

FINAL NOTES



**3RD INTERNATIONAL SEMINAR
ON THE CONSERVATION AND
MANAGEMENT OF LIONS AND
OTHER LARGE CARNIVORES
IN WEST AND CENTRAL
AFRICA**



**17 and 18
February,
Maroua,
Cameroon**

**The Centre for Environmental and
Development Studies in Cameroon (CEDC),
The Regional Network for the Conservation of
Lions (ROCAL),**

**The Institute of Environmental Sciences
(CML) of Leiden University, The Netherlands,
The IUCN-NL/Ecosystems Grants Program
(EGP)**



Composed by Barbara Croes and Ralph Buij



Ecosystems Grants
Programme



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I. INTRODUCTION

The ROCAL meeting for the conservation of large carnivores marked the third occasion in three years that that experts from all over the world have gathered before in Maroua, Cameroon, to discuss the challenges associated with the conservation and management of large carnivores in sub-Saharan Africa and to find practical solutions for large carnivore management in West- and Central Africa.

In November 2006 the Institute of Environmental Sciences (CML) of Leiden University, the Centre for Environmental and Development Studies in Cameroon (CEDC) and the West and Central African Network for Lion Conservation (ROCAL) provided international carnivore experts with the opportunity to share ideas and exchange information on all aspects of large carnivore conservation, particularly in West- and Central Africa, by organizing a two-day international seminar.



Participants at the 2006 Seminar

The 2nd Large Carnivore Seminar in Maroua, in January 2008 was jointly organized by CML, Leiden University, CEDC Maroua and WWF-Cameroon. Researchers working throughout Africa on all aspects of large carnivore conservation and management presented their work. The proceedings of the 2006 seminar were presented to the governor of Maroua, while action plans were discussed for the conservation of African wild dog and cheetah in the region.



Participants at the 2008 seminar

We are proud and honoured to have had the opportunity to organize the third international workshop and ROCAL meeting for the management and conservation of lions and other large carnivores in West- and Central Africa. This event was organized in the framework of the IUCN-NL Ecosystems Grants Program (EGP) funded project which ensures continued support to the regional network for the conservation of lions (ROCAL).

The current notes will provide an overview of the presentations and discussions as well as the most important conclusions reached during the 2-day seminar 17 & 18 February 2009.

II. ABSTRACTS OF PRESENTATIONS - DAY 1

STRATEGIE DE CONSERVATION DES LIONS EN AFRIQUE DE L'OUEST ET DU CENTRE : OÙ SOMMES NOUS DANS LA MISE EN ŒUVRE

Saleh Adam

*Conservateur Bénoué National Park
Cameroon*

La stratégie de conservation des lions en Afrique Centrale et de l'Ouest a été définie à Douala en 2005 suite à une recommandation de la CITES tenue à Bangkok en Thaïlande un an plus tôt. Cette stratégie c'est accompagnée d'une feuille de route qui sous tend sa mise en œuvre. La désignation des points focaux nationaux, la définition des plans d'action nationaux et la prise en compte des Unités de Conservation des Lions comme sites prioritaires sont les trois points fondamentaux et les indicateurs à court terme de la mise en œuvre de la stratégie.

Trois ans après, les trois quart des pays d'Afrique Centrale et de l'Ouest dispose d'un focal Lion. En Afrique Centrale, Seul le Cameroun dans le cadre de la mise en œuvre de son programme sectoriel forêt environnement a élaboré un plan d'action. En Afrique de l'Ouest, un plan d'action inter Etat (Guinée C. Guinée B. Côte d'Ivoire, Sénégal, Mali et Gambie) proposé par la Guinée Conakry est en cours d'exécution dans la deuxième grande Unité de Conservation. Les méthodes de collecte de données sont harmonisées. Cinq micros projets portant sur l'atténuation des conflits homme faune ont été exécutés dans les deux sous régions en 2006. De 2009 à 2010, 06 micros projets dont deux en Afrique Centrale et 04 en Afrique de l'Ouest seront exécutés avec le financement du NC-IUCN.

En somme, il y a une volonté politique manifeste des Etats des sous régions à assurer une conservation durable des félins en général et les lions en particulier. Toutefois, les résultats des actions concrètes orientées vers la protection de ces félins sont mitigés.

Ten years of ecological research on lion ecology in Northern Cameroon

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Lion numbers in West and Central Africa have declined drastically in the last decennia. The populations are generally small and isolated and are threatened by habitat reduction,

poaching, traditional practices and migratory livestock encroachment. In Cameroon, about 200-300 free-living lions are thought to live in two isolated populations: Waza NP and the Bénoué ecosystem.

The aims of the research programme were to establish insight in the ecology of lions in Northern Cameroon, providing information on: 1. population density, 2. social structure, 3. home ranges, habitat use and movements and 4. morphometrics. This is important for the development and modification of conservation plans.

Baited calling stations were performed to attract lions in Waza NP and Benoue NP. Lions attracted to the calling stations were used to assess population density in the Park. When successfully sedated lions were fitted with a GPS_GSM collar with a VHF-radio unit during 1998-2003, with GPS-GSM collars during 2007 and 2008 and with GPS plus download collars during 2007 and 2008 and of all lions morphometric data were collected. The collar units provided information on home ranges and movements, while the VHF-radio unit was also used to track down the collared lions to obtain information on group size, pride size and composition and presence of nomadic males.

Population density is estimated at 2.25 lions per 100 km², but probably lower. Groups of up to 4 lions were observed in the park, but mostly singletons and pairs, with an average group size of 1.95. The sex ratio is 1 male to 3 females. A pride of at least 4 and possibly 7 individuals has residence near camp Bufflé Noir. Presence of nomadic males is not confirmed although male L3 might be nomadic.

Home ranges of lions L1 and L2 overlap entirely, suggesting that these individuals belong to the same pride. The home range of L3 has little overlap with L2 and L4 has no overlap with any home range. Part of L2's home range is within an adjacent hunting zone and L1 has been observed exiting this same hunting zone. Diurnal movements seem slightly lower than nocturnal movement and lions can travel large distances within 24 hours. A few surrounding villages are approached to within a 1 km radius and camps situated within lion habitat are visited, causing concern as these lions may be potential problem animals.

