











ANNUAL REPORT 2006-2007







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Message from the Founder



Another year has passed, with news of unusual climatic events, and a major CITES Conference where elephants again dominated the proceedings. In Mali our expedition in Feb 2007 found that desert elephants, already constricted by a drying climate, are under new human pressures at the dwindling water holes. At CITES one-off sales of ivory stocks were agreed. This risked stimulating the market, but it will be followed by a nine year moratorium, which may give elephants some relief from ivory poaching. A deeply disturbing new problem with no solution as yet, is overdevelopment of lodges in protected areas which may threaten prime elephant habitats.

Our scientists and researchers have continued to enlarge our understanding. We are poised to launch a new "Tracking Animals for Conservation" project, supported by Safaricom Foundation, which will provide vital information for wise land use planning. In one small area of Africa in Northern Kenya we aim through science to enhance survival and tolerance between man and wildlife. Conditions vary from least altered habitats in the north to expanding small scale agriculture in the South. The general message is clear. In the South, elephants and people need to be separated by fences and in the North co-existence is still possible, where elephants still have freedom of movement to find safe places among tolerant neighbors.

We have an excellent collaboration with the Kenya Wildlife Service and are grateful for being hosted in our study sites by the Samburu and Isiolo County Councils. Our innovative approaches have been greatly enhanced by collaborators like Laikipia Wildlife Forum, Lewa Conservancy, Mpala Research Centre, the Darwin Human Elephant Project and the Northern Rangelands Trust. Our developing software can reach non-technical people, small and large farmers and nomadic communities, with vital information about animal needs as they co-evolve with human beings. Together we hope to reduce human elephant conflict. From geofencing to bee barriers, our experimentation looks highly promising. We continue to monitor the illegal killing of elephants.

The elephants have let us into more of their secret world. From Marsabit Mountain our collars revealed elephant "streaks" as they trekked across surrounding semi-desert to distant destinations. On Mt Kenya, the elusive Mountain Bull made 14 nocturnal dashes between his highland and lowland ranges. Safe corridors have emerged as the preeminently important factor for future conservation.

This year our software has leapt ahead. We are getting the benefit of both ESRI and Google Earth to provide ultra sharp images of terrain and elephant movements in 3D. The key will be to fight for elephant space and pro elephants sentiment. Kenya's land use is under review and has reached a critical juncture. In South Africa and Mali where we also follow individual elephants land use and elephant policy is also under review.

For Nature to survive we need an educated interested public, aware of conservation needs in their own right. Educating kids is the right place to start but it is a long term goal. STE has opted to give individual commitment to the children we sponsor. Our small education programme has grown exponentially in the last five years, and real bonds have been forged with the children. No other project has given more pleasure to our own staff.

As we celebrate our first decade in Samburu we acknowledge the financial and personal support of our friends, colleagues and donors. None of this important work could otherwise be undertaken. We rely entirely on public generosity from around the world, and I would like to take this opportunity to thank all of you who have been so generous in the past, and to thank our staff for their dedication in the field.

Once again through the voice of our staff and the variety and relevance of our projects I hope you will enjoy our latest report.

Samburu, Sept 24th, 2007

lain Dougles - Homellon

Chairman's Report



As Iain says in his Founder's letter, STE has had an excellent year with the elephants yielding yet more exciting insights into their secrets - giving our scientists and staff the wonderful stimulation of working at the forefront of elephant research and conservation. In addition to studying elephants, STE has continued to push for actions that directly benefit elephants and their habitats, and also worked hard to prevent activities that destroy their habitats, be they local or global, as well as to check actions that will put a price on their head be it the ivory trade or calls for culling where they are ill-considered.

Research and monitoring are at the basis of all good conservation. For: without knowledge there can be neither sustainable preservation, nor considerate management nor thoughtful care of natural (and cultural) resources. Nor can we, without deep background knowledge, continue to keep and protect our elephants (together with other fauna and flora) from change, loss or damage. The pressures exerted by man are too great already, and they are mounting. Arguments for conservation have to be made and supported: be they about the functionality of evolved sentiments by invoking the importance of cherished features and general beauty of the environment for our emotional wellbeing, be they about the dangers of disturbing a time-honored balance of many and complex natural features and interactions, be they about the future importance of valuable and rapidly diminishing biological resources encoded in the genes of millions of as yet little or not-at-all understood organisms. Whatever argument we chose to use, research is and will be the key to making sure that we will not only be heard but also that we will be believed. And, given the many and conflicting demands on natural resources, it is crucial that the public and policymakers believe the advice and recommendations given. And not only believe because of persuasive argument but believe because of convincing facts, particulars, essentials: in short, because of compelling data.

Thus, STE's continued presence at the forefront of research into the ecology and behaviour of our Samburu elephants, as well as our high-level monitoring efforts, will be one key, so I believe, to the long-term welfare of elephants the world over. And as good research is never done in vacuo, so STE's participation and voice in the wider scientific community is crucial for achieving this goal. By all accounts, STE did well this past year, as in the preceding years.

Research is a human activity and one that can be learned. So is Conservation. Education is central to both. STE's important outreach programme aims to support the Kenyan government in this and the ultimate vision for us all: a sustainable future for a country in all its beauty and magnificence, and where people and elephants can continue to co-exist.

Oxford, Sept 25th, 2007

Fritz Vollrath

Elephant Choices and Human Voices



Samburu Warriors assist KWS and STE in treating a wounded elephant

In November 2006 we gave a lecture at a Tusk Trust event at the Royal Geographical Society. We gratefully acknowledge Tusk Trust for their generous support in raising funds for our elephant projects. The following excerpts are derived from our talk.

On the fringes of deserts, in the heart of forests and in open savannahs elephants are daily making their choices; searching for food, deciding when to drink, finding shade, negotiating terrain, nurturing babies, choosing mates and ever increasingly having to react to human encroachment. Wherever elephants interact with people there are human voices, both for and against them. Ultimately it is the way people think and act that will secure or deny a future for elephants and the environment they inhabit.

Recently the world has woken up to climate change and environmental degradation, but elephants are no stranger to the phenomenon. In Mali elephants in thousands of years have retreated from a once fertile

Iain and Saba Douglas-Hamilton

and abundant Sahara to the last migration route in the Gourma semi-desert. Our research discovered Africa's longest elephant migration, a massive counter-clockwise annual circle that covers a distance of 500 km. Even now the Sahara pushes southward, with drying lakes under increasing human pressure denying elephants access to water.

Global warming has captured our imaginations and has now hit the political mainstream. However, less talked about is the increasingly heavy human footprint as a cause of extinction. We cannot separate elephants or their environment from the global upward trajectory of the human population. In a single lifetime more people have been added to this planet than all the people that ever came before them in human history. With today's population of over 6 billion people shouting out to be heard, how can the 500,000 remaining elephants and the rest of the quieter animals and plants in the world even begin to compete?

On top of the explosive human population is the constant threat of the ivory trade. In the 70s and 80s most elephant populations in Africa were devastated. Harassed elephants tended to concentrate in safer areas like National Parks and increased woodland damage and the perceived notion of too many elephants. Now with people taking up more and more land we have increasing human elephant conflict. The threats of the ivory trade still could return with devastating effect if ivory markets emerge from newly affluent countries like China. On a whim of fashion, the remaining elephants of Africa and Asia could be destroyed. Huge as these problems are globally they come down in the end to individuals, whether these are people or elephants.

Save the Elephants tracks elephant movements in four regions of Africa: Kenya; Congo; Mali; and South Africa. Our main research station is in a beautiful, undeveloped region of Northern Kenya of unfenced wilderness, where some 5000 elephants still roam as they always did and share the land with the people. It is one part of the African elephant's range where new ideas can offer new hope for the future.

Over the last three years we have developed state-of-the-art GSM elephant tracking technology, "radio"-collars with built in mobile telephones, kindly supported by the Safaricom Foundation. These data go straight into a database accessible on the Internet via text messages. We have now created software that can track animal movements in real time across a three dimensional landscape on a computer – watching the screen is like low flying across the Kenyan bush spotting elephants from 500 ft in the air, but through Google Earth! We believe that it is by understanding how elephants make their movement choices that we can understand their needs and those of the other animals that share their range

Samburu and Laikipia are unusual areas where animal routes and corridors have not yet been disrupted. In broad figures Laikipia has about 3000 elephants and Samburu 2000. Maintaining a connection between these two populations can be done by keeping the old migration routes open. STE uses elephant maps showing connectivity as a powerful reminder to NGOs, politicians and

landscape planners that elephants too have a right of way.

