

# Elephants *for* Africa



Conservation through research and education

## Elephant Tales Newsletter Issue 25



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## Welcome to EfA - Dr Jess Isden



It's been a tough season here in the Boteti River region of Botswana, with late and sporadic rains causing havoc for wildlife and farmers. Over the last six months we've seen the river reduced to a series of murky pools and muddy wallows, and the wildlife of the national park has been forced into closer and closer proximity when coming to drink.

The Makgadikgadi salt pans fill with rainwater during the wet season, enticing zebra and wildebeest in their thousands to move away from the river and disperse in the vast grassy pans to the east. As the rains ease up during April and May, many move back to the more permanent water in the Boteti, although this year there isn't much water to return to.

The elephants do not seem to follow such a strong migratory pattern, but instead we observe high numbers of elephants at the riverside throughout the year. Even during the driest spells of this wet season, we have regularly encountered over 100 male elephants. They congregate at the river to socialise whilst manoeuvring around the dense concentrations of hippos and crocodiles battling for space in the few remaining pools of water.

Our research on the sociality and ecology of male elephants in the park continues, with MSc student Connie videoing focal individuals and Research Assistants Helen and Aaron collecting our long-term monitoring data.

The lack of rain has had a deep impact on the farming community in the areas surrounding the national park. Our Community Coexistence Project, funded by the *GoodPlanet Foundation*, was launched in January.

This season we have focused on working with farmers to improve understanding about male elephant behaviour and to increase uptake of mitigation measures in their crop fields. Despite many farmers not ploughing this year due to the drought conditions, some farmers managed to grow successful crops, and our workshops and demonstrations were well attended by all.

Our work with local primary schools has been extended and our environmental education classes are proving to be increasingly popular.

As we enter the 2016 dry season, temperatures are dropping significantly and wild and domestic species will be relying on little grass to sustain them. We will continue to monitor conditions in the national park and communal lands, and hope that the next rains arrive in good time.

If you would like to keep up to date with our projects and the elephants that we observe, follow our **facebook** page where videos, photos and stories are posted regularly. Also take a look at our new and improved **website**, where you will find more information about EfA and our projects in Botswana.





## Community Coexistence Project - Dr Jess Isden



In March, we received funding for our Community Coexistence Project from the *GoodPlanet Foundation*. This collaboration will fund three years of work with the farming and school communities in Khumaga village. It is run by our community officer, Mankind Molosiwa. Despite the drought conditions limiting this season's farming, Mankind has been kept very busy organising workshops and helping install mitigation measures.

The majority of farmers here rely on rainfall to water their crops, and with the rains starting three months later than usual, many farmers decided not to plough and sow their fields this year. Mankind took a gamble and bought seeds in January. After a nerve-racking start his seeds finally germinated and produced crops throughout April and May. His field was a valuable demonstration plot for other farmers; his high acacia tree fences, chilli rag fence and burning of chilli bricks overnight, did a good job of deterring elephants from his field.

During the first months of this project, Mankind delivered ten workshops in the local community, which have been open to everyone. He has also delivered a regular supply of dried chilli pepper to ten farms, along with advice on how best to use it. The EfA team have helped two sets of farmers install their own chilli growing plots because we want to try and increase the sustainable self-production of chilli pepper.

We have also been experimenting with a new type of deterrent: a small, solar beacon. This was originally designed in Australia to keep predators away from livestock enclosures. The simple device emits powerful light strobes at irregular and random intervals, in three different colours. These lights are emitted across a 360-degree range, and have proven effective in deterring predators.

We want to see whether they could have similar results when placed in farmers' fields; it could be effective in discouraging elephants. The lights are charged by a small solar panel, making them ideal for use in remote farming communities. We await the verdict from farmers as to whether they have been a success.

Despite the poor weather conditions this season, we remain optimistic that the farmers are moving positively towards increased human-elephant coexistence. During the forthcoming dry season we will be increasing our workshops, chilli pepper harvest mornings and community meetings to ensure that farmers are as prepared as possible for the next crop season.





## Human-Elephant Conflict PhD - James Stevens



My third and final field season has been another tough one for the farmers in this region. We experienced very little rain again this year and few farmers ploughed their fields.

The majority of those that did, chose to molapo farm. This is where you plough in the river bed as the river recedes, to make use of the moisture and fertility of this area. However, this brings the fields closer to the elephants, because they come to drink at the river.

