

Lion *Panthera leo*



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Namibian conservation status	Vulnerable
Global IUCN status	Vulnerable
Namibian range	94,300 km ²
Global range	~1,655,800 km ² globally, including 1,400 km ² in India
Population estimate	Namibia: ~800 Global: ~20,000
Population trend	Stable in Namibia, declining globally
Habitat	Moist sub-tropical savanna in the east, to arid and coastal areas in the west
Threats	▶ Persecution and retaliatory killing by farmers ▶ Excessive problem animal killing by MEFT and permitted farmers or hunters ▶ Management of trophy hunting ▶ Poaching for body parts ▶ Bycatch in bushmeat poaching

DISTRIBUTION

In Namibia lions occur in the north-western, north-central and north-eastern regions. They are found from the very arid Skeleton Coast National Park and in and around Etosha National Park, through to the relatively higher rainfall areas of Kavango East and Zambezi Regions. Africa-wide, lions are now mostly restricted to protected areas, and are currently restricted to only 8% of their former range (Bauer *et al.* 2016). In addition, as wild grazers have been replaced with domestic ones, lions have been increasingly persecuted. Until very recently little was known about the lions of

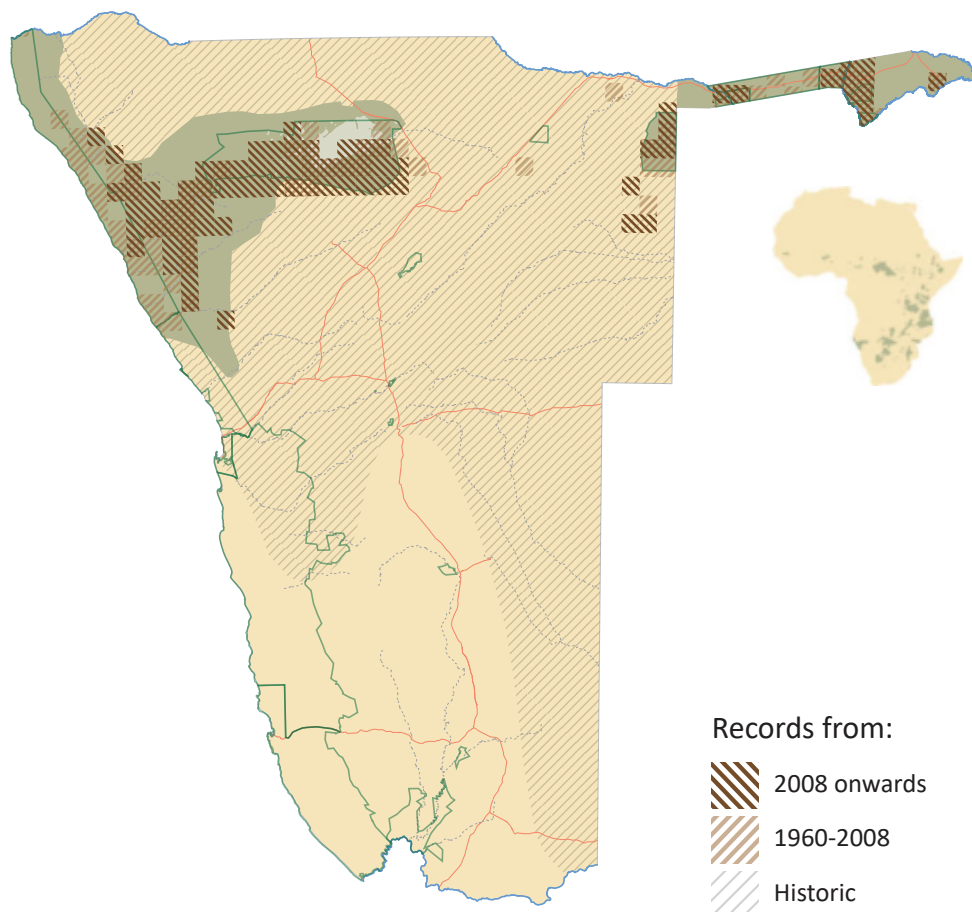
Angola, South Sudan and the Central African Republic (Bauer *et al.* 2016). In the case of Angola, steep declines in range are now confirmed from recent surveys (unpublished data). For example, a survey carried out over 2015 and 2016 in Luengue-Luiana and Mavinga National Parks in Angola found that there were <50 lions left in the two parks, as compared to earlier estimates of up to 1,000 lions (Funston *et al.* 2017b).

