

## Proceedings of the ALWG Workshop: Kasane 21-23<sup>rd</sup> March 2016

### 1. Session: What are the priority lion landscapes?

Chair: Colleen Begg

Scribe: Alayne Cotterill



ALWG Founded 1999

Possible Starting Questions:

- a) What is a lion landscape (current or possible)?
- b) Why is it important to identify priority lion landscapes? With 20000 lions aren't all lion landscapes important and priorities?
- c) If we agree that identifying priority landscapes is important – what are we going to do with the list we make- are we doing triage, influencing distribution of funding, effort, and best minds etc.? If we are not going to do anything with it then why not just say we are going to try and save them all – every lion counts approach?
- d) What does it mean for those lions populations that aren't priorities?
- e) What criteria do we choose when we decide - population size, genetics, unique habitat, likelihood of success, additional benefits to area (shift from single species), best chances for funding, best chances for sustainable fun

#### Possible outputs:

- 1) Clear definition of what a lion landscape is.
- 2) Clear reasoning of why we need to prioritise.
- 3) Systematic set of criteria for assessing and ranking lion landscapes so that we can prioritise.
- 4) Clear plan of what we are planning on doing with this list to improve lion conservation

#### Summary of overall decisions and discussion:

1. We need to consider landscapes not populations.
2. Every lion in West and Central Africa is important
3. Securing protected areas should be a priority as there is the potential to increase population just by securing protected areas.
4. Genetics are important as they reflect resilience of a populations so our conservation efforts while this should not drive the conservation efforts the genetic map should be included as the frame work to insure we have representatives. (MAP NEEDS TO BE INCLUDED)
5. Improving human well-being is important as we need to right historical wrongs, this is meaningful for governments, this supports human rights and only possibility for lion persistence with human population growth
6. For broader view we should be considering source-sink model with connectivity not just protected area model. Some source populations are not in protected areas and some sink populations can become source populations.
7. Creating a list of priority places is not useful instead we need to create criteria that managers, governments etc. can use to assess their own lion areas based on ecology, social wellbeing, politics and economics.
8. It is critical to focus on causes of lion decline not symptoms (human lion conflict bushmeat snaring, poisoning etc.). Underlying causes are social wrongs, historical, food insecurity, threats to life, decrease in human well-being, human population growth.
9. We need to come up with a goal to mobilise everyone and a combined strategy.

10. Not enough to halt we need to increase lion populations – we need lock down to prevent further losses and then increase populations where we can. Most obvious, immediate way to increase is to secure protected areas.

**List of criteria:**

1. Source
2. Level of disturbance
3. Sink natural
4. Sink Anthropogenic
5. Effect on people / well being
6. Opportunities for wellbeing
7. Large biodiversity
8. Social risks
9. Tourism
10. Transfrontier
11. Feasibility
12. Genetic- critical
13. Connectivity
14. Population Size
15. Trends
16. Realistic – triage
17. Protected area focus where legal framework is already in place
18. Human population growth- predictions – connected to wellbeing
19. Different spatial levels – continental, country, local – criteria at each level
20. Lock down and strategic thinking to turn it around

**Criteria combined into specific categories**

Lion Population (Population Viability, Population connectivity, recoverable, genetic integrity, source-sink, lions that are genetically important)

Biodiversity footprint (umbrella species, large habitats, protected areas)

Areas where threats diminished to people (conflict, human rights, human needs)

Areas where opportunities increased lions can provide for communities

Larger social risks (disease, sport hunting, transfrontier issues)

Feasibility (logistics, economics, human population growth, livelihoods)

Legal framework (protected areas, hunting areas, conservancies)

**DISCUSSION**

Paul Funston: A lion landscape is inherently large, existing large population size, buffering edge effects.

Nobuyuki Yamaguchi: Choose specific areas – not theoretical

Sam Ferreira: Do we want lots of lions everywhere or areas where lions would improve human livelihoods.

Colleen Begg: What will we do with this information?

Urs Breitenmoser: Space for conservation differs per region. Should not be purely spatial. Also a question of landscape vs. lion population.

Peter Lindsey: Strong correlation between management budgets and persistence of lions. There is not enough money so we will need to prioritise. Big areas = big populations and stratified within countries.

Kristin Nowell: What would public want to know? Where are the biggest, most threatened, most genetically unique?

Sam Ferreira: Where are lions likely to persist in Sink-Source dynamic? Where are sources? Where are sinks?

Lise Hanssen: They have just done this source, sink and dispersal movement in KAZA areas.

Hans De longh: Refer to regional and management strategies.

Colleen Begg: Should we change word from landscapes to populations?

Bruce Patterson: Landscapes are important, what landscapes do is protect lions as umbrella species.

Nobuyuki Yamaguchi: Let us start with parameters.

Colleen Begg: Also maybe before we should ask what is this information for – communicate to public as Kristin suggests, or focus funding and conservation efforts?

Kelly Marnewick: Important to inform governments within countries

Sam Ferreira: Do lions persist everywhere? Where can lions still contribute to livelihoods?

Tammy Hoth: Agrees with Sam – Etosha area they have sources and have integrated areas surrounding the protected area.

Laly Lichtenfeld: Likes the idea of a parameter but might not be the right people at the meeting. Within each country it is very complex.

Paul Funston: Source sink map- what is the definition of source- where birth-rate exceeds death rate then there are very few.

Nobuyuki Yamaguchi: Anthropogenic activities are key and can be manipulated to improve status. We must analyse patterns but also consider potential to change from one state to another.

Kathy: Adopt algorithms approach to go back to government to help them in decision making.

Sam Ferreira: What we have is source populations, natural sinks, anthropogenic sinks, threats of lions to human and potential benefits of lions to humans.

Colleen Begg: So are we going to produce a list of criteria for governments to be able to prioritise based on their own priorities – help decision making.

Urs Breitenmoser: Sources rely on sinks in their areas so sinks are also important. Have to consider the effects of our actions have on areas that are not priority areas. MUST be careful about what messages we put out to the public.

HO De Waal: Africa 20% where lions may thrive but priority is limited funds or priority from a biodiversity perspective. Some areas may not be a priority for research funds but others may be a priority from a biodiversity perspective but still doing OK.

Sarel: We can't take decisions without government,

Sam Ferreira: Not integrated from policy perspective but integrated from a governance perspective.

Phillipe: Worried about the word priority. Many countries will not consider a list given to them.

Should be a technical and scientific approach and avoid politics and this will maximise the chances of acceptance.

Jefe Parrish: Possibility that criteria include socio political criteria. Not just biological.

Urs Breitenmoser: General or scientific approach or specific sites?

Colleen Begg: Making a list of criteria we take to governments to provide guidance in the decision making for areas.

Brent Stapelkamp: Community members are not represented here today so we need to think from a community perspective too and the feasibility.

Colleen Begg: Need to be very aware of human right- important to get information on the bigger pictures.

M: Should give our opinion as researchers. Can't talk for everyone. Give our priorities as biologists then governments can integrate into their other priorities- ours should be from the scientific, technical variety and big picture is very important in this meeting.

Colleen Begg: Need to include conservation issues not just science.

Nobuyuki Yamaguchi: Things need to be measured even if not all scientists. Can't priorities human rights otherwise no lions and need a balanced view that considers both.

Colleen Begg: Human lion conflict is not always the main problem East Africa is not presentative of all areas.

Peter Lindsey: Bushmeat poaching is more important overall

Kathy Alexander: We don't need local details we need to look at a higher level.

Luke Dollar: Frustrated at the resistance to create a list and making decisions -,30 minutes in and haven't mentioned any specific areas. We need a buckets of areas.

Colleen Begg: Do we create a list of places or a list of criteria?

Hans Bauer: List of places not achievable – nested spatial levels for priorities and criteria applied at each level. We need to do Ecological triage and identify needs that work now not on areas that have no hope and not those that are doing OK – need to focus on middle group.

Colleen Begg: Depends on what you are going to do with the information? Do we just focus energy on funding triage areas. Triage assumes actions. Are we comfortable with that?

Peter Lindsey: Within lion ranges there are a lot of protected areas many of which are performing badly and below carrying capacity. These would increase lion population by about 3x if they were protected properly. Should we just focus on protected areas?

Tammy Hoth: Human population growth is key/

Brent Stapelkamp: Can we start with a list made by KAZA and work from there to prevent reinventing.

Sam Ferreira: We need to consider lion biology – persistence, threats to people, benefits to people, human population growth. Fortress does not work because it ignores social wrongs. Measurable

Matt: Countries need to define criteria for Lion landscapes. We are generating a list that may not be helpful.

