



PROCEEDINGS

of the

NATIONAL LION CONSERVATION WORKSHOP

Addis Ababa, 12 June 2009

Edited by: Fikirte Gebresenbet, Hans Bauer, Luke Hunter, Kahsay Gebretensae



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The workshop would not have been possible if it was not for our generous partner Panthera Foundation. They have also helped in amending the lion distribution map for this proceeding.

Finally we would like to extend our genuine thanks to Born Free Foundation- Ethiopia, VLIR-IUC and Mekelle University for providing help when needed.

List of Acronyms

AAU – Addis Ababa University

CBO – Community Based Organizations

EN – Endangered

EWCA – Ethiopian Wildlife Conservation Authority

GIS – Geographical Information System

GO – Governmental Organization

IUCN – International Union for the Conservation of Nature

LC – Least Concern

MDG – Millennium Development Goals

NGO – Non-Governmental Organization

NP – National Park

NT – Near Threatened

PA – Protected Areas

PAC – Problem Animal Control

VLIR- Council of the Flemish Universities

VU – Vulnerable

WildCRU – Wildlife Conservation Research Unit

WR – Wildlife Reserve

Executive summary

Introduction

Large carnivores in Ethiopia are facing a serious threat to their survival, like most wild other animals. Lions, which are listed as Vulnerable on the IUCN Red List of Threatened Species, are no exception. The challenges to the conservation of lions are wide ranging and little is known about the distribution, numbers, location and other information on Ethiopian lions. Furthermore, efforts and knowledge are scattered over different GOs of the different regional states and conservation oriented NGOs. To fill this gap, a First National Lion Conservation Workshop was jointly organized by the Flemish Interuniversity Council (VLIR), Mekelle University, Panthera Foundation, Born Free Foundation and the Ethiopian Wildlife Conservation Authority (EWCA). It was conducted on 12 June, 2009 in Ghion Hotel, Addis Ababa.

It brought together a diverse group of stakeholders, a total of forty three people. Participants came from different national parks (eight of the eleven protected areas with lions), natural resource department heads from regional bureaus of agriculture (three of the five regions with resident lions), universities (Addis Ababa, Jimma and Mekelle), Wondo Genet College of Forestry and EWCA. Different conservation oriented NGOs and resource persons were also in attendance.

Objectives

The first objective of the workshop was to gather information and amend the existing lion distribution map published by IUCN in 2006. In addition to this, the workshop aimed at bringing together stakeholders for lion conservation in Ethiopia. It was also intended to identify (and prioritize) the threats that Ethiopian lions face and the problems for their conservation. By doing these, it was thought that the participants will be able to set (and prioritize) the agendas for research and conservation activities on Ethiopian lions.

Synthesis of the Workshop findings

In the morning, two papers were presented by Hans Bauer, on *African Lion: Status, Conservation and Research* and Solomon Yirga, on the *Ecological Role of Lions*. Dr. Bauer indicated that knowledge on lion distribution is lacking, but showed that the available information suggests a very strong range decline. He presented the problem analysis and solutions as described in the Lion Conservation Strategy prepared for two regions in Africa (Central/West and Eastern/Southern). Dr. Solomon indicated where lions used to be found in Ethiopia and he also cited some of the places where they still occur. He identified prey loss and habitat fragmentation as important threats leading to population decline of lions and in some cases this forces the lions to resort to attacking and killing of livestock and human beings.

Before introducing the morning working groups, Dr. Luke Hunter presented the activities of Panthera Foundation. He mentioned that Panthera supports many

conservationists around the world working on all cat species, with a focus on tigers, jaguars, lions, snow leopards, cheetahs, pumas, leopards and clouded leopards. He then guided one group through an exercise to improve the existing Geographical Information System data base by adding lion distribution data. A new lion distribution map for Ethiopia was produced representing the current state of knowledge, even though it is imperative to further improve it in the future. Another group concurrently, undertook a problem analysis activity and found that population pressure and habitat loss are the major problems followed by low political interest for wildlife conservation.

In the afternoon session, Claudio Sillero presented the activities of the Wildlife Conservation Research Unit (WildCRU) of Oxford University, in particular the proposal to do a national large carnivore survey. James Young then presented the work of the Born Free Foundation in Ethiopia.

The afternoon working groups indicated that 'Census of lion population' is a research area that should be given priority while 'Community Based Conservation' is the highest ranking topic for conserving lions in Ethiopia.

In the ensuing general discussion, which was facilitated by Dr. Bauer, participants recommended the following points:

- the government should give more attention to conservation of wildlife.
- Ethiopia should divert its eco-tourism based tourism approach to a wildlife based one, or at least incorporate wildlife in the tourism sector.
- people should keep in contact with each other so that any information on lions or other large carnivores can reach the interested group of people and also for findings and other information to be communicated well.

Diffusion of knowledge gathered at the workshop

All the participants of the workshop had a common perception that they will disseminate the information they have gained from the workshop to different interest groups they might come across.

Opening Speech

Distinguished Guests,
Dear participants,
Ladies and Gentlemen:

According to the schedule, the Director General was supposed to open this valuable workshop. Since he is away for some time, I would like to extend my warm welcome to all of you on his behalf.

Ladies and Gentlemen,

The lion (*Panthera leo*) was formerly distributed through out most African areas, inhabiting most altitudinal ranges and all vegetation types. However, its present range is limited to patchy areas. Recent surveys have indicated a suspected decline of 30-50% of the African lion population. Thus, the lion is classified as Vulnerable on the IUCN Red List of Threatened Species for this reason. African lion population decline is mainly attributed to habitat loss, fragmentation and degradation, reduction of wild prey, lion-human conflict and poaching.

Therefore, there was a need to organize a series of workshops that address the existing lion conservation problems and a regional lion workshop was organized by IUCN (The World Conservation Union) and WCS (Wildlife Conservation Society) which was held in Johannesburg, in 2006.

Since then, we have been taking considerable measures in assessing the potential lion areas of Ethiopia even though it is not to the extent that we could be proud of it. Recent developments give hope that the situation may change in the near future. Our Government has rendered considerable attention to conservation sector and created the Ethiopian Wildlife Conservation Authority (EWCA). EWCA is currently doing to its best level to make all conservation endeavours possible and successful. It is working on the formulation of various species programmes, and the lion would be one of the target species.

Thus, this workshop which provides an opportunity for various stakeholders to discuss lion conservation is expected to fill the gaps.

Ladies and Gentlemen,

It is generally said that African lion population has declined. Despite this general truth, it is equally important to note that there is lack of reliable and justifiable data that depicts the current status and distribution of this wild animal and other carnivores. Thus, this workshop is believed to create a conducive situation to gather information on lion and other large carnivores' distribution and their potential threats and thereby develop national lion conservation action plan.

Finally, I would like to extend my appreciation to Dr. Hans Bauer, a lion expert and formerly closely involved with lion conservation programmes for originating this

blessed idea and developing the proposal. I am also grateful to Flemish Inter University Council, Mekelle University and Belgian Development Cooperation for making this important workshop possible. In making the workshop fruitful our active participation in every session is so important.

Having said this, it is pleasure to announce that the workshop is officially opened.

Thank you!

Summary of Presentations

Carnivore Conservation in Ethiopia¹

Hans Bauer

Characteristics of Carnivores

Carnivores are at the top of the 'food pyramid' and they live at low densities, therefore covering large ranges. They have an important ecological role and without prey one couldn't find large carnivores. As a result, they are often taken as keystone and flagship species. Large Carnivores also have high propensity for conflict with people.

Fragmentation

Fragmentation is one form through which large carnivores are threatened to extinction. It leads to small islands of biodiversity in an ocean of human settlement, with the ensuing increased edge effects such as human wildlife conflict. It also leads to dispersed small wildlife populations, with its inherent risks. Habitat loss and fragmentation are among the critical problems wild animals in Ethiopia are facing.

Carnivores in Ethiopia

Ethiopia is endowed with high biological biodiversity. It is reported that there are 6,000 plant species; of which 625 are endemic, 669 are near endemic and one entire genus is endemic. Ethiopia also has 860 avian species 16 of which are endemic and two genera are endemic too. From the members of mammals 279 species are found in Ethiopia, of which 35 are endemic and six genera are endemic too. Ethiopian wolf is an endemic carnivore.

From family Felidae lion, cheetah, leopard and wild cat are found in Ethiopia. To that of Canidae wild dog and Ethiopian Wolf are members. And in Hyaenidae spotted hyena, striped hyena and aardwolf are found. Other small carnivores like genets and mongooses are also found in the country.

Lion

There is not much information on numbers and distribution, the only published guesstimate for lions is 1050. The Gambella-Boma area hosts 500 lions and the second largest is the Greater Omo region. Other lower guesstimates include 100 in Ogaden and Welmei-genale and 50 in bale and Awash.