It was a first for me this year to be walking around fields collecting data with forty or fifty elephants coming to drink during the course of the morning, on the other bank.

These seemed to be the well-behaved elephants as most of them showed no interest in the fields. If they did, a quick clapping of hands kept them on the other bank. The farmers were always on hand to clap or start burning some chilli as well, which was a nice change in attitude to when I started. Back then, most farmers had little faith in chilli mitigation.

It has been great to see the new interest in using chilli this year, as information about our Community Co-existence Project spreads. To see the selected farmers succeeding in keeping the elephants out of their fields the majority of the time is brilliant. I think we have a long list of people that want to be enrolled next year!

Although few farmers ploughed, it was still a busy year attending 81 crop raids. I investigated a new avenue of research this year: studying the movement patterns of elephants both inside the field and moving towards fields.

Having looked at some of this data, it looks like the elephants know exactly where they are going to get to the fields, although movement patterns inside the fields will need more analysis.

I am returning to the UK in July to analyse my data and write up my thesis. Part of me is looking forward to unravelling all the data I have collected, but I know I am going to miss bush life having spent nearly three years here.

At the moment I am making the most of being woken in the night by the lions roaring or the elephants shaking the trees outside my tent, but I am sure I will be back to the bush in the near future.





## Environmental Clubs



We first started a monthly commitment to Khumaga's Environmental Club in July 2015, and since then we have seen attendance increase from 24 pupils to a whopping 66!

Over the last six months we have held fun and practical classes on a range of environmental and scientific topics. These include helping the school to improve its recycling and waste management; recreating the nest-building abilities of birds; and comparing different animal behaviours at the Boteti River.

One of the most fun classes we held, involved learning about how wing shapes affect flight in different species of bird. We divided the class into teams and gave each team two designs of paper aeroplane to build. Enthusiastic snipping, folding and stapling of paper ensued, resulting in some rather unusual flying!

After putting together multiple versions of different planes, we headed outside into the centre of the school yard to test them out. Nominated launch-pilots lined up and after a couple of practice throws, aeroplanes were sailing past classroom windows. Each pilot then measured the distance that their plane had flown, and we compared results.

Average distances were plotted on a graph on the blackboard, and we discussed how each type of plane may resemble certain bird species. The 'bullet' plane reminded the pupils of a kingfisher when it dives into the water after a fish, whereas the 'glider' was similar to a long-distance flyer, such as a vulture, with its wide and elongated wings.

Thanks to a successful funding bid from the Chicago Board of Trade, we have been able to offer our Environmental Club programme to a new school in the Makgadikgadi region. Mogolokwane Primary School is situated in the lively but isolated village of Phuduhudu, nestled in-between the

boundaries of the Makgadikgadi Pans and Nxai Pans National Parks. Despite being in such close proximity to the parks, and being highly restricted in the types of farming they can engage in, many community members here have never had an opportunity to visit the parks.

The primary school is keen to teach their pupils more about the wildlife that reside there. We are very excited to be starting our education programme here, and hope that we can work closely with teachers and community members to deliver more fun and informative environmental education.







As the Kalahari winter begins to take its grip, I sadly have to say goodbye to the park because my 8 month stay has come to an end. I leave with a wealth of data from over 350 hours sat at the Boteti River with the elephants.

I have spent these months studying the social interactions of male elephants and anticipate results that will give us a better understanding of the many mysteries of African bull elephant society.

The national park is largely unrecognisable from when I first arrived. Two years of drought, and the river level is at its lowest since EfA moved to the park in 2012. Large stretches of the riverbed are now completely dry and elephant activity is becoming more contained to a series of popular pools.

It has been interesting to record the behaviour of the elephants over this period of change. A huge variety of species have been congregating at the pools. The elephants, hippos, crocodiles are all being forced into close contact. Tensions were highest between the elephants and hippos, but they have definitely grown more accustomed to each other now.

Progress with my research is going well. How their behaviour changes through the different age groups is fascinating. I'm curious to analyse the ages that choose to interact, the type of socialisation that goes on, and whether certain ages are more central to social networks than others.

A second major focus has been how the river is used as a location for meeting new companions for travel in the park. I'm intrigued to see how groupings of individuals change between arriving and leaving the river. Are certain ages more loyal to those they arrived with?