Nobuyuki Yamaguchi: Environmental parameters vs. socio economic parameters. The later changes happen over a much shorter time spans therefore need different weighting.

Colleen Begg: This needs to be an evolving tool,, not a specific list that needs to be redone very few years.

Jeremy: Undisturbed habitat is key. Time projections are measurable – level of disturbance of habitats.

Dominic: Challenges are so diverse, will this list be meaningful?

Peter Lindsey: Protected areas focus should not just be a fortress approach integrated into surrounding communities.

Kristin Nowell: Should prioritize populations according to triage. Come up with a list of populations that would benefit significantly from input.

Paul Funston: Mapping exercise to raise money but not necessarily for lions What is our reasoning?

Laly Lichtenfeld: Are we trying to move towards a fund raising seminar – need a tool kit for better lion management?

Bruce Patterson: We have examples - we have a lot of info on prey availability and human factors etc. So we need to work from that map.

HO: Best practises not prescriptive. Different funds for research vs. conservation and limited funding.

Sam Ferreira: Governance approach – opportunities of human livelihoods is importance to governments.

Paul Funston: Little will and money at government level is a major problem.

Urs Breitenmoser/ Nobuyuki Yamaguchi: First priority is the lions and then secondarily look at human needs.

Urs Breitenmoser: review approach and results from LCUs – would need another session.

Colleen Begg: Every lion counts but when funds are limited focus on x, y, z.

Urs Breitenmoser: A matter of context: In West Africa all lions are valuable.

Colleen Begg: **Then one clear message from us could be: In West and Central Africa every lion counts.**

Tammy Hoth: Etosha there is enough space to fit in lions. Communities need lions but need support to improve human attitudes to generate benefit.

Paul Funston: Need to protect sources, not as well protected as could be. Could also be a sink area that benefits that benefits communities and humans.

Colleen Begg: Key list?

Sam/ Lise/ Paul: Must not pick apart landscapes – need the whole area.

***Started to make a list of places and then deleted it as not useful, criteria more useful.***

Stephanie Dolrenry: Need more focus on connectivity not just source. How do we define source sinks. Sinks can change to sources

Colleen Begg: Combined message of criteria and change.

Kathy: Not enough so key list is not possible.

Colleen Begg: Need a combination or just one:

Paul Funston: Landscapes are big and inclusive

Nobuyuki Yamaguchi: There are some populations that are non-negotiable for genetic reason.

Jefe Parrish: Prioritise because of limited resources at a national level priorities also become important

Colleen Begg: Making a list of criteria is better – does everyone agree? Mapping areas useless here and making a list not particularly helpful as we have this and because of limited time and representations.

Important criteria could include population viability (source sink), connectivity), recoverable, genetic, integrity, and socio economics.

Paula White: Take better care of protected areas.

Sam Ferreira: Government are interested in where communities and politics can benefit

Laura: genetics matter because it contains evolutionary resilience. Should use phylogenetic tree as buckets.

Bruce Patterson: genetic diversity correlates with genetic diversity of other species too.

Sam Ferreira: genetics should emerge not drive.

Jefe Parrish: Goal of 30,000 lions should include all genetic buckets.

Charlie: Perhaps use a ratings systems using criteria to define a rating systems. Impact for money put in.

Dereck: Should save every lion. Don't worry about fund raising leave that to the professionals. If triage, and I am reluctant, then protected areas, and unprotected areas that are important. If not these then we need to look at which ones we are going to throw away.

Sam Ferreira: Need to focus on causes not symptoms

Paul Funston: Could lock down and then turn it around to increase, Halt is not enough.

Colleen Begg: What do we do with this list of criteria?

Jefe Parrish: How do we turn it around – we need a goal which is very powerful in mobilising people.

Part science, part art. How do these criteria give us a road map towards a goal?

Colleen Begg: Link the goal to how many lions do we need – next session

Sam Ferreira: Governance on the ground is key. Criteria can highlight gaps on every local area and help each individual guy to manages lions

## **2. Session: How many lions do we need?**

Chair: Hans Bauer

Scribe: Alayne Cotterill

Of course there is no simple answer to this question; the importance is not in the answer but in what we can learn from the discussion about our visions, our ambitions, our limitations and our engagement with other stakeholders to find an acceptable compromise. If you ask members of ALWG they would mention an order of magnitude of 30.000 free ranging lions across a variety of African landscapes, some may even wish for the historical figure of 100.000 (Meyers, 1975). Cheetah and wild dog researchers would point out that high lion numbers may suppress numbers of other species and may argue that biodiversity could be higher with slightly fewer lions. Local communities' opinions tend to vary, according to the costs and benefits they derive from lions, but also with cultural and historical context – tolerance, attitudes and the idea of stewardship influence the number of lions that communities want to coexist with. Finally, if you ask some ranchers, or urban developers with no affinity for nature, they may answer that just a few small fenced populations would do. This highlights the concept of quality, in addition to quantity.

The general attitude in conservation is to go for stable numbers, except for extremely rare species where restoration is imperative for survival. The IUCN Red List, for example, has various categories varying with decline, but awards the lowest category to stable populations, populations growth is not a requirement. Even the word conservation in itself refers to keeping what you have, not growing it. During the formulation of the lion conservation strategies, government representatives made it clear that governments do not want to allocate more land or risk more conflict, they set the goal at stable numbers. Lion conservation can indeed be expensive, in terms of land, conflict, management costs and opportunity costs. We conclude that a socially acceptable aim is to have stable lion populations, and that restoration is only desirable if the costs to humanity of such growth are offset.

That still gives us the possibility to manage for more lions; in many areas lion numbers are below their potential. For example, lion numbers in many PA's are far below ecological carrying capacity; in some areas more effective management could even lead to tripling of lion numbers, without imposing an extra burden on local stakeholders. In fact, many protected areas are not managed effectively at all, many lions persist in 'paper parks'. Finally, in some cases we can have more lions outside PA's; we can influence the social acceptance (or 'social carrying capacity'), by looking at the conditions under which communities are willing to live with more lions.

As a relatively consensual concept of desirable minimum quantity per population, most people accept the concept of minimum viable population size and accept the 50/500 rule of thumb. As a consequence, viability of populations below 50 must be considered doubtful, those above 500 are viable, and intermediate population sizes give potential viability and should be managed or at least monitored. For social species, another rule of thumb is to look at the number of breeding units, rather than individuals, in the case of lion the number of prides. Bjorklund (2003) gives 100 prides as a threshold for viability. In some cases this is a better approach, but in highly disturbed populations pride structures break down and the approach loses its value.

It is important to recognise that many lion populations have sections that are stable or growing (sources), and other sections more on the periphery where numbers are declining (sinks). In some

cases, losses in the sinks create ecological traps that affect the viability of the entire population, but in others these edge effects are part of a sustainable system. Core areas are often Protected Areas – that includes National Parks but also WMA's, GMA's, ZIC's and hunting blocks; those areas are designated wildlife areas, and the question of purpose is irrelevant. This also means that degazetting comes at a political cost and that the economic advantage of alternative land use, such as cropping, is not an overriding argument. There is a limit to the size and number of PA's and they should all be made to contribute to lion conservation – there is a separate session/chapter on this topic. On the edges, on community lands and in connecting range, however, it is useful to define the purpose of lion conservation before we can ask how much land and how many lions we need.

Some non-PA land is crucial for lion conservation. Peer pressure between countries can promote successful conservation efforts or even stimulate transboundary management. Smaller populations depend on integrity of ecological processes at larger spatial scales, linking lion conservation to ecological services and multi-species approaches. To some degree, natural processes can be mimicked if there is not enough natural space. Along with population size, some parameters are measurable, such as prey abundance and response and degree of meso-predator release. Vital rates and lion numbers are always measured with limited precision and accuracy; parameters should be measured over time, as trends are often more important than absolute numbers.

PA management, prey restoration and conflict management are still seen as crucial, both for core range, connecting range and the matrix. Tolerance can be increased, and in some cases livestock make a substantial contribution to lion diet and increase carrying capacity, in such cases mitigation must be accompanied by prey recovery. In all cases, ecological and social carrying capacity must be studied at system level, and should include other resources than food. India is an extreme example of coexistence despite high depredation, we can learn from lion conservation in the Gir forest. Caution should be taken to safeguard lions against rogue individuals who can easily impact populations adversely even where communities are overall positive – indiscriminate killing is not a democratic activity.

