

May 10, 2011 - **Earthwatch Expedition** "Brown Hyenas and Cape Vultures", February 2011, Johannesburg, South Africa  
by Kathy Boles CHRP, Lotek Wireless Fish & Wildlife Monitoring

"Dumalang" to everyone who has clicked onto this adventure expedition (Dumalang means "Hello")

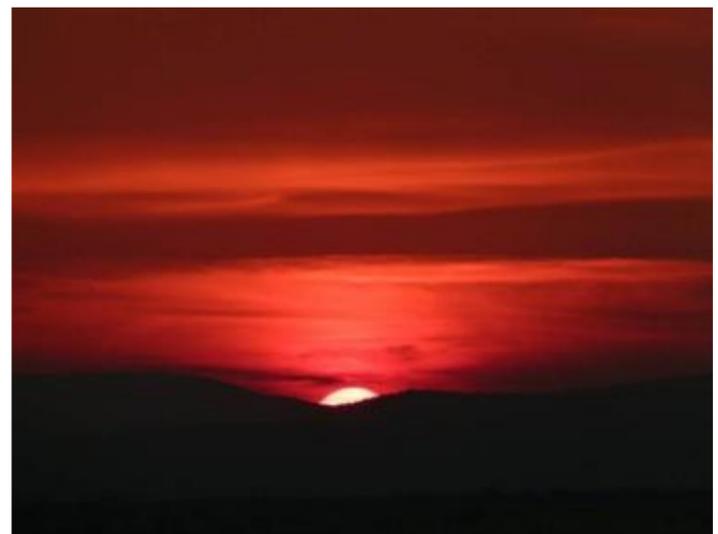
Kathy counted it a privilege to be able to go on this free 12 day hands-on work trip, compliments of her company, to Johannesburg, South Africa where she was involved in Hyena Research at the Phiri, Hyaena Research at Mankwe Wildlife Reserve and the Pilanesberg National Park. Getting to the destination was an exhausting 22 hour flight. The first part of the trip took her and her husband from Toronto to Amsterdam, the second part from Amsterdam down to Johannesburg, South Africa.

The Brown Hyena was under attack by the Native Africans because they have associated the Brown Hyena as the killer of their cattle. This seems like a logical inference since these hyenas are always at the scene when the carcass is found. Researchers on the other hand did not perceive these animals as killers but as part of the ecological clean-up committee and the preventer of disease associated with rotting flesh in the dry and hot environment. To exonerate these animals of this hideous reputation, researchers needed to prove to the local inhabitants these animals were not guilty of these crimes and therefore needed to stop shooting them.

The funding for researchers to investigate this travesty was sponsored by the "Earthwatch Expedition". The trick in fund raising was to attract enough volunteers to pay for the research. In this case only 10 volunteers were needed. This type of arrangement allowed guests to see and participate up close and personal in the research work that was being done. Tourists to the country on the other hand were not allowed to get out of their vehicle and were also limited from entering restricted areas of the reserve.

For more information on Earthwatch Expeditions please visit Earthwatch Institute at:  
<http://www.earthwatch.org/>

**Adventure of a Life-Time** - All photos were submitted by Kathy Boles



Beautiful Sunset scenes were a regular occurrence that she and the team saw

Kathy reported that inexperienced people from all around the world can go on these trips and she has learned from experience that you are never too old for an adventure and she would do it again. No previous work related or camping experience was required. There was 1 couple from Japan, 2 couples from the USA, one single man from the UK, one single lady from Atlanta Georgia and Kathy and her husband from Canada making a total of 10 people. Everyone met at the Johannesburg airport in South Africa for their 12 day expedition.



The sign "Chalet" was quickly discovered not to be a posh resort but an attractive compound set up in the bush with a number of tents for the guests. Each expedition guest(s) had their own tent, toilet, sink and shower.

Wildlife such as frogs frequently visited the shower area and needed to be moved aside prior to bathing. A generator provided the needed electrical power for guests from 5pm-10pm (if and when the expedition guests were not working).



"Jet lag" was no excuse to be slack but guests were allowed an early to bed the first night. This was a work trip and all guests were expected to arise early, work late and contribute to this hands-on research adventure regardless of their experience. Kathy reported that upon arrival guests unpacked, had lunch and then went for a ride in the "Bucky" (topless multi-seated truck) to get their first glimpse of the reserve and the wildlife.

Safety instructions were brief: Shake boots out before putting them on. Spider, scorpions and snakes can hide in them. Tuck pants into your socks and wear long sleeves to avoid ticks and do not get out of vehicle until the guard tells you it is safe to do so. The guards were to exit the vehicle first to check the immediate area for snakes and wild animals (The guards were well equipped with rifle, various knives and a communication device). Meals consisted of wild venison such as Impala, Wildebeest etc. and big breakfasts.

