Republic of Zimbabwe

Enhancement and Non-Detrimental Findings for

Panthera leo in Zimbabwe

Zimbabwe Parks and Wildlife Management Authority

October 2016

Contents

1 INTRODUCTION

The United States Fish and Wildlife Service (USFWLS) made a ruling in terms of its Endangered Species Act of 1973 (ESA) that the status of the southern and eastern African lion subspecies (*Panthera leo melanochaita*) is threatened (see http://www.regulations.gov). This ruling, which came into effect on January 22, 2016, now requires that the importation of all trophy lion from Zimbabwe will require an import permit. The decision whether to issue an import permit will in future be based on a Non-Detrimental Finding (NDF) that takes into consideration four main factors outlined under 50 CFR 17.22 and 17.32. These are:

- What direct and indirect impacts would occur on the wild population?
- Would issuing a permit conflict with any known programs intended to conserve the species?
- Would the purposes of the permit reduce the threat of extinction facing the species?
- What are the opinions of experts?

In addition to these factors USFWLS will also take into consideration the IUCN Species Survival Commission (SSC) *Guiding Principles on Trophy Hunting as a Tool for Creating Conservation Incentives, Ver. 1.0* (IUCN/SSC 2012). This document identifies five guiding principles of a hunting program that creates "*incentives for the conservation of species and their habitats and for the equitable sharing of the benefits of use of natural resources*" and recognizes that trophy hunting can contribute to biodiversity conservation and the conservation of the hunted species.

These are:

- **Biological sustainability** i.e. the hunting program:
    - Cannot contribute to the long-term decline of the hunted species
    - It should not alter natural selection and ecological function of the hunted species or any other species that share the habitat
    - It should not inadvertently facilitate poaching or illegal trade in wildlife by acting as a cover for such illegal activities
    - It should also not manipulate the ecosystem or its component elements in a way that alters the native biodiversity.

- **Net Conservation Benefit** i.e. the biologically sustainable hunting program should be:
    - Based on laws, regulations, and scientifically based quotas, established with local input, that are transparent and periodically reviewed
    - It should produce income, employment, and other benefits to create incentives for reducing the pressure on the target species
    - It should create benefits for local residents to co-exist with the target species and other species

- **Socio-Economic-Cultural Benefit** i.e. a well-managed hunting program can serve as a conservation tool when:
    - It respects the local cultural values and practices
    - It involves and benefits residents in an equitable manner
    - It adopts business practices that promote long-term economic sustainability

- **Adaptive Management: Planning, Monitoring, and Reporting** i.e. can the hunting programme enhance the species when it is based on appropriate resource assessments and monitoring (e.g., population counts, trend data), upon which specific science-based quotas can be established. Resource assessments should be objective, well documented, and use

the best science available. Adaptive management of quotas, based on the results of resource assessments and monitoring, is essential

- **Accountable and Effective Governance** i.e. a biologically sustainable trophy-hunting program should be subject to a governance structure that clearly allocates management responsibilities. The program should account for revenues in a transparent manner and distribute net revenues to conservation and community beneficiaries, and take steps when needed to eliminate corruption and ensure compliance with national and international requirements and regulations.

To address the points raised above, a systematic review of the status of lion in Zimbabwe has been undertaken with the full cooperation of stakeholders from the Government, Private Hunting Sector, Community NGOs and research organisations to demonstrate that the lion populations in Zimbabwe are being managed sustainably for benefit of both the conservation of the species and that the management programme is also providing economic incentives for local communities to protect and expand lion habitats. In doing so this assessment addresses the following issues:

- That the Zimbabwe hunting industry is based on sound scientific information and identifies mechanisms that would arrest the loss of habitat or increase available habitat (where feasible) and ensuring adequate protection from human encroachment.
- Demonstrate that there are government incentives in place to encourage habitat protection by private landowners and communities and incentives to local communities to reduce human-wildlife conflicts.
- Demonstrate that hunting concessions are managed to ensure the long-term survival of the listed species and its habitat.
- That trophy hunting provides financial assistance to the Zimbabwe Parks and Wildlife Management Authority, including the communal CAMPFIRE programme and private sector, to carry out various wildlife management programmes. It will also highlight how local communities directly and indirectly benefit from the presence of lion in their areas.
- Finally, this document will demonstrate how the participation of U.S. hunters in the Zimbabwe hunting industry contribute to the overall management of lion within the country.

2 Status and Distribution of Lion in Zimbabwe

Bauer et al (2015) summarise time series data for 47 lion populations across West, Central, East and Southern Africa where regular survey data are available. Using a Bayesian state space model to estimate growth rate-λ for each population, this study concludes that lion populations are declining everywhere across Africa, except in four southern countries (Botswana, Namibia, South Africa, and Zimbabwe). The population models indicate a 67% chance that lions in West and Central Africa will decline by one half, while estimating a 37% chance that lions in East Africa will also decline by one-half over two decades. It is concluded that almost all lion populations that historically exceeded ~500 individuals are declining, *but lion conservation is successful in southern Africa, in part because of the proliferation of reintroduced lions in small, fenced, intensively managed, and funded reserves.* This statement reflects the situation in Zimbabwe where lion populations in the conservancies have flourished under sound management regimes. They have also recovered rapidly in instances where appropriate actions have been taken to arrest unsustainable practices (i.e. Hwange) and where protected areas are receiving adequate funding (i.e. Gonarezhou).

2.1 The extent of lion distribution in Zimbabwe

The Zimbabwe Parks and Wildlife Management Authority (ZPWMA) is responsible for managing one of the largest estates in the country which constitutes approximately 5 million hectares of land or 13%

of the Zimbabwe's total land area (see Table 1 below). The bulk of Zimbabwe's wildlife occurs within the Parks Estate which includes 11 national parks, 16 safari areas, 16 recreational parks, 6 sanctuaries, 12 botanical reserves and 3 botanical gardens, all spread across the country, among other wildlife tourism related activities (Parks and Wildlife Act 2001 Chapter 20:14).

Wildlife populations also occur on the state Forest Areas, Communal CAMPFIRE areas and private conservancies dedicated to wildlife-based land use (Figure 1). Table 1 below provides a summary of these different categories, and whether they support lion populations (see Annex 1 for the details of each area).

Table 1. Summary of the National Parks Estate, CAMPFIRE, Forestry and Conservancies where lion populations are resident

Land Category		**Presence of Lion**				**Total (ha)**	**Total (km^2)**
		Yes (ha)	**%**	**No (Ha)**	**Migratory (Ha)**		
Parks Estate	National Parks	2,608,710	96	61,850	47,150	2,717,710	27,177
	Safari Area	1,745,300	92	146,600	-	1,891,900	18,919
	Botanical gardens	-	-	2,069	-	2,069	21
	Sanctuary	-	-	18,980	-	18,980	190
	Recreational	-	-	357,161	-	357,161	3,572
Forestry		436,165	47	491,701	-	927,866	9,279
CAMPFIRE		8,953,700	36	5,435,100	10,319,000	24,707,800	247,078
Private Conservancies		758,200	66	243,500	150,897	1,152,597	11,526
Matetsi Farms		-	-	-	155,627	155,627	1,556
Total Ha		**14,502,075**		**6,756,961**	**10,672,674**	**31,931,710**	**319,317**
Total km^2		**145,021**		**67,570**	**106,727**	**319,317**	
Percentage		**45%**		**21%**	**33%**		

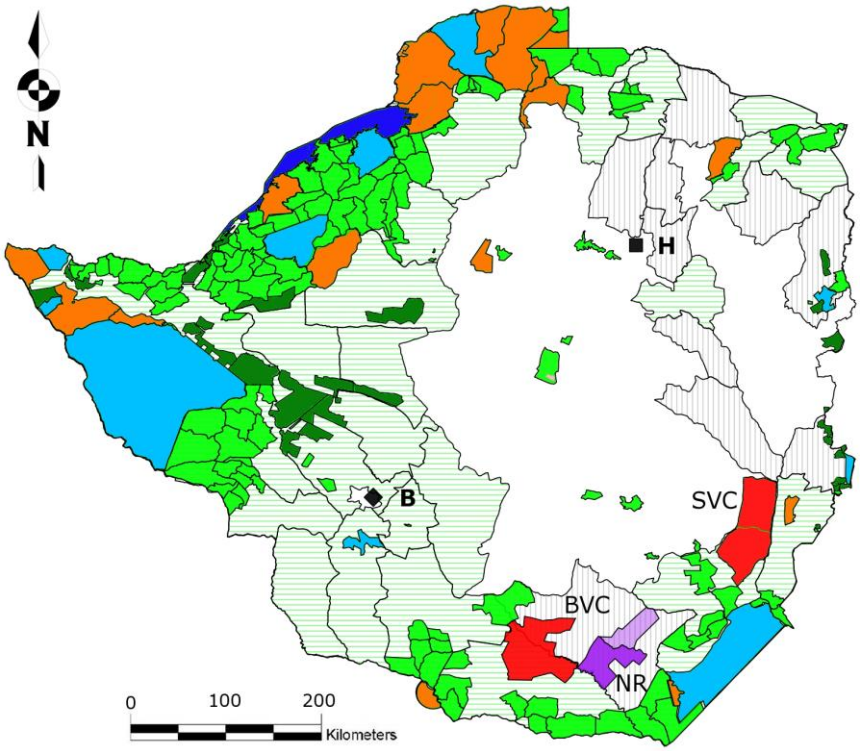


Figure 1: Map of Zimbabwe's main wildlife areas: [i] National Parks are represented in light blue; [ii] Safari areas are represented in orange; [iii] Forestry areas are represented in dark green; [iv] Community and Private wildlife areas are represented in light green; [v] Communal Land (CAMPFIRE Areas) in which sport-hunting may occur is represented by light green horizontal stripes; [vi] Communal Land in which sport-hunting does not occur is represented by grey vertical stripes. [vii] The Bubye Valley [BVC] and Savé Valley [SVC] Conservancies are represented in red. [viii] The Nuanetsi Ranch [NR] on which sport-hunting takes place is represented in dark purple (light purple represents the Nuanetsi Ranch cattle area); [ix] Lake Kariba is represented in dark blue. Harare (the capital city) is represented by a black square and letter '**H**'. Bulawayo is represented by a black diamond and letter '**B**'. Sport-hunting may occur in areas: ii, iii, iv, v, vii & viii (from du Preez, B. Groom, R., Mufute, O., Mandisodza-Chikerema, R. and Booth, V. (2016).

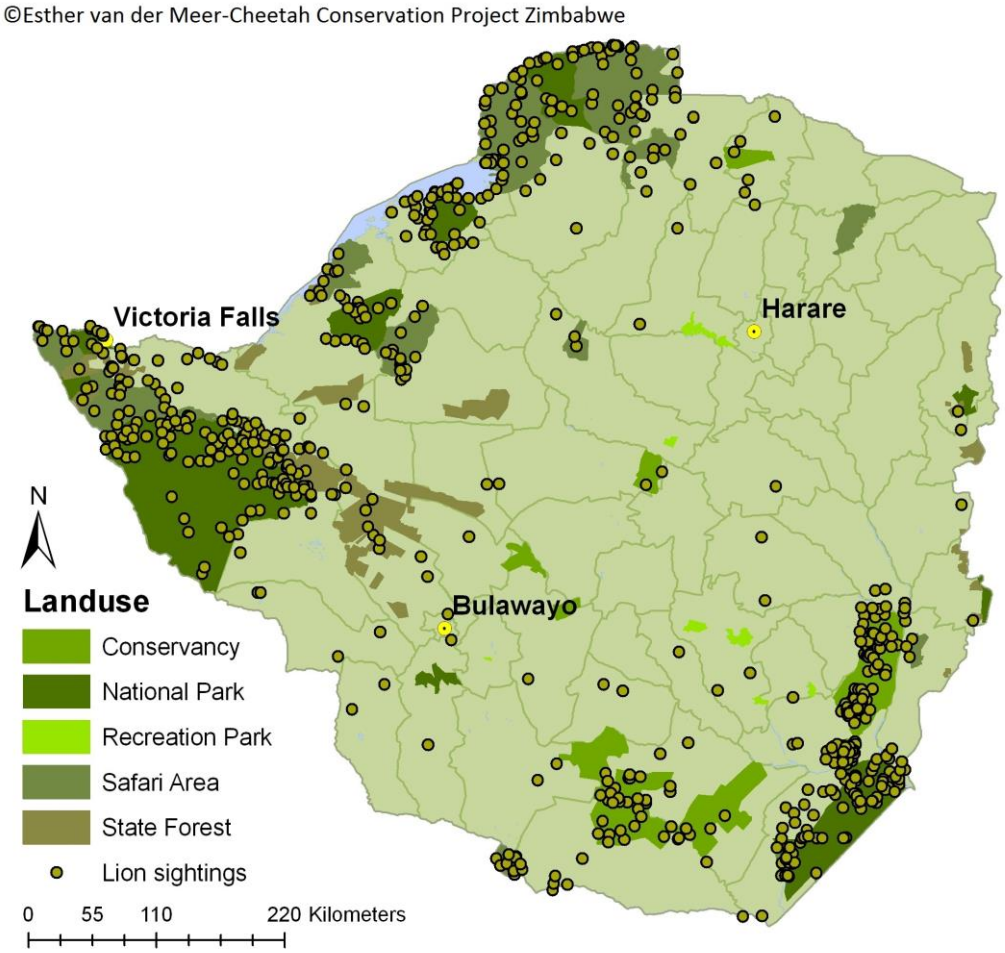


Figure 2: Range of African Lion Distribution in Zimbabwe

There are approximately 319,317 km^2 of land where some form of wildlife based land use is practiced in Zimbabwe. Lion occur permanently in 45% of this available range (c. 145,00km^2), with the majority occurring in State protected national parks (96%) and safari areas (92%). Lion also occur permanently in 47% of the State forest areas and 66% of privately owned Conservancies. The CAMPFIRE areas comprise approximately 247,000km^2 and lion occur in 36% of these areas. Lion are transient in CAMPFIRE, Conservancy and resettled areas adjacent to the major protected areas, and move across the border into Zambia, Mozambique, South Africa and Botswana (Figure 2).

There are two established Transfrontier Conservation Areas (TFCAs), the Great Limpopo Transfrontier Park (GLTP) which includes Gonarezhou National Park, and the Limpopo/Shashe TFCA. Other TFCAs that are at various stages of development are the Kavango-Zambezi (KAZA), Lower Zambezi-Mana Pools, Zimbabwe-Mozambique-Zambia (ZiMoZa) and Chimanimani.

2.2 Minimum population of lion in Zimbabwe

The minimum number lion that occur in approximately 51,642km^2 of land where reliable survey data are available is estimated to be c.1,917 (range 1,800 – 2,000) and is summarised in Table 2. The Western sector of the country dominated by Hwange National Park and the surrounding safari areas, forest areas, communal areas and private conservancies supports c.737 lion (or 38% of the overall population). The Southern sector dominated by the two major conservancies (Save and Bubye) and

Gonarezhou National Park supports c. 896 lions (48%) while the Central and Northern sectors of the country support c.284 lions (15%).

Table 2: Estimated minimum population of Wild Lion populations in Zimbabwe – September 2016 (Data compiled from a variety of reports)

REGION	AREA	AREA (km^2)	Estimated Number of Lions	Percentage
Western	Hwange NP	14,900	559	38%
	Matetsi Units 1-5	1,934	59	
	Matetsi Units 6-7 and Zambezi NP	1,585	67	
	Kazuma Pan NP	313	20	
	Kazuma Forest	240		
	Panda Masuie Forest	355		
	Matetsi ECA	1,556	15	
	Ngamo and Sikumi Forest	1,386	6	
	Gwaai Conservancy	927	22	
	Hwange Communal Land	392	2	
	Tsholotsho buffer adjacent HNP	1,275	7	
Subtotal		**24,863**	**737**	
Central	Chizarira NP	1,948	31	4%
	Chirisa SA	1,713		
	Omay	1,865	10	
	Matusadona NP	1,427	31	
Subtotal		**6,953**	**72**	
Northern	Chewore North and South	1,648	45	11%
	Dande	1,155	21	
	Hurungwe (Nyakasanga and Rifa)	1,709	32	
	Charara/Mukuti	1,692	20	
	Mana Pools	1,287	94	
Subtotal		**7,491**	**212**	
Southern	Gonarezhou National Park	5,053	125	48%
	Malilangwe	400	37	
	Bubye Valley Conservancy	3,440	450	
	Save	3,442	284	
Subtotal		**12,335**	**896**	
Overall Total		**51,642**	**1,917**	

2.2.1 Captive Breeding Facilities

Currently there are only two properties registered as captive lion breeders (Lion and Cheetah Park, and Antelope Park) and < 10 non-registered captive lion breeding operations (Table 3). Most of these centres keep lions for non-consumptive tourism and environmental education purposes with only a few keeping lions as pets. Altogether there are 345 lions held in captivity.

Table 3: Record of lions held in captivity – September 2016

Property	TOTAL
Doddieburn	13
Lion & Cheetah Park	40
Sentinel	2
Vhuka	5
Antelope Park	114
Safari Par, Masuwi Lodge (Lion Encounter)	4
Mhondoro Game Park	2
Chedgelow Farm	9
Chengeta	5
Turk Mine	6
Bally Vaughan	8
Mwanga Lodge	8
Masvingo	17
Karoi	2
Oscro	10
Simply Wild	19
Sondelani	9
Ruwazi	7
Imire	2
Makado Ranch	2
Chipangali	32
Crocodile Farm, Victoria Falls	1
Kuimba Shiri	2
Pamuzinda	6
Shearwater	10
Inyathi Ecogame Park	10
Total	**345**

3 Conservation and Management

3.1 Policy And Legislation

The Ministry of Environment, Water and Climate has a comprehensive suite of policies and legislation that provides the Zimbabwe Parks and Wildlife Management Authority (ZPWMA) with a mandate to conserve and protect all fauna and flora in the country.

The legal framework is enshrined in the National Legislation and associated Regulations that are informed by the Wildlife Policy (1992) that seeks to maintain a protected area network for the conservation of the nation's wild resources and biological diversity. Amongst others it seeks to create

economic activity to enhance rural development and encourages the conservation of wild animals and their habitats outside the protected areas.

The ZPWMA is established by the Parks and Wildlife Act of 1996 (Chapter 20:14) as amended by Act Number 19 of 2001 which came into operation on the 1st of June 2002 through a Statutory Instrument 144C of 2002. The Act provides for the:

- Establishment of a Parks and Wildlife Board;
- Confers functions and imposes duties on the Board;
- Establishment of national parks, botanical reserves, botanical gardens, sanctuaries, safari areas and recreational parks;
- The preservation, conservation, propagation or control of wildlife, fish, and plants of Zimbabwe and the protection of her natural landscape and scenery;
- Conferment of privileges on owners and occupiers of alienated land as custodians of wildlife, fish and plants;
- Giving of certain powers to environment committees (formerly intensive conservation area committees); and matters incidental to or connected with the foregoing.

The Act that was originally passed by Parliament in 1975 was unique in that it provided a legal basis for the devolution of Authority to private landowners over all wildlife on their land which resulted in in the rapid development of the country's wild life industry. It also paved the way for the partial extension of this principle to the Communal Lands through the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in the 1980s that granted Appropriate Authority Status to the communal areas to manage the wildlife resources for their own benefit.

The Act was subsequently revised in 1996 and 2001 with the latest revision paving the way for the establishment of the current Parks and Wild Life Management Authority to replace the former Department of National Parks and Wild Life Management.

The legal and regulation framework applicable to the conservation and protection of lion and all other species includes:

- Parks and Wildlife Act; Chapter 20:14 (1996) as amended in 2001.
- Environmental Management Act; Chapter 20:27.
- Forest Act; Chapter 19:05.
- Statutory Instrument 362 of 1990: Parks and Wildlife (General) Regulations, 1990.
- Statutory Instrument 76 of 1998: Import and Export of Wildlife Products.
- Statutory Instrument 40 of 1994: Parks and Wildlife Act (General) Amendments.
- Statutory Instrument 26 of 1998: Parks & Wildlife Act (General) Amendment.
- Statutory Instrument 92 of 2009: Compensation Values for Wildlife.
- Statutory Instrument 93 of 2009: Compensation Values for Trapping of Animals.
- Trapping of Animals Control Act 20.16.

A summary overview of these instruments is provided in Annex II.

3.2 The Zimbabwe Parks and Wildlife Management Authority

The Parks and Wildlife Management Authority is mandated by the Parks and Wildlife Act [Chapter 20:14] with the responsibility of conserving Zimbabwe's wildlife heritage through effective, efficient and sustainable protection and utilisation of natural resources for the benefit of present and future generations. The Authority was established to allow it to retain the revenue that it generates for

funding its operations and thereby reducing its dependence on Treasury. This entailed introducing a commercial dispensation and putting in place effective revenue generation and financial management systems.

The ZPWMA has the mandate to manage the entire wildlife population of Zimbabwe, whether on state, private and communal land. Vision, mission and core values of ZPWMA are as follows:

Vision: *To be the world leader in sustainable conservation*.

Mission: *To conserve Zimbabwe's wildlife heritage through effective, efficient and sustainable utilisation of natural resources for the benefit of present and future generations and stakeholders*

Core Values: Teamwork, Commitment, Transparency, Professionalism, Integrity, Accountability, Fairness, in harmony with nature.

While private landowners may utilise the wildlife on their land, they are still accountable to the ZPWMA for the welfare of the wildlife in terms of Statutory Instrument 26 of 1998, which, among other things, states that "*No person shall permit any person who is not ordinarily resident in Zimbabwe to hunt on any land for which he is the appropriate authority any animals other than those entered on the authority to hunt…*'

3.3 Conservation Strategy and Action Plan for Lion

A *Conservation Strategy and Action Plan for the Lion (Panthera leo) in Zimbabwe* was prepared in 2006 by the ZPWMA, local and international NGOs. This was in response to the proposal submitted by Kenya at the 13th Conference of the Parties to the Convention on International Trade in Endangered Species of Flora and Fauna (CITES) calling for the transfer of the lion population from Appendix II to Appendix I. The Parties recommended a detailed examination of the issues surrounding the conservation of the African lion, through a series of regional workshops.

IUCN responded to this and together with other key stakeholders, organised the first workshop in 2005 which involved the 14 West and Central African lion range states. The second workshop brought together 15 lion range states from Eastern and Southern African in January 2006 (Bauer, Chardonnet and Nowell, 2005). Each workshop included the Directors of Wildlife Conservation Departments and their technical advisors, safari operators, community leaders, non-governmental organisations involved in conservation, as well as researchers on the African lion.

The workshops came up with several recommendations which included:

- The need for African lion range States to follow up the workshops by developing and implementing national lion management plans.
- The need for a Pan African Conservation strategy to form the basis of a region wide collaboration in the conservation of the lion and which would also form the basis for the management of other wildlife species on regional scale.

Responding to the first recommendation, the ZPWMA, together with IUCN, convened a workshop in November 2006 to develop a national lion conservation strategy and action plan for Zimbabwe attended by conservation NGOs, the private sector, and Rural District Councils (RDCs), as well as ZPWMA and IUCN (Conservation Strategy and Action plan for the Lion (*Panthera leo*) In Zimbabwe, 2006).

The deliberations of this workshop identified the following issues related to lion conservation in Zimbabwe:

- Management and research including technical advice, policy formulation and management interventions
- Capacity needs as reflected by adequate human, financial and material resources
- Mitigation of human-wildlife conflict
- Socio-economic costs and benefits of long-term lion conservation
- Communication and information dissemination for key decision makers at different levels
- Framework for captive breeding of lions
- Trade and regulations to ensure non-detriment findings related to trade in all lion related products
- Regional collaboration to strengthen bilateral and regional lion conservation strategies

The analysis of these issues led to the formulation of the conservation strategy whose vision is that *Lions (*are*) conserved and managed sustainably for their aesthetic, cultural and ecological values, and the socio-economic development of Zimbabwe*. The immediate objective of this strategy is *to secure and where possible, restore as many viable lion populations as possible in Zimbabwe whilst mitigating their negative impacts and enhancing their value for the benefit of people through sustainable use*.

Three broad targets were identified to achieve this objective:

1. Ensure the persistence of key lion populations and other important populations including those of doubtful viability;
2. Human and livestock loss reduced, and
3. Optimize wildlife conservation-related net benefits to local communities

Table 4 summaries the progress with achieving the results identified in the strategy:

Table 4: Summary of implementation progress of the 2006 lion conservation strategy.