Are certain ages targeted by others as leaving partners? Or is leaving group simply a random reflection of the population?

With so much fascinating data and the potential to address such important questions missing from our understanding of male social dynamics, I want to extend my project into a PhD. This means that I will be lucky enough to return to the Makgadikgadi later in the year for another field season.

I'm in the early days of planning some experiments, but hope to work with odour presentation trials – monitoring the reactions of elephants to the urine of elephants of different ages and musth state.

But for now I will be in London for a few months whilst I begin my search for PhD funding and make a start on some analysis of the 8 months of data collection I have so far.





# Camera Trap Data Project - Aaron Kerr

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After a year, the camera trap project is coming to a close. It began in June 2015, when we routinely ventured out to the more remote reaches of the park to change the batteries and memory cards and do a general inspection of the cameras to ensure they were working correctly. But the cameras were installed earlier than this, so we have 18 months worth of images, of which over 125,000 were collected.

I have been focusing on the elephant images and have found that having such a unique opportunity to unobtrusively monitor elephants over a long period of time offers understanding into how they use and interact with their environment.

We are able to assess how their numbers and demographics fluctuate with varying climatic conditions as well as look at group sizes. Using camera traps has given us the ability to witness them when otherwise we are unable to see what they get up to; it has been an opportunity to see the hidden and secretive life of an already fascinating animal.

We have witnessed male elephants travelling in groups of just a few individuals but also as many as 22 individuals. There have been instances of unexpected and curious behaviour; such as an elephant in the middle of the day crawling in front of one of the cameras for no apparent reason. We have also had elephants walk straight up to a camera and appear to attempt to eat it.

As much as elephant numbers and personalities have changed over the course of this study, the environment around them has changed vastly. Watching through the fixed lens of a camera is an advantageous way of being a spectator to the changes which the environment goes through.

Having a fixed position gave us the ability to watch in a time-lapse as the plants went from withered and bare branches to lush, healthy plants once more, showing off their green leaves and effervescent flowers. The ground once barren and dry transforms into a carpet of wild, untamed green coming alive with plants, insects and small mammals.

But almost as fast as it grows and transforms, it withers and dies, once again going back to the desolate environment it was before. However this does not deter animals travelling vast distances to live here until the next rainy season.

The Makgadikgadi Pans National Park is a unique landscape and environment, one that depends on the rains and the recent flood waters from the Okavango Delta. So many individual animals depend on this area year in and year out.

I feel fortunate to have been able to witness the transformations of the park, the trials and tribulations which both the wildlife and the local people face here.

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# Monitoring the Variety of Species With Camera Traps - Helen Shaw



The western region of the national park has undergone significant environmental change with the return of the Boteti River in 2009; but how much has this impacted on the diversity of species now found here, and their activity patterns?

Placing camera traps on well-established elephant highways has helped to gain insight into answering such questions.

Information such as species identification, direction of travel in relation to the river, the time of day the species were observed and their group sizes have been extracted from these images. Statistical analysis is now under way, creating a picture of the rate and activity patterns of their usage of such highways.

Thirty different species have been observed using elephant highways, in addition to elephants themselves. These include commonly seen species such as zebra, impala, kudu, wildebeest and giraffe. The more elusive lions, leopards, African wild dog, caracal, spotted and brown hyena, honey badgers, aardvark and porcupines have also been seen.

Interesting activity patterns have been observed; zebra, wildebeest and kudu are most active between the hours of 9am-5pm whereas giraffe only become increasingly active from 5pm-2am.

It has also been noted that zebra and wildebeest are most active when the rate of lion activity is at its lowest. Black back jackals highest activity rates coincide with the time lions peak activity levels (5pm-5am).

This suggests that the jackals as scavengers, will be more likely to obtain food from a kill if they are active at the same time as predators.

Most carnivore species such as leopard, African wild dog, spotted and brown hyena are more active at dawn (4am-8am) whereas lions are more active at dusk (4pm-8pm). This may suggest avoidance behaviours between these carnivore species.

However, prey species such as zebra, wildebeest and impala are more active at dusk than dawn, which may explain why the lions are active then.

These results have shown which locations have the highest rates of cattle movement, using elephant highways as access points into and out of the national park. It has also shown that cattle are most active at 9am-4pm, with the rate of movement peaking between 1pm-3pm. This is when cows are moving towards and away from the river.

