

Newsletter

Winter 2004



2004 has been a year of hard work and growth for PCT. Flip's purchase of a Maule aircraft has given PCT its independence as we no longer need to rely on the use of someone else's aircraft. The aircraft has already proven invaluable in fieldwork. In September, Lise visited the UK and gave talks to Chester Zoo, FFI in Chester, and Marwell Zoo.

The Kunene lion population continues to grow and to spread out to new areas. Tracking the lions, identifying and collaring new lions has kept the team busy over recent months.

Following a survey of the steenbok population at the Kalahari Game Lodge, plans have been drawn up for a wild dog reintroduction where problem animals will be removed from farmland and relocated to a new home at Kalahari Game Lodge. This is planned for later in 2005.

PCT are also working closely with the Ministry of Environment and Tourism to develop a lion management plan to help limit the amount of human-lion conflict, and to help develop a successful long term conservation strategy for the species.

PCT in the UK have been busy raising funds with activities such as an art exhibition, sales at a cat show, recycling printer cartridges and a sponsored parachute jump being just a few examples. They have funded the purchase of radio collars and a digital camera for Ingrid Wiesel's Brown Hyena project, and most recently agreed to fund a new base camp for PCT's Kunene lion project.

PCT has achieved a lot in the 18 months since it was set up, and with the help of our supporters, we hope to achieve even more in the next year.

CITES CONFERENCE

As reported in the last newsletter, there were several carnivore related proposals for discussion at the CITES conference in October 2004. The first was a proposal from Namibia for an increase of their export quota for leopard skins/trophies from 100 to 250. The Namibian proposal contained evidence that this would not impact on the overall sustainability of the leopard population. The proposal identified that, although only 100 leopard a year are trophy hunted, the number of leopards shot as problem animals was far higher and demonstrated that in 2002 and 2003 over 200 leopards were shot per year. The Namibian proposal effectively argued that by allowing the problem animals to be trophy hunted rather than simply shot as problem animals would not result in an increase in the total number of leopards being shot, but would lead to an increase in the revenue obtained.

Some of the parties remained concerned that the total number of leopards shot per year may become unsustainable. PCT made an independent assessment of this concern with an analysis of the Namibian data. We used a linear regression model to predicted the increase in leopards shot as "problem animals", with an increase in the numbers trophy hunted. The model suggested the total number of leopards removed annually, when 250 leopards are trophy hunted, would remain well within a sustainable annual off-take. The CITES conference approved this proposal.

The second was a similar proposal from South Africa for an increase of its leopard export quota - from 75 to 150 leopards per year. This proposal was also approved.

(Continued on page 2)

THEFT AT KUNENE BASE CAMP

Sometime between 15th August and 24th October, a large number of items were stolen from our base camp in the Kunene region.

The camp is in an area that is restricted to a few tourists (mainly led by guides), and conservation officials. Despite this, equipment and supplies were stolen including 700 litres petrol, 400 litres Av-gas, 400 litres of water, several gas bottles, a freezer, branding irons, a jack, ropes and cables and cooking/eating supplies.

Flip Stander

BROWN HYENA PROJECT UPDATE

In early 2004 Predator Conservation Trust in the UK agreed to fund the purchase of three radio collars to replace two expired collars, and to allow an additional Brown Hyena to be collared. Ingrid Wiesel and her team attempted to fit two of these to Brown Hyenas at the Wolf Bay colony, but when they attempted to trap a brown hyena to fit the collar they encountered unexpected difficulties. The hyena in this area refused to be tempted by the bait while Ingrid's vehicle was nearby, but were happy to eat the bait as soon as the vehicle left. After two weeks of trying, Ingrid abandoned the attempt temporarily. It appears that the hyenas have become very wary of vehicles and run away when they spot a vehicle. The reasons for this are unknown but Ingrid intends to learn from this experience and try other techniques to capture and collar hyenas from this clan.