Lion density in a particular area is directly proportional to the density and mean weight of prey found in the locality. Important rules of thumb include the ratio of 10,000 kg prey to 1-3 lions; hyena density can, in general, be expected to be double that of lion density. Simplified formulas are available for estimation:

¹ This is a summary of the presentation by Hans Bauer on the workshop 12 June 2009.

- **Van Orsdol et al. (1985):** $y=0.0878+0.0002x$
 - **Carbone & Gittleman (2002):** $10,000y=(90/142)x$
 - **Hayward et al. (2007):** $10^y=-1.363+0.152(10^x)$
- (x=lion and y=prey)

Lion numbers, however, are usually imprecise as lions are difficult to count. Some reasons leading to this include their nocturnal nature/crepuscular behaviour, their low densities and large ranges and their secretive nature. These reasons, not only make lion counts imprecise, but also make them rare and very expensive.

Table 1 summarizes the efforts to estimate total number of lions in Africa, and despite the differences it gives a good impression of order of magnitude. Current knowledge is unprecedented and valuable information is found scattered in various papers.

Table 1: Lion number in two parts of Africa, as estimated by four different sources

Area	ALWG	'ALWG+',	IGF/CF	RWPS
West & Central	1,800	1,800	3,978	3,320
East & Southern	21,000	26,000	35,395	28,820
Total	23,000	28,000	39,373	32,140

Lion Conservation Strategies

Two conservation strategies have already been developed for West and Central Africa and Eastern and Southern Africa, respectively, with the assistance of a host of organizations. Documents state that almost 90% of all lions are found in Eastern and Southern Africa and almost 50% of all lions are found in Tanzania. They also state that southern Ethiopia is the only 'bridge' between East and Central African lions. The lion conservation strategy process involves range wide priority setting, regional stakeholder workshops and problem analysis and logframes.

The lion has disappeared from 40% of its historical range over the last 150 years, and lion presence is not ascertained for another 38% of Africa's land (see Table 2).

Table 2: Historical, current and unknown ranges range of lion in Africa

Lion Range (km ²)	Historical range	Current range (% of historical range)	Unknown range (% of historical range)
West & Central Africa	7,206,817	1,047,231 (15%)	0
East & Southern Africa	13,010,000	3,564,000 (23%)	7,600,000 (58%)
Africa	20,216,817	4,611,231 (22%)	7,600,000 (38%)

All sources referred about the status of the African lion point at the same direction: it is at a precarious position. On a global scale a reduction in its number of between 30 and 50% is suspected over the past two decades. It is Vulnerable in the Central, East and Southern Africa, while it is Regionally Endangered in West Africa.

Problem analysis shows that poverty, population growth, political instability and perverse politics are root causes. These causes lead to a reduction in lion range and numbers through human-lion conflict, habitat loss and prey depletion.

Six major threats to lion conservation in Africa are:

1. Inappropriate lion population management: by ineffective protected areas, unsustainable hunting practiced in some wildlife management areas, lack of knowledge and monitoring of lion populations, etc
2. Habitat degradation and reduction of prey base: this comes about through habitat fragmentation and loss, wildlife unfriendly land use, widespread use of bush meat, encroachment of agricultural and livestock, etc
3. Human-Lion conflict: Lions attack people and livestock, indiscriminate killing of lions (poisoning, snaring, retaliatory or pre-emptive killing), ineffective Problem Animal Control (PAC) etc. In the case of human-lion conflict zero tolerance won't work. There will always be some livestock damage or attacks on human beings and also some degree of lion killing. Real annual damage of livestock herds may be as high as 10% but generally it is between 1 and 3 %. However, numbers may be higher for individual herd owners. Increasing lion-related benefits and protecting livestock by mesh and gate made from local materials (which costs about the price of a goat) would decrease the extent of damage and killing.
4. Adverse socio-economic factors: this creates negative perception of lions among local people and also inequitable sharing of lion related benefits. It might also arise from the lack of incentives to tolerate lions and of local participation in planning and decision-making etc
5. Unfavourable policies and political factors: policy aspects of integration of wildlife in land use, political controversy over trophy hunting, low priority on the political agenda, management of transfrontier populations, compliance with regulations, etc. In Ethiopia trophy hunting is a standard procedure for problem lion and is reasoned that it serves as a good income generation and benefit sharing means.
6. Institutional weakness: limited capacity of governments and stakeholders to manage populations effectively, inadequate institutional frameworks for integrated wildlife management (e.g. consultation between agriculture and wildlife sectors), etc.

Activities to offset the negative consequences of the above-mentioned threats include: circular village fencing, using dogs for protection of livestock, research and census to have a better understanding of lions in an area. Capacity building, community involvement, problem livestock control and anti-poaching and anti-grazing activities would also help a lot.

Lions in Ethiopia

Little is known about lions in Ethiopia and numbers are highly unreliable. Livestock conflict used to be rare and even when it happened it was taken as a “good luck” sign by owners. Recently, however, livestock killing by lions has increased mainly as other wild prey is disappearing. Man eating is endemic. In 2008, in a certain locality lions ate 20 people. This incident led to the destruction of eight lions.

The aforementioned Lion Conservation Strategies have only been partly implemented in Ethiopia. Survey has been conducted and the presence of lions is confirmed in some areas, PAC is also being undertaken. A project financed by Global Environmental Facility (GEF) aimed at strengthening EWCA is already underway and another on land use, policy and legal issues is being undertaken by the two partners.

The Ecological Role of Lions²

The case of lions and some savannah mammals in Awash National Park and Alledeghi Wildlife Reserve

Solomon Yirga

Introduction

With the exception of the Sahara and the equatorial forests of Africa, the lion was a relatively common animal in Africa and in Ethiopia too. But it has been eliminated from Northern Africa and most of Southern Africa; mainly resulting from agricultural expansion. Presently lions are found at limited areas in Africa and only at few spots in Ethiopia.

Some areas with a good number of lions in Ethiopia include:

- Awash National Park (Awash River Valley, from Gewane to Hadar)
- Bale (Bale National Park, Harena forest)
- Gambella
- Hadiyya Zone (Gibe River Valley)³
- Hararghe (Anenno, Babilie-Fafen-Bombas, Gobelle)
- Kefa (Bonga-Mizan road at Hotel 460 vicinity)
- Wollega (Dedessa River Valley, Meko and Sachi areas)

Human-Lion Conflict

Human-Lion conflict always starts with the settlement of human beings near the habitat of lions. This settlement will also introduce domestic animals which are potential preys to lions. Moreover, hunting wildlife could be another avenue for the start of conflicts.

Agricultural and other livelihood activities tend to destroy the wild habitat; further exacerbating the status of lions by decreasing the number of wild animals (potential preys to lions, if not lions). Conditions get worse as the number of domestic animals increases and the area under cultivation by human beings increases leading to overgrazing and habitat destruction. This eventually increases the incidence of livestock depredation by lions, or even killing of people by lions. This increased risk forces human beings to hunt lions more often. This way the vicious cycle continues, until lions get exterminated.

Oryx and Soemmering's Gazelle in Awash NP and Alledeghi WR

Awash national Park is being over taken by humans. If the status quo is maintained this will be the fate of all other parks in Ethiopia.

Berihun Gebremedhin studied the gazelles in Awash NP and Alledeghi WR. in 2001 and found only 42 individuals of the gazelle in Awash NP's Ilala Sala area. However, in an area of equivalent size in Alledeghi WR he counted 458 individuals. From this one can conclude that the population trend in Awash NP is downward, while that in

² This is a summary of the presentation by Solomon Yirga on 12 June 2009.

³ Recently, over 100 humans eaten by lions according to personal communication of the presenter with H.E. Prof. Beyene Petros.

Alledoghi WR is on the increase. Another researcher Gebre-Egziabher Tesfaye studied Beisa oryx in both places in 2005. He found 220 individuals in Awash NP and 357 in an equivalent area in Alledoghi WR.

Robertson (1970), Schloeder and Jacobs (1993), and Thouless (1995) estimated the populations of oryx and Soemmering's gazelle in Awash NP to be far greater than the present number. Wildlife are in danger of elimination (although Alledoghi better than Awash) and the number of cattle has increased in both Awash NP and Alledoghi WR. Moreover, the population trend of the aforementioned wild animals is upwards in Alledoghi WR, while it is declining in Awash NP, this is notwithstanding the better protection measures and more restricted grazing in Awash NP Why?

The NP and WR are at similar status when compared by extent of habitat destruction and encroachment by livestock. But big carnivores, including lions, have been eliminated from Alledoghi WR, making it possible to have higher number of other wild animals. Moreover, the wildlife of Alledoghi WR live on a buffer zone or on 'no-man's-land'. They live in an area between two tribes with conflictual relations; therefore their area is not trespassed a lot.