The rate of cattle movement away from the river and into the park, gradually increases throughout the morning until 2pm from which it begins to decrease again. This information will be given to Botswana's Department of Wildlife and National Parks, enabling more informed and effective management strategies to be used.

There are still many questions to be answered to obtain a full understanding of the ecological patterns and interactions of species within the park.

How does moonlight impact on animals' activity rates and patterns of movement? How does the wildlife fence impact the rate of species found using particular elephant highways?

With our camera trap database now established, continued analysis of such questions has been enabled, with the ability to complete the picture of what is happening within this ecosystem.





### Funding from GoodPlanet Foundation

We are excited to announce that EfA has been successful in a funding application with the *GoodPlanet Foundation* through support from OMEGA Watches. The foundation, chaired by Yann Arthus-Bertrand, seeks to raise public awareness of ecology, making it a central issue, and to promote living together. It wants to create a desire to move positively in this direction.

This partnership will provide three years of funding for our Community Co-existence Project. This will allow us to engage with at least 80 farmers and more than 50 school pupils each year in human-wildlife co-existence education.

We will support 40 farmers in developing their elephant mitigation strategies and help farmers employ conservation agricultural techniques in their fields. [www.goodplanet.org/en](http://www.goodplanet.org/en)

# GOODPLANET FOUNDATION

### In the Footsteps of Elephants

Last September, wildlife artist Susan Lees held an exhibition of her work that raised over £3300 for *Elephants for Africa*. Some of the original artwork is still available to purchase, whilst others are available as prints.

20% of the proceeds are being donated to EfA. Please take the time to visit **Susan's site** to enjoy her beautiful work. To order, contact Susan at: [susanjanelees.art@gmail.com](mailto:susanjanelees.art@gmail.com)





## Fundraising Continued...



### Art by Emma Parkin

We are delighted to have three signed prints donated to us by the artist Emma Parkin. The price range is between £25-50 each.

Emma says: "I've donated these prints to *Elephants for Africa* because I want to support the amazing work this charity is doing to raise awareness and to help keep these incredible animals safe. I hope elephants roam this planet for hundreds of years to come".

To purchase these, visit [this page](#) on our website or email [info@elephantsforafrica.org](mailto:info@elephantsforafrica.org)



### T-shirt Now Available

Our trendy new EfA vest is now available to buy. Natalie Lynn Lichtenbert, one of our US supporters, has used her design talent to create a great fitness top. Natalie is an elephant enthusiast and was feeling helpless living in Chicago; but as this T-Shirt fundraiser has proven, wherever you are you can be a voice for elephants and an active supporter of *Elephants for Africa*. At least 25% of the profits will go directly to our work.

For USA orders, please visit [this page](#). Here it is available in 5 colours.

For European orders, please visit [this page](#). This is only available in pink. £16.75 + P&P







## How to Donate:

Should you wish to make a donation, you can do this online through BT's MyDonate page:

<https://mydonate.bt.com/charities/elephantsforafrica>

Or you can pay directly to our bank account, please contact us for details.

We accept cheques made payable to:

*Elephants for Africa*  
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## Our facebook page

If you enjoy regular updates from the field, please 'like' our page:

<https://www.facebook.com/elephantsforafrica>

## Recycle Mobile Phones

If you have recently purchased a new phone or a PDA, remember to recycle your old ones by sending them to us at the above address.

## Donation Wish List:

- £10 Supply a farmer with the protective clothing they need to work with chilli pepper
- £20 A pair of children's binoculars
- £45 Delivery of a class to Environmental Club
- £50 Teacher visit to the National Park
- £100 Take ten pupils in to the park for one day
- £250 Installation of a nature garden at a local primary school
- £200 Delivery of a workshop to a community
- £250 Camera trap for monitoring biodiversity
- £400 Equipment box for Environmental Club
- £2000 Production of 'Living With' workshop video to donate to the communities

## Special Thanks to:

- Mr and Mrs John Graham
- Chicago Zoological Society
- The GoodPlanet Foundation
- The Botswana Department of Wildlife and National Parks Conservation Trust Fund
- Mr Jeremy Swan
- Sections Internationales de Sevres (School)
- James Gill
- Susan Lee
- Anonymous lady who made a donation for her Grandfather who loves elephants. She hopes that they will still be around when she has children of her own.