In October 2004, Predator Conservation Trust in the UK funded the purchase of a digital SLR camera for the Brown Hyena project. Ingrid has now taken delivery of the camera and is already putting it to good use to take high quality photographs of individual brown hyenas for identification purposes.



WEBSITE UPDATE

The website continues to grow and to attract an ever increasing number of visitors. In the past six months alone, we have had over 17,000 visitors to the site who have viewed over 40,000 pages in total, and the number of visitors each month is increasing steadily.

The latest addition to the website is a video gallery which contains a number of video clips of large carnivores (Wild Dogs, Lions, Leopards and Spotted Hyena so far) as well as some of the various projects and the PCT team at work. Several of the articles in this newsletter have associated video clips on the website including the articles about XPL15, the coastal lions, the base camp and the Maule.

Anthony May

NEWSLETTERS BY EMAIL

If you would like to receive the newsletter via email instead of a printed copy then this will help us reduce our costs.

If you would like to sign up to receive the newsletter by email, please email us at

newsletters@predatorconservation.com

NAMIBIA NATURE FOUNDATION GRANT

The Namibia Nature Foundation (NNF) have agreed to provide a grant for just over £12,000 (just over 22,000 US dollars) to support the running costs of the Kunene lion project for six months.

The majority of the funds will cover the cost of aerial tracking and location of all the radio collared lions, and the darting of around ten lions in the same period.

(Continued from page 1)

The third and final carnivore item was a proposal by Kenya to upgrade the African Lion from CITES Appendix 2 to Appendix 1. The Kenyan proposal was opposed by the majority of countries including Namibia. The main argument of the Kenyan proposal was based on a possible decline of the lion population in West Africa. Unfortunately, the proposal did not present a strong case. The two references used to support their argument of a population decline were unconvincing and perhaps inappropriate. The quality, accuracy, or compatibility of the two datasets were not verified, and may possibly not be comparable. The Kenyan proposal was first modified in response to the criticism and opposition, but was then withdrawn.

PCT UK FUNDS NEW KUNENE BASE CAMP

The Kunene Lion Project operates in difficult terrain and in an isolated area and requires a central and secure base-camp from which to operate. The base forms the lifeline of the study, by providing safe storage and accessibility to research equipment, operational supplies (e.g. petrol, Avgas, spares), water, and food. The study area is covered systematically with excursions to locate and observe lions. These excursions last anything from 2-7 days, supplemented by occasional visits to the base-camp to restock on supplies. The base-camp also acts as a field laboratory where data is processed, and where blood and genetic samples can be frozen.

The current base-camp, the Kunene Lion Camp, has served the project well for over four years, but the extreme weather has taken its toll. The camp is in need of extensive renovations. However, its location has become unsuitable, due to the growth and expansion of the lion population during the past two years. It is therefore planned that a new base-camp will be built.



A new location has been identified which is central to the current lion distribution and the predicted expansion. The security at the Kunene Lion Camp has also come into question, after it was burgled in 2004. Large quantities of supplies and most of the research equipment was stolen. The new base will provide better security.



In December 2004 a proposal was submitted to PCT in the UK for the funds to build the new base camp. The proposal included costs for the following

- The basic structure itself which needs to be secure
- Solar panels to provide electricity to power laptops (for entering data collected)
- A refrigerator to store blood samples
- Lighting
- Fuel supplies (both aviation fuel and petrol for the vehicles)
- Several windsocks
- Tools for repairs to the vehicles (the harsh terrain means regular repairs are required)

The total funding required was just over £6000 (over 11,000 US Dollars)

The Trustees of PCT in the UK were happy to approve the grant application and to fund the entire amount. This means we are able to make our largest single grant to date. We would like to thank all our supporters for their generosity which has made this possible.

XPL15 - The cat with nine lives?