Lions in Bénoué NP show no significant difference in body size with lions in Waza NP, but they do seem smaller than East and southern African lions, although not tested statistically. Ecological factors as prey availability and size and competition with other carnivores together may have an influence in both group size and body size. Higher prey density, larger prey size and a high level of interspecific competition with other large carnivores may have resulted in larger group sizes and larger body sizes in East and southern African lions.

Overall, it seems that the lion population in Bénoué NP is similar to Waza NP, both in social structure and in physical appearance. The low densities and the close contact with the human population are reason for concern, especially with the increasing human populations bringing pressure to bear on the entire Bénoué ecosystem. Lion-livestock conflicts may result in a reduction in lion numbers by illegal killing of lions. Therefore, local people and authorities should be made aware of the current status of the lions in the area and asked for their cooperation as to maximize conservation strategies.

Draft conservation action plan for lions in Cameroon

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Cameroon also known as Africa in miniature stretches from the dense equatorial forest in the South to the Sudano-Sahelian savannah in the north, comprising about 90% of the different ecosystems found in Africa. These ecosystems harbour a rich diversity of species, including prominent flagship species like the elephant, Bongo, buffalo, Eland, the great apes and the lion.

The lion is a symbol of power in Africa and has great traditional as well as cultural values throughout its range. It is one of the primary attractors of tourists to the savannahs in northern Cameroon where the remaining populations reside in two Lion Conservation Units: the Waza National Park and the Benoue-Faro-Bouba-Ndjida complex.

Classified as vulnerable on IUCN Red list of threatened species, it is listed in class A as one of Cameroon's totally protected species. Like in other range states in West and Central Africa the lion population in Cameroon is declining due to habitat loss, degradation and fragmentation; reduced natural prey base; human-lion conflicts and insufficient institutional capacity.

Faunal resources in Cameroon are managed by the Ministry of Forestry and Wildlife through its division of Wildlife and Protected Area Management. Conscious of the recommendations of the Convention for the Conservation of Biological diversity (CBD) of 1992 which underscores the need to set aside adequate measures for the protection and conservation of the world's ecosystems, Cameroon has set aside 17.2% of the national territory as a network of protected areas for protection and conservation of the country's natural resources. Government has also elaborated laws in 1994 regulating forestry, wildlife and fisheries resources and in 1996 regulating the use of the environment.

The Sectorial Programme for Forestry and Environment within the Ministry of Forestry and Wildlife has as a component: the conservation of biodiversity and sustainable exploitation of faunal resources. This component calls for the elaboration of conservation action plans with operational status for emblematic species. To minimize and reduce the negative consequences on the lion population in the country and to ensure a better protection of the lion population and to guarantee their natural habitat, Cameroon initiated a study in 2007 in view to develop a national conservation action plan. The vision of the action plan is to ameliorate the status of the lion in Cameroon in ten years and the goal is to stabilize or augment the lion population within its range in Cameroon in five years.

Featuring after those of the elephant, great apes and the picathartes, the lion conservation action plan is currently awaiting adoption at the national level and subsequent implementation.

Setting priorities for *Lycaon* conservation in West- and Central Africa

Gregory Rasmussen

Painted Dog Conservation

Zimbabwe

Over the last 20 years *Lycaon* has declined dramatically from north Cameroon with the last irrefutable evidence for the existence of a viable pack being in 1967. Since then sightings have declined with the last regular sightings being 10 years ago and consequently it is speculated that the reality exists that the species either has been extirpated from Cameroon or is at the point where extirpation is a reality. Major causes for this decline have been cited as poaching, contributing to indirect killing and prey loss, nomadic herders destroying dens, trophy hunting, which officially ceased in 1999 and habitat loss caused by human encroachment.

Preliminary findings from an intensive one month study indicate that whilst this endangered species may not yet be extirpated from Cameroon, if it is present, it exists at critically low numbers, with pack sizes being reported as two's and threes which is below the threshold of six that is needed for successful survival and is probably indicative of the terminal stage of decline before extirpation. If dogs are indeed present, then they do so solely in refuge areas free from human persecution. With reports indicating that the dogs are still being deliberately shot by trophy hunters and concessionaires, either as illegal trophies, or on the premise that the dogs are vermin that compete for prey, evidence strongly suggests that the greatest threat is from this uncontrolled targeted illegal killing in the hunting zones detrimentally benefiting from weak law enforcement, a lack of capacity of the law enforcers, poor perception combined with little knowledge of the species, coupled with a lack of any form of either financial or intrinsic benefit of the presence of the dogs to either the hunters or the local communities.

Due to the precarious nature of the species' survival, the presence of *Lycaon* in Cameroon needs to be seen as a priority because not only does its status as a flagship species indicates good conservation practice, but also, as it has yet to be determined if *Lycaon* in West and Central Africa is a genetically distinct eco-type, as pan African priority, the Cameroonian population may well be a geographically important core refuge, for this species in the Sahelian eco-region in West Africa.

As has been demonstrated in Zimbabwe, despite the precarious nature of the species, if multi-factorial conservation practice is implemented that develops an intrinsic benefit for the species, the decline can be reversed as *Lycaon* has proven to respond to good conservation practice. Such practice includes a sustainable prey base, but also because the species is vulnerable reduced pack sizes, most importantly it should include a persecution free environment either through enforced legislation or through programmes that promote conservation.

