

## How many lions in Africa? An assessment of range states' capabilities to conserve wildlife



### Summary:

A recent publication by researchers at Duke University (<http://link.springer.com/content/pdf/10.1007%2Fs10531-012-0381-4>) estimated 32,000 lions remain on the African continent. This was based on extrapolation of lion populations into remote sensing data of available savanna habitats. The Duke University estimate corresponds well with estimates made in 2002 by two independent groups, and is lower than published estimates in 2006 made by delegates at two IUCN lion range state conferences.

LionAid has made a new assessment based on various publications since 2006, our lion range state conference in March 2012 and our Conservation Perception Rank of 17 lion range states. LionAid estimates that of 49 continental African nations, lions are extinct in 25 (51%), virtually extinct in 10 (20%), and only have some possible future in 14 (28%). Only five populations number over 1,000 lions and these are located in Tanzania/Kenya (3), South Africa (1) and Botswana/Zimbabwe (1). Uniquely genetically distinct western and central African lions are virtually extinct.

**LionAid estimates that 645-795 wild lions remain in western and central Africa and that 14,450 wild lions remain in eastern and southern Africa - for a continental total of 15,244 wild lions.**

This is 58% lower than 2006 IUCN estimates that optimistically considered viable lion populations remaining in Somalia, Chad, Central African Republic, Democratic Republic of Congo and South Sudan. LionAid perhaps more realistically considers these populations extinct or likely to be extinct in the next few years. Of 20 western and central African lion locations identified in 2006, LionAid and others estimate that lions are extinct in 13 areas. Of 66 eastern and southern African lion locations identified in 2006, LionAid estimates that lions are extinct in 21 areas.

LionAid believes that lion populations have declined for a variety of reasons including habitat loss; destruction of natural prey due to poaching for households and the bush meat trade; human/livestock/predator conflict; impact of diseases like canine distemper, bovine tuberculosis and feline immunodeficiency virus; illegal wildlife trade in lion products and live animals; excessive trophy hunting.

LionAid acknowledges that lions are the only large cat species not given adequate protection status by international organizations like CITES and the IUCN. LionAid acknowledges that some major conservation organizations still believe that trophy hunting of lions can contribute to this species' conservation. LionAid has long insisted that lion conservation will need equal attention to that awarded tigers and rhinos for example. Perhaps with this publication of realistic lion population numbers in Africa there will be a change in present complacency towards this species' conservation needs.

## **Introduction**

Recently, a publication by researchers at Duke University in the USA about remaining lion numbers in Africa gained much attention in the media. The researchers estimated that **32,000** lions could still be present 2012, but this number was based on remote sensing of available savanna habitat, and lions (whether or not they were actually present) were extrapolated. In other words, it was perhaps an exercise in hopefulness.

The number of **32,000** lions remaining in Africa fits well with an average of two estimates derived from questionnaires sent out by two separate research teams in 2002 (Chardonnet 2002 spent 5 months evaluating responses from mail surveys from 47 counties: minimum lion population 28,800 lions, maximum lion population 47,000; Bauer and Van der Merwe estimated a minimum of 16,500 and a maximum of 30,000 lions with similar "survey" techniques. Noted is that at least 70% of responses were based on "guesstimates". The average of both surveys arrives at **31,000** in 2002). Ten years later, we have to accept a very different reality.

LionAid acknowledges those 2002 and 2006 numbers but proposes a different approach to estimation by examining various statistics of lion range states to assess their conservation capability. Taking note of conclusions by various CITES committees to evaluate correlations applicable to the illegal killing of elephants, LionAid looked at similar lion range state indicators to assess the possibility of lions' probability of present and future survival.