One spectacular route is made by a male elephant called Mountain Bull who climbs up from Lewa through the Ngare Ndare Forest to streak across wheat fields at night. He crosses a busy main road to the north, then a small patch of settlement, and finally run the gauntlet to gain the safety of the Upper Imenti Forest before dawn. STE has helped the Bill Woodley Mt Kenya Trust in their fundraising to keep this corridor open by plotting Mt. Bull's exact route as he repeats his mountain climbing time and time again. It is planned to divert his route to avoid crops, but to retain connectivity.

On the lonely heights of a remote slope in the Mt Kenya massif is the body of an elephant "Icy Mike" who froze to death at 14,000ft. As the snows melt and glaciers disappear his remains are testimony of the exploratory nature of young bull elephants. Why he chose to go there will probably forever remain a mystery. What we know for certain is that after ten years of tracking elephants in Northern Kenya we see them cover a kaleidoscope of different land uses. At least half the ecosystem — made up of national reserves, private ranches, subsistence farmers, and montane forest - is linked by elephant movements and across this varied landscape elephants make their choices about where to go and when.

An important current problem is elephant crop raiding in places where human beings have displaced elephants from their natural habitat. We have a new idea to tackle this - Geo-Fencing. Using tracking technology we see a way to give subsistence farmers advance warning of when elephant attacks might occur, by the raiding elephant itself sending a text message from it's collar if it crosses an invisible line into a no-go-zone. Forewarned is forearmed, and good information on elephant movements should help farmers to use their home- made low-tech repelling devices to save crops from raiders. The point is self-determination. Empowerment leads to a better relationship with Our technological pilot project is wildlife. collaborating with the extensive community conservation grass roots network of the Darwin Initiative, the Laikipia Wildlife Forum and other stakeholders like Ol Pejeta Conservancy.

Closer to Samburu reserve are nomadic pastoralists who talk about elephants with different voices, for

they have shared the land with elephants for Samburu is one of the few places in centuries. Africa where people and elephants really do live side by side. The Samburu people have a long history of living with elephants and a mythological link which makes them much more tolerant. Customary belief has it that finding an elephant placenta brings good luck, and that burning elephant dung at marriage is auspicious. Humans and elephants are said to share an ancient ancestor so that elephants are blessed in This traditional tolerance of death like people. wildlife in the culture is a good foundation on which to build a local conservation ethic derived from local values.

There's a hunger for education and training, and through Save the Elephants we have developed an extraordinary integration between international scientists and Samburu nomads who also have a real flare for the elephant research we do. Engaging people intellectually and emotionally in conservation through education or employment helps to enhance a sentiment that is already traditionally sympathetic to wildlife.

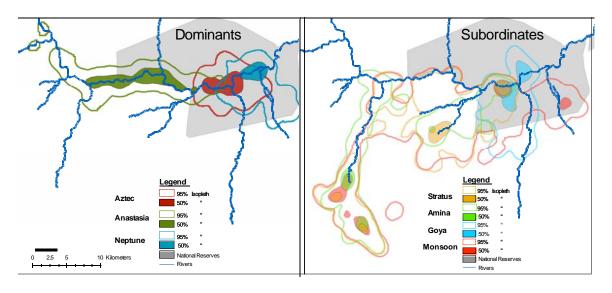
In Kenya hundreds of thousands of children now go to school, and an explosion of communications and technology brings the outside world to remote areas. Given a chance these children are just as open to the love of wildlife as those of the urban West and can start caring about big issues of Nature, biodiversity

and conservation. At Save the Elephants we have a scholarship programme that sends needy but talented children to school and welcomes them to visit our research and conservation centre in their holidays.

Elephants will only be able to survive in the long run where clear land use planning allows them sufficient space, and the means to co-exist with man. The development of community wildlife areas, like the Northern Rangelands Trust in Kenya can bring incentives to local stake holders to benefit, from ecotourism and to get a better education. Our research is integrated with local people and grass roots education projects. With the help of our generous supporters we believe there is a good chance we can create a new tolerance between man and elephants to help minimize conflict and to encourage elephant choices to be accompanied by assenting human voices.

Behaviour Study

As usual, Dr. George Wittemyer has had a highly productive year with four new scientific publications based on his field trips to Save the Elephants Research Centre. Here is his novel idea of comparing the speed of elephant movements and their range sizes to their relative dominance to each other.



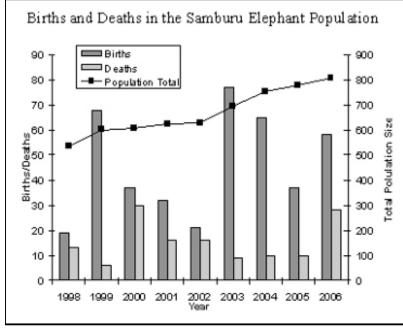
Derived from radio-tracking data, George Wittermyer and colleagues show how low ranking elephant families have larger ranges than dominants. They have to travel further and faster to find the resources they need, while dominants stick to the river in favoured habitats and travel less (from Wittemyer, Getz, Vollrath and Douglas-Hamilton, in press).



David and Chris look out for elephants

David Daballen

The Long Term Monitoring programme has been running now for ten years in Samburu National Reserve. The initiative aims to understand elephant movements and behaviour in Samburu and its adjacent areas, and to investigate the main challenges affecting elephant society. The scientific findings are being shared with the rest of the world through publications and updating of reviews on the internet.



Collated by George Wittemyer & David Daballen

The STE's Long Term Monitoring field team collects data on a daily basis. The daily monitoring of individuals has created a near complete understanding of the population for researchers and other interested parties. Each individual has a marked field code number, which is accompanied by a photo and sketch.

We believe that monitoring of individual elephants is a very powerful tool. Looking at changes in group dynamics in a known population like Samburu can answer many questions that we are facing in the conservation arena.

The results of this population study will be used as a guideline or warning for other populations, as we believe the

Samburu project provides one of the most reliable sources of data for a comparison on what is happening outside the Reserve boundaries.

One of the recent changes that we observed is that the elephants have of late changed their feeding ranges compared to few years ago. There was one incident where most of our elephants moved east of Isiolo to an area very unfriendly for elephants due to farming activities. We believe it was a search for food that made them go there; however, we will continue to closely monitor to establish how frequently they visit that area. The daily monitoring team is continually trying to better understand these phenomena.

During monitoring, whenever a group is sighted, our team scrutinises the group to record all members who are present. We therefore notice if any family member is missing or if there are new members in the group. During every dry or wet season in Samburu, most elephants migrate to other areas in search for food and water and some of the families can disappear for three months or more. Another unpredictable phenomenon is the droughts affecting elephant growth. This was seen in 2000/01, when calves aged 2 to 3.5 years were enormously affected by forage shortages. The calves were getting weaker and weaker. Predators such as lions used the opportunity to hunt the calves that could not keep up with their families.



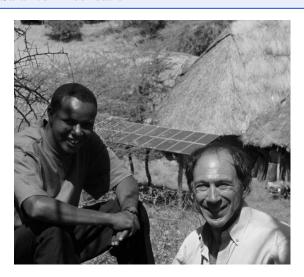
American Indians family crossing the Ewaso Ngiro river.

In rainy seasons, elephants tend to regroup themselves into large groups of 100-200 individuals. They move in one direction, particularly towards storms. Directional shifts during this time are unique movements because there is no matriarchal leadership; rather, kinship associations decide where the elephants go. This behaviour is recorded by the Long Term Monitoring team during April and December.

The Long Term Monitoring is conducted by David Daballen, Daniel Lentipo, Chris Leadismo and Gilbert Sabinga. The program was initiated and is guided every year by Dr. George Wittemyer.