“Very occasionally a wandering lion may be still heard within a mile or two of Windhoek.” This was written by Shortridge in 1934, and it shows the extent that lion range has

Distribution records of lion (1960 to present), and present estimated area of distribution.

Inset: African distribution of lion according to IUCN (Bauer *et al.* 2016). Historical distribution (hatched) from Shortridge (1934).

The Namibian distribution in the main map is more up to date and does not necessarily agree with the distribution shown in the inset.



diminished since then (Shortridge 1934). In the mid-1800s Andersson reported lion throughout Namibia (Andersson 1875), but they steadily retreated with the advance of European settlement, and the historic distribution shown in the map is as Shortridge recorded it in 1934.

POPULATION ESTIMATE AND TREND

Across Africa lions are estimated to have declined by more than 50% in the past 30 years, with approximately 20,000 individuals now thought to exist in the wild (Bauer *et al.* 2015). This downward trend has occurred Africa-wide with the exception of four southern African countries: Botswana, Namibia, South Africa and Zimbabwe, where lions are thought to have increased by about 11% over the last 20 years. The difference for these four countries is partly due to the establishment of fenced, intensively managed and relatively well-funded reserves to which lions have been reintroduced, as well as better-than-average conservation practices in non-fenced areas (Packer *et al.* 2013).

Regional lion population trends are closely mirrored by the trend of their main prey species, based on information from 78 herbivore populations monitored between 1970 and 2005 in western, eastern and southern Africa. While herbivore population sizes increased by 24% in southern

Africa, they declined by 52% in eastern Africa and by 85% in West Africa (Craigie *et al.* 2010).

In Namibia the lion subpopulation in Etosha National Park is estimated to have been relatively stable at 400–450 lions for the last two decades, notwithstanding quite intense persecution rates along its boundaries (MEFT unpublished data). Over the same time period lions in the Kunene Region increased from only 20–25 individuals in 2000 to 130–180 (MEFT unpublished data). In Kunene the desert-adapted lions comprise three prides that occupy the harshest conditions in the Skeleton Coast National Park, with a further six prides in the conservancies that adjoin this area. These conservancy areas are sparsely populated by people but there is no shortage of livestock. Particularly in times of drought, lions and livestock interact more regularly near settlements in the Puros, Sesfontein, Anabeb, and Torra Conservancies. The desert-adapted lions of north-west Namibia are immensely valuable to the tourism industry, but poor livestock husbandry and range management practices, and a culture of killing conflict-causing lions, puts this population at risk.

Although lions occasionally move between Etosha and Kunene there are no resident prides in the more human- and livestock-populated places in between, although some



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lions occasionally reside outside western Etosha in the Etosha Heights area and along the southern boundary with Ongava. Beyond the Etosha-Kunene area, lions also occur on a number of fenced private properties including Kalahari Game Ranch, Erindi and Erongo. These animals likely form a fairly functional and stable meta-population although local crisis situations do occur, invariably resulting in a number of lions being killed.

In the north-east (Kavango East and Zambezi Regions) lions have declined to fewer than 100 individuals over the last three decades. Throughout the two regions lions are mainly restricted to protected areas, although the east Zambezi lions occasionally safely move into adjoining conservancy areas. Lions in this area remain highly vulnerable to persecution by livestock owners or MEFT officials. To minimise these threats, establishment of >150 lion-proof kraals has resulted in an 80% decline in lion attacks on cattle and a 95% decline in lion killing from 2012 to 2019 (Hanssen & Fwelimbi 2019). The initiation of a Wildlife Credit Scheme in the Mudumu South Complex, where communities receive payment for lion sightings by tourists, holds much promise, together with holistic rangeland management, as a suite of activities to foster greater tolerance towards lions and unlocking their potential value to society. Just as in the north-west, trophy hunting or killing of problem lions is a threat to the overall stability of the lion populations and can

result in an increase in conflict outside parks. This is because when adult pride males are killed, females with cubs from that pride often move out of protected areas into communal areas in order to protect their cubs from incoming males, who may kill their cubs.