**African Wildlife Parks:**

*Mankwe Wildlife Reserve (Mankwe means - "The land of the Leopard")*

The dual purpose 4,760 hectare Mankwe Park meets South African law requirements by providing the African Explosives and Chemicals Company, which manufactures blasting explosives and fuses for the platinum mines, with a large buffer zone around it to protect the communities while providing a home for many indigenous wild game reserve animals.

*Pilanesberg National Park*

This privately owned and operated park since 1969 nestled in a crater of an extinct volcano that existed 1500 million years ago boasts of having 552 square kilometers of land (55,000 hectares) that can be accessed through 200 kilometers of roads and holds 6,000 very dangerous animals. This park is one of the 3 alkaline complexes in the world. Visitors/tourists to the park must stay in their vehicles; however, researchers sponsored by the "Earthwatch Expedition" were exempt from this restriction and were allowed to get out of the vehicle.

**Adventure Objectives**

- To follow the directions of park rangers
- Carry-out the instructions of the researcher
- Enjoy and appreciate the beauty of the country, culture, wildlife and their work experience

**Work Detail** (The day started at 6:00 am with a break from 2-4 pm when the temperature reaches 35-40 degrees)

- Work groups were split up into two teams (5 in each group)
- Set up 6 camera sites at Pilanesberg
- Set up 6 camera sites at Mankwe
- Install camera, cut grass, plant bait and do a Rumen drag at each site
- One member documents/records the groups activities
- Return in 4 days to repeat and replace SD card
- Collect and package Hyena scat samples
- Observe for Hyena pastings (markings on grass - this marks their territory and wards off other males)



Work groups day research kit

The procedures were repeated at Pilanesberg and Mankwe



The grass was cut with a machete before the camera was attached to the tree.



Odiferous bucket of bait



Bait is placed on ground, wired together then staked to the ground to prevent scavengers from carrying it away.



"The Drag": The sack of the stomach is called Rumen. Just as the title implies, is pulled to lure Hyenas with its odour from up to 3 Km away.

General bait locations had already been pre selected; however, exact GPS coordinates are taken so the sites could be re-visited in 4 days to repeat the procedure and replace the SD cards.

Camera shy infrared banquet guests



Spotted Dog



Male Lion



Hyena



Hyena



Female Lion

Photos placed in order of occurrence.  
Bottom right corner displays the  
Month, Day, Year, Hour, Minutes, Seconds

Hyenas were seen at 2 of 3 sites. Other animals that were seen were Gemsbok, Rhino, Jackal and Ostrich.

### Information and instruction sessions regarding manual tracking

Spoor identification and Animal Tracking by Dougal

What type of animal the track belongs to

How long the track has been there

Which direction the animal was going

Animal Counts

Habitat Assessments

Identify the animal scat



Photo of a Hyena foot  
print with the toes  
heading left

#### *Animal Counts*

While in position and from a safe vantage point, expedition guests were asked by the tracking expert to count an animal herd, their calves and record the adult's gender as they passed by. Kathy showed a brief clip of an unnamed herd running by. Kathy got a count of 17 and was unable to distinguish the gender of the animals let alone count the calves. The tracking expert counted 32 and was also able to record the number of calves. Keeping track of the number of animals on the reserve is a conservation measure. If there are too many to fit the size of the park they need to be culled. Apparently the herd became spooked and began to run simply because their group was present.

#### *Anti-poaching walk-about*

The usual walking distance was about 4 kilometers for these types of outings. Kathy reported that Dougal carried his gun, knives and communication device on his belt. On these walk-about the team was asked to look in the trees and bushes for snares, for unfamiliar prints and for holes in the fences. Kathy reported that rangers would need to check the electric fence in the Mankwe Park every day to make sure it was working properly. Poachers were after the big ticket item - the Rhino Horn.

#### *Dung Beetle*

Kathy showed club members a fascinating film clip about a little industrious Dung Beetle on a shopping trip. The view begins by displaying this Dung Beetle rolling a huge ball of Wildebeest dung up an incline with the intention of taking this food back to its family. When the dung was nearly at the top of the hill the Dung Beetle momentarily lost its grip on the dung and it rolled back to the bottom of the incline. The Dung Beetle ran back to its treasure and started the process once again. One could see the struggle this tiny insect was having in pushing this dung. Just imagine the challenge of standing on your front feet and pushing a large round object with your rear legs.

#### *Habitat Assessment*

Kathy showed us the carcass of a dead Kudu (identified by its curly horns). To perform this assessment the researcher, using the dead animal as the center of a circle, uses a rope to measure outwards to a radius of 25 meters. Once the circle's circumference has been established the researchers then count whatever is within the circle i.e. trees, bushes etc. If the object for example is a tree(s) the researcher needs to identify the name(s) of the tree(s), its height, circumference and the number of them. The same principle applies for bush(es). This data collection is important and used for vulture research.