Recent reports show that lions have began eating livestock and human beings in Awash NP. What next?

An Overview of the Activities of Panthera Foundation⁴

Luke Hunter

The Foundation's objective is to work on conservation of the world's 36 wild cat species, out of which it currently works on twenty one. The head office is in the US and has 15 staffs globally. Since its inception the Foundation has been involve in 92 projects in 48 countries. It currently has major partnerships with nine organizations. It has also provided scholarships to fifty eight students (MSc and PhD).

Core programmes of the Foundation revolve around lions, tigers, jaguars and snow leopards. Furthermore, special programmes focus on the following species: Cougar, Iranian Cheetah, Leopard and Clouded Leopard.

Furthermore, it has initiated five foundation programmes. In 2005, the Kaplan Graduate Awards was initiated with up to \$ 25,000 awards. It provides research and project costs for outstanding post-graduate students in MSc or PhD programmes. Since its inception this award has supported approximately fifty students. The Small Cat Action Fund, established in cooperation with Conservation International (CI), for overseeing the IUCN Cat Specialist Group. It awards up to \$ 10,000 in support of conservation and research activities, specifically for the small and lesser known cat species (28 species).

The Liz Claiborne Art Ortenberg Jaguar Small Grants programme, supports applied research and conservation efforts of up and coming jaguar conservationists with an award of up to \$ 10,000. The George Schaller Conservation Fund was created in 2008 when Panthera won the coveted \$100,000 Indianapolis award. Just in 2009, the Research and Conservation Grants was established. It awards up to \$25,000 and supports individuals and NGOs implementing conservation projects on large fields. It is mainly for works on tigers, jaguars, lions, snow leopards, cheetahs, pumas and clouded leopards.

The Foundation also supports two prizes. The Rabinowitz-Kaplan Prize for Excellence in Cat Conservation is awarded biannually a sum of \$50,000. The Rabinowitz-Kaplan Prize for the Next Generation in Wild Cat Conservation is awarded annually a sum of \$25,000.

⁴ This is a summary of the presentation by Luke Hunter on the workshop 12 June 2009.

Large Carnivore Survey of Ethiopia⁵

Claudio Sillero

WildCRU (Wildlife Conservation Research Unit) of Oxford University is making preparations to conduct survey of large carnivores in Ethiopia, which is the first of its kind to the country.

Why conserve carnivores?

Numerous satisfying reasons could be given as reasons for conserving carnivores. Firstly, carnivores portray a sexy, powerful image—creating a popular appeal—thereby creating the sense that killing one is a great bravery. This has produced a complex historical relationship with man further adding the need for conservation. Moreover, large carnivores tend to interfere with man, livestock and other wildlife, increasing their position as enemy and potential killers.

From an ecological point of view, the fact that they hold the apex of food chains increases their ecological role; therefore the need to conserve them. Holding the apex of the food chain implies that they are relatively rare and occupy relatively large home ranges requiring large protected areas. This is difficult to maintain due to human interference which alters their habitat and also leads to habitat fragmentation and loss. Having a good idea of the status of large carnivores could also be taken as having good information about the health of the whole ecosystem, as they serve as flagship/umbrella species. This, all the more, increases the need to conserve these animals.

What is more is, many are listed as threatened. For example, according to the Red List of IUCN, Ethiopian wolf and African wild dog are Endangered, while Cheetah and African lion are Vulnerable. The same source also states that Striped hyena is Near Threatened and leopard and spotted hyena are Least Concern. Trying to conserve large carnivores poses an enormous conservation policy and management challenge. Thus, necessitating a well planned, and thoroughly carried out conservation practice.

The Need for a Survey of Large Carnivores in Ethiopia

Several reasons could be given for focusing on large carnivore's survey in Ethiopia. One is the presence of substantial gaps in knowledge. Fundamental data on distribution and status of large carnivores is lacking and a better understanding of human-carnivore conflict is also needed. Identification of illegal trade of live specimens and parts is another point necessitating the survey. The creation of opportunities for training young scientists adds some value to it too.

Ethiopia should report to CITES Non-Detriment Findings (NDF). Data collected during the survey will be used in the preparation of the report. There is a potential for transfrontier conservation initiative with neighbouring countries, which requires a well studied proposal to discuss on.

⁵ This paper is a summary of the presentation by Claudio Sillero on the workshop on 12 June 2009.

What do we know now?

A limited number of works is available for use as baseline studies. Among them are the Regional Conservation Strategies for the lion and for the cheetah and African wild dog in Eastern Africa. Current ranges of Cheetah, African Wild Dog and African Lions are provided by IUCN.

The survey:

WildCRU is preparing to implement the first country-wide baseline on large carnivore populations, and of their conflict with human populations. The survey will be conducted with three objectives. Collating presence-absence and conflict data opportunistically and through questionnaires is the first one. Secondly, spatial models will be used to predict prey base and identify areas suitable for reasonable carnivore populations. Through intensive field surveys ground-truthing will be conducted in key areas.

However, it will not be an easy task. Counting carnivores actually is extremely difficult. The fact that they are found in small numbers dispersed in a wide area and also in inaccessible areas is one reason. They are also often shy and nocturnal adding to the complexity. Traditional mammal survey techniques cannot be employed. Therefore, mining of information in people's heads and government offices is one avenue to follow. Presence-absence surveys could be used as they are cheaper and less intensive. Spoor-surveys and call-back stations could also be used. Predictive GIS models are also of prime importance in such a study.

The study will be done in collaboration with EWCA, WildCODE, Born Free Foundation-Ethiopia, Frankfurt Zoological Society, Ethiopian Universities, Ethiopian Wolf Conservation Programme and IUCN.

Activities of Born Free Foundation-Ethiopia⁶

James Young

Introduction

The history of the Foundation dates back to 1966 when the Adamsons published their book 'Born Free'; later when Bill Travers and Virginia McKenna starred in a film called 'Born Free'. It tells a story of two individuals facing the challenge of returning a lioness back to the wild.

Then after they dedicated their lives to raising awareness about poor animal welfare in zoos and set up "Zoo Check" which in due time evolved in to Born Free Foundation twenty five years ago.

Activities of the Foundation

There are a number of activities undertaken by the Foundation. Major ones are listed below

- 1) Campaigning: to improve animal welfare of wild animals in captivity.
- 2) Wildlife rescue and care: rescuing animals from poor facilities and providing support for improved facilities.
- 3) Scientific research studies: to better understand threatened species and ecosystems, this could in return help in developing an effective conservation strategy.
- 4) Wildlife conservation: with over fifty projects worldwide (in five continents, mostly in Africa) it helps conserve twenty one species including lion, tiger, elephant, chimpanzee, gorilla, orang-utan, orca, turtle, dugong, basking hark, polar bear, moon bear, sloth bear, Ethiopian wolf, giraffe, Andean cat, greater bamboo lemur, vervet monkey and baboon. In Ethiopia it is involved in the conservation of Ethiopian wolf and has been a major donor to the Ethiopian Wolf Conservation project for over eleven years.
- 5) Environmental education: mainly in schools.

The Foundation in Ethiopia

Ethiopia and lions are inextricably linked. Historical evidence could be found in the 14th and 15th century, a time when Gondar was the seat of Ethiopian Emperors. In Atse Fasil Castle one can see the cages for lions. Lion was also used as an emblem in recent times. Atse Minilik's and Atse Haile Sellasie's Castles are full of lion emblems. Lions were reared in the castle during the reign of Atse Haile Sellasie. And in the same time period lions were used as logos by big companies like Anbessa Bus and Ethiopian Airlines.

But in recent times the welfare of wild animals in captivity grew worse. This is epitomised by the poisoning of rare lions (black mane lions) cubs in November 2006, as

⁶ This is a summary of the presentation by James Young on the workshop 12 June 2009.

reported by BBC. This was acknowledged by the Consultative Meeting of non Captive Wildlife in Ethiopia held in December, 2006. In the conclusion of the meeting, it was recommended to create a Wildlife Centre. And, Born Free Foundation accepted the invitation of Wildlife Department to set up the new Centre.

Afterwards, the Foundation established itself in Ethiopia in December, 2007 opening offices in Addis Ababa and signing Federal Project Agreement and a MoU with EWCA.

The centre will be called Wildlife Rescue, Conservation and Education Centre. It will have wild animal care facilities and veterinary and quarantine facilities. It will also have an environmental education and visitor centre with exhibition area, class room, café, play area and gift shop.

Land area of 77.5 hectares has already been found 23 km West of Addis Ababa, close to Holleta town. The concession has been signed with Oromiya Land and Environmental Protection Bureau.