The eastern floodplain along the Chobe River does not have resident lions, although prides of lions from Chobe National Park in Botswana do cross over to the Namibian side of the river and are becoming increasingly valuable to tourism operators there. Whole prides do occasionally spend a few days at a time in the vicinity of lodges in Namibia. In this area these lions are extremely vulnerable to retaliatory killing by Namibian livestock owners, as large herds of cattle graze on the floodplain where 87% of all lion attacks on cattle take place (Hanssen & Fwelimbi 2019). In the five Chobe River conservancies, 227 cattle were killed by lions over a three-year period from 2016 to 2018, resulting in the retaliatory killing of between 35 and 40 lions (Hanssen & Fwelimbi 2019). These edge effects impact on the stability of lions of Chobe National Park in Botswana, which could possibly be in decline as adult females and cubs are often killed in retaliation for livestock losses. Once again, poor livestock and rangeland management practices underpin much of this preventable conflict.

Bwabwata National Park is relatively poorly populated

with lions, with only one pride in each of the core areas. In the Kwando Core Area, there are about twenty lions with recent sightings in the Mashambo area; in Buffalo there is a single adult lioness, two litters of cubs (two years apart) and a pair of adult males. In the multiple use area lions are vulnerable to changing land use practices and they are vulnerable to persecution both within the national park and in adjoining protected areas in both Angola and Botswana. The expansion of settlements from Omega 1 through to Omega 3, along with increasing numbers of illegal cattle and habitat destruction, are a threat to resident lions and an impediment to lion recovery in the park.

Road mortality of lions has increased in the Zambezi Region with three lions being killed by vehicles along the highways through Bwabwata and Mudumu in 2017/2018. Increasing human density along the Okavango River has led to the extirpation of lions from the Mahango Core Area. It is unlikely that lions will persist there even if reintroduced, as they are too vulnerable to edge effects in this small protected area.

Lions are struggling to recover their numbers in the Khaudum National Park and adjacent Nyae Nyae Conservancy, where historically there were stable prides (MEFT unpublished data). People and their livestock have now permanently settled south of Nyae Nyae, where there are indications of occasional incidents of poisoning. The development of small-scale commercial livestock farms along the western boundary of Khaudum is an impediment to the potential reintroduction of lions and the recovery of resident lions. Intensive monitoring of lions is being undertaken by MEFT that includes collaring with GPS/satellite collars and branding of individuals. This has revealed that the biggest threat to the recovery of lions in this area is persecution in neighbouring Botswana. The most important connectivity area for Namibia's north-eastern lion population (Khaudum to east Zambezi) is through northern Botswana. Although human and cattle numbers are not extensive in Ngamiland, tolerance of wildlife in general is low. Khaudum's lions are regularly killed in Botswana, with half a pride of females and cubs being shot during 2018. Since lion monitoring began, all but one adult male lion that have dispersed from the Khaudum population have been killed in Botswana (MEFT unpublished data).

The capture and removal from the system of the entire buffalo population in Nyae Nyae Conservancy during the 1990s, due to the perceived disease threat to livestock by Veterinary Services, is likely to have partly contributed to the decline in lion numbers. Lions no longer occur in Kavango West and are absent from the recently established Mangetti National Park.

We estimate the total lion population in Namibia at about 800 individuals when including the various private reserves.

It would be possible for this number to increase to over 1,000 if the challenges to lion recovery in Kavango East and West, Kunene and Zambezi Regions of Namibia are overcome.

ECOLOGY

In Africa lions have a broad habitat tolerance, being absent only from tropical rainforests and the interior of the Sahara Desert (Nowell & Jackson 1996a).

Lions tend to live at higher densities than most other felids, but there are wide variations from <1 lion/100 km² in desert, to 40 lions/100 km² in the Ngorongoro Crater. In Namibia, desert-adapted lions exist at densities of 0.05–0.1 lion/100 km² (Stander 2006) but in Mudumu and Nkasa Rupara National Parks lions can occur at densities up to 6–8 individuals/100 km² (Hanssen & Funston unpublished data). In Etosha lions occur at densities of 2–3 lions/100 km² (Trinkel 2013, MEFT unpublished data).