Knowing that until 1996, hunting quotas for *Lycaon* were still set and dogs were shot by safari hunters (Kwabong 2007), and in spite of the fact that due to intervention of WWF

Cameroon (Tchamba, personal communication) that this practice was abolished in 1997, from a legislative point of view the status of the species as a protected animal in Cameroon still needs to be reinforced so as to make a statement highlighting its current importance as a flagship species in the region. Furthermore intensive effort is needed to provide irrefutable proof of its existence, and to halt any potential further decline. Where there is strong evidence of its existence, conservation programmes need to be immediately implemented to provide direct benefit to the stakeholders. Following the Zimbabwe model, where local communities are involved, such benefits should include conservation education with particular emphasis on children as well as meaningful involvement in the conservation programme through employment and capacity building at a local and national level. Locally, communities should also be rewarded for demonstrating good stewardship, through intrinsic benefits such as capacity building and the development of community welfare- and income generating projects. As it is believed that illegal killing in hunting zones is one of the major threats, this should be ameliorated using a “carrot and stick” approach. Considering the fact and philosophy, that confirmed breeding presence of *Lycaon* is commensurate with good management practice and wildlife populations, under such a scheme, where in hunting Zones *Lycaon* is positively identified to be resident, these regions should be designated as “special management areas” where anti-poaching is increased and increased quotas are allowed on valued trophy species (lion, Derby eland and maybe leopard). Where *Lycaon* is proven to be absent, current quotas should be reduced.

Developing a National Lion Conservation and Management Strategy for Kenya

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Lions (*Panthera leo*) form a vital component of Kenya’s natural ecosystems. By affecting not only prey numbers, but also prey behavior, lions have an important function in structuring ecological communities. In addition to this key ecological function, lions also play a critical role in Kenya’s tourism industry. Their presence in an area is considered an indicator of its wild and natural integrity.

Kenya supports important populations of both lions in the Tsavo, Laikipia, and Maasai Mara ecosystems thus the need to conserve these species ecosystems natural range. The national strategic plan for their conservation is part of a range-wide conservation planning process.

The existing protected area network must lie at the core of conservation efforts, with Tsavo and the Mara-Serengeti particularly important for the conservation of ecologically functional populations. However, existing protected areas are not sufficient to protect numerically viable populations. At least some conservation activities must occur outside protected areas – both in their immediate surroundings and, in some cases, in areas of conservation importance quite distant from protected areas. This is likely to require that local communities perceive tangible incentives for carnivore conservation.

The Process

Kenya Wildlife Service organized a workshop that brought together wildlife biologists (government and private), wildlife managers (government and private), local people, conservation NGO's, lion and Hyaena experts, and others with a professional interest in lion and management issues to formulate a national conservation strategy. The strategy recognizes the need for conservation of lions and integrates legislative provisions, with a system of incentives for local people to enable lions to successfully coexist with human activities outside protected areas.

Goal of the lion conservation-planning workshop

The main purpose of the workshop was to develop a National Conservation Strategy for lions in Kenya. It was developed in a participative and consensus driven process involving partners to ensure that the plan is jointly owned by stakeholders so as to facilitate its implementation.

The process involved grouping the participants in various working groups that were organized and governed by common rules to enable timely and prompt formulation of the strategy. The group work revolved around three conservation questions: Where are we now? Where do we want to go? And how can we get there? This was important in assessing the status, defining the goals and agreeing on what actions should be taken to accomplish the set goals. Discussions were centered on four main themes: gaps, threats, constraints and enabling conditions.

Planning large carnivore conservation in Kenya

The national strategy for lion conservation in Kenya is the second of a suite of strategies planned for the country's large carnivore species, the first being the cheetah and wild dog strategy. These strategies are being developed within a common framework and, together, are intended to achieve:

- (i) numerically viable and ecologically functional populations of all large carnivore species native to Kenya;
- (ii) numerically viable and ecologically functional populations of key wild prey species within Kenya; and
- (iii) a declining proportion of livestock killed by predators within Kenya.

Kenya Wildlife Service (KWS) intends to develop national strategies for all six of the country's native large carnivore species: cheetahs, lions, leopards, striped and spotted hyaenas, and African wild dogs. Five main themes are expected to be common to these strategies

- (1) Ensuring that ecologically functional predator and prey populations are preserved *inside reserves*, through minimal management intervention

- (2) Establishment of *carnivore conservation zones* outside government protected areas, to boost reserves' ability to conserve numerically viable carnivore populations
- (3) Instituting *targeted lethal control* of problem animals as a replacement for indiscriminate poisoning
- (4) Encouraging new mechanisms for local people to receive *financial benefits* from hosting large carnivores and their prey, especially in carnivore conservation zones
- (5) Continually evaluating the policy's performance based upon a system of *adaptive management*, by monitoring carnivore and prey numbers and distribution, and conflicts with local people.

Panthera's role in lion conservation, and potential for collaboration in West and Central Africa

Philipp Henschel

Wildlife Conservation Society

The lion, Africa's largest carnivore, is in jeopardy. Persecuted relentlessly by pastoralists, herders and ranchers once they leave protected areas, lions have vanished from over 80% of their historical African range. Saving lions will require a coordinated strategy that addresses threats wherever they still occur, with the greatest urgency where lions are disappearing most rapidly.

Panthera's vision for lion conservation is the creation of a Pan-African corridor for lions, maintaining them in the landscapes where the species still occurs and fostering connections between those landscapes. Our best data suggest that the strongholds in remaining lion range can be regarded as three major complexes- the building blocks of the Lion Corridor. There are already areas of critical concern between the three large population complexes which may represent irreparable breaks in the putative Corridor. For example, northern Nigeria represents the only potential linkage between the West African complex and the western edge of the Greater East African complex, but lions are relict throughout Nigeria and it is unknown if they can still disperse through the northern parts of the country. Similarly lion range dwindles in central-southern Mozambique, eastern Zambia, and eastern Zimbabwe, possibly to the extent that there is no longer a connection to the South-west African complex. Equally, within each population complex, there are landscapes that may represent future or present breaks in the Corridor. Kenya and southern Sudan comprise a critical linkage between lion populations extending west into the Sahel and, to the south, the single most important country to long-term lion conservation, Tanzania. Yet, this linkage is threatened in a number of places, across Maasailand adjacent to the border with Tanzania, northern Kenya where conflict and unrest leaves lion status in doubt and a narrow 3-country border bottleneck at the shared border of Kenya, Ethiopia and Sudan.