## Methods and Results

LionAid ranked lion range states according to the following measures:

1. **Gross domestic product per capita.** This is a measure of world nation rankings to determine relative levels of poverty. High levels of poverty mitigate against wildlife conservation. Each country was given a rank of 5=high to 1=low for this score.
2. **Percentage of the population employed by agriculture.** This is a measure that indicates how important agriculture – often subsistence agriculture - is in terms of national statistics. This measure is also an indication of percentage of land that is used for agricultural versus wildlife employment to contribute to citizen income. Each country was given a rank of 5=high to 1=low for this score.
3. **Percentage of citizens below the poverty line.** This measure indicates how many people are struggling to survive and therefore might not care much about wildlife conservation. Each country was given a rank of 5=high to 1=low for this score.
4. **Number of international tourists arriving in the country.** Use of this measure can be criticized as tourist arrival numbers are composed of those visiting family, attending business meetings, going shopping – a great variety of activities not including wildlife tourism. However, we assume that the number of international tourists arriving in a country is proportionate at some level to an overall interest in wildlife tourism. Each country was given a rank of 5=high to 1=low for this score.
5. **The ranking of the lion range state by the Failed State Index.** The FSI determines the world ranking of a particular state based on a variety of parameters including refugee flows, poverty, lack of public services, unequal development, lack of security, existence of factionalized elites, deligitimization of the state, etc. The FSI is essentially an evaluation of how well the state functions. Each country was given a rank of 5=high to 1=low for this score.
6. **The ranking of the lion range state in terms of the Human Development Index.** The HDI is based on the UN Development Programme assessment of life expectancy, literacy, education, standards of living and quality of life. It is therefore an indication of the relative welfare of citizens in a particular country – a low ranking would mean that conservation of wildlife is well below the priority horizon of citizens deprived of basic requirements. Each country was given a rank of 5=high to 1=low for this score.
7. **The ranking of lion range states according to the Corruption Perception Index.** The CPI is an accepted ranking by Transparency International. Corrupt nations do not function well as their most important currency is the bribe. CITES mentioned a highly statistically relevant association between the CPI index and levels of elephant poaching – and LionAid interprets this assessment as an indication of failure to conserve other species as well. Each country was given a rank of 5=high to 1=low for this score.
8. **The ranking of lion range states according to the effectiveness/existence of functional wildlife departments.** Wildlife departments are responsible for the maintenance of protected areas and wildlife populations. Where national wildlife departments are not effective, all wildlife will decline. Each country was given a rank of 2=high to 0=low for this score.
9. **The ranking of lion range states according to the presence of wildlife NGOs.** These organizations can influence government policy to consider the importance of wildlife conservation. In their absence, there is no effective lobby to ensure conservation. Each country was given a rank of 2=high to 0=low for this score.
10. **The ranking of lion range states according to the existence of a National Lion Conservation Strategy.** Range states still without lion conservation strategies called for by the IUCN conferences lack the will to ensure conservation of the species. Each country was given a rank of 2=high to 0=low for this score.

11. **The total score of lion range states according to all measures.** The highest score achievable for lion range states is 41. The average score achieved for the 17 nations examined was 22, ranging from a low of 9 to a high of 38.

Based on the above 10 evaluation parameters, LionAid arrived at the following **Conservation Perception Score** for the following lion range states and their relative rank (5 high, 1 low; see Appendix 1). Nations that rank between 1 and 3 will have already lost, or will continue to lose lion populations absent a stronger political will to conserve the species. Nations with a rank of 4 could have hope to maintain lion populations with well-thought-out and carefully considered measures. Nations with a rank of 5 could be leaders in lion conservation, but need to wisely and continuously evaluate their conservation programmes.

### **Angola**

**CPS = 26, relative rank = 3.** Assessment- Angola is a dark horse in terms of lion conservation. Years of civil strife likely had a strong negative impact on survival of wildlife populations, and a very high density of land mines are a continuing worry. Angola is developing rapidly with respect to income from mineral and oil reserves, but distribution of such income to citizens is inequitable. Large wildlife reserves seem to remain gazetted, but very little information about wildlife populations in such reserves is available.