Lions are the most social of the cats, with related females remaining together in prides, and related and unrelated males forming coalitions competing for tenure over prides. Average pride size (including males and females) is four to six adults (Schaller 1972, Stander 1991a). However, especially in arid areas such as Namibia, prides often split into smaller groups when hunting, sometimes for extended periods of time. Stander (1991a) found the average pride size in Etosha National Park to be 12.5 (range 9–20). This is probably the only area in Namibia where lions regularly occur at typical large pride sizes, with prides in most other areas experiencing some sort of social disruption induced by anthropogenic mortality. However, large prides of 15 to 20 lions have at times existed in Nkasa Rupara National Park and in Kunene Region. Pride males often venture over large distances looking for new females, making them vulnerable to persecution. Pride home ranges can vary widely even in the same region e.g. from 266–4,532 km² in the Kgalagadi Transfrontier Park of South Africa and Botswana (Funston 2011).

In Kunene Region the mean home range size of 18 male and female lions was 4,344 km² (range 618–12,642 km²) (Stander 2018). This declines to an average home range size of 600 km² (range 150–2,075 km²) in Etosha National Park (Stander 1991a). Even with the relatively higher prey densities of the Zambezi Region, lions still have quite large home ranges of about 200–500 km² (Moeller 2014).

Although lions drink regularly when water is available, they are capable of obtaining their moisture requirements from prey and even plants (such as the tsamma melon in the Kalahari Desert), and thus can survive in very arid environments (Stander 2006). Medium- to large-sized ungulates that typically weigh 150–300 kg, such as

antelopes, zebra and wildebeest, form the bulk of their prey, but lions will prey on large animals such as African buffalo and giraffe when the opportunity exists (Hayward & Kerley 2005). Smaller prey such as impala, springbok and warthog are killed more regularly than larger species, but do not constitute the bulk of meat eaten, which typically comes from medium-sized prey (Hayward & Kerley 2005). Lions tend to only hunt the young of very large prey such as elephant and rhino but will kill injured or debilitated subadults and adults of these species.

As the densities of elephants have increased in parts of lion range in the Kavango-Zambezi Trans-Frontier Conservation Area (KAZA TFCA), so there has been an increase in predation on elephant calves in recent years, occurring in the late dry season or droughts when elephants are nutritionally stressed (Power & Shem Compion 2009). Lions in the Zambezi Region are adept at hunting buffalo and readily scavenge on dead hippos. It is due to these large prey species that lions are able to persist in small parks surrounded by human settlements. They have been observed killing kudus, sable and waterbuck; lechwe and reedbuck have been identified in their scat (Hanssen unpublished data).

Lions also scavenge, displacing all other predators from their kills, but large groups of spotted hyaenas can drive groups of female lions from their kills, although spotted hyaenas in Etosha do not have large enough group sizes to achieve this (Trinkel & Kastberger 2008). Desert-adapted lions subsist

mainly on gemsbok and zebra, but readily kill ostriches, giraffe, and even springbok. These hunts often occur near springs where wildlife visit for water, and in dry riverbeds (Stander 2018). Lions that live within the Skeleton Coast National Park kill seals and sea birds, and scavenge on whale carcasses when available (Stander 2019).

THREATS

Across Africa lions face numerous threats, including (in rough order of importance) prey depletion or direct mortality in snares and traps associated with bushmeat poaching (Lindsey *et al.* 2013a), human-lion conflict and persecution (Frank *et al.* 2006), habitat destruction (Henschel *et al.* 2014), invasion of protected areas by livestock, poorly managed trophy hunting (Packer *et al.* 2009, 2011, Rosenblatt *et al.* 2014) and trade in body parts (Williams *et al.* 2017).

