

2017



MANAGEMENT PLAN FOR CAPTIVE LIONS

*A national strategy for the captive lion (*Panthera leo*) industry in South Africa*

MANAGEMENT PLAN FOR THE CAPTIVE LION INDUSTRY IN SOUTH AFRICA

Prepared for the
SOUTH AFRICAN PREDATOR ASSOCIATION



on behalf of the Captive Lion Industry

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EXECUTIVE SUMMARY

This Management Plan is specifically for the captive lion industry to determine a national strategy for captive lions that is recognised nationally and internationally. The aim is to promote the benefits of, and identify and address the challenges facing the lion industry. It supports and expands on the National Biodiversity Management plan for the African Lion (*Panthera leo*) in South Africa and assists in addressing the objectives for captive bred lions identified in the lion BMP.

The very existence of the private game ranching industry in South Africa provides a unique situation in wildlife conservation worldwide. Much of South Africa's wildlife occurs on privately owned land and is regulated by legislation which recognises the private ownership of the wildlife occurring on that land. This legislation has transformed wildlife conservation in South Africa and has resulted in an industry that is unprecedented anywhere else in the world.

The purpose of this legislation is to protect wildlife populations, including predators, in South Africa. A secondary function of the legislation is to establish parameters for legal trade and the sustainable management of species. This is the landscape in which the captive lion industry was born. The success of this legislation can be seen in the fact that the captive lion industry in South Africa now manages the largest lion population in the world with an estimate captive lion population of 8 000-8 500 (Els *et al*, 2016). Captive lions in South Africa comprise more than 70% of the total lion population in South Africa and more that 30% of the total world population of *Panthera leo melanochaita* currently numbering between 17 000 to 19 000 left in the wild.

The value that the private game farming industry had on wildlife conservation cannot, however, only be understood from a biological or ecological perspective. The broader social, economic and cultural impacts are equally important. There are currently (Nov 2016) about 300 captive lion breeding and hunting operations in the country. The industry contributed, prior to 2016, an estimated yearly amount of R500 million to the South African economy and sustains 1680 jobs (Els *et al*, 2016), mostly in remote rural areas on marginal land.

The key requisite to ensuring the existence and sustainability of the private game industry in South Africa is the creation of opportunities to trade, including live sales and hunting, within legal parameters.

In recent years the captive lion industry has become the subject of negative publicity and increasing national and international pressure. This has completely overshadowed the contribution of the sector towards conservation of the species and the socio-economic benefits derived from the industry. This situation pitted

organisations within the hunting fraternity against each other, and foreign interventions resulted in a devastating effect on the future of the industry.

The formalization of the captive lion industry into an organised sector will play a crucial role in the conservation the species in southern Africa and ensure the viable and responsible management and utilization of captive bred lions, thus ensuring that the industry becomes the reliable custodian of this natural resource for the economic and social benefit of the people of South Africa.

The South African Predator Association (SAPA) was established in 2008 in order to represent and unite the predator industry. In 2013 a common goal of practicing ethical management, breeding and hunting of predators in a sustainable and viable manner was initiated. The need for a united voice and effort to address the challenges facing the industry has never been greater than it is now.

The Biodiversity Management Plan for the African Lion (*Panthera leo*) in South Africa (2015) identifies captive lions as a separate population of lions. However, it does not specifically address many of the challenges facing the captive lion industry.

In February 2016 SAPA publically undertook to represent the captive lion industry, to address the challenges threatening the industry and to determine and promote the conservation and socio-economic benefits derived from the industry with a special focus on the value of captive lions in relation to the broader context of lion conservation. SAPA undertook to develop a Management Plan specifically for the Captive Lion Industry on behalf of the industry. The management plan will ultimately be adopted as the guideline for strategic, management and ethical principles in the industry.

The emphasis during the development of this Management Plan specifically for the captive lion industry is the determination of a national strategy for captive lions that is recognised nationally and internationally. The aim is to promote the benefits of, and identify and address the challenges facing the industry. It supports and expands on the Lion BMP and assists in addressing the objectives for captive bred lions identified in the Lion BMP.

The anticipated outcomes of this Management Plan are:

1. To provide a national strategy for captive bred lions that is recognised nationally and internationally.
2. To demonstrate that the industry contributes to the conservation of wild lions in South Africa and beyond
3. To demonstrate that captive bred lions have a considerable conservation value and contribute significantly towards wild lion conservation and broader conservation objectives.

4. To direct the captive lion industry in making a substantial contribution to socio-economic benefits in South Africa.
5. To assist role-players in the industry by providing Norms and Standards (Appendix A) (guidelines / regulations) to sufficiently address the areas of concern relating to the welfare of captive lions.
6. Creating management principles and ethics that will allow USFWS and other foreign organisations to lift the ban on the importation of trophies of captive bred lions from South African.

In this management plan, strategic changes and adaptations to the captive lion industry have been identified. The implementation of these strategies will enhance the credibility of the industry and ensures the long term sustainable existence of the industry and its continued support to the conservation of lions.

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SECTION A: BACKGROUND AND CONTEXT

1 Introduction

The very existence of the private game ranching industry in South Africa provides a unique situation in wildlife conservation worldwide. Much of South Africa's wildlife occurs on privately owned land and is regulated by legislation which recognises the private ownership of the wildlife occurring on that land. This legislation has transformed wildlife conservation in South Africa and has resulted in an industry that is unparalleled anywhere in the world.

During the 19th and 20th centuries, wildlife populations in southern Africa were decimated by outbreaks of disease as well as by unprecedented hunting by European explorer-hunters and settlers (Bond *et al.* 2004). In response, early government administrators established protectionist legislation to protect wildlife populations and to control the consumptive utilisation of wildlife. This legislation succeeded to slow the unsustainable rate of hunting but made wildlife management a financial burden for landowners by preventing them from deriving income from hunting to compensate for costs associated with human-wildlife conflict (Murombedzi, 2003; Bond *et al.* 2004). As a result wildlife populations continued to decrease.

Legislation to protect wildlife populations in South Africa, including predators, took a new turn in the 1960's when legislative changes granted varying degrees of user rights over wildlife to landowners. Wildlife was transformed from a burden to an asset for landowners and there was a rapid shift from livestock to game ranching across large areas of southern Africa, particularly the more marginal areas. This created a significant market for live animals as game ranchers purchased animals for reintroduction into areas where game no longer appeared in their natural state. The effect was an abundant increase in numbers and distribution of wildlife on private land, effectively leading to the conservation of a wide diversity of species including the recovery of several endangered species (Flack, 2003).

This is the landscape in which the captive lion industry was born. The success of this legislation can be seen in the fact that the captive lion industry in South Africa now (Nov, 2016) manages the largest lion population in the world with an estimate captive lion population of 8 000-8 500 (Els *et al.*, 2016) . 70% of the total lion population of South Africa and more that 30% of the total *Panthera leo melanochaita* population of the world (17000 – 19000 left in the wild)(Lion BMP 2015) is made up of South African captive bred lions.

The value of the private game industry and the captive lion industry particularly is, however, being questioned within some circles. It is felt that some of the legislation that forms the foundation of the industry has compromised what is considered to be

the “conservation value” of the animals within the industry. The most notable is the legal requirement for ranches to be fenced by perimeter game fencing, enabling landowners to manage and utilize wildlife on their land. This has restricted the movement of wildlife and resulted in small populations that require intensive management to replace natural movement and behavior (Lindsey *et al.*, 2010).

The contribution of the private game farming industry to wildlife conservation cannot, however, only be understood from a biological or ecological perspective. The broader social, economic and cultural impacts are equally important. According to research done by the North West University, there are currently about 300 captive lion breeding and hunting operations in the country (Els *et al.*, 2016). The industry contributes an estimated R500 million to the economy and sustains 1680 jobs (Els *et al.*, 2016). Most of this occurs in remote rural areas on marginal agricultural land.

In recent years the captive lion industry has come under intense national and international pressure. These pressures vary from limitations on the importation of hunting trophies to certain countries to the total ban on breeding and hunting of captive bred lions. The negative publicity that the industry has received has overshadowed the advantages of the sector in terms of conservation and the socio-economic benefits derived from the industry. It has also pitted organisations within the hunting fraternity against each other, and foreign interventions have had a devastating effect on the future of the industry.

The South African Predator Association (SAPA) was established in 2008 in order to represent and unite the predator industry. In 2013 a common goal of practicing ethical management, breeding and hunting of predators in a sustainable and viable manner was initiated. The need for a united voice and a united effort to address the challenges facing the industry has never been greater than it is now.

The vision of the captive lion industry is to play a crucial role in the conservation of lions in southern Africa, and contribute to the economic and social benefit of local communities, through the responsible, ethical, transparent and viable management of captive bred lions in order to relieve, and ultimately eliminate, the pressure on predators in the wild.

The mission is to establish uniform management practices and legislation to ensure ethical and reliable custodianship by all role-players in the industry.

In February 2016 SAPA publically undertook to represent the captive lion industry specifically in addressing the challenges threatening the industry and to determine and promote the conservation and socio-economic benefits derived from the industry with a special focus on the value of captive lions in relation to the broader context of lion conservation.

2 History

The African lion, *Panthera leo*, is the largest African cat and is an icon of African wildlife. In the wild, their natural range has declined alarmingly over the last few decades within the traditional range. Regional surveys have indicated a suspected decline of 30-50% in the African lion population in recent decades, with a current estimate of between 32,000 and 35,000 left in the wild (Riggio *et al.* 2013).

The reasons for the decline in wild lion numbers include habitat loss and agricultural development, indiscriminate killing to protect life and livestock, depletion of prey populations, trade and excessive sport hunting (of wild lions)(Funston & Levendal, 2015) . However, in South Africa, these threats are not as relevant because of the management of lion populations within fenced reserves. Numbers of wild lions in South Africa have increased by about 30% over 30 years with the re-introduction of lions in managed populations.

In addition, the captive lion industry has grown exponentially over the last twenty five years and by 2016 there were an estimated 8000 captive lions in South Africa (Els *et al.*, 2016).

3 Why the Captive Lion Industry Requires a Management Plan

The NEMBA: Biodiversity Management Plan for the African Lion (*Panthera leo*) in South Africa (2015) identifies captive lions as a separate population of lions. However, it does not specifically address many of the challenges facing the captive lion industry.

The purpose of developing this Management Plan specifically for the captive lion industry is to determine a national strategy for captive lions that is recognised nationally and internationally. The aim is to promote the benefits of, and identify and address the challenges facing the industry. It supports and expands on the Lion BMP and assists in addressing the objectives for captive bred lions identified in the Lion BMP.

4 Lion Biodiversity Management Plan

The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), **Biodiversity Management Plan for the Lion (*Panthera leo*) in South Africa** was published on the 2nd December 2015.

The following three distinct lion classifications were identified by the BMP:

1. Wild lions only occur in formally proclaimed national parks and game reserves; completely fulfil their role in biodiversity processes and are largely unmanaged. Conservationists do not actively manipulate vital rates and lion demographics.

2. Managed wild lions include all lions that have been re-introduced into smaller fenced reserves (<1000 km²) and are managed to limit population growth and maintain genetic diversity. Managers actively manipulate some vital rates and demographics.

3. Captive lions are bred exclusively to generate money. Managers actively manipulate all vital rates and demographics.

4.1 Vision

The vision of the Lion BMP states:

“Through the existence of stable, viable and ecologically functional populations of wild and managed wild lions, along with well-managed captive populations that have minimal negative conservation impacts, lions will provide key opportunities for biodiversity conservation, economic development, social benefits and improved management capacity.”

4.2 Objectives

When the objectives for lion conservation in South Africa were developed, important and clear distinctions were made between the objectives for each of the lion populations in South Africa. A set of specific actions were defined for each objective. The following objectives have been identified:

Objective 1 - Improve the conservation status of lions within a broader conservation context.

Sub-objective 1.1: Maintain the current protection status of wild and managed wild lions.

Sub-objective 1.2: Reassess the conservation status of lions.

Sub-objective 1.3: Enhance the conservation status of managed wild lions.

Sub-objective 1.4: Assess the management of the captive lion population.

Objective 2 - Develop and implement effective communication tools that are informed by scientific research (Communication, Education and Public Awareness).

Sub-objective: Maximise the educational and research opportunities derived from lions.

Objective 3 - Ensure legislative alignment both provincially and nationally and improve capacity to implement legislation effectively.

Objective 4 - Establish a lion forum or working group to assist in the implementation of the BMP.

Objective 5 - Ensure the alignment of this BMP with lion conservation plans in neighbouring countries and link with international working groups.

SAPA represents the captive lion industry in achieving these objectives and is developing this Management Plan for the captive lion industry to support and expand on the Lion BMP for South Africa. SAPA's focus will be to align this Management Plan in support of the following applicable objectives of the Lion BMP:

- **Objective 1** - Improve the conservation status of lions within a broader conservation context.
 - **Sub-objective 1.2:** Reassess the conservation status of lions.
 - **Sub-objective 1.3:** Enhance the conservation status of managed wild lions.
 - **Sub-objective 1.4:** Assess the management of the captive lion population.
- **Objective 2** - Develop and implement effective communication tools that are informed by scientific research (Communication, Education and Public Awareness).
 - **Sub-objective:** Maximise the educational and research opportunities derived from lions.
- **Objective 3** - Ensure legislative alignment both provincially and nationally and improve capacity to implement legislation effectively.
- **Objective 4** – Establish (support) a lion forum or working group to assist in the implementation of the BMP.
- **Objective 5** - Ensure the alignment of this BMP with lion conservation plans in neighbouring countries and link with international working groups.

5 Summary of the Planning Methodology

The development of a Management Plan for the captive lion industry has been undertaken by SAPA on behalf of the industry. The following process was used:

1. Planning, background information and literature review done by SAPA.
2. SAPA organised a workshop for all industry role-players in February 2016.
3. Development of the Management Plan with input from SAPA members and other role players at various workshops and meetings in 2016.
4. Review of the Management Plan by SAPA Council in September 2017.
5. Final review and acceptance by SAPA Council in October 2017.
6. Submission to DEA by end November 2017.

6 Anticipated Outcomes

The anticipated outcomes of this Management Plan are:

1. To provide a national strategy for captive bred lions that is recognised nationally and internationally.
2. To demonstrate that the industry contributes to the conservation of wild lions in South Africa and beyond.
3. To direct the captive lion industry to demonstrate that captive bred lions have a considerable conservation value and contribute significantly towards wild lion conservation and broader conservation objectives.
4. To direct the captive lion industry in making a substantial contribution to socio-economic benefits in South Africa.
5. To assist role-players in the industry by providing Norms and Standards (Appendix A) (guidelines / regulations) to sufficiently address the areas of concern relating to the welfare of captive lions.
6. Creating management principles and ethics that will allow USFWS and other foreign organisations to lift the ban on the importation of trophies of captive bred lions from South African.

7 Conservation Status of Lions

7.1 IUCN

The African lion, *Panthera leo*, is internationally classified by the IUCN as Vulnerable, which means it is globally considered to be facing a high risk of extinction in the wild. This classification is based on a suspected reduction in population of approximately 30% over the past two decades (Bauer *et al*, 2008). About 75% of their former range is no longer suitable for viable populations due to agricultural development and human habitation. It is unlikely that more than 32 000 to 35 000 wild lions exist (Riggio *et al*, 2013), with about 3 100 (about 10% of the continental population) occurring in South Africa as “wild and managed-wild” lions.

In 2015, the IUCN reclassified *Panthera leo* into two sub-species which together are listed as Vulnerable:

- Panthera leo leo* - northern, western and central Africa lion populations
- Panthera leo melanochaita*- eastern and southern Africa lion populations

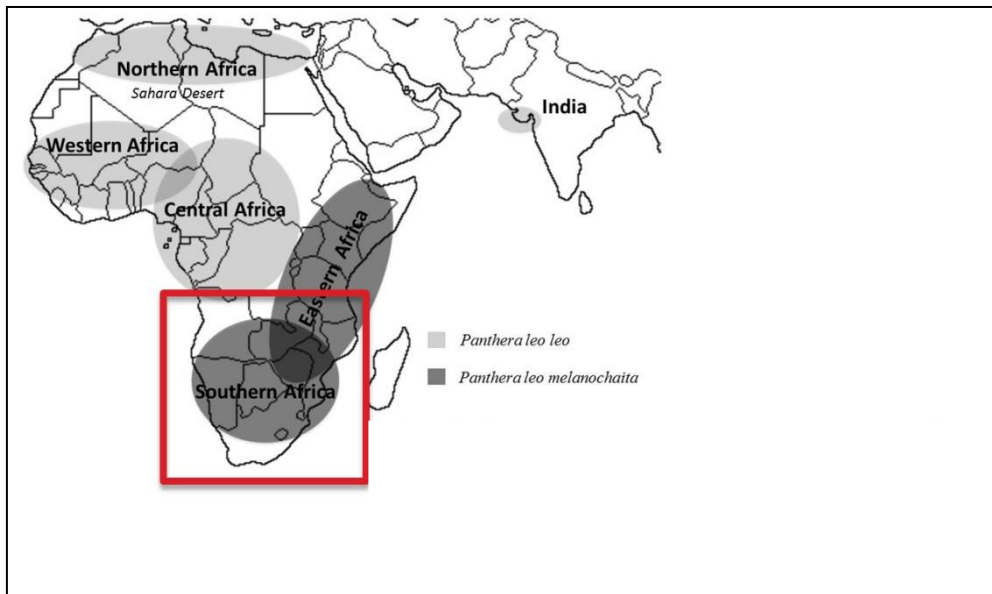


Figure 1: An indication of the distribution of *Panthera leo melanochaita*

7.2 USFWS

The United States Fish and Wildlife Service (USFWS), however, determined in December 2015, that the two subspecies (IUCN) qualify for different statuses under the Endangered Species Act (ESA). With an estimated population of 17,000 to 19,000 *Panthera leo melanochaita* animals left in the wild, divided into many smaller populations, the USFWS believes this subspecies is less vulnerable to threats and is not currently in danger of extinction but is likely to become endangered within the foreseeable future.

Therefore, the agency has listed *Panthera leo leo* as Endangered whilst *Panthera leo melanochaita* is listed as Threatened. “Predictions are that eastern Africa is likely to lose a third of its population in 20 years and half the population in 30 years. The southern African population of wild lions is unlikely to increase significantly as *many of the increasing southern African populations are in small, fenced and intensely managed areas that have already reached carrying capacity*” (USFWS 2016).

8 Legal Status of the African Lion in South Africa

8.1 TOPS

In 2004 the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) was adopted to protect listed threatened and protected species (TOPS), and in 2015 the Biodiversity Management Plan for Lion (*Panthera leo*) in South Africa was adopted. Legislation is continually being amended to meet national and international standards.

The African Lion (*Panthera leo*) is listed as Vulnerable according to the South African List of Threatened or Protected Species (TOPS, 2005) in terms of section 56(1) of

the National Environmental Management: Biodiversity Act (NEMBA). A Vulnerable Species is defined as an indigenous species facing a high risk of extinction in the wild in the medium-term future, although they are not an endangered or critically endangered species.

The population recovery in the combined number of wild and managed wild lions in South Africa led to a change in listing in status in 2016 in terms of the Red List of Mammals of South Africa, Lesotho and Swaziland from Vulnerable to Least Concern.

8.2 South African Court Case on the Legal Status of the African Lion

In the 2007 publication of the regulations on Threatened and Protected species, amended in 2008, the lion was scheduled as a “listed large predator”. In terms of these regulations, the implication was that a lion that was bred in captivity would need to be released for a period of 24 months before it could be hunted. The then South African Predator Breeders Association challenged this listing through the Supreme Court of South Africa with the consequent removal of the lion from the definition of “listed large predators”. This meant that the 24 month release period was no longer applicable to the lion and the release period was to be determined by provincial legislation.

There are huge variations in existing provincial legislation governing the industry. The variation in provincial regulatory requirements, and the outcome of the Supreme Court judgment in 2010, has resulted in legislation and regulations that are cumbersome to comply with.

In an effort to streamline the legislative process, objective 3 of the National lion BMP was identified. The expected outcome of *Objective 3* is to ensure legislative alignment both provincially and nationally and improve capacity to implement legislation effectively.”

Key to addressing this objective in the Lion BMP is to identify Norms and Standards (Appendix A) that will meet national and international standards, be to the long-term benefit of the industry as well as contribute to the conservation of the species in the wild.