Output 1. Lion Management - Lion populations, their habitats and wild prey effectively conserved and managed in collaboration with local stakeholders	
Target 1.1 Establish a baseline survey and monitoring programme for identified lion populations and their range inside and outside the Parks & Wildlife Estate	Baseline surveys have been completed for the Parks Estate using monitoring protocols for key variables (populations, habitats, prey). Selected surveys undertaken of areas outside National Parks in conservancies and some communal land and forest areas.
Target 1.2 Maintain and strengthen capacity for lion conservation, management, monitoring and research within PWMA and amongst other key stakeholders	Carnivore research programmes undertaken by NGOs (Mana, Matusadona, Gonarezhou, Zambezi and Hwange NPs, Matetsi, Chirisa SA) and research institutions (Bubye and Save Conservancies) in various parts of the country. Personnel trained in data collection and capture, management, lion aging and analysis.
Target 1.3 Identify and implement best management standards and practice for all trophy hunted lion populations, ensuring their viability and sustainable, equitable and adaptively managed trophy quotas	Quota setting methodology reviewed and annual quotas and offtakes analysed considering population changes, trophy quality and levels of PAC over time. Trophy hunting database in place and in process of being refined to provide cost-effective system for collation, entry, analysis, reporting and feedback to key stakeholders in the wildlife industry (ZPWMA, RDCs, SOAZ, ZPHGA, conservation NGOs, Researchers etc.). System of fixed and optional quotas reviewed and age-based criteria for male trophy animals in place and functioning.
Target 1.4 Develop and implement a national lion captive breeding management policy	Policy in place (see discussion below).
Target 1.5 Develop and implement co-management frameworks for wildlife management	Collaborative national lion action plans to co-management lion populations in place for NW Matabeleland and SE Lowveld, including three conservancies (Bubye Valley, Save and Malilangwe).
Target 1.6 The geographic distribution range of the lion population expanded	Conservancies and neighbouring communities are working together to maintain existing geographic distribution of lion populations. Zimbabwe proactive in the KAZA and GLTFCA programmes.
Output 2. Lion Research - Information for effective and adaptive lion conservation management generated	
Target 2.1 Initiate targeted research on lion ecology, management and mitigation of conflict	Extensive research programmes focussing on lion ecology and biology undertaken in Hwange, Bubye, Save, Malilangwe, Matusadona, Chizarira and Chirisa. ZPWMA have cooperated with NGOs, such as Panthera, to develop cost-effective age determination methods for lions. Key threats to lion populations, with focus on human-lion conflict, snaring and poisoning, undertaken and continually monitored.
Output 3. Mitigation - Human-lion related conflicts minimized and, where possible, eliminated	

Target 3.1 Develop and establish databases on lion/human conflict	Data on Problem Animal Control (PAC) reports on lion related problems collated.
Target 3.2 Identify and implement methods to reduce and mitigate livestock losses and lion attacks on humans	Approaches to mitigate livestock losses and lion attacks on humans being tested and implemented in Hwange. Methods to mitigate lion attacks on livestock being implemented as appropriate at selected sites (e.g. Tsholotsho).
Target 3.3 Trained and properly staffed PAC Units established to conduct rapid response, restrained and precisely targeted problem animal control	PAC Units at ZPWMA field station and/or RDC levels partially established.
Target 3.4 Incidents of human-lion conflict reduced by at least 30% in 5 years while also reducing retaliatory killing	Specific awareness and education package on lion conservation and management developed and implemented in Matusadona, Hwange and Gonarezhou regions.
Output 4. Socio- Economic - The costs and benefits of long-term lion management equitably distributed	
Target 4.1 Complete an inventory of stakeholders directly affected by lion conservation	Stakeholder groups (e.g. local communities, CAMPFIRE RDC representatives, commercial safari hunting operators (SOAZ, ZPHGA), tourism operators (ZATSO) identified. Financial impacts of lion conservation and extent and magnitude of socio-economic impacts on each stakeholder group completed.
Target 4.2 Deliver appropriate training and capacity building to prioritised stakeholders	Representative stakeholder groups in some regions identified (Hwange, Matusadona, Gonarezhou). Limited training undertaken. Implement adaptive programme across four wildlife regions
Target 4.3 Agree and implement collaboratively developed area-specific lion management plans with identified stakeholder groups in each wildlife region within 5 years	In progress. Hwange NP Management Plan approved.
Target 4.4 Implement transparent mechanisms to equitably distribute lion-related/generated income to identified stakeholders (groups and/or communities)	Scale of income generated from lion conservation reviewed and use of funds to encourage protection of lion populations reach local stakeholders undertaken (see CAMPFIRE generated revenues)
Output 5. Regulations - Effective regulation of consumptive lion utilisation ensured	
Target 5.1 Implement approved policy and practice at national and local levels regarding problem animal control (PAC) of lions within 2 years	Current policy and practice regarding problem animal control of lion reviewed, at national and local levels. PAC offtakes reconciled with trophy hunting quota offtake to ensure that the overall offtake (i.e. total quota) is sustainable.
Output 6. Communication, Awareness and Information Dissemination	

Target 6.1 To carry out awareness programmes in 50% of the districts in Zimbabwe within the next three 3 years	Awareness programmes initiated at a national level, with professional hunters, communities and NGO community. Awareness campaigns being carried out by the Extension and Interpretation Unit in all the regions.
Target 6.2 Create lion conservation and management information units within one year	Databases established at some key research centres using dedicated external research programmes (e.g. WILDCRU).
Output 7. Regional and Trans-Boundary Collaboration	
Target 7.1 Undertake an inventory of national strategies for lion management	Done.
Target 7.2 Encourage the development of national lion conservation strategies where these are missing &/ or incomplete	National lion conservation strategies discussed at AWCF (meeting held under auspices of KAZA).
Target 7.3 Develop an integrated and harmonised lion management strategy for Transfrontier Conservation Areas (TFCAs)	Lion conservation strategies for SADC discussed at AWCF meeting held under auspices of KAZA.
Target 7.4 Implement lion conservation strategy and management plan	Strategy under review.

3.3.1 National Lion Captive Breeding Policy

A target of the Conservation Strategy and Action Plan for the Lion in Zimbabwe was to develop and implement a National Lion Captive Breeding Management Policy. This was achieved in 2011 when the ZPWMA met with lion breeders, keepers and animal welfare organizations to define the purpose of breeding and keeping lions; identify and discuss issues related to breeding and keeping of lions in captivity and to chart the way forward on the breeding and keeping of lions in captivity.

The objectives of the policy are to provide a national approach and minimum standards to all aspects relating to the management of captive bred lions including the role of captive bred lions upon reaching maturity and regulate the import and export of captive bred lions. The policy also defines the measures to protect the genetic integrity of indigenous lion populations. The use and welfare of captive bred lions is monitored by a captive lion inspection team.

In terms of this policy, lions that are kept in captivity for species conservation and commercial purposes are subject to the following conditions:

1. No permit for the keeping of lions in captivity will be issued before the facility has been inspected and approved by ZPWMA as a Captive Lion Holding Facility.
2. Lions may not be allowed to breed in captivity unless the holding facility is registered as a Captive Lion Breeding Centre. If a breeding permit is not issued, it is the responsibility of the owner to ensure that the animals do not breed. If breeding occurs without a permit the owner will be fined and the animals are subject to confiscation and possible destruction by ZPWMA.
3. Lions may not be captured from the wild population and kept in captivity unless the animal is orphaned or injured and is captured with the purpose of rehabilitating the animal and returning it to the wild within as short a time as possible.
4. Captive bred lions may not be released into the wild or transferred from the facility without prior permission from ZPWMA, and are subject to an approved release plan.

No lion can be transported without the necessary internal and national permits and without being micro-chipped, and all transportation of live animals must comply with CITES Resolution Conf. 10.21(Rev. CoP 14). To safeguard the integrity of the indigenous gene pool, no import permits will be issued for non-indigenous lions. Any lion that are to be transported must be issued a certificate of health by a competent veterinarian confirming that the premises of origin has been free from anthrax, panleukopenia and canine distemper for six months, and that each predator is free from diseases such as FIV, BTB or any other disease which may threaten local populations. The animal should also have been vaccinated for rabies and treated with a broad spectrum de-wormer and acaricide.

It is an offence to export lions from Zimbabwe without a ZPWMA export permit, and all export permit will only be considered if the exporting facility holds a current permit to keep captive lions. Moreover, an export permit will only be issued if the importing facility, in the country of import, conforms to regulations laid out in this policy document.

4 Population Trend Data For Key Lion Populations In Zimbabwe

Zimbabwe has in recent years taken proactive actions to enhance the conservation of lion populations both inside and outside the protected areas. These have included implementing moratoriums on hunting, reducing quotas, implementing an age-based hunting regulation and undertaking independent monitoring programmes conducted by international research institutions. Emerging from this is evidence that by implementing appropriate regulatory, management and monitoring actions, coupled with raising awareness, the lion populations respond rapidly and recover to near

former levels. The section below summarises the data from key range areas both inside and outside the National Parks Estate to substantiate this.

4.1 LION SURVEY TECHNIQUES

The population estimates of lions in Zimbabwe are determined through carnivore spoor surveys, systematic lion collaring and call-up surveys. With the strategy to maintain the wilderness values of most protected areas, there is low road penetration in the parks estates, however all suitable roads are used as transects, and in areas of suitable substrate, spoor surveys have shown to be an effective and efficient means to assess wildlife densities (Stander 1998, Fuston et al. 2001, Davidson and Romanach 2007). Patrol reports, field observations by ZPWMA rangers and other sightings by tour operators and tourists also contribute to the knowledge of the status of lions in Zimbabwe's protected areas. Similarly, the occurrence of lion in Safari Areas is recorded by resident safari operators, including those operating in CAMPFIRE areas.

4.2 RESULTS OF REGIONAL LION SURVEYS

Lion population surveys provide indices of abundance that can be used to determine spatial distribution, as well as temporal trends in population numbers. The results of the different survey methods are used to generate information for setting sustainable lion trophy hunting quotas and for population management.

4.2.1 Gonarezhou National Park

Spoor count surveys of the Gonarezhou National Park have been conducted since 2009 using the same methodology to obtain direct estimates of lion populations to compared actual lion densities with potential density estimates (Groom, 2009, Groom et. al. 2014). Table 5 below illustrates the growth of the lion population in the Park (Groom and Watermeyer, 2015).

Table 5: Population estimates of lion in the whole of Gonarezhou National Park (extrapolated from survey area) from 2009 – 2015 (Groom and Watermeyer, 2015).

2009	2010	2011	2012	2013	2014	2015
31	45	72	64	77	116	125

As with many lion populations anthropogenic factors can be key drivers of lion population dynamics, and in areas with high human impact lion numbers may be significantly lower than those predicted by prey biomass models. This was found to be the case in the Gonarezhou National Park. Groom et. al. (2014) concluded that high hunting quotas either within or around the protected area were the most likely cause of the low lion numbers, with quotas in some areas being as high as seven lions per 1,000km^2 in some years. Other factors included persecution, poisoning and problem animal control, as well as disease and competition with spotted hyaenas (*Crocuta crocuta*).

Following decisions to halt lion hunting, and reducing human-lion conflict, the lion population responded and steadily increased, reaching a density of 2.5 lions / 100km^2 in 2014 (as compared with 0.6 / 100km^2 in 2009). Relative to other populations (average over Kruger NP, Hwange NP, Selous GR and Serengeti NP = 9.6 lions / 100km^2) this is still low, suggesting the population could continue to increase further. Groom et. al. (2015) conclude that the lack of artificial water in Gonarezhou means that natural carrying capacity will be lower but based on prey biomass availability predictions of lion carrying capacity could support between 200 and 300 lions (Groom 2010). It is therefore still possible that the lion population in the park could at least double before reaching carrying capacity (especially because prey biomass is now greater than it was in 2010 – see Section 8.5 below).

4.2.2 Save Valley Conservancy

The African Wildlife Conservation Fund carries out an annual large carnivore spoor survey to assess population trends of the carnivores in the Savé Valley Conservancy (SVC) to aid management decisions. A standardised methodology is used to ensure consistency through time and comparability with other studies. Since 2008, the spoor surveys have been done using the same roads and the same observer. The results of these surveys are provided in Table 6 showing that the lion population has increased from 40 in 2005 to 284 in 2015 (Groom and Watermeyer, 2015, du Preez et al, 2016).

Table 6: Population estimates of lion in the whole of Savé Valley Conservancy from 2005 – 2015

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
40	50	52	76	114	143	105	130	115	182	284

The lion population has increased substantially in the last two years, and there are now an estimated 284 lions in the whole of the conservancy. This is a notable increase since the 2013 estimate of 115 lions and 2014 estimate of 182, and is perhaps a latent effect of no hunting for over several years. Of the 149 lion tracks encountered, 28% were big adult males with 53% identified as females/juveniles and 15% as young cubs (3% of tracks were unidentified). The number of lions in SVC equates to a density of 11.7 lions/100km². This is slightly higher than other population estimates of 9.6 lions/100km² (average over Kruger, Hwange, Selous and Serengeti).

4.2.3 Bubiana Valley Conservancy

After originally being eradicated by cattle ranchers in the area, 13 lions were reintroduced to the Bubye Valley Conservancy in 1999, and four young males broke into the Conservancy that same year. From the original 17 animals present in 1999, the Bubye Valley Conservancy lion population was estimated at approximately 280 individuals in 2009 when robust population surveys were initiated by a team from the University of Oxford Wildlife Conservation Research Unit (WildCRU), and this population has continued to grow. Today it is estimated that there are over 500 lions on the Bubye Valley Conservancy (Figure 3, du Preez et. al., 2016).

The exponentially increasing Bubye Valley Conservancy lion population currently exists at one of the highest densities in Africa (~0.190 lions/km^2: du Preez et al. 2015, du Preez et al. 2016), greater than that of the Serengeti, Tanzania (0.10 lions/km^2), Selous, Tanzania (0.080 – 0.130 lions/km^2: Creel and Creel 1997), Kruger National Park, South Africa (0.096 – 0.112 lions/km^2: Mills et. al. 1995), and Hwange National Park, Zimbabwe (0.027 lions/km^2: Loveridge et. al. 2007). This equates to the largest contiguous lion population in Zimbabwe.

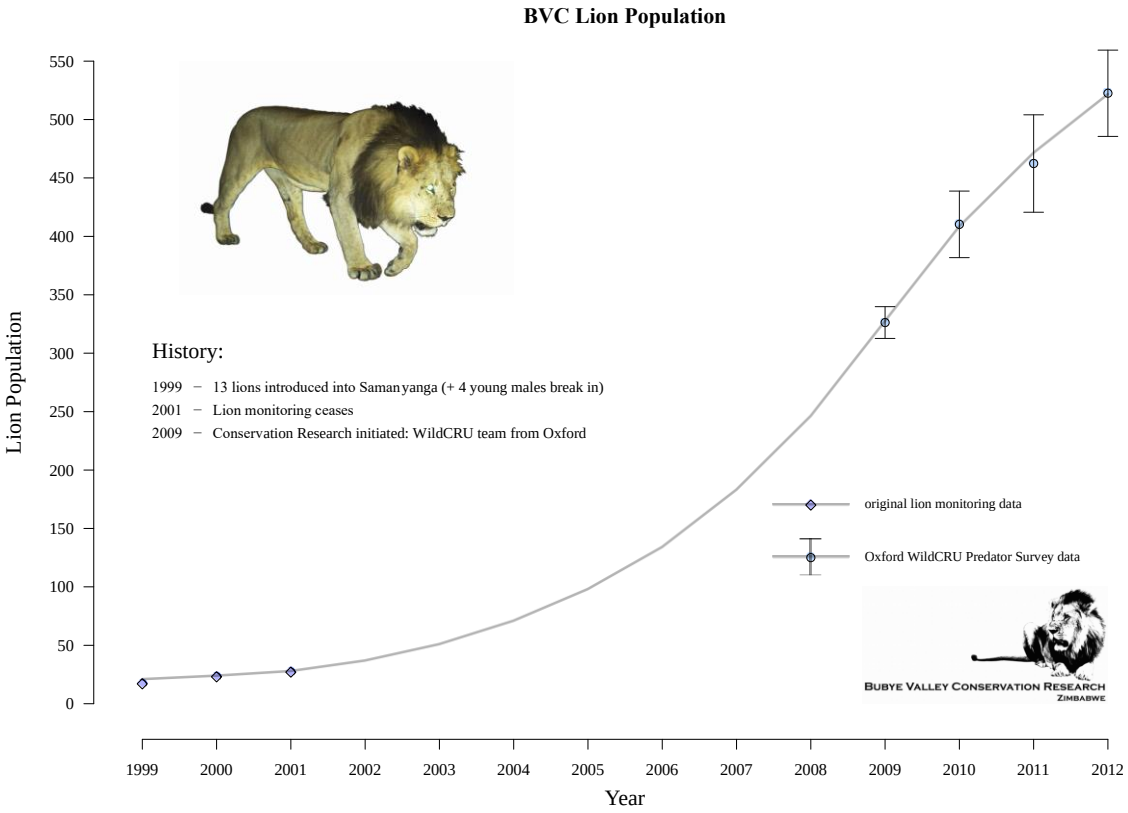


Figure 3: The Bubye Valley Conservancy lion population has increased exponentially since the original reintroduction of the species to the conservancy in 1999.

4.2.4 Mana Pools National Park

In conjunction with ZPWMA, Zambezi Society and the Cheetah Conservation Project, the Wildlife Conservation Research Unit (WILDCRU) based in Oxford (U.K.) conducted a camera trap and spoor count survey of Mana Pools National Park with the objective of:

- To undertake park wide surveys to estimate population density, distribution and habitat occupancy of common predator species in Mana Pools National Park.
- To contribute to Cheetah Conservation Project Zimbabwe's (CCPZ) cheetah monitoring protocol.
- To provide presence/absence data on all the larger mammal species.

A Facebook page was also created for the survey that was regularly updated on the progress of the survey (Facebook.com/Mana Pools Survey 2015).

The preliminary results of this survey identified 67 individual lions from the 267 images captured. When combined with the spoor count surveys, the population was estimated at 94 lions at a density of 4.5 lion/km^2 (Seymour-Smith and Loveridge, 2015),

4.2.5 Hwange National Park

The Hwange Lion Research Project undertaken by the Wildlife Conservation Research Unit (WILDCRU, Oxford University) works in association with the Zimbabwe Parks and Wildlife Management Authority. Since 1999 this project has identified over 600 lions and currently monitors approximately 15 prides and 12 male coalitions in a 5,000km^2 study area. This is one of the most intensive and long-term lion

projects in Africa. A key finding of this research programme has been to demonstrate that the way lion trophy hunting is managed can rapidly improve the status of lion populations by implementing a biologically sustainable system of allocating quotas. This project has also increase the understanding of human related impacts on lion populations (and vice-versa) along the park boundary. More recent research is focussed on understanding connectivity between Hwange NP and other areas such as parks in Botswana and in Zimbabwe.

This project was initiated because there was a perception that levels of sport hunting of male lions' in the hunting concessions surrounding the Hwange National Park were having a negative impact on the conservation of the population (Loveridge, et. al. 2007). Data collected between 1999 and 2004 suggest that this was indeed the case and this contributed to a suspension of sport hunting of lions in the area surrounding the Park between 2005 and 2009. This was a crucial shift in management policy for this species and an important step towards sustainable management and conservation of lions. Following the imposition of the hunting moratorium, lion densities increased (Figure 4).

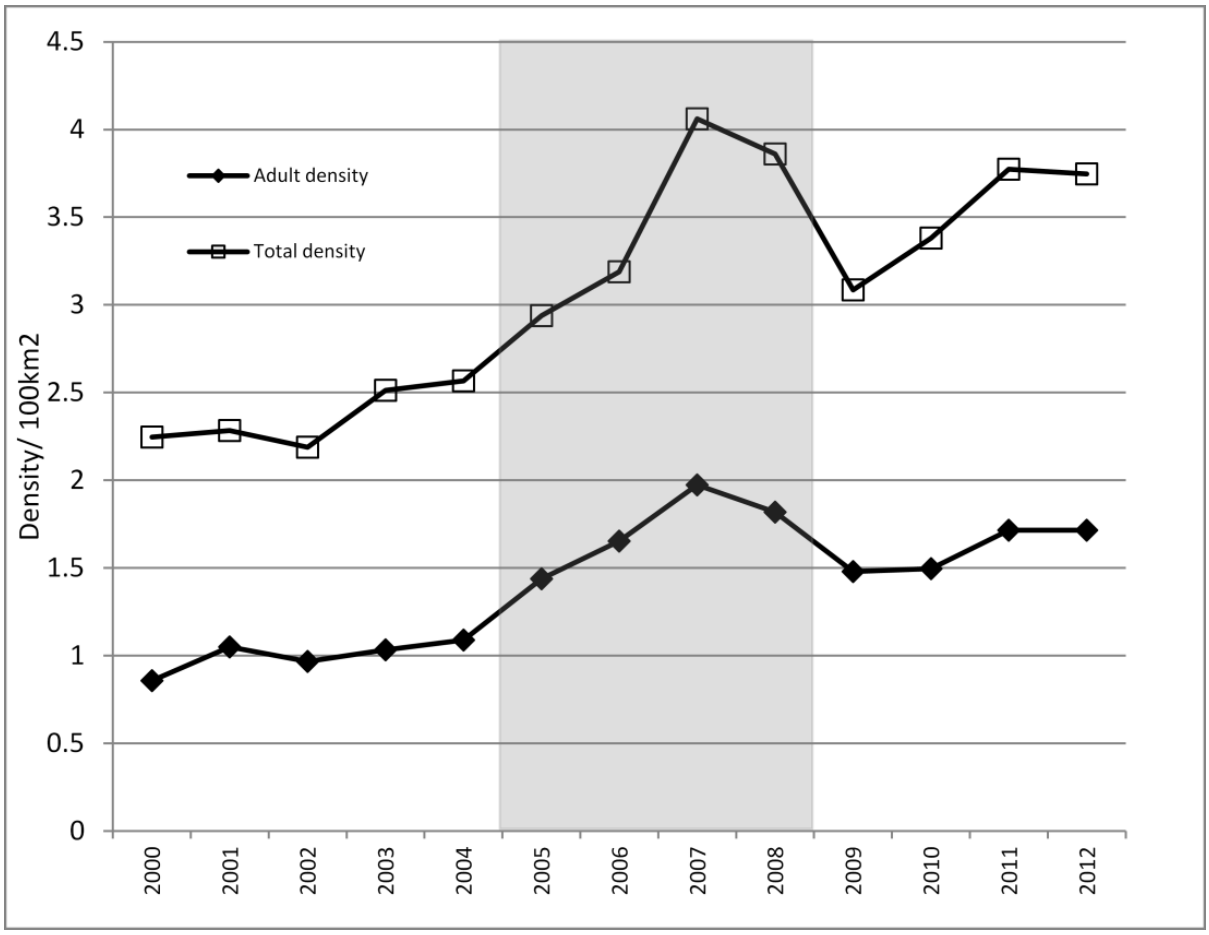


Figure 4: Lion densities in the Hwange area between 2000 and 2012

Following the lifting of the moratorium, and by implementing strict monitoring and hunting guidelines, the overall Hwange lion population has continued to show a positive trend, and is now estimated at over 550 animals.

4.2.6 Zambezi National Park and Units 6 and 7

Victoria Falls Wildlife Trust (VFWT) in collaboration with ZPWMA and the Hwange Lion Research Project has recently completed both spoor count transects and a camera trap surveys in Zambezi National Park, and Units 6 and 7 of the Matetsi Safari Area. The preliminary results of these surveys show that the lion population has increased since 2013 to approximately 67 (Rodger Parry, pers comm.).

Coalition males, Zambezi National Park, June 2016 (*Photo credit: Jessica Dawson, Victoria Falls Wildlife Trust)*

4.2.7 Chizarira National Park and Chirisa/Sengwa Safari Area

A survey was undertaken jointly by the Zimbabwe Parks and Wildlife Management Authority and the African Lion and Environmental Research Trust in September 2015 (Dr Norman Monks pers comm.). The survey area consisted of the 1,910 km^2 Chizarira National Park (a non-hunting area) and the adjoining 1,713 km^2 Chirisa/Sengwa Safari Area (a hunting area). No large carnivore counts using the call-up method had previously been conducted in these contiguous protected areas.

The survey method used the standardized protocol of audio broadcasts of a buffalo calf in distress. Spoor counts were not used for these surveys since previous research had shown that the call-up method was more precise, took less time, and was less costly to complete to achieve accurate results. Up to three stations were sampled nightly commencing just after sunset.

Twelve call-up sites were sampled. Response to the call-up stations by lions was low with only 2 of the 12 stations visited. The population abundance was estimated to be 31.6 (0.872 lion 100/km^2), suggesting a decline of 68.4% since 2004 when estimates of lion numbers were provided to Bauer and van der Merwe, (2004).

5 CONSERVATION IN ZIMBABWE

Zimbabwe Parks and Wildlife Management Authority (ZPWMA) falls under the Ministry of Environment, Water and Climate and it was established under the Parks and Wildlife Act of 1996 (Chapter 20:14) as amended by Act Number 19 of 2001. The rationale behind the establishment of the Authority was to allow it to retain all the revenue it generates to be ploughed back into conservation. The functions of the Authority are provided for in detail in section 4 of the Parks and Wildlife Amendment Act Number 19 of 2001. The Act gives the Authority power to control, manage and maintain Zimbabwe's wildlife resources.

Its **vision** is "*To be a World Leader in sustainable conservation*" and its **mission** is "*To conserve Zimbabwe's wildlife heritage through protection and sustainable utilisation of natural resources for the benefit of present and future generations*."

5.1 STAFF ESTABLISHMENT

The staff strength at the beginning of January 2015 was 2,043 and ended at 2,044 on 31, December 2015 (2015 Annual Report (unpublished). Fifty (50) rangers were recruited in 2015. The following is the staff status report as at 31st December, 2015 (Table 7).

Table 7: Summary Staff Establishment by Region

Position	Grade	HQ	VMU	Northern	Western	Southern	Central	Total
Executive	F & E	3	0	0	0	0	0	**3**
Department Managers/Sectional Heads	D3-D5	19	0	3	4	3	3	**32**
Ecologists/ Area Managers/Officers	D1-D2	11	1	19	19	13	4	**67**
Snr Rangers /Officers	C1-C5	29	6	64	89	49	34	**271**
Rangers/Clerical	B2-B5	33	12	507	461	310	197	**1,520**
Gen. Hands / Lodge Attendants	B1	2	2	30	66	33	17	**150**
TOTAL		**97**	**21**	**623**	**639**	**408**	**255**	**2,043**

The current remuneration levels have remained low with the lowest paid worker receiving a gross salary of $375 per month. The last salary increase of 23% was in January, 2014. A comparison with other Parastatals within the same parent ministry, shows that the Authority has the lowest salary scales.

5.2 TRANSPORT OPERATIONS

As indicated in Table 8, the total cost of operating the Parks transport fleet was is $1,547,172.82 (excluding insurance and licensing) in 2015. The existence of old and obsolete vehicles in the fleet increases costs as most of them require major component replacements thereby increasing vehicle downtime.

