



Walking with PURPOSE

It's one thing to go to Africa and learn about the amazing creatures and their habitat, it's another thing entirely to play a part in the very understanding of the environment. **Huw Williams** tries to do just that as he joins scientists and volunteers on Earthwatch's Brown Hyena project in South Africa. Photography by **Niall Riddell**.

It's nearing midnight and the stars of the southern hemisphere are shining in a cloudless, moonless sky. The only sound is the gentle grumble of our 4WD. Details of trees and waist-tall grasses emerge from the dark as the headlights grope ahead, dragging us deeper into the bush and the unnerving wilderness of an African night.

Everyone in the vehicle is silent now. Louis, one of the scientists, is driving. He stops on a straight stretch of dirt road and switches off the engine. He turns around in his seat and tells us that this is the spot. His voice sounds very loud after our self-enforced silence during the drive, but it is only a whisper.

"I am going to get out, lay the bait, then we will reverse a few meters. When we stop again, start getting ready. You all clear what you have to do?"

We nod.

Louis walks carefully up the road and stops. He seems incongruous and vulnerable as he crouches in the pool of yellow light, like a stagehand forced to adjust scenery mid-act, but where the stalls are populated by wild animals not impatient patrons.

He places the bait, a can of smelly, fish-laden cat food and walks back to us.

We start to set up the kit, each of us with a specific task. Nick arranges the speakers on the roof of the cab then attaches the battery to power up the amp. Nicole starts to fill out the data sheet with the time, GPS reading, the type of terrain and vegetation.

Scott is cradling the powerful hand-held spotlight and I am ready with the rangefinder to pinpoint anything his piercing light picks out. Niall sits, camera poised. We whisper quietly to each other as we ready ourselves. The atmosphere is heavily loaded with the anticipation and excitement as we wait in the middle of the African bush for a large predator to emerge from the surrounding darkness.

Many African national parks don't let visitors venture out after dark. Even those areas that do allow night drives don't permit this. Using bait and recorded cries to lure in an animal is the preserve of science, not tourism. We are privileged to be here, but this is not an exclusive holiday experience. This is an Earthwatch project in northern South Africa.

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Earthwatch is an international environmental charity that sends volunteers to work on over 120 research projects throughout the world. The projects are established scientific studies where the data the volunteers help to collect is of direct benefit to the



academic understanding of wildlife and ecosystems.

Joining an Earthwatch project is not a vacation. Their trips involve work and cost money – the volunteers are paying for the opportunity to get closely involved with the science of conservation. In return they get accommodation, food and experiences that even the most exclusive safari outfitter could not supply. Earthwatch volunteers come away with a deeper understanding of many things: the ecosystem they have visited, the particular species they help to study, relevant conservation issues and the environment. The work is not window dressing: the physical and mental contribution of volunteers is very significant. Without their assistance many of these studies would not be viable.

Scott, one of the volunteers on this project, is here with his son Nick. They could have gone on a traditional African safari holiday but opted for Earthwatch instead.

“Rather than being at a safari lodge where you are just ticking boxes of wildlife species sightings, on this trip we are learning much more about the animals. It’s also a far more memorable way of spending time with my son than just sitting in a Land Rover.”

The project they and five other volunteers have signed up for is a study run by the University of Brighton in the UK. Its remit is to discover more about brown hyenas. This elusive, little-known and threatened carnivore is a relative of the more daring and better-known spotted hyena. The aim is to find out about its behaviour and what role it plays in the local ecology, as well as to determine how many of the animals there are in the study areas. The last task involves identifying individuals and their territories.

Our job will be to collect data from three sites: the fully protected area of Pilanesberg National Park, the semi-protected environment of Mankwe Wildlife Reserve and a nearby area with no protection from the interference of humans.

How brown hyena fare in these different areas is a very important comparison, as many cattle farmers perceive them as pests and try to limit their numbers by killing them. This can involve trapping, shooting or even filling glass jars with fat, which the hyenas bite into and receive fatal injuries. The study is trying to discover whether there is any truth in the allegations that brown hyenas threaten livestock or if humans are unfairly persecuting the animals.

It is hoped that all this research could soon provide a blueprint for the study of brown hyenas throughout southern Africa.

Like much scientific investigation, this project relies on the analysis of painstakingly collected data. This is where Earthwatch steps in. Having a group of volunteers working on a project means a lot of labour intensive data collection can be done in a relatively short time. For Dr Dawn Scott, the project’s lead scientist, the involvement of Earthwatch is invaluable.