### **Botswana**

**CPS =34, relative rank =5.** Assessment – Botswana has a very low human density/ land area, and has designated large areas to protected wildlife areas. Botswana recently declared an end to trophy hunting of all wild species on public land following surveys that indicated a great loss of wildlife over the past several years. Despite a high relative country rank, Botswana’s Department of Wildlife and National Parks needs to do much better in terms of conservation planning, implementation and ensuring that personnel in high positions are qualified and able to progress wildlife conservation. Botswana has historically decided on livestock cultivation as a major form of land use and the country is criss-crossed by veterinary cordon fences that have had a greatly negative effect on wildlife. Despite a 12% income from tourism to Botswana’s GDP, there is still a disconnect between Government support of livestock versus wildlife. Despite a consistently high score on the Transparency International Corruption Perception Index, Botswana is considerably corrupt in practice.

### **Burkina Faso**

**CPS =19, relative rank =2.** Assessment - Burkina Faso is a relatively small western African state that allows a high level of lion trophy hunting. The Wildlife Department is not well staffed with qualified personnel and there is no indication that wildlife conservation is important to the people and Government of Burkina Faso.

### **Chad**

**CPS= 12, relative rank = 1.** Assessment – Chad is a failed state. There is no effective Wildlife Department and levels of commercial poaching are extremely high. There is little to no interest by citizens or Government to conserve wildlife.

### **Central African Republic**

**CPS = 12, relative rank = 1.** Assessment – Central African Republic is close to being a failed state. . There is no effective Wildlife Department and levels of commercial poaching are extremely high. There is little or no interest by citizens or Government to conserve wildlife.

### **Democratic Republic of Congo**

**CPS = 9, relative rank = 1.** Assessment – DRC has seen a very high level of civil strife over the past decades. Since the toppling of dictator Mobutu Sese Seko, the country has been subjected to internecine and neighbouring country battles over territory and resources. As there is no effective Government, wildlife conservation will be non-existent.

### **Ethiopia**

**CPS =23, relative rank = 3.** Assessment – Ethiopia has a strong commitment to wildlife conservation at the Federal Government level. This does not translate to the level of the Provinces that are highly autonomous. Large areas of land are being sold off to foreign investors for agricultural purposes. Protected areas are not well demarcated, and land sales could include national park land. Ethiopia does have a very strong commitment to lion conservation and ensuring that lions are nationally protected.

### **Kenya**

**CPS = 28, relative rank = 4.** Assessment – Kenya has struggled to ensure protection of wildlife. The Kenya Wildlife Service is a strong organization but often lacks political support. The Kenya Wildlife Act has languished in Parliament for very many years and is still not signed. It is estimated that 70% of wildlife occurs outside protected areas to the detriment of communities living with wildlife. Kenya urgently needs to decide a comprehensive formula for effective wildlife conservation that integrates national rather than NGO priorities.

### **Mozambique**

**CPS = 20, relative rank =2.** Assessment – Mozambique has experienced a long and drawn out civil war in recent years. Militias invaded wildlife protected areas to both provide food for the troops and ivory to fund ongoing military activities. Despite a high population density of impoverished citizens, there remains a will by Government to ensure survival of the little wildlife that remains. Nevertheless and unless Mozambique decides to take a very strong stand on wildlife conservation, it will soon disappear.

### **Namibia**

**CPS =35, relative rank = 5.** Assessment – Namibia, despite this high rank, is a conflicted nation in terms of effective lion conservation. Despite a considerable increase in community conservancies that combine trophy hunting and tourism as primary income streams, there are still major issues to be addressed in terms of lion conservation. Namibia, together with Kenya, was charged in 2011 to deliver to the CITES Animals Committee a “Periodic Review” of the status of lion populations in Africa. Namibia has delayed this delivery for over 20 months. Namibia has also recently allowed trophy hunting in some national parks.