Human-lion conflict

In Namibia the primary and most overarching threat to lions is persecution for livestock predation. Lions can be relatively easily tracked down and shot or speared, seldom moving far away from the carcass of an animal they have killed, and their scavenging behaviour makes them particularly vulnerable to poisoned carcasses put out to eliminate predators. Lions are thus very vulnerable to persecution and can suffer dramatic population declines when it intensifies (Kissui 2008).



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Information on the exact numbers of lions killed throughout their range from human-lion conflict is lacking, but in Namibia the Event Book system allows fairly accurate monitoring of the numbers of lions killed. Along the boundaries of Etosha for the last 20 years about 40 lions are killed each year because of conflict, either by cattle farmers or MEFT officials (MEFT unpublished data). Other than killing regularly offending lions, which is the advocated policy (Stander 1991a), not much has been attempted at a national scale to actively prevent livestock depredation from occurring. Furthermore, data from the Kunene Region show that 37 lions were killed due to conflict in the period 2005–2015 (Ministry of Environment and Tourism 2016), while about 5–10 lions are killed per year in the Kavango and Zambezi Regions (Funston *et al.* 2017a, Hanssen & Fwelimbi 2019). Thus, the overwhelming anthropogenic mortality of lions in Namibia is due to persecution in retaliation to lion predation on livestock.

The hunting of “problem lions” for profit is acknowledged as a means of offsetting the costs incurred due to livestock lost to lions in communal conservancies (Ministry of Environment and Tourism 2018). Members of communal conservancies support trophy hunting generally, and view it as a key reason for supporting wildlife conservation in these areas (Angula *et al.* 2018, Störmer *et al.* 2019). However, the targeting of “problem lions” for trophy hunting is problematic in that it does not solve the real issue that causes conflict (poor livestock husbandry) and is open to flagrant abuse. Many lions shot as trophies to address

conflict are not the offending lions; they tend to be the biggest, most impressively maned lions that hunters can bait into or find in an area (L Hanssen & P Funston pers. obs. 2018).

Furthermore, “problem lions” are often young dispersing lions that soon after transgressing and killing a few cows, might change their behaviour or move on to breed in a new area (Elliot *et al.* 2014). Killing these lions at this critical age of their lives is not advisable for maintaining genetic diversity.

Thus hunting “problem lions” as trophies is a flawed system that does not solve the problem. It should be re-evaluated, along with at times excessive trophy hunting of male lions. NGO and government-led initiatives should be developed to address the livestock husbandry practices that facilitate much of the conflict.

Evidence from several projects Africa-wide, and in parts of Namibia, suggests that human-lion conflict can be substantially minimised through the implementation of appropriate livestock management measures (Hazzah *et al.* 2014, Ministry of Environment and Tourism 2016, Hanssen & Fwelimbi 2019). These include creating an early warning system whereby livestock farmers are alerted when lions approach their homesteads (Weise *et al.* 2018), keeping cattle in lion-proof kraals (bomas) at night, and herding cattle during the day as part of a broader rangeland management strategy (Hanssen & Fwelimbi 2019).



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Potentially, mechanisms for insuring against livestock losses and/or creating incentives to implement these measures are some of the primary responses to resolving human-lion conflict (Frank *et al.* 2006, Hazzah *et al.* 2014). Currently, the Ministry of Environment, Forestry and Tourism assists livestock farmers who lose animals to predators through the Human-Wildlife Self-Reliance Scheme, which partially offsets the costs of their livestock losses (Ministry of Environment and Tourism 2018).

However, new approaches to address human-lion conflict holistically need to incorporate many of the approaches above, along with solid principles of rangeland management. A further requirement is to unlock the value of (and thus appreciation for) lions to communities above those of conservancy membership and traditional agriculture. This can be achieved through performance payment schemes and more focused lion-related tourism offerings (e.g. lion monitoring guided safaris). One of these promising new plans is the Wildlife Credit Scheme, which provides a mechanism for tourists who view lions in conservancies to pay into a fund that the conservancy can use to mitigate human-lion conflict.

This is a form of payment for ecosystem services, which has been effective for conserving species elsewhere (Dickman *et al.* 2011), and is currently working with some effect in the

Dzoti Conservancy, Zambezi Region. There is also a fledgling holistic rangeland management trial in the same area. A far more integrated and holistic approach is needed to replace the current “kraal and/or kill” approaches, which are limited in their effectiveness. Furthermore, human-lion conflict is a human development and an agricultural issue and should receive far greater interest from those sectors of society and government, and not just the under-resourced Ministry of Environment, Forestry and Tourism.