We are running a race against time, primarily human population growth but also political shifts, economic development, resource extraction etc. offer a dynamic environment where doing nothing is not an option. Lions would not go extinct, but they would remain in a limited number of sites and we would lose natural ecological processes at unprecedented scale. We know from other continents that human and wildlife numbers are not intrinsically linked; industrialisation and urbanisation and the transition to a non-material service economy have created opportunities for large carnivore recovery in Europe. Our vision over 25 years is stable lion numbers, but we must develop scenarios for the much longer term.

### **3. Session: How do we address encroachment of lion habitat?**

Chair: Paul Funston

Scribe: Lise Hanssen

The ALWG is an advisory group and it is largely a communication forum which is its strength. Lions are on the global conscience more than ever before. We have to address the causal mechanisms that are driving these lion populations down. How much of an issue is encroachment on lion habitat at different scales.

The human footprint on lion habitat results in the encroachment of habitat for lions and other wildlife. This footprint can either be temporary or permanent, either driven by the needs of people for more space to live and survive as well as illegal activities that might result in habitat change. `in

many of the GMAs or WMAs around important protected areas such as Kafue national park, habitat is being converted to fields for cropping at the rate of up to 20 hectares per daylight hour. This erodes into national parks slowly isolating them from the surrounding landscape. Cultures in southern Africa are agro-pastoralists so the impact on the environment is more profound changing habitats to crops at a rapid rate of land conversion. There is encroachment due to cattle grazing inside protected areas and there is encroachment due to human settlement on the boundaries of protected areas. In east Africa where people are not allowed to graze their cattle inside protected areas, they come in at night and do it anyway, which creates far more problems than if cattle grazing is allowed.

The scale of encroachment is important. To date, human encroachment in east Africa at less than 2% per annum has had little impact on national parks. However this is changing with illegal and even legal encroachment taking over. Herders bring cattle into protected areas can be managed with education, but development infrastructure such as roads and railway lines are being put in place without the necessary EIAs, which is affecting connectivity between northern and southern Kenya. In Ethiopia, human population growth is terrifying and encroachment is a big threat. Large scale agricultural investment such as a 60 000 hectare sugar farm and a 2000 hectare palm plantation have been demarcated within the boundaries of a national park.

Tanzania has the fourth fastest human population growth in the world, but still has the largest lion population. Lion habitat is exposed to encroachment; the official figure is 200 000 hectares per annum (FAO). An area between two national parks was set aside as a corridor for connectivity of wildlife. The community earn 500 000 US dollars per year from tourism and despite this and many other benefits, this corridor is rapidly decreasing in size from human encroachment. Investment in communities and organisations that work with them has to be longer term and funding agencies need to provide long-term support in order to be effective. In some cases a wildlife economy developed out of tourism due to the provision of secondary services, but these are now encroaching on the very areas where they operate from and guides at some lodges are some of the biggest consumers of bush meat.

In Botswana, WMAs have been de-gazetted for cattle farming and now there is more agriculture, more mining.

Encroachment cannot be thought of in a static way. It is vitally important to look at future developments in our planning activities. Relevant ministries all need to be included as stakeholders in conservation. In the KAZA landscape, important ministries such as those in land-use planning, immigration and customs, and agriculture were not involved in the planning process or developing conservation ideas. This has resulted in ministries working in opposition to each other, which undermines the conservation objectives. Sometimes encroachment is politically based on a local level, where Chiefs might undermine local authorities or local authorities undermine overarching governments.

Roads are becoming a problem in that they allow access of communities to markets and this creates line settlements. These urban landscapes result in increasing distances between habitats. Connectivity through defined corridors could possibly maintain connectivity through urbanised rural landscapes. These corridors are used by all sorts of wildlife species. Illegal mining and resulting permanent settlements are a growing problem in some areas in Africa. Mining activities are also



associated with poisonous substances like mercury and cyanide, which have been inadvertently poisoned the environment or actively used for poaching.

Zonation has worked for connectivity in the group ranch areas in Kenya. Land use planning should be done well in advance and it is vital that zonation is enforced. Active protection of land with associated revenue is a way to get communities to enforce zonation. In many cases it is the illegal access and use of resources such as elephant poaching for ivory that is attracting more people. If this access was cut off through community enforcement then many of these people would leave the area. It is important that the recipients of the wildlife economy are identified as not every one can benefit and those that do, can protect the resources. The worst scenario in terms of land encroachment is when there is no ownership of resources by the people that live there. In west Africa, livestock is owned by migratory people and they are not part of planning of donation. This differs from CBNRM where certain communities control certain patches. Open access is fundamental to this culture so these livestock owners and herders need to be taken into account in the planning process.

Traditional use of land is an important part of the planning process in order to give people their power back. Traditional chiefs do not like the influx of outsiders who abuse resources. Addressing social wrongs of the past is vital, otherwise the problem is just being patched, but not resolved. Research alone is not the answer in an uncertain world. Population size is not always the problem, but the technology that they use is. There are 800 000 Africans on a large continent, but they use resources in order to exist, which results in encroachment. If people could be attracted to places where there are amenities and services then this would open up rural areas. Cattle are a very important part of many cultures representing wealth and status. They also offer a value growth rate of 25% per year, which no bank can match. So even cattle are not used for food, they are part of the challenges to conservation. Cultures are not inflexible and bad farming can be changed. Urbanisation is driven by industrialisation so just putting people into central areas will not work. Jobs need to be provided at these centres. Urbanisation had a positive effect on the recovery of wildlife in Europe, but this was accidental rather than planned. It was during the transition phase from rural to urbanisation that resources were mostly abused.

Savannah habitat is resilient and resistant to damage and can potentially recover if mitigating measures are put in place.

#### **4. Session: How do we best achieve human-lion coexistence in the face of growing human populations?**

Chair: Stephanie Dolrenry

Scribe: Alayne Cotterill

Coexistence across scales & cultures

What is coexistence and how do we measure it with regards to people and carnivores coexisting? Coexistence occurs at various levels and scales. This needs to be a primary consideration. For example, there can be communities with zero tolerance as well as communities with complete tolerance such as the Gir region of India where the lions are feeding 100% on cattle yet people are not retaliating. Thus, we pose the questions of what has worked and what hasn't? And what are the long term consequences of achieving various degrees of coexistence? How should we define coexistence and how do we measure it? IUCN definition of conflict: goals of humans and lions inflict

on each other at a regional level. Coexistence could possibly as simple as people and lions living together in the same area. A measure of lion survival in human dominated areas. When people, and their cattle are together with lions in one landscape but not temporally and spatially overlap, not at the same spot at the same time. Space-time important, if overlap (co-occurrence) can be avoided, lion mortality goes down drastically.

Why would we want coexistence? For lions to contribute to socio-economic development?

Connecting ranges? More range? Coexistence is not something new that we have to invent. It has existed since the start of evolutionary time. And it is important to keep the intrinsic link and forget about exclusion. Also, with coexistence there is the assumption of co-occurrence, and this would be necessary on a long term scale. Furthermore the cultural aspects are important to always consider. When lions have been completely removed and then with lion recolonization, people who have forgotten how to coexist, will be faced with a new situation they are unequipped to deal with thus it is in our best interest to maintain lions in areas where they do overlap with people. This is not a problem in areas with few people, but as the human densities increase, there are naturally more problems.

There is a need to unpack the motives behind coexistence. There is not a critical human density beyond which lions get killed or that lions avoid as it can be linked to tolerance levels of the people i.e. more people with high tolerance can kill less lions than fewer people with low tolerance. Some question whether coexistence should extend beyond the borders of protected areas. It is beneficial to understand why people react differently; why some people are tolerant and some are not. In particular, can these variations be explained culturally. We need to be able to stratify our interventions where tolerance varies across landscape. Also, always need to keep in mind that cultures change, tolerance erodes.

How do we act on tolerance? Conflict mitigation is first step, move on to prevent and process to natural resource management and holistic development.

Full economic cycle analysis of our study object to examine trade-offs and overall total impact on lions. We can predict hot spots and managers can be proactive in managing lions. And even beyond our study object of lions as lions need prey thus prey must also coexist. Furthermore, we need to examine "disturbed" lion populations; for example to examine level of disturbances effect on lion ecology such as the lack of pride structures.

Also, from the human community aspect, well-being is essential. As discussed in another session, human population growth is a roadblock but it has been shown the most important thing to be done to create tolerance is to empower and educate women. The lesson for today.