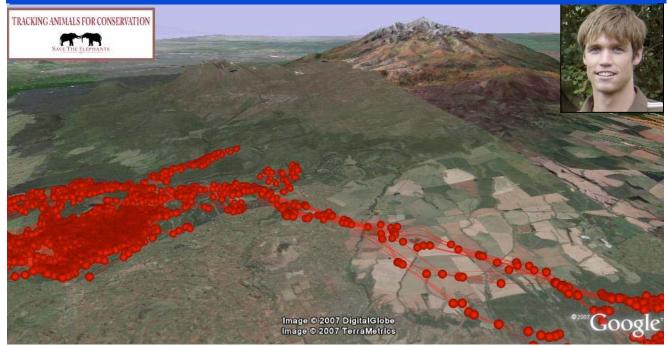
Solar Panels

In January 2007, 4 large and 16 small solar panels were installed in Save the Elephants Research Camp, Samburu. These were very generously donated by Steve Gold and BP. Now we have no more worries about power. We have computers, a freezer in the kitchen, and electric light and power sockets in all the tents. The old solar power system was a nightmare. Now we avoid the noise and pollution of the fuel hungry generator, so everyone is very happy with the new eco-friendly system. An important bonus is that internet can now be used throughout the day, allowing the team to download elephant locations whenever they need to, using a VSat terminal donated by Safaricom Foundation



Daniel with Steve Gold.

Tracking Animals for Conservation



Mountain Bull's tracks, displayed (red) in Google Earth. We tracked him crossing 14 times in the last year up and down the slopes of Mt Kenya. Our maps have helped the Bill Woodley Mt Kenya Trust to secure sponsorship for what is now called the "Virgin Elephant Corridor" sponsored by Sir Richard Branson.

Jake Wall

Tracking Elephants for Conservation is our most important project, key to other programmes and collaborations. In the last year Jake Wall has written critical new programs, building on the foundation laid by David Gachuche of Rivercross

I have written a new suite of programs allowing quick and clean output from our database of elephant-tracking data in both ESRI and Google Earth formats. Elephant movements can now be viewed in Google Earth on a moving 3D, backdrop of glorious high-resolution satellite photos provided by Digital Globe from the Quickbird satellite. The sensation is akin to flying high over the landscape with groups of animated elephants below. High-resolution imagery has also allowed ground truthing and led to insights of how human settlements and water sources are major factors influencing elephant movements.

STE is sponsored by the Environmental Systems Research Institute (ESRI), who produces the world leading ArcGIS software for analysing spatial data. The ESRI software platform has been the base for all our spatial analysis and will be for our new geofencing project and poaching alert software. I have also created a server application which automatically queries the elephant tracking database in Nairobi every hour and refreshes a file posted on the STE Webserver. With a security pass data for the last two weeks all elephants being tracked can be viewed in Google Earth. This tool that allows detailed daily monitoring and replay of the recent past has major potential for improving elephant research, management and security. It could also be tracking other animals or vehicles or ranger patrols.

We have also been able to attach stories and events to the elephant movement paths for education purposes. Pop up to photos illustrate stories of individual elephants. For example we used Google Earth for real time tracking of Mountain Bull. We tracked his path across major agricultural fields on Mt.Kenya between the Lewa Wildlife Conservancy and the Imenti forest reserve. In July, Mountain Bull crossed the fields and we descended to the ground to follow his exact footprints with the help of an expert game tracker. This calibrated the accuracy of our fixed data points with a meandering track that passed along roads and in and out of crops on his night streak

Elephant Geofencing



A vulnerable fence liable to be broken by elephants. Save the Elephants is testing a new technique of "geofencing" intended to provide warning to farmers of approaching crop raiders that have been tagged

Jake Wall

Electric fencing can act as a deterrent to elephants, but elephants have shown ingenious tactics to cross them. Save the Elephants, is developing "geofencing" programmes with ESRI. Our Geofencing team is Jake Wall (software programmer) and Bernard Lesowapir (GIS technician). We are now collaborating with Cambridge University through the Darwin Initiative to apply the results to help control crop raiding for the benefit of communities.

Human Elephant Conflict (HEC) refers to the often violent clashes between humans and elephants that result from the competition for space and resources. It is particularly prevalent in Laikipia, a high plateau situated on the equator. Laikipia is dominated by large, historically well run ranches, which are patrolled, secure and highly managed. This provides a wonderful environment for wildlife; however, they are also in close proximity to human settlements and expanding local agriculture. This has led to many problems for small-scale farmers who have suffered raids by herbivores on crops and attacks by predators on livestock. Elephants are expert fence breakers, so are particularly adept at crop-raiding. It is very

difficult to contain them without extremely expensive and carefully designed fences.

More concerning is the negative attitude that cropraiding breeds in local communities and the difficulty that it presents for future conservation. Crop raiding is predominantly carried out by bull elephants who are more likely to accept the risks involved in order to benefit from the higher caloric/nutritious food available in a field of maize than the alternative thorny browse. The attacks are usually carefully planned and occur late at night under the cover of darkness.

Geo-fencing refers to virtual fence lines within a computer GIS. In 2006 Save the Elephants erected the first ever virtual elephant fence in East Africa around Ol Pejeta Conservancy, using software from Yrless software company written for African Wildlife Tracking Ltd. The geofence followed the actual fence around the property. When a collared elephant passed through it, an SMS message was sent to the Ol Pejeta animal management team. Each fence break by an elephant resulted in the

management team sending a vehicle filled with rangers to chase the elephant back onto the Ol Pejeta property.

This was first tested on a bull elephant, Kimani, who became the focus of the Ol Pejeta management due to his considerable skill in breaking expensive fences. In December 2005 he went on a crop raiding spree that lasted 21 straight nights. The management literally had him in their rifle sights when they saw his tracking collar and called Save the Elephants out of professional courtesy. It gave us the chance to set up the geo-fence and within several weeks Kimani, through the negative reinforcements provided by the rangers each time he left the ranch, had been trained not to break the Ol Pejeta fence. One year later he still has not returned to crop raiding. It is our hope that he learned a lesson and other crop-raiders will respond in a similar fashion.

Fences are erected internally within a server, so there are no expensive maintenance costs. In fact, no physical barrier is needed for geofencing to work. It is important that sufficient negative reinforcement be provided to teach the individual where not to travel. Elephants are highly intelligent and quick to remember. They therefore easily learn where these areas exist. The elephant must also be fitted with a tracking collar or similar device and be within GSM network coverage.

The next stage of the geo-fencing project is to develop our own geo-fencing software which will be based on ESRI ArcServer technology. The refined program will allow us to examine pre-fence breaking behaviour so management teams can act prior to actual fence breakage. Another aspect of the program will allow the formation of a "cadastral" system in Laikipia. Small-scale farmers will be able to register their farm, and the server can then direct sms messages to farmers about approaching elephants, empowering the farmers to protect their own crops rather than having them wake in the morning to a raided field.

We will now refine the system and collaborate with Dr Max Graham of the Cambridge Darwin Initiative Project to try to lower Human Elephant Conflict in Laikipia. Max has a network of community scouts and a good relationship with local communities that suffer elephant depredations, ideal for the first careful application of geofencing for local benefit.

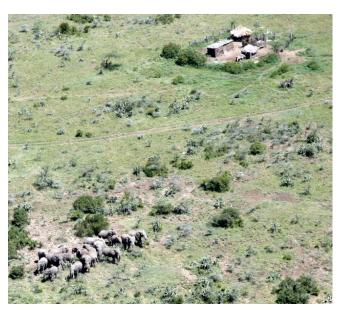
Geofencing in Ol Pejeta Barnerd Lesowapir

As a continuation of the Geo-fencing project, Save the Elephants once again sent me on a mission to map the fence line in OlJogi and in Ol Pejeta wildlife conservancies. My brother Richard also observes the crop raiders their by sight.



From the ground survey data that we collected, the old fence line GPS layer turned out to be incorrect. We have to have very accurate fence lines mapped as an important GIS layer in order for our geofencing project in Laikipia to work.

My training from the ESRI internet school is proving invaluable in this work.



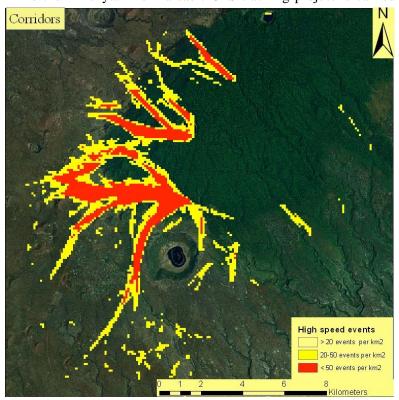
A group of 18 crop-raiding males descends on a farm in Laikipia. Ghengis Khan, who is being tracked by Save the Elephants, was part of this group.