The introduction and implementation of more stringent standards will involve significant time and financial investment. According to the Supreme Court Judgement, 2010, transitional provisions to cater for any change in legislation must accommodate the following considerations:

- i. the size of the industry,
- ii. the duration of its existence,
- iii. the extent of investment in infrastructure and forward planning,

- iv. the economic effects on the direct and indirect employment in the industry and other connected industries,
- v. the large number of captive bred lions for which provision needs to be made.

9 Conservation Value of Captive Bred Lions

One of the greatest challenges facing the captive lion industry is the perception that captive bred lions have no conservation value. The top priority of the industry is to determine and promote the conservation value of captive bred lions in relation to the broader context of lion conservation. This document aims to illustrate that the captive lion industry has a significant conservation value and that it makes a significant contribution to socio-economic benefits in South Africa within the wildlife industry and the South African economy.

10 Categories of Captive Lions

The captive lion population includes released lions, free-roaming lions, lion breeding operations (bred under managed conditions), lion hunting, and tourism facilities that are recognised as commercial exhibition facilities which includes lion interaction experiences, lion research facilities, zoos and lion parks, and the entertainment industry (circuses, animals trained for the film industry etc.).

Captive bred lions are divided into two distinct categories:

1. Ranch Lions: lions that are bred for consumptive sustainable utilisation purposes.
2. Working/Tourism Lions: lions that have on-going human interaction before and beyond the age of 3 months, whether for display, contact or other types of interaction, and **may never be hunted**.

Within these two categories distinct differentiation is made in permissible management and/or operational practices.

Ranch Lion operations include:

1. Release facilities for captive bred lions that are for consumptive purposes.
2. Captive breeding operations that have no (or very limited) human interaction and where there is no public interaction and no display.
3. Captive breeding operations that have no (or very limited) human interaction and no public interaction but where lions are displayed.

Working/Tourism Lion operations include:

1. Captive breeding operations where there is human interaction, whether for display, contact or other types of interaction (walking with lions, lion cubs, etc.) and for whatever purpose - tourism, education or research.

2. Captive lion operations where there is long-term human imprinting. This may include:
 - a. Zoos, lion parks and sanctuaries.
 - b. Performing lions such as those used in circuses, exhibitions and lions trained for the film industry.
 - c. Private pets.

All these categories need to apply certain uniform standards that include identification, registration, certification, and licensing, as well as DNA profiling of all animals, and relevant record-keeping.

The norms and standards set out in Appendix A are aimed at stipulating the requirements for each of the above categories in such a way that the lion industry is brought in line with best practices recognised nationally and internationally.

Both categories of captive lions have a significant conservation value:

1. Ranch lions have significant conservation value in terms of their genetic diversity; health resilience; reintroduction purposes, socio-economic benefits; revenue-generation; protection of wild lions by meeting demand for trophy hunting and lion bone demand.
2. Working/Tourism Lions have significant conservation value in terms of their genetic diversity, contribution to education, research, tourism, and revenue-generation.

11 Sustainable Utilization

The viable and responsible management and utilization of wildlife populations is the cornerstone of the national, provincial and private wildlife industry in South Africa. Sustainable use means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations – Convention of Biological Diversity – United Nations, 1992.

The World Conservation Union (IUCN) defines “conservation” to mean both the protection and sustainable use of natural resources including wildlife. International conventions and declarations, such as the Convention on Biological Diversity, give nations the right to utilize their natural resources including wildlife in all consumptive and non-consumptive forms.

Sustainable utilization options for wildlife are numerous and varied - these include tourism, hunting, game ranching, meat production, use of by-products and live capture. Empirical experience shows that a combination of different forms of

utilization usually renders the highest yield – especially from the industry perspective.

Where organized properly, the consumptive use of wildlife has contributed to the protection of species and habitats and an increase in wildlife numbers. In this way, endangered or near-extinct species have been saved through a combination of protection and utilization. The private game industry in South Africa epitomises the success of this model.

Hunting is an element of sustainable utilization to which South Africa subscribes, being a member Party to both the Convention on Biological Diversity (CBD) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Hunting creates an economic value for wildlife species, and as a result an incentive to invest in the species. Therefore, investment in wildlife by private owners assists in the conservation of species (DEA, 2015).

Managed hunting is an especially revenue-rich form of utilization, which impacts relatively little on the environment. For emotional and ideological reasons, however, hunting is often aggressively targeted by anti-hunting lobbyists who have joined together in large and financially powerful groups that are able to exert wide public and political influence.

In systems in which utilization is not permitted, wildlife is represented as a cost to landowners without any income. This is totally unsustainable. Those who oppose sustainable utilization are inflicting the cost of conservation on landowners and yet denying them the benefits. They certainly contribute to the extinction of wildlife (CIC, CoP 17 discussion).

11.1 IUCN SSC, 2012

“IUCN has long recognized that the wise and sustainable use of wildlife can be consistent with and contribute to conservation, because the social and economic benefits derived from use of species can provide incentives for people to conserve them and their habitats” (IUCN SSC, 2012).

“With particular reference to Southern Africa, IUCN has recognized that recreational hunting can contribute to biodiversity conservation. The IUCN at the 2004 World Conservation Conference adopted Recommendation 3.093 stating that it “Supports the philosophy and practice that on state, communal and privately-owned land in Southern Africa the sustainable and well-managed consumptive use of wildlife makes a contribution to biodiversity conservation” and further, that it “accepts that well-managed recreational hunting has a role in the managed sustainable consumptive use of wildlife populations” (Damm, 2005).

Therefore, the focus of the South African lion industry's contribution to the enhancement of lions in the wild will be from a conservation value perspective, and from an economic and social benefit perspective.

The top priorities for the industry are to determine and actively promote the conservation value of captive lions and determine and document the economic and socio-economic benefits created by the industry.

12 Wildlife Trade

Wildlife trade involves import, export, selling, exchange, purchasing, receiving, accepting as a gift, giving, donating, or acquiring or disposing of in any way and is applicable to live animals and or derivatives of a specimen of a wild species.

Key to ensuring the existence of the private game industry in South Africa is the opportunity to trade, within legal parameters. Limitations on trade have significant implications on the rights and viability of the industry. Although much of the trade within the lion industry occurs within national borders, the influence of international trade on the local industry determines the volume of trade nationally because the majority of end-users of products from the lion industry are international.

13 National Legislation

The captive lion industry is regulated by national and provincial legislation, which means that it is managed by a minimum of nine provincial Acts or Ordinances, and a set of National Acts.

The primary legislation regulating the captive lion industry are:

1. National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), which is administered by the Department Environmental Affairs (DEA), in revision 2017.
2. The Animal Protection Act, 1962 (Act 71 Of 1962), which is administered by the Department of Agriculture, Forestry and Fisheries (DAFF).
3. Applicable related provincial legislation.

The fact that the primary legislation managing the captive lion industry falls within two separate national government departments and nine provinces provides a specific challenge to the industry.

Legislation that controls the Captive Lion industry includes:

- The Constitution of the Republic of South Africa No. 108 of 1996. Purpose: this constitution is the supreme law of the republic; laws or conduct

inconsistent with it is invalid, and the obligations imposed by it must be fulfilled.

- The National Environmental Management Act (NEMA) No. 107 of 1998
Purpose: to provide for cooperative environmental governance by establishing principles for decision making on matters affecting the environment, institutions that will promote cooperative governance and procedures for coordinating environmental functions exercised by organs of state; and to provide for matters connected therewith.
- The National Environmental Management: Biodiversity Act (NEMBA) No. 10 of 2004. Purpose: to provide for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act 1, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith.
- The Firearms Control Act, 2000 (Act No. 60 of 2000). Purpose: to establish a comprehensive and an effective system of firearms control; and to provide for matters connected therewith.
- The Animal Health Act, No.7 of 2002. Purpose: to provide for measures to promote animal health and to control animal diseases; to assign executive authority with regard to certain provisions of this act to provinces; to regulate the importation and exportation of animals and things; to establish animal health schemes; and to provide for matters connected therewith.
- The Animal Diseases Act 25 of 1984. Purpose: to provide for the control of animal diseases and parasites, for measures to promote animal health, and for matters connected therewith.
- Animals Protection Act, 1962 (Act No. 71 of 1962). Purpose: to consolidate and amend the laws relating to the prevention of cruelty to animals.
- The Occupational Health and Safety Act No. 85 of 1993 as amended by Occupational Health and Safety Amendment Act, No. 181 Of 1993. Purpose: to provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.
- The Labour Relations Act No. 66 of 1995: Purpose: to advance economic development, social justice, labour peace and the democratisation of the workplace by fulfilling the primary objects of this Act.
- Performing Animals Protection Act, 1935 (Act 24 of 1935). Purpose: to regulate the exhibition and training of performing animals.
- SANS 10379 2005 - Zoos and Aquaria. Purpose: Specifies provisions for the management and operation of all zoos and aquariums, including reptile parks,

crocodile farms, lion parks, bird parks, insectariums and any combination of these. It includes provisions for management systems, the husbandry and welfare of animals, conservation and research practices, and educational and recreational aspects.

- Applicable Provincial Nature Conservation legislation and related regulations
Purpose: to provide for the management and conservation of South Africa's biodiversity at provincial level within the framework of the National Environmental Management: Biodiversity Act (NEMBA) No. 10 of 2004.
- The CITES Appendices I, II and III. Purpose: Lists of species which are afforded different levels or types of protection from over-exploitation.

14 USFWS Requirements

Following the IUCN reclassification of *Panthera leo* in 2015 to only two sub-species, the USFWS determined that the two subspecies qualify for different statuses under the Endangered Species Act (ESA). *Panthera leo leo* is listed as Endangered whilst *Panthera leo melanochaita* is listed as Threatened.

The USFWS also published “a **concurrent rule** under section 4(d) of the Act. This rule provides for **conservation measures** for *P. l. melanochaita* by establishing a **permitting mechanism** for the importation of sport-hunted *P. l. melanochaita* trophies that will **ensure hunting contributes to the survival of the species in the wild**” (USFWS, 23 December 2015).

In a letter from the USFWS to the South African Department of Environmental Affairs (DEA) in January 2016, the USFWS acknowledged that: “*It is clear that lion hunting in South Africa has a significant difference to hunting in other countries due to the captive-bred lion industry, as well as how wildlife is considered property of the land owner. It appears that much of South Africa’s wildlife and subsequent hunting occurs on privately owned land. This approach to wildlife management is significantly different to the system utilized in the United States where wildlife is not an individual’s property*” (USFWS, 2016).

In terms of the Endangered Species Act (ESA), the key requirement of USFWS is to determine the connection between hunting on private land and how it relates to the overall conservation of lions within South Africa.

The key requirement from USFWS is to determine that trophy hunting enhances the survival of the species in the wild / contributes to the overall conservation of the species in the wild - considering the biological, social and economic aspects of the programme from which the specimen was obtained. The USFWS recognises that lion hunting in South Africa has a significant difference to hunting in other countries because of the captive bred lion industry, as well as how wildlife is considered

property of the land owner; and that much of South Africa's wildlife and, therefore, hunting occurs on privately owned land."

In 2016, USFWS lifted the ban on the importation of lion trophies from South Africa from wild and managed wild lions. However, trophies from the captive lion industry were excluded from this. Following on-going communication with USFWS and the DEA, the key issue for the captive lion industry is to demonstrate that the industry does contribute to the conservation of wild lions in South Africa and beyond.

15 Responsibility for the Management of Captive Bred Lions

Management of the captive lion industry has to be a joint venture between Government and the private sector, with input from other role-players. Government is responsible for the enabling legislative environment within which the industry will operate. The enabling legislative environment needs to provide control in such a way that will promote the benefits of the industry and provide the opportunity and powers for industry to become self-regulatory. The private sector's role is to ensure the responsible, ethical, transparent and viable management of captive bred lion populations.

SECTION B: SOUTH AFRICAN CAPTIVE BRED LIONS - SPECIES DETAILS

16 Species Taxonomy

Table 16-1 Species taxonomy of the South African Lion

Class	MAMMALIA
Order	CARNIVORA
Family	FELIDAE
Subfamily	FELINAE
Genus	<i>Panthera</i>
Specie	<i>Panthera leo</i>
Sub-species	<i>Panthera leo melanochaita</i>
Common names	Lion; African Lion (English); Leeu (Afrikaans); Ibhubesi (Zulu); Tau (Sesotho, Setswana and Sepedi); Ingonyama (Xhosa).

NEMBA Lion BMP: All evidence seems to suggest that Southern and Eastern African lions are genetically the same sub-species (Antunes *et al.* 2008, Barnett *et al.* 2006).

17 Conservation Status

The African lion is listed as Vulnerable on the IUCN Red List (Bauer *et al.* 2016) and is protected under Appendix II of the CITES. Lions are listed as Vulnerable according to the South African List of Threatened and Protected Species (TOPS) in terms of section 56(1) of the National Environmental Management Biodiversity Act, 2004 (Act No 10 of 2004). In 2016 the listing in terms of the Red List of Mammals of South Africa, Lesotho and Swaziland was changed from Vulnerable to Least Concern due to the recovery of the population and the combined number of wild and managed wild lions. The increase in captive-bred lions has also stabilised the local population.

The Lion BMP notes that in July 2013 “the Scientific Authority of South Africa as established in terms of Section 60 (1) of the NEMBA in 2013 conducted a Non-Detriment Finding (NDF) assessment for the African lion in terms of the CITES. An NDF assessment determines whether or not trade of a species is likely to have a detrimental impact on populations of the species. The finding of the assessment was that there are currently no major threats imposed by legal local and international trade on the wild lion populations in South Africa, although the management of managed wild lions needs to be improved. Minor threats include over-utilisation, disease, poaching and conflict with communities around protected areas. The assessment only considered wild and managed populations of the African lion and did not consider captive populations” (Lion BMP, 2015).

Table 17-1: Biodiversity Management Status of the Lion

National Biodiversity Management Status	LIST OF THREATENED AND PROTECTED SPECIES ISSUED IN TERMS OF SECTION 56(1) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT BIODIVERSITY ACT, 2004: CATEGORY: Vulnerable Species - Indigenous species facing a high risk of extinction in the wild in the medium-term future, although they are not a critically endangered species or an endangered species
2016 Red List of Mammals of South Africa, Lesotho and Swaziland	CATEGORY: Least Concern - Indigenous species that does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened.
Provincial Biodiversity Management Status	PROTECTED WILD ANIMAL
IUCN Red List Status – 2016-3	The IUCN Red List of Threatened Species, Ver. 2016 - 3.1 Category: Vulnerable Population Trend: Decreasing (Wild Populations)

18 Population Status

There is probably no other species whose natural distributional range has shrunk over historical times to the extent indicated by the lion. About 75% of their former range on the continent is no longer suitable for viable populations due to agricultural development and human habitation.

Lions once roamed across virtually all of South Africa but had been exterminated from most of their range in South Africa by the early 1900's, with historic populations remaining only in small numbers in what are now Kruger National Park and the Kgalagadi Transfrontier Park. With the formation of these National Parks, lion numbers in southern Africa recovered slowly. Today, most of South Africa's wild lions are protected in these two national parks and these populations are stable or increasing. In the last 30 years, lions have been re-introduced to over 45 smaller reserves, with a total population of about 800 "managed wild" lions in South Africa. As indicated in the figure, these are mostly managed in isolated populations spread throughout South Africa.

In addition to the wild and managed wild lions, there are approximately 8000-8500 captive bred lions in South Africa (Els *et al*, 2016). Thus, of the total South African lion population, approximately 70% are captive bred and 30% are considered wild or managed wild and are free-roaming in parks and reserves.

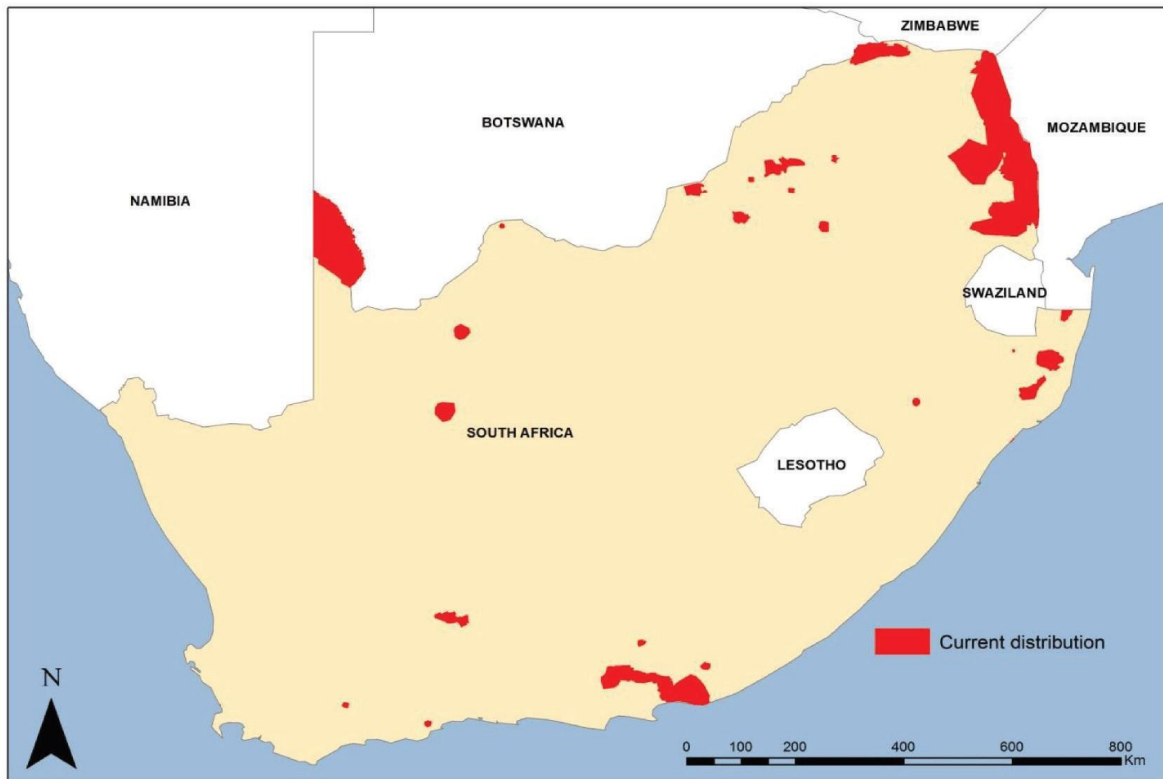


Figure 2: The distribution of lions in South Africa in 2014 including both wild and managed wild lion populations (Lion BMP 2015)

18.1 Captive Lion Population Status

The estimated size of the **captive lion population** differs depending on the source.

- 2012 - The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), Biodiversity Management Plan for African Lion (*Panthera leo*), 2015, states that in 2012 an estimated 6000 lions occurred in over 200 breeding facilities (Funston & Levendal, 2015).
- 2012 – 68% of the total lion population of South Africa are captive bred lions.
- May 2016 – In May 2016 SAPA conducted a survey of its 70 members on the numbers of animals in their facilities. The survey concluded that there were 3968 lions in the 70 registered captive lion facilities. Based on these figures, it was estimated that this accounted for 66% of the lions within the captive lion industry, assuming that a total of 6000 animals was maintained since 2012 (Jun 2016).
- Nov 2016 - a study was conducted by North West University (Potchefstroom) on “The economic significance of the private lion industry in South Africa”. The preliminary results were presented to SAPA in November 2016 indicating that the

“total number of lions on privately owned farms is between 8000-8500” in 297 breeding facilities (Els *et al*, 2016).

- January 2017 - A SAPA survey undertaken in January 2017 indicated that significant increases, averaging 30% in animal numbers, within facilities occurred since 2016. This can mainly be attributed to the limited numbers of animals that were hunted in 2016 due to the listing of *Panthera leo* as threatened under the Endangered Species Act in the USA and the publication of the concurrent rule under section 4(d) of the Act, restricting the importation of lion hunting trophies into the USA. Despite members reducing the breeding of lions in 2016 in reaction to the reduced hunting, the population still increased due to animals that were at the cub phase during the 2016 assessment period now being counted.

19 Distribution

19.1 Distribution of the natural population

Historically, lions occurred widely in Europe, over much of Asia and throughout Africa. They are now extinct in Europe, and of the Asian population only a few animals still occur in India. In Africa they are extinct in North Africa, and in the Southern African sub region the shrinkage in their distributional range is well documented (Skinner & Smithers, 1990).

By the 1900's, lions in South Africa were eradicated from much of their historical range with historic populations surviving in the Kruger National and Kgalagadi Transfrontier Parks only (Nowell & Jackson 1996). Today about 2300 wild lions are protected in these and other large national parks and game reserves with all populations either stable or increasing.