The construction of the centre will be conducted in two phases. In the first boundary demarcation, employment of security staff, construction of site storage and secure central fenced area, perimeter fencing, land survey, hydrology survey and improving access road will be conducted. In the second, master plan design and construction of enclosures for rescued animals in temporary care will be carried out. Moreover, visitor accommodation will be dealt with in the second phase.

All in all, although the priority of the Foundation is to create the Wildlife Centre, it will also support:

- Wildlife rescue and care
- Scientific research
- Conservation including capacity building, and
- Environmental education.

Working Group 1a: Amending the Existing Lion Distribution Map

Terms of Reference:

All working group participants had the opportunity to draw on poster-size maps and supply additional information. All materials were digitised into a Geographic Information System.

Result:

The following map was produced. This map represents the synthesis of the best information currently available. That doesn't mean that it is completely accurate or that it is completely up to date; improvements are always possible and new information on lion distribution is welcome.

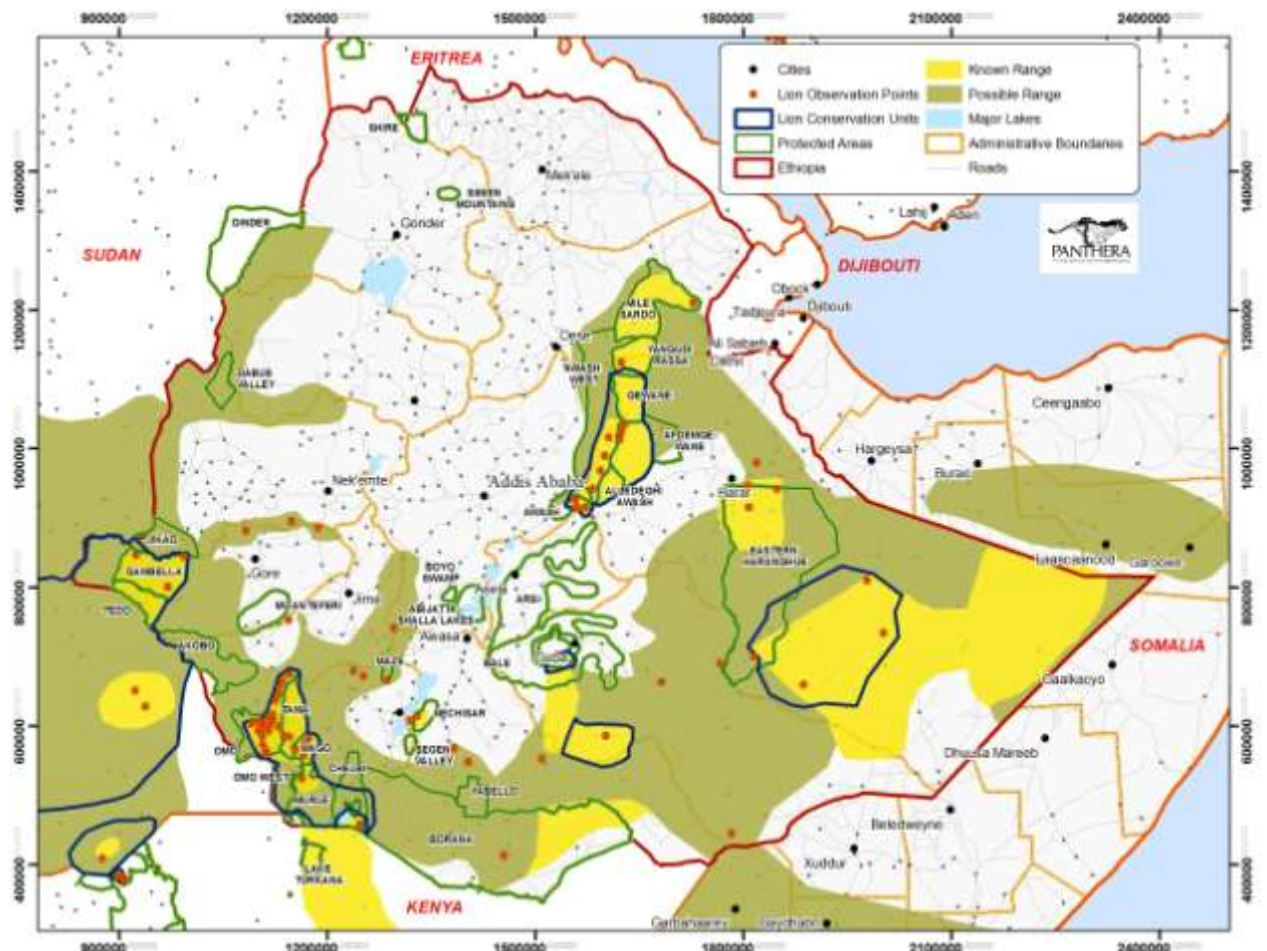


Figure 1: Lion Distribution in Ethiopia according to workshop attendants

Working Group 1b: Threats Assessment and Problem Analysis

Terms of Reference: All working group participants had the opportunity to list the threats and problems for lion conservation in Ethiopia. The list was prioritized depending upon the extent of impact the threats are causing.

Objective: to describe the major threats and problems

Expected outcomes:

- Prioritized list of threats at national level
- If appropriate, specific threats for specific lion populations
- For the two major problems, a problem analysis/discussion
- Identification of the main actors and stakeholders behind the problems

Methodology:

- Brainstorming on threats and problems
- Categorising and lumping of threats and problems
- problem tree
- threat ranking

Result:

Brainstorming gave the following list of threats and problems

1. Population pressure
2. Low political priority/interest
3. Habitat loss(lion incompatible development)
4. Lack of capacity
5. Lack of preys
6. Poor livestock husbandry
7. Poor management strategies
8. Conflicts (human-wildlife)
9. Weak law enforcement
10. Lack of capacity
11. Lack of awareness
12. Untapped ecotourism potential
13. Cultural and traditional factors
14. Drought
15. Poor land management around protected areas
16. Lack of data
17. Lack of government support
18. Lack of monitoring
19. Tsetse eradication
20. Trade in lion parts
21. Low awareness about environment
22. Encroachment

During subsequent discussion, the following additional threats surfaced:

1. Poverty
2. Breakdown of social community structure
3. Invasive plant species
4. Bush encroachment
5. Climate change

Threats were prioritized as follows:

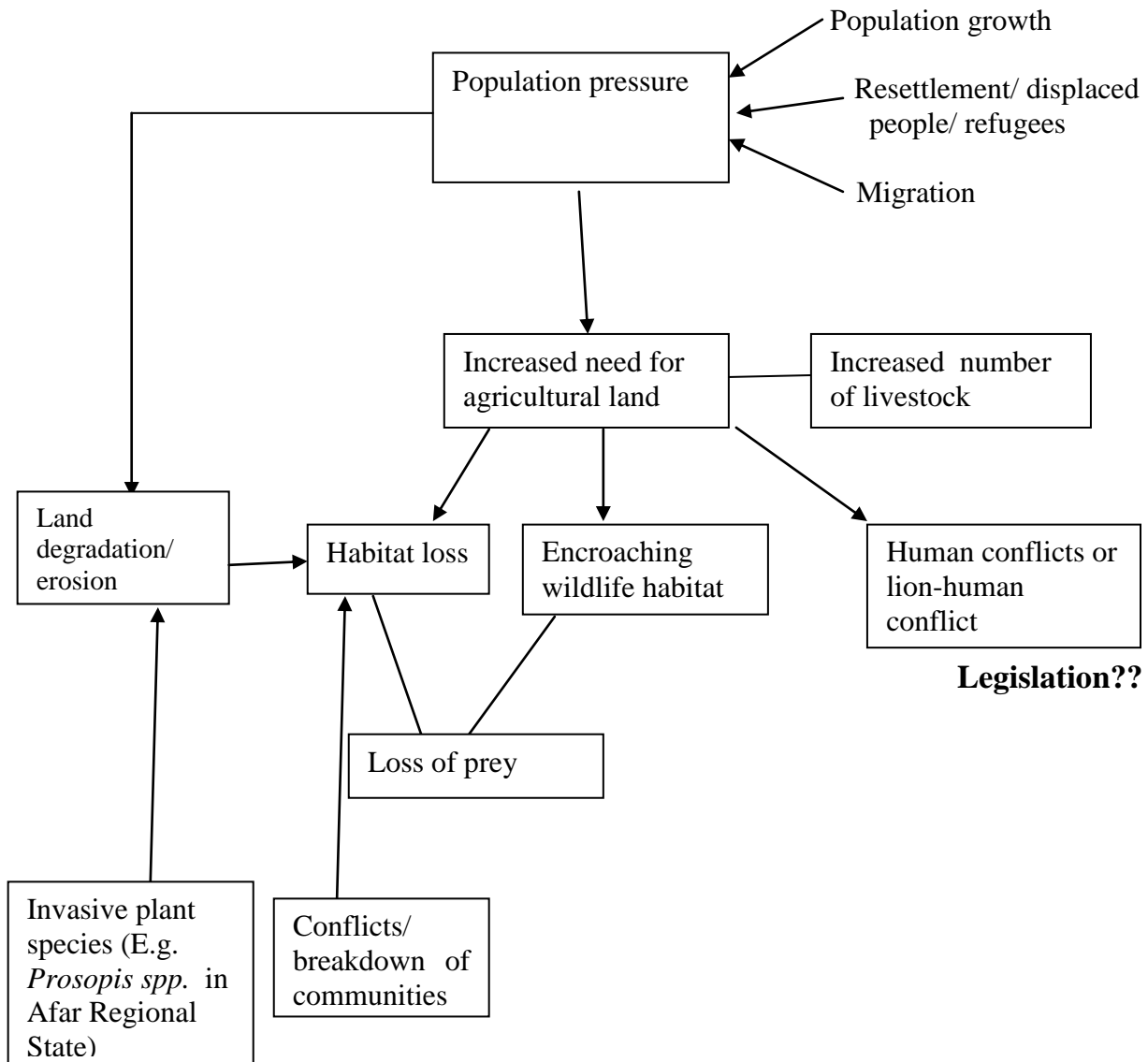
Table 3: Prioritized threats depending upon the impact they are causing