Our strategy for developing the Lion Corridor comprises four key activities. In order of priority, they are: mitigating human-lion conflict to reduce the killing of lions, surveys to

determine the quality and potential of key linkage areas for the presence of lions, understanding lion ecology in poorly known and important linkages, and fostering sustainable, well regulated harvests where the species is legally hunted. Panthera is currently involved in lion conservation projects in northern Kenya, southern Sudan, Tanzania, Uganda, D.R. Congo, Chad, Gabon, Republic of Congo, Ghana and Nigeria, and we are actively looking for new collaboration partners in West and Central Africa.

Population size estimate of lions in Yankari Game Reserve, Nigeria: using direct count and molecular techniques

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Yankari Game Reserve
Nigeria

Studies have shown that lions in West Africa exist in small, isolated and fragmented populations. In Nigeria lions have disappeared from unprotected areas and are found only in Parks and reserves where they are gradually declining. Direct counts through observations are often not a reliable and accurate form to survey mammals because of detectability problems whereby not all individuals may be encountered and counted. DNA-based analysis of faeces is potentially a more reliable method of counting individuals in a population. This survey commenced for one year from Jan 2007 with observational counts and faecal sample collection along predetermined tracks within Yankari Game Reserve in Bauchi, northern Nigeria. A total of 365 faecal samples were collected and DNA was extracted from 108 of samples. 33 out of these samples contained good Lion DNA and with microsatellite analyses we genotyped 16 different individuals at two polymorphic loci. A detailed analysis of the observational data putting into consideration sex, age, number and locations suggests that the Yankari Game Reserve holds a minimum number of 35 individual lions involving 22 females (juveniles and immature inclusive), 8 males and 5 juveniles.

The Role of Conservation Force in African Lion Conservation

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The presentation will briefly describe Conservation Force, including its partnerships with others, then its African lion conservation role throughout Africa. This will include its lion research and field studies, participation in workshops and action planning, leadership

within the tourist hunting community and sustainable use solutions, communal-based natural resource management, established community development project models from Cullman & Hurt in Tanzania to LIFE Plus in Namibia, human/lion conflict resolution projects, and publications. It will include the projects and action planning indicated in Benin, Burkina Faso, and CAR that are to be completed in 2009.

The Amboseli Lion project; Lion-livestock conflicts in Kenya

Tuqa Jirmo

Kenya Wildlife Service

Human-wildlife conflicts contribute to a decline in the large carnivore population all over the world (Nowell & Jackson, 1996). Recent surveys have revealed unexpectedly low numbers of African lions, estimating population declines of up to 75% in the past 25 years. Additionally, the geographical range of lions has receded dramatically from historic levels. Continuing growth of human populations has resulted in increased land use, habitat loss, and human-lion conflicts. Elimination of 'problem' lions, poaching, increased disease transmission via domestic animals, and changes in ecosystem landscape, change in climate patterns, and biota have contributed to the present lion crisis.

Kenya has undergone rapid land-use changes in the past few decades. Little is known about the thresholds of habitat modification that lions can withstand in human-dominated and modified habitats. For this reason, it is essential that lion populations be carefully monitored and studied in their few remaining strongholds.

The Kenya Wildlife Service (KWS) has, in collaboration with the Institute of Environmental Sciences in Leiden, initiated 'The Amboseli Lion Project' (ALP). This project gathers information in order to manage lion-livestock conflicts around Amboseli National Park (ANP) Kenya. The ALP aims to; 1) analyze the movement patterns of lions in the Amboseli ecosystem and; 2) raise awareness among the local (Maasai) people about lion movements and how to prevent livestock raiding. The project also aims at obtaining adequate measures to mitigate the loss of livestock due to lion predation and loss of lions through spearing, trapping and poisoning by local communities around Amboseli National Park.

In July 2007, five lions were fitted with GPS/GSM - VHF collars. This will give GPS fix every 3 hours and gives an indication of location, temperature, direction and speed of the collared animal. In addition park rangers and researchers also used the VHF system to track the lion prides to provide information on the population size, density and social structure of lions and their interaction with livestock.

The result from two year monitoring combined with two master's students' research findings shows that non of the collared lions preyed on livestock. Study estimated the lion population

inside ANP at 35 individuals, but the population varies by season due to migration. The population density in ANP is 8.97 lions per 100km². The average group size of lions in ANP is 2.93. The project is ongoing and the final results will be available once the project is complete.

Large Carnivore conservation and management in Ethiopia

Hans Bauer

Research Coordinator VLIR-IUC
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Ethiopia is rich in biodiversity, with 57 species of larger mammals including some endemics. Ethiopia hosts many large carnivore species: lion, spotted hyena, wild dog, leopard, cheetah and leopard.

Little is known about leopard distribution; it is probably still the most widespread species but it occurs at low densities and with an unknown degree of fragmentation in the more remote areas. In many countries leopards have adapted to coexistence with humans and they scavenge many waste dump sites in large cities, but in Ethiopia this is only reported in the capital Addis Abeba – for most other towns this niche is taken by hyenas.

Hyenas appear to be the most abundant large carnivore; they are present throughout the country. Hyenas appear to coexist very well with humans and their densities appear to be linearly related, not inversely like in many other countries. Hyenas are the main waste processors of Ethiopia, they are regularly observed on dump sites and on road kills inside and outside towns. Attacks on livestock are relatively rare, but if they occur there is high tolerance.

Lions occur in several areas, but the estimates are wild guesses; Awash-Afar (50-100), Ogaden (50-100), Babile (50-100), Bale-Welmeel-Genale (50-100), Omo (100-250) plus a major cross-border population shared with Sudan, the Boma-Gambella population (250-500). Livestock conflicts occur at low frequency, when they do there is generally high tolerance, but sometimes problem animals are hunted by local people or sold as a safari hunt (on average 3-4 per year).

There is least information on cheetah and wild dog. Both species are probably present in some of the areas also occupied by lion, with wild dog definitely reported in the lowland area of Bale NP (Hareenna forest) and cheetah definitely reported in the Somali region.