### **South Africa**

**CPS = 38, relative rank = 5.** Assessment – South Africa has allowed lions to be placed in private hands and captive breeding largely supplies the trophy hunting industry. There are an estimated 4,000 to 5,000 lions in such breeding programmes, and South Africa has exported an average of 739 trophies each year 2007-

2011. Wild lion populations in any numbers only exist in Kruger National Park where bovine tuberculosis is increasingly affecting health of lion populations.

#### **South Sudan**

**CPS = 13, relative rank = 1.** Assessment – South Sudan has long been engaged in a war with North Sudan and only recently gained some measure of independence. Wildlife conservation is not a political priority.

#### **Somalia**

**CPS = 9, relative rank = 1.** Assessment – Somalia tops the Failed States Index, and has seen a succession of territorial battles between militias and armies sent by the African Union. There is no Government, no wildlife department, no interest in wildlife conservation.

#### **Tanzania**

**CPS = 26, relative rank = 3.** Assessment - Tanzania has little will to conserve wildlife as evident from the 25,000 to 30,000 elephants poached over the past three years, a succession of wildlife directors sacked, high levels of corruption within the wildlife department. A new Minister of Environment seems to have a no-nonsense approach but is up against long-term vested interests. Lion trophy hunting has been ongoing for many years and is practiced at highly unsustainable levels. Human wildlife conflict is high.

#### **Uganda**

**CPS = 27, relative rank = 4.** Assessment - Uganda recently banned all trophy hunting after a brief engagement. A high human population density leads to considerable human wildlife conflict. Uganda is attempting conservation measures.

#### **Zambia**

**CPS = 24, relative rank = 3.** Assessment – Zambia has very high levels of poaching which in the past has virtually eliminated all rhinos and a great number of elephants. A new Minister of Environment might take a better stance to conserve what wildlife remains. Trophy hunting levels of lions in the past was already unsustainable and in 2010 a record number of lion trophies were exported (199) – mostly to Russia. Trophy hunting of lions on the borders of protected areas is affecting stability of resident lion populations, and the continued existence of lions within hunting areas is questionable.

#### **Zimbabwe**

**CPS = 21, relative rank = 2.** Assessment - Zimbabwe has allowed very high levels of lion trophy hunting in concession areas and even within national parks. Zimbabwe has little will to conserve wildlife and allows wildlife to be exploited for local and commercial poaching.

### **Lion Conservation Units**

The IUCN published two reports in 2006 based on regional meetings on lion conservation for western and central African lion range states held in Cameroon, and eastern and southern African lion range states held in South Africa. Delegates considered reports by Chardonnet and Bauer & van der Merwe and then were asked

to identify Lion Conservation Units – LCUs – areas of possible lion range considered an ecological unit important in lion conservation. For each LCU delegates estimated numbers of lions within, and rated the LCUs according to threat levels and viability.

Overall, lion numbers were estimated at 2995-4005 for western and central Africa and 26,995-32,440 for eastern and southern Africa for an overall total of 29,900 – 36,445 for the continent. Few of the LCUs had any actual lion counts based on any level of information, and thus the vast majority of the LCU populations were determined by guesstimates.

Following the 2006 reports a number of on-the-ground studies were performed to assess accuracy of the guesstimates. Henshel et al (2010) surveyed 15 western African LCUs and only found any lion presence in two. Croes et al (2011) revised numbers for Cameroon. A 2012 LionAid conference gained better information from Senegal, Nigeria, Cameroon, Malawi, Ethiopia, Kenya and Mozambique.