Marsabit GPS Tracking Project

Marsabit's greatest elephant, Ahmed, in the 1970s painted by David Hadaway in 'Great Tuskers' by Johan Marais & David Hadaway

Dr. Henrik Barner Rasmussen

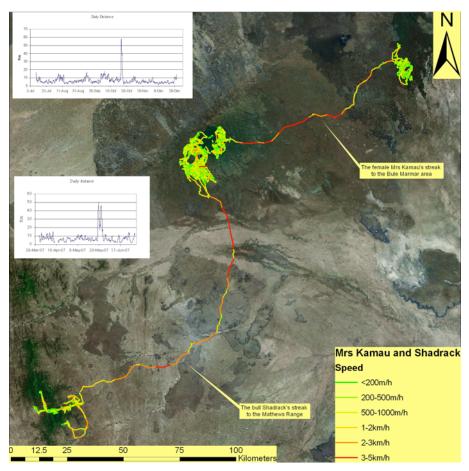
Since December 2005, I have been tracking elephants for Save the Elephants in a population around Mt Marsabit in northern Kenya. The Marsabit GPS tracking project is carried out in collaboration with KWS and researcher



Density of high speed segments of movement (> 1km/h). Corridors linking water points to foraging areas are clearly evident.

Shadrack Ngene, who is studying for his PhD at ITC University, Netherlands. It is supported by the People & Parks Support, an initiative of the late Paul van Vlissingen. This project has provided a wealth of information over the last year for KWS to improve elephant conservation and for wise land use planning and management.

We established that the elephants only spend limited time in the forest itself, venturing into the forest for drinking but foraging on the forests' edge. Likewise, we have identified core routes between the forest and the surrounding areas, especially on the western side of the mountain (fig. 1). In time these routes will hopefully be identified on the eastern side as well. Keeping these routes open for movement between the vital water sources in the forest and foraging areas along the edge is essential.



The two streaking events of Shadrack and Mrs. Kamau

A surprising result is the seemingly limited dry season range of individuals, who cross very little between the western and eastern side. Considering that the mountain is only about 15 x 10 km it was initially believed that the individual elephants would range over the entire area. On the contrary, none of the tracked elephants seem to use the whole mountain. This is especially true for the females, each only utilizing about a quarter of the mountain.



Dr Max Graham with a newly tagged crop raider "Ukuta" on Ol ari Nyiro ranch August 2007.

The tracking data from Mrs. Kamau and the aerial observation of elephants and tracks around Bule Marmar indicate that the range regularly used by the Marsabit elephants extends much further away from the mountain than previously believed, reaching up to 100 km north east of Marsabit (fig. 2)

Likewise, the amazing streak by the bull Shadrack to the Mathews Range has clearly shown that the Marsabit elephants are not an isolated population but must be viewed as the northernmost part of the Laikipia/Samburu population and no genetics isolates.

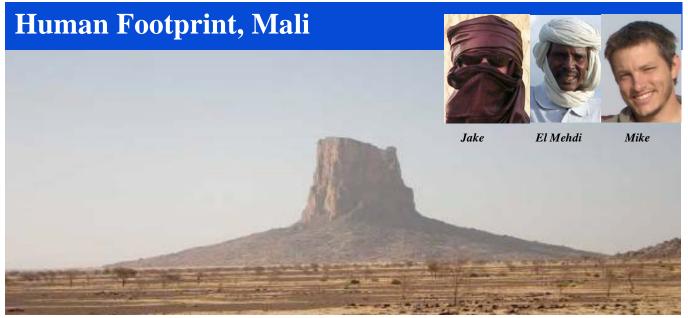
Much analysis still needs to be done. In particular, data on crop raiding activities needs to be further scrutinized, as do elephant movements in relation to slope, and in reaction to human structures like fences, houses and livestock.

In 2006 I also represented STE in Chad on an important expedition with Mike Fay to collar an elephant in this highly poached population. The tragic tale of this elephant is told in an article that appeared in National Geographic Magazine in March 2007.

Finally I assisted the African Conservation Centre to tag a bull elephant in Nguruman area near Lake Natron in a first tracking operation for the area.

Dr Max Graham & the Darwin Initiative

We congratulate Max Graham on acquiring his doctorate from Cambridge University based on his elephant work in Laikipia. Now we are working together to tackle Human Elephant conflict in Laikipia District. STE's geofencing early warning system will be tested with the community scouts Max has trained. The intention is to provide small farmers with an alert of the approach of crop raiding elephants tagged with GSM collars. So far we have tagged 8 potential crop raiders in Southern Laikipia Max is working under The Darwin Initiative supported by Cambridge University. STE is also helping train the scouts in individual elephant recognition.



Inselberg along the Gourma semi-desert elephant migration route in Mali

Jake Wall

STE has been involved in Mali since 2000 in collaboration with The Wild Foundation, The Environment and Development Group, and the Direction Nationale De La Conservation De La Nature (DNCN Mali).

In February 2007, our team of Mr. El Mehdi Doumbia, Mike Deutsch, and Jake Wall traveled to the Gourma region of Mali on a National Geographic Expedition to map the "human footprint" in the range of the remaining Sahelian elephants. The expedition lasted 6 weeks and over 200 new village locations were recorded in areas vital to the elephants' survival. The aim was to record information on the influence and presence of humans in these areas and to understand the evolving inter-relationship of elephants and nomadic pastoralists. Data collection was made on the ground with GPS technology as well as satellite imagery. A new experimental technique using differential spaceborne radar was used to map cattle trails and settlement positions around one of the most

important water sources in order to test the viability of mapping the "human footprint" remotely from space.

Results of this expedition were extremely worrying and the team witnessed the encroachment of the human settlement around the waterholes necessary for the elephants' survival. Changes in climate and the drying up of the Sahara have pushed many nomadic people down in the Sahel and, coupled with natural increases in populations, has led to high human densities in areas vital to the elephants' survival. Further research is needed into this problem - without intervention on the ground and a formalized system for protecting the elephant habitat it is estimated that the elephants will disappear from Mali within the next 15 years!

This expedition also lays the groundwork for next year's tracking supported by People and Parks Support.



Gourma elephants set off on their arduous annual migration, the longest known in Africa. Photo by Carlton Ward



Dr Jelle Ferwerda

Save the Elephants has been lacking a vegetation map for our core area in Samburu. Dr. Jelle Ferwerda brings us new expertise in the field of hyperspectral analysis of data on satellite images. The SEARS project (Spatial Economics and Remote Sensing of Elephant Resources) is based out of Fritz Vollrath's Oxford Elephant Group, and supported by the EU Transfer of Knowledge Programme.

There is a large variation in vegetation quality between plants of the same species in different locations, and different plant species in the same location. Elephants need to migrate in order to meet their nutritional needs, thus, in order to fully understand the migration patterns of elephants; we need to know the distribution of individual species of vegetation as well as their size and nutritional value.

Our SEARS project aims at creating a set of spatial layers that will help to understand the migration patterns, as recorded in the STE tracking program. Information layers that are envisioned are vegetation types, tree species distribution, tree-size, moisture content, and chemical composition. Some of these will be stable through time, while others will vary with the change of season or from year to year. To create these information layers, a combination of field-sampling, remote sensing and spatio-temporal interpolation is being used.



Jelle measuring vegetation quality

The final objective of this project is to develop a framework with which to analyze tracking data in relation to spatial information layers. This will enable us to interpret elephant migration patterns from an energy perspective, and help us understand why elephants migrate according to specific corridors and between specific regions. The SEARS project is run by Jelle Ferwerda, assisted by Paul Lochuragi.



Paul assisting with data records



Lukas assisting Lucy in the recording of wild bee sounds

Lucy King

Lucy King is undertaking her DPhil research in association with the Animal Behaviour Research Group at the Department of Zoology, Oxford University and supervised by Prof Fritz Vollrath.

It has been an exciting year for this unique project and the first busy year. The concept of investigating the relationship between bees and elephants stems from a Save the Elephants research project conducted in 2002 which made the fascinating discovery that trees with beehives received less damage from elephant browsing and bark stripping than trees without. This simple idea has led to more complex research questions about species interactions, elephant social learning capabilities and whether or not bees could potentially be used as an 'eco-barrier' bark-stripping, crop-raiding elephants.