Conservation of lions and other wildlife through the WWF Northern Savannah Project

Lambert Bene Bene and Rodolphe Boum

WWF-CARPO

Cameroon

Studies conducted the past two decades show that lion population numbers have declined with approximately 30-50%, which has resulted in it being classified as Vulnerable on the Red List of Threatened Species of the UICN. Besides this, the lion population is most threatened in the West and Central African (WCA) Region, which harbours approximately 10% of the continent's lion population. Throughout sub-Saharan Africa, human settlements and associated agriculture and livestock systems are increasingly expanding into natural savannah regions. Livestock owners may lose part of their stock to lions around the park. Main threats of the lion population are habitat fragmentation and isolation, lion-livestock conflict and retaliatory killing, and poaching.

In Cameroon, the Waza (Far North Region) and Benoue (North Region) National Parks are two biosphere reserves protected areas of approximately 960,000 ha, which harbour lions. In the Waza Logone area, lion's population estimates range between 30 and 60 in the park and bufferzone. Prey populations and lion population size have steadily declined since a census of 1962. Wild prey biomass per kg of predator is lowest, when compared with national parks in East and South Africa. In addition, lion density in Waza is low (2 animals per 100 km²).

Main threats of the lion population are habitat fragmentation and isolation, lion-livestock conflict and retaliatory killing, and poaching. On the basis of what precedes, the highest priority for lion conservation in northern Cameroon should rest on:

- Maintenance of wildlife areas contiguity,
- Reduction of direct persecution on lion;
- Optimization of the camera trap technique for surveillance of lions
- Radio telemetry studies (to increase knowledge of lion' behavioural ecology)

Since year 2000 through the bilateral program WWF Cameroon- WWF Netherland the Northern Savannahs Sudanian Project (NSSP) has carried out baseline studies on flagship species and insure the ecological monitoring in and around the Benoue National Park (Monitoring of corridors, terrestrial and aerial wildlife surveys, monitoring of key species such as lions, support of antipoaching patrols, etc..).

From 2006 to 2008, eight (08) lions have been observed in the corridors. Through the funding of FFEM, WWF NSSP has carried out an aerial wildlife survey in the protected area network of the Northern Region in 2008. One (01) has been observed in the Faro National Park.

Large Carnivore Monitoring in the Bénoué Ecosystem

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2 Bouba Ndjida National Park conservator

Large carnivores in West and Central Africa are poorly studied, while their conservation has become a priority, primarily due to a lack of accurate data on carnivore presence and distribution in this regional stronghold. The Bénoué Ecosystem (BE) in North Cameroon is a stronghold for lion, leopard and spotted hyena while the status of painted dog needs to be updated urgently. These large predators suffer from various threats, such as poaching, poisoning and expanding agricultural fields, generally associated with a rapid human population growth in the region. A further impact on carnivore numbers in the extensive hunting zone network comes from hunting quota settings (for e.g. lion, spotted hyena), which are currently not science-based, but based on old carnivore population estimates while carnivore numbers are regionally declining.

We have initiated a carnivore monitoring program, based on a combined camera trapping- and track survey technique. The technique combines the use of camera-traps at set distances along the existing road network with track counts on these same roads to back up and verify camera-trapping results. This method was shown to be effective for studying large carnivore distribution in the core area of the BE and has been upgraded to study large carnivore presence and distribution patterns in Bouba Ndjida National Park and neighbouring hunting zones. Results of this study will be presented. We will upscale this novel technique to the larger BE to generate population data on elusive carnivores on a regional scale. While data on all present carnivores will be recorded and analyzed, additional efforts will be made to find evidence of painted dog presence since the status of this species needs to be updated urgently.

III. ABSTRACTS OF ROCAL MICRO-PROJECTS – DAY 2

Micro-project Republic of Guinea

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The Guinean member participated in an innovative community technique for chasing roaming lions back into the reserve using 'pepper pellets' in locally made guns. In collaboration with the NGO Association pour la Valorisation des Ressources Locales (AVAREL), a trial of this technique was organised around Badiar National Park. The current project aims to inform locals of its use and to produce a manual. In addition, calling stations are planned in surrounding Haut Niger biosphere reserve for the presence of lions; training sessions of pastoralists around the new protected areas; improvement of enclosures.

Objectives:

L'objectif du micro – projet est :

Objectif 1. Connaissance des populations de lion dans la réserve de biosphère.

Objectif 2. Contribuer à la gestion des conflits entre les grands carnivores (lion et léopard) et les populations humaines (agriculteurs – éleveurs) riveraines de la réserve de biosphère du haut Niger par une approche intégrée ;

Ce projet est exécuté dans une réserve de biosphère où d'autres financements complémentaires sont projetés dans le futur pour continuer l'actuel projet du Comité Néerlandais des Pays - Bas.

Methods :

Le projet porte essentiellement sur :

* la méthode des stations d'appel pour les inventaires de lion et la formation technique sur site (dans la réserve de biosphère) à la méthode du calling station,

* la méthode des traits caractéristiques et des moustaches pour la reconnaissance individuelle

* et la sensibilisation des populations riveraines par les medias et les lieux de culte religieux (mosquée principalement).

Expected results:

Résultats liés à l'objectif 1.

Résultat 1.1. Les populations de lion sont connues dans la réserve de biosphère

Résultat 1.2. Au moins 5 personnes sont formées au niveau national aux méthodes d'inventaires par le "calling station"

Résultat 1.3. Le refoulement des lions par la méthode de battue à blanc est calibrée

Résultats liés à l'objectif 2.

Résultat 2.1 Au moins 30 villages riverains sont sensibilisés et participent à la gestion des conflits

Micro-project Niger

Hamissou Halilou M Garba

Parc National de W

Niger

This project will start up now, around the W National Park. The aims are to train local pastoralists in techniques to protect their livestock from lions; improve enclosures; buy materials for training and workshop sessions, showing on information posters how to protect livestock. Corral improvement will be achieved through two large community workshops and monthly joint follow-up visits to the villages and nomadic camps by the park warden.

