

KGALAGADI LION PROJECT

NEWSLETTER

Issue 2: November 2013

Project Overview

The **KGALAGADI LION PROJECT** is a research orientated programme aimed at investigating and monitoring the lion population of the Kalahari Gemsbok National Park. In 2009 SANParks conducted a survey on the lion population and noted disturbing changes in the sex ratio of the population. The survey indicated a significant shift towards more males than females. It was predicted that if this skewed sex ratio were to persist it could ultimately lead to the collapse of the population. Several theories were put forward to explain this trend, the primary theories included:

- A change in prey availability due to changes in the prey numbers and distribution over time and consequent utilization by lions, leaving females in good body condition. Research findings elsewhere have suggested that some female mammal species in good body condition tends to produce male-biased litters.
- Increased incidences of human-lion conflict might lead to a disruption in the social structure and dynamics of the lion population and may lead to an increased rate of male coalition change overs in prides. Rapid coalition changeover has been found to promote male biased litters.

Although many theories exist, the exact cause of the detected sex skew is currently unresolved. Further research is urgently required in order to effectively plan and direct conservation management practices that will ensure the survival of this lion population. Thus the **KGALAGADI LION PROJECT** was brought into being.

The research conducted entails two independent yet related areas of enquiry. The first being a detailed study of lion demography and the effects this may have on future population trends, as well as determining which mechanisms influence the lion population's composition and change. An individual identification catalogue of all lions encountered in the park is being created using photographs of lions sighted by park rangers, researchers and tourists. This allows us to record changes in the lion demographic profiles. Individual identification of lions is achieved through the recording of scarring, damage to the ear lobes and whisker spots.

The second area of enquiry is concentrated on understanding the present patters of lion diet in the Kgalagadi in relation to pride composition, prey availability, season and opportunities to interact with livestock. We will also be investigating whether the diet of the Kgalagadi lions has changed over time. This will be achieved through using a combination of methods including direct observations, lion scat analysis, GPS cluster analysis and isotope analysis.



Take a look at our website “www.kgalagadilions.co.za” or find us on Face Book “Kgalagadi Lion Project”

Project Milestone

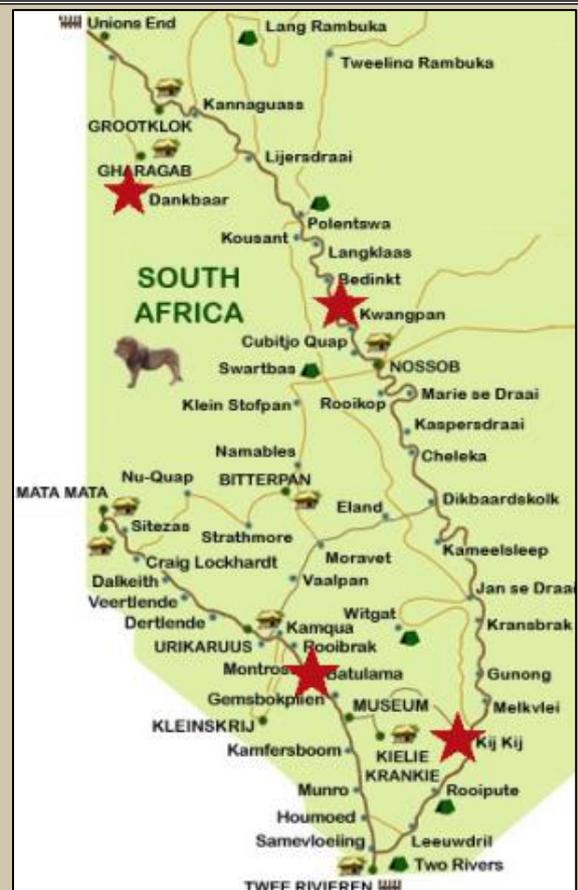
The most exciting development in the last quarter has been the acquisition and fitment of GPS/VHF collars on four lions in the Kalahari Gemsbok National Park.

In October 2013 four adult female lions were fitted with GPS/VHF collars by SANParks Veterinary Wildlife and Scientific Services. The map on the right indicates the approximate location of the collared lions.

The **KGALAGADI LION PROJECT** will use the collars to locate prides as well as prey remains. The collars will also be used to assist with continuous following of collared individuals and their associated prides through telemetric tracking.

Collared and other lions will be followed at night to obtain detailed information on diet and pride demography. Continuous direct observations are widely regarded as the most accurate method in determining lion diet, as other techniques may bias dietary representation to either smaller or larger prey species.

We are very grateful to SANPark's and all who were involved in making this undertaking possible. This is a huge milestone for the **KGALAGADI LION PROJECT** and will greatly contribute towards attaining the objectives of the project.