This year we have been particularly focusing on understanding the behaviour that occurs when elephants are confronted by bees. In particular I am interested in how their normal, resting, gentle, family foraging behaviour changes when they are 'threatened' by bee sounds. To explore this

behavioural response I conducted a series of playback experiments which involved recording the sound of disturbed wild bees and playing these back to elephant families to film their reaction. My assistant Lukas and I constructed a "fake tree trunk" from a plastic vegetable rack and some brown reeds and cut a small window in the front through which we fitted a wireless speaker. This fake tree trunk was gently placed within 10 meters of the elephants and then we drove off a fair distance. We filmed the response of the elephants before, during, and after the playback of 4 minutes of bee sounds. To check that their responses were not just due to the presence of an unusual loud noise disrupting their peace, we used natural white noise extracted from a waterfall as a control sound.

The results were dramatic! 16 out of the 17 elephant herds we studied (94%) ran or walked away from the sound of bees within 80 seconds of the sound being played compared to 27% in response to the control sound. One of our resident families, the Artists, actually ran across the full width of the Ewaso Ng'iro river to get away from the bee sound emitting from our fake tree trunk! We have conducted a

quantitative analysis of the behaviour observed and have had our paper accepted for publication in the journal Current Biology.

elephants outside reserve boundaries. It provides Save the Elephants a constant incentive to continue research into grass-roots level deterrent systems that







Photos: (clockwise from top left) Lucy filming elephant reactions; Lucas with the fake tree trunk; hanging the hive in a tree that has been heavily stripped of bark; the camera view; inside one of the beehives.

In addition, we are now working closely with beekeeping farming communities who are suffering from severe crop raiding and have started some community-based trials testing bees as a deterrent. We talked to one farmer who was left with only 1/8th of his harvest last season due to elephant depredations. This is the reality of living with





can enable man and elephant to co-exist in harmony both now and in the future. Perhaps bees could play a small role in that mission.

We have been financially supported for 2007/2008 by a generous donation from Disney Wildlife Conservation Fund for which we are sincerely thankful. If anyone would like any more information about this project or a copy of the publication, please email Lucy at lucy@savetheelephants.org.

Elephant Debarking Study



Festus assessing debarking intensity

Festus Ihwagi is undertaking his MSc. Study on bark dietary and chemical quality in relation to the debarking intensities (by elephants) of different riverine trees in Samburu and Buffalo Springs National Reserves at Nairobi University and has been sponsored by STE.

One aspect of elephant feeding behaviour which concerns park managers is their habit of stripping bark from trees, a habit for which several theories have been proposed suggesting that it occurs as a consequence of physiological changes in the elephant and the trees.

Following earlier assessments of the impact of elephants on the riverine trees in Samburu and Buffalo Springs National Reserves, a research concept was conceived by Festus Ihwagi and Prof. Fritz Vollrath to investigate the contribution of bark to elephant diet and possible influence of dietary content on the debarking behaviour. Elephants have been observed to cause considerable damage to the riverine woody species in the reserves through debarking.

The objectives of this study were: to determine whether elephants have a preference of bark from the different woody species in Samburu and Buffalo Springs National Reserves; to determine nutrient element concentrations in soil and bark tissues; and to determine whether debarking of trees by elephants

Festus Ihwagi

is particularly driven by a quest for certain nutritional elements. Ten 100m x 100m riverine and five interior plots were sited randomly on either side of the river and used for damage assessment. The method of damage assessment was consistent with earlier field work by STE and a bark sampling regime designed to fit the various debarking categories while achieving the desired sampling intensity for detailed analysis. Bark samples were collected for three levels of debarking: less debarked (or non-debarked) trees, moderately debarked, and extensively damaged. Soil samples were taken from the riverine plots for assessment of soil nutrient content and physical properties. These have been analysed for dietary content at the Kenya Agricultural Research Laboratory. The results are being analysed and the output is expected in the form of a MSc. thesis and two publications. Successful completion will be a major milestone in my career courtesy of STE.



Sampling bark from a tree next to the Ewaso Ngiro



Mac, first collared in May 2002, continues showing very interesting results

Save the Elephants in South Africa was started in the late 1990 and is entirely financed by Marlene and David McCay. Marlene, a trustee of Save the Elephant launched the Transboundary Elephant Programme which, employs two ecologists and a research assistant, based at Tanda Tula Safari Camp, in the Timbavati Private Nature Reserve

We follow elephant movements across private conservation reserves, into the great Kruger national park, and over the border into Mocambique. The vast protected system the elephants inhabit has been called the Great Limpopo Transfrontier Park.

More than 80% of South African elephants live here. Their conservation can often be contentious with the pro and anti culling lobbies strongly putting forward opposing views. However, everyone agrees that to create an effective elephant management plan we urgently require good distribution and habitat interaction data. The management objectives of diverse landowners need to be reconciled with the free movements of elephants within an area as large

Drs. Steven and Michelle Henley

as the Netherlands. Our aim is to establish to what extent elephant movements are driven by habitat quality, risk and the elephant's social landscape.

Trophy hunting of bull elephants selectively removes the older, larger animals from the elephant population. These are individuals at their reproductive prime, and also appear to key role in maintaining a state of harmony within elephant society. Green hunting was proposed as a more appropriate way of generating the income needed to manage the privately owned conservation areas. Instead of shooting an elephant bull, the hunter was could stalk and dart the animal in the field. The immobilised elephant was then fitted with a GPS-collar and integrated into a registered research programme. The first four bulls were green hunted in the late 90s.

In May 2002, we darted a large tusked bull, Mac, probably the largest bull being tracked in Africa, and he has provided with what we believe is the longest

unbroken record of movements for any African elephant.

Our project now has 30 GPS-collars deployed in two focal areas. Twenty-two in the western Kruger NP and adjacent Private Nature Reserves (Klaserie, Timbavati, Umbabat and Balule PNRs) and eight in the north-eastern Kruger NP and Limpopo NP, Mozambique. An agreement with Wageningen Univ. in the Netherlands has proved hugely productive and gives us access to movement data of another six

elephants. We now intensively monitor movement patterns of nine breeding herds, three sub-adult bulls and 24 adult bulls across an area of more than 32 000km2.

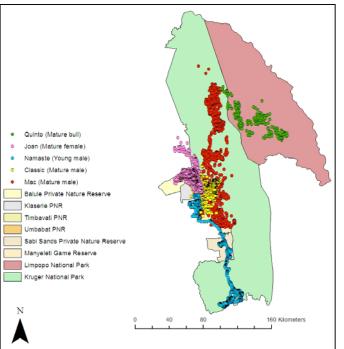
While the "high tech" telemetry data provides fine resolution movements, it does not sufficient provide patterns of association individual between elephants. For this we have developed register of known individuals, a technique first employed by Iain

Douglas-Hamilton in the 1970's. The ID study is focused primarily within the private reserves to the west of Kruger NP, and to date more than a thousand elephants have been individually identified.

These data are being used to establish how fluid the elephant population is within the extended ecosystem. Our re-sightings suggests that in the wet season the number of younger adult bulls within the Private Nature Reserve increases by 50% compared with the dry season. By implication, these animals are moving between the different protected areas that make up the Greater Limpopo Transfrontier Park, and we have shown that no one protected area has a discrete elephant population. This assertion is supported by our telemetry data. We have shown that elephants move over areas much larger than supposed. Bull home ranges are almost twenty

times larger and those of breeding twelve times larger than in previous studies. This will hopefully encourage a common cause, amongst the landowners.

Recently, work has begun on dismantling the fence that separates the Kruger NP in South Africa from the Limpopo NP in Mozambique. It is important to understand how the elephants expand their range to incorporate the new habitat, what routes they follow and where they finally settle.



We provided seven bull collars in December 2006 to the Kruger National Park research. Within two months, two of these elephants had moved across into the Limpopo NP and have remained there for almost a year.

The current elephant management debate in and NP around Kruger is largely driven bv the perceived damage elephants cause to tall tree species. We monitoring this impact on more than 700 marked trees, 621 of which we

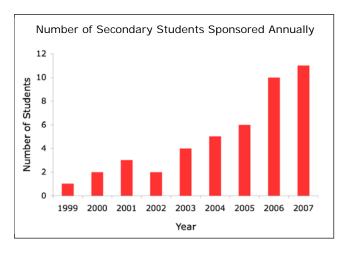
have wired and tested reactions of elephants to capsicum (chili) a deterrent.