Factors	1	2	3	4	5	Total
1 Population pressure	////	///	///	///		14
2 Habitat loss (lion incompatible development)	///	/	///			8
3 Low political priority	//	///		/	//	7
4 Weak law enforcement	/	/	/		///	6
5 Lack of capacity		/	/	//	//	6
6 Lack of prey	//	//			/	5
7 Poor livestock husbandry		/	/			2
8 Poor management strategies	/		//		/	4
9 Conflicts (human-wildlife)	//		///			5
10 Lack of capacity				/		1
11 Lack of awareness				//	/	3
12 Untapped ecotourism potential				/		1
13 Cultural and traditional factors					/	1
14 Drought				/		1
15 Poor land management around protected areas		/	/			2
16 Lack of data			/		/	2
17 Lack of government support				/	///	5
18 Lack of monitoring	/					1
19 Tsetse eradication						0
20 Trade in lion parts						0
21 Low awareness about environment						0
22 Encroachment, resettlement		//		/	/	4
23 Civil strives and proliferation of firearms		/		//		3

For population pressure it was decided not to make a problem tree, but to identify the complexity of related threats and problems. These are:

- resettlement
- migration
- cattle population growth
- poor/inappropriate land use
- human lion conflict
- encroachment on Protected Areas
- poverty
- loss of prey

For habitat loss, the following problem tree was constructed:



Working Group 2a: Research Agenda Setting

Terms of Reference: The participants of the group discussion identified and prioritized research activities. At last, a 'roadmap' was identified for the actions.

Objective: to set the research agenda for lion conservation in Ethiopia

Expected outcomes:

- Defined research actions
- Prioritized research actions
- For the top three, identifying actors/stakeholders
- A 'roadmap' of the necessary steps towards initiation of those actions

Methodology:

- Listing and prioritizing the to-be researched areas
- Defining the actors and stakeholders for the top three voted topics
- Identifying the necessary steps and preparing a road map for the top three ranking research areas

Result:

The discussion gave the following list of researchable areas. The areas were prioritized by voting and the numbers after each of them show the number of people who voted in favour of the research area.

1. Census of lion populations = (11)
2. Population dynamics = (3)
3. Off take and utilization (both sustainable and unsustainable) = (3)
4. Conflict situations (human-lion) = (9)
5. Prey availability = (5)
6. Genetics = (0)
7. Rate of habitat change and loss = (3)
8. Community surveys and research into attitudes of locals to lions = (3)
9. Spatial modelling (lions, prey, people, habitat, proliferation of firearms) = (3)
10. Diseases

The prioritization revealed that the top three research areas were in order of importance:

1. Census of lion population
2. Conflict situation (human-lion) and
3. Prey availability

The stakeholder analysis for undertaking researches in the prioritized areas revealed that the top three to be

1. Universities, NGO's, GO's, Parks, Funders
2. Kebeles, Woreda administrators, Committees, Researchers on the ground, Tourism officers
3. Graduate students, Park scouts, Field staff, Hunting agencies, Research institutions

The necessary steps needed to undertake the top three research topics are the following:

1. Proposals, identification of funders, getting permission from relevant offices, identification of partners, acquiring the necessary expertise through trainings, recruitment, and local capacity building.
2. Standardized protocols for data collection, for establishing a network of recorders/informers, for identification of hotspots, for 'ground truthing' of conflict reports, for using focus group discussions; i.e. women, youth, elders.
It is also important to identify if any mitigation measures are in place and whether they are working or not. Surveys/interviews could also look at attitudes of people.
3. Following the above steps, study of prey in lion range can follow. Aerial surveys could be done by research organizations and ground surveys could be done by students, park scouts, possibly employing GIS mapping techniques.

Working Group 2b: Conservation Agenda Setting

Terms of Reference:

- define conservation actions
- prioritize conservation actions
- for top 3, define actors/stakeholders
- make a 'roadmap' of necessary steps towards initiation of those actions

Objective: to set the conservation agenda for Ethiopian lions.

Expected outcomes:

- Defined conservation actions
- Prioritized conservation actions
- For the top three, conservation actions defined actors/stakeholders
- A 'roadmap' of the necessary steps towards initiation of those actions

Methodology:

- Listing and prioritizing conservation agendas
- Defining the actors and stakeholders for the top three selected ones
- Identifying the necessary steps and preparing a road map for the top three ranking conservation agendas

Result:

The discussion gave the following list of conservation agendas.

1. Awareness development education
2. Make a population census
3. Law enforcement training
4. Land improvement around PA's
5. Reducing encroachment
6. Illustrating tangible benefits (ecotourism, etc)
7. Improving the efficiency of PA management
8. Improving the community's livelihood (husbandry and veterinary care)
9. Develop a network of partners
10. Sharing experience
11. Conservation based socio-economic development

The top three priorities are: -

1. Conservation based community development including: illustrations of tangible benefits, livelihoods, improve land around PAs
2. Education and awareness raising
3. Improvement of PA management including law enforcement

The prioritized conservation agenda were suggested to be carried out by the following actors and stakeholders.

Table 4: Actors and stakeholders for the top three prioritized conservation agendas.

Priorities	Actors/Stakeholders
1	EWCA, NGOs, CBO, local government, surrounding community, investors, ILRI, international donors
2	Mass media, schools, local government, NGOs, CBOs, religious institutes, international donors
3	Law enforcement agencies, courts, local government, adjacent communities, EWCA, PA management, NGOs and CBOs

Closing Discussion

The closing discussion started after a remark made by the facilitator Dr. Bauer. He acknowledged that the meeting was very enriching and opened the floor for discussion on the way forward for the conservation of large carnivores in Ethiopia.

The main point of discussion centred on designing a methodology for data collection and transmission among interested groups. Another point raised frequently and agreed among participants is the stance of the government on conservation related issues. The assumption taken was, as it doesn't bring a huge proportion of revenues in the country, the attention given to it is also very low. The participants also made it clear that the Ethiopian population prefers other types of natural resource conservation than wildlife conservation, which (wildlife conservation) by some is referred to as "voiceless". However, some participants argued that things are changing for the better: especially as there is some room for wildlife conservation in the MDGs.

Another issue of discussion was the fact that in addition to the small number of professionals (Gambella National Park was a case in point) they are not organized in any form. This has decreased the pressure they can put on policy makers. This understanding has led to the suggestion of forming a network of people concerned with wildlife conservation so as to share all the necessary information. According to the participants, if the network is once created, should be maintained well and should work on creating awareness on the side of the general public and politicians, as well.

On this specific workshop though, the participants agreed not to form a formal structure, which would need a project manager, an office and all the formal steps, which was considered non viable. They all agreed that everyone should pass any information they get on carnivores and contribute to the nationwide survey. For further development of ideas, Dr. Claudio Sillero, Dr. Hans Bauer, Dr. Zelalem Tefera and Ato Wondmagegn Daniel are chosen. Their additional duties will be strengthening the bond among the participants of this workshop and other interested people.

The other important point suggested was that the WildCRU, for the large carnivore survey it is going to undertake, can get the first line data from AAU, National History Museum. AAU has already started to survey biodiversity in the country, with a plan to go to every Kebele in the country. .

In addition to this, it was also suggested that there should also be a focus on international organizations like the IUCN Cat Specialist Group. This, it was said, to help in getting better attention and also in strengthening hands for putting more pressure.

The other suggestion was that more work should be done to get instructors from higher institution in to the network, because they will contribute a lot in directing students to the field. They can easily do this by clearly showing students that information on large carnivores will help to come up with a better conservation and management systems.