Table 8: Overall travel and fuel consumed by Region

Station	Km travelled	Fuel Consumed		Repairs & Maintenance Cost ($)	Total Cost ($)
		Litres	Cost ($)		
Head Office	1,489,294	190,644	272,620	136,419	409,039
Northern	1,429,260	149,577	213,895	147,113	361,007
Southern	1,075,077	110,111	157,458	59,548	217,006
Western	1,313,263	142,012	203,077	161,120	364,196
Central	392,885	47,995	68,632	127,288	195,920
TOTAL	**5,699,779**	**640,339**	**$915,684**	**$631,486**	**$1,547,172.**

Table 9 below summarises the status of the Authority's vehicle fleet as of 2015. Out of the fleet complement of 316 (including tractors and motor cycles), only 70% are in sound condition.

Table 9: Number of vehicles per region

Region	Runners	Non-Runner	Total	% of Non-Runner
Head Office	41	6	47	13
Northern	53	19	72	26
Southern	30	21	51	41
Western	80	39	119	33
Central	17	10	27	37
Total	**221**	**95**	**316**	**30**

The Authority also owns three aircraft: Bell Jet Ranger and Robinson R22 Beta 11 helicopters, and a Cessna 185. The Jet Ranger is based at Hwange National Park and is used for game capture and law enforcement. The remaining aircrafts are non-operational.

5.3 LAW ENFORCEMENT

A major component of the Authority's mandate is law enforcement. This has become increasingly more important with the escalation in illegal wildlife trade, particularly involving elephant and rhino. The Authority has an establishment of 2,146 rangers however by the end 2015, there were 1,448 rangers in post (67%). Of the 1,448 rangers in post, 1,004 are deployable for anti-poaching operations.

The level of effort of law enforcement over the last 3 year is summarised in Table 10. In 2015 there were 2,139 incursions detected, and arrest of 1,354 local and 129 foreign poachers. The number of armed contacts declined from 26 in 2014 to 23 in 2015, and number of poachers killed declined from 13 in 2014 to 11 in 2015. Recoveries made in the field included 25 rifles, 276 rounds of ammunition, 496 pieces of elephant ivory, 4 rhino horns and 5,133 wire snares.

Table 10: Detections, Arrests and Recoveries for 2013, 2014 and 2015

Year	No of Incursions	No of contacts		Number of poachers				Recoveries					Other recoveries and arrests		
				Killed		Arrested									
		Armed	Visual	Local	Foreign	Local	Foreign	Rifles	Ammunition	Ivory	Rhino horn	Snares	Gold	Poachers Camp	Dogs
2013	1842	27	344	9	0	1421	131	20	945	436	5	4415	93	264	180
2014	1571	26	362	10	3	4161	94	20	163	202	19	4864	221	186	272
2015	2139	23	356	6	5	1354	129	25	276	496	4	5133	134	339	167

5.3.1 Illegal Harvesting of Wildlife

Commercial wildlife poaching involving both local and foreign nationals continues to plague Zimbabwe, especially with respect to elephant and rhino located in the Zambezi Valley, Sebungwe, North-West Matabeleland, South-East Lowveld. The species targeted are shown in Table 11 and 12. Note that 21 lions were killed illegal between 2013 – 2015, with 6 animals killed through snaring in the area adjacent to Hwange National Park in 2015.

Table 11: Trends in wildlife poaching in the parks estate

Year	Illegally killed wildlife										
	Elephant	Buffalo	**Lion**	Kudu	Zebra	Impala	Warthog	Nyala	Eland	Crocodile	Waterbuck
2013	293	65	**12**	65	21	67	22	5	6	2	15
2014	176	44	**2**	34	8	65	26	2	5	3	15
2015	317	78	**7**	76	21	92	46		9	17	6
2016*	101	23	0	23	22	54	12	1	4	1	5
Total	**807**	**210**	**21**	**200**	**72**	**278**	**106**	**8**	**24**	**23**	**41**

*To September 2016

Table 12: Illegally killed wildlife 2015 in the four regions

Region	Elephant	Buffalo	**Lion**	Kudu	Sable	Zebra	Croc	Impala	Eland	Warthog	B/Buck	waterbuck
Central	46	30	**0**	16	0	6	1	28	0	17	7	
Northern	75	6	**0**	6	0	0	0	0	0	0	0	0
Southern	65	38	**1**	42	0	9	4	31	4	25	1	6
Western	131	4	**6**	12	1	6	12	33	5	4	1	0
Total	**317**	**78**	**7**	**76**	**1**	**21**	**17**	**92**	**9**	**46**	**9**	**6**

5.3.2 Illegal trophy hunting – the "Cecil" effect

Professional hunter Theodor Bronkhorst was arrested for allegedly illegally hunting of a lion popularly known as 'Cecil' with a foreign client on Antoinette and Antoinette farm in Gwayi River Conservancy (which is adjacent to Hwange National Park). The same case involved Umguza Rural District Council in alleged illegal quota transfer[1]. At the time of writing, this case has not been brought before the court, and is still under judicial review[2].

The Authority immediately implemented the following measures in response to this incident:

- Hunting of lions, leopards and elephant in areas outside of Hwange National Parks required confirmation and authorization in writing by the Director-General of the Zimbabwe Parks and Wildlife Management Authority, and all hunts are to be accompanied by the Authority's staff whose costs will be met by the landowner.
- Bow hunting was suspended except with confirmation and authorization in writing by the Director-General of the Zimbabwe Parks and Wildlife Management Authority.
- Members of the hunting fraternity were reminded that it was illegal for quotas to be transferred from one hunting area to another. Any case of quota transfer would be regarded as poaching, and the Authority will not hesitate to arrest, prosecute, and ban for life any persons including professional hunters, clients and land owners who were caught on the wrong side of the law.

[1] This system facilitated the transfer of a quota from one property to another has since been suspended by the Authority.

[2] Note: This case has been dismissed by the court on 12th November 2016.

- 2015 hunting quotas and permits for Antoinette and Antoinette farm, Railway farm 33, Umguza Rural District Council and Kusile Rural District Council were suspended.
- Professional hunters' license for Theodor Bronkhorst was suspended.

5.4 HUMAN WILDLIFE CONFLICT

The Authority is called upon to deal with human-wildlife conflict (HWC) issues across the country, and this continues to be a challenge. A total of 863 reports of problem wild animals causing threat to human life and property were received in 2015 compared to 1,637 reports in 2014 (Table 13). From these incidents, a total of 39 human fatalities by crocodiles, elephants, lions and buffaloes were recorded in 2015 compared to the 27 fatalities in 2014.

Table 13: Trends of Human and Wildlife Conflict Incidents

Year	Total Reports Received	People killed	People Injured	Cattle killed	Goats killed
2013	1 088	21	16	67	65
2014	1 637	27	24	217	129
2015	863	39	23	232	213
Total	**3 588**	**87**	**63**	**516**	**407**

The scale and species involved in HWC is summarised in Table 14. The authority received 200 problem lion reports and responded to 177. One person was killed by lion, and 206 livestock. The Authority elected to capture problem lion (6) rather than destroy the animals.

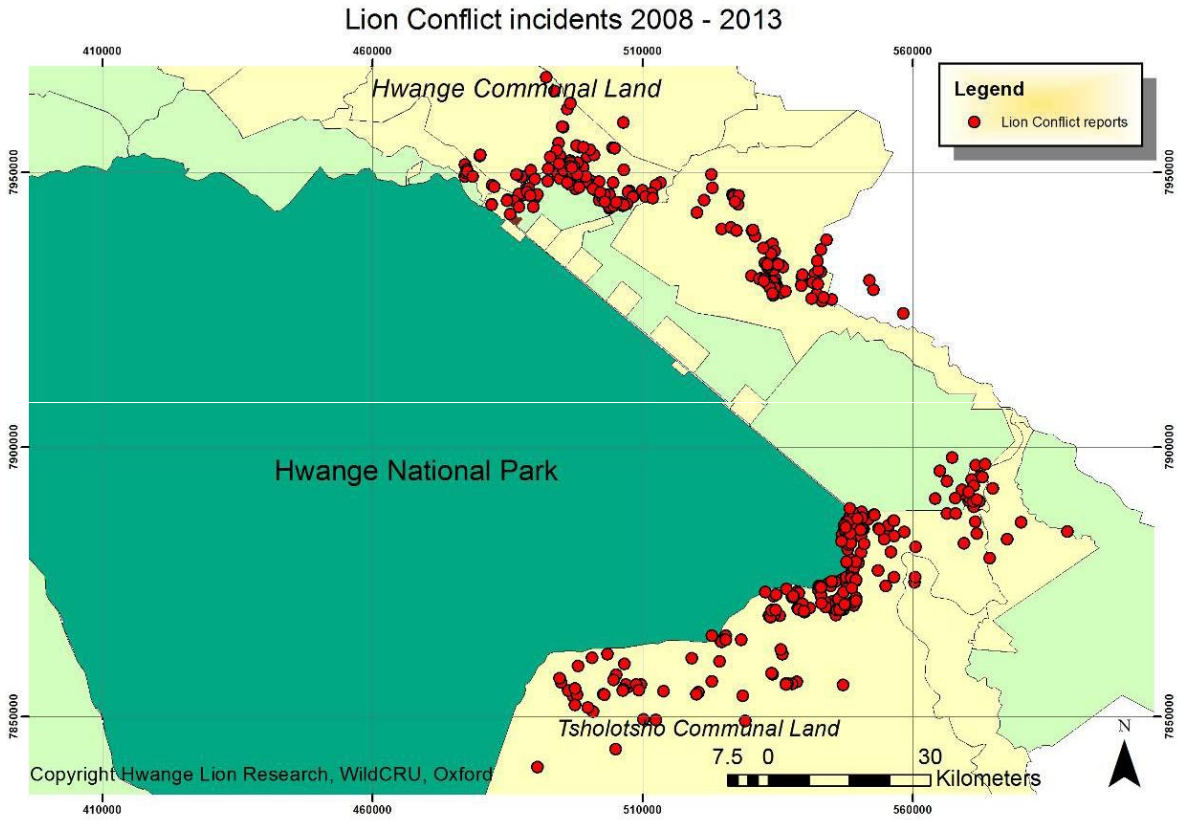
Table 14: Scale of countrywide human wildlife conflict in 2015.

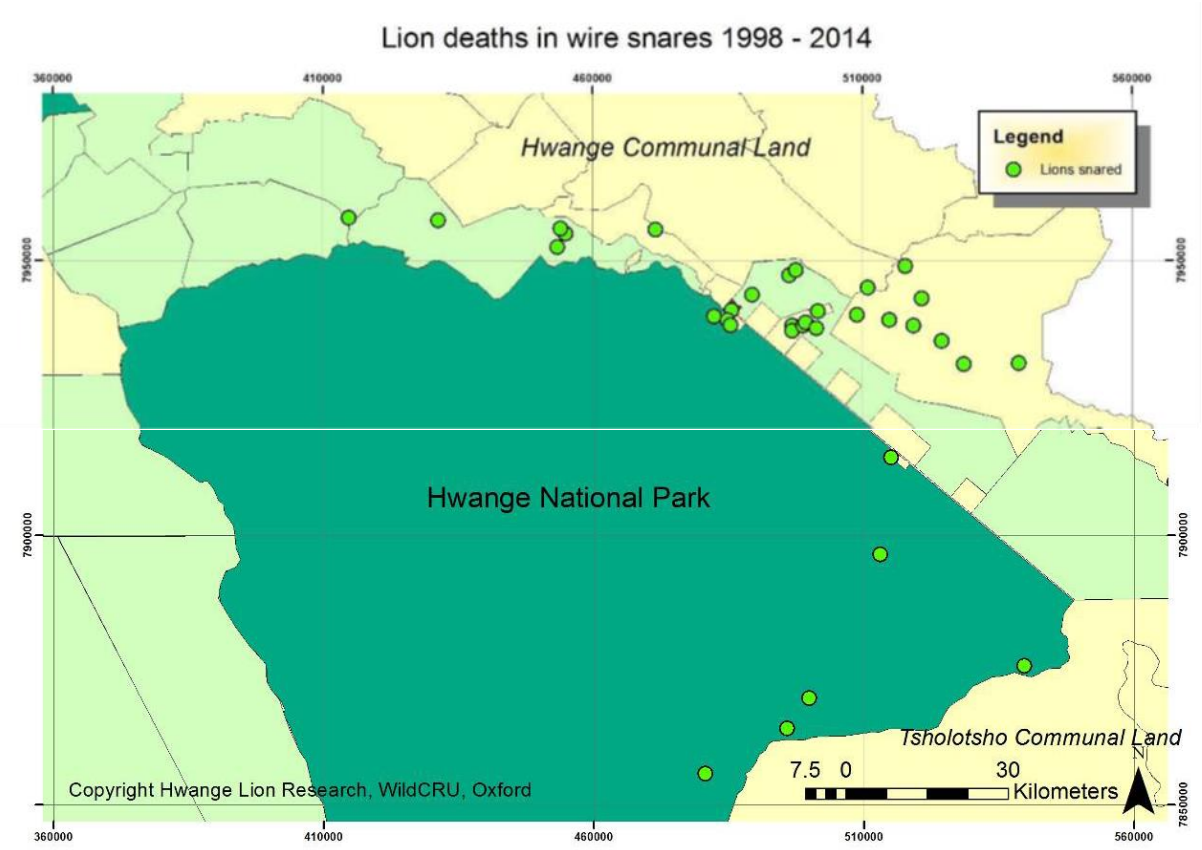
Species	Nature of problem	No of reports received	Reports attended	Number of animals eliminated		People		Livestock killed		
				Killed	Captured	Killed	injured	Cattle	Donkeys	Goats
Baboons	Damage to infrastructure, crop raiding, threat to humans	109	105	51	48	0	0		0	0
Buffalo	Threat to human life and crop raiding	46	40	0	15	2	1		0	0
Elephant	Threat to human life, crop raising, destroying property	216	177	0	38	4	5	0	0	0
Hippo	Threat to human life and crop raiding	131	87	0	34	0	0	0	0	0
Crocodile	Threat to human life and killing livestock	106	85	39	9	27	14	16	1	47
Hyenas	Killing livestock	36	18	0	7	0	0	68	2	54
Leopard	Killing livestock	19	11	0	1	0	0	32	0	33
Lion	**Threat to human life and livestock killing**	**200**	**177**	**0**	**6**	**1**	**0**	**115**	**12**	**79**
Total		**863**	**700**	**90**	**158**	**34**	**20**	**231**	**15**	**213**

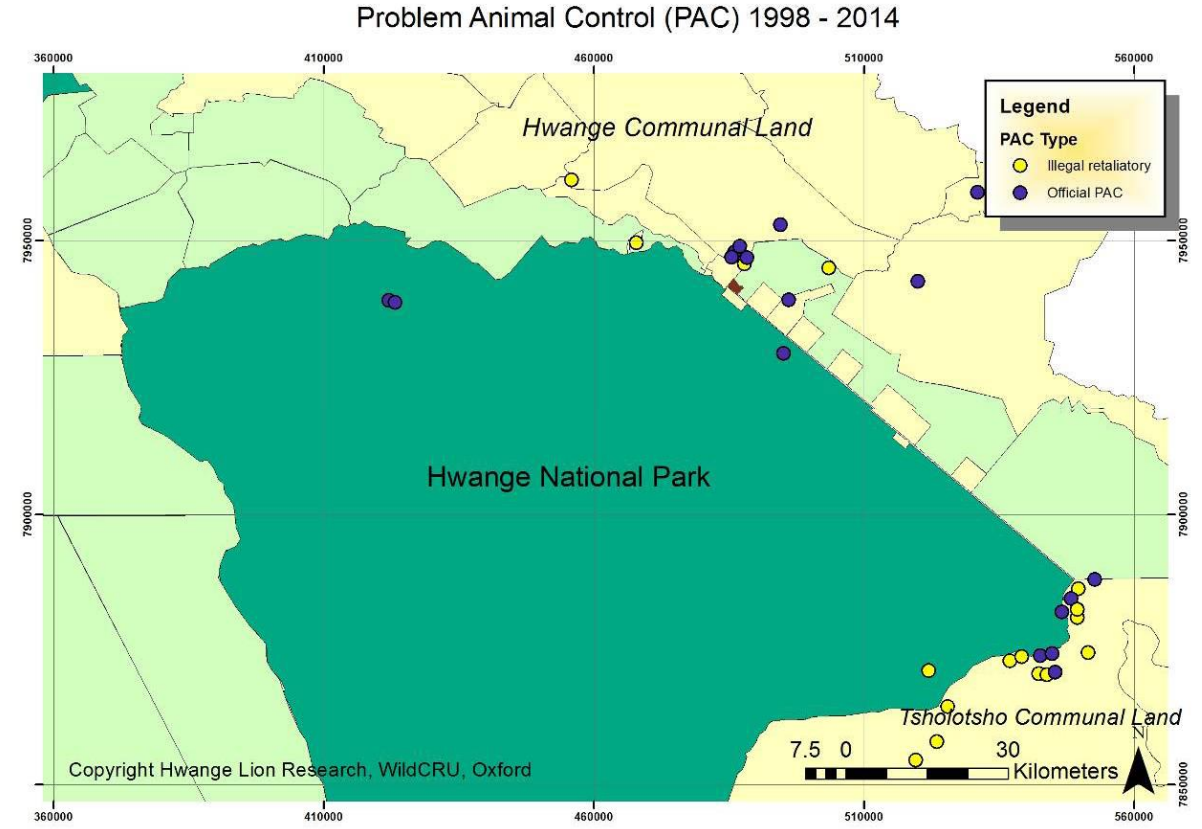
5.4.1 Case Study of Human- Lion Conflict from Hwange National Park

The following information has been extracted from the Hwange National Park Management Plan (ZPWMA, 2016) and is provided here to illustrate the challenges facing the management of lion populations residing adjacent to communal and commercial properties. Variations of the scenario described here apply to other areas of the country where hyaenas and lions are the most problematic carnivores in the communal areas adjacent to protected areas. Hyaenas are perceived to be more of a problem than lions as they account for large numbers of livestock (cattle, goats and sheep). The data presented here has been extracted from the WildCru Lion Research project in Hwange and considers only lions.

Since its inception in 2007 a significant component of the WildCru Lion Research project has focused on understanding the ecological and human socio-economic factors of conflict between the local agro-pastoralist people residing in Tsholotsho and Hwange Communal Land and lions. The project developed an intensive reporting system to record conflicts and has undertaken a detailed survey to record the baseline data on human wildlife conflict at the household level. Between 2007 and 2013 a total of 1,113 conflict incidents were recorded in the Hwange area in which 915 head of stock was lost to lions.







To mitigate this conflict, the project has initiated the "Long Shields Guardian Programme" whereby communities are notified of movements of collared into their areas via cell phone who then motivate the community to take appropriate action (i.e. moving the cattle, chase the lions etc.). In 2013 alone,

1,850 warnings were passed to the "Long Shields". In addition, the project is working on improving bomas and husbandry techniques as another way to lessen the conflict between lions and people, and although these actions may reduce the incidents of livestock marauding lions, cattle deaths still occur resulting in retaliatory killings or action on the part of National Parks to destroy the animals.

5.5 Trend in Financial Performance of the Authority

The average Income and Expenditure for the period 2010 – 2015 is shown in Table 15 that highlights the inability of the Authority to generate adequate revenue to cover both the capital and operating requirements. The average total income over this period is US$22.4 million (range US$16.5 – US$29.3 million). For the period ending December 2015, the Authority generated total revenue of $24,1million, which is 32% below the anticipated budget of $35.5 million. This includes a government grant of $716 000 and a donation of vehicles and equipment worth $2,1 million from the Government of China.

The average total expenditure for the period 2010 – 2015 is US$25.3 million (range US$18.1 – US$30.7 million). The Authority has thus incurred a loss of approximately US$2.8million/year. For the year ended December 2015, the Authority incurred a loss of US$5,4 million including depreciation.

The Authority is dependent on income from Conservation Fees (i.e. entry fees to Parks etc.) that accounted for 39% in 2015 (average 34%/year), hunting (13% in 2015) and leases (10% in 2015, Table 15).

Although individual salaries remained low, staff costs in 2015 were $20,7 million which is 71% of total revenue raised (average 64%). This is unsustainably high and leaves very limited resources for operation (16%), marketing (1%) and administrative expenses (7%, Table 15).

The major reasons for the budget deficits in the past six years can be attributed to:

- Declining income from hunting – this has been exacerbated by the recent bans imposed on elephant trophy imports into the United States by US Fish Wildlife Service (USFWS) and the much-publicised death of *Cecil the lion* that had a negative effect on revenue generated from hunting.
- Government Grant – The Authority has not received meaningful funding from the fiscus despite requests made by management that non-revenue generating activities which are of national nature be funded by Government.
- The Authority failed to dispose of its ivory stock pile due to the continued ban on ivory trade by CITES. The ivory stock which the Authority is currently holding exceeds 80 tons.

Table 15: Statement of Comprehensive Income for period 2010 – 2015 and the year ended 31 December 2015 (extracted from 2015 ZPWMA Annual Report).

Revenue	US$ 2015	%	Average 2010 - 2015	%
Conservation Fees Land	$7,879,987	33%	$6,506,508	29%
Conservation Fees River	$1,409,160	6%	$1,136,041	5%
Accommodation	$1,720,640	7%	$1,904,477	8%
Annual registration	$507,211	2%	$722,847	3%
Permits	$1,476,176	6%	$849,916	4%
Service and Facilities	$307,692	1%	$152,616	1%
Law enforcement (fines etc.)	$224,657	1%	$215,591	1%

Revenue	US$ 2015	%	Average 2010 - 2015	%
Hunting income	$3,256,698	13%	$5,049,089	22%
Fishing permits	$561,797	2%	$941,833	4%
Leases and rentals	$2,434,676	10%	$1,880,258	8%
Parks product sales	$623,084	3%	$767,347	3%
Examinations	$116,000	0%	$70,873	0%
Projects	$349,864	1%	$248,614	1%
Other income/donations	$2,555,729	11%	$907,169	4%
Government grant	$716,000	3%	$1,141,119	5%
Total	**$24,139,371**			
Expenditure				
Operational costs	$4,801,815	16%	$5,146,091	20%
Staff costs	$20,766,023	71%	$16,311,677	64%
Marketing and promotions	$212,406	1%	$147,334	1%
Administration costs	$2,056,681	7%	$2,631,019	10%
Depreciation	$1,531,000	5%	$1,069,138	4%
Total expenditure	**$29,367,925**		**$25,305,258**	
Operating surplice/deficit	**-$5,365,082**		**-$2,810,962**	

The Authority receives considerable support from many local and international NGOs who undertake a variety of routine management activities e.g. supply and maintain artificial game water supplies, provide logistic support to law enforcement operations. This is in addition to the support provided by hunting operators that hold concessions in the Safari Areas.

6 STAKEHOLDER INVOLVEMENT IN LION MANAGEMENT AND CONSERVATION

There are several private sector initiatives that are directly or indirectly involved with lion management and conservation both inside and outside the Parks estate. These stakeholders are represented by companies from the consumptive and non-consumptive sectors of the industry.

6.1 BENEFICIARIES OF WILDLIFE BASED LAND USE

Various forms of wildlife based land use occur in Zimbabwe that benefit different segments of the community depending on the authority for the land. Table 16 summarises these broad categories. The Authority is the direct beneficiary from the use of wildlife in National Parks and Safari Areas while the Forestry Commission is the beneficiary in Forestry Areas. In terms of the Act, Communal CAMPFIRE areas are the primary beneficiaries where the income generated from hunting is shared between the Rural District Council and Community Wards (see below). Similarly, private conservancies and land owners are the primary beneficiaries.

Collectively, these different management regimes contribute to the overall conservation of the wildlife both inside and outside the Parks Estate, and is supported through the existing policy and legal framework that facilitates incentives to promote wildlife based land use.

Table 16: Direct beneficiaries from Wildlife Based Land Use

Land category	Direct Beneficiary
National Parks and Safari Areas	Zimbabwe National Parks and Wildlife Management Authority
Forestry Areas	Forestry Commission
Communal Campfire Areas	Rural District Council and Wards
Private Conservancies	Private Landowners

6.2 CONTRIBUTION OF THE PRIVATE SECTOR

A questionnaire was circulated to all safari hunting operations to gather data on:

- Area and land category where hunting takes place
- Payments in terms of concession fees
- Number of people employed
- Approximate value of investment in assets
- Approximate costs of the hunting operations
- Hunter days generated through various packages
- Indication of the prey base

Data from 18 companies that have been allocated lion on quota and offer these trophies as part of their hunting packages is summarised below (Table 17). These data indicate that

- The average hunting concession covers 1,590km^2 and generates $178,488 in concession fees annually.
- Each company on average employs 109 people of which 24 are seasonal staff (22%). Law enforcement staff make up 26% of the staff complement.
- On average, each company has invested approximately $1.3 million in fixed and moveable assets (buildings, tents, vehicles, equipment etc.).
- On average, each company incurs approximately $1 million in expenses annually, with staff wages (24%) and operating expenses (27%) forming the bulk of these costs.
- Lion safaris contribute approximately 9% (126 hunter days) to the 3-year average number of hunter days generated (1,405) with the bulk of hunter days generated from buffalo safaris (see below for more details on the financial significance of this contribution).
- On average, each hunting area supports 2,000 large mammals, 3,000 medium sized mammals and 6,000 small sized mammals. However, there are large differences between state, forestry, CAMPFIRE and conservancies areas. State areas tend to support more large animals (buffalo, giraffe) while conservancies support greater numbers of medium and small animals.
- Observations on the status of lion populations indicates that each area supports on average 5 prides of 7 animals (i.e. 35 lions) although there is a wide variation in these numbers with more prides occurring in the conservancies than on Forest and CAMPFIRE areas. In these areas, the operators report that lion are transient/migratory rather than permanent.
- All areas report incidents of human-lion conflict, including incidents of snared animals.