An example of this is in Kruger where two collared lions are outside the park all the time, the communities have lost a high number of livestock but have never complained; this tolerance comes because the people have a high quality of life. They keep cattle as a lifestyle choice, not for subsistence. Poverty affects areas – hard to coexist when struggling to meet basic needs. It is not as straightforward as just educating people without increasing their well-being as even highly educated people have a threshold of tolerance. Also, at times, when government is slow to react so people take it in their hands so authorities and stakeholders need to be responsive.

How do economics and broader environmental issues play into human/lion coexistence? What does it cost per predator per year? For example, watershed protection, ecotourism surcharges, eco-services, etc. Are compensation/consolation schemes effective? It is necessary to have checks and balances and to do at a local scale in line with local leadership. Local schemes can lead to effective complex systems which are not the standard government structures. Are bomas effective? If livestock is properly protected then lions have less food. Also, there are many considerations to boma interventions such as when lion light bomas are more effective on one boma and then effectiveness on a neighbouring non-lion light bomas can go down. This is shifting the problem, not

solving it. One conundrum posed that where husbandry becomes more professional (as promoted in another session) and less banking/prestige, it becomes an economic activity and tolerance drops. Large cultural differences even within a locality, very site-specific. Culturally southern Africa has a different coexistence context with most predators being shot by old white male ranchers. Tolerance can change. For example, a white sheep farmer, conservation oriented all his life, but recently had a cape clawless otter killed 150 lambs. He is now reaching the end of his tolerance.

Is coexistence for tigers feasible? Or must they be fenced and protected? Is it possible to have a multi-use approach or 'integration zoning' at landscape scale? It is a matter of defining priorities for landscapes, people and lions. Lions need food, habitat refuge as well as space. Tolerance and conflict, how do you decide which intervention is best. For example, the sustainable use model gives strong results in North America. An important consideration is the sustainability of our interventions since there is essentially no end; coexistence is cyclic. What about future scenarios. Mitigation that works today, will it work in 50 years when conditions will have changed?

How to understand and address scale issues since projects are incremental. In particular, how can conservation efforts scale? First need to understand challenges e.g. reasons for mortality of lions. One idea posed is to assess mortality rate for grid cells across Africa and look at explanatory factors, over e.g. 10 year period. Then the economics of these patterns would potentially lead to having to give up in some quadrants because coexistence does not seem achievable. In some areas not worth the effort to invest in coexistence. Important to consider data on mitigation and coexistence efforts, tools, and programs for conservation to be as effective as possible. No silver bullet but do not need many bullets, one well selected intervention is often enough, choose the site and context specific tool that gets damage below tolerance level

Expectations, attitudes, behaviour, perceptions – different ways of measuring tolerance. Yet there are no easy answers or generalities but it is essential to incorporate social science. It is necessary to always ask the communities what they want, listen to their response and attempt to adapt in what is doable and reasonable. Adaptive management is also vital.

#### SUMMARY

Three primary themes:

1. Toolbox, various interventions, choosing depending on context
2. Framework to think about the toolbox, lion & human needs (quadrant)
3. Higher level of human planning how the continent is going to look in the future – future of human enterprise.

---

Arrival Hon Minister of Environment

---

#### MINISTER

It is imperative that we move from stop-gap fire fighting to how promote coexistence over 50 years or more. How do we promote cooperation between ministries and countries? We first must define our vision for coexistence. And we need to form partnerships, engage in information sharing, i.e. work with governments.

Dry low fertile areas are less likely to have continued population boom even though there are regional differences with this growth. In some areas these models continue to have value even over 50 years from now. We need to consider other pillars of economic development. We mustn't be afraid of development, work with it.

The Minister saw 'blood lions', various heads of state were not aware – this is a point and an example of where it is futile to work without governments. Botswana decided to halt hunting and

take stock of where they were and where they are going. Getting votes for next election is often a priority - for thinking long term and out of the box we need this forum, you also need to partner with agents inside the box. Burning ivory stockpiles good for PR but is wrong. Government is essentially saying ivory is rubbish, how can one then get buy-in from communities? Education: people will be educated if they want to be. Compensation for nine species, full replacement only for two: lion and elephant. But they want people to participate in protecting their properties first. Climate change is to Botswana's advantage in terms of taking opportunity to induce change in people because things must change anyway. Resistance to change must be overcome. Depredation must become exception to the rule, lion and land use management are essential. Also important that ministries have capacity to stand up to misguided instructions from above. Important to note that there isn't human-wildlife conflict; it is human-wildlife coexistence.

Q&A:

Q: Corruption, how do we fight it?

A: Botswana is transparent and invites other range states to fight corruption. Also to get implementation of all protocols that are on paper only.

Best predictor of lion density is government expenditure on park protection, not biotic factors.

Botswana hosts large part of KAZA, governance is crucial.

Governance: three dimension; rights, lawfulness and responsiveness. Two important programs: CBNRM and PAC programs.

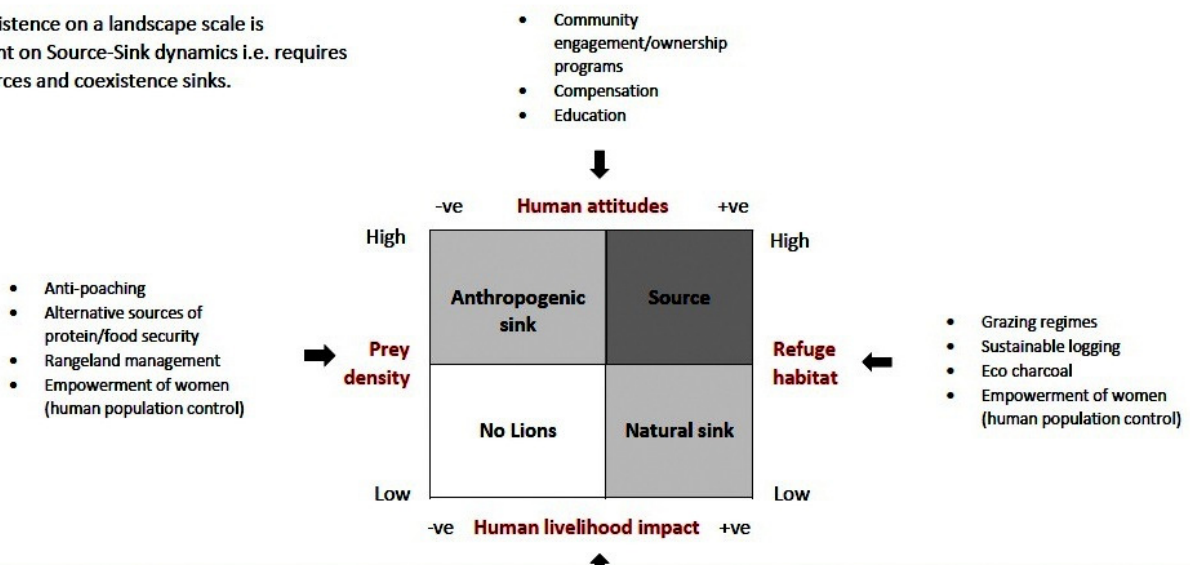
Botswana has shown the way how lion conservation sits in national policy, how other countries should deal with it. Colleagues in other countries driven not by doing the right thing but by getting the best press. NGO's and white hunters are outsiders, policy makers have option to be antagonistic because it does not come from government. Wildlife no voice and thus sometimes no value. Difficult to change mind sets.

Ecosystem services, Angola-Botswana relations? Share resources so instruments for regional harmonisation important. With climate change opportunities to change regional dynamics.

### Human-lion coexistence matrix – landscape scale

Alayne Cotterill (Pride)/Sam Ferreira 22/03/2016

Lion persistence on a landscape scale is dependent on Source-Sink dynamics i.e. requires both sources and coexistence sinks.



## 5. Session: How do we address the bushmeat trade?

Chair: Hans de longh

Scribe: Laura Bertola

The Chairman of this session suggested that it is a very broad topic. He also suggested that Wildlife crime is high on the political agenda and referred to a *Conference End Wildlife Crime* in May 2015 held in the UK ( Prince Charles and Prince William attended). Several other conferences followed.