Through our participation in various SANParks and scientific fora and through our publications, our results are being fed into the elephant management strategy for South Africa. We have given many presentations at scientific and conservation fora in South Africa and international gatherings and informal presentations to over 700 members of the public. Almost 70 guests participated in collaring operations in 2006. Our project was featured in National Geographic and many other magazines and press articles and recently we received funding to start a small children's education programme focusing on reaffirming the deep traditional cultural links between the local Shangaan peoples and their environment.



Daniel and sponsored children's visit to Elephant Watch camp.

It has been another great year for the Education Programme, with many things to look forward to in the future. This year was our most successful, with eleven new students sponsored. We now have a total of 33 students in secondary school, 3 in primary and 2 in tertiary education. They all come from the Samburu, Rendille, Turkana, Somali and Borana communities in the arid northern areas of Kenya. The education has been planned for each student and their well-being is continuously followed. This has made a huge difference in their lives as we have made it a



Shivani Bhalla

priority to get to know the children, their families, and in particular their needs and problems.

For this year's enrollment, it was difficult to find enough girl students so Daniel and I had to interview as far afield as Wamba, South Horr and Ol Donyiro in the far north. Two girls we found were accepted into Alliance Girls, the best girls' school in the country, and Limuru High, a lovely school located in the rolling tea plantations on the outskirts of Nairobi. This was a great achievement. They had never been outside of their villages and were completely overwhelmed by Nairobi and their new lives.

Liz Rigali and Karen Hirst from San Francisco visited us in Samburu in June this year. We took them to St Teresa's Girls Secondary School in Wamba where they met 2 of their sponsored girls, Agnes and Sabina who scored top marks in their first term. Daniel and I gave a talk at the school on conservation and the work of STE. We also attended the World Environment Day at Archers Post, which was an important chance to speak to the community on environmental and sanitation issues in the area. The school showed us the

amount of garbage that had been collected in the area by the school children. The rubbish filled an entire classroom! We were happy with the initiative that the people of Archers had taken to talk about environmental issues. The day ended with a "Planting Trees" session and STE now has two trees in the Girgir Primary School compound!

Our students continue to try their best and do well in school. So far four of the boys are enrolled in top schools in Kenya. Benjamin Loloju continues to be the best student in his class in Lenana High School, Mohamed Golacha scored as best science student in the Province, and Anthony Lekoitip started his medical degree in October 2006. He found it very challenging and it took him a while to settle down and get used to dissecting his first cadaver. He is now immersed in the medical world of Nairobi University and working hard. We are very proud of all of them.

In November 2006, thanks to donations, three primary schools bordering the Reserves were equipped with new desks. These were Attan, south of Buffalo Springs, Ngutuk Ongiron in the West and Lpus Leluai. Previously, children would sit on floors or under trees. The headmasters and members of the community were incredibly grateful to receive these gifts and we were greeted with songs and dance in appreciation. Over the years we have also helped with small donations of food, building material, mosquito nets and stationary.

Eve Schaeffer, WCN-STE Project Officer, visited us in Samburu this May. During her visit, we took her to the Archers Post Schools Sports Day. Four of our schools were competing in the event; Girgir, Lorubae, Muslim and Sereolipi Primary. The races



Daniel teaching children at night with light from donated solar panel

were held in the open football field outside Girgir Primary with lanes marked in ash and stones. An exciting day at Archers Post and the atmosphere was fantastic with crowds cheering their schools. We were thrilled to receive an enormous donation from Max Gorelick in the US, who had collected hundreds of shoes from his school for the children in Northern Kenya. We gave these to our runners to train in. For some, it was the first time they had ever run in shoes.

STE always welcomes school children to its centre. In early July, 60 students and 10 parents from Badassa Primary School in distant Marsabit visited our camp in Samburu. For most, it was the first time they had been to a wildlife reserve. They met researchers, were shown films about STE elephant tracking and research, and were taken out for a game drive. It was a very successful day and we were happy to have them visit us all the way from Marsabit.

We are so grateful to all our friends and supporters who support this very special Education Programme. It is thanks to you, our donors, that the programme is as successful as it is, and, that the children have a new life ahead. We look forward to your continued support.

On a personal note, this is my last year as Education Officer for STE. Daniel Lentipo will be taking over the field duties and I would like to warmly welcome Arnold Rapango, who will be working closely with Oria and take over all the administration. I will be embarking on a new challenge, a DPhil study of lions in the Ewaso ecosystem and will be both in Oxford and Samburu. I will miss the students, the challenges and the rewards of educating these children.



Students from Badassa Primary School, Marsabit, visit STE



Pro-ban sign in The Hague during CITES conference

Lucy King

June 2007 saw the 14th Conference of the Parties for the Convention on International Trade for Endangered Species of Fauna and Flora (CITES) and Save the Elephants sent three delegates to this vital meeting to support Kenya's proposal for a continuation of the trade ban in elephant ivory. The importance of this CITES meeting was not underestimated, as the southern African states had submitted three strong proposals to sell stockpiles and open up the trade with Japan.

The day before the conference officially began, the Standing Committee officially approved Japan as a trading partner. This had been expected, but several shock waves ricocheted around the conference room when China almost won an approval to join Japan as an official trading partner with a request for a spontaneous vote on the issue. Luckily they lost, but only by one vote, which made the anti-trade parties very nervous.

The second week of CITES resulted in a roller coaster of elephantine emotions. Over the weekend we heard that all African countries had been deep in

debate over their respective proposals with united decisions almost being agreed upon, only to fall apart on technical details. The EU, as mediators, were certainly under pressure as opinion polls taken across Europe had unanimously showed that the public were fervently against an opening of the ivory trade, which was on the agenda due to Botswana and Namibia's proposals.

With the final consensus proposal falling apart on Sunday evening there were conflicting elephant proposals presented to us on Monday morning's agenda. These varied from an opening of the ivory trade with an annual quota plus another stockpile sale of 40 tonnes (submitted by Botswana & Namibia supported by all Southern Africa countries), to a 20 year moratorium on all ivory trade to allow elephants to recover and proper law enforcement systems to be developed (proposed by Kenya supported by 21 other African countries). This meant there was an enormous pressure placed on African range states to continue negotiations behind the scenes before forcing the parties to vote.

Four days of tense negotiations followed, until eventually on the second last day of the conference, the news arrived that the African range states had worked until 2 am to reach a consensus. The conference hall was packed by 9 am when the debate was opened. The final united proposal presented to us was a mixture of all the issues on discussion and, in summary, includes a sale of all the ivory stockpile rooms in Botswana, Namibia, South Africa and Zimbabwe to be sold along with the 60 tonnes already agreed to Japan. This is a huge sale of around 100 tonnes. However, in exchange, the selling countries HAVE to spend all the proceeds on elephant conservation and community projects and ALL parties have agreed to a 9 year ban on ALL ivory trading from the date of the ivory sale. This is a smaller 'resting period' than Kenya wanted but will amount to at least a 10 year moratorium which can only be good news for elephants.

So, after all the stress, delays, negotiations and compromises, we have a new world for the African elephant ahead of us. They are saved from an opening of the trade on their ivory but they face a world swamped by legal ivory which will provide new customers and markets for the future. The impact of this huge 160 tonne sale will be closely monitored over the next ten years so that it is fully understood before the issue of opening up elephant trade is brought up again. Of course, in ten years time the world will be a different place altogether

and most people suspect there won't be many elephants left in West Africa or Asia by 2017.

All in all, the general mood in the conference hall was one of relief and satisfaction at a positive compromise agreed by all with a solution to an unpleasant debate. No-one has really won or lost but the resounding success of the process is the proof that with enough encouragement and leadership, African countries are able and willing to make their own decisions on their own natural resources. Let's just hope that China doesn't come back as a trading partner in their attempt to get their hands on this ivory. The last thing our 470,000 remaining African elephants need is 1.3 billion Chinese all wanting an ivory signature seal...

STE was represented at the CITES conference by Iain Douglas-Hamilton, Onesmas Kahindi, and Lucy King.

As we write this report the fifth volume in the series of studies on ivory markets of the world, by Esmond Martin and Dan Stiles, goes to press. It is on the Ivory Markets of America. We are proud to have supported every stage of this seminal body of work by these authors which gives a vital background to the ongoing problem of the ivory trade.



Main conference hall in The Hague.