#### *Hyena Scat*

Hyena scat turns white very quickly from the calcium in their system, from the eating of bones. In contrast Baboon scat has berries in it and is very identifiable.

- Scat analysis could not be done because much rain had made the dung beetles very active
- Researchers gather scat, take GPS coordinates and identify the colour (which determines how old the scat is)
- Scat analysis helps researchers to understand eating habits/diet
- They did have to take what samples they had (200+) and package them to send to the UK for DNA analysis to determine the type of bones, insects, berries and hair from animals like kudu, impala, etc. They can determine how old the hyena is and whether it is male/female
- The team also had to look for pastings (markings on grass) this marks their territory and wards off other males.



Hyena Scat - Packaging was an unpleasant job

#### *Anxious Moments at Pilanesberg Park while in van*

With urgency in his voice Eddie retorts, "Back-up...Back-up". "Can't you smell it!" "What?" asks the group. "The musk odour when the elephant flaps its ears," said Eddie. The van backs up, stops. The elephant starts to saunter towards them. The van backs up again to turn around but this time into a mud hole. Without the usual ceremony i.e. guards out first, everyone hops out and pushes the stuck van out of the mud hole.



Eddie reported that this elephant named Marula is well known for knocking vehicles completely off the road.

#### Visit to Louis's (PhD student) **Vulture Restaurant**



Researchers have set-up "Vulture Restaurants" as a safe place for Cape Vultures to eat because farmers are lacing the carcasses with poison. Researchers are also using this dining experience to harness the birds with GPS-GSM Teflon harness tracking devices. The current GPS-GSM devices have a "store on board" capability, 13-18 mos. of battery life, and an accuracy range of approximately 10 meters. Researchers are able to get 3-4 readings per day. Researchers hope to have 36 birds harnessed with tracking devices by the end of 2011. To attract the vultures, dead meat is placed in the enclosure. The researcher sits in a blind off to the side. When new birds arrive the researcher pulls a cord that traps the bird(s). The researcher dons gloves, enters the cage, applies the harness then exits leaving the enclosure open. The birds are now used to this procedure and enter freely.

#### **Hyena Collars**

- Current Hyena Collars have been observed to leave noticeable marks and skin damage around the animals' neck.
- Biologists have reported that there is an issue with not being able to turn the collars off.
- Built-in release collar technology would be ideal.
- There is no way of knowing how much battery life is left for non-deployed older collars.
- Batteries of newer collars can be turned on at time of deployment.



#### **Night Outings**



The night kit was comprised of a GPS, PDA, vehicle signs, range finder, paperwork, pen, car batteries, spot lights, head lamps and lots of bug spray.



The spider web was stretched across the road and needed to be detached and anchored to bushes on the same side before passing by.

Since Hyenas are nocturnal animals many of the excursions were conducted at night. Kathy reported that the animals stand out when the spot light picks-up the shining of their eyes. Binoculars were used to identify the animals and numbers and the range finder was used to record the distance. The tall grass did obscure many of the animals. To pick up the shining of their eyes, spot lamps were moved back and forth through a 180 degree arc as the bucky/van moved along the road (one for each side of the buck/van). Not all of the animals were hyenas, yet these animals were identified and recorded. Kathy reported that the bucky was always used in Mankwe Park and the van was always used at the Pilanesberg Park.

### Research Data

-Research shows that Brown Hyenas and vultures are merely scavengers not hunters that come in after the farm animal has been killed to clean-up the leftovers and bones. By providing this service, these animals keep the pathogens of the rotting carcass from getting to other species.

-In comparison the Spotted Hyena (or Laughing Hyena) is a hunter.

-Educating the farmers as to the service that the Brown Hyenas and vultures provide to their environment will be the next important step for the safety of this species.

### Future Research Projects

#### 1. Cape Vultures

Where do they forage?

Have they been exposed to veterinarian drugs after local farmers have cared for sick cattle?

Are they feeding in protected areas like reserves or farm land?

Investigate power line collisions (Is there anything that can be done to prevent these collisions?)

-ESKOM (an energy company) is providing funding to do more research into vulture power line collisions.

-Leverhulme Trust and Pretoria University also have funds for vulture research.



#### 2. Black Backed Jackal



Louis Phipps apparently has applied to "Earthwatch" for a new program to study Black Backed Jackals

#### 3. Snakes



Puff Adder Snake Common Egg Eating Snake

Masters' students are currently studying snakes (kinds unknown)

Investigate body temperature in summer versus winter

Track distance traveled and destination

Overcoming the problem of applying a tracking device to something that sheds once a year

The 3 main snakes: Puff Adder, Black Mamba & Cobra

### African Wild Animal Photo Gallery



Zebra Black Rhino Ox Pecker White Rhino Giraffe



Hippopotamus



Ostrich Wildebeest Water Buck

Ross Riley