Table 17: Summary of 18 hunting company statistics where lion hunting occurs

Companies (N=18)	**Total**	**Average**	
Total Hunting Area (ha)	2,872,932	159,607	
Concession fee	$2,141,860	$178,488	
Number people employed			
Owner/Manager	65	4	3%
Administration	59	3	3%
Camp Maintenance	308	17	16%
Safari operations	295	17	16%
Professional Hunters	82	5	4%
Skinners	59	3	3%
Trackers	138	8	7%
Law enforcement	449	28	26%
Seasonal/Casual staff	379	24	22%
Average Staff employed/company		**109**	
Approximate Asset Value (US$)	**$21,557,610**	**$1,347,351**	
Major Expense Items			
Central Government Licenses:	$415,700	$25,981	3%
ZNWMA Fees:	$1,932,472	$128,831	13%
Community Development:	$525,378	$35,025	4%
Law Enforcement:	$1,319,562	$87,971	9%
Staff wages & Welfare:	$3,601,439	$211,849	24%
Administrative costs:	$1,870,267	$116,892	13%
Operating expenses:	$3,986,619	$249,164	27%
Management and Marketing costs	$661,974	$41,373	4%
Any other costs	$411,693	$25,731	3%
Overall costs	**$14,725,104**	**$922,818**	
Hunter days generated over 3 years			
Lion	2,137	126	9%
Leopard	4,565	269	19%
Buffalo	10,344	608	43%
Elephant	3,131	184	13%
Plains game	999	59	4%
Total Hunter days	**25,294**	**1,405**	
Prey base status			
Large mammals (Buffalo, Giraffe)	28,190	2,014	
Medium mammals (Eland, zebra, kudu, waterbuck etc.)	53,273	3,552	
Small mammals (Bushbuck, warthog, impala)	82,297	5,878	
Status of lion population			
Number of prides	71	5	
Average pride size	80	7	

Companies (N=18)	**Total**	**Average**	
Number of cubs	243	19	
Number Coalition males	89	7	
Monitoring of lion population			
Natural deaths	4	1	
Reports of Human-Lion Conflict	33	5	
Incidents of infanticide recorded	6	2	

6.3 CAMPFIRE COMMUNITY PROGRAMMES

The right to exploit and benefit from wildlife was extended to communal areas through granting of Appropriate Authority Status over their wildlife resources to Rural District Councils in 1982. The intention was to return rights of access to natural resources through legislative change, devolve responsibility and economic empowerment. The CAMPFIRE model focuses on three main criteria:

- Voluntary interest in participation by communities and their Rural District Councils (RDCs),
- Presence of wildlife populations capable of producing sustainable and economically significant revenues.
- Benefit sharing for local communities based on:
    - The number of animals harvested within a local community's area each hunting season.
    - The extent of wildlife habitat present within a local community's area annually.

Currently 58 Rural Districts have been granted the Appropriate Authority status to manage wildlife resources in their areas, however only 16 are actively engaged in some form of wildlife based land use (see Figure 5).

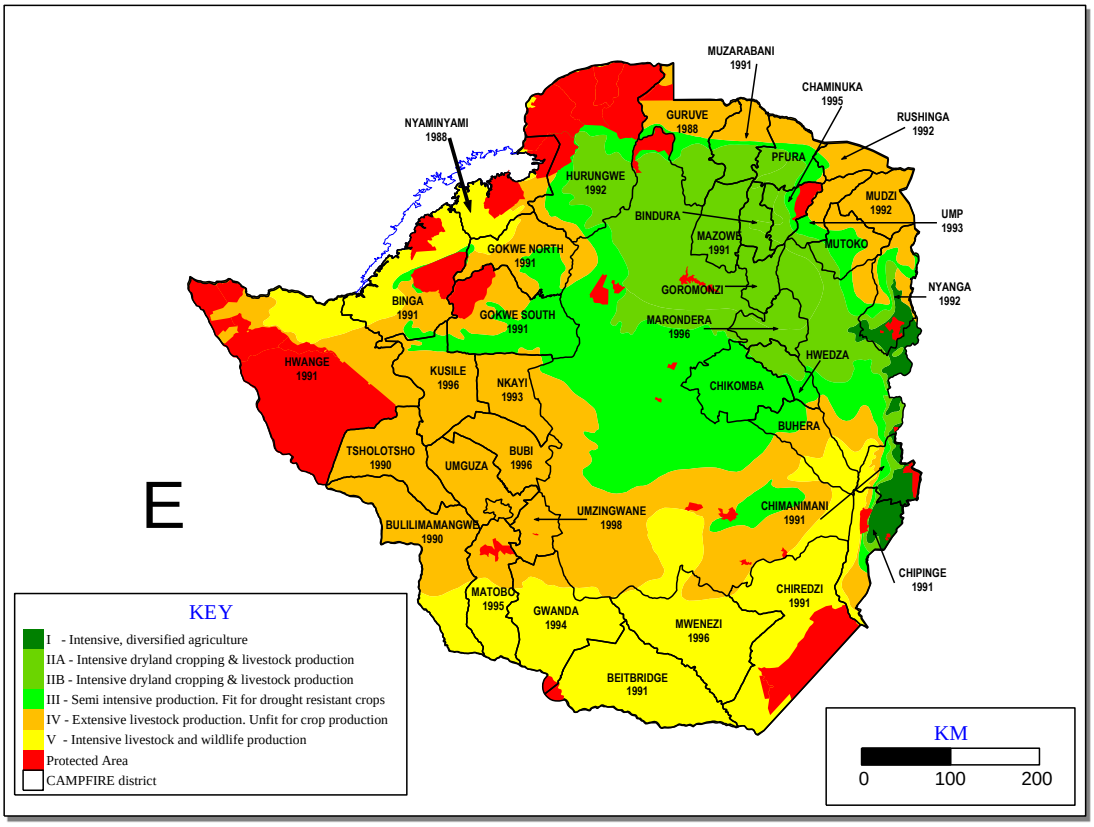


Figure 5: Map of Zimbabwe showing CAMPFIRE districts and year of establishment

The performance of ten key CAMPFIRE Districts is summarised below to illustrate the level of benefits that flow to RDCs, Wards and households, and the role that income from lion play in this process.

1. OVERALL QUOTA ALLOCATION, UTILISATION AND INCOME GENERATION FROM KEY SPECIES: All Districts: 2010 - 2015

	Elephant	Lion	Leopard	Buffalo	Hippo	Crocodile	Total
Quota	1,079	140	487	2050	602	471	
Offtake	655	45	193	908	270	305	
% Utilisation	61%	32%	40%	44%	45%	65%	
Total income N=6 years)	**$7,129,658**	**$240,000**	**$532,675**	**$2,263,150**	**$464,000**	**$441,903**	**$11,071,386**
Average/year	**$1,188,276**	**$40,000**	**$88,779**	**$377,192**	**$77,333**	**$73,651**	**$1,845,231**
Percentage	64%	2%	5%	20%	4%	4%	

The overall income generated over a 6-year period was US$11 million. An overall quota of 140 lions (average 23/year) were allocated to the CAMPFIRE programme over which 45 (32%) were utilised (8 per year). This generated US$240,000 or 2% of the overall income.

2. SOURCE OF CLIENTS AND GROSS INCOME TO SAFARI OPERATIONS:2010 - 2015

Origin of Clients	**USA**	**Canada**	**South America**	**Europe**	**Asia**	**Middle East**	**Oceania**	**Africa**	**Total (N=6 years)**
Total	**880**	**16**	**54**	**456**	**82**	**9**	**51**	**131**	**1679**
Percentage	51%	1%	3%	27%	5%	1%	3%	8%	
Total	**$8,624,059**	**$150,987**	**$543,003**	**$5,201,168**	**$550,062**	**$781,076**	**$394,208**	**$567,897**	**$16,812,459**
Average/year	**$1,462,508**	**$25,165**	**$90,500**	**$866,861**	**$91,677**	**$130,179**	**$65,701**	**$94,650**	**$2,802,077**
Percentage contribution	**51%**	**1%**	**3%**	**31%**	**3%**	**5%**	**2%**	**3%**	

Hunting clients from the USA are by far the most numerous (880 over 6 years) contributing 51% (or US$8.6 million) of the estimated US$16 million generated from hunting in CAMPFIRE areas from 2010 - 2015.

3. INCOME TO DISTRICTS: 2010 - 2015

	Hides (US$)	Trophy fees (US$)	Percentage of daily rate	Hunting concession fees	Photographic (lease fees/bed night levy)	Other (vehicle hire, grinding mill etc.)	Total	Average (N=6)
Total	$131,741	$10,618,127	$1,277,525	$862,721	$737,613	$731,218	$14,358,945	$2,393,158
Percentage	1%	74%	9%	6%	5%	5%		

The CAMPFIRE districts that benefit from hunting rely heavily on trophy fees (74%) as their primary source of income.

4. INCOME TO WARDS, VILLAGES AND HOUSEHOLDS: 2010 – 2015

Overall Income to CAMPFIRE Wards: 2010 - 2015						
	No Concessions	Area (ha)	Number Wards	Number Villages	Number Households	Gross Income
Total	**26**	**2,288,284**	**62**	**603**	**56,297**	**$5,946,370**
Income (n=6 YEARS)	**$228,706.55**	**$3**	**$95,909.20**	**$9,861.31**	**$105.6**	

Income generated at the District level is then disbursed to Wards. Since 2010, this is estimated to be approximately US$5.9 million. The available data shows that 62 wards representing 603 villages (or 56,297 households) received the equivalent of US$95,909/ward (or US$105/household).

These levels of income are not sufficient to make a significant impact at the individual level, and require that the Districts and Wards channel these revenues into activities that benefit the overall community. This is achieved through supporting several communal projects such as schools, clinics, water provisions etc.

5. DISTRICT EXPENDITURE AND COMMUNITY BENEFITS: 2010 - 2015

	Administration	Law Enforcement	Compensation	Management	Social Services	Other	Total
Total	**$2,486,268**	**$1,778,100**	**$67,600**	**$682,740**	**$1,084,779**	**$779,030**	**$6,878,517**
Average	**$414,378**	**$296,350**	**$11,267**	**$113,790**	**$180,796**	**$129,838**	**$1,146,420**
Overall costs	**$5,014,708**				**$1,084,77**	**$779,039**	
Percentage	**73%**				**16%**	**11%**	

At the District level, 73% of the revenues from hunting are channelled towards administration, law enforcement, compensation and general management while limited funds are used to support social services (16%).

6. WARD EXPENDITURE AND COMMUNITY BENEFITS

	Administration costs					Community Benefits				
	Meetings & Admin	Wages/salaries	Compensation schemes	Management activities	Project Management Costs	Social services	Food security	Direct cash benefits	Other	Total
Total	**$553,260**	**$815,639**	**$56,432**	**$312,178**	**$345,762**	**$2,468,216**	**$223,659**	**$216,077**	**$139,565**	**$5,302,709**
Overall costs	**$2,083,271**					**$2,907,952**			**$139,565**	
Percentage	**39%**					**55%**				

At the Ward level, where communities are directly involved, the tendency is to channel most the income towards community benefits (55%) rather than administration which is seen to be the responsibility of the local government. This means that the bulk of the income from hunting is used to support social services such as schools, clinics, irrigation schemes etc. where the impact at the community level (village, household) is far greater (Figure 6).

Figure 6: Bhemba Clinic in Ward 2 of the Tsholotsho Communal Area (top) and Masera Secondary School (Beitbridge, bottom) that are supported by funds generated through the CAMPFIRE programme

Lessons learnt

1. Quota utilisation of lion (32%) is low in CAMPFIRE areas, equating to 8 lion/year.

2. Trophy fees from key species (elephant, lion etc.) contributed $1,845,231/year to CAMPFIRE revenues:
    a. Elephant (64%) and buffalo (20%) are major contributors
    b. Lion and leopard contribute 7%

3. Income from the sale of safaris generate approximately $2,802,077/year
    a. Hunters from USA contribute 51% and Europe 31% of this income.

4. Income to Districts from a variety of wildlife related revenue streams is approximately $2,510,783/year:
    a. Trophy fees are responsible for 74% of this income, of which lion play a small role.
    b. Fees from photographic tourism are responsible for 5%.

5. Wards receive $5,830,244 (57%) from district trophy fees. These revenues are used to support a variety of social services that benefit a large proportion of the local community.

The cessation of import of lion (and elephant) trophies into the USA has had a significant impact on these revenue streams and consequently on the benefits reaching communities at the local level. These revenues cannot be replaced through alternative revenue streams.

7 Management and Administration of the Safari Hunting Industry in Zimbabwe

7.1 Performance of the industry

To fully account for earnings in the Hunting Sector, the Reserve Bank of Zimbabwe, in collaboration with all the relevant stakeholders, introduced the Tourism Receipts Accounting System (TRAS2) in January 2015. The TRAS2 is a web-based system which links Safari Operators, Zimbabwe Parks and Wildlife Management Authority, Taxidermists, Shipping Agents, International Marketing Agents and Reserve Bank for the purposes of authorizing hunts, capturing hunting data, monitoring hunting quota utilization and tracking hunted trophies.

On an annual basis, Exchange Control Division of the Reserve Bank of Zimbabwe attends the SCI Conventions to achieve the following objectives: -

1. To assess regional price differentials of same hunts at the SCI Convention and the reasons thereof;
2. To present Form TRAS2 systems updates to the users including international marketing agents;
3. To engage international marketing agents of sport-hunting (standardised international marketing agreements, payment arrangements and follow up on overdue export receipts);
4. To obtain relevant insights on governing of the hunting sector; and
5. To come up with an effective mechanism to fully account for export proceeds from the hunting sector.

7.1.1 Global earnings of the industry

The TRAS2 system was introduced in January 2014, and has since recorded a total of $44.6 million ($18.9 million in 2015 compared to $25.9 million in 2014) as shown in Figure 7. The figures are inclusive of daily rates, trophy fees and other incidental revenue. In line with other regional

countries offering safari hunting, the market is dominated by the USA (59%) and Europe (25%) with the remainder of the market taken by the Americas (Canada, Argentina etc.), Asia, Africa, Oceania and Africa (mostly South Africa). Appendix III illustrates the distribution of total hunting revenue by country of destination (Chitauro, 2016).

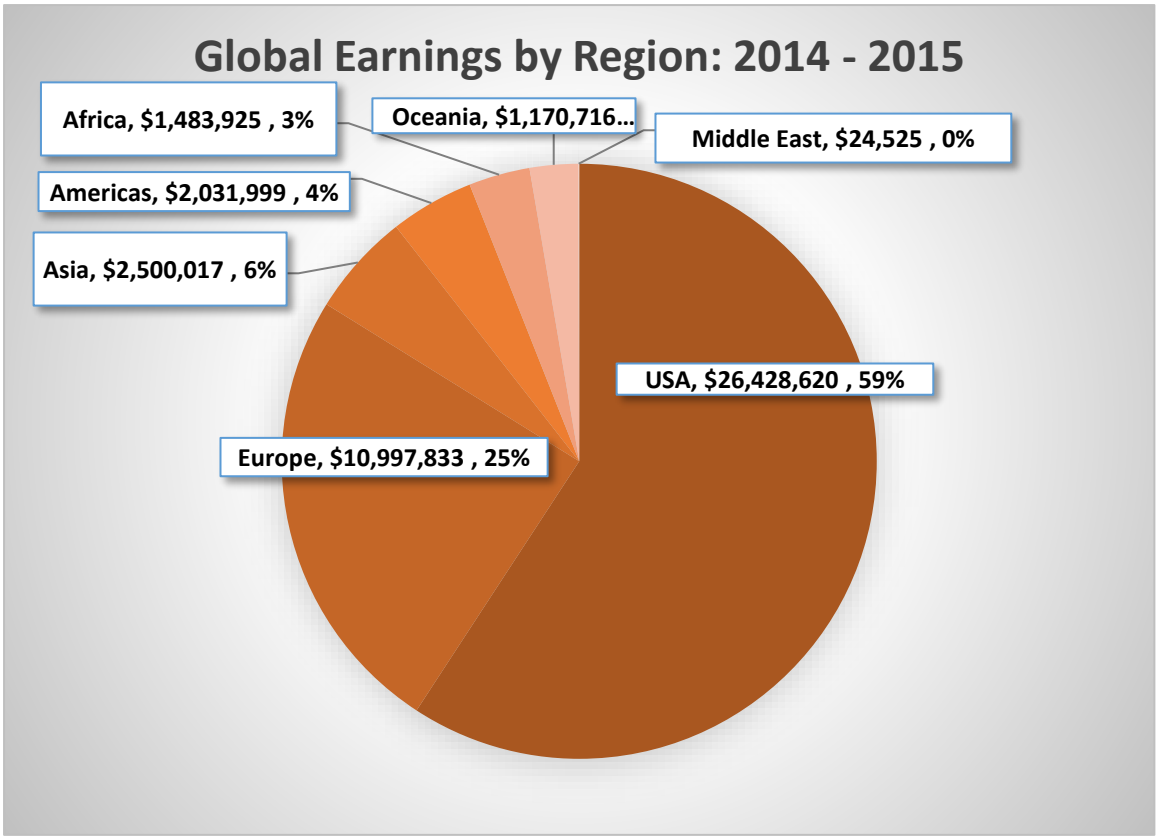


Figure 7: Breakdown of source of hunting income (2014 and 2015) from various regions in the world (adapted from Computerised Exports Payments Exchange Control System, CEPECS - TRAS2)

7.1.2 Quota allocation, Utilisation and Total Trophy Fees Earned

The total income from the sale of trophies in 2014 and 2015 is shown in Table 18. The income in 2015 (US$8.2 million) is less than that in 2014 (US$11.1 million) because of the import restrictions of elephant and lion into the USA.

Table 18 also provides data on the quotas allocated in 2015 and the number of level of utilisation. The complete list of species is provided in Appendix III (Chitauro, 2016). These data show that levels of utilisation for all species varies from 10 – 40% for most mammals and far less for birds etc.

Table 18: Summary of the revenue generated from the 11 most common species utilised for hunting, and the percentage utilisation in 2015 (adapted from Computerised Exports Payments Exchange Control System, CEPECS - TRAS2)

Species	2014	2015	Total	2015 Quota	Utilised	% Utilised
Buffalo	$2,528,559	$1,962,570	$4,491,129	1,635	482	29%
Elephant (Tusks)	$2,042,610	$1,447,090	$3,489,700	246	64	26%
Elephant (Tuskless)	$1,444,040	$229,860	$1,673,900	462	113	24%

Species	2014	2015	Total	2015 Quota	Utilised	% Utilised
Lion	**$630,950**	**$753,000**	**$1,383,950**	**82**	**49**	**59%**
Leopard	$714,100	$668,490	$1,382,590	530	151	28%
Zebra	$594,239	$555,744	$1,149,983	2,480	600	24%
Sable	$456,615	$309,260	$765,875	718	78	11%
Kudu	$341,092	$357,963	$699,055	2,503	289	12%
Waterbuck	$293,903	$256,133	$550,036	988	156	16%
Hippo	$310,321	$217,470	$527,791	303	83	27%
Impala	$277,198	$242,624	$519,822	8,594	1,261	15%
Other Species	$1,465,560	$1,287,845	$2,753,405			
Grand Total	**$11,099,187**	**$8,288,049**	**$19,387,236**			

7.1.3 Total trophy fees generated by land category

The ZPWMA allocated quotes to all owners and occupiers of land in terms of SI 26. Any person utilising wildlife on these properties is required to submit a TRAS2 form to process any export of trophies and other animal products. Approximately 262 companies/properties submitted returns in 2014 and 2015. From these data, it is possible to determine the income generated from trophy fees and daily rates per company. To protect the privacy of the individual companies, these data have been arranged to show the level of income generated by different land categories from trophy fees (Figure 8),

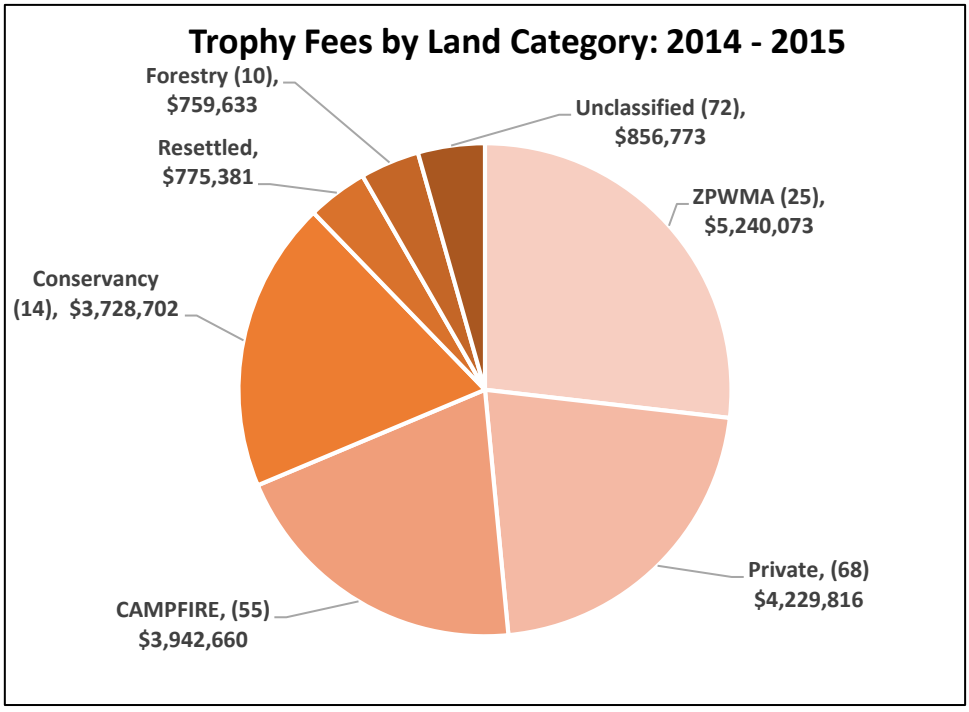


Figure 8: Hunting Trophy Fee Earnings by Land Categories (2014 - 2015). Note that from the description provided in the database, it was not possible to allocate some individual properties to a specific category. These have been recorded as unclassified (adapted from Computerised Exports Payments Exchange Control System, CEPECS - TRAS2).

Overall, approximately US$10.7 million was generated in 2014 and US$8.7 million in 2015 from the 62 species on offer. The ZPWMA represented by 25 properties that it either offers on tender to the private sector or operates as hunting areas itself generated the largest income from trophy fee sales

(US$5.2 million). The 14 Conservancies accounted for US$3.7 million while the 68 private properties are recorded as generating US$4.2 million. The CAMPFIRE areas (N=55) generated US$3.9 million.

Together with the income from daily rates (US$13,190,372 in 2014 and US$9,684,396 in 2015 (gross US$22,874,768), extracted from Computerised Exports Payments Exchange Control System, CEPECS - TRAS2), these funds are used to pay for several operational expenses including employment, law enforcement, administration and management.

7.5 Quota Setting Process

The process for quota setting follows procedures agreed to by all stakeholders (ZPWMA, 2014).

- Step 1: Allocate existing quota to each block/hunting area

The starting point for implementation of age-restrictions and adaptive quota management was to allocate existing lion quotas. This quota would then be managed adaptively in line with the age of lions hunted. In future, it is envisaged that fixed quotas for lions would fall away as quotas would be based on the age of lions hunted in the previous year.

- Step 2: Hunters complete and submit return forms and photos after each lion hunt

The data would be compiled into a database by a ZPWMA representative (currently Ms Roseline Mandisodza-Chikerema, Senior Ecologist, ZPWMA). Export permits for trophies will not be issued unless completed hunt return forms (all the required photographs and the first upper premolar) is provided to ZPWMA for aging and monitoring purposes. Furthermore, because the following year's quotas will be based on the ages of the lions hunted in the current year, operators must submit their lion hunt returns and photographs soon after the hunt. At the end of the season, all the teeth would be taken to a dentist to have x-rays conducted to allow for measurement of the size of the pulp cavity.

- Step 3: ZPWMA and Panel of experts assign an age value to each lion trophy

Lion trophies will be aged by ZPWMA, with input from lion scientists and representatives from the hunting industry at a trophy aging session. This is conducted at the end of each hunting season.

- Step 4: Calculate the next years' quotas based on a points system for the ages of lions hunted

A quota setting meeting is held where lion quotas are established for each area based on the age of lions hunted in those areas the year before. This programme commenced in 2014, and so the ages of lions hunted in 2014 will affect the lion quotas in 2015. Table 19 summaries the trend in lion quota allocations since 2002 while Table 12 provides a detailed overview of the lion trophies taken in 2015.