Elephant constructed from metal snares on display outside the main conference hall

Monitoring the Illegal Killing of Elephants (MIKE)



KWS ranger and STE's field assistant, Wilson, find a dead elephant

Onesmas Kahindi

In 1997 CITES created a system for Monitoring the Illegal Killing of Elephants (MIKE). Gathering information from 65 sites in the elephant range of 27 African and 8 Asian countries, the CITES MIKE programme has compiled a global elephant mortality baseline report. Kenya has four sites. One of these, covering Samburu and Laikipia districts, is monitored by Save the Elephants in collaboration with KWS. The project is run by Onesmas Kahindi, with assistance from Wilson Lelukumani

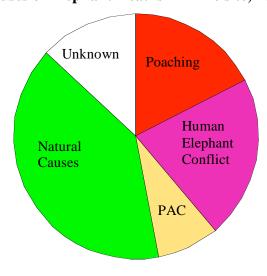
Samburu-Laikipia MIKE Site had 564 carcasses, recorded in five years. This was the highest rate of carcass recovery among all the sites in Africa. The site has a growing population of about 5400 elephants, which is the second largest population of elephants in Kenya and the largest outside the wildlife protected area network comprising national parks and national reserves.

Our MIKE project began actively contacting private landowners, local wildlife forums, and county councils and KWS outposts to verify and harmonize dead elephant reports, and gradually developed a local information network for monitoring dead elephants in the region. The project produced the mortality baseline for the site, and a full paper on the baseline has been submitted to *Pachyderm* journal for publication later in 2007.

The number of dead elephants recorded each year by the STE MIKE project since 2002 is higher than previous KWS records. However, this may not indicate an increase in the number of dead elephants, but an increase in effort to find and record elephant carcasses. The project has discovered that using local landowners and communities to gather elephant carcass reports provides broader and more intense coverage. Landowners and local people living with the elephants find approximately 90% -95% of all dead elephants in Samburu-Laikipia each year. About 60% to 70% of this comes from herdsmen, while the rest comes from ranch security patrol teams in the private ranches. Rangers' ground and aerial patrols, tourists and researchers account for about 5% of carcass findings.

In 2006 alone, 205 carcass reports were compiled. The STE MIKE project has verified at least 85% to record their GPS positions, establish cause of death and to determine the age and gender of the dead animals. 2006 had the highest number of dead elephants since the project began in 2002. This was mainly due to prolonged drought, potential increase in demand for elephant ivory, escalating armed tribal clashes, and high human-elephant conflict in parts of the ecosystem. The graph shows the causes of death for the elephants whose carcasses were examined.

Causes of Elephant Deaths in Mike site, 2006



The lowlands of Samburu and Isiolo have been in drought since mid-2005. 82 elephants, most of them calves below 5 years, were found to have died from natural drought-related causes.

The drought caused increased movement of livestock and elephants into the river valleys and forests, exacerbating human-elephant conflict. As a result, herdsmen killed 45 elephants illegally through gunshot and spears. In addition, KWS rangers shot 15 crop raiding elephants in the northern and western parts of Laikipia and Samburu (represented above as PAC: Problem Animal Control). The majority of victims were young bulls.

During the year, 37 elephants were killed for ivory. Cattle raiding from neighbouring tribes triggered an arms race amongst the Samburu, leading to a high proliferation of illegal small arms. Elephants and other wildlife were thus vulnerable to poaching for

bush meat and ivory. 10 animals that died from other causes were found with their tusks missing, indicating an increasing demand for ivory in the region. In July and September 2006, KWS seized over 40 elephant tusks being trafficked to ivory black markets within the region. Unfortunately, two mature female elephants with GPS collars were killed and tusks removed by poachers within and around the MIKE site.

Carcass finding and reporting is critical for monitoring elephant mortality, and for estimating the proportion of illegal killing of elephants in the ecosystem. Most elephant death reports from Samburu-Laikipia came from local people and private ranches rather than from KWS ranger patrols. To date, about 70% of trustlands in Samburu are under some form of wildlife protection, and land owners in over 60% of Laikipia District tolerate wildlife on their land.

As more communities become organized into communal conservation areas and more private ranches become conservancies, the project faces the major challenge of re-organizing itself to assist in capacity building for MIKE monitoring, to better coordinate and harmonize mortality information, and to verify death reports efficiently within the ecosystem. The project received substantial financial support from the International Elephant Foundation and the US Fish and Wildlife Service to help in developing a sustainable local information network for reporting and recording dead elephants.



STE team investigates a carcass

STE Events

Bernard's wedding (December 2006)

On 12th December 2006, Bernard Lesowapir (GIS Analyst) got married to Magdalene in a colorful tradition ceremony witnessed by Jake Wall as the best man, and several STE staff members. The wedding was held in Kirimon, Samburu. A team of 21 Morans drove the cattle from Wamba three days before the wedding as is the custom. Iain was kind enough to fly the STE staff to the wedding on the wedding day.

"Jake was very well prepared for the wedding and had done his research perfectly well. Everyone, including myself, was surprised to see him performing his duties without much guidance – almost like it was not his first time (but I know it was!) to participate in a Samburu wedding. He also endured the rain and walked barefoot for two days! This

know it was!) to participate in a Samburu wedding. He also endured the rain and walked barefoot for two days! This was one of my happiest days and my wife and I would like to thank everyone who participated and supported us



Lewa Marathon (June 2007)

during this wonderful ceremony. Ashe!" says Bernard.

On June 24th, 2007, Save the Elephants, supported by Elephant Watch Safaris and Show of Force, sponsored 10 young children from the Samburu area to take part in the Annual Safaricom Lewa Marathon.

The students came from Girgir, Lorubae, Lpus Leluai, Kiltamany and Ngutuk Ongiron Primary Schools. Laut and Wachira, two young boys from Ngutuk Ongiron, had never even left their home area before and the trip to Lewa Wildlife Conservancy was a scary but exciting time for both.

There were 104 students in total, most coming from the Lewa region. Our Samburu team of 10 had traveled the farthest for the marathon. Alowa from Kiltamany crossed the line in 6th position, Simon came in 11th and Lokadu 18th and eventually, all the runners arrived, with the girls and Laut coming in



Shivani Bhalla with the STE/EWS team

together. Naturally they were very excited to receive their medals and opened their goodies bags to find small cameras and other fun things. Alowa was interviewed by and aired on Citizen TV. A huge thank you to all involved for a very successful and fun weekend.

STE Events

National Geographic Visit



Daniel Lentipo



Nick Nichols meets Victoria of the Royals

In February, Michael 'Nick' Nichols, famous field cameraman for the National Geographic, and his assistant Nathan Williamson, came to Samburu on a mission to photograph the Samburu elephants through Save the Elephants. The social behaviour of the population is known, and you can approach them at close range without scaring them and without them minding your presence. Therefore, National Geographic sent out their cameramen for 140 days in total, to capture the 'Elephant souls' for an article that will feature in the Magazine late next year.

Nick and Nathan were at first taken out by David Daballen, who showed them Samburu National Reserve so they could familiarise themselves with the elephants and learn the terrain of the reserve. They started to figure out what the social groupings were of the elephants that they would be working with on a daily basis, learning their dominance status and behaviour. I started going out with National Geographic daily starting at the end of February. I was a bit nervous to go out with them for the first day. Will they like my input? Will I get along with them with my minimal film experience? Anyway, I started with much confidence driving

them around and showing them their favourite elephants. They were particularly attracted to one family, the Royals, because they are easy going, are a large family comprising 52 elephants, and are the dominant family in the reserve. We had a very good experience with the Royals, and from then on would spend every day in the field, and would switch to different families from time to time depending on the priorities of the group. Mainly we followed the Royals, Oldonyos, First Ladies and Biblical Towns, and began to learn and understand their different personalities and behaviour. After two months of almost doing the same thing every day we also did a collaring on Neptune, who is in one of our core National Geographic were able to photograph the scientific study right from the start.

I must admit that I learnt a lot with National Geographic, and they too learnt from me. We had good days and bad moments, and our efforts produced once-in-a-lifetime fruits and we will celebrate the outcome for a long time.

STE Donates Patrol Car to Samburu County Council



STE donating Land cruiser to Samburu County Council to the urgent need of a patrol car to deal with livestock encroachment and bad behaviour from over crowded tourists

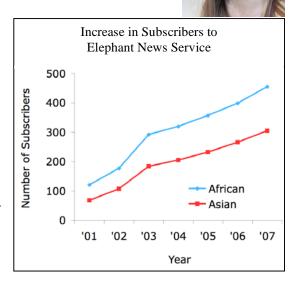
STE Services

Elephant News Service

Since 2000, Save the Elephants has been running the world's only listsery dedicated to news and resources on wild elephants. We manage two listserys, one on African elephants and one on Asian elephants. Over the years the listserys have grown to include over 850 members worldwide, including scientists, conservationists, policymakers, park managers, and zookeepers.