Objectives:

- Preserve wildlife population of the W Regional National Park in Niger.
- Reduce incidents of wildlife predation of domestic animals in the buffer zone of the Park.
- Reduce lost of domestic animals due to wildlife predation in the Buffer Zone of the Park.
- Sensitize local community members on the importance of wildlife conservation.

Methods:

Populations of the peripheral zone of the W Regional Park of Niger are located on two dimensions: on one hand, the villages closed to the boundary line and on the other hand villages of the influenced zone. The villages located on the boundary line are threatened by the phenomenon of predation in spite of the existence a natural limits which the Tapoa River and more importantly the Niger River which runs through the area. Five (5) vulnerable villages will be selected as pilot sample area. In each village, 10 people will be identified to witness the demonstrations. These ten (10) peoples shall be selected as the following: three (3) Farmers, four (4) "Agropastors" and three (3) herdsmen. Bomas will be built for farmers and "Agropastors". Whilst for the herdsmen, mobile bomas shall facilitate the protection of the cattle during their seasonal migration on the peripheral areas of the park. The most threatened communities living around the area will benefit some awareness and sensitization sessions. Finally, a study trip would be organized for local community experience on conflict resolution in a selected area in the country. In addition the training and sensitization will also involve other deeply concerned stakeholders of fauna conservation in the area. Among this latter group will consist of agents and wildlife managers of the park, the school pupils, farmers.

The methods that will be used to implement the activities of this project are the following:

- 10 Training sessions (three days each) shall be organized for 10 participants drawn from local communities of the 5 villages adjacent to the park on the importance of Wildlife conservation of the great predators.
- Build 25 enclosures for the protection of the Domestic animals from wildlife predation in villages located along the buffer zone area of the park. These enclosures must be adapted to the status of the community in need (ie: mobile enclosures for the cattle of migrating population of herdsmen)
- Design, implement and organized sensitization and awareness outreach session in villages, schools, to improve general understanding of the importance of Wildlife conservation.
- Design awareness materials (200 Brochures, 200 leaflets, 100.posters) to be distributed throughout the area.
- Organize 01 networking (exchange) visit to pendjari national park (Benin) .This activity will involve a travel of 10 members of communities (farmers, herdsmen, students, women group leaders).

Expected results:

- R1. The populations of the carnivores' species of the W Regional Park are well conserved.
- R2. Lost of cattle due to predation by wildlife in the W Regional Park considerably reduced in the area.
- R3. Local communities living around the Regional Park are sensitized on the benefits of wildlife conservation.

Micro-project Benin

Aristide Tehou

*Chef service écologie Réserve
de Biosphère de la Pendjari
Benin*

Pendjari's conservation service will collaborate with the 'Associations Villageoises de Gestion des Reserves de Faune' (AVIGREF) in a follow-up project for the reduction of livestock – lion conflict. In addition, the project will help pastoralists and keep them from entering the park by starting hay-making as substitute forage. The objective is to limit transhumance and to keep the livestock holders in place where they can produce fertilizer for their fields; this will produce hay that can be used to feed cattle so that grazing incursions into the park no longer necessary. Also, the project aims to assist in the construction of 2 water holes, which should limit incursions for water into the park.

Objectives: Human-carnivore damage reduced

Methods:

Local radio

Focus group working

Local Workshop training for fertilizers basins built

Expected results:

1. Information exchange
2. livestock kept in improved enclosures
3. improved enclosures integrated into livelihoods
4. livestock holders improved production of organic fertilizers in basins

Micro-project Ghana

David Kpelle
Mole National Park
Ghana

This project will start up now, around the Mole N.P. The aims are to train local pastoralists in techniques to protect their livestock from lions; improve enclosures; buy materials for training and workshop sessions, showing on information posters how to protect livestock. Corral improvement will be achieved through two large community workshops and monthly joint follow-up visits to the villages and nomadic camps by the park warden. In addition, a survey will be conducted of the lion population in the Mole NP.

Objectives:

The primary objectives of this project are to:

1. Assess the status of lions and other large carnivores in and around MNP.
2. Assess the degree of conflict between large carnivores and the rural communities surrounding MNP.
3. Educate local residents about successful coexistence with lions and other large carnivores.
4. Train local pastoralists in livestock protection techniques and identify other means of promoting coexistence with lions and other large carnivores.

Methods:

The primary methods of surveying for lions and other large carnivores will be ground transects, camera traps, and village interviews. Conflicts between carnivores and pastoralists will be assessed through interviews and focal group discussions. Education and awareness-building will be achieved by means of workshops, information posters, and follow-up visits. Training of local pastoralists in livestock protection will be achieved through workshops and follow-up visits.

Expected results:

Field surveys will improve knowledge of the current status of lions and other large carnivores in and around MNP. Interviews will characterize the degree and nature of conflict between carnivores and local communities. Workshops will raise awareness about carnivore conservation among local residents and will result in reduced conflict due to improved livestock protection techniques ultimately reducing poverty in the communities.

Micro-project Cameroon – Bénoué

Saleh Adam

*Conservator Bénoué National Park
Cameroon*

Bénoué conservation service will collaborate with the Union des Comites Villageois de la Faune to follow up on pastoralist movements in the hunting zone 1 and 4. Livestock corridors were marked during the latter micro-project but now three ecoguards need to be stationed permanently to limit movements outside. The use of predefined corridors will be monitored since these corridors are essential in regulating the existing transhumance, linking up pastures North and South of the National Park, thus limiting lion-livestock encounters in time and space. Nomadic herders will be sensitized to limit movements to these corridors and they will be trained in the use of effective, non-destructive mitigation measures to protect their large herds of cattle.

Objectives: l'objectif global de ce projet est d'atténuer les conflits éleveurs faune (félins) dans le but de réduire la pauvreté des populations riveraines du Parc National de la Bénoué et les Zones d'Intérêt Cynégétique n°1 & 4.