The Chairman suggested to focus on the impact of the bushmeat trade on lion populations;

1) Impact of existing trade in body parts of lions (local + Asian market)

- Trade in body parts of lions for traditional medicines (African market)
- Trade in lion bones for the Chinese medicine market ( replacement of tiger bone)

2) Impact of poaching on lion populations;

- How important is klepto-parasitism by man on lion prey kills and what is its impact ?
- How to make anti-poaching more effective (Introduction of SMART PARKS CONCEPT)
- How to make law enforcement more effective (wildlife forensics/DNA)
- How to create community benefits (tackle the issue of poverty)
- How to create community awareness and ( children and adult) education regarding conservation and the role of lions

**Based on these points the following discussion developed:**

### **Lion bone issue**

Colleen Begg:

Recent Niassa lion killings not related to conflict, but likely for their body parts.

Confiscations of lion parts (bones and claws) in Maputo, together with ivory, rhino horn and pangolin scales. There is fear of further escalation.

Philippe Chardonnet:

Lion body parts can be found at local markets in West and Central Africa. They are used for the traditional market for centuries, and this trade has been there for a long time, it is possibly declining. This is a different situation than the more professionally organized trade of lion bone for e.g. de Asiatic market.

Clinton Wright

He presents a case of lion poaching. Lion was killed by a shotgun firing through a fence. Head, claw and fat removed. Later returned for carcass. Possibly a test run.

Paul Funston:

Mentions the TRAFFIC/WildCRU Report on the trade in lion bone

According to this export RSA 660 sets of lion bones legally exported per year.

3000-5000 dollars per set. There seems to be a link between lion part trade and rhino horn trade.

David MacDonald:

An attempt was made to follow up on the TRAFFIC report.

This report includes some 120 published papers, interviews with 65 people about any information and suspicion of trade in body parts of lions.. The analysis is still in progress. It is believed by many people that the lion bone trade will increase in the near future.

Urs Breitenmoser:

Asks if there a connection between legal and illegal trade. Is one being used to camouflage the other?

David MacDonald:

There is no evidence for this.

Kristin Nowell:

Mentions the case of the trade in tiger bone: this is now made illegal in China (after strong international pressure) However the lion not protected in China and trade in lion bone is legal. As a consequence lion bones replace tigers in tiger bone wine. There is a fear that lion will not only replace tiger as an ingredient, but may also be seen as a new product and therefore show an increase in the market.

Kelly Marnewick:

Suggests that it is not likely that RSA will change its policy, as they see carcasses as a by-product of the hunting industry and it is completely legal.

Intervention representative of Botswana government delegation:

It is not that easy to shut down captive lion industry, as there is a community depending on it. When there is scientific and factual evidence of illegal practice, the Botswana government is willing to consider it.

Sam Ferreira:

What is causing the global poaching storm:

- 1) Inelastic demand
- 2) Low risk
- 3) Strong histories in trade
- 4) Uncertainty in property rights
- 5) Human-wildlife conflict disincentives
- 6) Inadequate law enforcement

There are potential solutions, but these need to happen in parallel: disrupt organized crime and creating alternative opportunities. He mentions as a framework: the need to ensure safe environment and livelihood alternatives

Peter Lindsey:

Mentions an Interview survey in which he asked if lion poaching is a problem?

Some 18% of the respondents indicated that it is a problem, and wide variety across regions.

The problem is especially evident in West Africa, also in Mozambique. Lion poaching seems to be an emerging issue.

Sam Ferreira:

There is a need for a pro-active approach.

Try to predict where there will be economic growth in the near future, in order to manage this.

Urs Breitenmoser:

Sustainable use is necessary, but this comes down to offer and demand. There are far more lions than tigers, but the demand is the same.

### **The impact of poaching**

Colleen Begg:

Mentions the issue of people stealing meat from wild dogs in Niassa. Wild dogs are appreciated, because they allow stealing of meat by people. There are few alternative food sources.

Peter Lindsey:

Bushmeat exploitation gives temporary, localized benefits in terms of food security. But generally there is a net negative effect because of a fairly fast degradation of the wild populations. There is a need for alternative benefits for local communities from wildlife, other than bushmeat.

Consider the human population growth forecast for Africa: we need to consider food security.

Philippe Chardonnet:

There are changing strategies. Now in many African range states there is access to rifles, where this was not the case a few years ago. This contributes to increased bushmeat poaching

Kathleen Alexander:

How to make sure that people are not using bushmeat anymore, although it might be an important protein source? She suggests to potentially focus on health risks, diseases that might be caught from handling/eating bushmeat.

David MacDonald:

from a survey on what pet you would like to purchase, it was found that buying patterns were not influenced by conservation status or animal welfare issues. However, disease risk influenced buying patterns hugely in a negative way.

It would be useful to make a comparison of areas with and without much bushmeat poaching (i.e. poaching to an extent that it impacts wild populations): alternative food (protein) sources.

Sam Ferreira:

There is a difference between sustenance poaching and commercial poaching. It is important to consider this difference.

Hans de longh:

Suggests to discuss the effect of education of local communities. Example: bushcamp in Cameroon. Many local children do not know the wildlife in the park.

Sam Ferreira:

Education programmes only penetrate 8% of the market. Over 2 million people in Kruger NP buffer zones in the RSA side.

Kristoffer Everatt:

Sustenance poaching + commercial poaching + elephant + rhino poaching. These are different layers of which some are intertwined.

Peter Lindsey:

The extend of bushmeat poaching varies across Africa, but is a serious problem at many sites.

Jason Riggio:

In Tanzania bushmeat poaching is related to illegal logging and charcoal production. Is this true regionally?

Colleen Begg:

This is also true for illegal gold mining, because the miners don't live there.

Hans De longh: also true in Bénoué area.

Kristoffer Everatt: in Mozambique charcoal transports to Maputo are also used for transportation of bushmeat, in addition to bushmeat that is consumed by the charcoal makers.

Brent Stapelkamp:

Situation where snaring of male lion drove out female + cubs (to avoid infanticide), which lead to a spike in conflict.

Kathleen Alexander:

Need for share problem statement. Many people are not aware of finite nature of the resource.

So, how to move forward. Are we just assessing the extend of bushmeat problem, or can we solve it?

**Main recommendations and action points:**

- Work directly with organizations (e.g. mining) to avoid opening up of a new market there.
- Change perception of people - by education
- How to scale solutions that work (like local anti-snaring crafting projects)
- Target the supply chain (because entire supply chain is within our management jurisdiction)
- Increase sanctions on poaching
- Law Enforcement is an important issue
- Include effect in environmental assessments
- Adequate management (limited budget should suffice since bushmeat is not a high valued good such as rhino horn)
- Get insight into trade routes – into towns and restaurants
- Ensure opportunities for local communities to benefit from wildlife legally
- Legal game meat should reach the people who consume illegal bush meat



## 6. Session: How do we find realistic alternatives to income from trophy hunting?

Chair: Peter Lindsey

Scribe: Lise Hanssen

How do we find realistic alternatives to income from trophy hunting (as opposed to discussing whether hunting is good or bad and emotions aside)?

In Africa there are 1.15 million hectares of protected areas of which hundreds fall within lion range all of which need proper funding for wildlife and lions to stand a chance. One thing is very clear, the current levels of funding are inadequate. Medium funding levels are less than a quarter of what is needed for proper conservation in parks and management of protected areas. Protected areas refer to game management areas all the way up to national parks, which are state owned gazetted protected areas. Two hundred million US dollars is invested in conservation in Africa every year and there is a presumption that because they are protected areas they are not in need of help. Trophy hunting generates approximately 200 million dollars per year, but that is gross income. Trophy hunting as a land use is important in some countries as it funds the operation revenue required by governments. It is important for economic justification for maintaining large tracts of land such as conservancies, but it still not enough to maintain national parks.

If trophy hunting is going to be forced to shut down through public opinion and pressure then we are going to need to find alternative income to fund conservation. It is irresponsible to shut down the industry without first finding alternative options for income generation.

The consequence of underfunding protected areas is that parks are under-stocked with wildlife. Countries that do not invest in their wildlife and protected area networks are not benefitting from wildlife economies like tourism and are getting heavily encroached by human settlement. There are a number of countries that will lose their wildlife resources altogether. Many countries that have invested in their wildlife resources are reaping the benefits. Like any good business, you have to spend money to make money.

Most African countries have set aside well above the global average for land with protected area status which includes megafauna like elephants and lions. African countries are also poorer than the global average therefore they are less equipped to manage these areas. These natural resources need to be seen as a global resource which require assisted funding. Very few developed countries contribute meaningfully to conservation in Africa. Germany contributes the most in terms of developing conservation in Africa. Protected areas need more support from the international community as well as from the African countries themselves.