Integrating the rank assessments of Conservation Perception Scores, and all past information, LionAid arrived at the following revised likely numbers of populations remaining in each of 20 western and central LCUs and 66 eastern and southern LCUs:

<b>Lion LCU Number/Name</b>	<b>IUCN estimated pop'n</b>	<b>LionAid Revised pop'n</b>
1: Niokolo Guinee	500 - 1000	100-150
2: Boucle Baoule	30 - 50	<b>Extinct</b>
3: Comoe-Leraba	<50	<b>Extinct</b>
4: Gbele	<50	<b>Extinct</b>
5: Nazinga-Sissili	<50	<b>Extinct</b>
6: Mole	<50	<b>Extinct</b>
7: Bui-White Volta	10-20	<b>Extinct</b>
8: Oti-Mandouri	<50	<b>Extinct</b>
9: W-Arly-Pendjari	100-500	<200
10: Digya	<50	<b>Extinct</b>
11: Mt Kouffe	<50	<b>Extinct</b>
12: Kainji Lake	50	30
13: Old Oyo	<5	<b>Extinct</b>
14: Kamuku/Kwiambaba	25-35	<b>Extinct</b>
15: Lame-Burra/Falgore	25-35	<b>Extinct</b>
16: Yankari	50	<5
17: Waza	60	<10
18: Benoue complex	200-300	100 - 200
19: Chad-RCA	1500	<200
20: Odzala	50	<b>Extinct</b>
<b>TOTAL West/Central Africa</b>	<b>2955 - 4005</b>	<b>645 - 795</b>

Lion LCU Number/Name	IUCN estimated pop'n	LionAid Revised pop'n
1: Garamba-Bili Uere	100-250	Extinct
2: Southwestern Sudan	250-500	<50
3: Boma-Gambella	250-500	<100
4: Kidepo Valley-Sudan	<50	Extinct
5: South Omo	100-250	<50
6: Bale	<50	<50
7: Welmel-Genale	50-100	<50
8: Awash	<50	<50
9: Ogaden	50-100	<50
10: Albertine South	100-250	<50
11: Albertine North	<50	Extinct
12: Murchison Falls North	100	100
13: Murchison Falls South	<30	Extinct
14: Kidepo Valley	<35	<35
15: Laikipia Samburu	350	<300
16: Meru	100-250	<50
17: Arboweeru-Alafuto	100-250	Extinct
18: Bush-bush	500-1000	Extinct
19: Serengeti-Mara	3500	<2000
20: Maasai Steppe	>1000	<500
21: Itombwe massif	<50	Extinct
22: Luama hunting reserve	<50	Extinct
23: Ruaha-Rungwa	4500	<2000
24: Selous	5500	<2000
25: Niassa Reserve	800-900	<500
26: Greater Niassa	100-250	<50
27: Upemba	<50	Extinct
28: Kundelungu	<50	Extinct
29: Sumbu	<50	Extinct
30: Nyika	20-30	Extinct
31: North Luangwa	100-250	100
32: South Luangwa	250-500	250
33: Petauke corridor	<50	Extinct
34: Mid Zambezi	250-500	250
35: MZ Labanakass	50-100	Extinct
36: Kafue	250-500	<250
37: Liuwa Plains	<50	4
38: Sioma Ngwezi	<50	Extinct
39: Matusadona	50-100	<50
40: Omay	<50	<20
41: Shashe-Limpopo	50-100	<30
42: Gile	<50	Extinct
43: Gorongosa-Marromeu	100-250	<50
44: Etosha-Kunene	315-595	350
45: Khaudom-Caprivi	100-200	<100
46: Okavango-Hwange	2300	2000
47: Xaixai	50-100	<30
48: Kgalagadi	500-1000	<500
49: Greater Limpopo	>2000	<1500
50: Hluhluwe-Umfolozi	80	80
51: Kissama-Mumbondo	<10	Extinct
52: Bococio-Camucio	40-70	Extinct
53: Bicular	20-40	Extinct
54: Mupa Cubati	50-100	<50
55: Cuando-Cubango	750-1400	<250
56: Luchazes	400-700	<250
57: Cameia Lucusse	70-130	<50
58: Alto Zambeze	50-100	<50
59: Nyika	<10	<10
60: Vwaza	<10	Extinct
61: Nkotakota	<10	<10
62: Kasungu	<10	<10
63: Namizimu	<10	Extinct
64: Mangochi	<10	<10
65: Liwonde	<10	<10
66: Dar-Biharamulo	900	<200