Objectifs spécifiques :

- 1- Atténuer les conflits éleveurs faune dans les villages riverains du parc et les ZIC 1 & 4
- 2- Conserver les poches de concentration des félins et réduire la pauvreté des éleveurs

Méthodologie: Pour l'exécution de micro-projet, l'approche à utiliser sera la suivante: nous procéderons dans un premier temps par une large campagne de sensibilisation sur le respect des couloir de migration de la faune, le respect de couloir des éleveurs qui sont déjà matérialisée et connu de tous. A la suite de cette campagne de sensibilisation, il y aura une réunion de présentation du projet avec tous les éleveurs avant leur traversée dans la zone Est du parc. Cette réunion se fera en présence de tous les chefs des villages riverains de la zic 1 et 4 et de tous les gardes communautaires des deux ZICs. A la suite de réunions, les trois agents qui seront sélectionné pour la surveillance des couloirs de migration et des corridors seront présentés. Les trois agents seront formés sur le permis et l'interdit et l'attitude à adopter face au bergers dans les zones de chasse. Ces trois agents seront utilisés en temps plein pendant les

deux années du projet et plus particulièrement en saison sèche. Les activités du projet se dérouleront sur 08 mois dans l'année. (A la fin de la première année et en début de la deuxième année, une évaluation avec tous les éleveurs sera faite à l'effet d'impliquer et de sensibiliser d'avantage les éleveurs qui constitue une menace réelle de la faune en général et les félins en particuliers.

Résultats attendus:

- Toutes les populations des villages riverains de la côte Ouest du Parc sont sensibilisées
- Tous les éleveurs nomades et transhumants sont sensibilisés
- Les couloirs de migration des éleveurs sont respectés
- Les corridors de migration de la faune sont sécurisées et respectées
- Les félins du Parc National de la Bénoué sont sécurisés et mieux conservés
- La faune du Parc national de la Bénoué est mieux conservée

Micro-project Cameroon – Waza

Albert Kembou

*Conservator Waza National Park
Cameroon*

The Waza's conservation service will collaborate with the 'Comite de Conservation et de Gestion du Parc National de Waza et sa Zone Peripherique' (CCGPNWZP). The lion-livestock problem continues to be huge and is now threatening to wipe out the remaining lions in this former stronghold and important tourist destination. This Waza project will assist the newly appointed warden and the local communities to improve their corrals and assisting in securing the area, targeting especially newcomers around the park. Permanent patrols will be organised by three guards in this area, who will assist herders in preventing lion attacks.

Objectives

- Réduire les conflits homes/lions
- Garantir la disponibilité des proies
- Mettre en oeuvre un système de suivi évaluation du micro-projet

Methodes :

- Education et sensibilisation des différents acteurs
- Formation, équipement du personnel et suivi des contentieux
- Opérations de lutte anti-braconnage

IV. FINAL NOTES ON WRAP-UP DISCUSSION – French version

COMMUNIQUE FINAL DU SEMINAIRE INTERNATIONAL SUR LA CONSERVATION DES LIONS ET AUTRES GRANDS CARNIVORES EN AFRIQUE CENTRALE ET DE L'OUEST

Sur l'initiative du CML de l'Université de Leiden des Pays – Bas, du Réseau Ouest et Centre Africain pour la Conservation du lion ROCAL, du CEDC, du Comité Néerlandais de l'UICN, s'est tenu à Maroua au Cameroun, du 17 au 18 février 2009, le 3^{ème} séminaire international sur la conservation et la gestion du lion et des autres grands carnivores en Afrique Centrale et de l'Ouest.

Le séminaire a été placé sous la Présidence du Ministre des Forêts et de la Faune représenté par M. KOULAGNA KOUTOU Denis, Secrétaire Général dudit Ministère.

Le séminaire avait pour objectif de permettre des échanges d'expériences entre les chercheurs, conservateurs, guides de chasse et ONG's impliqués dans la gestion des grands carnivores; ainsi que la présentation des 06 micro – projets sur la conservation des lions en Afrique Centrale et de l'Ouest, financés par le Comité Néerlandais de l'UICN.

Ont pris part au séminaire, les représentants des organisations et professions suivantes :

- Institutions en charge de la gestion de la faune et des aires protégées ;
- Institutions de recherche scientifique et de formation ;
- ONG locales et internationales de conservation et de valorisation durable de la faune sauvage ;
- Fondations d'appui à la conservation de la faune.

Les participants provenaient des pays suivants : Allemagne, Bénin, Cameroun, Ghana, Guinée – Conakry, Etats-Unis d’Amérique, Ethiopie, Kenya, Niger, Nigéria, Pays – Bas, Tchad, Zimbabwe

La modération de l’atelier a été assurée par plusieurs participants en fonction de l’agenda des sessions.

Les travaux du séminaire se sont articulés autour des points suivants :

La cérémonie d’ouverture a connu les interventions de Messieurs : Jean Pierre Mvondo Coordonnateur du CEDC, Hans de longh Responsable Programme Afrique du CML, Saleh Adam Secrétaire Exécutif du ROCAL; et le discours d’ouverture de M. KOULAGNA KOUTOU Denis, Secrétaire Général dudit Ministère,

- Treize exposés relatifs : i) à la stratégie de conservation du lion en Afrique centrale et de l’Ouest ; ii) aux stratégies nationales de conservation des grands carnivores ;
- Sept exposés relatifs aux 06 micro – projets financés dans 05 pays de l’Afrique Centrale et de l’Ouest par le Comité Néerlandais de l’UICN à savoir : Guinée – Conakry, Niger, Bénin, Ghana, Cameroun.

A la suite des exposés, les débats ont porté sur :

- Le contrôle des animaux à problèmes ;
- La participation effective des différents acteurs dans la gestion des conflits (communautés locales, chasseurs, institutions de financement, structures de recherche, etc.) ;
- Les méthodes d’atténuation des conflits faune – populations humaines ;
- Les méthodes de dénombrement des grands carnivores en termes de complémentarité et de précision ;
- Les méthodes de protection du bétail et de refoulement des grands carnivores ;
- Les compétitions inter – spécifiques notamment entre le lion et l’hyène.