We should be spending development dollars on protected areas. Development money far exceeds funding for protected area management. For example, in Zambia, five million dollars was spent on conservation and one billion dollars was spent on development in the same year. Development funding is not always used effectively in terms of sustainability, but it is a very important source of support. If some of it could be used in wildlife then this could secure protected areas which could result in developing a tourism industry and wildlife economy. Other forms of support such as performance payments, carbon and biodiversity credits and debts for nature are worth exploring.

The ideal management budget per year for protected areas is approximately 900 dollars per square kilometre but many parks in Africa are managed on a budget of only 50 dollars per square kilometre per year. The deficit to support protected areas in Africa is between 800 million and 2 billion dollars per year, which works out at far smaller increments at a per country level. The costs of managing protected areas vary greatly.

The multi laterals and bilateral give so much more funding than private individuals or corporates. Within the corporate sector, lions are included on many logos, but no one is paying for this privilege. Linking corporate funds to the lion image needs to be investigated. In terms of funding from private individuals, there are a few very rich people who could individually provide more funding then getting smaller sums from a larger group of people. In the USA, conservation and environment receive less than 1% of donated money.

Species conservation has an economic basis. If the approach is donor based then you are selling the perception that a resource is in trouble and needs help. If the approach is commodity based then the biggest sum of money is made when a species goes extinct or a resource is restricted with a stockpile held somewhere. It is important to identify the drivers of the funding shortage and identify how to sell conservation to politicians to be included in bigger government schemes. We should not need to maintain an on-going crisis perception in order to keep funding flowing.

In order to raise the required sum conservationists need to speak a different language. We also need to partner with the right people who speak that language. For example, human rights, women empowerment and uplifting communities are the most important long-term issues within conservation and we could appeal to this sector for funds. Development funding is available for developing tourism industries around protected areas. A successful tourism economy could drive a number of the protected areas. Some of these could carry the smaller, less economically viable parks. For example, four major national parks in South Africa carry nineteen smaller parks financially.

If we could imagine the knock on effect for humanity if all protected areas were to become devoid of wildlife, then the resulting outcome is what we should be looking at to plan our priorities on the ground and for funding. Some systems can be conserved without carrying certain species along with them, so care must be taken on our entire funding approach being based on ecosystem services.

The funding message needs to be streamlined so that government, the public and donors do not receive mixed messages from different conservation sectors. Tying the funding message to the wellbeing of people will have the most success otherwise we will perpetuate the crises perspective, which will always result in a short fall. However, in driving the human angle, an overarching funding criterion such as job creation could be counterproductive as this would be impossible to fulfil at all levels. Our thinking needs to evolve from a donor base to a business model for conservation to work in the long-term. A model that illustrates that biodiversity drives development should be adopted.

WMAs and GMAs are vital for lion conservation and also lacking in funding. What are the options for these? The tourism sector that hold concessions in these areas do not have a tradition of supporting anti-poaching efforts and the tourism footprint is only about 5% within protected areas. There is a misconception about profit margins in the tourism industry. Only a few tourism hubs make enough money to support these extra activities. Most smaller operators are not able to.

Tourism is also subject to many influences and variations. Parks in west Africa receive no more than 10 000 tourists annually due to factors like civil war and Ebola virus. There are core conservation areas managed by the state and the rest are managed by private individuals. Many of these areas are dependent on hunting for revenue to maintain them. Côte d'Ivoire lost 90% of their wildlife after the banning of trophy hunting as hunting areas act as buffers around national parks, which prevent human encroachment. Former colonial powers of African countries put pressure on these countries to ban hunting. These very abrupt decisions result in countries getting in trouble. The rights of these countries to land use need to be respected. We cannot afford to rely on government budgets alone as many African governments are poor. Additional sources of funding are necessary.

In Botswana, where trophy hunting was recently stopped and some GMAs were developed for tourism, revenue output was increased by 2500%, but a 30% occupancy is required in the high end tourism market in order to break even. Not all GMAs are productive and spin off funding is required to support these.

In terms of the quality of habitat, the majority of the land cover in eastern and southern Africa is mamba woodland so tourism is not even an option. Low density cattle ranching might be considered as an option for revenue generation.

Other fields of expertise need to be tapped into. Economists would bring new ideas to the table.

Where governments are poor, industries such as mining and cotton farming are compelling land-use options for job creation so innovative funding avenues are necessary if this land is to be preserved. Ideas such as privatising mines within national parks should be considered. Income generation could then be ploughed back into the area where they are operating.

All multinational companies are forced by some sort of national legislation to offset the damage that they do. Perhaps they could be forced to mitigate their damage and provide the funding, which could then be used for lion conservation in general for the entire country rather than just for the affected area.

Big ideas get big money, emotions get small money so priorities need to be defined and big ideas developed around these. Tourism and hunting as well as the donor community already fund some of these big ideas, but how do we fund the deficit?

The political will within government for conservation can be estimated by the social investment dollars that are contributed to the well-being of communities that live around parks. Funding will be sitting in the social cluster rather than the environmental cluster. If WMAs and GMAs are added to the budget for management of protected areas, then the budget for protected area management increases substantially. If development agencies could steer funding towards job creation and wildlife economies then institution money could be raised for this. If proposals to funding agencies come from governments then it would be hard to turn them down. Governments need to be lobbied and existing government initiatives that are already underway should be partnered with.

The greatest proportion of the funding that we do have should go towards securing protected areas. We need to identify only a few of the most important steps that we need to put in place to secure lions and then go to professional marketers to put this idea out there. This professional marketing

approach would be very beneficial to lion conservation. An overarching slogan should be applied to lion conservation so that funding messages to all sectors do not get muddled.

## **7. Session: lion database and SIS**

Presentation by Urs Breitenmoser, Chair, IUCN SSC Cat Specialist Group

Chaired by Kristin Nowell, IUCN Red List Coordinator for Cats

### Introduction

The lion stands out for researchers' previous efforts to create comprehensive compilations of data on individual populations. The African Lion Working Group led the way, with members contributing to the first lion population inventory in 2000-2002 (Bauer and van der Merwe, 2004). Information was biased toward protected areas where scientists tend to work. A concurrent effort by Philippe Chardonnet (2002) attempted to expand the state of knowledge by including guesstimates of lion numbers over a broader area, especially hunting concessions. In 2006 WCS led a mapping workshop to identify priority areas as Lion Conservation Units. Guesstimated lion numbers for some of these large areas of habitat were included in the IUCN regional conservation strategies (IUCN 2006a,b), and the LCU concept was updated and refined by Jason Riggio et al. (2012), also including all estimates available from the literature. Craig Packer led an effort to add the dimension of time by compiling compatible site estimates to gauge trends in scientifically monitored populations (Packer et al 2013). In 2015, the IUCN Red List assessment updated this dataset to include 47 populations and used it as a proxy to infer a 42% decline for the species over the past 20 years (Bauer et al., 2015a); site trends were also projected into the future (Bauer et al., 2015b).

So while the state of knowledge is better for the lion than for other cat species, the problems remain that all of these efforts have been individually led and are "one-off," with results not available until publication. Ideally, a database would be open access, updated regularly, have an updated spatial dimension, and be configured to allow analysis on various levels (site-specific, national, continental), with clear standards on data reliability.

Urs Breitenmoser presents how the Cat Specialist Group has been exploring the concept of a Lion/Multi-Species Database with other IUCN SSC partners.

### Discussion

The issue of whether researchers would be willing to contribute data to the database before they properly publish it (which sometimes doesn't happen) will have to be looked at. The database should be configured to address different types of analytical queries, like population trend on different levels, which would be useful for Red List assessments. However, this type of database is quite a bit different from IUCN's Species Information Service, which is its Red List database – the SIS contains lots of text accounts and different types of information, whereas the Lion Database would focus purely on individual population data, with the lowest level being one individual survey/census. Partnering with the African Elephant Database may be problematic; the fit is not perfect yet they are quite wedded to it, also updating and maintaining the architecture will be quite expensive. The Cat Specialist Group is still considering all options in addition to this one. Estimates for an AED-based platform are in the range of US\$3 million, with maintenance costs unknown. The Cat SG should approach large institutional funders or perhaps companies with technical database capacity. Some less expensive but quite functional examples of species databases include one set up by lion researchers to monitor the meta-population of Kenya/Tanzania border area. It costs \$60,000 to set up, \$5,000 a year to run, and was developed pro bono by database experts. The lowest level of the

database is of the individual lion, based on facial recognition with photos. The database has been a real asset to help monitor lion movements and estimate numbers by mark-recapture.