19.2 Distribution of introduced & trans-located populations

Since the early 1990s, lions have been reintroduced into 45 small, fenced areas (<1000 km²) in South Africa, including private reserves and ranches, conservancies, protected areas, national and provincial parks (Funston 2008; Slotow & Hunter 2009) with a total population of about 800 animals of what are termed “managed wild lions”. Apart from the 3100 wild and managed wild lions, in 2015 there were an estimated 6000 captive lions in South Africa, which are used for breeding, hunting, petting tourism and walking with lions (Taljaard 2009; Lindsey *et al.* 2012a).

Captive bred lions are widespread throughout South Africa with the North West, Limpopo and Free State provinces hosting most of the captive lion populations. The largest percentage of the captive lion population is located in the North West (46%), followed by the Limpopo (26%), the Free State (26%) and the Northern Cape (2%), (Els *et al*, 2016) with the Eastern Cape also hosting a small percentage.

Not all captive bred lions are in small camps. Large numbers of captive bred ranch lions are kept on large tracts of land on private game ranches / reserves (extended wildlife systems) where the habitat and game populations are properly managed. The captive lion population, including those in extended wildlife systems, is distributed across the whole of South Africa – extending the habitat/distribution of the African lion significantly.

20 Habitat Requirements

Lions are very adaptable animals and occur in most types of habitat where there is sufficient food (Cillié, 2000). The most important habitat requirement is that there are enough prey animals and prey species available (Nieuwoudt, 2000).

21 Ecology

Lions are the largest of Africa's cat family and are an effective predator species at the top of the food chain. In a natural ecosystem they may serve as a keystone species. They perform the task of taking out the weak and sick prey species in an ecosystem. They eat a wide variety of mammals but tend to favour medium to large sized ungulates, and are also known to scavenge whenever possible.

Lions have a significant influence on population dynamics as lion predation regulates the numbers of resident prey in their natural habitats. Lions tend to affect prey populations negatively in most small reserves (Power 2003). Without careful monitoring and regulation of large predators, ungulate populations can decline more rapidly than managers expect.

In the small fenced reserves in South Africa lions have the same daily pattern of activity as they do in large reserves (Hayward & Hayward 2007), and select the same preferred prey as in large reserves (Lehmann *et al.* 2008b; Louw *et al.* 2012). Lions prefer medium to large sized ungulates between 190-550kgs with a preferred size of 350kg. In large reserves preferred species include gemsbok, buffalo, wildebeest, giraffe and zebra (Hayward and Kerly 2005). However, prey preference also reflects prey availability and vulnerability. Lions will also take smaller prey such as warthog reflecting their opportunistic hunting behaviour. Some species, such as roan, sable and eland are not considered preferred because of their low abundance. Species recorded as not preferred include waterbuck, bushbuck and impala (Hayward and Kerly 2005). Preferred species in smaller (8 500 ha) fenced reserves however include blue wildebeest, waterbuck, warthog, zebra and impala , mostly reflecting the availability of prey species in a small reserve (Lehmann *et al.* 2008b).

Additionally, the daily food intake rate (5-10kgs per day (although they can gorge up to 40kgs at a time); 4-7% of body weight; with more than half their food coming from scavenging) and home range use of lions in fenced reserves (Addo Karongwe,

Limpopo- 8500ha) was the same as lions from large parks (Lehmann *et al.* 2008c; Hayward *et al.* 2009b). This implicates that from an evolutionary viewpoint, the use of fences for conservation has not affected the natural behavior of lions as they still conform to predictions derived from unfenced reserves. Hayward *et al.* (2009b) concluded that prey abundance is the key factor in determining spatial movement of lions, and is similar in both fenced and unfenced reserves.

This is currently an on-going debate as Hayward *et al.* (2009b) only looked at a small range of lion behaviors. According to Miller & Funston 2014, growth rates are higher on small reserves and there is anecdotal evidence that pride structure is disrupted. Research is currently on-going in this regard.

22 Biology

Lions are the only social cats and form small prides of up to 12 animals. They are mainly nocturnal animals and generally sleep through the day and are active during dawn and dusk (Cillié, 2000).

Generally lions are territorial, living in prides but in most populations there are a small percentage of nomadic lions that do not settle in territories (mainly coalitions of males). The pride is a stable, social unit with all females in the pride related. Males defend their territories and their pride, whilst females try to exclude females from other prides resulting in a high level of mortality, especially in large, multi-pride systems. An incoming male will kill or evict cubs that are sired by the previous pride male. In the wild, lionesses seldom live to more than 14-16 years and most males only live to 12-14 years (Packer *et al.* 1988). Lions in captivity can live more than 20 years.

Female lions conceive as early as 32 months, but typically give birth to cubs in normally functioning populations at 40 to 60 months of age (Smuts *et al.* 1978). In small confined populations lions tend to breed at younger ages (Miller & Funston 2014). Litter sizes averages three with a range of one to six (Smuts *et al.* 1978, Miller & Funston 2014). Birth intervals depend on whether cubs are raised to maturity, with lions in Kruger National Park having new litters every 30-36 months (Smuts *et al.* 1978). When litters are lost, intervals range between four and six months (Packer & Pusey 1987). In southern Africa cub survival is high, ranging from 60-80% in the first year (Funston 2009, 2011). Cub mortality, however, increases when new males take over a pride (Packer *et al.* 1988). Sub-adults and adults have higher survival rates than cubs (Funston *et al.* 2003, Ferreira & Funston 2010).

In most large protected areas, lion populations tend to be stable (Packer *et al.* 2005; Ferreira & Funston 2010a), but when introduced into a new reserve with naïve prey, lion populations increase very rapidly (Kilian & Bothma 2003; Lehmann *et al.* 2008a;

Miller & Funston 2014) and quickly expand to use the whole area (Druce *et al.* 2004b). In these reserves some form of population control is essential. The use of contraceptives is one approach (e.g. Orford & Perrin 1988) used to halt population growth, although most reserves currently favor translocation or culling (Kettles & Slotow 2009; Miller *et al.* 2013). As the area available for translocation diminishes rapidly alternate methods of population control need to be determined.

23 Conservation Value of Captive Lion Populations

The Lion BMP does not define “conservation value” and yet has defined three distinct classifications of lions in South Africa. These classifications are determined by their perceived conservation value. It is assumed that wild lions have greater conservation value. Wild lion populations are, however, declining rapidly and are restricted to small isolated populations in most places that could result in in-breeding.

The conservation value of all managed lions (managed wild and captive bred) is considered by specialists to be compromised in three main areas:

- the genetic integrity of the animals based on their genetic origin,
- the potential for in-breeding,
- and, due to the management focus being more financial than conservation orientated (BMP,2015).

The BMP states that determining the genetic integrity of managed lions is an issue in both managed wild lion populations and in captive bred lions. However, the genetic integrity of captive bred lions is easily managed through compulsory DNA profiling.

The Lion BMP identifies that little genetic integrity exists in the managed wild lion populations. This is attributed to the fact that managed wild lion populations in South Africa have their genetic origins in all four of the geographically and genetically separate populations described by Antunes *et al.* (2008). These four geographically and genetically separate populations within southern Africa are: Namibia (including Etosha National Park), Botswana I (including the Okavango Delta), Botswana II (including Kgalagadi Transfrontier Park) and Kruger National Park. In addition, managed wild lions are currently managed separately in each area, with very little planned genetic exchanges, (Hayward *et al.* 2007a, b, c; Hunter *et al.* 2007; Kettles & Slotow 2009), reducing their conservation value on a regional scale (Slotow & Hunter 2009). None of the managed wild populations in the smaller fenced reserves was listed by the IUCN as viable or potentially viable population. (BMP, 2015)

The Lion BMP, however, states that the risks of genetic impoverishment of managed wild lions are low and easily mitigated through robust management interventions. To address this, one of the objectives of the Lion BMP is to consider all managed wild lions as a meta-population (single population). The implementation of management

approaches that mimic social dynamics (Ferreira & Hofmeyr 2014) should result in the maintenance and/or improvement of genetic diversity of managed wild lions. Genetic testing would then assist in evaluating the genetic status of managed wild lions in South Africa and help assess inbreeding risks in the future.

The genetic purity of captive bred lions is equally in question. The prevailing view amongst carnivore specialists is that captive bred lions have no conservation value and do not contribute to the conservation of the species, especially for population restoration purposes, since inbreeding is known to occur and thus compromises genetic integrity and provenance (origin) (Slotow and Hunter, 2009; Hunter *et al.*, 2012; CITES Scientific Authority, 2013; Packer *et al.*, 2013).

However, this too can be easily mitigated through robust management interventions. Through proactive management of breeding in a managed environment the genetic diversity of captive-bred lions can easily be determined and controlled, potentially ensuring greater conservation value than some wild lion populations

The greatest challenge to the captive lion industry is to determine and substantiate the conservation value of captive lions in relation to the broader context of lion conservation. This is the top priority for the captive lion industry and includes the following activities:

- Compulsory micro-chipping and DNA profiling of all captive bred lions;
- The development of a National Lion Registry;
- Research on the genetic diversity of the captive lion population in comparison with wild lion populations in the African sub-region;
- Research on the health and reproductive capacity of captive bred lions;
- The lion industry involvement in the genetic improvement of managed lion populations in the African sub-region through the provision of replacement males.

24 Major Threats to the Species

Within the traditional range of lions, the greatest threats generally (Bauer *et al.* 2008) include habitat loss and conversion, indiscriminate killing to protect livestock, prey base depletion, direct consequences of the bush meat trade and excessive trophy hunting. Lions are in direct competition with livestock farming and are not tolerated in these agricultural areas. Development, the ever increasing presence of humans and the agricultural sector diminished the natural habitat of the lions to protected areas only.

In South Africa, however, threats to wild and managed wild lions are relatively minimal because of the management of lion populations within fenced reserves.

Threats to the captive lion population are mostly directly related to the “end-uses” of the lions. Thus, in the situation of captive-bred lions, any change in this and other sustainable use legislation is a major cause for concern as it can have a significant impact on the population numbers and the subsequent increase or decrease thereof. Most lions released for hunting purposes in South Africa are of captive-bred origin. Captive-bred lions are not currently under any threat of over utilization.

“According to the TRAFFIC 2013 report, the trade in lion bones currently has a negligible impact on wild lion populations. The trade in bones appears to be a sustainable by-product of the sizeable trophy hunting in SA and lions that are hunted are almost exclusively captive bred. Incidences of illegal activities such as poaching pertaining to wild lions are too sporadic to be of any detriment.

Furthermore, the controversial trade in lion bones for the Asian market appears to be supplied by bones obtained as a legal by-product of the trophy hunting industry where the lions are almost exclusively captive-bred (wild lions account for only 0.9 to 1.1% of lions hunted – Lindsey et al 2012). It would also appear that wild lions in South Africa are safe from the body parts trade for as long as captive-bred lions are the source of the derivatives” (Lion BMP, 2015). The impact of the bone trade on wild lion populations outside of South Africa is yet to be determined.

However, since the impact of the USFWS ruling in January 2016 which restricts the importation of captive bred lion hunting trophies, and the subsequent drop in the hunting of captive bred lions, captive lion facilities have been the target of poachers for the poaching of lion body parts. The approach has mainly been the poisoning of lions in captive facilities in order to obtain body parts, particularly heads/skulls and paws (SAPA, 2017).

25 Disease Management

The impact of disease, particularly anthrax, canine distemper and TB, in wild lion populations is well documented. Lions in confined areas are especially susceptible to diseases that can cause mortality or at least cause serious loss of life quality if affected. Preventative vaccinations must be provided where possible and curative treatment must be provided as required.

The screening and control of diseases is more manageable in a captive environment. The management of disease in other wildlife species, for example Buffalo, provides a model that can be implemented to address severe disease issues in wild lion and captive lion populations. Captive bred lions could be tested and certified disease free and then used to re-establish populations in areas that have been negatively affected or decimated by disease.

26 Biosecurity

Biosecurity is the security or protection of animal and plant resources from biological invasion, contamination and threats. Biosecurity is, therefore, the implementation of preventative measures to reduce the risk of outbreaks, spread, and frequency of disease. This is particularly relevant to captive bred lions, since they occur in all the provinces of South Africa.

Diseases can cause extensive damage if outbreaks occur, particularly in captive breeding and keeping operations and with valuable wildlife that are managed in controlled environments. The threat of contagious diseases is high and preventative measures need to be put in place to prevent contamination or the spreading of these diseases. The presence of infectious diseases are mostly noticed only when symptoms are indicative. Thus managers need to take biosecurity very seriously and implement preventative biosecurity procedures or measures designed to protect the animals against harmful biological impacts.

The biosecurity process is accomplished by the exclusion, eradication and reduction of biological risk factors like disease pathogens, pests and spreading of other health risks. Measures need to provide ways for protection from introducing infectious pathogens, parasites and diseases to an operation and prevent undue stress factors on animals.

Biosecurity is not only about preventing the introduction of disease to a facility but also if disease is present, reducing or limiting the spread of the disease agent on and off the property.

The potential threat of disease being transferred from humans to domestic animals and wildlife and from wildlife to domestic animals and humans should also be considered.

Biosecurity management starts with the understanding of normal animal behaviour so that any unusual behaviour or clinical symptoms can be quickly identified. Biosecurity should include routinely practiced preventive medicine protocols as well as the prevention of diseases from outside being brought into captive breeding facilities. In addition, to apply and maintain successful biosecurity requires the correct infrastructure and strict monitoring of people, animals and feed entering the facility

Health and veterinary research on lions in captive facilities can contribute significantly to *in situ* and *ex situ* conservation of lions in the wild through advanced health management of lions in captivity. Species behaviour monitoring and effective

biosecurity measures on infectious disease management are aspects where lions in captivity contribute to the conservation of the species in more extensive situations (Fukai, 2016).

SECTION C: MANAGED WILD AND CAPTIVE BRED LIONS **– PARALLEL**

27 Managed Wild vs Captive Bred Lions

In the Lion BMP, the classification “Managed Wild Lions” is defined as “all lions that have been re-introduced into smaller fenced reserves ($\leq 1000\text{km}^2$), and are managed to limit population growth and maintain genetic diversity” (Funston and Levenson 2015).

These areas largely result from private property as well as wildlife ownership rights enforced by fencing as required by South African law. Even though varied opinions abound on the pros (Packer *et al.* 2013) and cons (Creel *et al.* 2013) of fencing as an essential component of lion conservation in future, the use of fences are likely to increase as human land-use continues to expand into lion ranges. This predicts continued fragmentation of lion habitats (Riggio *et al.* 2012, Dolrenry *et al.* 2014). Management principles applied with managed wild lions of South Africa may therefore provide a key example in achieving integrated lion conservation goals in a changing African context” (Funston and Levenson, 2015).

Ranch lions meet the same requirements as defined for managed wild lions namely:

- free-ranging;
- live on wild prey populations, whose numbers may require to be supplemented;
- occurs in its natural habitat within the historical distribution range of the species; and
- social requirements of the population are met at all times.

The challenges experienced in managed wild lion populations need to also be addressed in free-roaming captive bred lion populations and with the release of captive bred lions.

Challenges identified for “Ranch Lions” (similar to those from managed wild lions) are:

1. Maintaining genetic integrity / diversity (conservation value)
2. Mimicking social and ecological processes
 - a. Controlling breeding and numbers
 - b. Controlling predator-prey impact - lethal and non-lethal removal

The following table compares management issues and challenges identified between wild, managed wild and captive bred lions.

Table 27-1: Comparative Table – Wild, Managed Wild and Captive Bred Lions: Summary from BMP

Management Issue	Wild Lions	Managed Wild Lions	Captive Bred Lions	Captive bred lions (Not reflected in BMP)
Definition – BMP 2015	Wild lions completely fulfil their role in biodiversity processes and are largely unmanaged, and exist only in formally proclaimed national parks and game reserves. Conservationist do not actively manipulate vital rates and lion demographic	Managed wild lions include all lions that have been re-introduced into smaller fenced reserves ($\leq 1000 \text{ km}^2$), and are managed to limit population growth and maintain genetic integrity. Managers actively manipulate some vital rates and demographics	Captive lions are bred exclusively to generate money. Managers actively manipulate all vital rates and demographics	
Main management focus / motivation	Conservation and financial - tourism	Largely for eco-tourism purposes; token ecological reasons; potentially illegal in terms of the National Environmental Protected Areas Act (Act No. 57 of 2003) because the introduction of lions can jeopardise the ecological integrity of the protected area because of the challenges of population control and unsustainable depletion of the prey base Financial – tourism, some hunting	Financial – hunting, derivatives, tourism, breeding	
Ownership	Public	Largely private, some public	Private	
Conservation Value	High?	Reduced; called into question; None	None	
Genetic Integrity	Not questioned In-breeding	Genetic in-breeding is a concern (considerable risk); little geographical structure and/or genetic purity exists; Mimicking	In-breeding known to occur – compromises genetic integrity and provenance (origin)	Similar measures than managed wild lions; In breeding controlled through management

Management Issue	Wild Lions	Managed Wild Lions	Captive Bred Lions	Captive bred lions (Not reflected in BMP)
		social dynamics will maintain or improve genetic diversity (Ferreira and Hofmeyr, 2014); genetic integrity re-established by mimicking social dynamics (Trinkel <i>et al</i> , 2010)		and DNA profiling of all captive bred lions
Range	Exist only within formally proclaimed national parks and game reserves; Within fenced reserves - $\geq 1000\text{km}^2$ - all lion populations in South Africa are fenced; self-supporting	Within fenced reserves $\leq 1000\text{km}^2$ - self-supporting, free roaming All lion populations in South Africa are fenced.	All lion populations in South Africa are fenced.	Self –supporting, free-roaming & constrained populations
Population	Natural – estimated 2300 (2015); largely unmanaged; Managed in Kruger Park in 1970's to control numbers; Managed since 2000 for bTB; not managed in Kgalagadi Transfrontier Park	Re-introduced; fragmented; actively managed – estimated 800 (2015); not viable (IUCN); Managed in Hluhluwe-Umfolozi to improve genetic diversity;	Captive bred; managed – estimate 6000 (2015) 68% of total lions in South Africa;	
Origin	The bulk of South Africa's wild lions are found in two of areas: Kruger and Kgalagadi.	Introduced from a range of populations; minimum genetic management applied; represent a novel lion genetic diversity not associated with a single origin. Applying meta-population theory to managed wild lions can be achieved through the use of studbook approaches to keep track of progress.		Applying meta-population theory to captive can be achieved through the use of studbook approaches to keep track of progress.
Social dynamics – pride composition and size	Live in prides averaging 12 animals (4-5 females, 2 males, cubs and sub-adults)	Prides restricted to limited number of animals; often only one pride		Prides restricted to limited number of animals. prides determined by management of

Management Issue	Wild Lions	Managed Wild Lions	Captive Bred Lions	Captive bred lions (Not reflected in BMP)
				breeding
Social dynamics - breeding	<p>Social dynamics in open, natural systems can result in postponed age of first birth; lengthened birth intervals; reduced litter sizes.</p> <p>Social / pride dynamics determine:</p> <ul style="list-style-type: none"> • Gestation period average 110 days (90-130 days) • Only one oestrus in five results in a litter of cubs (Estes, 1993). • First litter at 40-60 months • Litter interval Kruger Park 30-36 months • Litter size average 3 (1-4) • When a litter is lost litter interval 4-6 months • Cubs are weaned between 7 and 10 months however they are dependent upon adults in the pride until they are at least 16 months old • The interval between litters is on average 2 years. • Males compete fiercely to take over a pride and the average period for a male to rule a pride is 2 years reducing chance for in-breeding. • Lions are social animals. However infanticide is a vital part of the male reproductive strategy. To ensure his reproductive impact on 	<p>Disrupted social dynamics results in:</p> <ul style="list-style-type: none"> • In-breeding an issue • Increased reproduction and longer life-spans; tend to breed at a younger age; <p>Management interventions of females:</p> <ul style="list-style-type: none"> • Increase age of first reproduction using contraceptives on sub-adult females • Establish longer intervals between litters using contraceptives of adult females. • Reduce fertility by tying fallopian tubes • Manage pride size to average of 4 animals • Mimick female dispersal by removing or introducing sub-adult females • Mimick higher death rates by removing oldest females in the pride. <p>Management interventions of males:</p> <ul style="list-style-type: none"> • Mimic male dispersal through removal and introductions of sub-adult males 		<p>Breeding managed –An average gestation period of 110 days (90-130 days)</p> <ul style="list-style-type: none"> • Litter size 1-4 cubs • Cubs are weaned from mother not less than 3 months • Each lioness may have no more than three litters in two years. • First litter at the age of 27 months • Lionesses may not be mated before 24 months of age. • Pride size on average 4 animals • All animals in breeding programmes must be DNA profiled. • Animals with visible heritable genetic defects may not be used for breeding. • All available genetic information should be used to select least related breeding pairs or groups.