<b>TOTAL East and South</b>	<b>26,995 – 32,440</b>	<b>&lt;14,449</b>
<b>TOTAL West and Central</b>	<b>2,955 -4,005</b>	<b>645-795</b>
<b>TOTAL Africa maximum</b>	<b>36,445</b>	<b>15,244</b>
<b>Difference %</b>		<b>-58.17%</b>

Based on these revised numbers, LionAid finds that there are likely not more than 15,200 lions left in Africa, a significant difference from the IUCN estimate of 36,400. LionAid estimates that there are not more than 5 LCUs with lion populations exceeding 1000 individuals, and that a range state like Kenya probably has twice the numbers of lions remaining in all of western and central Africa.

### **Conservation consequences**

Western and central African lions are highly genetically distinct from their eastern and southern African counterparts – in fact analyses have shown that western and central African lions are more closely related to remaining lions in India. Their alarming decline has not received the highly dedicated corrective conservation attention needed from any major conservation agency. These lions could be extinct within the next 5 years, especially as they currently exist in small and highly isolated populations.

Eastern and southern African nations have largely remained complacent about remaining lion populations, perhaps lulled into a false sense of security by lion “surveys” conducted by vested interest (read pro-trophy hunting) groups. Indeed, Tanzania – a major destination for trophy hunters – estimates over 16,000 lions remaining in the country. Without doubt Tanzania is highly crucial for the survival of the species. Yet there seems little will on the part of Tanzanian decision makers to ensure the survival of this species – they seem more concerned with milking whatever profit can be made by consumptive use. LionAid estimates that perhaps 7,000 lions remain in Tanzania. Kenya estimates over 1,900 lions remaining, but LionAid would place this number closer to 1,200-1,400. No authoritative lion counts have taken place in Kenya for many years despite the importance of this species to the nation and tourism. Poisoning and retribution killing of lions as a result of predator-human conflict remain very high. Uganda could lose all lions over the next five years.

Zambia and Zimbabwe have no effective national lion conservation plans. Botswana has instated two hunting moratoria on lions – one from 2002-2005 and the second from 2008 to present. Nevertheless, lion populations are decreasing due to problem animal control, loss of natural prey, and diseases like canine distemper in Chobe National Park. South Africa has overall done well for wild lion conservation but the biggest population – Kruger National Park – is infected at high levels with bovine tuberculosis. Namibia is seeking to allow ever-greater levels of lion trophy hunting (conservancies and perhaps national parks) while not paying adequate attention to the consequent decline in lion populations.

Overall, the situation for continued lion survival in Africa is extremely grim. The lion is the only large cat not given Appendix 1 protection from CITES and is still only listed as “vulnerable” by the IUCN. Lion conservation is underfunded and conflicted with several international and local conservation organizations stubbornly promoting trophy hunting as a “conservation” measure.

LionAid is not attempting to be alarmist by publishing these numbers. We base them on solid information and projections about the capability of lion range states to afford this species any level of protection. The tragedy is that ALL wildlife is in serious decline across Africa - the range states seem to have little will and few plans to ensure the future for what has to be seen as a greatly valuable natural resource. Wildlife tourism not only creates significant employment but also constitutes a substantial proportion of African nations' GDP and foreign exchange earnings. Apart from that, citizens are beginning to realize the great importance of wildlife to their culture, heritage, ethnicity and history. The loss of lions will therefore greatly impact societies at very many levels and without a realistic assessment of the danger the species is now in, lions will continue to disappear.

Picture credit: **David Lloyd Wildlife Photography** <http://davidlloyd.net/>

Appendices follow on next page.