It was early in 1999, as the Kunene Lion Project got off the ground, and we were still feeling our way through the basalt rocks and heat of the Kunene, that we first came across the unusual social habits of the Kunene lions. We followed tracks and signs of a large group of lion cubs that moved considerable distances, without the guidance or protection of adults. There were approximately ten cubs, and from the size of their spoor, they were no older than a year. These were unusual observations. Generally, lionesses give birth to small litters of 2 – 3 cubs, although they do occasionally synchronise their oestrus cycles and produce litters about the same time. However lion cubs, of that age, are mostly in the company of adults. Textbooks and the scientific literature suggest that one-year-old lions are dependent on the adult lionesses of their pride, and could not survive on their own. With tracks and scant signs in the vast desert as our only evidence, we were wary of concluding too much.

In the early morning hours of a pitch-black night in October 1999, our speculations about this mysterious coalition of lion cubs were confirmed when they paid us a personal visit. For months we had been setting bait and calling stations at night, with the hope of attracting them, or any other unmarked lions. Our theories and expectations of the “cub-coalition”, however, left us unprepared for the sight that met us that night. The red-filtered spotlight illuminated a scene of chaos and aggression, as the cubs descended on our bait-station with confidence and determination. They ripped into the meat and fought brutally for a share of the free meal. There were lions everywhere, and their vicious growls and snarls were intimidating. We counted ten lions and estimated their ages between 12 and 14 months. The cubs behaved like adults, they were confident, aggressive, and fearless.

We darted two individuals that night. An assessment of dental structures confirmed our estimates of their age, and calculations suggested that they were born in September 1998. Both lions were marked with a unique brand mark, and fitted with a radio-collar. Our introduction to the “cub-coalition” that night, marked the beginning of a long-term quest to study and understand the socio-ecology of the Kunene lions

During the next few weeks, as we followed the “cub-coalition”, it became clear that they were not dependent on their mothers, or on other adult lions. They moved far and wide, and hunted successfully as a group. In July 2000 (20 months old) the coalition separated and formed two independent groups. We decided to fit more radio-collars and to intensify monitoring of the two groups.

On 16 September 2000 we darted a 2-year old male. We named him XPL-15. He was brand marked and fitted with a new radio-collar. XPL-15 became one of our key study animals, as we monitored the movements of the sub-group. In July 2001, at less than age of 3 years old, XPL-15 and his siblings dispersed and settled in the Hoaruseb River, some 130 km to the north. We tracked XPL-15 often and kept detailed records of their demography. Our last visual observation of XPL-15 was in August 2002.

Sadly, in October 2002, we learnt that XPL-15 had been shot. Reports suggested that he and his group had moved onto land occupied by livestock farmers, and had killed donkeys and cattle. The livestock farmers retaliated and, in protection of their livelihood, shot one of the lions. The report came from a reliable source and it included reference to a unique ID number inscribed on the radio-collar of XPL-15.

For several months after this incident we continued searching for XPL-15, but to no avail. We tracked and observed the remaining lions of that sub-group, but XPL-15 had disappeared. Finally, in December 2002, we updated our records: XPL-15 (aged 4 years) was assumed dead, his personal file was closed, and life continued.

SHOT - **WOUNDS** - **DEATH**

SHOT 21 OCTOBER 2002
 MHA
 GUAMBOUMI
 PARROS
 Kill 3 CATTLE
 OTHER LIONS
 NOT ESCAPED

Study area	Kunene district	Sequence No	XPL-15
Species	<i>Panthera leo</i>	Pride	Abu Conyn
Sex	Male	Age	2 years
Birth date	September 1998	Freq	148,200
Date first marked	November	Brand mark	X-55
		Other marks	SHOT

SEX ♂

FILE CLOSED ON 2 DEC 2002

ID No 001 C0000 23200 148.200

9 8 7 6 5 4 3 2 1

1 2 3 4 5 6 7 8 9

A long-term study, like the Kunene Lion Project, requires regular and routine maintenance. For example, the batteries of a radio-transmitter last two to three years, and radio-collars must be replaced routinely to continue monitoring. On 9 December 2004, a male lion was earmarked for regular maintenance work. The lion's radio-collar was nearing its expiry date, and we planned to replace it during a standard darting operation. That night, as we slowly approached this lion in the failing light, we noticed a second lion nearby. The unknown lion was skittish and wary. However, a careful and painstakingly slow approach, under the cover of the night, paid off, and two well-directed darts were met by two sharp and angry growls.