Annex 1: List of Participants


No.	Name	Organization	Address	E-mail	Tel.
1.	Abdi Beshir	Somali Region	Somali	abshir_177@yahoo.com	+251-915-738804
2.	Abiot Hailu	Awash N. Park	Awash	abiot.hailu@yahoo.com	+251-911-835780
3.	Alehegne Taye	Maze N.Park	Make (Morka)	mazenationalpark@yahoo.com	+251-911-090759 +251-468-840411
4.	Alemayehu Matewos	Mago N. Park	Neri	AlemayehuMago@yahoo.com	+251-916-856427
5.	Amleset Haile	Mekelle University	Mekelle	amlhail@yahoo.com	+251-910-841597
6.	Anne-Marie Stewart	EWCP	Bale Mountains N.P	ewcp@zoo.ox.ac.uk	+251-910-512795
7.	Baffa Balcha	Nechisar N. Park	Arbaminch	-	+251-911-041415
8.	Bekele Tsegaye	OBARD	A.A	bekele_td@yahoo.com	+251-911-154235
9.	Cherie Enawgaw	EWCA	A.A	cherieenawgaw@yahoo.com	+251-911-673737
10.	Chris Gordon	EWCP	Bale Mountains N.P	ewcp@zoo.ox.ac.uk	
11.	Claudio Sillero	WildCODE	Oxford University UK	claudio.sillero@zoo.ox.ac.uk	-
12.	Degu Tadie	WildCODE	A.A	wildcode@ethionet.et	+215-114-673272
13.	Demissew Ketema	BoARD,SNNP R	Hawassa	demisket@yahoo.com	+251-911-754405
14.	Derek Clark	Private	South Africa	derekclark@gmail.com	+251-910-841183
15.	Fedlu Abdella	EWCA	A.A	sedru@yahoo.com	+251-911-716437
16.	Fekadu Shifeta	CTDCD	Hawassa	Shifetafekadu@yahoo.com	+251-911-712481
17.	Fetene Hailu	EWCA	A.A	fetenehailu@yahoo.com	+251-911-930974
18.	Fikirte Gebre Senbet	Mekelle University	Mekelle	kememgst@gmail.com	+251-912-018062
19.	GatluakGatloth	Gambella N.park	Gambella	grokier@yahoo.com	+251-911-973190
20.	Geremew G/Selassie	EWNHS	A.A	ewnhs.ble@ethionet.et	+251-912-105909
21.	Gidey Yirga	Mekelle University	Mekelle	gidey1998ec@yahoo.com	+251-914-750373
22.	Girma Mengesha	WGCF	Shashemene	gutugirma@yahoo.com	+251-911-167926
23.	Habteyesus Mathewos	WSD/AFL	A.A	apomohabet@yahoo.com	+251-916-856998
24.	Hans Bauer	IUC VLIR	Mekelle	bauer@casema.nl	+251-914-721541
25.	James Young	BFF- Ethiopia	A.A	james@bornfree.org.uk	+251-913-119054
26.	Janny Poley	EKN	A.A	jc.poley@minbuza.nl	+251-113-771100
27.	Kahsay G/Tensae	EWCA	A.A	kahsaygt@hotmail.com	+251-911-742003

28.	Kedir Mohammed	Yangudi Rassa N. Park	Gewane	kedand@yahoo.com	+251-910-158726
29.	Ludwig Siege	SDPASE (GEF)	A.A	ludwig.siege@gtz.de	+251-913-073700
30.	Luke Hunter	Panthera	New York C., USA	lhunter@panthera.org	
31.	Mat Pines	Filoha Hamadryas Project, Awash NP		mat2pines@yahoo.com.au	+251-910-006188
32.	Mateos Ersado	EGCF-NR	Hawassa	mem@ethionet.et	+251-911-882327
33.	Negash Teklu	CIPHE	A.A	pheethiopia@gmail.com	+251-911-201968
34.	Rea Tschopp		AHRI	rea.tschopp@unibas.ch	+251-911-427021
35.	Sanne Van Aarst	HoA-REC	A.A	sannevanAarst@gmail.com	+251-913-122900
36.	Solomon Yirga	AAU	A.A	solyirga@yahoo.com	+251-911-407574
37.	Tariku mekonnen	Jimma University	Jimma	tmgutema@yahoo.com	+251-917-052323
38.	Thomas Mattanovich	Wildlife Safaris	A.A	tmattanovich@yahoo.com	+251-111-508909
39.	Wondmagegne Daniel	Mekelle University	Mekelle	wondu97@yahoo.com	+251-011-454206
40.	Woubishet Zenebe	Omo N. Park	Mui	-	+251-912-284597
41.	Yirmed Demeke	WSD/EWA	A.A	wsd-ethiopia@ethionet.et	+251-911-643388
42.	Zelalem Tefera	FZS	A.A	zelalemtef@fzs.de	+251-911-406083
43.	Ziwa Joel K	Private	Somali Ogaden	JKZiwa@gmail.com	+251-913-940702


Annex 2: Workshop Schedule

Time	By	Activity
9.00 – 9.15		Registration
9.15 – 9.30	Kahsay G/Tensae	Opening and introduction
9.30 – 10.00	Dr. Hans Bauer	African Lion: status, conservation and research
10.00 – 10.30	Dr. Solomon Yirga	Ecological role of lions in Ethiopia
10.30 – 10.50		Coffee Break
10.50 – 11.15	Dr. Luke Hunter	<ul style="list-style-type: none"> • Activities and plans of Panthera Foundation • Introduction to working group tasks
11.15 – 12.30	Working group 1a	Revision of lion distribution map (if possible all large carnivores)
11.15 – 12.30	Working group 2a	Threats assessment and problem analysis
12.30 – 14.00		Lunch
14.00 – 14.20	Dr. Claudio Sillero	WildCRU Large Carnivore Survey of Ethiopia
14.20 – 14.30	Dr. James Young	Born Free Foundation in Ethiopia
14.30 – 15.30	Working group 1b	Conservation agenda setting
14.30 – 15.30	Working group 2b	Research agenda setting
15.30 – 16.00		Tea break
16.00 – 16.30	Working groups	Plenary presentations of results
16.30 – 17.00	All participants	General discussion (facilitated by Dr. Hans Bauer)
17.00 – 17.30	Dr. Zelalem Tefera	Closing statement

Annex 3: PowerPoint presentations



Dr. Hans Bauer
Carnivore Conservation
in Ethiopia





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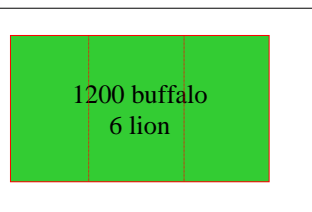
FRAGMENTATION

- Leads to small islands of biodiversity in an ocean of human settlement.
- This leads to increased edge effects, such as Human Wildlife Conflict.
- And it leads to dispersed small wildlife populations, with inherent risks.



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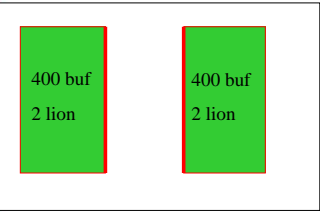
Illustration: unfragmented



 1200 buffalo
 6 lion

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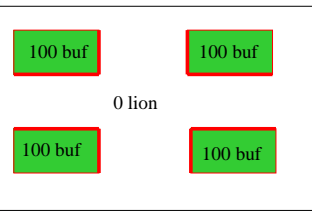
Illustration: intermediate



 400 buf
 2 lion

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Illustration: fragmented



 100 buf
 100 buf
 0 lion
 100 buf
 100 buf

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Habitat loss and fragmentation critical

- Swaynes Hartebeest: 400
- Walia Ibx: 400
- Mountain Nyala: 4000
- Ethiopian Wolf: 500
- Wild Ass: 500
- Elephant: 1000
- Lion: 600
- Giraffe?
- Rhinoceros?

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Ethiopia - High biological diversity

- 6,000 plant species, 625 endemic, 669 near-endemic, one endemic genus
- 860 avian species, 16 endemic, two endemic genera
- 279 mammal species, 35 endemic, six endemic genera
- 'Normal' African flagship species
- Endemic carnivore: Ethiopian Wolf
- Felidae: Lion, Cheetah, Leopard, Wild cat
- Canidae: Wild dog, Ethiopian wolf
- Hyaenidae: Hyena (spotted, striped, aardwolf)
- Smaller carnivores: genets, mongooses, etc.

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Wild dog (*Lycan pictus*)

- Extremely large ranges and high mobility
- Low densities, especially in 'lion country'
- Endangered: some 2000 left?