Open source databases maintained by birders on the Internet were also suggested as another approach.

Urs requests people to send him links to databases they have worked with and like; Susan Miller suggests one from the University of Cape Town.

A protected area manager who is asked to contribute regularly to the African Elephant (and rhino) databases considers that it takes a great deal of time and that it is of little utility to him on the local level, and questions whether regional/global need is significant enough for such investment. It is pointed out that “great science” has been extracted from the African Elephant Database, and that utility depends on the need of the user, perhaps a situation will arise in which he will find such information useful. Another value is that the database has a legitimacy and authority which would benefit the lion and those working to conserve it. For example, the Cat SG could go to a range country government and request that they do a better job monitoring their lions. Such an approach would be more impactful with a database, which could help motivate governments to improve their own systems by comparative learning from neighbors.

A technically savvy Cat Specialist Group person is being sought to take the point lead on this initiative, perhaps cooperating with other Specialist Groups (beyond African Elephant) to share the costs if a new approach is taken.

#### References

- Bauer, H. and Van Der Merwe, S., 2004. Inventory of free-ranging lions *Panthera leo* in Africa. *Oryx*, 38(01), pp.26-31.
- Bauer, H., Packer, C., Funston, P.F., Henschel, P. & Nowell, K. 2015. *Panthera leo*. The IUCN Red List of Threatened Species 2015: e.T15951A79929984. <http://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T15951A79929984.en>. Downloaded on 13 April 2016.
- Bauer, H., Chapron, G., Nowell, K., Henschel, P., Funston, P., Hunter, L.T., Macdonald, D.W. and Packer, C., 2015b. Lion (*Panthera leo*) populations are declining rapidly across Africa, except in intensively managed areas. *Proceedings of the National Academy of Sciences*, 112(48), pp.14894-14899.
- Chardonnet, P. 2002. *Conservation of the African lion: contribution to a status survey*. France: International Foundation for the Conservation of Wildlife.
- IUCN 2006a. Conservation strategy for the lion (*Panthera leo*) in West and Central Africa.
- IUCN 2006b. Conservation strategy for the lion (*Panthera leo*) in Eastern and Southern Africa.
- Packer, C., Loveridge, A., Canney, S., Caro, T., Garnett, S.T., Pfeifer, M., Zander, K.K., Swanson, A., Macnulty, D., Balme, G. and Bauer, H., 2013. Conserving large carnivores: dollars and fence. *Ecology letters*, 16(5), pp.635-641.
- Riggio, J., Jacobson, A., Dollar, L., Bauer, H., Becker, M., Dickman, A., Funston, P., Groom, R., Henschel, P., de longh, H. and Lichtenfeld, L., 2013. The size of savannah Africa: a lion's (*Panthera leo*) view. *Biodiversity and Conservation*, 22(1), pp.17-35.

#### **8. Session: How do we improve the funding and management of lion conservation efforts.**

Chair: Claudio Sillero

Scribe: Kelly Marnewick

Presentation of results of a survey of lion project leaders regarding funding challenges (short report to be circulated by Claudio)

### **Key challenges experienced by ALWG members:**

Funding of project leaders' salaries and overheads:

- A concern was raised that we are losing valuable conservation leaders due to financial pressures experienced due to unsuitable remuneration e.g. cannot afford to educate children, etc.
- We need donors to understand that project leaders are integral to the efficient management of projects and are highly qualified professionals that need to be compensated for their skills and time.
- We as a profession need to learn to present ourselves as professionals. While passion is an integral part of what we do, we are also highly qualified and experts in our fields and need to be treated and remunerated as such.
- When presenting project budgets, salaries must not allocate to 'overheads', they must be included as integral costs to the running of the project.

Some tips for applying for and managing funding:

- You must tailor your proposal to meet the call. You must give the donors what they want not what you want.
- We need to be confident in turning down funding that requires deviation from our key focus or excessive reporting requirements in relation to the size of the grant.
- Make sure that the proposal matches the size of the grant e.g. if the grant is for \$X then the work must match that. Do not overstretch or commit to do more than you have to.
- We need to be very professional and business like in our work administration: we need to have effective work plans, targets, indicators and professional budgets.
- We need to be better at measuring and reporting on successes e.g. translating donor money into how many animals have been saved. This also highlights the need for solid indicators of our impacts.
- Thank your donors and thank them warmly and sincerely, then thank them again.
- Social media is a key tool for giving updates and feedback, but is seldom an effective fundraising tool.

Becoming more financially sustainable:

- We need to diversify the work that we do as well as the donor base (e.g. not just grants, but merchandising, paying volunteers in specific cases, etc).

### **Sub-session: WCN Feedback – Jeffery Parish:**

- WCN is considering launching a Lion Conservation Fund, in order to channel more funding into lion conservation. They will work in partnership with reputable organisations. They want to develop a more efficient system of application and reporting as they would prefer time to be invested in conserving rather than reporting. They are looking into sharing proposals (e.g. if BCI get an application that does not really match but is still good project, then the proposal could be handed over to WCN for consideration).
- Jeffery offered to hold a session about donors and funding to assist ALWG members to be more effective in funding our work.

### **Commanding corporate support:**

- Obtaining funding from corporates takes perseverance and ‘education’ of the corporates, since they seldom understand the issues and projects.
- Many corporates say that it is difficult to donate to wildlife when there are more pressing social issues on the table like hunger, orphans and HIV.
- We need to tailor applications to meet the expectations of the donor e.g. if the donor is interested in education then present an education project to them that features lions rather than a project angled at saving lions.
- The Economist writes about “African Lions” in terms of the champion countries of the African economy. These are African countries that are developing at rapid rates and may present future funding opportunities – the link to lions can be emphasised.
- It is important to understand that corporates have access to different funding streams e.g. donations come from Corporate Social Responsibility (CSR) lines and these are limited. However, in a strategically positioned partnership, the marketing budget stream can be accessed. There are also options for support that transfer the costs to the consumer like adding a small amount to the cost of an item.
- Also consider the key people in the home company of the corporate and get them involved (e.g. project visit). This can secure the partnership and open doors to more revenue.
- Keep in mind that companies can give time and skills, not just money. Think of project activities that could benefit from these skill (e.g. free design work, financial management assistance, etc.).

### **How do we leverage funding to ensure that our protected areas are secure?**

- Can leverage the need for more efficient protected areas by partnering with them on projects that can attract funding.
- NGOs can support reserves by providing smaller support services in partnerships e.g. by providing small parts of equipment that would be complicated to procure otherwise, assisting with maintenance or specific activities.

### **The opportunity of joint proposals:**

- Smaller organisations can secure funding by partnering with larger organisations who can attract the funding and administer larger grants.
- Developing partnerships can provide access to large grants like the Darwin Initiative, IUCN SOS, GEF.
- The EU has plans for funding projects that support Africa and conservation / biodiversity. Little is known about the fund and we need to find out more about the plans to try leverage support for lions.

### **Project partnerships:**

- Many donors are attracted to partnerships and collaborations and these can be an effective way to attract funding.
- For example PRIDE – is a lion partnership and an informal collaboration between some friends and colleagues who have always supported each other and not competed. A key driving force for their formation was to eliminate the competition for funding among themselves and to have

some control over where the money is spent. They also hope to have the ability to assist with focussing donor funding to where it is most needed.

- A similar initiative exists in KAZA where they have a Large Carnivore Conservation Coalition which is affiliated to the KAZA secretariat. They have developed a strategic plan for carnivore conservation in the area and have some associated technical working groups.
- The Borderlands partnership in East Africa has found particular value in assisting each other with measuring impacts.
- The Wild Dog Advisory Group in South Africa focusses on collaborative management of African wild dogs, channelling research, providing data and running an emergency response fund.

#### **Marketing for the ALWG:**

- We need a short message and marketing tag line for the ALWG that can become the common message for lion conservation.
- We need to pick the key themes of lion conservation and then identify the strategy that we agree on for saving them.
- This must be presented to marketing experts to develop an effective communication strategy around lions and their conservation.
- A logo with a short strapline is the likely outcome.
- A team led by Jeffery Parish was identified to drive this forward.
- There was a caution re high-level political drivers as such initiatives may be very expensive and volatile e.g. Global Tiger Initiative.