Management Issue	Wild Lions	Managed Wild Lions	Captive Bred Lions	Captive bred lions (Not reflected in BMP)
	<p>a pride, male lions will kill existing cubs in the pride. The female will then come into oestrus within 2-3 weeks.</p> <ul style="list-style-type: none"> In nature, male lions would reach sexual maturity at about three years and would start challenging and displacing adult males in the pride and other prides between four and five years of age. 	<ul style="list-style-type: none"> Mimic pride take-overs to an average tenure of 3 years; Mimic higher death rates by removing older males – allow each coalition to have only one breeding opportunity. Allow cub mortality by mimicking pride take-over by introducing new males 		<ul style="list-style-type: none"> Genetic selection managed using DNA testing
Social dynamics - numbers	<p>Large cubs and sub-adults requires larger prides for hunting success Hunting success not a driver of sociality in lions (Packer <i>et al</i>, 1990)</p>	<p>Excessive breeding – individuals more tolerant of each other; pride fragmentation because lionesses do not need to hunt in a group</p>		<p>Excessive breeding potential</p>
Home range	<p>Female home range size driven by pride size and prey abundance.</p>	<p>Female home range size driven by pride size and prey abundance.</p>		<p>Legally prescribed</p>
Life expectancy	<p>Females 14-16 years; males 12-14 years (Packer <i>et al</i>, 1988)</p>	<p>Similar to wild</p>		<p>Breeding successfully Long-lived</p>
Population	<p>In most large protected areas lion populations tend to be stable</p>	<p>Introduced populations increase very rapidly; require management interventions to control growth – contraception, translocations or culling.</p>		<p>Introduced populations increase very rapidly; require management interventions to control growth – contraception, translocations or culling.</p>
Population regulation	<p>Social unfamiliarity; infanticide</p>	<p>Social familiarity leads to more tolerance towards other lions. Population growth needs to be managed.</p>		<p>Population growth needs to be managed; Removal of males in small operations to</p>

Management Issue	Wild Lions	Managed Wild Lions	Captive Bred Lions	Captive bred lions (Not reflected in BMP)
				prevent inbreeding: Hunting of adult males and females.
Predator-prey dynamic	Predator/prey relationships	Lions negatively affect prey populations in most small fenced reserves; Predator/prey relationship disrupted because of prey naivety, restricted prey species and numbers. Introduction of lion can result in a rapid, dramatic and costly decline in prey numbers.		Predator/prey relationship disrupted because of prey naivety, restricted prey species and numbers. Introduction of lion can result in a rapid, dramatic and costly decline in prey numbers.
Pride health	Over 80% of lions infected by bTB (Keet <i>et al</i> , 2009) in some reserves (especially Kruger Park and Hluhluwe-Umfolozi).	Risk of disease higher when confined in fenced reserves; the use of contraceptives causes potential health risks.		Risk of disease higher when confined; Health risk management measures
Threats	Relatively minimal; trade in lions bones has negligible impact on wild lion populations	Relatively minimal; risks of genetic impoverishment are low and easily mitigated through robust management interventions	Trade in lions bones a sustainable by-product of the almost exclusively captive bred lion trophy hunting industry;	Risks of genetic impoverishment are low and easily mitigated through robust management interventions
Hunting	Account for only 0.9 to 1.1% of lions hunted in South Africa (Lindsey <i>et al</i> , 2012); <10 per year (including managed wild); recommended 3% of total population or 0.5 lions / 1000km ²	Recommended 3% of total population or 0.5 lions / 1000km ²	The captive-bred lion hunting industry has grown rapidly in South Africa while the number of wild lions that are sported hunted in other African countries has declined (Lindsey <i>et al</i> , 2012a,b);	Reduces impact of hunting of wild 15% of total population annually is sustainable
Authority	Hunting permits issued through the	Hunting permits issued through	Hunting permits issued	

Management Issue	Wild Lions	Managed Wild Lions	Captive Bred Lions	Captive bred lions (Not reflected in BMP)
	applicable provincial conservation authority	the applicable provincial conservation authority	through the applicable provincial conservation authority	
Socio-economic benefits	Fenced reserves can maintain lions at 80% of their potential densities on an annual management budget of R4500/km ² ; unfenced populations require budgets in excess of R18000/km ² to attain half their potential densities (Packer <i>et al</i> , 2103); Financial benefits to communities are important for lion conservation (Lindsey <i>et al</i> , 2013); Employment – tourism	Eco-tourism; trophy hunting; Employment - tourism		Employment – tourism, hunting, derivatives

SECTION D: CAPTIVE BRED LION MANAGEMENT

PRINCIPLES

NEMBA legislation allows for the existence and lawful expansion of the wildlife industry. As identified as an objective of the Lion BMP, focus of this legislation should be in the provision of enabling legislation for industry self-regulation on a national basis. The “precautionary principle” of NEMA allows and can be implemented by means of guiding the industry rather than “preventing” the industry.

28 Notes from the Supreme Court of Appeal Judgement (2010)

Revision of the TOPS regulations which were published in 2007 included the following definition of a “put and take animal”: “put and take animal” means a live specimen of a captive bred listed large predator . . . that is released on a property irrespective of the size of the property for the purpose of hunting the animal within a period of twenty four months’. This definition was subsequently amended in 2008 to read “put and take animal” means a live specimen of a captive bred listed large predator . . . that is released for the purpose of hunting the animal within a period of twenty four months after its release from a captive environment’. The lion was scheduled as a “listed large predator”.

The South African Predator Breeders challenged the definition of “put and take animal”. One of the reasons for the challenge was that the Minister, in effect, had banned the hunting of captive bred lions without any transitional provisions or period of grace in respect of the commencement of the regulations concerning the hunting of lions. The result of the challenge was the removal of the lion from the definition of “listed large predators”, and therefore, the applicability of the “put and take” definition to lions.

It is noted in the Supreme Court Appeal Judgment between the South African Predator Breeders Association and the Minister of Environmental Affairs at the time, that the Minister had been strongly in favour of imposing an outright ban on the hunting of captive-bred lions. His opposition seemed to have stemmed from ethical reasons, the prevalence of malpractices in relation to such hunting and the adverse effects on South Africa’s reputation particularly in relation to tourism.

In June 2005 the Minister had appointed a panel of experts to advise him on the drafting of norms and standards for professional and recreational hunting in South Africa. The panel said in its Final Report:

“For the purposes of protecting the integrity of the hunting profession, and the reputation of the country in this regard, hunting should not be permitted within intensive production systems. Where animals that have been intensively bred but not genetically manipulated become self-sustaining on extensive wildlife

production systems, their hunting can be allowed once they are self-sustaining The principle of fair chase is not compatible with the hunting of captive bred animals unless they have become self-sustaining on extensive wildlife production units.”

The report contained no recommendation for the observance of any period between ‘rehabilitation’ and hunting. On the contrary, it stated that hunting could be allowed once the animals were self-sustaining in an extensive wildlife system. The panel was of the consensus opinion that no hunting should be permitted *until* a captive-bred large predator had become self-sustaining.

‘Self-sustaining’ or ‘fending for itself’ means becoming substantially independent of human beings. The animal must be left to its own natural devices with minimal human input. That inference is consistent with the requirement of ‘rehabilitation in an extensive wildlife system’ ie a system suitable for the management of self-sustaining populations which requires minimal human intervention, *inter alia*, in the form of provision of water and supplementation of food.

Self-sustaining lion prides on extensive but fenced wildlife production units have a massive impact on prey species. This needs to be considered before the decision to have self-sustaining lions is made. In fact, the only systems that can allow for such a luxury are the more extensive conservancies, immediately neighbouring vast conservation areas or national parks. Fenced areas smaller than 60 000 hectare would need to replenish certain of the more popular prey species at regular intervals or practice lion population control.

Dr Keet, the Chief State Veterinarian in the Kruger Park at the time, testified that to: *“To release / re-establish lions for hunting purposes and to then have to wait for six months during which they are fed expensive wild natural prey animals (that are not predator wise) must be considered futile. During this period a variety of unfortunate events can take place – mostly related to the complex social behaviour patterns of lions. Once a decision is made to have a lion hunted it would be best to have it executed over a more realistic period of time.”*

Dr HO de Waal, Associate Professor in the Department of Animal Science at the University of the Free State, a founder researcher of the African Large Predator Unit and an executive member of the African Lion Working Group, in reply to a Departmental query in September 2006 in which he was specifically asked to motivate his views regarding an appropriate “wilding” / release period before hunting should take place, responded:

“If the objective is to hunt a lion (provided the necessary permits have been issued) it is unnecessarily cruel to allow a single lion to be on its own in

unknown territory for a prolonged period. Lions are gregarious (living in prides), thus only nomads will live solitary lives on a continuous basis (in the wild) which is a stressful ordeal. It is immaterial how long the captive bred lion is allowed to run free before it is hunted, it can never be regarded as being rehabilitated – therefore, preferably the shorter, the better the period between release and being hunted to prevent unnecessary stress.”

29 Sustainable Use

29.1 Utilisation of Wild Lions

Lions are hunted widely in southern and East Africa (Lindsey *et al.* 2012a, b). Wild lion populations are particularly sensitive to over-harvesting (Whitman *et al.* 2004) because the removal of pride males through hunting often results in infanticide by incoming males that kill the cubs to stimulate the onset of oestrus in females (Packer *et al.* 1988, 1990).

As the captive-bred lion hunting industry in South Africa has grown, the number of wild lions that are sport hunted in other African countries has declined (Lindsey *et al.* 2012a, b).

There are no systematic studies of the impact of trophy hunting of wild and managed wild lions in South Africa. However, the low numbers of lions hunted (< 10 lions per year) would suggest that trophy hunting does not impact the viability of wild and managed lion populations. It is generally recommended that lion quotas should either be set at about 3% of the total population (Creel & Creel 1997) or that off takes should not exceed 0.5 lions/1000 km² (Packer *et al.* 2011). Neither of these limits is likely to be exceeded for wild and managed wild lions in South Africa.

The demise of the captive lion industry could, however, potentially have a serious impact on the utilization of the wild lion population, be it legal or illegal.

29.2 Utilization of Captive Lions

An additional benefit that the captive lion industry fulfils in the conservation of wild lions is by meeting the demand for trophy hunting and the demand for lion derivatives. The utilization of captive-bred lions is controlled through various types of legislation. With an estimated population of about 8000 (Els *et al.*, 2016) animals, a viable annual off-take for the sustainable consumptive utilization industry that are managed responsibly need to ensure that the total population does not exceed sustainable parameters.

There are, however, five key areas of concern relating to the South African captive bred lion hunting industry. These are:

1. The size of the hunting area;
2. The release period prior to the hunt;
3. The limitation of human imprinting on lions that will be hunted;
4. Hunting practices; and
5. The misrepresentation of facts to hunting clients (hunters).

The norms and standards (Appendix A) developed for the captive lion hunting industry are aimed at addressing the above concerns in such a way that the hunting of captive bred lions is brought in line with best practices in the national and international trophy hunting industry.

Cognisance must be taken of the fact that existing captive lion hunting and breeding/keeping facilities have been established in accordance with all legal requirements in terms of existing legislation. The introduction of more stringent standards in terms of size of facilities and management practices will involve significant time and financial investment. It is a process that will take time to implement. Key is to implement norms and standards that will meet national and international standards for the long-term benefit of the industry and contribute to the conservation of the species in the wild.

29.2.1 Size of Hunting Area

The minimum size of the hunting area is dictated by provincial legislation which varies considerably from province to province. One thousand hectares is currently the lowest minimum area legislated. The pressure to increase the minimum size of hunting areas is one of the key issues facing the captive lion industry.

The size of the hunting area should be determined by two factors: its ability to render an authentic African hunt; and its ability to facilitate a fair chase walk-and-stalk hunt. Minimum size should be adjusted appropriately depending on habitat and topography.

In some habitats, such as areas of dense bushveld with mountains and valleys, a smaller sized area might be too large to track a released lion within a reasonable time. In other habitats, such as open grasslands, relatively large might be too small to stage an authentic African hunt. The overriding principles should be spatial placement in relation to adjacent and surrounding landscape and land use, vegetation and topography.

29.2.2 Release Periods

As with the size of hunting areas, the release period is currently dictated by provincial legislation which varies considerably from province to province. The

pressure on government to increase the minimum release period is also a cause of huge concern for the industry.

From a **biodiversity** point of view the length of the release period is irrelevant as it has no impact on the survival of the species in the wild.

From a **hunting ethics** point of view the consideration is that the released lion should be alert, well adapted to its environment and able to evade the hunting party. Hunting should only be permitted once a captive-bred lion has become self-sustaining. Written comments from hunting clients indicate that the hunting of ranch lions in South Africa is much more ethical than the hunting of wild lions elsewhere in Africa because lion hunting elsewhere in Africa is mostly done over bait instead of fair chase principles as is done in South Africa.

From a **hunting client** perspective the release period is important to some, who do enquire about it. However, any reasonable release period, ensuring an alert and competitive quarry, is acceptable. All the client wants is an authentic hunting experience. A release period of more than seven days has no bearing on the hunting client's experience of the authenticity of the hunt.

From an **economic** point of view the release period has a significant impact due to the cost involved in sustaining a released lion, and the impact of the lion on prey in the release area. Funston *et al.* (2013) indicated that the release of free ranging lions result in substantial financial costs through predation. On average a released lion makes a kill every third day. With high value species such as buffalo, roan and sable available in the release area it could have a devastating economic effect if the release period is longer than seven days, especially where multiple lions are released in order to create authentic African hunting conditions. The impact on prey is also significant. A single lion kills about 15 large animals a year and a single male that is not part of a pride kills significantly more prey than lions in a pride. (Lehmann *et al.*, 2008b). Therefore, the release period needs to be as short as possible to minimize the economic impact.

From an **international animal rights** perspective and anti-hunting lobby groups no release period could be long enough. If the release period is prolonged to, say 30 days or more, to satisfy international demands, it will have serious ethical and economic consequences:

- Ethical** in the sense that the released lions may start breeding and the hunter might be confronted with a situation where he will be hunting a pregnant or lactating lioness;
- Economic** in the sense that it will seriously affect the financial viability of the industry and the revenue earned by the Provinces. Most of the current lion

farmers (breeding and hunting) will be put out of business. It is only natural that they would seek the assistance of the court to protect their economic rights. Moreover, lion hunting is currently the largest source of revenue for the SA hunting tourism sector. This source will be severely impacted if lion farmers have to abandon their lion hunting businesses due to unprofitability.

- **Security:** the increased period of released lions may increase the demand for better fences and management intervention for hunting lion camps (SAPA 2015).

Dr. HO de Waal, at the time, Associate Professor in the Department of Animal Science at the University of the Free State, a founder researcher of the African Large Predator Unit and an executive member of the African Lion Working Group, in reply to a Departmental query in September 2006 in which he was specifically asked to motivate his views regarding an appropriate “wilding” / release period before hunting should take place, responded:

“It is doubtful whether the term “rehabilitated after being released” should be used in the context of captive bred lions. The human imprint on these animals is very strong. Once released they may adapt to free ranging conditions and learn to stalk and catch live prey (given time and opportunity). However, they do not regard humans as “danger” to be avoided, as wild animals would tend to do.”

“Therefore, if the objective is to hunt a lion (provided the necessary permits have been issued) it is unnecessarily cruel to allow a single lion to be on its own in unknown territory for a prolonged period. Lions are gregarious (living in prides), thus only nomads will live solitary lives on a continuous basis (in the wild) which is a stressful ordeal. It is immaterial how long the captive bred lion is allowed to run free before it is hunted, it can never be regarded as being rehabilitated – therefore, preferably the shorter, the better the period between release and being hunted to prevent unnecessary stress.”

If a second lion is added to the fenced area where another lion is already running free and depending on the size of the fenced area, the lions may cause undue stress to each other because of their mere presence or more likely might even start fighting.”

He suggested that a seven-day time frame between release from captivity and hunting was appropriate for reasons explained above (De Waal, Supreme Court, 2008, SAPA 2015).

In addition, experience indicates that there is a significant change in behaviour of released lions after seven days. They become more settled, within a “territory” so hunting has a greater impact from a social perspective.

Given all the above considerations **seven days** may be regarded as a balanced and realistic release period (De Waal, Supreme Court, 2008, SAPA 2015).

29.2.3 Breeding of Lions for Hunting

The underlying principle of hunting captive bred lions in South African is that only ranch lions that are raised and kept under conditions deliberately aimed at preventing human imprinting may be hunted. Human imprinting on lions raised for hunting purposes needs to be kept to an absolute minimum. This means that lions destined for hunting should be kept as unhabituated as possible and should be raised and kept in a way that limits human imprinting.

Complementary to this basic principle is that the preparation, as well as the conduct during the hunt, should be in line with internationally accepted standards.

The following norms and standards (Appendix A) have been proposed for the breeding and keeping of ranch lions to ensure minimal human imprinting on lions that will be hunted:

- No hunting of human imprinted animals is permitted.
- Minimum interaction with humans from birth.
- No hand rearing of cubs unless for veterinary reasons.
- Cubs may not be weaned before 3 months of age.
- Hand reared cubs may not be handled beyond the age of 4 months.
- General “hands off” management techniques with regard to feeding, husbandry, medical care and environmental enrichment.
- Identification of animals bred and raised for hunting purposes are compulsory. DNA and microchip identification must be done for all animals to be able to clearly distinguish them from “working lions” that have had human interaction and may be human imprinted.
- No breeding animals are to be sourced from wild populations without legally required permits.
- Only genetically sound and healthy animals may be used for breeding.
- Genetic identification and recording of all breeding lions is compulsory.

29.2.4 Hunting Practices

The following procedures are proposed, to apply during the hunt:

- Everything possible should be done by the landowner, the Professional Hunter and the Hunting Outfitter to deliver a genuine African experience.

- A written contract, in agreement with the relevant legislation and in line with the hunting agreement and marketing material, in which all vital aspects of the hunt are stipulated, must be signed.
- The client should be properly briefed about all operational aspects of the hunt.
- Emergency procedures need to be explained to the hunter and the hunting party.
- Hunting must take place according to the principles of fair chase.
- Outfitters and Professional Hunters, registered with the appropriate body, must maintain the highest standards of ethics and skill during the hunt.
- It is the outfitter's responsibility to ensure an authentic hunt.
- No alcohol may be consumed before and during the hunt by any member of the hunting party.
- A maximum number of six people should attend the hunt.
- An evaluation questionnaire must be completed and signed by hunters as part of the quality control procedure.

Principles applicable for the hunting of ranch lions in South Africa:

- An appropriate calibre rifle or other suitable and appropriate weapon for lion hunting shall be used by both client and professional hunter.
- No lion shall be offered for hunting purposes if the animal is under the influence of a tranquilizer or immobilizing agent.
- No gin traps shall be used to restrict the lion's movements.
- Lion hunts shall not take place in an area directly adjacent to a holding facility for listed large predators.
- No use of automatic weapons shall be allowed.
- No use of shotguns shall be allowed.
- No use of spot lights shall be allowed, except when a wounded lion needs to be located.
- No hunting from a motorized vehicle shall be allowed, except in the case of a wounded animal or when allowing a physically disabled or elderly (over 65) person to hunt.
- No hunting of an animal which is tranquilized or immobilized by drugs or trapped against a fence or in a small enclosure where the animal does not have a fair chance to evade the hunter shall be allowed.
-
- No use of sounds, smells or any other induced luring method shall be allowed.
- No hunting by aircraft, including locating the lion, shall be allowed, except in the case of tracking and tracing a wounded animal.
- A non-South African hunter must be accompanied by a registered professional hunter, and the hunt must have been organized by a registered hunting outfitter.
- The permit-holder must have the permit in his/her possession during the hunt.

30 Captive Lions in Conservation, Rehabilitation, Education and Research

The captive lion industry is a diverse and complex industry. As with all industries it needs to be economically viable. Recent international requirements also necessitate a conservation value contribution. The main objectives for lion facilities should, therefore, include demonstrable conservation and /or rehabilitation and /or education and or research pursuits.