Ethiopian wolf (*Canis simiencis*)

- Some 400 in Bale NP
- Small populations in other areas, including Simien Mountains NP
- Most endangered canid species
- Threat: rabies



Cheetah (*Acinonyx jubatus*)

- Bottleneck around 14,000 years ago
- Fastest land mammal, 110 km/h
- Medium size prey, competition with Lion & Hyena
- Lions kill cheetah cubs



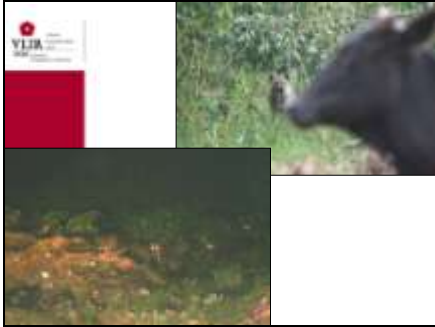
Leopard (*Panthera pardus*)

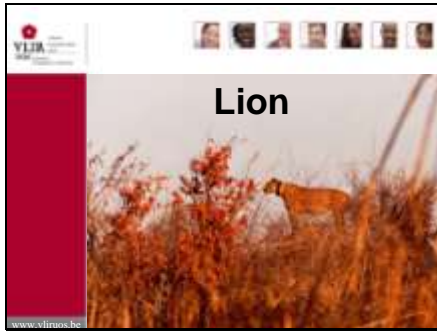
- Very elusive, secretive, well camouflaged
- Very versatile: Asia & Africa - forests, mountains, arid areas, urban areas
- Relatively good compatibility with human land-use



Hyena (*Hyaena hyaena*, *Proteles cristatus*, *Crocota crocuta*)

- Striped Hyena: rare and decreasing
- Aardwolf: rare, termite eater
- Spotted Hyena: Almost everywhere
- Densities probably higher around towns
- Livestock conflict relatively rare
- Hiding in church forests – 'God's guards'
- Harar: 'hyena man' has habituated hyenas





Correlation Lion – Prey density

- Three sources, simplified formulas (y=prey, x=lion):
- Van Orsdol et al. (1985): $y=0.0878+0.0002x$
- Carbone & Gittleman (2002): $10,000y=(90/142)x$
- Hayward et al. (2007): $10^y=1.363+0.152(10^x)$

Approximation: 1 lion per 5,000 kg of prey

Important rules of thumb

- You need approximately 10,000 kg prey to sustain 1-3 lions
- The number of prey individuals depends on mean weight of preferred prey in local lion diet
- You can expect hyena density to be the double of lion density

Some lion densities:

- Ngorongoro: 38 lions /100 km²
- Serengeti: 20 lions /100 km²
- Kruger: 13 lions /100 km²
- Kalahari: 2 lions /100 km²
- Waza: 3.5 lions /100 km²
- Pendjari: 0.7 lions /100 km²
- Zakouma: 4 lions /100 km²

Lion numbers and distribution

- Lions are hard to count due to
 - Nocturnal / crepuscular behaviour
 - Low densities
 - Large ranges
 - Secretive
- Lion counts are rare, expensive and imprecise

Lion numbers

	ALWG	ALWG*	IGF/CF	RWPS
West & Central	1,800	1,800	3,978	3,320
East & Southern	21,000	26,000	35,395	28,820
Total	23,000	28,000	39,373	32,140

- Estimate will always be imprecise
- Different methods, results not easily comparable
- Current knowledge unprecedented
- All information reviewed in various papers

Lion Conservation Strategies

Lion Conservation Strategies available:

- 32 activities for Central Africa
- 17 activities for West Africa
- Lion focal points
- 32 activities for Eastern and Southern Africa
- Collaboration with stakeholders

Lion Conservation Strategy Process

- Range Wide Priority Setting
- Regional stakeholder workshops
- Problem analysis and Logframes

Lion Conservation Units

Maximum lion estimates for Ethiopia:

- 500 Gambella-Boma
- 250 Greater Omo
- 100 Ogaden
- 100 Welmel-Genale
- 50 Bale
- 50 Awash

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- Almost 90% of all lions in Eastern and Southern Africa
- Almost 50 % in Tanzania
- Ethiopia-Sudan bridge between East and Central Africa

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Range decline

- The lion has disappeared from 40% of its historical range over the last 150 years, and lion presence is unknown for another 38%

Lion Range (km²)	Historical range	Current range (% of historical range)	Unknown range (% of historical range)
West & Central Africa	1,206,817	1,047,231 (15%)	0
East & Southern Africa	13,010,000	3,564,000 (23%)	7,600,000 (58%)
Africa	20,216,817	4,611,231 (22%)	7,600,000 (38%)

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IUCN Red List Status

- Each source leads to the same outcome:
- Vulnerable on global level: a reduction of between 30 and 50% is suspected over the past two decades...
- Regionally Vulnerable in Central, East and Southern Africa; Regionally Endangered in West Africa

The IUCN Red List of Threatened Species® Species Information

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Problem analysis

- Problem analysis: poverty, population growth, political instability and perverse policies as root causes, leading to a reduction in lion range and numbers through
 - human lion conflict
 - habitat loss
 - prey depletion
- Six main threats

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Six main threats to lions (1)

- Inappropriate lion population management.**
 - ineffective protected areas, unsustainable hunting practices in some wildlife management areas, lack of knowledge and monitoring of lion populations, etc.
- Habitat degradation and reduction of prey base.**
 - fragmentation, habitat loss, wildlife-unfriendly landuse, 'bushmeat' encroachment of agriculture and livestock, etc.

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Six main threats to lions (2)

- Human-lion conflict.**
 - lion attacks on people, depredation of livestock, indiscriminate killing of lions (poisoning, snaring, retaliatory / pre-emptive killing), ineffective PAC, etc.
- Adverse socio-economic factors.**
 - negative perception of lion among local people, lack of incentives to tolerate lions, inequitable sharing of lion related benefits, lack of local participation in planning and decision-making, etc.

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Six main threats to lions (3)

- Unfavorable policies and political factors.**
 - policy aspects of integration of wildlife in landuse, political controversy over trophy hunting, low priority on the political agenda, management of transfrontier populations, compliance with regulations, etc.
- Institutional weakness.**
 - limited capacity of governments and stakeholders to manage populations effectively, inadequate institutional frameworks for integrated wildlife management (e.g. consultation between agriculture and wildlife sectors), etc.

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Examples of activities

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Examples of activities

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Lion Trophy Hunting

- In Ethiopia standard procedure for Problem Lions
- Income generation and benefit sharing
- On continental scale as important for conservation as Protected Areas

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Human Lion conflict


- Zero tolerance doesn't work: there will always be some livestock damage and some lion killing
- But lion-related benefits can be increased, and
- Livestock can be protected from predators; e.g. mesh + gate of local materials cost \$15-30 (1 goat) and eliminate losses



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Human Lion Conflict

- www.rocal-lion.org
- www.carnivoreconservation.org
- www.felidae.org
- Real annual lion damage 0-10% of cattle, generally 1-3%
- Sometimes higher for individual herder



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Lion - stock raiding behaviour

- Nomadic males
- Single males or females
- Small groups
- wet & dry season
- opportunistic behaviour
- man-eating in Uganda, Kruger, Tanzania

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Example of losses in Waza, 1998

	Stock	Disease (%)	Theft (%)	Depredation (%)
Cattle	34,282	1,091 (3.2%)	292 (0.9%)	727 (2.1%)
Sheep	18,858	1,345 (7.1%)	267 (1.4%)	2,794 (15%)
Goats	14,818	1,577 (11%)	129 (0.9%)	2,997 (20%)
Poultry	18,346	6,148 (34%)	7 (0.04%)	6,204 (34%)
Value (\$)	5,891,000	225,000	57,000	220,000


	Lion	Hyena	Jackal	South	East	North	West
Cattle	699	27	1	550	113	29	35
Sheep	742	1,141	911	1,484	887	390	33
Goats	507	1,227	1,263	1,200	1,132	583	82
Poultry	0	867	40	3,928	1,379	669	228
Value (\$)	130,000	47,000	38,000	136,000	54,000	22,000	8,000

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Real lion damage: telemetry



Hamidou killed 7 cattle, 9 sheep and 9 goats in four weeks.

Extrapolation to 'mean annual number of days outside the park': 66 cattle, 84 sheep and 84 goats for Hamidou alone.

For 5 tagged lions together: 143 cattle, 183 sheep and 183 goats (± \$ 40,000).