“We wouldn’t have the project at all without Earthwatch’s support and funding. I also really enjoy working with the volunteers. They bring lots of questions, loads of enthusiasm, skills and knowledge. Our exchanges with them are so valuable – we feed off it. Scientists working in isolation don’t get that and they can end up losing the wood for the trees.”

For the Brown Hyena Project, the work the volunteers do involves attracting hyena at night at various locations in the three research areas and also looking for footprints and droppings. The skat surveys are done from a vehicle in Pilanesberg, where there are lion, elephant and leopard, but on foot in Mankwe as there are no dangerous carnivores. Either way, the methods are efficient, as brown hyena use roads as the boundaries to their territories and conveniently, they tend to drop their skat at the side of the road where they are easily spotted.

The accommodation is not luxurious. Earthwatch projects aren’t about fresh linen and rose petals on your pillow. The camp for this project comprised a long wooden kitchen and dining hut, a twin-roomed, cinder-block bungalow and a few safari tents. It sits on the gently rising banks of a lily pad-littered lake. It is simple but welcoming, clean and comfortable.

Although the research is split between three areas, it is the affairs of Mankwe that we come to understand best. Not only because it is our base, but also because the father and daughter team who run the reserve, Dougal and Lynne Levitt, are so interesting and informative. They inspire the volunteers because they are passionate about science and conservation, so much so that we quickly become aware that the reserve would not even exist without Dougal’s vision and perseverance.

Mankwe was set up by Dougal in 4000ha of undulating land with scrub, grassland and wooded areas laced with streams and pock-marked with a few small lakes. It is now home to very healthy and diverse populations of wildlife. There are 48 large mammal species including various antelope, giraffe, warthog, rhino, jackal and brown hyena, as well as 13 rodent species, 15 varieties of snake, 3 different types of bat and 250 species of birds.

It is a healthy, natural environment, but the area is fenced and managed. Without large predators to keep their population in check the antelope

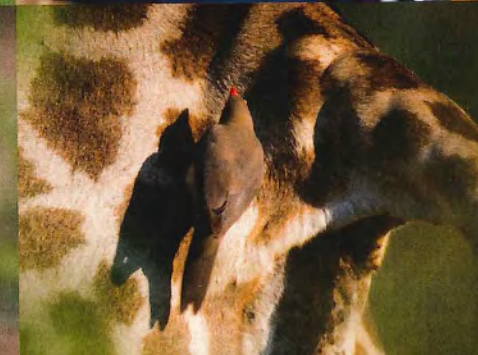
While volunteering on Earthwatch’s Brown Hyena Project involves a lot of hyena spotting and science, there are plenty of other species – big, small, tender, armoured – that cross your path (*opposite and following page*)

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he crouches in the pool of yellow light,
like a stagehand forced to adjust scenery
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species have prospered, leading the reserve to control their numbers. To do this they carefully harvest some of their number, either by the selling and translocation of animals to other conservation areas, or through selective hunting. If this action wasn’t taken the antelopes would over-graze the grassland and damage the delicate balance of vegetation essential to the ecosystem’s survival.

But as Dougal pointedly explains to the group, echoing the old refrain of a southern African conservation mantra: “If conservation doesn’t pay its way, it goes under.”

These detailed insights into the practical details of conservation and the day-to-day operation of a



wilderness reserve that Dougal and Lynne patiently provide is an element of the Earthwatch experience that the volunteers particularly appreciate. As Scot says: "You don't normally get any perspective on the legal and economic issues of conservation. On a normal safari holiday you just don't get the details because you are insulated. They often want you to see only the positive side and not the difficulties wildlife conservation faces."

It's not just theory. Dougal and Lynne also hone our practical skills. We learn basic bush craft so that when we are searching for hyena spoor we can identify them effectively.

At Mankwe this means walking along the dirt roads between fixed points, identifying any brown hyena spoor, taking GPS readings of any skat that the animals have dropped and collecting a sample for DNA research.

The lack of large predators, buffalo or elephants means walking is risk free. There are a number of poisonous snake species, but on the road they aren't a concern either. We are relaxed and there's no need for our senses to be distracted by sentry duty. It may be a little artificial, not fully the real Africa, but it does allow time and circumstance for contemplation of sights that can be so easily overlooked.