30.1 Conservation

- Lion facilities have an important and influential conservation capacity.
- All lion facilities should participate in a demonstrable manner in at least one of the following conservation-related practices:
 - *ex-situ* or *in-situ* contribution to research from which conservation benefits accrue to species;
 - staff education in relevant conservation and husbandry skills;
 - exchange of information relating to species conservation; and
 - co-ordinated and managed breeding and/or repopulation and/or reintroduction of species into previous habitats or in new habitats.
- Contribution and involvement in such activities should be measurable, recognized and endorsed by relevant organisations (SAPA/ SAPRED/ SAPA CDF). *Refer to acronyms - this refers to SAPA as registered company, which had to be done in order to register the conservation fund.
- All lion facilities should promote public education and awareness in relation to the conservation of biodiversity, by at least providing information about the species and their natural habitats.

Re-establishing lions in the wild

- The lion industry has the capacity to re-establish lions in locations anywhere in Africa where lions became extinct or in-bred.
- The two experiments (one in the Zambezi Valley and one in Zambia) clearly demonstrate that it is possible and viable. South African captive bred lions were used in both instances. (Personal Communication, 2016, ALERT project, Dr Abell)
- Genetic database makes it possible to re-establish lions in the wild on a scientifically sound basis (Abell *et al*, 2013) ;
- Relocation of captive lions into extensive systems is possible and viable (Abell 2013).
- SAPA is currently working on a project to re-establish a nucleus pride in Mozambique. (Personal Communication, Coutada project, 2016)
- The lion industry is dedicating 1% of the captive lion population animal numbers for relocation or release purposes anywhere within the natural range area of *Panthera leo*.

30.2 Education

Environmental, conservation and animal welfare education should be an objective of all lion facilities. One of the most effective means to promote healthy environmental habits is by providing proper education to people from all generations. Environmental education and protection is crucial for the benefit of both the environment and humans. Aspects addressing education projects about lions can include:

- Awareness creation,
- Knowledge on protection of the species,
- Informing society,
- Solving complex issues involving the species,
- Promotion of holistic approaches and
- Enhancement of the appreciation of the species.

30.3 Research

- It is recommended that lion facilities demonstrate that research in its broadest definition is encouraged.
- Lion facilities should ensure that relevant data of the animals is kept on their database. This information must be available for use in a scientific manner so as to benefit the animals and the species concerned. This information should be sent to an industry based central database on a regular basis.
- In any research, care shall be taken to comply with all relevant legislation and the research shall be subject to ethical review.
- Lion facilities not involved in their own research projects are encouraged to collaborate with scientists involved in other research projects within the industry. This may be achieved by assisting with manpower, funding or access to facility resources or contribution to the organisations approved Conservation fund.

31 Conservation Contribution

A certain percentage of the income generated from lions that are bred, kept, traded, transferred, hunted, donated, exported or imported, and their derivatives, must be contributed to a registered and acknowledged Conservation Fund. These funds should be managed effectively in order to achieve Conservation, Education and research objectives.

Contribution to Conservation of the Species:

- Every captive lion exported out of South Africa will contribute to the conservation of lions by contributing to a registered Conservation and Development Fund through a:
 - Breeding/Keeping contribution and or;
 - Hunting contribution and or;

- Live export contribution and or;
 - Derivate contribution.
- All contributions to the registered Conservation and Development Fund will be managed to enhance the conservation of lions either in the wild or other circumstances as identified by the conservation fund management and supported by the fund goals.

32 Socio-Economic Issues

Lion trophy hunting generates more revenue annually than any other hunted mammals. Accordingly, economic outputs from the captive bred lion industry are assumed to have increased significantly (Lindsey *et al.*, 2012a) as exports of products have increased. However, lion breeding is regarded by many as a controversial “conservation” tool that purportedly reduces consumptive impacts on wild lions through the targeting of captive-bred animals in the trophy hunting industry (CITES Scientific Authority, 2013; Lindsey *et al.*, 2012a; Macdonald and Willis, 2013).

Most hunting (>95%) takes place on private property in the North West, Free State and Eastern Cape provinces using captive bred lions (CITES Scientific Authority, 2013).

All lion populations in South Africa are fenced. Across Africa, lion populations in fenced reserves are significantly closer to their estimated carrying capacities than unfenced populations (Packer *et al.* 2013). Whereas fenced reserves can maintain lions at 80% of their potential densities on annual management budgets of about R4500/km², unfenced populations require budgets in excess of R18000/km² to attain half their potential densities (Packer *et al.* 2013). Lions in fenced reserves are primarily limited by density dependence.

Large African predators, especially lions and leopards, are financially valuable for ecotourism and trophy hunting operations. However, predation of ungulates used for trophy hunting can create conflict with landowners. Therefore, trade-offs exist between the value of lions and their impact on ungulate populations. Funston *et al.* (2013) showed that lions result in substantial financial costs through predation on wild ungulates. Therefore, the number of lions may need to be managed to minimise their impact (Funston *et al.* 2013). Lions drive important ecological processes, but there is a need to balance ecological and financial imperatives on managed reserves, wildlife ranches, community wildlife lands and other categories of multiple land use for wildlife production. There are, however, substantial economic advantages to having lions and a large amount of wealth is generated in South Africa from the presence of lions. These community benefits are important for lion conservation (Lindsey *et al.* 2013).

The establishment of a captive breeding and or keeping facility is a costly activity. The cost depends on the provincial location of the facility. The costs, as determined in 2016, to establish a lion breeding facility vary between R1.1 million and R5 million, with the minimum costs involved of R50 000 and the maximum costs R10 million. On average the cost of establishing a lion keeping and breeding facility is R1 385 000. (Els *et al*, 2016).

Having animals in a managed area is a responsible task. Food needs to be obtained to feed the animals at regular intervals. Food is mostly obtained from surrounding communal and commercial farming areas. Food sources for lions in captive facilities vary between livestock, chickens and game carcasses. The presence of a lion breeding and keeping facility within a specific region supports the local economy of that area (Pers Comm, Gerhard Griesel, 2016)

The facilities where these animals are kept need to be managed and maintained on a daily basis. Research conducted in a recent study indicates that the majority (55%) of lion breeding facilities pay less than R50 000 to run their lion holding facilities per month. However, facilities with large scale operations pay more than R501 000 to run their lion holding facilities per month. On average the running costs are R50 000 per month per facility (Els *et al*, 2016).

An area suitable for release for hunting of lions is also required. The minimum provincial size requirement for a release area is 1 000 hectares. To obtain land, already fenced with the specified game fence requirements and stocked with a variety of prey species (non-expensive “plains” game) implicates further costs. Appropriate accommodation for a lion hunting client is a further requirement in obtaining a permit to hunt a lion. The minimum costs for establishing a lion hunting area are R15 million to R20 million (Pers comm, Gomes, 2016).

On average areas suitable for lion hunting are based in rural and more remote areas where employment opportunities are limited.

Lion hunting and breeding facilities employed 1 680 employees in South Africa on a permanent basis in 2016. On average a lion breeding facility sustains four employees in the economy. The majority of employed workers at facilities that breed with lions are male (61%), with 39% being female (Els *et al*, 2016)

Research has indicated that the applicable income multiplier for the lion industry is R2.77, which means that for every R1 spent by a typical lion breeder, employee families earn up to R2.77 in the economy. If this is to be extrapolated to all lion

breeders surveyed, a total of R493 614 000 (R178 200 000 X R2.77) is generated from the lion industry on an annual basis (Els *et al*, 2016).

33 Population Management

Population management is the practice of deliberately managing the size of a population in order to maintain a sustainable, viable and healthy population. This management can be interpreted as controlling animal numbers, limiting population increase, relocating animals, the harvesting of animals within the population or ultimately the eradication of the population. Responsive and, sometimes, uncontrolled breeding practices within the captive lion industry have led to a rapid population increase over the past 20 years. In recent years, the knowledge of more controlled and managed breeding practices have been implemented in order to ensure a steady population of captive lions. With the recent restriction on the importation of hunting trophies into the USA the implication on the harvesting of captive bred lions has been significant.

The impact that the USFWS ruling on the importation of trophies from captive bred lions has had on the industry has highlighted a potentially unimaginable crisis. With a very limited and shrinking market for captive bred lion hunts, the unsustainable cost of keeping lions in captivity, and the lack of space for captive bred lions to be released, the need for the mass culling of captive bred lions is fast becoming a very real potential consequence of the negative pressure on the industry.

The captive lion industry provides a unique situation in wildlife management. The growth in the industry has occurred in line with existing legislation and certain standard practices. The standard population management method that was used until recently is hunting. This has been the method of regulating numbers and generating income. With the restrictions on the importation of lion hunting trophies to the USA and some European countries, a critical situation has developed where there is insufficient space to keep lions that would normally be hunted. There is also the issue of the considerable cost of keeping animals that no longer generate income.

Lions in South Africa are classified as CITES 2 species, without specific restrictions, thus allowing legal trade of lions and lion derivatives. All lions kept in captivity are regulated by TOPS permits. The standing permit to keep lions allows the owner to carry out certain restricted activities. The actual purpose of a TOPS permit is to allow the owner of the animal the right to utilize the animal. The utilization of lions bred in captivity is sustainable and has no negative impact on wild populations.

The primary focus of the captive lion industry is the breeding, keeping, utilization and conservation of lions. The key issues facing the industry currently are:

1. A significant population of captive lions exists in South Africa – numbers estimated to be about 8000 animals.
2. The industry developed in line with existing legislation – it is a legal industry, regulated by national and provincial legislation.
3. Hunting is the main income generating activity and the main population control method for the industry.
4. The secondary demand for lion derivatives and curios including bones, claws, skins and meat has, until now, been met by the captive lion hunting industry.
5. Space for the release of a population of 8000 captive bred lions in South Africa is not available.
6. The significant reduction in hunting therefore has had a double impact:
 - a. It has led to the need for alternative population control methods;
 - b. The demand for lion derivatives and curios needs to be satisfied legally to prevent the negative impact of poaching of wild lions.

Population management is an essential part of managing wildlife in confined areas.

- Restrictions on the growth of the captive lion population must be considered. However, this does not address the existing population.
- In the absence of hunting as a population control measure, and the time issue involved in the implementation of alternative population control methods, the use of culling may be required.
- Exceptional circumstances require exceptional management action(s).
 - a. To allow an applicant with a standing permit to market animals and derivatives in their possession.
 - b. Prevention of trade in live animals leaves euthanasia as the only alternative
 - c. Certain recognised standards justify euthanasia as best practice under the prevailing circumstances.

SAPA strongly supports the right of lion owners to utilize lions, in line with existing legislation. The significant reduction in hunting has, however, led to the need for alternative population control methods.

In principle, SAPA opposes the use of euthanasia as an alternative population control method to hunting. However, if hunting is no longer an option, euthanasia or the more emotional mass culling may be the last resort.

33.1 Managing Animal Numbers

Animal numbers in breeding facilities are usually limited by the size of the breeding facility. The size and stocking rate varies according to provincial requirements. Individual facility numbers varies from as little as 6 animals per facility whilst some breeders having as many as 300 animals in their facilities.

In order to manage the population increase and maintain a steady captive lion population, management measures must be implemented to regulate population growth.

The following management measures are proposed to assist in population management of captive populations:

- Cubs should be raised by the mother and kept with the mother as long as possible – at least until weaning.
- The number of litters a lioness may have should be limited.
- The mimicking of social structures and behaviour should be implemented to slow down the reproductive cycles.
- The reproduction rate should be managed responsibly to ensure that the total population does not exceed sustainable parameters.

33.2 Relocating and Release of Animals

The eradication of lions in their former natural distribution areas is one of the biggest threats to lion populations. The availability of captive bred lions for relocation purposes to areas where lion populations have been eradicated is a potential, alternative population management tool but is limited due to lack of opportunity and suitable habitat for reintroduction and relocation.

33.3 Hunting

Historically, most of the harvesting of the captive lion population has been done by means of hunting of excess animals. Animals that were not “suitable” for hunting purposes were usually euthanized as a standard practice. The carcasses of the hunted animals and the animals that were not suitable for hunting purposes were sold to the lion bone trade market.

33.4 Euthanasia

The impact that the USFWS ruling on the importation of trophies from captive bred lions had on the industry has highlighted a potentially devastating effect on the industry. With a very limited and shrinking market for captive bred lion hunts, the unsustainable cost of keeping lions in captivity, and the lack of space for captive bred lions to be released, the need for the culling of captive bred lions is becoming a very real consequence of the negative pressure on the industry.

The following reasons motivate the need for euthanasia:

1. The quality of life (welfare) of the animal(s) in question is paramount.
2. If an animal has a defect or disability that compromises its quality of life or makes it unfit for breeding, hunting or relocation, euthanasia is a standard practice.

The use of euthanasia as the main population control method is NOT appropriate. In principle, SAPA opposes the use of euthanasia as an alternative population control method to hunting. However, if hunting is no longer an option, euthanasia or the more emotional culling, may be the last resort.

Euthanasia is defined as the bringing about of a humane death without unnecessary pain or suffering (SANS 10379: 2005). The following Norms and Standards from SANS 10379:2005 apply regarding euthanasia.

- Persons performing euthanasia should only do so in accordance with legislation and acceptable practices.
- Euthanasia of animals should be recognized as an acceptable procedure and management tool, and may be justifiable under certain conditions, including the following:
 - a) when recommended by a veterinarian;
 - b) when irresolvable stress or conflict prevails and where changes in social structure result in distress, and where there is no option of release;
 - c) when a facility operator is unable to ensure acceptable facilities and conditions for animals and where there is no option of release;
 - d) when an animal poses a danger and unavoidable threat to human safety;
 - e) where no other suitable accommodation can be found for the animal;
 - f) in cases of old age, non-breeding or severe injury; and
 - g) where no other suitable option exists.

Legislation regarding the euthanasia of animals in captive facilities requires that every facility must have a policy and standard operating procedure for the euthanasia of animals. Such policies and procedures should demonstrate the following:

- a) information and guidelines relating to euthanasia, including emergency methods received from a veterinarian;
- b) facilities and equipment to perform euthanasia upon animals, including casualties under emergency conditions; and
- c) competent trained personnel with access to the necessary facilities and equipment are available and contactable at all times.

The owner of a lion facility should ensure that all personnel are fully aware of acceptable euthanasia methods and are trained and experienced in those methods. Persons performing euthanasia should only do so in accordance with legislation and acceptable practices.

33.5 Culling

The last resort in population control reverts to the mass culling of animals from a certain facility and eventually the mass culling of the complete captive lion population.

34 NO-GO Alternative

In the situation where the sustainable utilisation of captive bred lions is prohibited, the impact will be the total shut down of the industry and mass culling of the entire captive lion population. This is not an option as it would mean a huge loss of genetic diversity and availability of lions for repopulation in addition to the far reaching social implications as well as socio economic and economic losses.

35 Management Control System

A **management control system** (MCS) is a system which gathers and uses information to evaluate the performance of different organisational resources like human, physical, financial and also the organisation as a whole in light of the organisational strategies pursued. In order to ensure that role-players in the lion industry comply with the principles of good governance, a management control system is required. This management control system ensures that animals that are being utilized were legally obtained, contributed to the conservation and wellbeing of the species and fulfilled all other legislative and regulatory requirements.

The management control system should:

- Reduce risk to industry role-players
- Form a basis for future actions
- Manage the size of the industry
- Ensure industry compliance
- Simplify management and administration
- Extend accountability.

Management control systems and verification of compliance are to be monitored and implemented by an authorised, external, independent organisation or service provider. Management control procedures should be implemented thoughtfully, rather than mechanically. Consistency of execution is a major requirement for the success of the management control system.

The management control system is designed to ensure that all activities within the industry are monitored on a continuous basis. The most important benefit of implementing a management control system is that proper processes are in place to identify, communicate, follow up, and rectify irregularities (if any) in the set aims and objectives.

The following components of a management control system are being implemented within the captive lion industry, namely:

- Norms and Standards (Appendix 1), including a Code of Conduct
- Traceability including identification, registration and recording
- Accreditation of facilities.

35.1 Norms and Standards and Code of Conduct

Norms and standards (Appendix 1) developed for the captive lion industry are binding rules and requirements that represent a common agreement between role-players to standardize the industry with the aim of:

- giving credibility to the industry;
- providing assurances on the health and welfare of the lions;
- ensuring the integrity of operators in the sector;
- creating uniformity amidst large differences between provincial standards, requirements and legislation;
- defining the ground rules for the breeding, keeping, hunting and general management of captive bred lions; and
- creating a basis for alignment with international and professional hunting requirements.

The implementation of and compliance to the norms and standards are monitored and managed through an accreditation system. The requirements set out as Norms and Standards and the Code of Conduct will be binding on the lion industry. Failure to comply may lead to disciplinary action, withdrawal of accreditation and possible expulsion or “blacklisting” of the offender.

36.2 Traceability

Traceability is the ability to verify the origin, history, location, trade aspects and other relevant information pertaining to individual animals by means of a recognised identification and recording / registration system or the ability to chronologically connect uniquely identifiable animals in a way that is verifiable.

The traceability scope of the lion industry is divided between two main areas of focus:

- Recording of all owners and locations (Ranch lions vs Working lions) and all role players in the supply and value chain, as well as traceability of identification methods used to ensure the system caters for full accountability in terms of registration / recording of lions as well as their movement.
- Management of lions during their entire lifespan – this should make it possible to seamlessly manage the critical classification, processes, genetic material, health treatment and vaccination, and management that meet with current Norms and Standards and other requirements, as well as accurate reporting

on movement, hunting/trade of lions, breeding, and also specific requirements with regard to record keeping for the export and international markets.

Currently identification and traceability is a relatively new introduction to the industry and will require a change of management of both registration and management of critical data through an authorised industry based organisation or service provider.

- An identification system has been developed as part of the accreditation process to ensure that lion trophies from accredited operators are clearly identifiable.
- The identification system indicates that lion trophies are from SAPA accredited facilities and meet all accreditation requirements including the payment of a conservation fee per lion.
- The identification system is uniquely numbered and registered with SAPA and documented in a register.
- This register is signed by all parties involved, with copies distributed to relevant stakeholders.

36.3 Accreditation

Accreditation is the verification of the compliance and integrity of the role-players within the captive lion industry. Accreditation is applicable to all role-players within the lion industry, be it of a captive facility / breeder / keeper / hunter / hunting facility. This process may be expanded to include other role-players who may have a direct impact on the credibility of the captive lion industry.

What is accreditation?

- Accreditation is an activity initiated by the industry and requires a rigorous self-evaluation and an independent, objective appraisal of the overall quality of the facilities by an external organisation or accreditation committee.
- Accreditation is an external managerial control guaranteeing the captive origin and integrity of South African lions and their owners / managers.
- Accreditation emphasizes quality assurance and a commitment to continuous quality enhancement.
- Accreditation evaluation is done by an
 - Independent Assessment Committee consisting of at least three of the following:
 - a delegated member of SAPA, and
 - two external consultants with the necessary knowledge of the lion industry and, if possible,
 - a representative of a professional or other hunting organisation;

- a representative from the relevant biodiversity management authority.
 - or**
 - a duly appointed Independent service provider with the relevant and appropriate knowledge of the Industry.
- This accreditation process is a stringent process and not all facilities are awarded accreditation.
 - Accreditation is an official confirmation that the captive lion facility complies with the prescribed requirements for the specific level of accreditation awarded.
 - Accreditation will be indicated by means of a registration document and accreditation certificate.

If the facility evaluated is found to be in compliance with the established requirements and norms and standards, accreditation may be awarded for a period of three years, subject to an annual audit / verification.

Only facilities with accreditation will be allowed to trade, export, hunt or perform any other activities involving captive lions. Trade between accredited facilities is recommended.

SECTION E: INDUSTRY MANAGEMENT STRATEGY

37 Who is SAPA?

The South African Predator Association (SAPA) was established in 2008 in order to unite the predator industry with the common goal of practicing ethical management, breeding and hunting of predators in a sustainable and viable manner in order to relieve, and ultimately eliminate, the pressure on predators in the wild.

SAPA is a membership based organisation and represents the captive lion industry in South Africa. SAPA undertakes to lead the restructuring of the captive lion industry to ensure that all activities within the captive lion breeding and hunting industry are regulated and meet internationally accepted ethical standards.

SAPA supports the sustainable and responsible management and utilization of predator populations in managed environments by setting up structures to facilitate and monitor the responsible and ethical breeding, hunting and utilization of these predators and, in doing so, be a reliable custodian of our natural and social heritage to the benefit of the people of South Africa.