Table 19: Summary of lion quota allocations and offtake since 2002 (Data provided by ZPWMA)

Year	Lion Allocated Quotas	Female Offtake	Male Offtake	% Utilisation
2002	126	22	49	56%
2003	138	5	11	6%
2004	155	4	9	8%
2005	108	3	20	21%
2006	124	1	17	14%

Year	Lion Allocated Quotas	Female Offtake	Male Offtake	% Utilisation
2007	117	0	9	7%
2008	90	0	17	18%
2009	111	0	9	8%
2010	98	12	30	43%
2011	121	20	38	48%
2012	101	18	27	44%
2013	101	1	34	34%
2014	101	0	37	26%
2015	82	0	49	60%
2016	81	0	33	41%

Table 20: Analysis of lion trophies taken on various properties in 2015

Hunting Area Name	Sex	Killed Wounded	Grid Ref	Date Shot	Trophy Size
Sapi Area	M	KILLED	35l0783	03/06/2015	
Matetsi Safari Area - Unit 3	M	KILLED	307551	05/04/2015	61.31
Antoinette & Antoinette Extension	M	KILLED	187159	02/07/2015	26 7/16"
Tsholotsho District Area 2-South	M	KILLED	S1926181 E02652250	27/10/2015	25 6/8 inches
Hurungwe Safari Area - Rifa	M	KILLED	35K178113	10/05/2015	24.5
Deka Tail	M	KILLED	651 480	10/04/2015	60.38 cm
Hurungwe Safari Area - Nyakasanga	M	KILLED	s15.56.457 e029.15.584	07/06/2015	26
Msaise	M	KILLED	VN204700	14/05/2015	23
Mapari	M	KILLED	VN798124	09/06/2015	23SCI
Ngamo/Sikumi	M	KILLED	456923	09/05/2015	
Deka Safari Area	M	KILLED	278493	26/06/2015	61.5
Mbire (Guruve) South Area 2	M	KILLED	919056	09/08/2015	25.3
Bubye Valley Conservancy	M	KILLED	0194090 7625410	21/02/2015	25"
Bubye Valley Conservancy	M	KILLED	9337	29/03/2015	26"
Bubye Valley Conservancy	M	KILLED	31129	07/04/2015	25
Woodlands Farm	M	KILLED	644972	22/05/2015	25"
Bubye Valley Conservancy	M	KILLED	35K 453 159	10/05/2015	23.625
Bubye Valley Conservancy	M	KILLED	36K 908 852	25/04/2015	25"
Chewore Safari Area - North	M	KILLED	TT015643	05/06/2015	25
Bubye Valley Conservancy	M	KILLED	36K 227 593	12/05/2015	26"
Matetsi Safari Area - Unit 4	M	KILLED	4.05E+12	09/06/2015	24
Matetsi Safari Area - Unit 5	M	KILLED	865505	09/06/2015	25.25
Gunundwe	M	KILLED	822094	11/06/2015	
Bubye Valley Conservancy	M	KILLED	36K 004 971	24/06/2015	25.5625

Hunting Area Name	Sex	Killed Wounded	Grid Ref	Date Shot	Trophy Size
Bubye Valley Conservancy	M	KILLED	942 151	25/06/2015	12
Kusile District Area 1	M	KILLED	S185604.9 E0271547.4	02/07/2015	
Mokore Ranch	M	KILLED	VN110030	15/07/2015	15"
Bubye Valley Conservancy	M	KILLED	36K 229 607	29/07/2015	26"
Bubye Valley Conservancy	M	KILLED	191 623	25/07/2015	27.0625
Nyaminyami District Area 2 (Omay)	M	KILLED	657019PM	18/07/2015	24 1/8"
Matetsi Safari Area - Unit 5	M	KILLED	862 451	15/07/2015	25 8/16 inches
Matendere	M	KILLED	781021	26/07/2015	23.875
Matetsi Safari Area - Unit 1	M	KILLED	740726	13/08/2015	25
Bubye Valley Conservancy	M	KILLED	213 602	15/08/2015	15
Sango	M	KILLED	62691	23/08/2015	23.125
Sango	M	KILLED	320548	27/08/2015	
Dande Safari Area	M	KILLED	945352	13/10/2015	24in
Hurungwe Safari Area - Rifa	M	KILLED	35k062038	30/09/2015	25.25
Bedford	M	KILLED	190429	06/09/2015	
Ngamo/Sikumi	M	KILLED	456919	07/09/2015	
Bubye Valley Conservancy	M	KILLED	206 622	23/09/2015	26"
Hammond	M	KILLED	35k880103	17/10/2015	23.375
Kazuma/Panda Masuei	M	KILLED	s18.44144 & E025.64434	09/10/2015	
Nyaminyami District Area 1 (Omay)	M	KILLED	PM453354	13/11/2015	26"
Chewore Safari Area - South	M	KILLED	ST967260	25/10/2015	
Riverside Ranch	M	KILLED	35k227702	31/10/2015	24.78
Matetsi Safari Area - Unit 6	M	KILLED	18.06.55.68.25.22	03/12/2015	
Chewore Safari Area - South	M	KILLED	QN975310	06/12/2015	
Sapi Area	M	KILLED	Mtawatawa	11/06/2015	24"

7.6 POINTS SYSTEM FOR ADAPTIVELY MANAGING LION QUOTAS IN ZIMBABWE

The points system used to adaptively manage lion quotas has been developed following similar systems that have been implemented in Tanzania and northern Mozambique. The systems that are in place in Tanzania and Niassa differ slightly, but both lion quotas are set per the age of the lions harvested during the previous hunting season (Begg and Begg, 2008; Tanzania Wildlife Division 2013). The Tanzanian system is more punitive with significant quota reductions, trophy confiscation and fines for non-compliance, whereas the Niassa system is more accommodating but nevertheless can result in quota reductions if five-year-old lions are hunted. The latter was aimed at a means of accommodating the difficulty of telling five-year-old lions apart from four year olds.

After reviewing the Tanzanian and Mozambican age restriction systems and debating possible models for application in Zimbabwe, an adaptive quota management system for lion hunting based on the ages of lions hunted was agreed on in July 2013 in Harare, Zimbabwe, during a meeting hosted

by the Zimbabwe Parks and Wildlife Management Authority (ZPWMA) and an independent non-governmental conservation organisation. The approach adopted by Zimbabwe recognises four as opposed to three key age categories (Table 21).

Table 21. Proposed points system for lion age restrictions and quota setting in Zimbabwe

	≥6 years	**No trophy**	**5 years' old**	**4 years' old**	**<4 years**	**Failure to submit hunt return/incomplete hunt returns**
For quotas of 3/more	4	3	3	2	-3	0
For quotas of 2	4	3	3	2	0	0
For quotas of 1	6	3	3	2	0	0
Quota setting process	These points are added up and divided by 3 to yield the quota for next year					

During 2013, operators were requested to submit hunt returns and photos as a trial run to get the system up and running. In 2014 operators were requested to do the same but were informed that the age of the lions hunted in 2014 would determine their lion quotas in 2015. The 2015 lion hunt results would thus also determine the 2016 quota. The key distinction of the Zimbabwean system is that the quota will not be affected if they hunt animals that are five years old. This position was adopted after considering various the population models that suggested that the hunting animals of five years of age or older is predicted to be comparatively safe from a population perspective (Whitman et al. 2007). Moreover, after reviewing aging techniques, the consensus was that professional hunters could be distinguish between lions that are five or above. The system therefore rewards operators with increased quotas if they hunt animals of six years and older, but it does not penalize them if they hunt animals of five years. Neither are they penalised if they do not shoot a lion that they have on quota, however, the quotas will be reduced if they hunt animals younger than five years or if they failed to complete hunt returns.

Lions are aged by triangulating multiple different aging characteristics, including:

- The degree of facial scarring;
- The teeth colour and degree of wear;
- The mane development (particularly regarding the shape around the ear and the mohawk);
- Through post mortem analysis of the width of the pulp cavity of the second premolar (which becomes narrower with age).

7.6.1 Results of the Adaptive Lion Quota Management System: 2013 to 2016

In 2013, only 28% of the lions hunted were 5 years or older, in 2014 that figure had risen to 49% and in 2015 to 77.3% (Figure 5). The proportion of lions hunted that were less than 5 years of age dropped overall between 2013 and 2015 (Figure 9).

In 2015 the Zimbabwe national lion hunting quota was set at 82 lions. Of this 82, only 49 were hunted in 2015, and based on the resultant score from aging the trophies, and the fact that operators chose not to hunt lions of inadequate age (see Figures 9, 10 and 11), the recommended quota for 2016 was set at 81. In 2015 there was a marked increase in the age of lions hunted. Notably, only one lion of <4 years of age was hunted and the large majority of lions were 5 years or older (Figure 9).

As was agreed upon at the 2013 lion management meeting in Harare, the CAMPFIRE areas in which lions occur are currently exempted from the age restrictions. This approach was adopted as a means of ensuring that impoverished communities obtain the opportunity to benefit from the presence of lions, recognising the potential negative impacts the species has on the livelihoods of livestock farmers.

Using these figures and estimating the average value of a lion safari at approximately US$ 80,000 then a 50% offtake would generate approximately US$ 2,800,000 annually. If management costs are approximately $150 km^2, then the lion safaris alone can support 18,600 km^2 of wildlife habitat in Zimbabwe.

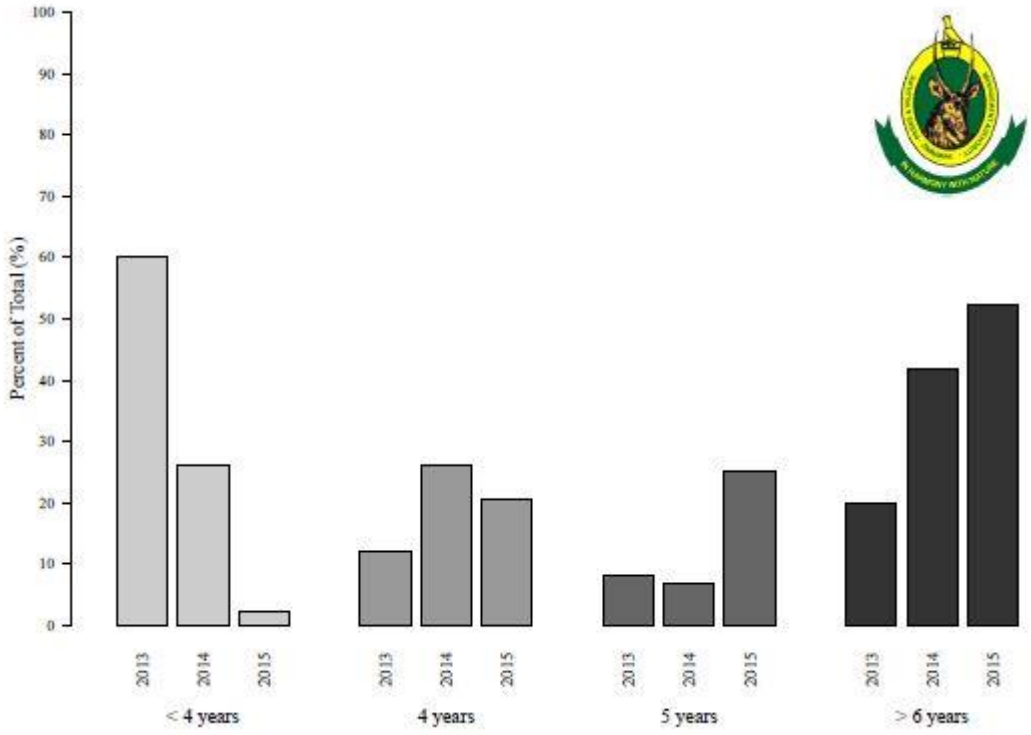


Figure 9: The percentage of lions hunted in each age class in 2013, 2014 and 2015 in Zimbabwe.

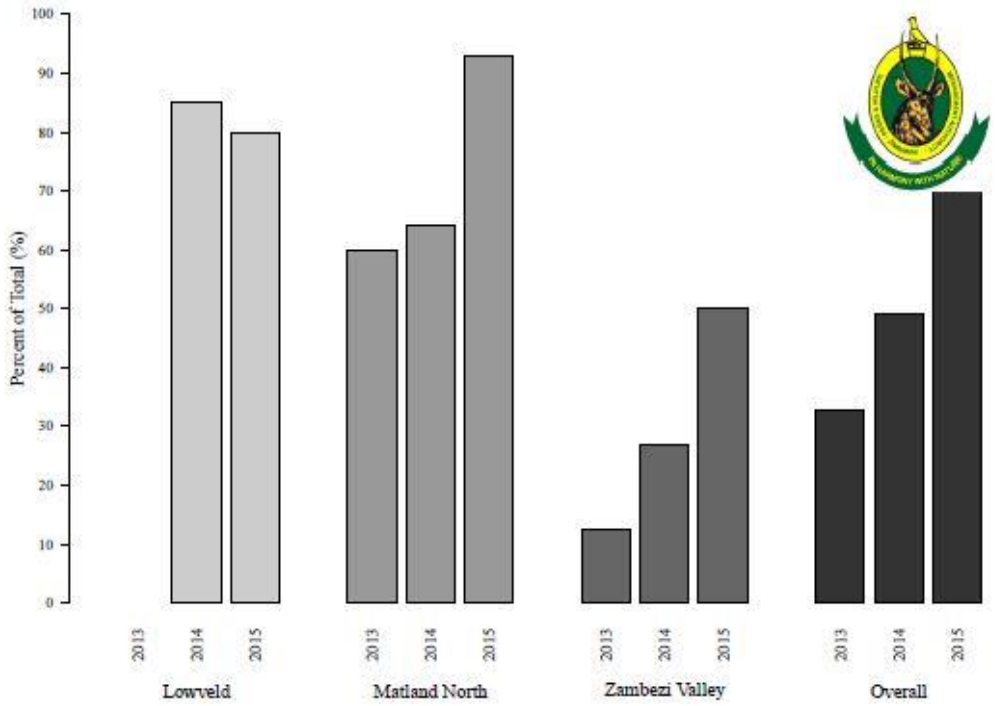


Figure 10: The proportion of lions hunted that were 5 years or older in the three main lion-hunting areas of Zimbabwe.

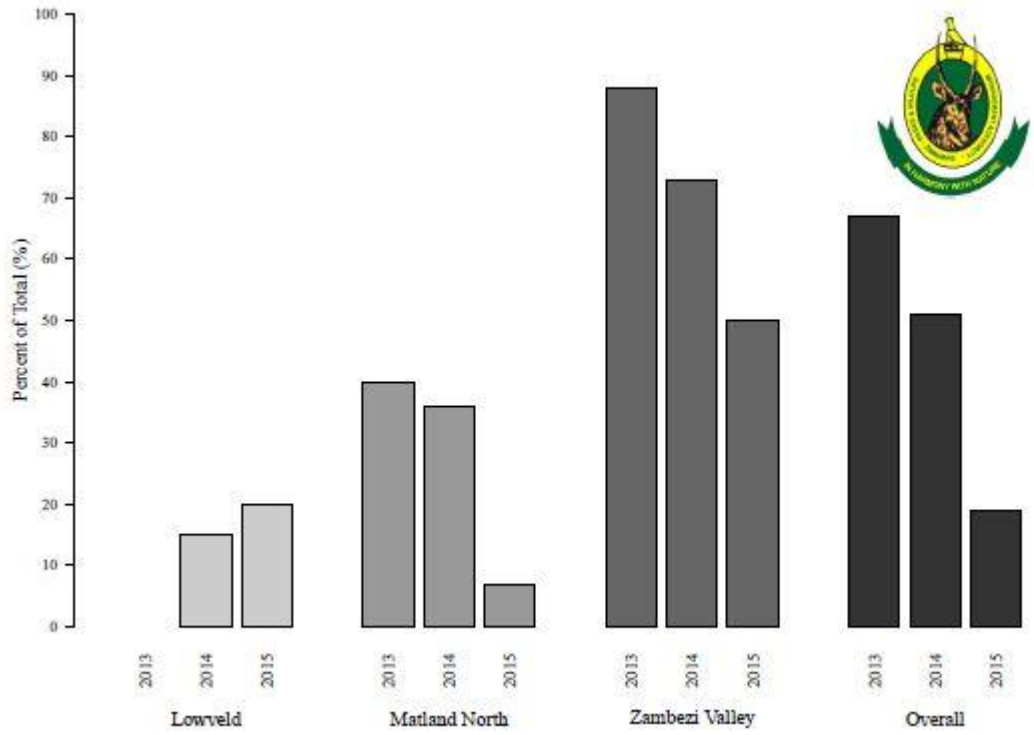


Figure 11: The proportion of lions hunted that were less than 5 years of age in the three main lion-hunting areas of Zimbabwe.

7.6.2 Case study: Safari Hunting surrounding Hwange National Park

The Hwange National Park is surrounded by hunting areas that fall under the Authority, Forestry Land, Private Land and Communal Land. The ZPWMA is responsible for setting and administrating quotas in conjunction with stakeholders for the safari areas, forestry areas, communal lands and private properties.

The Matetsi Safari Area to the north of Hwange National Park was established in the 1970s when several unsuccessful private sector mixed faming properties were expropriated, compensated and the resultant block of land turned over to safari hunting – a largely untried venture at that time on a large scale. An intensive monitoring system was set in place to gauge the effectiveness of the scheme and this continues to this day (Crossmary et al. 2013, Figure 12). The seven concessions (six given over to safari hunting) are leased on five year terms and concessionaires pay a 5 year "right to lease" fee, an annual rental, a fixed quota fee (payable if animals are shot or not) and a supplementary quota fee which allows additional animals to be bought as per need.

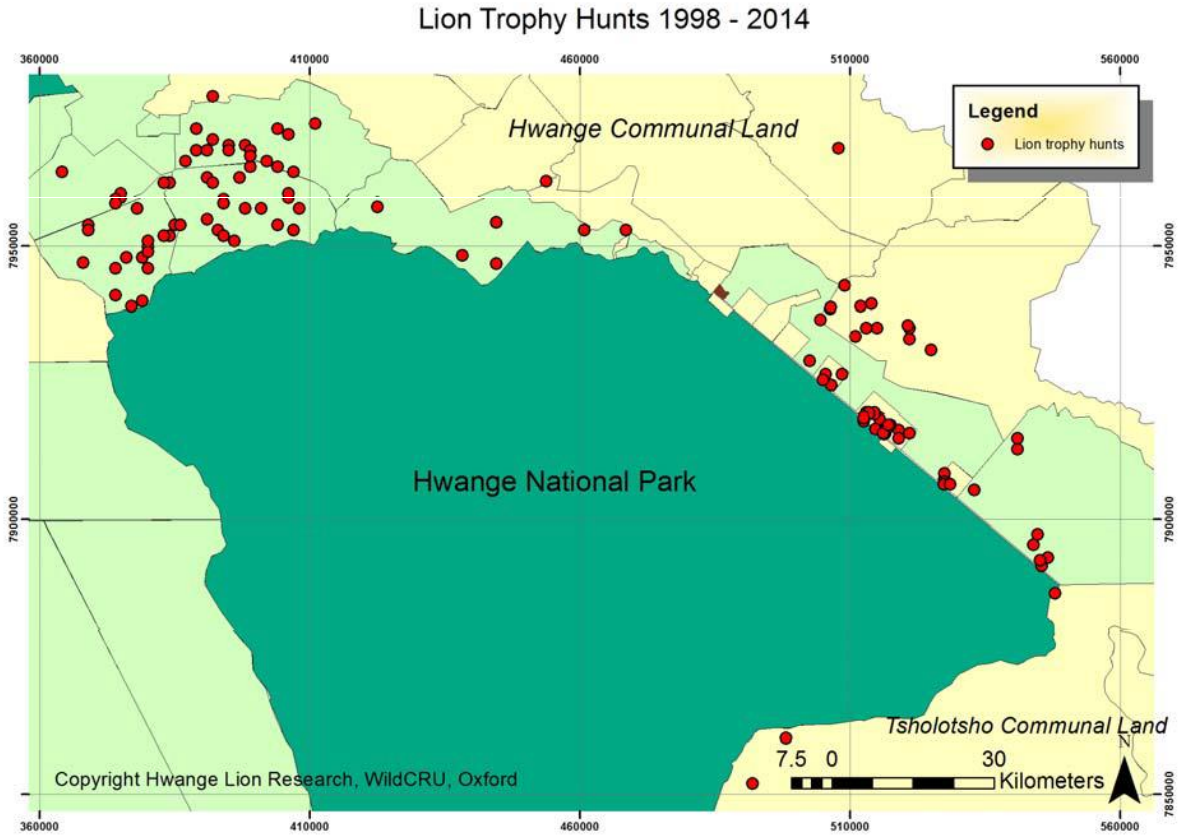


Figure 12: Record of where lion have been hunted on the land surrounding the Hwange National Park since 1998 (data extracted from the Hwange National Park Management Plan).

8 THREATS AND MITIGATION

The consensus of the scientific and animal welfare community is that the populations of lion in Africa has declined by 43% in the last two decades, with the greatest declines having occurred in west Africa. The exception to this are the populations of southern Africa, notably South Africa, Namibia, Botswana and Zimbabwe that are home to 24- 33% of the overall population has increased (Funston et. al. 2016).

Nonetheless, as is the case in other range states, the greatest threats to lion in Zimbabwe are from habitat loss, snaring and retaliatory killings where livestock are involved.

8.1 HUMAN-LION CONFLICT

The main source of illegal killing of lions is a result of Human-Lion conflict. The human population of Zimbabwe has increased since 1960 (estimated at 13 million). There is considerable pressure to convert land to agro-pastoral production, and the pressure is expected to increase. It is not unexpected therefore that the incidence of Human-Lion conflict will increase. ZPWMA records show that 200 attacks occurred on humans and 150+ on livestock (cattle, goats, sheep, dogs etc.) were killed in 2015 (see Table 13 above).

Retaliation for these livestock losses is usually done poisoning or hunting. The exact number of lions killed in this way is difficult to assess, but may number over 50/year. These indiscriminate killings pose the most significant threat to the species, and is of major concern to the management authorities. For example, the Area Manager for Hwange National Parks reported that 6 lions were killed on the Hwange National Parks boundary in 2016, and the Authority responded to several problem animal attacks on livestock.

In accordance with the Parks and Wildlife Act of 2001 when a lion attacks a human or kills livestock, it shall be eliminated. However, despite the numerous incidents reported across the country, less than 10 lions are killed through official "problem animal control" (PAC).

8.2 HABITAT LOSS

Zimbabwe supports substantial populations of lions outside of its protected areas and extensive conservancies. Moreover, despite its expanding human population, many of the protected areas are still intact however, the threat to lions from habitat loss exists in the Sebungwe and the South East Low Veld where the fragmented nature of the protected areas is compounded by an increasing human and livestock populations surrounding these areas. In these areas, habitat loss, reduction in prey populations and killing of problem lions are the major threats to long term lion survival.

Due to the large size of the protected area system in the Zambezi Valley and North West Matabeleland, threats are limited to lion range which extends into adjacent settled areas. The huge natural prey base in these protected areas, reduced killing of problem animals associated with lions preying on livestock in adjacent settled areas.

The potential and real loss of habitat and the fragmentation of range and conflicts with people in the absence of effective incentive mechanisms to maintain such habitat is probably the second greatest threat to lions after retaliatory killings. Increasing livestock numbers is reducing the available habitat in buffer areas adjacent to the protected areas, and increasing the incidents of human-lion conflicts. Lions are being more and more regarded as a liability and economic cost to rural communities. Reversing this trend is difficult under normal circumstances, and this has been made that much more difficult with the cessation of lion hunting. Integrating income from lions into rural economies, and demonstrating that lions contribute to the welfare and development of people is regarded as one strategy to mitigate against this. The involvement and empowerment of rural people in natural resource management through the CAMPFIRE programme that strives to provide economic and financial incentives through sustainable use, is one of the main driving forces behind changes in attitudes towards wildlife in communities where lion-livestock conflicts occur.

8.3 ILLEGAL TRADE IN LION PRODUCTS

Very few lions are poached in Zimbabwe (not to be confused with retaliatory killings). Records, mainly from anti-poaching reports, are for impoundment of body derivatives such as skins, teeth/claws, body

fats and bones. These may be sought after for local traditional medicinal use. Poaching mainly occurs along the boundaries of the protected areas where lions are incidentally snared as non-target prey.

The illegal trade in lions and their products (i.e. bone trade) is very insignificant. There are no records of people found in possession of illegally acquired lion specimens in Zimbabwe, and anyone found in possession of illegally acquired lion specimens is required to pay a fine US$5000 or faces a mandatory jail sentence. On conviction for lion poaching, courts may ask the accused to pay a compensation fee of US$20 000.

8.4 BUSHMEAT POACHING

Poaching for bushmeat is an important livelihood component of rural communities in Zimbabwe and a vast literature exists on this subject (see Lindsey et. al. 2015a and 2015b). Poverty stands as the major driver of illegal hunting, and the livelihoods of illegal hunters have been augmented considerably through revenue generated from bushmeat sales. Illegal hunters use bushmeat both for supplementing household protein and for economic gain.

Poaching for bushmeat does not seem to have impacted directly the overall lion's status in Zimbabwe, but more research is needed to fully understand its impact on lion. However, lions are often inadvertently caught in snares set for animals targeted by bushmeat poachers. Where possible, lions caught in snares are captured and treated (Figure 13).

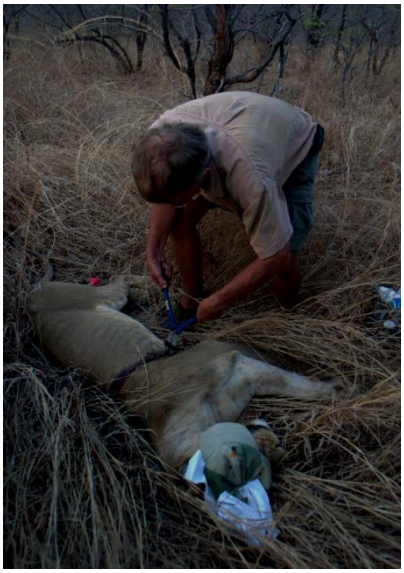


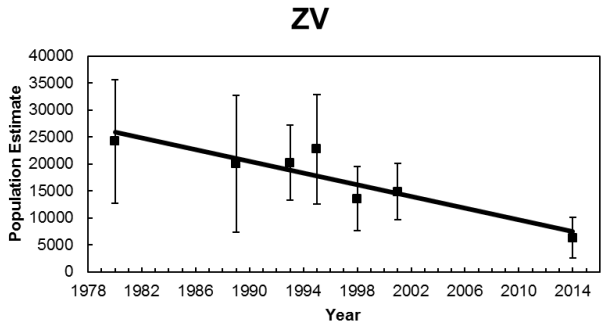
Figure 13: Young lioness being treated by the Victoria Falls Conservation Trust after a snare was removed from around the chest (Source: S. Edwards)

8.5 PREY ABUNDANCE

The extent to which bushmeat poaching outside of the Parks Estate is depleting lion's prey is not known. Prey abundance is still high in all protected areas where lions occur, and as abundance of prey species is highly correlated with lion density (Hayward et al 2007), data on the main prey species for lion, extracted from the 2014 aerial surveys of elephants and other large herbivores (Dunham et. al., 2015, 2015a, b, c, d) are shown in below (ZV = Zambezi Valley, NW Mat = North West Matabeleland).