Since their inception, the listservs have been run by Melissa Groo, who is based in New York. The testimonials that Melissa receives from subscribers attest to the critical importance of this listserv to their work and decision making. One of the service's features that has been particularly appreciated is the circulation of abstracts of new scientific journal papers on elephants, along with their availability in full. Thanks to the International Elephant Foundation for their continued support of the listservs.

Melissa Groo



Elephant Library and Bibliography

The African Elephant Library is a collection of literature, reprints, reports and theses on the biology, ecology, status and management of the African elephant. Originally based on the private collection of Iain Douglas-Hamilton, the library now contains over 4,500 articles and is one of the largest collections of references dedicated to African elephants. It was compiled by Mary Rigby.

The web-based bibliography is a searchable, annotated list of references detailing all the literature in our collection. It was developed to facilitate the work of researchers, field staff, conservationists, academics and the general public.

Photo Library

The STE offices in Nairobi are home to a library of many thousands of photos and slides These depict the work of Iain Douglas-Hamilton since his first experiences with elephants at Lake Manyara in the late 1960s, and the activities of Save the Elephants until the present day. Becky Walter has been assisting us this year to digitize the slides so that we have a rich computerised library of photos available.



Conferences and Workshops

Society for Conservation Biology

Held in July at Port Elizabeth, South Africa, the SCB conference was the first of its kind in Africa and attracted 800 students, professors and conservationists from about fifty countries.

Among the many hot debates throughout the conference, the elephant symposium generated a lot of heat. The southern states are seen to be proculling and pro-selling of ivory, while the eastern region is against the trade.

Getting to hear all the heavyweights in South Africa was an amazing opportunity. The Samburu scientists also gave impressive presentations that attracted many people and positive comments across the board. George Wittemyer spoke on reproductive timing in relation to NDVI, Onesmas Kahindi on adaptive management and monitoring, and Henrik Rasmussen on conservation genetics. Shivani Bhalla and Steven and Michelle Henley also attended the conference.

David Daballen



STE Staff at the conference

Society for Conservation GIS Kenya

Festus Ihwagi

The Society for Conservation-GIS Kenya held the first conservation-GIS conference in Nairobi from July 18-20, 2007. The conference, whose theme was Geospatial Technologies for Biodiversity Conservation, brought together participants from over ten countries in Africa, Europe and USA. Iain Douglas-Hamilton and the Nobel Laureate Prof. Wangari Maathai were among the key speakers. Professor Maathai urged for speedy transfer and sharing of geospatial technologies to save our natural resources. Dr. Douglas-Hamilton illustrated the use of spatial technologies in conservation of biodiversity. STE staff in attendance were Onesmas Kahindi, Shivani Bhalla, Bernard Lesowapir and Gilbert Sabinga. Festus Ihwagi is secretary of SCGIS Kenya.

ENDELEO Workshop

Festus Ihwagi

ENDELEO is a project sponsored by the Belgian Government seeking to devise a strategy for drought prediction and monitoring in East Africa using Remote Sensing. From July 2-3, 2007, key partners convened a planning workshop to come to an agreement with stakeholders on identification of target areas for test cases; identification of drivers that might have impacted the state of rangeland and forest ecosystems; identification of information needs and formats suited for environmental monitoring; and evaluation of the strengths and shortcomings of current monitoring tools. Save the Elephants was represented by Festus Ihwagi.

Ewaso Conservation Group

Festus Ihwagi

Two years since its foundation, the Ewaso Conservation Group (ECG) continues to represent conservation organizations, research organizations and local government representatives who work within the Ewaso ecosystem. An update of some of ECG member's activities in the ecosystem: STE and Mpala Research Centre propose to investigate movements of key species – elephants, Grevy's zebra, wild dogs, cheetah, lions and cattle with the objective of identifying wildlife corridors. Kenya Wildlife Service and Laikipia Wild Dog Project have established a Large Carnivore Steering Group emphasising key carnivore conservation areas outside parks. Laikipia Wildlife Forum has successfully raised funds for range rehabilitation, to conduct two ecosystem-wide fine-scale aerial counts and two Laikipia aerial counts.

STE Media and Publications

New Publications by STE authors and collaborators in the last 12 months

Blanc, JJ., Barnes, R.F.W., Craig, G.C., Dublin, H.T., Thouless, C.R., Douglas-Hamilton, I., Hart, J.A., (2007) African Elephant Status Report IUCN Publications

Douglas-Hamilton (2006) The Human Footprint and the African Elephants; in Sanderson et al (2006) The Human Footprint: Challenges for Wilderness and Biodiversity. Conservation International - CEMEX

Graham, Max (2006) Coexistence in a land use mosaic? Land use, risk and elephant ecology in Laikipia District, Kenya

King, L.E., Douglas-Hamilton, I., and Vollrath, F. (2007) African elephants run from the sound of disturbed bees. *Current Biology* 17, (in press).

Rasmussen, H.B., Wittemyer, G., Douglas-Hamilton, I., (2006) Predicting time-specific changes in demographic processes using remote sensing data *J. Appl Ecol 43*, 366-367

Marais, J., and Hadaway, D., (2006) Great Tuskers of Africa. Penguin SA. (See introduction by Douglas-Hamilton, I., and chapter on Green Hunting by Henley, M.)

Vollrath, F., (2007) Trunks, tracks and spiders' webs. Oxford Today 19(2), 2007: 16-18.

Wittemyer, G., Ganswindt, A., and Hodges, K. (2007) The impact of ecological variability on the reproductive endocrinology of wild female African elephants. *Hormones and Behavior* 51: 346-354.

Wittemyer, G., and Getz, W.M. (2007) Hierarchical dominance structure and social organization in African elephants, *Loxodonta africana*. *Animal Behaviour* 73: 671-681.

Wittemyer, G., Getz, W.M., and Vollrath, F., and Douglas-Hamilton, I. (2007) Social dominance, seasonal movements, and spatial segregation in African elephants: a contribution to conservation behavior. *Behavioral Ecology and Sociobiology*, (in press).

Wittemyer, G., Rasmussen, H.B., and Douglas-Hamilton, I. (2007) Breeding phenology in relation to NDVI variability in free-ranging African elephant. *Ecography* 30: 42-50.

STE in the Media

Quest: Steve and Michelle Henley's satellite tracking work in South Africa was the focus of the feature article in the latest issue of Quest Science Magazine (South Africa). "Tracking elephants: the path to the satellite Era" *Quest* 3(3), 2007: 3-8.

BBC: Over the next year, the BBC will be filming a three part documentary series on the Samburu Elephants. Iain Douglas-Hamilton, Saba Douglas-Hamilton, David Daballen and Onesmas Kahindi will be presenters.

National Geographic: The Samburu Elephants and the work of STE will be featured in an article in the National Geographic Magazine in their October issue next year.



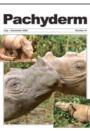












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We were particularly saddened this year by the death of Liz Claiborne whom we only met last year for the first time. She was ought to conservation through her love of elephants. We were supremely touched that gifts made in her memory, to honour her art's desire, were directed for the support of Save the Elephants.

None of the operations at Save the Elephants would be possible without the generous support of our donors. Many heartfelt thanks go out to all the people below whose contributions have been of such assistance to us, and to all the other many donors whose names we unfortunately do not have room to list here.

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Thanks to the Wildlife Conservation Network, whose advice, assistance and fundraising in America has provided a huge boost to STE. Their expertise is making a vital contribution to our organisation, and we look forward to more fruitful years of partnership with them.

The STE trustees are a critical source of knowledge and ideas for STE and their support of our organisation continues to be invaluable.

Contact and Donations

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STE relies entirely on the generosity of our supporters to continue our research and to help save elephants. You can help us secure a future for elephants by sending a cheque to any one of the addresses below, by making an online donation, or by remembering us in your will.

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www.savetheelephants.org www.wildnet.org (USA)

USA:

Wildlife Conservation Network/Save the Elephants Project 25745 Bassett Lane Los Altos, CA, 94022 (100% of donations sent through WCN go directly to STE)

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Funds for the South Africa project can be transferred directly into the following bank account:

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