SAPA has undertaken to develop this Management Plan for the captive lion industry in order to determine a national strategy for captive lions that is recognised nationally and internationally.

38 SAPA's Vision

The captive lion industry aims to play a crucial role in the conservation of lions in southern Africa, and contribute to the economic and social benefit of local communities, through the responsible, ethical, transparent and viable management of lion populations in managed environments in order to relieve, and ultimately eliminate, the pressure on lions in the wild.

39 SAPA's Mission

Ensure the viable and responsible management and utilization of captive bred lions and to be a reliable custodian of this natural resource to the economic and social benefit of the people of South Africa and the conservation of the species.

This will be achieved through the following activities:

- Establish and maintain a healthy and profitable predator breeding and hunting industry.
- Promote and market a positive image of the predator breeding and hunting industry.
- Represent the interests of its members at provincial and national level.

- Communicate, negotiate and co-operate with provincial and national authorities in the formulating and execution of regulations.
- Liaise with other associations and institutions to promote the aims of SAPA.
- Promote and market a positive image of the predator breeding and hunting industry.
- Provide a good source of industry news and information.
- Negotiate with Government departments on topics relevant to the predator industry.
- Develop systems and guidelines to create and sustain the complex macro-environment wherein SAPA functions.
- Monitor and consider all aspects that have an impact on the industry, on an on-going basis, and develop strategies for dealing with them. The input of members, particularly through active involvement in regional meetings and AGM, is critical to success.
- Creation of an environment that is sustainable and financially viable, from a business perspective, in terms of natural resources, socio-political and economic principles.
- Conveying the message that the industry is relevant, significant and responsible.
- Ensuring that valuable conservation focussed contributions are being made to sustainable environmental development within South Africa.
- Maintaining sustainable livelihoods within remote and often poverty stricken areas of South Africa.
- Ensuring establishment and maintaining of prosperous businesses that support the economy of South Africa.

40 Role Players

SAPA identified the following role-players that can have an impact, either positive or negative, on the captive lion industry.

- African Lion Working Group
- Airlines and shipping agencies
- Animal Rights Activists
- Animal welfare Institutions (including NSPCA)
- Anti-hunting fraternity
- Department of Agriculture, Forestry and Fisheries (DAFF)
- Department of Environmental Affairs (DEA)
- Emotional documentaries and other video media.
- Endangered Wildlife Trust (EWT)
- European hunting organisation
- Exporting agents and agencies
- HAWASA and its individual members.

- Hunters and clients
- Hunting outfitters
- Lion Management Forum
- Non-SAPA members
- Other lion industry individuals
- PHASA
- Private Sector
- Professional Hunters
- Provincial Conservation Authorities and legislation
- SAPA Council
- SAPA Members
- SAPA Staff
- Similar organisations
- Social media platforms
- Taxidermy
- Traders
- US based international hunting organisations
- USFWS
- WRSA

41 SWOT Analysis

SAPA organised a workshop for all industry role-players in February 2016. A SWOT analysis was undertaken by all the participants. The following issues were identified.

<u>Strengths</u>	<u>Weaknesses</u>
<i>Accreditation of breeding and hunting facilities</i>	<i>Unethical hunting</i>
<i>Economic strength</i>	<i>“Outside” events negatively affecting SAPA that cannot be controlled</i>
<i>Having 25% of all African lions in private possession</i>	<i>Low membership</i>
<i>Job creation</i>	<i>Integrity of members</i>
<i>Knowledge base</i>	<i>Public opinion and poor image</i>
<i>Government assistance/support</i>	<i>Nature Conservation’s supervision of release periods</i>
<i>SCI backing</i>	<i>Fragmented permit system – uniformity needed</i>
<i>SAPA guidelines</i>	<i>Communication</i>
<i>Managed genetics</i>	<i>Provincial regulation differences – need standardisation</i>
<i>Being organised, structured and responsible</i>	<i>Negative publicity / social media</i>
<i>Positive publicity</i>	<i>Dedication of role players</i>
	<i>Communication with Nature</i>
	<i>Conservation</i>

	<i>Non-accreditation</i> <i>Lack of action against infringements</i> <i>Lack of conservation actions</i> <i>Financial security of members</i> <i>Weakening of SAPA</i>
<p><u>Opportunities</u></p> <i>Become a world leader in predator management</i> <i>Re-establish lions in the wild</i> <i>Be the only country legally hunting lions</i> <i>Unite all species</i> <i>First animal organisation to do social upliftment</i> <i>Develop the industry for exclusivity</i> <i>Improve SAPA (APEC worldwide)</i> <i>Future of all lions protected by captive bred</i>	<p><u>Threats</u></p> <i>Public opinion and social media</i> <i>Canned hunters/hunting</i> <i>Anti-hunting activists</i> <i>Mismanagement of funds</i> <i>Lacking power of competition</i> <i>Uncertainty regarding the future of the industry</i> <i>Differences in Ethics</i> <i>CITES status</i> <i>PHASA</i> <i>Human imprinting</i> <i>Threatened species article</i> <i>Euthanasia of lions if industry is closed down</i> <i>Loss of jobs if industry is closed down</i>

As representative of the captive lion industry SAPA determined a strategic plan to address the issues and challenges facing the industry and methodology to address these concerns on behalf of the industry.

42 Key Issues to be Addressed

- The conservation value of captive bred lions
- Genetic purity and genetic diversity of captive bred populations
- The contribution to the conservation of wild lions from captive bred lions
- Public perception of the lion industry
- Population management of captive lions
- Habitat availability or access to habitat for lions
- Health and wellbeing of captive lions
- Economic stability for the lion industry
- Social dynamics of captive animals
- Legislative framework for captive lion management
- Standardised “Norms and Standards” for the industry
- Educational and research opportunities within the industry
- USFWS and other international requirements

43 Review of 2016 Action Plan Undertaken by SAPA

The following findings were identified during a reviewing of the 2016 Action Plan:

Table 43-1: Review of 2016 Action plan

PLAN	PROGRESS
SAPA undertakes to develop a Management Plan for the industry with input from ALL stakeholders using an inclusive and adaptive management approach.	<i>An initial SAPA Management Plan was developed that provided the basis on which all other strategic plans were developed. It now needs to be revised to incorporate all new policies and strategies. The Management Plan specifically for the captive lion industry needs to be reviewed and submitted to DEA.</i>
Develop and implement Norms and Standards for lion hunting operations.	<i>Norms and Standards were developed and are in the process of being implemented.</i>
Norms and Standards for breeding, keeping and growing operations for Ranch Lions.	<i>Norms and Standards were developed and are in the process of being implemented.</i>
Norms and Standards for breeding, keeping and growing operations for Working (Programme) Lions.	<i>Norms and Standards were developed and are in the process of being implemented.</i>
Develop and implement an accreditation process	<i>The accreditation process was developed and is being implemented on an on-going basis. Due to differences between provincial legislation and the SAPA Norms and Standards, members are encouraged to comply with the more stringent standards. A training manual has been developed for members to comply with the requirements of the accreditation process. Accreditation must be renewed every three years and accredited operators will be audited regularly.</i>
Development of a National Lion Studbook/Registry for the lion industry to provide an identification and record system to determine and ensure the genetic integrity of all breeding lions in the industry.	<ul style="list-style-type: none"> ○ <i>SAPA established a Lion Registry for its members through a service provider. This can be expanded to address the action identified in the BMP for DEA to create and maintain a database of all permitted lion keepers/breeders and the DNA profiles of their lion populations</i> ○ <i>The application to list Panthera leo as a listed species with DAFF was submitted</i>

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	<p><i>in 2016.</i></p> <ul style="list-style-type: none"> ○ <i>SAPA's application to register as a Breed Society and a Registering Authority was submitted to Department of Agriculture and Forestry (DAFF) in 2016.</i> ○ <i>Above applications are on hold until DEA and DAFF have clarified their position on the applicability of the "Agriculture" Acts to wildlife.</i>
<p>Co-operate with national and provincial authorities to determine national and provincial legislation that will ensure an ethical and economically sustainable lion industry that contributes significantly to lion conservation.</p>	<p><i>On-going. Significant input was made on the NW Biodiversity Bill and Regulations prior to publication of the Act. SAPA gave further inputs on the implications of the Act after it was published. The Department has agreed to publish further amendments. The Act only comes into effect once the Regulations have been published. Further action may only be taken once these Regulations are published.</i></p> <p><i>Input was made on other relevant legislation and international charters.</i></p>
<p>Address training needs and implement training for lion breeders, keepers and hunters to ensure compliance with all relevant legislation.</p>	<p><i>Training manuals were developed and the first training course presented. Training for staff members may be done in conjunction with other organisations to provide certified training.</i></p>
<p>The mandatory micro-chipping and DNA profiling of all lions.</p>	<p><i>At the time of the decision it was determined that all lions belonging to SAPA members must be micro-chipped and DNA profiled by end of 2017. Challenges were, however, experienced in appointing the appropriate laboratory for this task. This is being addressed as a matter of high priority.</i></p>
<p>Conduct an audit of all lion breeding, keeping and hunting facilities of all current permit holders to determine the ownership and number of animals in facilities.</p>	<p><i>Not SAPA responsibility. This is part of the BMP – DEA and relevant Provincial authorities are responsible for this. SAPA audits accredited facilities to ensure compliance.</i></p>
<p>Cancel permits of all those that do not comply with their permit requirements.</p>	<p><i>Not SAPA responsibility. This is part of the BMP – DEA and relevant Provincial authorities are responsible for this. SAPA audits accredited facilities to ensure compliance. Accreditation will be</i></p>

PLAN	PROGRESS
	<i>withdrawn if facilities do not comply.</i>
Conduct a study to determine the contribution of the captive lion industry to conservation of wild lion populations.	<i>Implementation of this action by DEA is through the Lion Task Team. The industry is represented on the Lion Task Team by Mrs van der Vyver, Mr Nematandani and Mr van Zyl. SAPA is also undertaking its own research to determine the contribution of the captive lion industry to conservation of wild lion populations.</i>
Develop educational and factual material to inform the public about the captive lion industry and the industry's contribution to conservation of lions.	<i>On-going – several pamphlets were developed for different markets.</i>
Determine, initiate and support relevant research projects / studies.	<i>On-going:</i> <ul style="list-style-type: none"> ○ <i>Criteria for projects were established and the application process was developed.</i> ○ <i>New projects are in the process of being evaluated and supported.</i> ○ <i>The following projects were supported to date:</i> <ul style="list-style-type: none"> ▪ <i>NW University</i> ▪ <i>Release projects</i> ▪ <i>Zimbabwe research – funding of collars</i>
Proactively establish positive relationships with individuals and organisations involved in lion conservation.	<i>On-going – recorded and documented meetings with prospective researchers and other stakeholders ie: DEA, NW READ, DENC, WRSA, Mr van der Merwe, Zimbabwe Parks Board, ALERT, Mr Swart, Mr Nel, SAPA Council and members</i>
Collaborate with lion conservation organizations / initiatives and working groups locally and internationally.	<i>SAPA Council member Mr van Zyl and Mrs van der Vyver represent the industry on the National Lion Task Team; on-going collaboration with the Zimbabwe Parks Board by providing research collars for lion research in Zimbabwe; HAWASA partnership at CITES CoP 17; Part of the WRSA delegation; on the Lion Working group; at the CITES CoP 17.</i>
Participate in and membership of relevant organisations including IUCN Cat Specialist Groups, PHASA etc.	<i>SAPA acquired full membership of the Captive Lion Working Group; Wildlife Forum; and HAWASA.</i>
Develop and implement a pro-active, positive media campaign to educate and promote the value of the captive lion	<i>On-going. The website (www.sapredators.co.za) was redesigned and updated with recent information about</i>

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industry in lion conservation.	<i>SAPA and matters related to the industry. Publications in various magazines and papers ie: Business Day Earth, The Sunday Times, Beeld, Rapport, SA Game and Hunt, Landbouweekblad,.</i>
Initiate the establishment of a Conservation fund.	<i>The SAPA Conservation and Development Fund was established; application for registration as a non-profit company was approved; funds started to build up in the fund; the fund charter was drafted.</i>

44 Challenges Identified

Additional challenges were identified during the process of reviewing the management plan.

- The impact of the USFWS ruling on the importation of captive bred lion trophies into the USA had a huge impact on the income generating capacity of captive bred lion operations. This was identified as the biggest issue facing the industry.
- Lack of compliance with relevant legislation by a few individuals resulted in a situation that is threatening the entire industry.
- Fragmented and conflicting National and Provincial legislation complicates management of the lion industry.
- Effective, experienced and committed leadership and management are essential to achieve the objectives of the industry.
-

45 Strategic Management Framework

A strategic framework was developed to provide the strategic basis for the protection, development and operation of the industry over the next five years. The strategic framework was prepared through a collaborative process involving members, stakeholders, provincial and national government departments and other stakeholders.

The process used to determine the strategic and operational frameworks comprised:

1. Identification of key performance areas in relation to the important functions and activities necessary to protect, develop and manage the lion industry effectively.
2. Identification of objectives for each of the key performance areas – The “Why” questions?
3. Translation of objectives into strategic outcomes – The “What” questions?

4. These form the basis for the management activities and targets set out in the operational management framework – The “How” questions?
5. Identification of indicators of concern to allow for pro-active adaptive management.
6. Identification of responsible role-players/officials– The “Who” questions?
7. Determine achievable timeframe for the implementation of objectives – The “When” questions?

46 Key Performance Areas

Five key performance areas were identified using all the information available:

1. Representation and management of the captive lion industry
2. Address threats to the captive lion industry
3. Conservation of lions
4. Promote benefits of the captive lion industry
5. Management of captive lions

47 Strategic Management Plan

The objectives (why) and strategic outcomes (what) for each key performance area were then identified. The following table details the outcomes of the process.

Table 47-1: Strategic Management plan – Objectives and Strategic Outcomes 2017- 2021

Key Performance Area	Objectives	Strategic Outcomes
1. Representation and management of the captive lion industry	<ul style="list-style-type: none"> • Provide an organisation that represents the industry with a united voice to liaise with government and other relevant organisations both nationally and internationally. • Represent, safeguard and advance the interests of the industry at local, provincial, national and international level. • Provide effective leadership for the industry. • Provide sufficient financial and human resources. • Be a key role-player on relevant forums / working groups. • Secure national and provincial legislation that enhances the industry. • Implementing an appropriate self-regulation system. 	<ul style="list-style-type: none"> • The responsible, ethical, transparent and viable management and utilization of captive lion populations. • Be recognised and respected as a mouth-piece of the industry. • Be accepted as a key role-player in lion management and conservation on relevant forums and working groups • A well-managed and well regulated industry. • National and provincial legislation that enhances the industry. • Co-operation and compliance by all industry role players. • Well managed, effective organisation with structures and systems in place. • The majority of all captive-bred lions to be in accredited facilities. • Self-regulation of the industry.
2. Address threats to the captive lion industry	<ul style="list-style-type: none"> • Identify threats to the captive lion industry. • Ensure the future of and enhance the captive lion industry. • Recognition of the positive contribution of the captive lion industry. • Address negative publicity and negative perceptions of the industry. • Secure national and provincial legislation that enhances the industry. • Be a key role-player on relevant forums / working groups. 	<ul style="list-style-type: none"> • Changed public perception on the lion industry. • A thriving captive lion industry that is widely respected and acknowledged. • Public acknowledgement of the captive lion industry's right to existence and viability. • Recognition of the captive lion industry as a strategic role-player in and contributor to lion conservation. • Constructive interaction and collaboration with other role-players in the wildlife industry and other relevant industries. • National and provincial legislation that enhances the industry.
3. The conservation of lions	<ul style="list-style-type: none"> • Be a key role-player in lion conservation. • Contribute to the conservation of lions nationally and internationally. • Enhance the conservation status of lions. 	<ul style="list-style-type: none"> • Be recognised as a key role player in lion conservation. • Recognition of the conservation value of captive bred lions.

Key Performance Area	Objectives	Strategic Outcomes
	<ul style="list-style-type: none"> • Enhance the conservation status of captive bred lions in South Africa. • Contribute to the conservation of lions in the wild. • Legislation that creates opportunities for the industry. 	<ul style="list-style-type: none"> • Improvement in the conservation status of lions. • Recognition of the contribution made by the captive lion industry to the conservation of lions in the wild. • International recognition of the contribution by the captive lion industry to the conservation of wild lions. • The issuing of import permits by USFWS and other countries for captive bred lion trophies • The delisting of captive bred lions as a threatened population and the repeal of Rule 4(d) under the Endangered Species Act by USFWS. • Captive bred lions are utilised for the reintroduction of lions into areas where populations are endangered or have disappeared. • Growing viable lion populations. • Increasing availability of habitat for lion populations. • National and provincial legislation that enhances the industry.
4. Promote benefits of the industry	<ul style="list-style-type: none"> ▪ A thriving captive lion industry ▪ Encourage the development of opportunities for conservation, economic and social benefits from responsibly managed captive lion populations. • Maximise the educational and research opportunities derived from the captive lion industry. ▪ Contribute to the conservation of lions. ▪ Recognition of the positive contribution the captive lion industry makes to lion conservation. ▪ Recognition of the benefits of the sector. 	<ul style="list-style-type: none"> • A thriving captive lion industry that is widely respected and acknowledged. • Public acknowledgement of the captive lion industry's right to existence and viability. • The captive lion industry is recognised as a strategic role-player in and contributor to lion conservation. • Increased awareness of the contribution of the industry to lion conservation. • Constructive interaction and collaboration with other role-players in the wildlife industry. • Well documented, scientifically recognised reports / research papers. • Positive media perception and attention. • Support from the public for the industry's contribution to lion conservation. • Recognition of the industry's contribution to the

Key Performance Area	Objectives	Strategic Outcomes
		<p>economy and to the social upliftment of rural communities.</p> <ul style="list-style-type: none"> • Change of public perception of the industry. • A viable hunting industry that contributes to sustainable and viable lion populations.
5. Management of captive lions	<ul style="list-style-type: none"> • The responsible, ethical, transparent and sustainable management of the captive lion population. • Relieve, and ultimately eliminate, pressure on lions in the wild. • Address and ensure the welfare of captive lions. • Address the issues that create negative perceptions about the industry. • The sustainable utilisation of captive bred lions through hunting and trade. 	<ul style="list-style-type: none"> • A well-managed captive lion industry that is well-regulated, ethical and economically viable. • The majority of all captive-bred lions to be in accredited facilities. • Recognition of the conservation value of captive bred lions. • A comprehensive lion registry. • Reduce threats to wild lion populations. • The ability to trace every lion in accredited facilities. • Traceability system to be internationally recognized to facilitate the export of lions, trophies and derivatives.

48 Operational Management Framework

The operational management framework translates the strategic management plan into management activities and targets, which are then used to determine an annual plan of operation and the resources required to implement it. The management targets will form the basis for monitoring performance in implementing the plan.

The operational management framework was developed by identifying the management activities (how) and targets (when) required to meet the objectives and strategic outcomes of the strategic management framework, and who the responsible person is. Indicators of concern were identified to allow for pro-active adaptive management. The following table details the outcomes of this process.