## Appendix 1: Conservation Perception Ranking

	GDP/cap	Agric	Poverty	ITA	FSI	HDI	CPI	Dept	NGO	Plan	Score	CPR
<b>Angola</b>	142	85	41	425	52	148	22	1	1	0	26	<b>3</b>
<b>Botswana</b>	76	70	60	2145	113	118	65	2	1	1	34	<b>5</b>
<b>Burkina Faso</b>	205	90	47	274	37	181	38	1	0	0	19	<b>2</b>
<b>Chad</b>	193	80	80	71	2	183	19	0	0	0	12	<b>1</b>
<b>CAF</b>	221	60	80	54	8	179	12	0	0	0	12	<b>1</b>
<b>DRC</b>	228	85	80	81	4	189	21	0	0	0	9	<b>1</b>
<b>Ethiopia</b>	211	85	56	468	20	174	33	1	1	2	23	<b>3</b>
<b>Kenya</b>	198	75	65	1470	16	143	27	2	2	2	28	<b>4</b>
<b>Mozambique</b>	214	81	58	1718	57	184	31	1	1	1	20	<b>2</b>
<b>Namibia</b>	131	16	62	984	103	120	48	2	1	1	35	<b>5</b>
<b>S. Africa</b>	106	9	58	8074	117	123	43	2	2	1	38	<b>5</b>
<b>S. Sudan</b>	190	74	85	0	3	169	13	0	0	0	13	<b>1</b>
<b>Somalia</b>	224	71	89	0	1	190	8	0	0	0	9	<b>1</b>
<b>Tanzania</b>	199	80	58	754	65	152	35	1	1	1	26	<b>3</b>
<b>Uganda</b>	203	82	32	946	21	161	29	1	1	1	27	<b>4</b>
<b>Zambia</b>	202	85	64	815	55	164	37	1	1	1	24	<b>3</b>
<b>Zimbabwe</b>	227	66	75	2239	6	173	20	1	1	1	21	<b>2</b>
	Low = good	Low = good	Low = good	High = good	High = good	Low = good	High = good					

### Columns:

GDP/capita – CIA World Factbook as primary source

Agricultural employment – CIA World Factbook as primary source

% population below poverty – CIA World Factbook as primary source

International Tourist Arrivals (x 1000) – World Trade Organization

Failed States Index – The Fund for Peace

Human Development Index - UNDP

Corruption Perception Index – Transparency International

Wildlife Department presence/effectiveness – various assessments

NGO presence – various assessments

Lion action plans – various assessments

Total score – based on a ranking of countries based on listed categories

**CPR – Conservation Perception Rank according to category assessments – rank of 1 = failed, rank of 2 = ineffective, rank of 3 = marginal, rank of 4 = effective, rank of 5 = very effective. The CPR does not rank individual nation conservation policy.**

## Appendix 2: Lion population status in the 49 African continental nations

### List of continental African countries where wild lions are extinct:

Algeria

Burundi

Cote d'Ivoire

Djibouti

Egypt

Equatorial Guinea

Eritrea

Gabon

Gambia

Ghana

Guinea Bissau

Lesotho

Liberia

Libya

Mauritania

Morocco

Niger

North Sudan

Republic of the Congo

Sierra Leone

Swaziland

Rwanda

Togo

Tunisia

Western Sahara

**Subtotal =25**

**List of continental African countries where wild lions only exist as small, scattered populations or might already be extinct in 2012:**

Benin

Cameroon

Democratic Republic of the Congo

Guinea

Malawi

Mali

Nigeria

Senegal

Somalia

South Sudan

**Subtotal = 10**

**Continental African countries where wild lion populations exist**

Angola

Botswana

Burkina Faso

Central African Republic

Chad

Ethiopia

Kenya

Mozambique

Namibia

South Africa

Tanzania

Uganda

Zambia

Zimbabwe

**Subtotal = 14**

**Total countries: 49**