Management of trophy hunting

Lion trophy hunting is currently restricted to only ten sub-Saharan African countries and is considered an important management tool for conserving wild land, providing financial resources for lion conservation for both governments and local communities (Lindsey *et al.* 2012). However, there is concern that management regimes have not always been sufficient to deter unsustainable offtakes (Packer *et al.* 2011, Lindsey *et al.* 2013b). In Namibia the trophy hunting of lions is not practiced in any substantive way, with the total population of lions being about 100–150 individuals in the Kunene and Zambezi Regions predating a low harvest of no more than about five lions per year. However, given that same pool of lions is exposed to substantive levels of mortality due to human-lion conflict that further reduces the opportunity to trophy hunt lions.



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There are many suggested approaches to achieving sustainable trophy hunting of lions such as area-based approaches (Whitman *et al.* 2004, Packer *et al.* 2011, Miller *et al.* 2016), or percentage of population (Creel & Creel 1997). However, all of these inherently require sufficient lions to hunt. With fewer than 100 individuals in any of the lion subpopulations in Namibia in which wild lions can be trophy hunted (<100 lions in Kunene conservancies, <20 in Nyae Nyae and surrounding conservancies, <30 in Bwabwata National Park and <50 in eastern Zambezi), it is questionable whether the option should exist to trophy hunt mature adult male lions in any of these subpopulations, especially as lions in all of these areas are already killed due to incidents of conflict.

Further evidence for this view is that there is currently not one male lion that is above six years of age in the entire Kunene subpopulation (Stander 2018). In the Kavango East and Zambezi Regions, fewer than three adult male lions are currently seven years or older (P Beytell, P Funston, L Hanssen pers. comm. 2019). The most recent scientific studies show that seven years old is the minimum age below which no lions should be hunted (Creel *et al.* 2016, Miller *et al.* 2016).

If the size of a subpopulation of lions is large enough to support limited lion trophy hunting, then an aged-based, known-individual-based lion trophy hunting system could be implemented. In such a system only older (8 years and above) male lions that are known to be relatively redundant (i.e. known to not have dependent cubs less than two years old) should be hunted as trophies. In Kunene, Kavango East and Zambezi various projects currently effectively monitor lion populations such that population trends can be assessed, and older lions identified. This information could inform trophy management systems once populations have recovered. Trophy hunting of lions (and all carnivores) should not be allowed in the core areas of National Parks such as Bwabwata, Mudumu, Nkasa Rupara, Mahango, Khaudum and Etosha.

Poaching for body parts

A new threat to lions is a rapidly growing international market for lion parts such as bones, skulls, skins and skeletons (Everatt *et al.* 2019). The killing of lions for body parts is not common in Namibia but is on the increase. For instance, the removal of the paws and the head in order to harvest teeth and claws from lions killed in conflict is a growing trend in Zambezi Region since 2016 (MEFT unpublished data). Although this has occurred mostly along the eastern Chobe floodplain, there are some isolated incidents in the conservancies of the Mudumu Landscape area.

Prey depletion and bushmeat poaching

There are not many areas in Namibia where prey depletion through illegal hunting is a major issue for lions. While poaching of wild ungulates is not currently a large issue in Namibia, there are parts of Zambezi Region where it is becoming increasingly problematic. At present it is barely controlled due to staff and operational budget constraints within MEFT. Furthermore, in that region bushmeat poaching is a significant problem in the neighbouring countries of especially Angola and Zambia, but also in Botswana (Rogan *et al.* 2018).

In these countries bushmeat is hunted in the adjoining protected areas using rifles, horses, dogs and spears, bow and arrows, wire snares and gin traps. These are very substantial threats to lion prey and indeed lions themselves. It is thus quite possible that, without joint transboundary anti-poaching efforts, Namibian lions, or lions that largely reside in Namibian protected areas, will be poached when they cross into the neighbouring countries. This is a serious issue for lions in the Zambezi Region and in areas bordering Botswana. Greater transboundary anti-poaching patrols and activities are needed to secure wildlife, which contributes to Namibian socio-economic development.