#### **Strap lines that came up in discussion:**

- Our lion, my heritage.
- Our lions, your life.
- Helping people save lions.
- CECIL: Conservation through the Economic and Cultural Importance of Lions.
- Lions drive posterity.
- Lions, landscapes and ...
- Landscapes to Lionscapes.
- Cause an uproar (BCI IRL).
- Lions, the life of African landscapes.
- Our lions our lives.
- Roaring for life.
- Lions forever.
- Lions Africa's heritage.
- Pride of Africa (used by Kenya Airways).
- Save the King.
- Lions Drive African Prosperity.

#### **Emerging themes to be reflected in marketing the ALWG:**

- Cores, communities, corridors, commerce.
- Source sinks, threats, human well-being.
- Integration.
- Freedom to roam / space to be.



- What is good for lions is good for people.
- Protecting protected areas will save lions.
- Encapsulate the time element of future.

#### **The Cecil Summit (some information from David Macdonald):**

- The main idea is to have a rolling series of meetings to guide lion issues.
- The British government is very keen to be involved in taking an international stand.
- There was concern about replicating the ALWG meeting thus nothing has happened preceding this meeting.
- The first “CECIL” meeting is likely to be a brainstorming session of a small group of people who are not necessarily lion conservationists but who may have different solutions to issues that we keep getting ‘stuck’ on. The challenge is how to find the relevant people from other disciplines.
- Hopefully this meeting will happen before mid-September, before the CITES CoP in Johannesburg, and will lead to having a presence and report back at the CoP.
- It is hoped that the initial Cecil Summit will snowball into subsequent much larger and high level meetings to address continent wide challenges for lions – highlighting again that it is not aimed at lion biologists but rather big change thinkers.
- Eventually this may lead to an opportunity to bring range country leaders together with the lion as a good flagship species (A proper lion summit at the AU in Addis Ababa perhaps). An international partner should be considered to host the initiative to ensure that it is not dependent on an individual.
- Rhino summits have tried to do exactly this, but have found that they got stuck on the same issues than the conservationists do. Solutions were found, but only after some heavy pushing (e.g. dealing with poaching issues from a business perspective).
- An idea is to identify key issues from this ALWG meeting that we as biologists were unable to address (e.g. food security that could be addressed in other sectors) and canvass input from other disciplines in a wider arena.

#### **9. ALWG discussion on lion poisoning – 22nd march 2016**

Chair: Kathy Alexander

Scribe: Stephanie Vandewalle

##### **Direct Poisoning**

1. Poisoning lions for resource acquisition i.e. body parts.
2. Bushmeat harvesting.
3. Retaliation poisoning.
4. Pre-emptive poisoning.

##### **Indirect Poisoning**

1. Secondary lion poisoning from poisoned waterholes and carcasses.
2. Agricultural and environmental contaminant pathways.
3. Lion products often harvested after secondary poisoning.
4. Government mediated poisoning of dogs.
5. Pesticide residues present in herbivores and other animals.

## **Trends**

1. Growing concern in Botswana.
2. Increasing issue globally.
3. Number one cause of lion mortality in some areas.
4. Rapid increase in poison events outside of protected areas.
5. Most often dealing with illegal substances used for poisoning.
6. Numbers might be under-estimated.
7. Often occurs in remote areas where the poison event goes undetected.
8. Difficult to determine the poison that was used.
9. Majority of the solutions to the issue of poisoning are reactionary e.g. poison bans.

## **Drivers**

1. Direct link to mining activities – income generating option for large numbers of mine workers.
2. High local demands for *muti* especially lion and vulture parts.
3. Retaliation poisoning where main causes are human/wildlife conflict, poor law enforcement, tenuous land ownership and lack of knowledge.
4. Poachers evading detection.
5. Criminal activities and money gain.
6. Eradication of predators for easier bushmeat harvesting.
7. Political agendas.
8. Personal agendas.
9. Sometimes an acceptable practice for a few individuals/households.
10. Nomadic herdsman mass poisoning lions in West and Central Africa.
11. Ethnic tension and cattle-raiding – new emergent poisoning events.
12. The methods for killing lions have changed, e.g. use of poison, but the underlying causes for the killing have remained the same.

## **Solutions/ Mitigating action/ Opportunities**

1. Nausea inducing poisons to reduce exposure e.g. Temik (aldicarb).
2. Effective on-site protocol development.
3. Emotions against poisoning.
4. Development of a central database with information on lists of poisons available, the manufacturers of poisons, tools for poison identification and correct procedures/protocols to follow in the event of a poisoning.
5. Submit ALWG report to SSS.
6. Better government engagement in community reporting; forensic law enforcement; improved law enforcement and consequences; more effective regulation of pesticide use.
7. Prioritisation of solutions.
8. Need to thoroughly understand the drivers/motivations for poisoning lions.
9. Immediately secure the poison site to prevent further poisoning.
10. Identify available resources and use them.
11. Performance-related solutions especially with community-involvement.
12. All solutions need to be well considered.
13. Need to consider national food security when thinking of regulating pesticides, especially in Africa, as some pesticides are critical for agricultural development.
14. Need to enhance the benefits of human/wildlife co-existence.
15. Regionalized strategies and partnerships.
16. Improved technologies e.g. GMO.

17. Banning poisons is not always the best, or the only, solution.
18. Collation of information.
19. Improved community stewardship.
20. Linked knowledge of poisons to human and livestock health implications – good motivational tool.
21. Awareness creation.
22. Compensation programmes/procedures.
23. Solutions need to be culturally specific in order to be effective.
24. Illegal possession of poisons needs to be enforced as a pre-emptive strategy.
25. 'Buy back' or 'surrender' programmes.
26. Eradication of illegal stockpiles of poisons especially on commercial farms.
27. Effective disposal mechanisms for poisonous substances.
28. Changing cultural use of muti.
29. Re-iterate sensitivity to the consequences of poisoning.
30. Collaborations are key.
31. Identification of the actual magnitude of the problem.

### **10. Some concluding key points from David Macdonald**

- At Kasane we discussed a lot around symptoms vs. causes – we often focus too much on the symptoms.
- Sources and sinks are vital in lion conservation.
- Why should we be interested in coexistence – should lions and people have to live together? Yes, and because there is always going to be an edge where coexistence will be key to the survival of lions.
- Discussions were centred on sharing and sparing – do we separate conservation from people or focus on living with lions?
- There was thinking around lions and conservation in terms of urbanisation or rural living. Do we think it is better to have urbanised people away from wildlife resources or have rural communities living among the resources?
- Sustainable use of wildlife was a key discussion point and the opportunities are diminishing with more people and less wildlife. Thus, is sustainable use part of yesterday's conservation discussion?
- We discussed levels of scale and analysis that included questions around the scales at which we implement change, identify problems and conserve lions.
- We need to learn how to effectively deal with policy to support our conservation actions.
- A framework is required to guide our thinking on lions, conservation and related issues. This needs to include biological factors, human perceptions and livelihoods. More focused is needed on the human aspects of lion conservation. More understanding of culture and livelihoods is required and particularly on how they affect lions.
- We understand the need to be more complete in every aspect of our interventions to avoid perverse outcomes that result from dealing only with symptoms. Full lifestyle analyses of all interventions are required with a 20-40 year vision.
- Key knowledge gaps include: economics (what are the real opportunity costs in each section of the lion debate of a certain action happening or not happening, e.g. what happens if lions disappear, what are the consequences of policy, etc.), behavioural change (how do we get all people to change their minds about how we live with lions), legalistic (property rights, regulation-

enforcement-governance, how do government integrate lions into other challenges related to people and development).

- We need to ensure the maximum return on investment in lion conservation. We need to spend money and resources to ensure maximum conservation benefit to lions.
  - To impress governments: reputational consequences (e.g., better than neighbours), stakeholders being committed to proposals, imperial pushback (lions are someone else's problems – countries living with lions need to have a stake and a say in what happens).
  - We need to capitalise on the current public focus on lions, "cats are special and the moment is special".
  - WildCRU worked with market researchers to investigate consumer habits. They used 100 terrestrial mammals with pictures of them and asked 1500 people from five English speaking countries which they ranked highest and preferred. A key results is that of the 10 top ranking mammals, six were big cats. In every country tigers came first, elephants second and lions third.
  - Why is the moment important? The impact of Cecil has been huge, it is not known why the story went viral but the moment was exceptional. It lasted five weeks in the media and is one of the longest in the press in recent years. Most people who were responding were not conservationists but probably rather animal rightists or welfarists. What matters here is that they have energy and global interest that is very unique but needs to be banked on. We need to harness this energy to take our ideas and principle forward. This has the potential to result in a societal shift in opinion in how we live with lions.
  - Can the Cecil moment become the Cecil movement?
-