While looking down and moving slowly the little things leap out of the general green: tiny, delicate violet-coloured flowers, the size of a match head, which are so intricate and incredibly vibrant. The closer you look the more details emerge, layer after layer. We also observed lots of insects such as ground beetles, toktokie beetles and millipedes, as well as one dung beetle powering through fresh kudu droppings and rolling a ball of it away at speed.

Walking along the dirt roads is also an ideal way to learn about animal tracks, as they are easily visible, well defined and frequent. Dougal armed us with a lesson on basic tracking and we tested our new knowledge. A wildebeest leaves a print of a distinct split hoof, unlike the spoor of most antelope; the two halves of their hoof prints tend to meet at the tip. Look for the tiny indicators too, like dew disturbed by a passing animal, leaving dark swathes when viewed against the right light.

And let's not forget the all-important dung. The key to identifying zebra's is that it is kidney shaped and coarse textured; they are bulk grazers and don't possess the complex digestive system of the ruminants. Hyena skat is free of hair because their digestive system is so efficient that virtually nothing is left. How dry is the dung? Are there dung beetles? If there are it will be fresh and the animal could be nearby.

We punctuate our relaxed nature walk with the serious business of science, stopping every so often when we spot the grey-green deposits of fresh hyena dung or the chalky white ones that have sat around for longer. Discovering dung like this is a surprisingly exciting event and we compete against each other to see who will glimpse it first.

Although we are having fun and learning about conservation, wildlife and brown hyenas, Dawn Scott explains that we are also helping to make real scientific progress at the same time.

"Skat surveys are the most effective way of

identifying the size of the population, particularly where there are low densities; they also give indications about their behaviour and how territorial the brown hyena are. By comparison, where the population density is high, using bait and taped calls to attract them is very effective; these also allow us to take photos and identify individuals, determine their sex and see how healthy they are."

Poised and prepared, we sit alone in the bush at night, desperate to see the animal that is the purpose for our trip. Nick presses 'play' and pre-recorded hyena calls rip through the silence. It screeches and howls, ululating with a mix of low growls. It is distinctive, unlike any other call – the closest comparison would be a strange fusion of the noise made by a grumpy puppy and a squawking seagull. After three minutes the tape abruptly stops and we sit again in silence, the tension acute.


The spotlight sweeps in a slow circle. Nothing. Disappointment is pushed back by the realisation that surely science isn't that simple. Of course hyena wouldn't surround us after just one attempt.

We start the process again. This time Scott breathlessly whispers that at the far range of the spotlight there are two eyes shining back at us. Slowly it moves towards us. It is a brown hyena tentatively tracking around the vehicle, moving in a wide arc and then cautiously, onto the road. Head frequently snapping up on alert, it gingerly sniffs the bait, fascinated but nervous of the strange pungent gloop of canned cat food. It isn't put out to feed the animals, but to ensure that they don't associate the callings with a false promise of food. If there were none, the animals would soon lose interest and wouldn't bother coming in to the calls.

Fighting the urge just to sit and stare in awe, we snap into gentle action, taking distance readings, passing information to Nicole to write down: species, distance first spotted, average visible distance, the time...

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When the hyena finally walks back into the black there is a palpable sense of gratitude amongst us. We all feel it. After a few minutes of excited chatter we settle into silence and reflect on what we have just experienced. To have sat in the midst of an African night and called a wandering, solitary predator to our presence is a rare privilege.

Scott sums up his feelings of his first Earthwatch project: "Some of the work can be repetitive and even a little tedious at times. Sitting in a 4WD late at night listening to loud animal howling wouldn't appeal to everyone, but for me it was certainly worthwhile. We were learning about the entire environment, while at the same time we were actually contributing to its understanding." 

For more information on Earthwatch or their Brown Hyena Project visit www.earthwatch.org/europe.

Meet the scientist

Dr Dawn Scott will be giving a talk about the Brown Hyena Project at the Earthwatch lecture *Shrinking Habitats, Species Survival* at the Royal Geographical Society in London on Thursday the 16th of October 2008 at 7pm. For tickets and information, please contact Earthwatch's events officer at events@earthwatch.org.uk, or visit their website (www.earthwatch.org/europe).

Earthwatch volunteers form part of the research team and are responsible for various tasks.

Some of the contributions made by the brown hyena team included collecting samples from butterfly-laden dung (*opposite*) for DNA analysis, recording important details of brown hyena encounters (*opposite* and *previous spread*), identifying animal tracks (*opposite*), setting up scientific equipment (*previous spread*) and even wielding spotlights (*previous spread*)