Table 48-1: Operational Management Framework 2017 – 2021

Representation of the Captive Lion Industry					
Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
<ul style="list-style-type: none"> • The responsible, ethical, transparent and viable management and utilization of captive lion populations. • Be recognised and respected as the mouth-piece of the industry. • Be recognised as a key role-player in lion management and conservation on relevant forums and working groups • A well-managed and well regulated industry. • National and provincial legislation that enhances the industry. • Co-operation and compliance by all industry role-players. • Well managed, effective organisation with structures and systems in place. • The majority of all captive-bred lions to be in accredited facilities. • Self-regulation of the industry. 	<ul style="list-style-type: none"> • Implementation and further development of the Management Plan with input from all stakeholders using an inclusive and adaptive management approach. 	<ul style="list-style-type: none"> • Non-compliance by individuals for various reasons 	High	Immediate and on going 2017	Industry; External organisation / Service provider; Organisation representing the industry; With input from stakeholders
	<ul style="list-style-type: none"> • Formulate a strategic plan for sustainable utilisation options including new markets, hunting, tourism and derivatives. 	<ul style="list-style-type: none"> • Restrictions on trade • CITES bone quota • USFWS restrictions on the importation of lion trophies 	Top	Immediate and on going 2017	Industry; External organisation or organisation representing the industry; Service provider; With input from stakeholders
	<ul style="list-style-type: none"> • Adoption and implementation of Norms and Standards to regulate the industry 	<ul style="list-style-type: none"> • Delay in implementation 	Top	Immediate and on going 2021	Industry; Organisation representing the industry; Service provider; DEA & Provinces

Representation of the Captive Lion Industry

Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
	<ul style="list-style-type: none"> • Effective leadership for the industry. 	<ul style="list-style-type: none"> • Objective leadership • Financial constraints 	High	Immediate and on going 2017	Organisation representing the industry with input from industry members; Service Provider;
	<ul style="list-style-type: none"> • Provide sufficient financial resources for implementation of the Management Plan and related activities. 	<ul style="list-style-type: none"> • Financial constraints 	FIRST B	Immediate and on going 2017 – 2021	Industry; DEA; External Sources; Sponsors
	<ul style="list-style-type: none"> • Constructive interaction and collaboration with other role-players in the wildlife industry. 	<ul style="list-style-type: none"> • Differences within the industry 	Medium	Immediate and on going 2021	Organisation representing the industry - Council / Service provider;
	<ul style="list-style-type: none"> • Work with national and provincial authorities directly and through relevant forums and working groups to determine national and provincial legislation that will enhance the industry: <ul style="list-style-type: none"> ○ Give input into applicable legislation as and when required ○ Address fragmentation and polarisation of applicable provincial legislation 	<ul style="list-style-type: none"> • Implementation of and changes to legislation that are idealistic and impractical and have not taken the input of stakeholders into account. • Further polarisation and fragmentation of provincial legislation 	High	Immediate and on going	Organisation representing the industry - Council / Service provider; DEA & Provinces.

Representation of the Captive Lion Industry

Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
	<ul style="list-style-type: none"> ○ Determine and implement Norms and Standards for the industry that will ensure an ethical and economically viable captive lion industry that contributes significantly to lion conservation. ○ Assist, where possible, in the effective implementation of legislation 				
	<ul style="list-style-type: none"> ● Self-regulation of the industry through: <ul style="list-style-type: none"> ○ Accreditation / certification ○ Norms and Standards ○ Training ○ Audit system 	<ul style="list-style-type: none"> ● Non-compliance by individuals for various reasons 	High	Immediate and on going 100% by 2021 50% by 2018	Organisation representing the industry with input and support from members; Service provider; External organisation; Accreditation committee; Industry. Conservation fund

Address Threats to the Captive Lion Industry

Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
<ul style="list-style-type: none"> • Changed public perception on the lion industry. • A thriving captive lion industry that is widely respected and acknowledged. • Public acknowledgement of the captive lion industry's right to existence and viability. • The captive lion industry is recognised as a strategic role-player in and contributor to lion conservation. • Constructive interaction and collaboration with other role-players in the wildlife industry and other relevant industries. • National and provincial legislation that enhances the industry. 	<ul style="list-style-type: none"> • Address negative perception of the captive lion industry. <ul style="list-style-type: none"> ○ Public involvement ○ Utilise captive lion industry linked educational and research opportunities. 	<ul style="list-style-type: none"> • Unrelenting negative media • Apathy of the majority of industry members • Self-preservation attitude of individuals within the industry. • Non-compliance by individuals for various reasons • Financial constraints 	Top	Immediate and on going Annually, 2021	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider; Predator Conservation Fund
	<ul style="list-style-type: none"> • Develop and implement a marketing campaign: <ul style="list-style-type: none"> ○ Develop and implement a marketing plan ○ Develop and implement a promotional campaign to: <ul style="list-style-type: none"> ▪ Raise public awareness on the facts about the industry ▪ Educate and promote the value of the captive lion industry ▪ Present a positive image of the industry ▪ Address negative publicity and promote the advantages of the sector through: <ul style="list-style-type: none"> ○ Radio interviews ○ Press releases ○ Public involvement ○ Utilise captive lion industry linked educational and research 	<ul style="list-style-type: none"> • Unrelenting negative media attitude and articles • Compliance issues of industry • Financial constraints 	Top	Annually 2021	Industry; Organisation representing the industry with input from stakeholders; Service provider; External organisation

Address Threats to the Captive Lion Industry

Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
	<p>opportunities.</p> <ul style="list-style-type: none"> ○ Print and distribute factual promotional and educational material. 				
	<ul style="list-style-type: none"> • Give input into applicable legislation as and when required to address fragmentation and polarisation of applicable provincial legislation 	<ul style="list-style-type: none"> • Changes in legislation that are idealistic and impractical and have not recognised the input of stakeholders. • Further polarisation and fragmentation of provincial legislation • Compliance issues 	Top	Current and on going 2021	Organisation representing the industry with input from industry; Council / Service provider; DEA & Provinces
	<ul style="list-style-type: none"> • Proactively establish positive relationships with individuals and organisations involved in wildlife conservation and sustainable utilisation through on-going communication and recorded and documented meetings. 	<ul style="list-style-type: none"> • Self-preservation attitude of individuals within the industry. • Financial constraints 	Top	Immediate and on going	Industry; Organisation representing the industry with input from stakeholders; Service Provider
	<ul style="list-style-type: none"> • Collaborate with lion conservation efforts and working groups throughout southern Africa and internationally. 	<ul style="list-style-type: none"> • Financial constraints 	Top	Immediate and on going	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service

Address Threats to the Captive Lion Industry					
Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
					Provider; Predator Conservation Fund
	<ul style="list-style-type: none"> Collaborate with and/or membership of relevant organisations. 	<ul style="list-style-type: none"> Financial constraints 	Top	Immediate and on going	Industry; Organisation representing the industry with input from stakeholders; External organisations; Service Providers

The Conservation of Lions					
Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
<ul style="list-style-type: none"> Be recognised as a key role player in lion conservation Recognition of the conservation value of captive bred lions Improvement in the conservation status of lions. Recognition of the contribution made by the captive lion industry to the 	<ul style="list-style-type: none"> Registration and management of an industry Conservation and Development Fund. Use of the industry Conservation and Development Fund for lion conservation and research projects. 	<ul style="list-style-type: none"> Delay in registration of the Fund 	High	Registration 2017; at least one project annually	Industry; Organisation representing the industry with input and from stakeholders; External organisation;

The Conservation of Lions

Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
<p>conservation of lions in the wild.</p> <ul style="list-style-type: none"> • International recognition of the contribution by the captive lion industry to the conservation of wild lions • The issuing of import permits by USFWS for captive bred lion trophies • The delisting of captive bred lions as a threatened population and the repeal of Rule 4(d) under the Endangered Species Act by USFWS • Captive-bred lions are utilised for the reintroduction of lions into areas where populations are endangered or have disappeared. • Growing viable lion populations. • Increasing availability of habitat for lion populations. • National and provincial legislation that enhances the industry 					Service Provider; Predator Conservation Fund
	<ul style="list-style-type: none"> • Enhance the conservation status of captive bred lions in South Africa by: <ul style="list-style-type: none"> ○ Population survey to determine the number of lions in the industry ○ Participating in scientific research to determine the total number of lions in the industry. ○ Supporting scientific research to determine the genetic integrity of captive bred lions ○ Participating in official lion working groups / forums 	<ul style="list-style-type: none"> • Financial constraints 	High	Immediate and on going 2017 Annually 2021	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider; Predator Conservation Fund
	<ul style="list-style-type: none"> • Address the requirements made by USFWS: <ul style="list-style-type: none"> ○ On-going communication with USFWS and DEA to meet the requirements set out by USFWS for the issuing of import permits for captive bred lion trophies. ○ Publish audited financial reports of the Conservation Fund to prove the contribution that the captive lion industry makes to the 	<ul style="list-style-type: none"> • Lack of clarity on USFWS requirements • Recognition of industry representation by USFWS • External factors influencing decisions • Financial constraints 	FIRST	Immediate 2017	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service

The Conservation of Lions

Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
	<p>survival of the species in the wild.</p> <ul style="list-style-type: none"> ○ Draw up and submit a Petition to USFWS for the delisting of captive bred lions as a threatened population. ○ Draw up an “enhancement findings” document 				Provider; Predator Conservation Fund
	<ul style="list-style-type: none"> • Address the conservation value of captive bred lions in terms of genetic purity and genetic diversity. <ul style="list-style-type: none"> ○ Identification, micro-chipping and DNA profile for every captive bred lion ○ Establish a genetic database of captive bred lions – Lion registry ○ Support research and publication of scientific documents on the genetic diversity of the captive lion industry 	<ul style="list-style-type: none"> • Challenges in implementing registration and DNA processing • Financial constraints 	Top	Immediate and on going Feb 2017 50% by 2018 100% by 2020	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider; Predator Conservation Fund
	<ul style="list-style-type: none"> • Identify, support and/or manage appropriate and relevant projects that will enhance lion populations and habitat available for lions <ul style="list-style-type: none"> ○ Make lions available for population enhancement ○ Release projects 	<ul style="list-style-type: none"> • Delay in registration of the Conservation Fund 	High	Immediate and on going 1% of population - 2021	Industry; Organisation representing the industry with input and from stakeholders; External organisation;

The Conservation of Lions					
Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
					Service Provider; Predator Conservation Fund
	<ul style="list-style-type: none"> Determine and implement Norms and Standards for the industry. 	<ul style="list-style-type: none"> Delays in accreditation process 	High	Immediate and on going	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider;

Promote Benefits of the Industry					
Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
<ul style="list-style-type: none"> A thriving captive lion industry that is widely respected and acknowledged. Public acknowledgement of the captive lion industry's right to existence and viability. 	<ul style="list-style-type: none"> Address issues to ensure the economic viability and stability of the captive lion industry: <ul style="list-style-type: none"> Develop a responsible population management strategy 	<ul style="list-style-type: none"> USFWS ruling on the importation of captive lion trophies International and external pressure on hunting 	FIRST	March 2017	Industry; Organisation representing the industry with input and from

Promote Benefits of the Industry

Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
<ul style="list-style-type: none"> • The captive lion industry is recognised as a strategic role-player in and contributor to lion conservation. • Increased awareness of the contribution of the industry to lion conservation • Constructive interaction and collaboration with other role-players in the wildlife industry. • Well documented, scientifically recognised reports / research papers. • Positive media perception and attention • Support from the public for the industry's contribution to lion conservation • Recognition of the industry's contribution to the economy and to the social upliftment of rural communities • Change of public perception of the industry • A viable hunting industry that contributes to sustainable and viable lion populations. 	<ul style="list-style-type: none"> ○ Ensure free, fair and open legal trade markets ○ Implement traceability system ○ Encourage the development of opportunities for economic and social benefits from responsibly managed captive lion populations ○ Formulate a strategic plan for sustainable utilisation options <ul style="list-style-type: none"> ▪ Identify and develop new markets ▪ China ▪ Bone trade (derivatives) 	<ul style="list-style-type: none"> • Quotas determined by DEA are inadequate to meet both demand and supply from the captive lion industry • Restrictions imposed on trade 		On going July 2017 On going March 2017	stakeholders; External organisation; Service Provider; Conservation Fund
	<ul style="list-style-type: none"> • Ensure publication of research studies done 		High	Immediate 2016 2017	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider; Conservation fund
	<ul style="list-style-type: none"> • Determine a strategy for the promotion of the captive lion industry 	<ul style="list-style-type: none"> • Financial constraints 	Top	Immediate adaptive and on going	Industry; Organisation representing the industry with input and from stakeholders;

Promote Benefits of the Industry					
Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
					External organisation; Service Provider;
	<ul style="list-style-type: none"> On-going development of promotional, educational and informational material about the captive lion industry. 	<ul style="list-style-type: none"> Financial constraints 	High	On going	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider;
	<ul style="list-style-type: none"> Determine, initiate and support relevant research and enhancement projects / studies. 	<ul style="list-style-type: none"> Delay in registration of Conservation Fund Financial constraints 	High	On going 2017 R1 million per annum	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider; Conservation fund

Promote Benefits of the Industry					
Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
	<ul style="list-style-type: none"> Support research on the genetic diversity and how this can be used for the species to survive and thrive. 	<ul style="list-style-type: none"> Delay in registration of the SAPA and DEA Conservation Funds 	Top	On going	Industry; Organisation representing the industry; Service provider / External organisation; Conservation Fund Board; Service provider.
	<ul style="list-style-type: none"> Identify events and organisations to promote the industry - conferences, exhibitions, working groups, study groups, forums. 	<ul style="list-style-type: none"> Financial constraints 	Medium High	On-going 2017	Industry; Organisation representing the industry; External organisation; Service Provider.

Management of Captive Lions					
Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible

Management of Captive Lions

Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
<ul style="list-style-type: none"> • A well-managed captive lion industry that is well-regulated, ethical and economically viable. • The majority of all captive-bred lions to be in accredited facilities. • Recognition of the conservation value of captive bred lions. • A comprehensive lion registry • Reduced threats to wild lion populations • The ability to trace every lion in accredited facilities • Traceability system to be internationally recognized to facilitate the export of lions, trophies and derivatives. 	<ul style="list-style-type: none"> • Implement the mandatory identification, micro-chipping and DNA profiling of all lions. 	<ul style="list-style-type: none"> • Appropriate DNA laboratories • Compliance issues due to financial constraints 	Top	50% of adult hunting population by December 2017; 100% of adult hunting population by December 2018; 50% of Breeding population by Dec 2018	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider; Predator Conservation Fund; DEA & Provinces
	<ul style="list-style-type: none"> • Implement traceability measures using identification, micro-chipping and DNA profiling of lions 	<ul style="list-style-type: none"> • Appropriate DNA laboratories • Compliance 	Top	December 2017	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider; Predator Conservation Fund
	<ul style="list-style-type: none"> • Implementation of the Industry Norms 	<ul style="list-style-type: none"> • Fragmented provincial 	Top	2017 and on-	Industry;

Management of Captive Lions

Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
	<p>and Standards for breeding and keeping of different categories of lions.</p>	<p>legislation and its compatibility with Industry Norms and Standards</p> <ul style="list-style-type: none"> • Differentiation between the management of different categories of lions • Non-compliance by individuals for various reasons 		<p>going; all new operations to comply from the beginning; existing operations to comply by December 2021 or earlier</p>	<p>Organisation representing the industry with input and from stakeholders; External organisation; Service Provider; Accreditation Committee; Predator Conservation Fund</p>
	<ul style="list-style-type: none"> • On-going implementation of the accreditation of captive bred lion operations. 	<ul style="list-style-type: none"> • Fragmented provincial legislation and its compatibility with Industry Norms and Standards • Training, appointment and deployment of accreditation officials • Differentiation between the management of different categories of lions 	<p>Top</p>	<p>Immediate and on going</p>	<p>Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider; Accreditation committee</p>

Management of Captive Lions

Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
	<ul style="list-style-type: none"> On-going audits of accredited lion breeding, keeping and hunting as facilities per the accreditation process 	<ul style="list-style-type: none"> Fragmented provincial legislation and its compatibility with Industry Norms and Standards Training, appointment and deployment of accreditation officials Differentiation between the management of different categories of lions 	Top	Immediate and on going	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider; Predator Conservation Fund; Accreditation Committee
	<ul style="list-style-type: none"> Select a suitable recording system and DNA laboratory. 	<ul style="list-style-type: none"> Issues regarding International and DEA acknowledgement of DNA laboratories 	<u>FIRST A</u>	Immediate	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider; Predator Conservation Fund

Management of Captive Lions

Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
	<ul style="list-style-type: none"> Implement recording of all relevant data in the lion registry 	<ul style="list-style-type: none"> Delay in implementation of Lion Registry Deliberate non-compliance by individuals for various reasons 	<u>FIRST B</u>	December 2017 and on going	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider;
	<ul style="list-style-type: none"> Work with national and provincial authorities to determine national and provincial legislation that will ensure an ethical and viable lion industry. 	<ul style="list-style-type: none"> Fragmented provincial legislation and its compatibility with Industry Norms and Standards External factors influencing decisions 	Top	Immediate and on going	Industry; Organisation representing the industry with input and from stakeholders; External organisation; Service Provider;
	<ul style="list-style-type: none"> Address training needs and implement training for lion breeders, keepers, staff and hunting operators to ensure compliance with all relevant legislation. 	<ul style="list-style-type: none"> Compliance issues by individuals for various reasons 	High	On going	Organisation representing the industry with input from stakeholders; Industry; Service provider;

Management of Captive Lions

Strategic Outcome	Operational Activities	Indicators of Concern	Priority	Projected Deadline	Responsible
	<ul style="list-style-type: none"> Implementation of control system for hunting trophies and derivatives (bones) 	<ul style="list-style-type: none"> Compliance issues by individuals for various reasons Government and international recognition of the system 	High	On going	Organisation representing the industry Accreditation committee; Service Provider / External organisation; External Control Service provider.

SECTION F: MONITORING AND EVALUATION

49 Monitoring and Reporting

Monitoring and reporting is a critical component of adaptive management. It enables the effective assessment of management interventions and, if necessary, can be used to direct changes in management in an effort to achieve the outcomes required. An annual monitoring schedule has been developed, based on the management targets contained in the operational management framework.

49.1 Monitoring Schedule

The key aspects that require monitoring are covered in the Strategic and Operational frameworks. The following monitoring schedule is applicable.

Table 49-1: Monitoring Schedule 2017 – 2021

Representation of the Captive Lion Industry		
Operational Activities	Date of Monitoring Inception	Monitoring Schedule
<ul style="list-style-type: none">• Implementation and further development of the Management Plan with input from all stakeholders using an inclusive and adaptive management approach.	2016	Annual Review Industry - Service provider
<ul style="list-style-type: none">• Formulate a strategic plan for sustainable utilisation options including new markets, hunting, tourism and derivatives.	2017	Annual Review Industry - Service provider
<ul style="list-style-type: none">• Adoption and implementation of Norms and Standards to regulate the industry	2017	Annual Review Industry Organisation

Representation of the Captive Lion Industry		
Operational Activities	Date of Monitoring Inception	Monitoring Schedule
<ul style="list-style-type: none"> • Effective leadership for the industry. 	2016	Annual Review Industry organisation
<ul style="list-style-type: none"> • Provide sufficient financial resources for implementation of the Management Plan and related activities. 	2016	Annual review Industry
<ul style="list-style-type: none"> • Constructive interaction and collaboration with other role-players in the wildlife industry. 	2015	Annual review Industry, Organisation, Service Provider
<ul style="list-style-type: none"> • Work with national and provincial authorities directly and through relevant forums and working groups to determine national and provincial legislation that will enhance the industry: <ul style="list-style-type: none"> ○ Give input into applicable legislation as and when required ○ Address fragmentation and polarisation of applicable provincial legislation ○ Determine and implement Norms and Standards for the industry that will ensure an ethical and economically viable captive lion industry that contributes significantly to lion conservation. ○ Assist, where possible, in the effective implementation of legislation 	2016	Annual review Industry, Organisation, Service Provider
<ul style="list-style-type: none"> • Self-regulation of the industry through: <ul style="list-style-type: none"> ○ Accreditation / certification ○ Norms and Standards ○ Training ○ Audit system 	2016	Annual review Industry, Organisation, Service Providers, Accreditation Committee.

