in February 2009 (Odendaal & Scott 2010). Another female gave birth to a calf early in November 2009, but both individuals died shortly afterwards (Odendaal & Scott 2010). This brought the total number of giraffe in the Reserve to eight in 2010 (Odendaal & Scott 2010). The population was reduced to two bulls and two cows during a successful capture operation in the same year (Scott 2011). Two calves were born in 2011 and one more calf was born in 2012, bringing the total to seven giraffe (Scott 2011, 2012).

While giraffe occurred on several private farms in Namibia's south, these numbers are unknown.

Current

North-western Namibia

Most recent survey data available for north-western Namibia was collected in 2013. The table below summarises the data (source NACSO 2015):

Conservancy	2013
Anabeb	53
Doro !nawas*	51
Ehi-Rovipuka	461
Etendeka	208
Hobatere	
Huab	
#Khoadi-//Hôas	242
Marienfluss	15
Okangundumba	
Okondjombo	44
Omatendeka	143
Orupembe	46
Orupupa	31
Otjimboyo	2
Otuzemba	
Ozondundu	7
Palmwag	215
Purros	223
Sanitatas	24
Sesfontein	143
Sorris Sorris	44
Torra	140
Total	2039

Additional aerial surveys of the Palmwag and Etendeka Concession Areas were conducted in 2014. In these surveys, 128 giraffe were estimated to occur in the former and 68 in the latter area (K. /Uiseb pers comm.).



North-central Namibia

In 2012 Etosha National Park's giraffe population was estimated at 3,293 individuals (H. Kolberg pers comm.)

The giraffe population in the Waterberg Plateau Park increased from an estimated 140 giraffe in 2005 to an estimated 195 individuals in 2013 (K. /Uiseb pers comm.).

An aerial sample count of the Tsumeb and Grootfontein Districts were conducted in 2012. The study area covered private land between Etosha National Park and Mangetti National Park and estimated a giraffe population of 1,743 individuals (K. /Uiseb pers comm.).

North-eastern Namibia

In 2013, an aerial survey of wildlife and domestic livestock of the Caprivi were conducted. A total area of 16,733 km² was sampled and included Bwabwata, Mudumu and Mamili National Parks, as well as adjacent areas (Craig & Gibson 2013). 324 giraffe were estimated to populate the region, of which 100 individuals were estimated to occur in Eastern Caprivi North, 81 in Eastern Caprivi South, 45 in Linyanti, 54 in Buffalo/Mahango, 15 in Kwando and 30 in Susuwe (Craig & Gibson 2013). The species have been reintroduced to some conservancies but they are not numerous and appear to be concentrated in protected areas (Craig & Gibson 2013). In the same year, an aerial sample count of Khaudum National Park estimated a giraffe population of 698 individuals (K. /Uiseb pers comm.). Again, it is important to note that the giraffe in Susuwe are South African giraffe, while all other giraffe are Angolan.

Fourteen giraffe were observed during a total aerial count of wildlife in Mangetti National Park in 2014 (K. /Uiseb pers comm.).

Central Namibia

There are currently 11 giraffe in Daan Viljoen Game Reserve.

Southern Namibia

Giraffe are also present in the Namib Naukluft National Park, which is home to an estimated 10 giraffe, and some private properties in the area.

Due to the impacts of giraffe browsing on the limited amount of vegetation in the NamibRand Nature Reserve, the decision was made to reduce the reserve's giraffe population (Scott 2012). In 2013, four of NamibRand's seven giraffe were translocated from NamibRand Nature Reserve to a private property, Excelsior, situated south of NamibRand, that forms part of the Pro Namib Conservancy (N. Odendaal pers. comm.).

In 2013, 13 giraffe were introduced to Gondwana Canyon Park. Two consignments of young giraffe, comprising five males and eight females, were captured on the farm Nomtsas north of Maltahöhe and translocated to Gondwana Canyon Park (Brown et al. 2013).



Private land Namibia wide

In addition to available survey and game count data, the Giraffe Conservation Foundation attempted to determine an estimate of giraffe numbers on private farms in Namibia. The table below summarises these estimates provided by private farm owners and managers/staff. The data was collected through surveys (telephone and questionnaires) between between June 2014 and December 2015.

Region	Private Land (Reported)	Private land (Estimate)
Kunene	701	1,140
Otjozondjupa	946	1,694
Omaheke	30	251
Khomas	132	373
Hardap	71	33
Karas	0	0
Erongo	1,219	2,314
Omusati	0	0
Oshikoto	20	20
Kavango West	7	7
Kavango East	0	0
Zambezi	0	0
Oshana	0	0
Ohangwena	0	0
Total	3,126	5,832

During the survey it was determined that losses on private land (other than old age and trophy hunting) include accidental (injuries from falling, being caught in fences and lightning strikes), poaching, predation (lions) and snake bites.

Commercial Conservancies & Concessions

Giraffe following numbers are from within commercial conservancies and based on game counts conducted in 2013. These counts were conducted in open areas, game camps and farms belonging to the various conservancies (G. Heger (CANAM) pers. comm.).

Conservancy	2013 Estimates
Kalkfeld Conservancy	223
Khomas Hochland Conservancy	46
Okawi Conservancy	51
NEE	144
Waterberg Conservancy	32
Black Nossob Conservancy	15
Namtanga Conservancy	40
Total	551



Summary

In 2004, cumulative giraffe numbers from various population surveys (Ipinge 1997; Kolberg 1998 & Craig 2000) have been tallied by Fennessy (2004) to yield estimates of around 5,000 individuals. However, the African Antelope Database (East 1999) estimated some 6,690 individuals for Namibia, while a national wildlife inventory, completed in 2004, estimated Namibia's giraffe population at 10,415 individuals (Barnes *et al.* 2009). It is unlikely that the variation in estimation reflects true change in population size. The discrepancies in giraffe population estimates likely resulted, again, from limited research, a poor understanding of giraffe population dynamics in Namibia, and a lack of standardised methods used in calculating population estimates (Fennessy 2004).

Based on our survey, we now estimate that there are a total of 12,000 giraffe in Namibia. 6,500 of these occur on private land, 2,000 on communal land and 3,500 in National Parks.

While most of these giraffe are Angolan giraffe, approx. 100 South African giraffe occur in the Susuwe area of Bwabwata National Park in the Zambezi Region.

The table below summarises the estimated numbers by region:

Region	Giraffe number
Erongo	2,600
Hardap	100
Karas	20
Kavango East	750
Kavango West	20
Khomas	500
Kunene	5,600
Ohangwena	-
Omaheke	250
Omusati	20
Oshana	-
Otjozondjupa	2,000
Zambezi	150 (50 Angolan, 100 South African)
Total	12,000

Future Conservation Management

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

- Development of National Giraffe Strategy for Namibia;
- Support to dedicated giraffe conservation, habitat protection, anti-poaching, education and awareness initiatives (government, NGO and academic);
- Finalisation giraffe genetic research on populations in Namibia;
- Ongoing long-term conservation research on giraffe populations in Namibia.

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Map