We waited silently in the pitch darkness for 20 minutes to allow the drugs to take full effect. A brief inspection revealed that both lions were down. The vehicle headlights were turned on and we drove up for a closer inspection. The lion we were after was fast asleep and awaiting his new collar. We turned our attention to the unknown male, admiring his beautiful black mane. Then we noticed the brand mark on his shoulder. It was a unique mark, used only for the Kunene lions, but we had no record of a big adult male lion with such an individual mark. There was pandemonium as we reasoned, searched, and eventually realised that the lion at our feet was XPL-15.



The mark on his shoulder is unmistakable and unique, but we were confused, initially, because XPL-15 "died", more than 2 years ago, and his personal file had been closed.

The scrawny cub, we first marked in September 2000, had grown into a magnificent male lion. He was in excellent physical condition, six years old, and clearly in the prime of his life.

Two years after his reported death, and subsequent absence, XPL-15 had made a dramatic reappearance. The observation gives rise to many intriguing questions:

- Were the reports of a dead lion, shot by local livestock farmers, false?
- If these reports were false, how did the local people obtain the ID number inscribed on the radio-collar of XPL-15?
- Why did XPL-15 disappear after the reported incident?
- Where did XPL-15 go and where did he live, undetected by local people and this study, for more than two years?

We may never have answers to any of these questions, and the remarkable incident may be explained only by the myth that cats including lions, really do have nine lives.

Notwithstanding, the net result is of ecological and evolutionary significance, simply because XPL-15 survived to adulthood despite separating from the adults at a very early age. As a healthy male lion, in the prime of his life, XPL-15 is perfectly poised to spread his successful desert-adapted genes.

Flip Stander



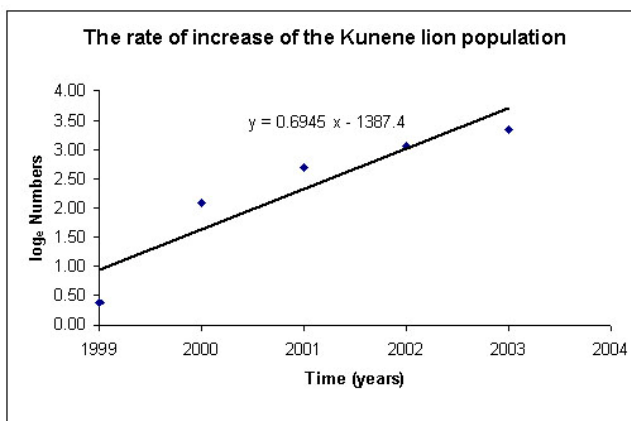
RETURN OF THE SKELETON COAST LIONS

The image of a lion walking along an isolated beach has captured the imagination of many wildlife enthusiasts throughout the world. The Skeleton Coast lions became famous, internationally in 1990, when wildlife film producers, like National Geographic, released photographs and videos of them. The remarkable images were captured primarily by the legendary wildlife filmmakers, Des and Jen Bartlett, during the 1980's. The lions that lived along the Skeleton Coast, during that period were monitored regularly by dedicated park rangers, employed by the Ministry of Environment & Tourism. In addition, we also ran a rudimentary research project on those lions. Funding and resources were limited, but with 5 radio-collared lions we were able to collect a fair amount of data. The coastal lions of the 1980's maintained a stable presence in the Skeleton Coast Park. They hunted and fed on the available prey, like seals, beached whales, and gemsbok, and they were breeding successfully. These individuals illustrated remarkable adaptation to the unique and extreme ecological conditions. However, the bordering land-use practises at that time were not conducive to wildlife conservation, and especially not to lions as major predators. The Namibian tourism industry was just cutting its teeth, and community-based conservation approaches were almost non-existent. Local people and livestock farmers lived on land, just outside the narrow Skeleton Coast Park ($\pm 30\text{km}$). In an area with tremendously high tourism value, people, instead, attempted un-economical livestock farming. Conflict between the lions and livestock farmers was inevitable. By 1990 all the known and radio-collared lions had been shot or poisoned by farmers in retaliation for livestock losses, or to protect an un-economical and unsustainable livelihood. Those tragic events were viewed as the demise of Namibia's coastal lions.