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Lions in Ethiopia

- Limited information, numbers unreliable
- Livestock conflict used to be limited, used to be 'good luck' sign for the owner
- Now increasing fast where prey disappears
- Man-killing endemic, last year 20 people eaten in short time in small area leading to the destruction of 8 lions
- Implementation of Strategy:
 - Survey: lions presence confirmed in some areas
 - GEF project: strengthening EWCA
 - Land use, policy and legal issues: GEF/EWCA project
 - PAC


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ACKNOWLEDGEMENTS

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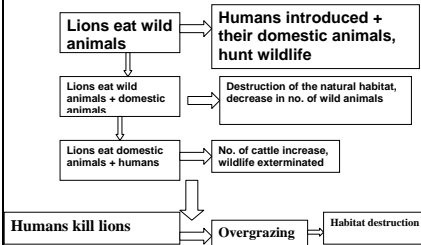
Solomon Yirga D.Sc.

Addis Ababa University
Department of Biology

Introduction

- The lion was a relatively common animal in Ethiopia and most of Africa (except the Sahara and the equatorial forests)
- It has been eliminated from northern Africa and most of southern Africa as a result of agricultural expansion
- Presently they exist in limited areas in Africa generally and only a few spots in Ethiopia

The trend of Human-Lion conflict



LIONS PREYING ON A GAZELLE



HERD OF CATTLE AFTER ATTACK BY LIONS



The Ecological Role of Lions

The case of lions and some savannah mammals in Awash N.P. and Alledeghi W.R.



Introduction contd.

- Lions are found in the following areas in Ethiopia:
 - Awash National Park
 - Awash River valley from Gewanne to Hadar
 - Bale
 - Bale National Park – Harena Forest
 - Gambella
 - Hadiyya Zone – Gibe River valley (Recently, over 100 humans eaten by lions. Source: H.E. Beyene Petros)
 - Harerge
 - Anenno
 - Babilie-Fafen-Bombas
 - Gobelle
 - Kefa
 - Bonga-Mizan road at Hotel 460 vicinity
 - Wollega
 - Dedessa River valley – Meko and Sachi areas

LIONS PREYING ON AFRICAN BUEFALO



SCARS FROM ATTACK BY LIONS



Oryx and Soemmering's Gazelle in Awash N.P. and Alledeghi W.R.

- AWASH PARK TAKEN OVER BY HUMANS.
- THIS WILL BE THE FATE OF ALL OTHER PARKS, IF THE TRENDS CONTINUE AS THEY ARE!!!



Oryx and Soemmering's Gazelle in Awash N.P. and Alledeghi W.R.

- In 2001, Berihun Gebremedhin studied the gazelles in A.N.P. and A. W.R.
- He found only 42 individuals of the gazelle in Awash N.P.'s Ilala Sala area.
- In an area of equivalent size in Alledeghi, he counted 458 individuals.
- The population trend in Awash N.P. showed a decrease, whereas that of the population in Alledeghi showed an increase.
- In 2005, Gebre-Egziabher Tesfaye studied Beisa oryx in Awash N.P. and Alledeghi W.R.
- He found 220 individuals in Awash N.P.
- In an area of equivalent size in Alledeghi, he counted 357 individuals.

NO. OF WILD ANIMALS BETTER IN ALLEDEGHI. Why?

- THE PARK AND THE RESERVE ARE SIMILAR IN HABITAT DESTRUCTION AND ENCROACHMENT BY CATTLE AND OTHER DOMESTIC ANIMALS.
- But, Why is Alledeghi better in number of oryx and Soemmering's gazelle?
- The big carnivores, especially the lions were eliminated.
- For the pastoralists of Alledeghi, no danger of lions eating their cattle.
- The wildlife of Alledeghi survive between the two contending tribes, in the buffer zone

- The population trend in A.W.R. is upwards, and that of A.N.P. is downwards.

- In A.N.P., there are relatively better protection measures than in Alledeghi.
- The pastoralists are relatively freer to herd their cattle in Alledeghi than in Awash N.P.
- Robertson (1970), Schloeder and Jacobs (1993), and Thouless (1995) estimated the populations of oryx and Soemmering's gazelle in Awash N.P. to be far greater than the present number
- In both Awash and Alledeghi, the number of cattle has increased to a great extent.
- The wildlife are in danger of elimination in both areas. But it is better in Alledeghi.

LESS NO. OF WILD ANIMALS IN A.N.P.

- IN AWASH PARK, IT IS REPORTED THAT THE LIONS HAVE BEGAN EATING CATTLE AND HUMANS.
- WHAT NEXT?

THANK YOU



Staff

- **US Head office**
 - Dr Alan Rabinowitz, President/CEO
 - Dr. George Schaller, Vice President
 - Dr Luke Hunter, Executive Director
 - Dr. Howard Quigley, Director of Western Hemisphere Felid Program (jaguars and pumas)
 - Dr. Tom McCarthy, Director Snow Leopard Program – (shared with Snow Leopard Trust)
 - Andrea Heydlauff, Director of Education & Outreach
 - Steve Winter, Director of Media
- **Global**
 - 15 staff around the globe, and growing

CORE PROGRAMS,
lions tigers, jaguars, snow leopards

Grant Programs

- **The Small Cat Action Fund**
 - Established by Panthera in cooperation with CI
 - Oversight of the IUCN Cat Specialist Group
 - Awards up to \$10,000 support conservation and research activities specifically for the small and lesser known cat species (28 species)
- **The Liz Claiborne Art Ortenberg Jaguar Small Grants program,**
 - Supporting applied research and conservation efforts of up and coming jaguar conservationists
 - Awards up to \$10,000
- **The George Schaller Conservation Fund**
 - Created in 2008 when Panthera's VP, Dr. George Schaller won the coveted \$100,000 Indianapolis Award



Impact

- Since Panthera's inception, we have had **92** projects
- Panthera has conducted projects in **48** countries (there are 195 countries in the world)
- Panthera currently has major partnerships with **9** organizations
- Panthera has provided scholarships to **58** students (MSc and PhD)
- Panthera currently works on the conservation of **21** species of cats (out of 36)

Special Projects

- **Species**
 - Cougar
 - Iranian Cheetahs
 - Leopards
 - Clouded Leopards

Grant Programs

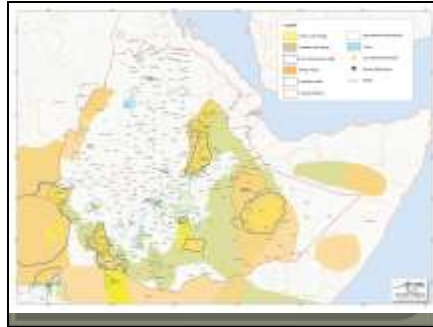
- **The Kaplan Graduate Awards**
 - Initiated in 2005
 - Awards up to \$28,000
 - Provides research and project costs for outstanding post-graduate students in MSc or PhD programs
 - Supported approximately 60 students since inception.
- **The Research and Conservation Grants**
 - Initiated in 2009
 - Awards up to \$25,000
 - Supports individuals and NGOs implementing conservation projects on large felids
 - tigers, jaguars, lions, snow leopards, cheetahs, pumas, leopards and clouded leopards.

Prizes

- **The Rabinowitz-Kaplan Prize for Excellence in Cat Conservation**
 - Awarded biannually
 - \$50,000
- **The Rabinowitz-Kaplan Prize for the Next Generation in Wild Cat Conservation**
 - Awarded annually
 - \$25,000



Regional Strategies



Lions populations in Ethiopia

Current Range of African Lions
Eastern and Southern Africa
Range Size: 750-1250 lions?
Bauer & van der Merwe (2004) Oryx
January 8-10, 2008

Large Carnivore Survey of Ethiopia

We propose to implement the first country-wide baseline on large carnivore populations, and of their conflict with human populations, by a three-pronged approach:

LCSE Objectives

- Collate presence-absence and conflict data opportunistically and through questionnaires;
- Use a spatial model to predict prey base and identify areas suitable for reasonable carnivore populations;
- Ground-truth these key areas through intensive field surveys.

Counting Large Carnivores

- extremely difficult!
- few in number, widely dispersed, inaccessible areas, often shy, nocturnal, ...
- traditional mammal survey techniques generally impractical
- mining the wealth of information in people's heads, and government offices
- using predictive GIS models,
- presence-absence surveys, less intensive, cheaper, ...
- spoor surveys, call-back stations.

A possible partnership

- Oxford University – WildCRU
- Ethiopian Wildlife Conservation Authority
- WildCODE
- Born Free Foundation – Ethiopia
- Frankfurt Zoological Society - Ethiopia
- Ethiopian Universities (e.g. Mekele, AAU)
- Ethiopian Wolf Conservation Programme
- IUCN/SSC Canid, Cat, Hyaena, SC Specialist Groups

Oxford University - WildCRU

Global Centre for Carnivore Conservation

- WildCRU seeks to achieve research solutions for conservation problems
- committed to training scientists from many countries
- long tradition and expertise working with carnivores
- have worked on a large proportion of the world's wild cats and canids
- over 20 years working in Ethiopia
- new training centre and Diploma course funded by Panthera.