The overall long term trends show that most population status of most prey species has declined in recent years. There are many possible explanations for these declines, but probably the most critical factor has been droughts, especially that experienced in 2005.

Buffalo


ZV
Population Estimate
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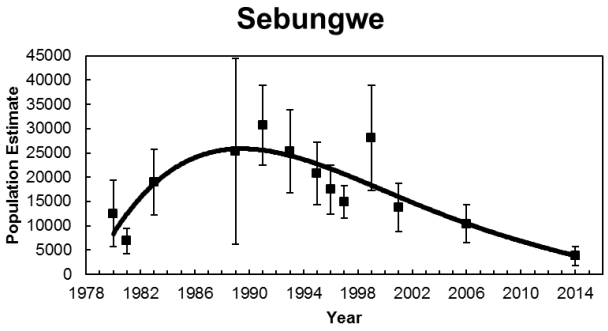
35000
30000
25000
20000
15000
10000
5000
0
1978 1982 1986 1990 1994 1998 2002 2006 2010 2014
Year


Sebungwe
Population Estimate
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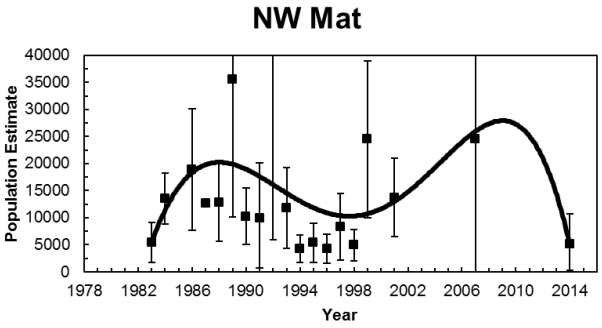
30000
25000
20000
15000
10000
5000
0
1978 1982 1986 1990 1994 1998 2002 2006 2010 2014
Year


NW Mat
Population Estimate
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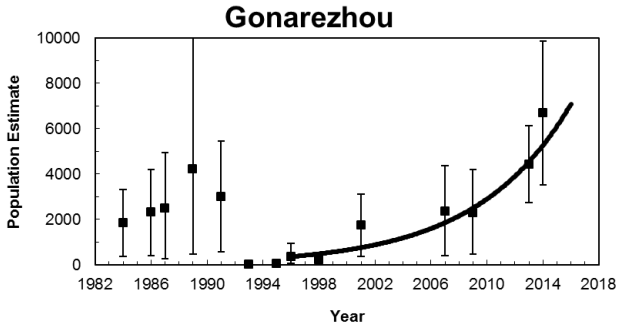
30000
25000
20000
15000
10000
5000
0
1978 1982 1986 1990 1994 1998 2002 2006 2010 2014
Year


Gonarezhou
Population Estimate
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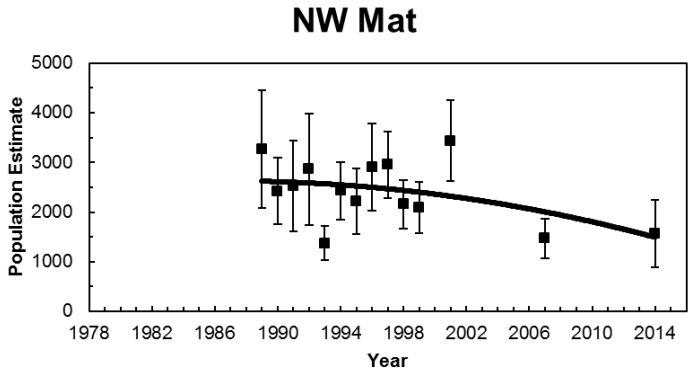
8000
6000
4000
2000
0
1982 1986 1990 1994 1998 2002 2006 2010 2014 2018
Year

Giraffe


NW Mat
Population Estimate
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1978
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2010
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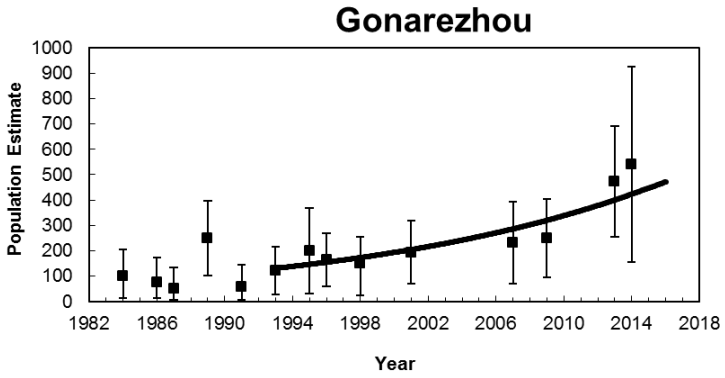
Year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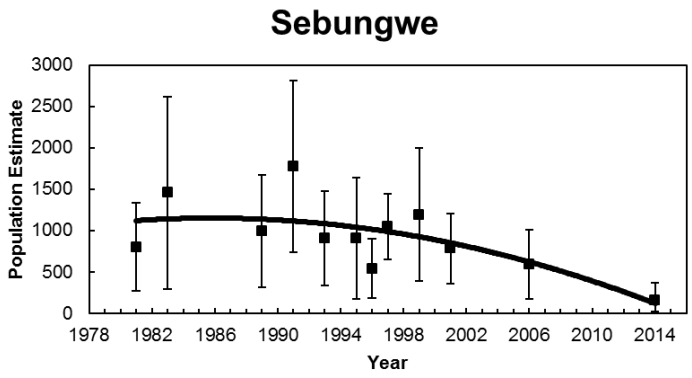
2014
2018
Year

Sable


Sebungwe
Population Estimate
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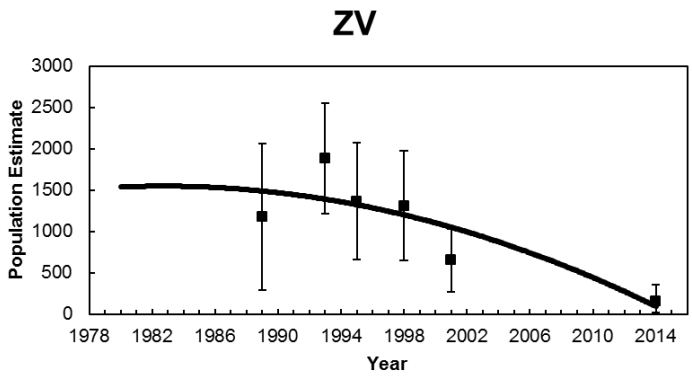
2000
1500
1000
500
0
1978 1982 1986 1990 1994 1998 2002 2006 2010 2014
Year


ZV
Population Estimate
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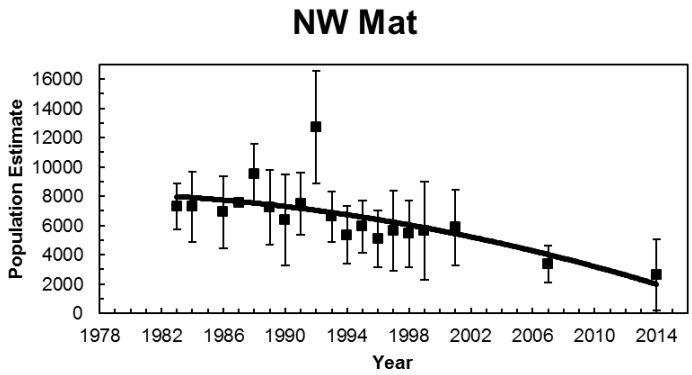
1978 1982 1986 1990 1994 1998 2002 2006 2010 2014
Year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Population Estimate
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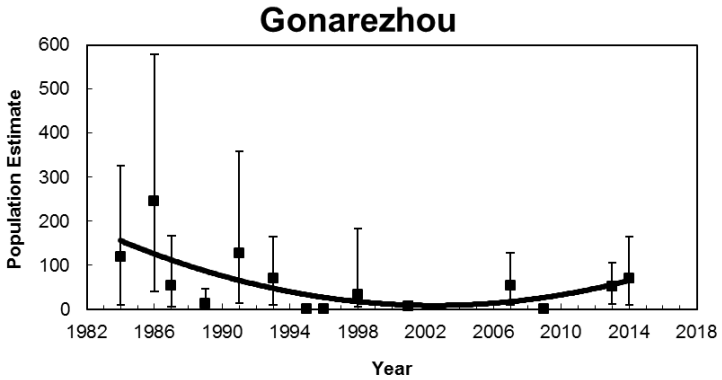
Year


Gonarezhou
Population Estimate
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400
300
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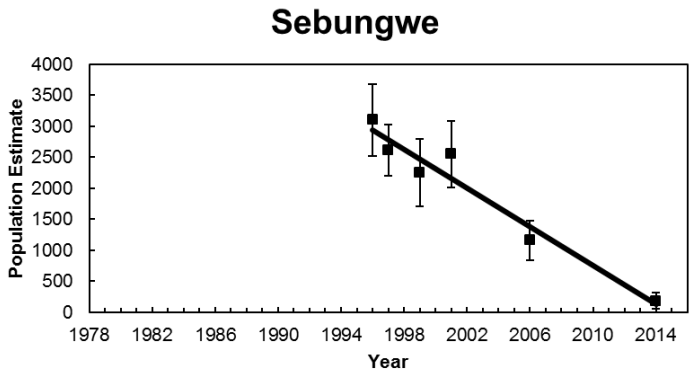
100
0
1982 1986 1990 1994 1998 2002 2006 2010 2014 2018
Year

Kudu


Sebungwe
Population Estimate
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3000
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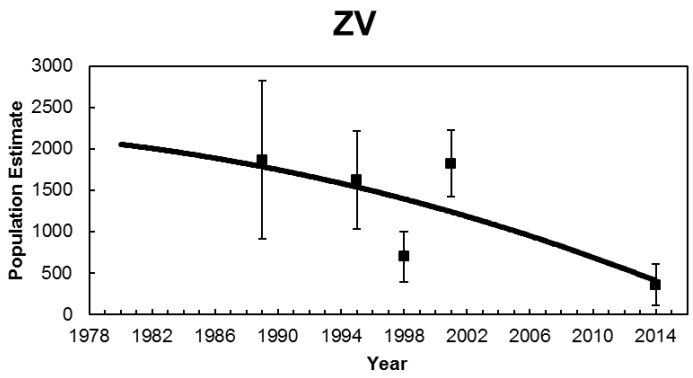
Year


ZV
Population Estimate
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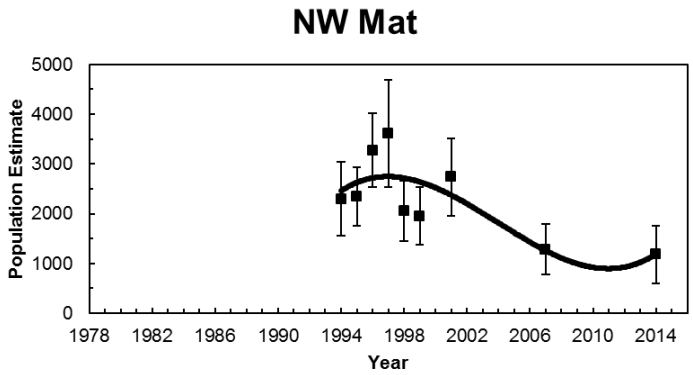
Year


NW Mat
Population Estimate
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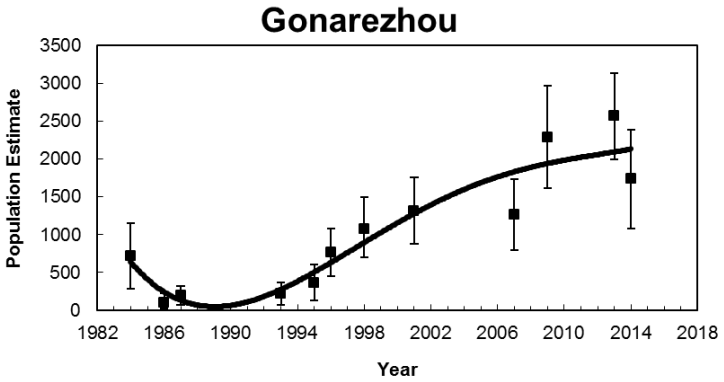
Year


Gonarezhou
Population Estimate
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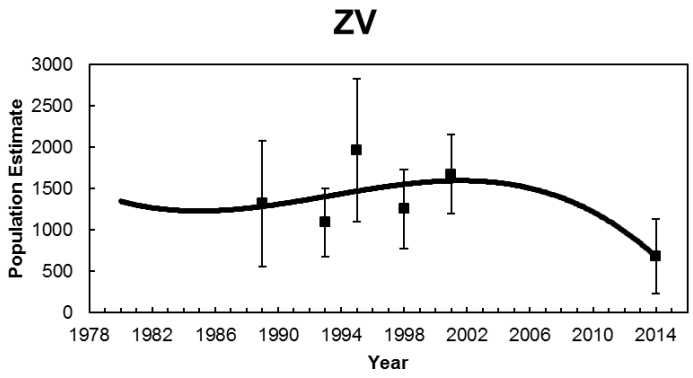
1982 1986 1990 1994 1998 2002 2006 2010 2014 2018
Year

Zebra


ZV
Population Estimate
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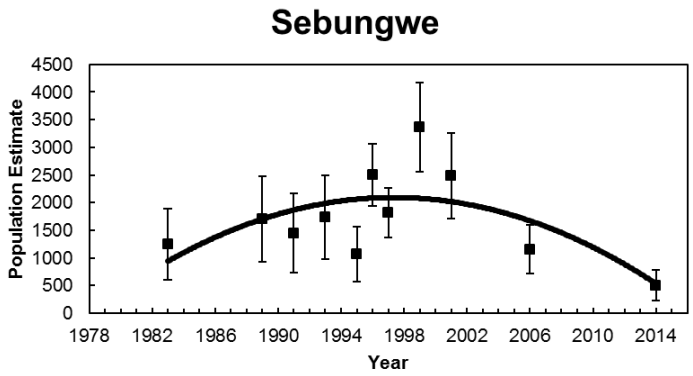
1978 1982 1986 1990 1994 1998 2002 2006 2010 2014
Year


Sebungwe
Population Estimate
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3500
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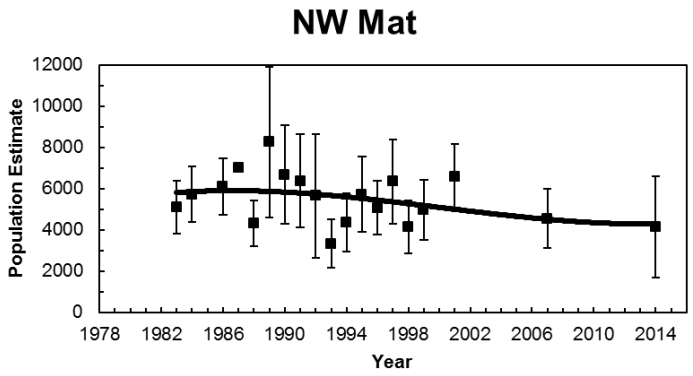
Year


NW Mat
Population Estimate
12000
10000
8000
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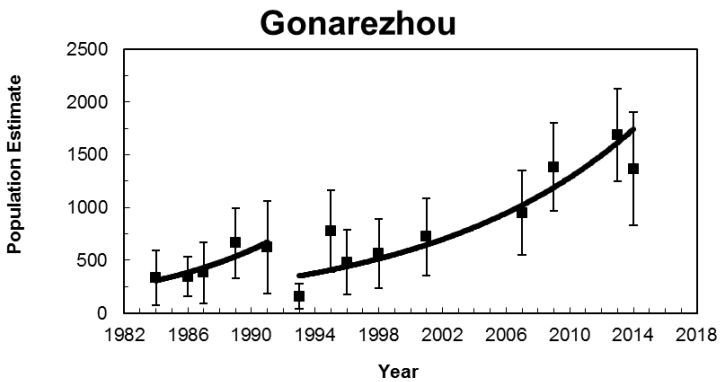
1978 1982 1986 1990 1994 1998 2002 2006 2010 2014
Year


Gonarezhou
Population Estimate
2500
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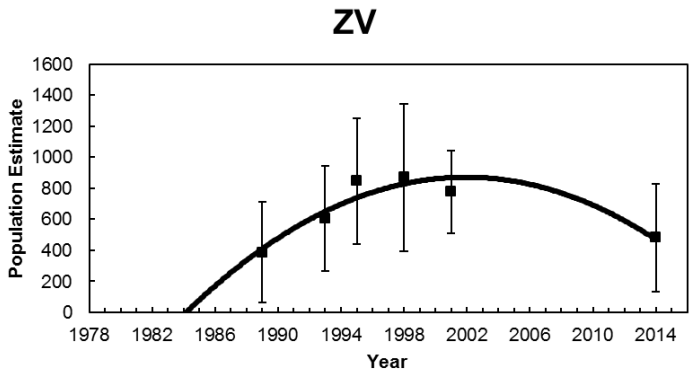
1982 1986 1990 1994 1998 2002 2006 2010 2014 2018
Year

Waterbuck


ZV
Population Estimate
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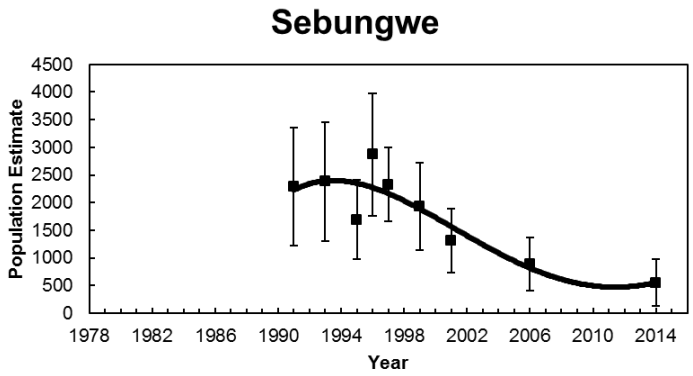
Sebungwe
Population Estimate
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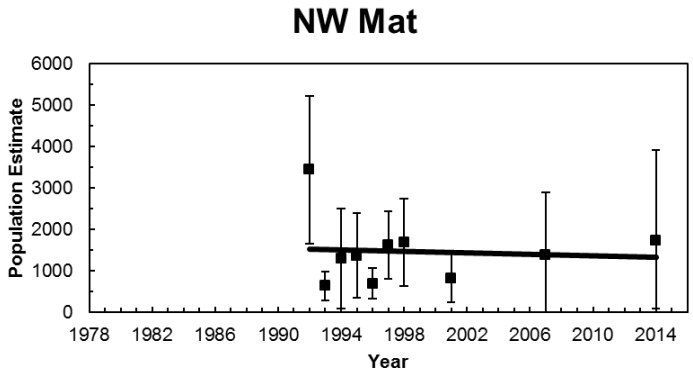
NW Mat
Population Estimate
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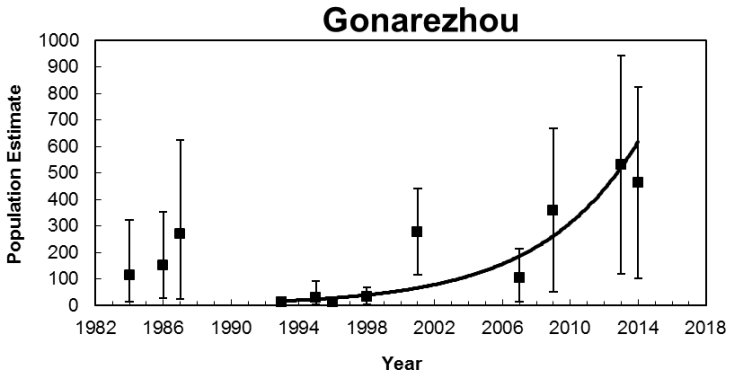
1978 1982 1986 1990 1994 1998 2002 2006 2010 2014
Year


Gonarezhou
Population Estimate
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1982 1986 1990 1994 1998 2002 2006 2010 2014 2018
Year

9 ASSESSMENT OF THE ENHANCEMENT AND NON-DETRIMENT FINDINGS

The assessment of the enhancement and non-detrimental findings for lion in Zimbabwe is presented here using the "IUCN SSC GUIDING PRINCIPLES ON TROPHY HUNTING AS A TOOL FOR CREATING CONSERVATION INCENTIVES. VER. 1.0. IUCN SSC (2012)" as a guide. Zimbabwe recognises the importance of these principles to guide and manage trophy hunting as a legal, regulated conservation activity which provides a critical tool to secure a sound social, economic and ecological conservation scenario.

Biological Sustainability: Trophy hunting can serve as a conservation tool when it:

	Principle	**Remarks**
1	***Does not contribute to long-term population declines of the hunted species or of other species sharing its habitat, noting that a sustainably harvested population may be smaller than an unharvested one***	Considering the latest available estimate of lion population size in Zimbabwe (1,800 – 2,000), trophy hunting harvests a yearly mean of 2.7% of adult male lions. This figure has decreased since the establishment of age restriction rules on lion hunting. This low offtake is sustainable and generates significant financial and other benefits to ZPWMA, Communities and Private Sector.
2	***Does not substantially alter processes of natural selection and ecosystem function; that is, it maintains "wild populations of indigenous species with adaptive gene pools." This generally requires that hunting offtake produces only minor alterations to naturally occurring demographic structure. It also requires avoidance of breeding or culling to deliberately enhance population-genetic characteristics of species subject to hunting that are inconsistent with natural selection***	Safari hunting in does not substantially alter natural selection or ecosystem processes. The limited quota, as further limited by age restrictions, ensures that hunting offtakes do not negatively affect natural processes. This age-based policy was adopted in part to mitigate any social or population impacts from limited safari hunting. (Whitman et al. 2004).
3	***Does not inadvertently facilitate poaching or illegal trade of wildlife***	Safari hunting in Zimbabwe does not facilitate poaching or illegal trade. Poaching and illegal trade in lion products is currently very low suggesting that the existence of licensed, regulated hunting is helping control poaching and not facilitating it. Hunting operators are in the frontlines against poaching, and are obligated through their concession lease agreements to assistance with anti-poaching. Operators spend significant resources on this, and work in close cooperation with the ZPWMA to combat all forms of illegal wildlife trade. Even where anti-poaching is not a legal prerequisite, operators fund their own anti-poaching teams and support government rangers and community scouts e.g. in Sengwa and Dande Safari Area

	Principle	Remarks
4	***Does not artificially and/or substantially manipulate ecosystems or their component elements in ways that are incompatible with the objective of supporting the full range of native biodiversity***	Hunting in Zimbabwe has created financial incentives for the development and retention of wildlife across Safari Areas, Forestry Areas, Communal CAMPFIRE Areas and private Conservancies thereby supporting biodiversity over 145,000km^2 where hunting is a primary land use. Hunting areas on private and communal land outside of the protected areas also serve as buffer zones for many national parks and safari areas which would be converted to other land uses if these were abandoned.

Net Conservation Benefit: Trophy hunting can serve as a conservation tool when it

	Principle	Remarks
1	***Is linked to identifiable and specific parcels of land where habitat for wildlife is a priority (albeit not necessarily the sole priority or only legitimate use); and on which the "costs of management and conservation of biological diversity [are] internalized within the area of management and reflected in the distribution of the benefits from the use"***	Zimbabwe has identified Safari Areas within the Parks Estates where maintaining habitats and wildlife populations is the priority. These gazetted protected areas cover approximately 17,000km^2 where, without safari hunting, it would be difficult to secure and maintain natural ecosystems and prey bases for lions. In addition to these areas, lion occur on 66% (approximately 11,000km^2) of the land set aside as Conservancies. The operational and law enforcement costs incurred by hunting companies on a yearly basis ranges from US$300,000 to US$500,000 per hunting concession, which includes the expense of camps, salaries, anti-poaching, fuel, community assistance, etc. Many of the government's costs of maintaining Safari Areas are transferred to the private sector through the obligations of their concession agreements. Revenues from hunting in communal CAMPFIRE areas are used to support a range of social services (e.g. schools, clinics, irrigation schemes etc.) while operators cover the costs of anti-poaching, maintenance and development, and contributions to communities living nearby (e.g. through boreholes, grinding mills etc.).