Ten years later, members of the Predator Conservation Trust and the Ministry of Environment and Tourism, launched a second study of the desert-adapted or coastal lions. Since 1990 there had not been any observations of lions in the Skeleton Coast Park, but signs had been recorded in the desert areas, just outside the Park. More importantly, however, were the tremendous growth of the tourism industry, and the emergence of communal conservancies, where local people have ownership over their wildlife and derive direct benefits, such as tourism-related levies. The environment for wildlife conservation, and for lions in particular, had changed considerably since the late 1980's, and it was time to revisit the lion conservation problem.

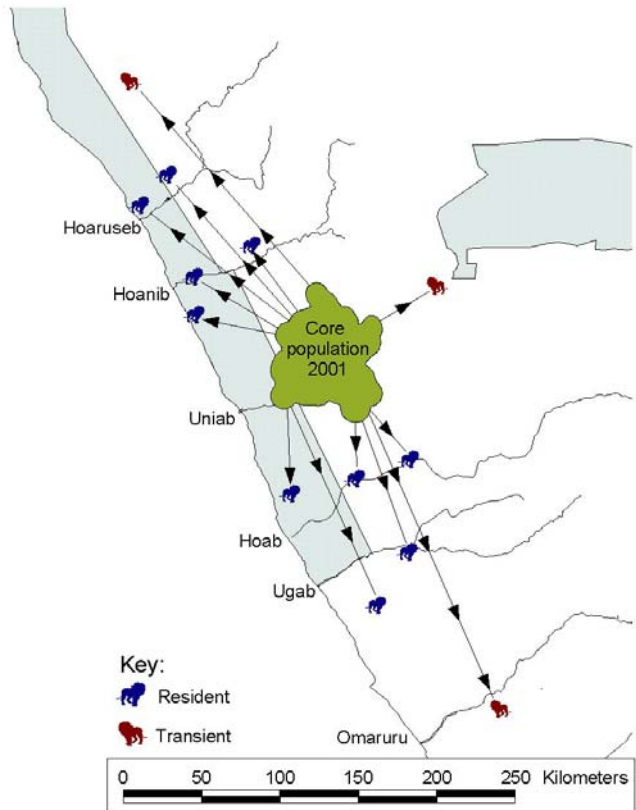
The Kunene Lion Project was initiated in 1999. Our research and monitoring approach was intensive and systematic. One year into the study 20 lions had been radio-collared. Marked individuals were tracked from the air, over vast distances, and on the ground, over arduous terrain. Our monitoring approach was focussed on the individual lion, and its social interactions or associations with other lions. We collected data on births, cub survival, deaths, immigration, dispersal, and movements. Although gruelling at times the efforts soon produced exciting results. The data showed that lionesses gave birth to large litters ($x=2.8$) and that cub survival was high (91%). In addition, cubs became independent early, and the interval between litters was shorter than normal. These events, and the fact that natural mortality was insignificant, caused the population to grow rapidly. During 1999 and 2000 their numbers increased by more than 30% per year (see graph). This unusually high growth rate dropped to 15% per year, between 2001 and 2003, which remains a significant increase.

One could therefore predict that this lion population will need to expand their range, due to the increase in numbers. In doing so, some lions will eventually find their way to the coast and, if food resources are adequate, establish themselves there. The results of our monitoring data, on movements and dispersal, from 2002 to 2005, show that this prediction is in fact quite accurate. At the end of 2001 the Kunene lion population lived in an area of $4,260 \text{ km}^2$ (see map), and then expanded widely between 2002 and 2005. The population not only expanded its range, but many individuals, and small groups, dispersed and occupied new habitats.