Les principales recommandations issues du séminaire ont porté sur les points suivants :

- L'utilisation des résultats des recherches dans l'élaboration des politiques de conservation des grands carnivores
- Quantifier les résultats attendus des micro – projets en vue de faciliter l'évaluation ;
- Le recadrage des activités de certains micro – projets en tenant compte du temps et des ressources financières affectées ;
- La prise en compte effective des Unités de conservation du lion (UCL) dans le processus de gestion au-delà des frontières nationales ;
- La prise en compte du caractère "*entrepreneurial*" en vue de la gestion durable des parcs et réserves ;
- La recherche de nouveaux financements à une échelle plus large pour atteindre les objectifs plus ambitieux de la stratégie de conservation du lion en Afrique Centrale et de l'Ouest ;
- Le renforcement des bases scientifiques de définition des quotas de chasse des grands carnivores ;
- La mise en œuvre de mesures favorisant le partage équitable des bénéfices issus de la chasse ;
- La prise en compte de la stratégie régionale pour la mise en place des stratégies nationales ;
- Les membres du ROCAL et les points focaux nationaux doivent inciter leurs pays à élaborer les plans d'action de conservation du lion en intégrant les autres grands carnivores avec la participation des experts et de toutes les parties prenantes ;
- L'élaboration de plan d'utilisation des terres autour des aires protégées en vue de la conservation des grands carnivores
- La promotion de synergies entre la recherche et la chasse en ce qui concerne notamment la chasse écologique (*conservation hunting*) ;

- La revue des stratégies nationales de conservation du lion suite a l'approbation de la stratégie régionale ;
- L'organisation d'un atelier de consultation et de concertation des parties prenantes sur la mise en œuvre des stratégies nationales.

Fait à Maroua, le 18 février 2009

Les Participants

V. FINAL NOTES ON WRAP-UP DISCUSSION – English version

**FINAL REPORT OF THE INTERNATIONAL SEMINAR ON THE CONSERVATION
OF LIONS AND OTHER LARGE CARNIVORES IN WEST- AND CENTRAL
AFRICA**

At the initiative of CML Leiden University in The Netherlands, the West- and Central African Network for the conservation of lion (ROCAL), the Center for Environment and Development Studies in Cameroon (CEDC), The IUCN-NL Ecosystem Grants Program (EGP), the 3rd international seminar on the conservation and management of lions and other large carnivores in West- and Central Africa took place in Maroua Cameroon, on 17 and 18 February 2009.

The seminar was held in the presence of the Ministry of Forest and Wildlife represented by Mr KOULAGNA KOUTOU Denis, Secretary General of the Ministry.

The main objective of the seminar was to provide the opportunity to exchange experiences between researchers, conservationists, professional hunters and NGO's involved in large carnivore management; as well as to present the recently launched 6 micro-projects for the conservation of lions in West- and Central Africa, which are funded by the EGP.

The following representatives of organizations and professions participated during the seminar:

- Institutions in charge of the management of wildlife and protected areas ;
- Scientific institutions and education departments;
- Local and international NGO's for the sustainable conservation of wildlife;
- Organizations searching to invest in wildlife conservation.

Participants originated from the following countries: Benin, Cameroon, Ethiopia, Germany, Ghana, Guinea-Conakry, Kenya, Netherlands, Niger, Nigeria, Tchad, United States of America, Zimbabwe.

All contributions were integrated into several oral sessions which took place during the 2-day seminar.

The seminar took place in the framework of the following activities:

The opening ceremony was characterized by the interventions of several officials: Jean Pierre Mvondo Coordinator of CEDC, Hans de longh Head Africa Program at CML, Saleh Adam Secretary General of ROCAL and Mr KOULAGNA KOUTOU Denis, Secretary General of the Ministry of Wildlife and forestry.

- Thirteen presentations with respect to : i) the lion conservation strategy for West- and Central Africa; ii) national strategies for the conservation of large carnivores ;
- Seven presentations with respect to 6 recently launched micro-projects in 5 countries in West- and Central Africa, financially supported by the IUCN-Netherlands, Ecosystems Grant Program: Guinea-Conakry, Niger, Bénin, Ghana, Cameroon.

Discussions following the presentations at the end of the seminar focused on:

- Problem animal control;
- The active participation of several groups of actors in conflict management (local communities, hunters, financial institutions, research departments etc.);
- Mitigation techniques to solve human-wildlife conflicts;
- Methods to determine large carnivore population densities, focusing on innovation of the techniques and accuracy ;
- Livestock protection techniques and methods to deter large carnivores ;
- Inter-specific competition, particularly between lion and hyena.

The most important recommendations which were formulated from the seminar sessions were aimed at on the following points:

- The use of research results in political elaboration of large carnivore conservation strategies;
- To quantify the expected results of the 6 micro-projects in order to facilitate a process of evaluation;
- To reformulate activities of certain micro-projects, taking into account time- and financial restrictions;
- The effective incorporation of Lion Conservation Units (LCU's) in the process of managing national boundaries;
- To adopt a more "*entrepreneurial*" view in the sustainable management of parks and reserves ;
- To search for funding opportunities at a larger scale to achieve more ambitious objectives for the lion conservation strategy in West- and Central Africa ;
- Reinforcement of the implementation of more scientifically based hunting quota for large carnivores ;

- The adoption of measures to allow common benefits derived from the hunting industry;
- Taking into account the regional strategy for the implementation of national strategies ;
- ROCAL members and national focal points should, in consultation with experts and all involved parties, stimulate their countries to elaborate action plans for the conservation of lions while integrating other large carnivore species;
- Elaborate on land-use strategies to create buffer zones around protected areas to benefit large carnivore conservation in these areas;
- Promoting synergies between research and hunting practices, for example « conservation hunting » ;
- Revision of national conservation strategies following approval of regional conservation strategies;
- Organizing a workshop during which stakeholders and experts can advise on the implementation phase of the national strategies.

Created in Maroua, 18 February 2009

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