CONSERVATION STATUS

Since 1977 the African lion population has been included in CITES Appendix II (Bauer *et al.* 2018). Lions are considered to be Vulnerable on the IUCN Red List of Threatened Species (Bauer *et al.* 2016). But, the total population of the species is estimated to have declined 43% between 1993 and 2014, but this conceals a more severe decline across most of the range. Five countries (Botswana, India, Namibia, South Africa and Zimbabwe) comprising around 25% of the total population have stable/nearly stable or increasing populations which are collectively estimated to have increased 11% since 1993. These increases in a relatively small part of the range disguise the severity of the decline elsewhere in the African range, representing 75% of the population: this decline is collectively estimated at 60% since 1993 (Bauer *et al.* 2015). Accordingly, although the Lion is classified as Vulnerable on the IUCN Red List, it qualifies to be considered Endangered in most of its range (by the A2 criterion, with an inferred rate of decline over 50% in three generations; Bauer *et al.* 2016). Thus, the populations in West Africa are considered Critically Endangered, having lost nearly 99% of their historical range and with only approximately 400 lions remaining (Henschel *et al.* 2014, Bauer *et al.* 2016). The West and Central African lion is considered to be a separate subspecies (*Panthera leo leo*) from the East and southern African lion (*Panthera leo malenochaita*).

ACTIONS

Regional conservation strategies have been developed for lions in West and Central Africa (IUCN 2006a) and eastern and southern Africa (IUCN 2006b). By setting out common priorities to guide actions on both national, community and landscape levels, the regional conservation strategies have the potential for broad and significant improvement of lion status and management (Nowell *et al.* 2006). These regional strategies have been used in many countries to develop Lion Conservation Action Plans. Namibia drafted its Lion Conservation Strategy in 2007, but government has not endorsed that draft or more recent ones. To address more local challenges, MEFT has established a human-lion conflict management plan for communal conservancies in the Kunene and Erongo Regions (Ministry of Environment and Tourism 2016).

Management

- ▶ The Lion Conservation and Management Action Plan for Namibia needs to be updated and officially endorsed and a process developed to keep the plans ongoing and active. The national strategy should be reviewed at least every ten years.
- ▶ The National Lion Strategy needs to include a component on how to monitor the various subpopulations of lions over time, in ways that meet the management objectives of the strategy.
- ▶ Government needs to be actively approached and engaged to provide the financial support to implement lion management and conflict-avoidance strategies. The strategies should be fair to both people and lions, fostering the principle of co-existence.
- ▶ A human-lion conflict strategy needs to be developed for north-eastern Namibia.
- ▶ Political priority and funding for lion conservation management in Namibia needs to be developed. Human-wildlife conflict management has now become a national issue in Namibia, and lions carry much of the burden of hostility towards predators. Current approaches to conflict, particularly trophy hunting, are open to abuse and do not solve the problem in any lasting manner.
- ▶ Develop mechanisms to enhance the value of lions, especially in conservancies, by for example linking development aid/funding to lion tolerance (performance payments, etc.).
- ▶ The MEFT and private landowners managing reintroduced lion populations in private reserves should be encouraged to become members of the Lion Management Forum and manage their populations using best practice guidelines (Miller *et al.* 2013). The Forum is a body largely run for lion populations in South Africa but could easily be expanded to include other countries in the region. Indeed, that is the intention.
- ▶ As with other arid countries, lions in Namibia suffer the greatest threat from human-lion conflict and persecutory killing. Human-lion conflict has been dramatically improved in eastern Zambezi Region through the construction of lion-proof kraals and the employment of community members to address conflict. Although similar initiatives are being implemented in the Kunene Region, they need to be intensified and better managed to emulate these successes.
- ▶ New and innovative ways that truly foster coexistence need to be developed. The long-term solution for the relationship between Namibia's lions and its people lies not wholly in conflict-mitigation, but in fostering true coexistence; unlocking the value of lions and working towards a situation where lions are valued more alive than dead.

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