The 2001 range, inhabited by lions, increased by a factor of 6.7 to the range measured in January 2005 (28,880 km²).

The most interesting and significant dispersal came from a small group of four young lions that moved to the Hoaruseb River. They were born in the heart of the core area, in September 1998. At the young age of 14 months, along with 6 other siblings, they broke away from their pride. At 20 months these four lions separated from their siblings and moved, first to the Hoanib River, and settled eventually in the Hoaruseb River, more than 130 km to the north. In July 2001 they got into trouble when they moved onto a bordering livestock area, and killed a few donkeys. The local community did not want to kill the lions, and agreed that we should capture and relocate them back into the Skeleton Coast Park. Through the Conservancy system they were receiving compensation for losses, and other benefits, from the local tour operator. The following night we darted and moved the lions back into the Park. The translocation was successful, and there were no further human-lion conflicts.



As time went by the lions ventured closer to the coast, and in March 2002 the female gave birth to two cubs, in a rock outcrop less than 5 km from the beach. The cubs were growing up in the coastal area, and, not surprisingly, we eventually found them on the beach in August 2002. From the known records, this sighting marked the return of lions to the coast, after an absence of 12 - 14 years. By October 2003 the two cubs had grown large enough to be radio-collared, and we darted them on the beach, at the mouth of the Hoaruseb River. A few months later, in April 2004, the older female produced another litter of two cubs. They remained in that area throughout 2004. As a group, the mother, her two older daughters and two small cubs, move back and forth along the river, and spend a substantial amount of time on the coast.

Namibia's coastal lions are back in force!



THE MIRACLE MAULE

In the previous Newsletter there was a short article on the Maule aircraft. It gave some background on the importance of a plane to wildlife research, followed by a brief explanation of how we intend to use it, and its expected arrival. There have been many developments, and twists and turns, since that article was written. An update and some feedback, therefore, seems fitting.

Shipping the aircraft from the USA was a lengthy affair, and the plane eventually arrived in South Africa at the end of May 2004. Reassembly was running along nicely, initially, until the engineers discovered a major problem with the engine. A complete engine overhaul loomed overhead, as various components were being sent to specialists for X-rays, Sonar-scans, and other human-like tests. The fate of the engine balanced on uncertainty for more than a week, as the components were being checked for defects. I was a wreck by the end. Buying the aircraft had been a fancy and delicate financial balancing act, and an engine overhaul would simply have caused a dramatic crash. But luck favoured the Maule and we escaped with a partial overhaul and a few extra snags.

On 4 July 2004, the Maule passed its flight test at Rand Airport, and I headed for Windhoek, via Upington and Keetmanshoop. I landed in Windhoek early the next morning, after 7 and a half hours in the seat.

Little time was wasted and the Maule was put to work right away. We did four wildlife surveys in two months, and logged 126 hours. The aircraft's performance and suitability for survey work was impressive.

After the surveys, we slowly started getting back into the Kunene Lion Project. The power and versatility of the Maule only came to the fore in the challenging condition of the mountainous Kunene. It is by far the best aircraft I have worked with. The Maule's abilities in the field have enabled us to take the Kunene Lion Project to another level. Most important is the plane's ability to land and take off in very short distances, and its ruggedness to land on rough and uneven surfaces. During the 50 hours logged for the Lion Project since October 2004, we have repeatedly used make-shift airstrips of 50 to 100 metres in length. If the weight and balance is carefully managed, it can land and take off in 50 metres. In practical terms, we can land almost anywhere in the study area. This ability will drastically reduce our driving and commuting time from the nearest airstrip, to the lions we need to monitor.

The miracle Maule has been a major boost to the Trust, and has aptly been nicknamed "Puff adder" by a few loyal fans.

There are several short video clips, viewable on our website, of the Maule in action.

Flip Stander



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