Address Threats to the Captive Lion Industry		
Operational Activities	Date of Monitoring Inception	Monitoring Schedule
<ul style="list-style-type: none"> • Address negative perception of the captive lion industry. <ul style="list-style-type: none"> ○ Public involvement ○ Utilise captive lion industry linked educational and research opportunities. 	2016	On-going, Annual review Industry, Organisation, Service Provider
<ul style="list-style-type: none"> • Develop and implement a marketing campaign: <ul style="list-style-type: none"> ○ Develop and implement a marketing plan ○ Develop and implement a promotional campaign to: <ul style="list-style-type: none"> ▪ Raise public awareness on the facts about the industry ▪ Educate and promote the value of the captive lion industry ▪ Present a positive image of the industry ▪ Address negative publicity and promote the advantages of the sector through: <ul style="list-style-type: none"> ○ Radio interviews ○ Press releases ○ Public involvement ○ Utilise captive lion industry linked educational and research opportunities. ○ Print and distribute factual promotional and educational material. 	2016	On-going, Annual review Industry, Organisation, Service Provider
<ul style="list-style-type: none"> • Give input into applicable legislation as and when required to address fragmentation and polarisation of applicable provincial legislation 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider
<ul style="list-style-type: none"> • Proactively establish positive relationships with individuals and organisations involved in wildlife conservation and sustainable utilisation through on-going communication and recorded documented meetings. 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider
<ul style="list-style-type: none"> • Collaborate with lion conservation efforts and working groups throughout southern Africa and internationally. 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider
<ul style="list-style-type: none"> • Collaborate with and/or membership of relevant organisations. 	2016	On-going, Annual review or

Address Threats to the Captive Lion Industry		
Operational Activities	Date of Monitoring Inception	Monitoring Schedule
		as required. Industry, Organisation, Service Provider
<ul style="list-style-type: none"> • Provide members with guidelines on how to deal with the media and public. 	2017	On-going, Annual review or as required. Industry, Organisation, Service Provider

The Conservation of Lions		
Operational Activities	Date of Monitoring Inception	Monitoring Schedule
<ul style="list-style-type: none"> • Registration and management of an industry Conservation and Development Fund. • Use of the industry Conservation and Development Fund for lion conservation and research projects. 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board
<ul style="list-style-type: none"> • Enhance the conservation status of captive bred lions in South Africa by: <ul style="list-style-type: none"> ○ Undertaking population survey to determine the number of lions in the captive lion industry. ○ Participating in scientific research to determine the total number of lions in the industry ○ Supporting scientific research to determine the genetic integrity of captive bred lions ○ Participating in lion working groups / forums 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board
<ul style="list-style-type: none"> • Address the requirements made by USFWS: <ul style="list-style-type: none"> ○ On-going communication with USFWS and DEA to meet the requirements set out by USFWS for the issuing of import permits for captive bred lion trophies. ○ Publish audited financial reports of the Conservation Fund to prove the contribution that the captive lion industry makes to the survival of the species in the wild. ○ Draw up and submit a Petition to USFWS for the delisting of captive bred lions as a threatened population. ○ Draw up an “enhancement findings” document 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board

The Conservation of Lions		
Operational Activities	Date of Monitoring Inception	Monitoring Schedule
<ul style="list-style-type: none"> • Address the conservation value of captive bred lions in terms of genetic purity and genetic diversity. <ul style="list-style-type: none"> ○ Identification, micro-chipping and DNA profile for every captive bred lion ○ Establish a genetic database of captive bred lions – Lion registry ○ Support research and publication of scientific documents on the genetic diversity of the captive lion industry 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board
<ul style="list-style-type: none"> • Identify, support and/or manage appropriate and relevant projects that will enhance lion populations and habitat available for lions <ul style="list-style-type: none"> ○ Make lions available for population enhancement ○ Release projects 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board
<ul style="list-style-type: none"> • Determine and implement Norms and Standards for the industry. 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board

Promote Benefits of the Industry		
Operational Activities	Date of Monitoring Inception	Monitoring Schedule
<ul style="list-style-type: none"> • Address issues to ensure the economic stability of the captive lion industry: <ul style="list-style-type: none"> ○ Develop a responsible population management strategy ○ Ensure free, fair and open legal trade markets ○ Implement traceability system ○ Encourage the development of opportunities for economic and social benefits from responsibly managed captive lion populations 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board

Promote Benefits of the Industry		
Operational Activities	Date of Monitoring Inception	Monitoring Schedule
<ul style="list-style-type: none"> ○ Formulate a strategic plan for sustainable utilisation options <ul style="list-style-type: none"> ▪ Identify and develop new markets ▪ Develop a legal trade relationship and promote responsible utilization of lions and lion derivatives in Asian and other markets 		
<ul style="list-style-type: none"> • Ensure publication of completed research studies 	2017	Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board
<ul style="list-style-type: none"> • Determine a strategy for the promotion of the captive lion industry 	2017	On-going, Annual review. Industry, Organisation, Service Provider
<ul style="list-style-type: none"> • On-going development of promotional, educational and informational material about the captive lion industry. 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board
<ul style="list-style-type: none"> • Determine, initiate and support relevant research and enhancement projects /studies. 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board
<ul style="list-style-type: none"> • Support research on the genetic diversity and how this can be used for the species to survive and thrive. 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board

Promote Benefits of the Industry		
Operational Activities	Date of Monitoring Inception	Monitoring Schedule
<ul style="list-style-type: none"> Identify projects and platforms that will promote the industry - conferences, exhibitions, working groups, study groups, forums. 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board

Management of Captive Lions		
Operational Activities	Date of Monitoring Inception	Monitoring Schedule
<ul style="list-style-type: none"> Implement the mandatory identification, micro-chipping and DNA profiling of all lions. 	2016	Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board
<ul style="list-style-type: none"> Implement traceability measures using identification, micro-chipping and DNA profiling of lions 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board
<ul style="list-style-type: none"> Implementation of the Industry Norms and Standards for breeding and keeping of different categories of lions. 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider, Accreditation Committee

Management of Captive Lions		
Operational Activities	Date of Monitoring Inception	Monitoring Schedule
<ul style="list-style-type: none"> On-going implementation of the accreditation of captive bred lion operations. 	2015	Annual review. Revised and renewed every three years. Auditing - Ad hoc. Industry, Organisation, Service Provider, Accreditation Committee
<ul style="list-style-type: none"> On-going audits of accredited lion breeding, keeping and hunting facilities as per the accreditation process 	2016	Annual review. Revised and renewed every three years. Auditing - Ad hoc. Industry, Organisation, Service Provider, Accreditation Committee
<ul style="list-style-type: none"> Select a suitable recording system and DNA laboratory. 	2015	Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board
<ul style="list-style-type: none"> Implement recording of all relevant data in the lion registry 		On-going, Annual review or as required. Industry, Organisation, Service Provider, Conservation Fund Board
<ul style="list-style-type: none"> Work with national and provincial authorities to determine national and provincial legislation that will ensure an ethical and viable lion industry. 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider

Management of Captive Lions		
Operational Activities	Date of Monitoring Inception	Monitoring Schedule
<ul style="list-style-type: none"> Address training needs and implement training for lion breeders, keepers, staff and hunting operators to ensure compliance with all relevant legislation. 	2016	On-going, Annual review or as required. Industry, Organisation, Service Provider
<ul style="list-style-type: none"> Implementation of control system for hunting trophies and derivatives (bones) 	2015	On-going, Annual review or as required. Industry, Organisation, Service Provider.

50 Evaluation Plan

A review of the Captive Lion Industry Management Plan will be undertaken by the appointed service provider of the industry or the organisation representing the industry on an annual basis and management activities adapted to ensure that the Key Performance Areas are addressed and the Outcomes identified in the Strategic Framework achieved. The Management Plan must be fully revised and adapted by 2021.

Table 50-1: Evaluation Plan 2017 – 2021

No.	Key Performance Areas	Revise	Accountability
1.	Representation and management of the captive lion industry	2021	Industry Organisation representing the industry
2.	Address threats to the captive lion industry	2021	Industry Organisation representing the industry
3.	Conservation of lions	2021	Industry Organisation representing the industry and relevant stakeholders Conservation Fund
4.	Promote benefits of the industry	2021	Industry Organisation representing the industry
5.	Management of captive lions	2021	Industry Organisation representing the industry

SECTION G CONCLUSION

“IUCN has long recognized that the wise and sustainable use of wildlife can be consistent with and contribute to conservation, because the social and economic benefits derived from use of species can provide incentives for people to conserve them and their habitats.”

The anticipated outcomes of this Management Plan are:

1. To provide a national strategy for captive bred lions that is recognised nationally and internationally.
2. To demonstrate that the industry contributes to the conservation of wild lions in South Africa and beyond.
3. To direct the captive lion industry to demonstrate that captive bred lions have a considerable conservation value and contribute significantly towards wild lion conservation and broader conservation objectives.
4. To direct the captive lion industry in making a substantial contribution to socio-economic benefits in South Africa.
5. To assist role-players in the industry by providing Norms and Standards (guidelines / regulations) to sufficiently address the areas of concern relating to the welfare of captive lions.
6. Creating management principles and ethics that will allow USFWS and other foreign organisations to lift the ban on the importation of trophies of captive bred lions from South African.

The captive lion industry can play a critical role in providing opportunities for economic development and job creation by means of its sustainable potential. The development and implementation of this management plan will ensure that the captive lion industry will thrive and achieve its purpose to play a crucial role in the conservation of lions in Southern Africa, and to contribute to the economic and social benefit of local communities, through the responsible, ethical, transparent and sustainable management of captive bred lion populations.

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SECTION I: APPENDICES

51 Appendix A – Norms and Standards

The purpose of these norms and standards is to identify minimum standards for the hunting, keeping and breeding of captive bred lions. The industry has developed in an environment where there are huge discrepancies in existing provincial legislation that govern the industry. SAPA recognises the fact that the majority of captive lion hunting and breeding/keeping facilities adhere to all legal requirements in terms of existing legislation. The introduction of more stringent standards in terms of size of facilities and management practices will involve significant time and financial investment. It is a process that will take time to implement. Key is to identify Norms and Standards that will meet national and international standards for the long-term benefit of the industry and contribute to the conservation of the species in the wild. Two documents were developed:

**DRAFT
NORMS AND STANDARDS
FOR THE
MANAGEMENT
(WELFARE, BREEDING AND KEEPING)
OF
CAPTIVE LIONS
IN
SOUTH AFRICA**

Ranch lions



South African Predator Association
Contact – SAPA CEO
Mrs Carla van der Vyver - Cell 083 616 8104

June 2017
FINAL DRAFT

1.

POLICY DOCUMENT:
SAPA Norms and Standards for Hunting Captive Bred Lions in South Africa
[Approved at the SAPA AGM on 11 November 2015 – Under Revision May 2017]



1. Objectives of this document
Considering the provisions relating to the hunting of captive bred lions, as contained in the Threatened or Protected Species (TOPS) Regulations that have been promulgated under the National Environmental Management, Biodiversity Act, 2004 (Act No. 10 of 2004), recognising the differences in provincial legislative requirements, and considering the deficiencies and limitations of these requirements, the South African Predator Association wishes to proclaim its standards and requirements for this all important sector of the large predator industry. The aim of these standards and requirements is three fold:

- to create uniformity amidst large differences between provincial standards, requirements and legislation;
- to define the ground rules for the hunting of captive bred lions; and
- to create a basis for alignment with the international and professional hunting industries.

The requirements set out hereunder will be binding on all members of the South African Predator Association. Failure to comply with these norms and standards will lead to disciplinary action and possible expulsion of the offender.

2. Major concerns
Given from a national and international perspective, there are five key areas of concern relating to the South African captive bred lion hunting industry that this document will aim to address:

- The size of the hunting area;
- The release period prior to the hunt;
- The limitation of human imprinting on lions that will be hunted;
- Hunting practices; and
- The misrepresentation of facts to hunting clients (hunters).

The norms and standards set out below are aimed at addressing the above concerns in such a way that the hunting of captive bred lions is brought in line with best practices in the national and international trophy hunting industry.

3. Categories of Captive Lions in South Africa
Captive lions include released, free-roaming lions, lion breeding operations (bred under controlled conditions), the hunting of captive bred lions, tourism facilities that are recognised as commercial exhibition facilities that include lion interaction experiences, lion research facilities, zoos and lion parks, and the entertainment industry (circuses, animals trained for the film industry etc.).

- Captive bred lions are divided into two distinct categories:
1. **Ranch Lions** - are lions that are bred for consumptive sustainable utilisation purposes.
 2. **Wildlife Lions** - are lions that have on-going human interaction before and beyond the age of 3 months, whether for display, contact or other types of interaction, and may never be hunted.

Within these two categories distinct differentiation is made in permissible management and/or operational practices. These categories need to apply certain uniform standards that include identification, registration, certification, and licensing, as well as DNA profiling of all animals and the relevant record-keeping.

1

2.



52 SAPA – Norms and Standards: Breeding & Keeping

53 SAPA – Norms and Standards: Hunting

54 Definitions

“**accreditation committee**” means a group of with the capacity to evaluate captive lion operations for recording and registration purposes.

“**applicable provincial legislation**” means legislation in terms of which biodiversity matters are regulated in a province.

"**applicable legal requirements**" mean-

- (a) any legal requirement or instrument contemplated in the Biodiversity Act; and
- (b) any legal requirement contemplated in applicable provincial legislation;

‘**approved**’ means the official certification by the accreditation committee, of facilities and includes enclosures, housing and handling facilities.

“**Biodiversity Act**” means the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).

"**bred in captivity**" or “**captive bred**” means a specimen that was bred and born in a controlled environment.

“**captive lion**” means any lion that is either totally or partially dependent on human intervention for its upkeep.

"**captive breeding facility**" means a facility where a specimen of a listed threatened or protected animal species is bred and born in a controlled environment.

"**certificate of adequate enclosure**" means a document issued in terms of applicable provincial legislation in relation to land that has been fenced in a manner that would prevent specimens of listed threatened or protected species listed in such document, from readily escaping from such land;

“**commercial exhibition facility**” means a facility that keeps live specimens of listed threatened or protected species for public display or performance purposes, including but not limited to, a circus, zoological garden, aquarium and travelling exhibition, whether or not any kind of interaction between humans and such specimens is taking place at such facility;

"**commercial purposes**" mean carrying out a restricted activity with the primary purpose of obtaining economic benefit, including profit in cash or in kind, and is directed towards exchange for economic use or benefit, or any other form of economic use or benefit;

"**conservation purposes**" mean carrying out a restricted activity, including the collection of such specimen from the wild, with the primary purpose of ensuring the survival of such specimen in the wild, in accordance with a:

- a) conservation strategy or research program approved by the issuing authority; or
- b) Biodiversity Management Plan;

“conservation” The World Conservation Union (IUCN) defines “conservation” to mean both the protection and sustainable use of natural resources including wildlife (Damm, 2008).

“conservation status” means the regional or global conservation status of a listed threatened or protected species based on the IUCN Red List categories and criteria;

“controlled environment” means an enclosure—

- (a) that is of insufficient size for a specimen or a group of specimens of a listed threatened or protected species to be self-sustainable;
 - (b) that is designed to hold such specimen or specimens in a manner that—
 - (i) prevents it from escaping; and
 - (ii) requires intensive human intervention or manipulation in the form of the provision of—
 - (aa) food or water, or both;
 - (bb) artificial housing;
 - (cc) health care;
 - (dd) predator or parasite control; or
 - (ee) a combination of any of the above interventions; and
 - (c) where natural selection does not play a role;
- and may facilitate the intensive breeding or propagation of specimens of a listed threatened or protected species;

“culling” means the killing of a specific number of specimens of a listed threatened or protected species in a facility or on land as part of a controlled operation, in order to manage the specimens or to control the population of such species in accordance with the management plan of such facility or such land;

“euthanasia”- bringing about of a humane death without unnecessary pain or suffering.

“extensive wildlife system” means a natural environment—

- (a) that is of sufficient size for the management of free-roaming populations of listed threatened or protected animal species, irrespective of whether it is fenced or not;
- (b) that meets all or most of the ecological requirements of the populations of listed threatened or protected species occurring on such land;
- (c) where the process of natural selection plays a major role; and
- (d) where no or minimal human intervention is required, except if necessary in times of drought, in the form of—
 - (i) the provision of water;
 - (ii) the supplementation of food;
 - (iii) the control of parasites or predation; or
 - (iv) the provision of health care;

but excludes an enclosure that is a controlled environment within such extensive wildlife system;

"fair chase principle" means a set of hunting conditions in which the individual decision-maker judges the taking of prey as acceptably uncertain and difficult for the hunter.

"free roaming populations" mean viable populations of listed threatened or protected species capable of displaying natural social behavior, while requiring no or minimal human intervention.

"game farm / ranch" means an extensive wildlife system or semi-extensive wildlife system on which specimens of a listed threatened or protected species are kept for commercial utilization.

"human imprinting" means animals that have ongoing contact with humans beyond the age of 3 months.

"introduced population" means a population of a listed threatened or protected species that has been introduced by humans, whether deliberately or accidentally, in an area that falls outside the natural distribution range of such species;

"managed wild lions" means and includes all lions that have been re-introduced into smaller fenced reserves (<1000 km²) and are managed to limit population growth and maintain genetic diversity.

"mark" means an indelible imprint, microchip or any other recognized or prescribed means of uniquely identifying a specimen of a listed threatened or protected species;

"National Threatened or Protected Species Regulations" or **"TOPS Regulations"** means Regulations pertaining to listed threatened or protected species, promulgated in terms of the Biodiversity Act;

"put and take animal" means a live specimen of a captive bred listed large predator, or a live specimen of a captive bred *Ceratotherium simum* (White rhinoceros) or *Diceros bicornis* (Black rhinoceros) that is released for the purpose of hunting that animal within a period of twenty four months after its release from a captive environment"; (TOPS 2007 amended 2008)

"Re-establishing": the action of establishing lions (predators) in areas where it used to occur or can occur in suitable habitats where the following criteria shall apply when re-establishing large predators in the wild:

- enough suitable habitat must be available to accommodate a viable group;
- sufficient suitable prey must be available to sustain the predators through natural hunting;
- adequate fencing as prescribed by the provincial conservation authority in whose area of jurisdiction the intended action falls, must be erected;
- only truly wild or properly rehabilitated large predators may be utilized for re-establishment purposes.

“rehabilitation facility” means a facility equipped for the temporary keeping of a live—

a) sick or injured specimen for the purpose of providing treatment of and care to such specimen; or

b) young orphan specimen for rearing purposes;

with the overall intent to release such specimen, but excludes a veterinarian’s practice or a veterinary academic hospital;

“rehabilitate” means the temporary keeping of live specimens of a listed threatened or protected species for -

(a) treatment and recovery purposes, in the case of sick or injured specimens;

(b) rearing purposes, in the case of young orphaned specimens;

(c) quarantine purposes; or

(d) relocation,

with the overall intent to release the species (adapted from TOPS, 2007).

“release” means to intentionally-

(a) cease exercising physical control over;

(b) cease having in possession; or

(c) set free from its controlled environment;

a live specimen of a listed threatened or protected species.

“sanctuary” means a facility that provides permanent care to a specimen of a listed threatened or protected species that would be unable to sustain itself if released in an environment other than a controlled environment, whether as a result of injury or on account of human imprinting;

“semi-extensive wildlife system” means an environment that is of sufficient size for the management of self-sustaining populations of listed threatened or protected species, irrespective of whether it is fenced or not, and irrespective of whether it meets the ecological requirements of such populations or not, but where human intervention is required in the form of-

(a) the provision of water;

(b) the supplementation of food, except in times of drought;

(c) the control of parasites or predation; or

(d) the provision of health care.

“wild specimen” means a specimen of a listed threatened or protected species that is living and growing, and may be multiplying, in a natural environment that is not a controlled environment, with or without human intervention;

“wild lions” means lions that only occur in formally proclaimed national parks and game reserves and completely fulfill their role in biodiversity processes and are largely unmanaged. Managers do not actively manipulate vital rates and lion demographics.

“wild animal” means an animal that does not belong to a livestock species, or to a recognised domestic species such as a cat, dog, horse, mule or any other similar species;

“wild population” means a group or collection of wild specimens of the same listed threatened or protected species.

55 List of Acronyms

Term/Acronym	Definition
APA	Animals Protection Act, 1962 (Act 71 of 1962)
BIP	Biodiversity Implementation Plan
BMP	Biodiversity Management Plan for the Lion (<i>Panthera leo</i>) in South
CARA	Conservation of Agricultural Resources Act, 1983
CBNRM	Community Based Natural Resource Management
CBO	Community Based Organisation
CDF	Conservation Development Framework
CSIR	Council for Scientific and Industrial Research
CVV	Sedutla Trust T/A CVV ENVIRO
DAFF	Department of Agriculture Forestry and Fisheries
DEA	Department of Environmental Affairs
DREAD	Department of Rural, Environment and Agriculture Development (North West Province).
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMPF	Environmental Management Plan Framework
EPMP	Ethical and Professional Management Principles of the South African Predator Association
EWT	Endangered Wildlife Trust
IUCN	International Union for Conservation of Nature
Lion BMP	Biodiversity Management Plan for the Lion (<i>Panthera leo</i>) in South Africa
NEMA	South African National Environmental Management Act, 1991
NEMBA	South African National Environmental Management: Biodiversity Act, 2004
NSPCA	National Council for the Society for the Prevention of Cruelty to Animals
OIE	World Organisation for Animal Health
PAPA	Performing Animals Protection Act, 1935 (Act 24 of 1935)
PAZAA	Pan African Association of Zoos and Aquaria
SANBI	South African National Biodiversity Institute
SAPA	South African Predator Association
SAPA CDF	SAPA Conservation and Development Fund
SAPRED	SA Predator Company (Business Entity)
SOP	Standard Operating Procedure
SWOT	Strengths, weaknesses, opportunities and threats analysis
TOPS	Threatened or Protected Species
USFWS	United States Fish and Wildlife Service

WWF	World Wildlife Fund
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