		In private hunting areas and conservancies, the costs and benefits of wildlife in the area are internalized and distributed within the area of management. Critically, most of the Conservancies have elected to manage and conserve endangered species, such as black rhino, and offset the costs of this by conducting sustainable hunting of lion and other key trophy species.
2	***Produces income, employment, and/or other benefits that generate incentives for reduction in pressures on populations of target species, and/or help justify retention, enhancement, or rehabilitation of habitats in which native biodiversity is prioritized. Benefits may create incentives for residents to co-exist with such problematic species as large carnivores, herbivores competing for grazing, or animals considered to be dangerous or a threat to the welfare of humans and their personal property***	Hunting produces direct and indirect income, employment, and other benefits that generate incentives that reduce the threats to wildlife populations. Approximately US$44 million accrued to the country from the revenues of trophy hunting over the last two years. This could have been 5% higher if it were not for restrictions on the export of elephant and lion trophies. This revenue pays for the daily wildlife conservation work in all sectors of the wildlife industry, including research projects, surveys, anti-poaching, and other services. Of this amount, approximately 20% is paid directly to the ZPWMA which is then used to support its management activities, including anti-poaching budgets. Local communities benefit from hunting income through leasing the right to hunt and the sale of trophy fees in CAMPFIRE areas as well as from voluntary contributions and meat. Over the last 6 years, payments from hunting operations generated approximately US$16 million. The nature of the hunting industry does not require large numbers of people to be employed. Nonetheless, the average hunting company employs approximately 80 people on a permanent basis and 20 on a seasonal basis. This equates to approximately 3,000 people who would not otherwise secure any form of employment because of the lack of opportunities in the remote areas where hunting takes place.
3	***Is part of a legally recognized governance system that supports conservation adequately and of a system of implementation and enforcement capable of achieving these governance objectives***	All wildlife species in Zimbabwe, including the African lion, are protected under the Parks and Wildlife Act of 1996 (Chapter 20:14) as amended by Act Number 19 of 2001 which came into operation on the 1st of June 2002 through a Statutory Instrument 144C of 2002. The Act that was originally passed by Parliament in 1975 was a unique move in Africa, if not globally, that promoted the rapid development of the country's wild life industry and lead to the partial

		extension of the principle to the Communal Lands through the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in the 1980s. The Act provided a legal basis for the devolution of Authority through granting Appropriate Authority Status to the communal areas to manage the wildlife resources for their own benefit. The Act was subsequently revised in 1996 and 2001 with the latest revision paving the way for the establishment of the current Parks and Wildlife Management Authority to replace the former Department of National Parks and Wild Life Management. Following the introduction of the Parks and Wild Life (General) (Amendment) Regulations, 1998 (No.2), i.e. Statutory Instrument 26 of 1998, the administration of the wildlife industry experienced increasing centralisation of controls on wildlife management and utilisation on alienated and communal land. The Parks and Wildlife Management Authority is mandated by the Parks and Wildlife Act [Chapter 20:14], with the responsibility of conserving Zimbabwe's wildlife heritage through effective, efficient and sustainable protection and utilisation of natural resources for the benefit of present and future generations. The Authority was established to allow it to retain the revenue that it generates to fund its operations and thereby reducing its dependence on Treasury. This entailed introducing a commercial dispensation and putting in place effective revenue generation and financial management systems. The ZPWMA has the mandate to manage the entire wildlife population of Zimbabwe, whether on state, private and communal land.

Socio-Economic-Cultural Benefit

	Principle	**Remarks**
1	***Is premised on appropriate resource assessments and/or monitoring of hunting indices, upon which specific quotas and hunting plans can be established through a collaborative process. Optimally, such a process should (where relevant) include local communities and draw on local/indigenous knowledge. Such resource assessments (examples might include counts or indices of population performance***	Zimbabwe implements an adaptive quota setting quota system that uses inputs from monitoring data and input from a variety of stakeholders including ZPWMA field and research staff, local communities, hunting operators, and independent biologists. Quotas are set based on population estimates or trend analyses, monitoring data, hunt return data, research work and indices as may be reflected in various reports by field personnel.

	such as sighting frequencies, spoor counts) or hunting indices (examples might include trophy size, animal age, hunting success rates and catch per hunting effort) are objective, well documented, and use the best science and technology feasible and appropriate given the circumstances and available resources	For lions, specifically, the ZPWMA together with the Safari Operators Association (SOAZ), the Zimbabwe Professional Hunters Association (ZPHGA) and invited independent scientists (such as Panthera) review the returns from the current hunting season and assign points as per the lion aging criteria. The overall quotas allocated and actual offtake have been reduced in recent years as a precautionary measure, including implementing moratoriums in some regions where lion densities have declined. These measures, i.e., age, population trends, maximum overall numbers and levels of utilisation has resulted in lower quotas thus underlining Zimbabwe's commitment to sustainable hunting.
2	***Involves adaptive management of hunting quotas and plans in line with results of resource assessments and/or monitoring of indices, ensuring quotas are adjusted in line with changes in the resource base (caused by ecological changes, weather patterns, or anthropogenic impacts, including hunting offtake)***	Quotas are set adaptively in line with the results of monitoring trends and on regulatory compliance. If an underage lion is harvested, the quota for that area is removed in the next season to allow the population to age and to penalize the non-compliance. In this way, Zimbabwe ensures responsible and sustainable offtakes that have limited impact on the lion population.
3	***Is based on laws, regulations, and quotas (preferably established with local input) that are transparent and clear, and are periodically reviewed and updated***	Safari hunting in Zimbabwe is regulated through the National Parks and Wildlife Act and supporting Regulations that specify when, where and how animals are hunted. Both the professional hunters and the hunting client are licensed in terms of these regulations, and all returns are lodged electronically and tracked through the Reserve Bank TRAS-2 system. As described above, quotas are established in a transparent and participatory way.
4	***Monitors hunting activities to verify that quotas and sex/age restrictions of harvested animals are being met***	The monitoring of the lion hunting is carried out through the implementation of a specific database and a specific safari return form. All hunting permits issued by (and compulsorily returned to) the ZPWMA are registered on a specific database that has been developed under the auspices of the Exchange Control Division of the Reserve Bank that records all parameters related to hunting safaris, including records of lion hunting. The database is accessible to the ZPWMA who can extract reports on all lion hunting activities for all areas in the country. Since 2013, all professional hunters conducting lion hunting safaris are required to fill in the return form for both successful and unsuccessful safaris that

		captures a broad range of general information on the safari (client name, duration, date, payments etc. For the successful lion hunting safaris, additional information related to hunting effort and success, trophy skull measures (total length and width) and specified photographs are taken of the physical features (mane etc.) and upper and lower jaws. These return forms and trophy photographs are compulsory. No CITES export permit can be issued without compliance. All data forms are reviewed by the ZPWMA together with a committee appointed by the SOAZ and ZPHGA to ensure the offtakes and subsequent exports are not detrimental to the survival of the species. Zimbabwe also requires that a ZPWMA ranger accompany all lion safaris both on state land and private land.
5	***Produces reliable and periodic documentation of its biological sustainability and conservation benefits (if this is not already produced by existing reporting mechanisms).***	The Exchange Control Division of the Reserve Bank publishes a detailed report that summarises all data related to sport hunting. This includes country of origin of clients, gross income from daily rates and trophy fees (by company), average trophy and safari values, and the contribution of key species to the overall income generated through hunting. The ZPWMA also produces annual reports that highlight the performance of the hunting industry, listing the challenges that it faces. It also submits periodic reports to CITES.

Accountable and Effective Governance

	Principle	**Remarks**
1	***Is subject to a governance structure that clearly allocates management responsibilities***	The governance structure is described in the Parks and Wildlife Act and its subsidiary regulations that clearly provides for institutional arrangements and administration defining the management responsibilities within the relevant Government Authority.
2	***Accounts for revenues in a transparent manner and distributes net revenues to conservation and community beneficiaries according to properly agreed decisions;***	The equitable distribution of costs and benefits take into consideration the role of stakeholders in relation to the land category. Benefit sharing to communities under the CAMPFIRE programme is determined through an approved ratio that channels 55% of all income from hunting to the Ward level. This institution is monitored at the local level by the Rural District Councils that guide Ward

		Wildlife Committees with respect to community projects and services. At national level this is monitored by Ministry of Rural Development, Preservation and Promotion of Culture and Heritage Safari operators contribute substantially and voluntarily, over and above the prescribed fixed contribution, especially where this involves anti-poaching efforts and community developments. They provide funding, equipment and the technical expertise for repairs, transportation, and other social services (schools, boreholes). In addition, hunting companies collaborate with both ZPWMA and District anti-poaching teams to remove snares, participate in serious wildlife crime investigations and arrest poachers.
3	***Takes all necessary steps to eliminate corruption;***	Anti-corruption efforts in Zimbabwe are governed by the following legislation: • The Prevention of Corruption Act (1983); • Public Service Act (1995); • The Ombudsperson Amendment Act (1997); • Anti-Corruption Commission Bill (2004); • The Criminal law (Codification and Reform) Act (2004); • Bank Use Promotion and Suppression of Money Laundering Act (2004); • Criminal Procedure and Evidence Amendment Act (2004); and • Criminal Law (Codification and Reform) Act of 2006 The Zimbabwean Anti-Corruption Commission (ACC) was established after the passing of the Anti-Corruption Commission Bill in June 2004. The Commission is a signatory to the Southern Africa Development Community (SADC) Protocol as well as the African Union (AU) and United Nations Convention on Anti-Corruption.
4	***Ensures compliance with all relevant national and international requirements and regulations by relevant bodies such as administrators, regulators and hunters.***	The CITES Management Authority of Zimbabwe, the ZPWMA, ensures compliance of safari hunting to CITES guidelines and provisions.

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11 APPENDICES

11.1 ANNEX I: SUMMARY OF NATIONAL PARKS ESTATE, FORESTRY, COMMUNAL AND PRIVATE LAND WHERE LION ARE KNOWN TO OCCUR

1. National Parks Estate

Type of Land	Name of Park	District	Area (hectares)	Presence of lion
NP	Chizarira	Binga	191,000	Yes
NP	Gonarezhou	Chiredzi	505,000	Yes
NP	Matusadonha	Nyaminyami	140,700	Yes
NP	Chimanimani	Chimanimani	17,110	No
NP	Mana Pools	Hurungwe	219,600	Yes
NP	Kazuma Pan	Hwange	31,300	Yes
NP	Hwange	Hwange	1,465,100	Yes
NP	Victoria Falls "A"	Hwange	1,904	No
NP	Victoria Falls "B"	Hwange	436	No
NP	Zambezi	Hwange	56,010	Yes
NP	Rhodes Nyanga	Nyanga	47,150	Migratory
NP	Rhodes Matopos	Matobo	42,400	No
Total Area National Parks (ha)			**2,717,710**	
Botanical Gardens	Pioneer Reserve	Beitbridge	38	No
Botanical Gardens	Tolo River Reserve	Beitbridge	44	No
Botanical Gardens	South Camp Reserve	Beitbridge	26	No
Botanical Gardens	Chisekera Hot Springs	Chiredzi	95	No
Botanical Gardens	Mawari Raphia Palm	Mt. Darwin	34	No
Botanical Gardens	Tingwa Raphia Pan	Mt. Darwin	290	No
Botanical Gardens	Haroni Forest	Chimanimani	20	No
Botanical Gardens	Rusitu Forest	Chimanimani	150	No
Botanical Gardens	Sebakwe Acacia Karoo	Kwekwe	60	No
Botanical Gardens	Sebakwe Great Dyke	Kwekwe	165	No
Botanical Gardens	Sebakwe Mountain Acacia	Kwekwe	53	No
Botanical Gardens	Mazowe "A"	Harare	43	No
Botanical Gardens	Mazowe "B"	Harare	3	No
Botanical Gardens	Bunga Forest	Mutare	495	No
Botanical Gardens	National Botanic Garden	Harare	67	No

Type of Land	Name of Park	District	Area (hectares)	Presence of lion
Botanical Gardens	Vumba Botanic Garden	Mutare	200	No
Botanical Gardens	Ewanrigg Botanic Garden	Goromonzi	286	No
Total Area of Botanical Gardens and Botanical Reserves:			**2,069**	
Sanctuary	Maninii Pan	Chiredzi	300	No
Sanctuary	Melsetter Eland	Chimanimani	1,800	No
Sanctuary	Mbaze Pan	Nkayi	40	No
Sanctuary	Nyamanyetsi (Nyamanechi)	Guruve	2,840	No
Sanctuary	Mushandike	Masvingo	12,900	No
Sanctuary	Rhodes - Bulawayo	Matobo	1,100	No
Total Area Sanctuaries			**18,980**	
Safari Area	Tuli	Beitbridge and Gwanda	41,600	Yes
Safari Area	Chete	Binga	108,100	Yes
Safari Area	Chipinga (Chipinge)	Chipinge	26,100	No
Safari Area	Malapati (Malipati)	Chiredzi	15,400	Yes
Safari Area	Chinsa	Gokwe	171,300	Yes
Safari Area	Hartley (Chegutu)	Chegutu	44,500	No
Safari Area	Charara	Kariba and Hurungwe	169,200	Yes
Safari Area	Hurungwe	Hurungwe	289,400	Yes
Safari Area	Doma	Makonde	94,500	Yes
Safari Area	Umfurudzi	Shamva	76,000	No
Safari Area	Dande	Guruve	52,300	Yes
Safari Area	Chelvore (Chewore)	Hurungwe	339,000	Yes
Safari Area	Sapi	Hurungwe	118,000	Yes
Safari Area	Deka	Hwange	51,000	Yes
Safari Area	Matetsi	Hwange	295,500	Yes
Total Area of Safari Areas:			**1,891,900**	
Recreational	Chibwatata	Binga	6	No
Recreational	Kavira	Binga	50	No
Recreational	Lake Kariba	Binga, Nyaminyami and Hwange	287,200	Yes

Type of Land	Name of Park	District	Area (hectares)	Presence of lion
Recreational	Ngezi	Kadoma	5,800	No
Recreational	Umfuli (Mfurudzi	Chegutu	12,700	No
Recreational	Lake Robertson (Manyame Lake)	Chegutu, Makonde and Harare	11,200	No
Recreational	Lake Cunningham	Insiza	4,172	No
Recreational	Chinhoyi Caves	Makonde	120	No
Recreational	Manjirenji	Zaka	3,400	No
Recreational	Bangala	Zaka and Masvingo	2,700	No
Recreational	Sebakwe	Kwekwe	2,600	No
Recreational	Robert McIlwaine (Chivero)	Harare	6,180	No
Recreational	Umzingwane	Umzingwane	1,233	No
Recreational	Kyle (Mutirikwi)	Masvingo	16,900	No
Recreational	Lake Matopos	Matobo	2,900	No
Total Area of Recreational Parks, Lakes and Dams			**357,161**	

Total Area National Parks (ha)	2,717,710
Total Area of Botanical Gardens and Botanical Reserves:	2,069
Total Area Sanctuaries	18,980
Total Area of Safari Areas:	1,891,900
Total Area of Recreational Parks, Lakes and Dams	357,161
Total Ha	**4,987,820**

2. Forestry Land

Land	Name	District	Area (ha)	Presence of lion
Forestry Areas	Fuller	Hwange	23,300	Yes
Forestry Areas	Panda Masuie	Hwange	33,500	Yes
Forestry Areas	Kazuma	Hwange	24,000	Yes
Forestry Areas	Mvutu	Hwange	2,100	No
Forestry Areas	Sikumi	Hwange	54,400	Yes
Forestry Areas	Gwayi	Lupane	144,265	Yes
Forestry Areas	Lake Alice	Lupane	39,000	No
Forestry Areas	Ngamo	Lupane	102,900	Yes

Land	Name	District	Area (ha)	Presence of lion
Forestry Areas	Chisengu	Lupane	4,006	No
Forestry Areas	Glencoe	Lupane	2,050	No
Forestry Areas	Lionhills	Lupane	2,747	No
Forestry Areas	Martin (i)		400	No
Forestry Areas	Martin (ii)		4,400	No
Forestry Areas	Mudima		6,355	No
Forestry Areas	Nyambewa		5,484	No
Forestry Areas	Tandai		5,450	No
Forestry Areas	Tarka		4,343	No
Forestry Areas	Gwampa	Nkayi	47,000	No
Forestry Areas	Chesa	Nkayi	14,250	No
Forestry Areas	Inseze	Nkayi	35,200	No
Forestry Areas	Inseze Extension	Nkayi	8,400	No
Forestry Areas	Umgusa	Nkayi	32,200	No
Forestry Areas	Umzibani	Nkayi	2,471	No
Forestry Areas	Kavira	Binga	28,200	Yes
Forestry Areas	Mzolo	Binga	67,200	No
Forestry Areas	Sijarira	Binga	25,600	Yes
Forestry Areas	Bembesi	Binga	55,100	No
Forestry Areas	Molo	Binga	2,900	No
Forestry Areas	Mtao	Chirumanzu	8,170	No
Forestry Areas	Chirindu	Chirumanzu	950	No
Forestry Areas	Gungunyana	Chirumanzu	1,650	No
Forestry Areas	Mafungabusi	Chirumanzu	82,100	No
Forestry Areas	Mudzongwe	Chirumanzu	1,420	No
Forestry Areas	Ungwe	Chirumanzu	567	No
Forestry Areas	Nyangu	Chirumanzu	16,600	No
Forestry Areas	York	Chirumanzu	1,455	No
Forestry Areas	Banti	Mutare	2,219	No
Forestry Areas	Stapleford	Mutare	24,600	No
Rhodes Estate	Erin	Nyanga	10,700	No
Rhodes Estate	Sauerdale North	Nyanga	214	No

Land	Name	District	Area (ha)	Presence of lion
Total Forest Areas (ha)			**927,866**	

3. CAMPFIRE Districts

District	Natural Region	Total Area (km^2)	Area of CF Wards (km^2)	Number of Wards	**CF Wards**	**District Pop (persons)**	**Presence of lion**
Beitbridge	5	12,935	4,595	21	6	80,946	Migratory
Binga	3,4&5	12,308	7,930	27	21	87,802	Migratory
Bubi	4	5,547	88	12	2	36,614	Migratory
Bulilimamangwe	4&5	12,574	1,530	33	10	156,641	Migratory
Chaminuka	2a,2b,3,4&5	2,752	380	26	2	94,047	No
Chimanimani	1,2a,3,4&5	3,419		28		110,836	No
Chipinge(Gazaland)	1,2a,3,4&5	5,223	408	33	2	336,893	Migratory
Chiredzi(Gaza Khomanani)	5	17,748	3,633	32	9	183,228	Yes
Chiweshe(Mazowe)	2a	4,482	375	29	5	198,319	No
Gokwe North	3,4&5	7,359	2,523	25	4	164,558	Migratory
Gokwe South	3&4	11,138	1,308	28	6	238,581	Migratory
Goromonzi	2a	2,504		26		147,126	**No**
Mbire (Guruve)	2a,3&4	7,810	4,215	28	14	135,637	Yes
Gwanda	4&5	10,792	2,283	23	6	112,984	No
Hurungwe	2a,3,4&5	19,895	2,793	40	9	246,902	Yes
Hwange	4&5	29,934	4,021	27	15	71,707	Yes
Hwedza	2b&3	998				69,981	No
Kusile(Lupane)	3&4	7,780	2,885	24	11	94,469	Migratory
Marondera	2a&2b	3,554		24		104,601	No
Matobo	4&5	7,278	1,233	26	4	89,281	No
Mudzi	4	4,222	1,009	18	2	109423	No
Mutoko	2b,3&4	4,052		29		122,941	No
Muzarabani	2a,3&4	4,322	2,540	17	9	69,851	Migratory
Mwenezi	4&5	12,933		31		101,354	Migratory
Nkayi	4	5,333	2,628	23	6	113,302	Migratory
Nyaminyami(Kariba)	4&5	6,327	3,532	16	11	27,717	Yes
Nyanga	1,2b,3&4	5,738	253	37	1	128,439	Migratory
Pfura(Mt. Darwin)	2a,2b,3&4	1,771				164,362	No
Rushinga	3&4	2,408		17		75,332	No
Tsholotsho	4	7,823	5,354	20	8	111,828	Yes
UMP Zvataida	2b,3&4	2,682	619	15	2	86,302	No
Umzingwane	4	1,074				62,954	No

District	Natural Region	Total Area (km^2)	Area of CF Wards (km^2)	Number of Wards	**CF Wards**	**District Pop (persons)**	**Presence of lion**
Zivagwe	4	2,363				65,752	No
TOTAL/AVERAGE		247,078	56,135	735	165	4,000,710	

4. Conservancies

	Name of Conservancy	**District**	**Area (hectares)**	**Presence of lion**
Conservancies	Malilangwe	Chiredzi	40,000	Yes
Conservancies	Save	Chiredzi	344,200	Yes
Conservancies	Chiredzi River	Chiredzi	28,500	No
Conservancies	Bubye Valley	Matabeland South	374,000	Yes
Conservancies	Bubiana	Matabeland South	130,000	No
Conservancies	Gwayi	Hwange	150,897	Migratory
Conservancies	Midlands Black Rhino	Midlands	85,000	No
Other	Matetsi Farms	Hwange	155,627	Migratory
Total Area of Conservancies			**1,308,224**	

11.2 ANNEX II: SUMMARY OF PRIMARY LEGISLATION AND REGULATIONS

11.2.1 The Policy for Wild Life of 1992

This policy provides for Government to maintain a protected area network known as the Parks and Wild Life Estate for the conservation of the nation's wild resources and biological diversity. According to the policy, government will use the Estate to promote a rurally based wild life industry and will harmonise the management of the Estate with the efforts of neighbouring communities that are developing wild life as a sustainable form of land use. The policy vests executive responsibility for the Parks and Wildlife Estate in the Department of National Parks and Wild Life Management (DNPWLM). It provides for the following categories of protected area: National Park; Safari Area; Sanctuary; Recreational Park, Botanic Reserve and Botanic Garden.

- The objectives of the Parks and Wild Life estate will be to:
- Preserve representative samples of Zimbabwe's aquatic and terrestrial flora and fauna and their physical environments;
- Protect areas of scenic beauty and special interest;
- Preserve rare, endangered and endemic species;
- Conserve water catchments;
- Provide opportunities for public education and the advancement of scientific knowledge;

and, without prejudice to any of the above:

- Encourage public use related to the enjoyment and appreciation of these areas; and
- Generate economic activity within the Estate and surrounding areas to enhance rural development.

The policy commits the DNPWLM to an adaptive management strategy in which research and monitoring are incorporated as integral components of management. It states that where sport

hunting is an objective in a protected area, quotas will be set to the maximum sustainable level at which trophy quality can be maintained and the hunting can be marketed. In terms of the policy the emphasis of tourism in parks should be low density and high quality tourism. An EIA must be carried out for major developments such as construction of roads, powerlines, buildings or dams.

With respect to Wildlife Conservation, the Policy states that the Government of Zimbabwe aims to encourage the conservation of wild animals and their habitats outside the Parks and Wild Life Estate recognising that this is only likely to be successful if wild life can be used profitably and the primary benefits accrue to people with wild life on their land. "*Recognising that much of Zimbabwe does not consist of good arable land, Government regards wild life management in all its diverse forms as a legitimate land use which may be the most appropriate or highest-valued form of development in many areas*". The policy also states that Government will take the necessary legal and enforcement measures to prevent the illegal use of wildlife.

Addressing community rights to natural resources the Policy states that government intends to "*transform land use in remote communal areas through its Communal Areas Management Programme for Indigenous Resources (CAMPFIRE), under which rural peoples have the authority to manage their wild life and other natural resources and benefit directly from so doing*". Further government will "*ensure that wildlife is not undervalued to the people living with it by permitting them to use it sustainably for their own gain as they are able to do with other natural resources and agricultural products*".

The policy states that the mechanism for communities to gain rights over wild life will be through the granting of Appropriate Authority to Rural District Councils (under the Parks and Wildlife Management Act of 1975). For this authority to be granted, the Minister will require:

1. An acceptable management plan from councils in which objectives for wild life are stated and preliminary intentions for achieving these objectives are outlined;
2. An acceptable institutional plan which outlines clearly the methods by which councils intend a) to involve wild life producer communities in district level management and b) to devolve the decision-taking process in local wild life management and the distribution of wild life benefits to producer communities;
3. The department to assist councils in managing their wild life and to coordinate the activities of NGOs who are assisting councils;
4. The approval by the department of all annual quotas of wild life killed or sold in communal lands during the interim period while councils develop their management capacity;
5. The presentation of annual reports from Councils to the Director and to their constituents detailing the year's performance in wild life management in their district.

The policy provides for the Minister to withdraw Appropriate Authority from a council not conforming to conditions and objectives under which it was granted.

11.2.2 Wildlife Based Land Reform Policy

In 2004 there was a move to revise the Policy for Wildlife to cater for the Land Reform programme. The revised policy, known as the Wildlife-Based Land Reform Policy, has not however been formally accepted by Government. Nonetheless, it is important to summarise what was envisioned at that time since this has influenced the way the management of wildlife outside of the Parks Estate has unfolded.

The vision of this reformed policy is to ensure profitable, equitable and sustainable use of wildlife resources, particularly in areas where agricultural potential is limited. It states that "*the policy has*

been developed in the context of Zimbabwe's Land Reform Programme and is underpinned by recognition that wildlife is a viable land-use option, that it can facilitate attainment of equity objectives and that it is feasible. This policy is complemented by existing natural resources legislation and the state protected area system."

The policy also states that the key issues that were taken into consideration were:

- The State will continue to make provision for wildlife management outside the protected area system, including setting aside certain core zones for wildlife production. Wildlife should be the only permitted primary land use option in these areas.
- Outside core zones, wildlife production, amongst other land use options, will be encouraged. The most profitable and ecologically sustainable land use option must be allowed to evolve in response to changing economic influences, notwithstanding the need to ensure food security in these areas.
- The scale of wildlife operations must be allowed to vary from intensive to extensive, depending on agro-ecological settings.
- All beneficiaries of wildlife operations, whether individually or jointly, must equitably share the costs of production.
- Wildlife management responsibility and authority must be devolved to the most appropriate level for efficient resource management and production incentives must be maximized for landholders.
- Security of tenure over resources is key to successful wildlife-based land reform. These core areas should be identified.

The aims of the Wildlife-Based Land Reform Policy are listed as:

1. To facilitate the indigenisation of the wildlife sector and to ensure more equitable access by most Zimbabweans to land and wildlife resources and to the business opportunities that stem from these resources.
2. To maintain a proportion of land outside state protected areas under wildlife production.
3. To enhance diversity of land uses through wildlife production.
4. To promote secure and equitable tenure.
5. To develop and implement appropriate institutional arrangements for wildlife-based land reform.

The policy recognized that wildlife production can be at different scales, which are dependent on several factors that include the type of wildlife, management regime and ecological conditions. Three categories are highlighted in the policy:

1. Intensive production systems with captive or semi-captive species such as crocodiles and ostriches (1 – 100 hectares).
2. Semi-intensive to semi-extensive production systems with free-ranging "plains game" populations (1,000 to 10,000 hectares).
3. Extensive production systems incorporating "big game" populations (over 10,000 hectares).