Map indicating approximate localities of collared lions (derived from SANParks map)



Above: Kwang female (left) and Auob female (right) with their newly fitted collars. **Below:** SANParks team assessing condition and fitting collars on sedated lions (left). A job well done, the last lion collared over a period of four nights (right).



Update On Some Of The Lions



The GPS/VHF collars have already proved to be extremely useful in monitoring diet and pride associations. We tracked the Kij Kij female and found her with two tiny cubs (above left). She was distressed by the presence of a curious adult male and promptly gave chase (middle). Thereafter she picked up her cub that was struggling to keep up and moved off deeper into the dunes (right).



We had been tracking a male and female lion through the dunes over a period of three days. Their stomachs were sunken with hunger. On day three the male managed to find and kill a porcupine (left). He continued to consume the entire thing without leaving a single morsel for the female (middle) who looked on longingly. Luckily the following day she managed to catch a gemsbok and ate her full before the male arrived (right).



There are lions in the park that remain almost exclusively in the dunes. We have been lucky enough to come across a few of these individuals (left). They are considerably more skittish than the lions encountered in the river beds. They have to travel vast distances across the dunes to find food (middle). Dune lions seem to be in poorer body condition although we have noticed a general decline in lion body condition as we reach the end of the dry season (right).



The Kalahari is definitely a place for only the toughest of the tough. This male (left) had recently obtained a serious eye injury that will more than likely render him blind in that eye.

Under one month old this cub (middle) is already expected to keep up its mom as she moves through the river bed and dunes in search of food and safety.

A newsletter would hardly be complete without a photo of an exquisite male Kalahari lion (right).

Project Progress Report

The 1st June marked the official start of data collection for the **KGALAGADI LION PROJECT**. Data collection has already been initiated in the form of a lion identification catalogue, collection of biological material for isotopic analysis, lion scat analysis and recording of predation events observed.

We have conducted a number of field trips totaling 75 field days thus far throughout the park. Since the onset of the data collection we have travelled over 13437 kilometers in search of lions resulting in 111 lion sightings. Of these, only eight of the sightings were of lions we had seen previously. At an average traveling distance of 170km per lion sighting one begins to see just how sparse the Kgalagadi lions are in this arid environment, with home ranges spanning as much as 500km².

From park staff and tourist sightings we have already come to identify 119 lions in the South African section of the Kgalagadi. This is rather significant as previous estimations of the lion population size were approximately 130 lions. This gives us a good starting point in being able to track individual life histories through individual identification.

It does not end here, thanks to the submission of lion photographs from park staff and loyal Kgalagadi visitors the database is continually growing. We would like to thank those who have submitted photographs and thus providing crucial information to aid us in gaining an understanding of this great national treasure!

A significant amount of time has also been required for administration. Most efforts have been directed at data analysis; primarily scat analysis, identification catalogue production and identity verification. Much effort and time has also been invested in vehicle maintenance and repair.

The **KGALAGADI LION PROJECT** now has over 370 followers on Face Book. Furthermore, an article on the project was published in the spring issue of the SANParks Times newspaper as well as in the SATIB Trust newsletter.

A bank account has been activated by WESSA for the management of donations made to the project. Account details can be found on the project website www.kgalagadilions.co.za.

A Special Note Of Thanks

We would like to express a heart felt word of gratitude to all of our corporate sponsors and to all of you who have made private donations to the **KGALAGADI LION PROJECT!**

The success of this project relies on your good will and thus working together to ensure the survival of the lions of the Kgalagadi!

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Cape Peninsula University of Technology

South African National Parks

Wildlife and Environment Society of South Africa



If you would like to find out more about the project or find out how to make a contribution. Please contact Maya or Otto Beukes at Email: info@kalaharilions.co.za; Tel: +27 84 235 9602 or +27 71 255 2220

Other Interesting Sightings



Jackal attacking a white-throated monitor lizard. These large lizards use their tails as a whip to defend themselves.



Lesser Flamingo. Obviously lost, we found this flamingo walking down the road in the middle of the dry season.



Barking Gecko. A favourite sound of the Kalahari is that of the hundreds of barking geckos calling at dawn and dusk.



Common Duiker. These shy antelope remain in areas with dense vegetation to stay concealed.



Brants Whistling Rat. When threatened they sit on their hind quarters and let out a sharp whistle.



Honey Badger. Tirelessly excavating the side of a dune in pursuit of rodents.



Juvenile Puff Adder. Snakes and other reptiles started making a reappearance after the cold of winter had passed.



Spotted Hyaena. Females are larger and dominant over males. They have a false penis called a pseudopenis.



Fiery-necked Nightjar. Nightjars are nocturnal. They feed on insects caught in flight.