The Wildlife Based Land Reform Policy promotes two land redistribution models:

1. A state leasehold approach which is based on the reallocation of leasehold leases.
    a. This approach entails the acquisition of the entire land-holding with compensation for infrastructure, wildlife, etc.,

   b. The land will be reallocated to lessees under terms and conditions that will ensure sustainable wildlife management, on-going investment and capacity-building in that area.
2. A corporate equity model that involves transfer of shares within a land-owning company.
   a. The transfer of shares will be in accordance with the Indigenisation goals and sound business principles;
   b. Proposals from stakeholders must outline realistic ways in which new entrants can increase their shareholdings well beyond an initial level, over a reasonable time scale.
   c. The proposals must make provision for immediate allocation of shareholdings to new participants.

The Policy document also acknowledges that the two approaches can be applied in combination and shall be considered on a case by case basis, and that the State may from time to time consider other approaches that meet the objectives of the Wildlife Based Land Reform Policy.

11.2.3 Parks and Wild Life Act Chapter 20:14 of 1996 as amended in 2001:

This is the pivotal Act with respect to wildlife management in Zimbabwe. The Act includes the following sections:

1. Parks and Wildlife Board
2. Parks and Wildlife Estate and Parks and Wildlife Land
3. National Parks
4. Botanical Reserves and Botanical Gardens
5. Sanctuaries
6. Safari Areas
7. Recreational Parks
8. Specially Protected Animals
9. Specially Protected Indigenous Plants
10. Indigenous plants
11. Hunting, removal, viewing and sale of animal products
12. Protection of animals and Indigenous plants on alienated land
13. Fish Conservation
14. Evidence, prevention and detection of offences and additional penalties and forfeitures
15. Inspectors, Officers, employees and advisory committees
16. General

The Act also defines the different types of land (Alienated land):

a. “Private Land” means land the ownership of which is vested in any person other than the President.
b. “State Land” means land vested in the President other than Communal Land or trust land vested in the President.
c. “Trust land” means any land, other than Communal land held in trust by the President or a statutory body or by a person, whether solely or jointly with others, by virtue of his being the holder of some office in a statutory body.

The Parks and Wildlife Act of 1975 (as amended) states that the purposes of National Parks are:

1. To preserve and protect the natural landscape and scenery.
2. To preserve and protect wild life and plants and the natural ecological stability of wild life and plant communities for the enjoyment, education and inspiration of the public.

Establishment of Protected Areas: The Act enables the President to declare National Parks on State land or Trust Land if the trustees give their consent (Section 22). The Act enables the Minister acting on the authorisation of the President to acquire land for the Parks and Wild Life Estate either compulsorily or by agreement in terms of the procedures contained in the Communal Land Act and the Land Acquisition Act. The Act gives the Minister the power to manage National Parks, control entry and authorise or restrict certain activities and carry out various conservation measures. The Act provides for the provision of facilities and services for tourists in National Parks or to lease out such facilities or services. The Act allows the Minister to issue a permit for hunting in National Parks.

The Act makes provision for the establishment of Botanical Reserves and Botanical Gardens (Section 26) on State Land or Trust Land for the preservation and protection of rare or endangered indigenous plants or representative plant communities for the enjoyment, education and benefit of the public.

A third category of protected area is a Sanctuary which may be established by the President on State Land or Trust Land (Section 31) to afford special protection to all animals or a particular species of animal in the sanctuary for the enjoyment and benefit of the public. The Minister may provide tourism facilities and services in a Sanctuary or lease facilities or services. The Minister may also issue permits for hunting or the removal of game from a sanctuary for certain purposes.

In terms of the Act the President may establish Safari Areas on State Land or Trust Land as part of the Parks and Wild Life Estate (Section 36) for the preservation and protection of the natural habitat and the wild life in these areas in order that facilities and opportunities may be afforded to the public for camping, hunting, fishing, photography, viewing of animals, bird watching and similar activities. The Minister may lease sites in safari areas for various purposes and may grant hunting or other rights. Hunting or removal of wildlife in a safari area may only take place with a permit.

The fifth category of protected area provided for by the Act is a Recreational Park (Section 41), which may be established by the President for the purpose of preserving and protecting the natural features for the enjoyment, benefit and recreation of the public. The Minister may designate areas within Recreational Parks which can be alienated or leased for the provision of tourism facilities and services.

Prospecting and mining are prohibited in National Parks, Botanical Reserves, Botanical Gardens, Sanctuaries or Recreational Parks without a permit issued by the Minister and with the consent of the Minister of Mines (Section 119). The Environmental Management Act of 2002 also makes provision for land to be acquired by the State for conservation purposes. According to Section 109 the President may acquire land or set land aside for the improvement or proper management of the environment. In the absence of an agreement with the land owner the President may acquire the land in accordance with the procedures under the Land Acquisition Act. The President may set aside any area of Communal Land for the conservation or improvement of natural resources or for the protection of irrigation works or sources of water supplies provided that no such area shall be set aside until the Minister responsible for the administration of the Communal Land Act is satisfied that suitable provision has been made elsewhere for the inhabitants who will be affected by the setting aside of the area (Section 110).

Specially Protected Animals and Plants: The Act makes provision for the Minister to declare certain animals as specially protected (Section 44). In terms of the Act, no-one may hunt, have in their possession, or sell a live specially protected animal or the meat or trophy from such an animal without a permit. The trophy of any specially protected animal must be surrendered to the state if not obtained by a permit. The Act specifies the purposes for which the Minister may issue a permit for use of

specially protected animals (Section 46), but provides the Minister with some flexibility as he/she may issue a permit for any purpose which in the opinion of the Minister is in the interests of the conservation of animals.

The Act also makes provision for the declaration of specially protected indigenous plants (Section 49). No person may pick a specially protected plant without a permit, although the owners or occupiers of land or a person acting under their authority may pick a specially protected plant for cultivation, forestry, building construction or the construction of roads and other infrastructure. No person may sell a specially protected plant without a permit unless the person is a recognised dealer in specially protected indigenous plants or a member of a recognised horticultural society and the purchase is from a member of the same or other recognised society. The Act specifies the purposes for which the Minister may issues permits for the picking or sale of specially protected indigenous plants. The Act also stipulates that no person may pick or sell indigenous plants without a permit (Section 55) provided that the appropriate authority for any land may pick or sell or authorise others to pick or sell indigenous plants (Section 56). If the Minister deems it necessary for the conservation of an indigenous plant, the Minister may prohibit the picking or selling of that plant (Section 57).

Hunting and removal of animals: The Act prohibits hunting, removal of an animal or any part of an animal or the sale of an animal without a permit unless by an appropriate authority for the land (Section 59), which is the owner of freehold land, a Rural District Council on communal land, the Forestry Commission on state forests and the DNPWLM on the parks and Wildlife Estate. The appropriate authority for the land may issue permits to others to use the wild life (except for specially protected species). If the Minister deems it necessary for the conservation of a animal, he/she may prohibit the hunting or removal of such animals in a specific area (Section 60) and may serve a notice to prohibit a specific person from hunting, conducting photographic tourism, or being in the possession of a weapon used for hunting save for self-defence. The Minister does not have to give reasons for such prohibitions. The Act enables the killing of an animal without a permit for self-defence (Section 61).

The Act prohibits anyone from conducting of hunting or photographic safaris within the parks and wild life estate or on forest land without holding a professional hunter's licence or a professional guide's licence (Section 65). No person may manufacture an article from a trophy, process a trophy or sell or otherwise dispose of a trophy or an article manufactured from a trophy from an animal that has been hunted in contravention of the Act (Section 73).

If the Minister believes it in the interests of conservation, he/she may declare any animal that is not a specially protected animal as a protected animal and any indigenous plant that is not a specially protected plant as a protected plant (Section 77) on alienated land within the area of an environment committee established in terms of the Environmental Management Act of 2002 and the Rural District Councils Act of 1988. No person may, without a permit, hunt an animal or pick an indigenous plant that has been declared protected. The Minister may also restrict the extent of hunting animals or picking of indigenous plants on alienated (private freehold) land in the area of an environment committee if the Minister believes that the hunting of animals or picking of plants is unsustainable. The Minister may authorise an environment committee to reduce the numbers of problems animals on any alienated land within its area if the number of such animals is sufficient to cause excessive damage or nuisance. Section 79 gives environment committees the power to restrict hunting on alienated land if it believes that hunting is unsustainable.

The Minister may declare any person to be the appropriate authority for any waters (Section 83) and may declare controlled fishing waters (Section 84) for which the Minister may make regulations for

the control, regulation, restriction of prohibition of fishing. Unless the Minister designates areas of water where a permit is not required, no-one except the appropriate authority for that water may fish in any water without a permit. Section 87 regulates the means of fishing by prohibiting the use of explosives, firearms and poisons. Section 88 controls the introduction into any water of fish and plants that are not native to that water. No-one except the appropriate authority for a water may fish commercially and sell the fish without a permit (Section 90). The minister may ban fishing by specific persons in any area in the interests of conservation (Section 96).

Enforcement: The Act provides for the powers of conservation officials, and police officers in relation to enforcing the Act. It provides for penalties for various offences and for the Minister to make regulations on a wide range of issues and activities. The Act provides for the highest penalties to be awarded for the unlawful killing of a rhinoceros or other specially protected game specified by the Minister in an
official notice and for the unlawful possession or trade in rhino horn, ivory or the trophy of any other specially protected animal specified by the Minister in an official notice (Section 128).

The Environmental Management Act of 2002 provides the Minister responsible for the Environment to regulate the use of wetlands. In terms of Section 113 of the Act the Minister may declare any wetland to be an ecologically sensitive area and may impose limitations on development in or around such area. Further, no person may without authorisation in terms of the Act:

a. reclaim or drain any wetland;
b. disturb any wetland by drilling or tunnelling in a manner that has or is likely to have an adverse impact on any wetland or adversely affect any animal or plant life therein;
c. introduce any exotic animal or plant species into the wetland. Section 114 enables the Minister to serve an order on the owner, occupier or user of land under which they must take measures, construct such works or refrain from specific activities in order to protect the environment.

Biological Diversity: Further the Act enables the Minister to take such measures as may be necessary for the conservation of biological diversity and the implementation of Zimbabwe's obligations under the United Nations Convention on Biological Diversity adopted in 1992 and may, in so doing (Section 116):

a. identify the components of the biological diversity of Zimbabwe;
b. determine the components of biological diversity which are threatened with extinction;
c. prepare and maintain an inventory of the biological diversity of Zimbabwe;
d. determine actual and potential threats to the biological diversity and devise such measures as are necessary for preventing, removing or mitigating the effect of those threats;
e. devise measures for better protection and conservation of rare and endemic species of wild fauna and flora;
f. develop national strategies, plans and programmes for the conservation of the biological diversity of Zimbabwe;
g. promote the integration of conservation and sustainable use of biological diversity into relevant sectoral policies, plans and programmes;
h. require in writing any developer, including the government, to integrate the conservation and sustainable utilisation of the biological diversity in any project the implementation of which has or is likely to have detrimental effects to the biological diversity of Zimbabwe;
i. protect indigenous property rights of local communities in respect of biological diversity with scientific knowledge;

j. support the integration of traditional knowledge on conservation of biological diversity with scientific knowledge;
k. prohibit or restrict access by any person to or the exportation of any component of the biological diversity of Zimbabwe.

The Minister may also take such action or measures as may be necessary for the conservation of the biological diversity of a specific locality and may:

a. promote such land use methods as are compatible with the conservation of the biological diversity of that locality;
b. select and manage environmental protection areas for the conservation of the various terrestrial and aquatic ecological systems;
c. establish and manage buffer zones near environmental protection areas;
d. prohibit or control the importation of and introduction into the wild of exotic animal and plant species;
e. identify, promote and integrate traditional knowledge into the conservation and sustainable utilisation of the biological diversity of that locality; and
f. determine special measures for the protection of species, ecosystems and habitats faced with extinction.

Community rights to natural resources: The Act provides for land holders to acquire rights over wildlife through the granting of "appropriate authority" status. Thus, the owners of private freehold land are deemed to be the appropriate authority over wildlife on their land (Section 2). Communities acquire rights over wildlife through Rural District Councils (RDCs). A 1982 amendment to the Act provides for the Minister to appoint an RDC as the appropriate authority for wild life on the communal land within the jurisdiction of the RDC (Section 108). The Act states that no person may hunt any animal on any land or remove any animal or part of an animal except in term of a permit issued by the appropriate authority for that land [Section 59(2)]. The appropriate authority may hunt any animal on the land, remove any animal or part of an animal from the land and may issue permits to others to hunt or remove animals from the land. RDCs are then expected to apply the guidelines contained in the 1992 Wildlife Policy to devolve the decision-taking process in local wild life management and the distribution of wild life benefits to producer communities (i.e. smaller and more localised groups of people with wildlife on their land). Further policy guidelines state that RDCs
are expected to distribute a percentage of income derived from wildlife use to producer communities and to allow these communities to be responsible for several wildlife management activities. Because of the existing administrative system of local government, producer communities had to be represented by Ward Development Committees (WADCOs) and Village Development Committees (VIDCOs) which are advisory bodies to Councils.

In this way, various legal entities are granted authority over wildlife outside the Parks Estate. These authorities include private land-owners (where the land is held under an agreement of purchase or lease), forest land (such as Forestry Commission estates). For Communal Land, the Rural District Councils (RDC) may be appointed the Appropriate Authority. The Minister of Environment grants this authority, with input from the Zimbabwe Parks and Wildlife Management Authority. If appropriate authority is not granted, the authority remains vested in Central Government. This Appropriate Authority clause in the Act, paved the way for the implementation of the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE)[3].

Statutory Instruments: There are several statutory instruments (SI) that regulate the wildlife sector:

[3] Note that the CAMPFIRE programme is about to undergo a comprehensive review that will impact on future policies.

- SI 362 of 1990: This legislation provides in sections 66-75 for the Regulation of Manufacture, Processing and Dealing in trophies.
- SI 76 of 1998: Parks and Wild Life (Import and Export) (Wild Life) Regulations specifically deals with Import and Export of wildlife products. This legislation was enacted to ensure compliance with CITES requirements for export and import of wild flora and fauna. These provide for the following:
    - Section 3 deals with the Control of Import and Export of wild life and trophies and lays down a general prohibition on the import into or export from Zimbabwe of any "wild life" or trophy of "wild life" except in accordance with either a certificate issued in terms of section 5 by the Director or Director of Customs, or an open general permit:
    - Section 5 deals with Permits and Certificates and is consistent with CITES legislation.
    - Section 15 deals with Offences and Penalties. Any person who contravenes any of the provisions of subsection 1 shall be guilty of an offence, and liable to a fine or imprisonment. To effectively ensure compliance, the Zimbabwe Parks and Wildlife Management Authority deployed a permanent team of officers based at all ports of exit and entry to assist border control officials in monitoring and inspection of all wildlife exports.
- SI 26 of 1998: The regulation provides for the monitoring of all hunting activities in the country to ensure compliance by all Safari Operators and international clients and to ensure that the TR2 Form. (Tourism Hunting Return Form) is duly completed.
- Trapping of Animals (Control) Act Chapter 20:21: The Act provides for the control, restriction and regulation of the construction, possession and use of certain traps for the purpose of trapping animals; to control the sale and disposal of certain animals, to include lions and to provide for matters incidental to or connected with the foregoing.
- SI 92 of 1992: Parks and Wild Life (Payment for Hunting of Animals and Fish) Notice, 2009: This instrument provides for compensation values of various wildlife forms to include animals and fish. It acts as an additional deterrent measure in matters where poaching cases are being dealt with in accordance with the law. The compensation value for illegal hunting of lion is USD 5 000, 00.
- SI 93 of 2009: Parks and Wild Life (Payment for Trapping of Wild Animals) Notice, 2009. This instrument provides for the payment of compensation to the state or game owners in the event that one is convicted for illegally trapping wild animals on various land categories. The compensation value for illegal hunting of lion is USD 5 000, 00.
- SI 40 Of 1994: Parks and Wildlife (Appropriate Authorities for Communal Land) Notice, 1994. This SI facilitates the granting of Appropriate Authority status to various Rural District Councils. This legislation devolved authority to Rural District Councils and gave rights to local communities to sustainable utilize wildlife and other natural resources in their areas of jurisdiction.

11.2.4 The Rural District Councils Act Chapter [29:13] 2002

The Rural District Councils Act is important in the wildlife sector as it provides for a legal entity (in Communal Lands) responsible for wildlife resources. Since the land in Communal areas is not privately owned by the communities and given that most of the communities do not constitute a legal entity, the Appropriate Authority status is conferred to the Rural District Councils (RDCs). Thus the RDCs act as custodians of the wildlife resources on behalf of the communities.

Efforts are now underway in some areas to form Community Development Trusts. There is scope for these Community Development Trusts to be used as vehicles to further devolve authority from the District level to the sub-district level, which will provide more income at a community level and therefore increase conservation support from the community as they will have a true vested interest.

The feasibility of granting Appropriate Authority to these Trusts in Zimbabwe needs to be assessed and piloted. The major challenge with these Trusts is that of financial sustainability as they do not have adequate funds to cater for their activities. Capacity-building of all Trust members is also a key requirement to ensure institutional sustainability.

In the Rural District Councils Act, there are three key terms that will be described further: Ward, Ward Development Committee and Communal Land. According to the Act, a "Ward" (an administrative unit) means a ward into which a council area is divided or re-divided. Several villages make up a ward. In the Act, a "Ward Development Committee" means a village development committee established in terms of Section 58 of the Act. A Ward Committee is made up of members who are elected from the community to represent the community in discussions/meetings with the Rural District Council. The Act further defines three different types of Wards. These are, Commercial Ward, Communal Ward and Resettlement Ward. The Commercial Ward is a large-scale commercial ward or a small-scale commercial ward. A Communal Ward is a ward consisting wholly or mainly of Communal Land. A Resettlement Ward is a ward consisting wholly or mainly of Communal Land (as in the case of the Communal Ward). It is important to establish whether in practice, the RDCs make
this distinction of the wards or whether they are all considered simply just as wards.

The "Communal Land" is defined as any land that is Communal Land in terms of the Communal Land Act [Chapter 20:04]; and any other land that was within the area of a district council on the 19th August 1988.

11.2.5 The Forest Act of 1948

This Act establishes the Forestry Commission and places demarcated forests under its control. The commission is responsible for the control, management and exploitation of state forests including the leasing of timber harvesting rights. The Act also gives the Minister the power to regulate the commercial use of timber from indigenous trees on other land.

As the appropriate authority for the Forest Areas, the Commission is also responsible for the management and conservation

11.3 Annex III: Analysis of Total Revenue by Country of Destination

Destination	2014	2015	Total
United States	$14,485,835	$11,942,785	$26,428,620
Russian Federation	$1,444,729	$861,925	$2,306,654
China	$1,416,196	$441,759	$1,857,955
Germany	$1,100,534	$698,450	$1,798,984
Canada	$620,852	$474,935	$1,095,787
South Africa	$513,070	$576,035	$1,089,105
France	$825,975	$158,291	$984,266
Australia	$671,527	$259,136	$930,663
Spain	$488,616	$321,064	$809,680
Austria	$519,322	$201,073	$720,395
India	$302,653	$241,741	$544,394
United Kingdom	$357,317	$183,888	$541,205
Italy	$181,956	$343,197	$525,153
Hungary	$418,824	$104,262	$523,086
Mexico	$252,263	$266,543	$518,806

Destination	2014	2015	Total
Norway	$300,645	$119,831	$420,476
Denmark	$132,690	$194,435	$327,125
Switzerland	$171,991	$123,828	$295,819
Sweden	$196,575	$80,014	$276,589
Ukraine	$80,432	$163,604	$244,036
Czech Republic	$104,450	$137,456	$241,906
Neatherlands	$89,042	$105,227	$194,269
Nigeria	$171,830	$0	$171,830
Bulgaria	$21,865	$123,469	$145,334
Argentina	$106,529	$24,888	$131,417
Finland	$65,768	$63,223	$128,991
Brazil	$56,785	$59,886	$116,671
Honduras	$104,683	$0	$104,683
Poland	$38,911	$62,015	$100,926
New Zealand	$17,880	$81,127	$99,007
Mauritius	$56,225	$36,945	$93,170
Chile	$91,374	$0	$91,374
Belgium	$9,340	$80,355	$89,695
Portugal	$78,470	$0	$78,470
Columbia	$77,944	$0	$77,944
Slovakia	$69,420	$0	$69,420
Botswana	$59,401	$0	$59,401
Pakistan	$54,208	$0	$54,208
Namibia	$20,298	$18,862	$39,160
Latvia	$37,611	$0	$37,611
Estonia	$12,078	$23,586	$35,664
Slovenia	$20,620	$11,200	$31,820
Kenya	$14,302	$16,957	$31,259
Dominican Republic	$30,463	$0	$30,463
Belarus	$0	$29,430	$29,430
Kazakhstan	$0	$28,460	$28,460
Romania	$0	$20,112	$20,112
United Arab Emirates	$19,629	$0	$19,629
Lao Peoples Democratic Republic	$15,000	$0	$15,000
Bolivia	$0	$11,553	$11,553
Lithuania	$9,164	$0	$9,164
Costa Rica	$5,900	$0	$5,900
Qatar	$4,896	$0	$4,896
Grand Total	**$25,946,088**	**$18,691,547**	**$44,637,635**

11.4 ANNEX IV: ANALYSIS OF TOTAL REVENUE BY SPECIES

Species	$2,014	$2,015	Total	2015 Quota	Utilised	% Utilised
Buffalo	$2,528,559	$1,962,570	$4,491,129	1,635	482	29%
Elephant (Tusks)	$2,042,610	$1,447,090	$3,489,700	246	64	26%
Elephant (Tuskless)	$1,444,040	$229,860	$1,673,900	462	113	24%
Lion	$630,950	$753,000	$1,383,950	82	49	59%
Leopard	$714,100	$668,490	$1,382,590	530	151	28%
Zebra	$594,239	$555,744	$1,149,983	2,480	600	24%
Sable	$456,615	$309,260	$765,875	718	78	11%
Kudu	$341,092	$357,963	$699,055	2,503	289	12%
Waterbuck	$293,903	$256,133	$550,036	988	156	16%
Hippo	$310,321	$217,470	$527,791	303	83	27%
Impala	$277,198	$242,624	$519,822	8,594	1,261	15%
Crocodile	$284,650	$202,705	$487,355	211	70	33%
Eland	$179,470	$187,990	$367,460	1,659	132	8%
Wildebeest	$180,665	$170,350	$351,015	2,189	220	10%
Giraffe	$158,385	$157,410	$315,795	880	135	15%
Nyala	$130,840	$117,175	$248,015	174	38	22%
Bushbuck	$116,011	$94,936	$210,947	1,082	125	12%
Warthog	$98,975	$89,820	$188,795	3,060	208	7%
Hyeana	$75,648	$54,503	$130,151	1,702	118	7%
Klipspringer	$44,130	$40,441	$84,571	823	59	7%
Bush Pig	$18,226	$30,370	$48,596	1,972	69	3%
Tsessebe	$19,800	$19,500	$39,300	186	15	8%
Baboon	$24,909	$13,664	$38,573	8,017	264	3%
Reedbuck	$23,265	$12,731	$35,996	371	20	5%
Steenbok	$13,790	$15,070	$28,860	927	31	3%
Jackal	$9,656	$15,889	$25,545	2,179	105	5%
Civet	$8,850	$11,368	$20,218	1,034	29	3%
Grysbok	$9,435	$8,585	$18,020	632	31	5%
Eland	$16,750	$0	$16,750	1,659	132	8%
Genet	$6,020	$14,183	$20,203	1,136	38	3%
Duiker, Grey	$2,774	$12,523	$15,297	2,005	53	3%
Duiker, Blue	$7,991	$0	$7,991	-	-	-
Honey Badger	$3,681	$3,625	$7,306	622	15	2%
Wild Cat	$3,160	$4,180	$7,340	812	19	2%
Guinea Fowl	$5,496	$968	$6,464	29,174	121	0%
Porcupine	$4,123	$1,473	$5,596	857	9	1%
Serval	$2,670	$2,410	$5,080	536	6	1%
Egyptian Goose	$3,025	$60	$3,085	4	-	0%
Cheetah	$2,560	$0	$2,560	42	-	0%
Ant Bear	$900	$1,651	$2,551	39	6	15%
Francolin	$1,166	$609	$1,775	22,449	109	0.5%

Species	$2,014	$2,015	Total	2015 Quota	Utilised	% Utilised
Dove	$1,321	$418	$1,739	34,485	63	0.2%
Monkey, Vervet	$885	$800	$1,685	3,677	15	0.4%
Ostrich	$1,200	$0	$1,200	14	-	0%
Mongoose	$508	$690	$1,198	279	3	1%
Sandgrouse	$456	$688	$1,144	8,088	78	1%
Oribi	$500	$500	$1,000	82	2	2%
Duiker, Red	$950	$0	$950	-	-	-
Caracal	$900	$0	$900	351	-	0%
Bushbaby	$850	$0	$850	-	-	-
Bontebok	$700	$0	$700	-	-	-
Waterfowl	$0	$400	$400	40	2	5%
Springhare	$60	$120	$180	-	-	-
Gemsbok	$105	$0	$105	6	-	0%
Hyrax	$75	$20	$95	371	1	0.3%
Duck	$29	$20	$49	10,779	13	0.1%
Aardwolf	$0	$0	$0	-	-	-
Blesbok	$0	$0	$0	40		0%
Rabbit	$0	$0	$0	252	-	0%
Hare	$0	$0	$0	138	3	2%
Lichtenstein's Hartebeest	$0	$0	$0	5	-	0%
Red Hartebeest	$0	$0	$0	7	-	0%
Grand Total	**$11,099,187**	**$8,288,049**	**$19,387,236**			