

# MPALA MEMOS

NEWS FROM THE MPALA WILDLIFE FOUNDATION

TOP STORY

## MPALA STAFF REACH OUT TO HELP THEIR NEIGHBORS



*Magda (left) and Eunice (right) hand over food donations to two Red Cross workers. Photo by Mpala.*

*Corinna Riginos*

It has been a difficult year for many Kenyans, with the fallout from last year's political violence, the global economic slump, poor rains, food shortages, and the soaring costs of basic foods. Even though people throughout Kenya are feeling the consequences, this has not stopped Mpala staff from reaching out to help their neighbors in a time of need.

Chefs Magda Kalanju and Eunice Keoch decided they could no longer stand by while hearing reports of widespread drought and famine in northern Kenya.

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RESEARCH

## COMMUNITY CONSERVANCIES ARE GOOD FOR GREVY'S ZEBRA

*Ilya Fischhoff and Siva Sundaresan*

In the last few years, many communities in Laikipia and Samburu have decided to set aside "conservation areas" on their land. Usually people don't live inside the conservation areas, and livestock are rarely taken there to graze. These areas are intended to attract wildlife, as many communities have built tourist camps or lodges within them.

Naturally, communities want to know if their conservation areas are working. Are they

providing safe havens for wildlife? What kind of wildlife do they attract?

We were curious about whether the conservation areas provided safe havens for Grevy's zebra. Grevy's, one of the most endangered mammals in the world, are sensitive to land degradation and are a high conservation priority.

Kenya is home to 95% of the world's wild population of Grevy's zebra.

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*Group ranches provide critical habitat for endangered Grevy's zebra. Photo by Amy Wolf.*

## MPALA IS FOR THE BIRDS



*An African Bare-eyed Thrush, one of the new additions to the Mpala bird list. Photo by Brad Bergstrom.*

*Brad Bergstrom*

There's still a lot to learn about Mpala's amazing store of biodiversity, as several birders have discovered in the last few years. More than a dozen researchers

369 bird species, can be found at: <http://www.mpala.org/>.

As a group, nightjars proved to be the biggest challenge to identify, and frankly we've

**"THE UPDATED LIST, TOTALING 369 BIRD SPECIES, CAN BE FOUND AT: [HTTP://WWW.MPALA.ORG/](http://www.mpala.org/)"**

and visiting birders recently contributed their bird records and photos toward a major revision of the previous Mpala bird checklist (which itself had more than 300 species on it).

I started keeping my own bird list when I began my small-mammal research at Mpala in 2006. After a total of seven months at MRC I was still finding new species and so were several other bird enthusiasts. Together, we have now added 61 new species and made several important revisions to the list. The updated list, totaling

only begun to crack that nut. But, given how many nightjars one sees in the headlights while driving Mpala's roads at night (flashes of feathers fluttering up), the existing list of a single rare species cried out for a makeover. Since it is hard to get a good look at these birds, we used audio recordings of their calls to help distinguish among different species.

It turns out that Mpala is actually home to one common species (Donaldson-Smith's Nightjar) and five other less common species: Sombre, Freckled, Montane,

Slender-tailed and European nightjars. Suddenly, the diversity of Caprimulgids on Mpala has started to look quite respectable!

Other newly added species include the Beautiful Sunbird, a colorful and stunning bird often seen visiting Maggie's backyard feeders, and the Magpie Starling and Pallid Honeyguide, both spotted on the far northern corner of the ranch where palm trees line the Ewaso N'giro. Other new records come from all over Mpala and include the Grasshopper Buzzard, African Grass Owl, Chestnut-bellied Sandgrouse, Striped Kingfisher, African Bare-eyed Thrush, Cabanis's Greenbul, Yellow Bishop, and Red-fronted Apalis.

One thing we have realized is that there are probably plenty of other species out there, waiting to be added to list. So next time you're at Mpala, remember to bring your binoculars and the bird list and go out and find some new birds! ■



*Lichtenstein's Sandgrouse, one of the 369 bird species that have been seen on Mpala since the Centre was created. Photo by Brad Bergstrom.*



## UPDATE FROM THE WILD DOG PROJECT

*Kayna Chapman*

The Samburu-Laikipia Wild Dog Project has been very busy over the last eight years, working with neighboring communities and ranches to ensure that people and wild dogs can continue to live together in our ecosystem. So far, the project appears to have been successful; since 2000, when wild dogs first re-colonized Laikipia, the population has risen steadily. Currently, we have a population of roughly 300 adult and yearling dogs.

To monitor the population, we have radio-collared wild dogs belonging to 10 packs in Samburu, Laikipia and Isiolo districts. We also rely

on sightings from project personnel, local residents, and tourists to give us an idea of how many un-collared packs there are and how far wild dogs move. Because each wild dog has a unique color pattern, photos of dogs can really help us figure out wild dog movements and ranges.

As part of the project, we also vaccinate domestic dogs in local communities against rabies. By doing this, we hope to reduce the spread of canine diseases from domestic dogs to wild dogs. This year alone we have vaccinated more than 300 domestic dogs in the communities of Kijabe, Lekiji



*A wild dog sporting a radio-collar.  
Photo by Kayna Chapman.*

and Ol Donyiro; more areas will be visited later in the year.

Reports of any wild dog sightings, as well as any pictures you may have taken, are always appreciated. These can be sent to [wilddogs@mpala.org](mailto:wilddogs@mpala.org). ■

## MPALA-AT-A-GLANCE

**MRC has hosted more than 150 different students and researchers in the first three months of 2009.**

**Visitors have included several new faces:**

- Yvonne Ayisi, a Masters student at Moi University, is identifying and creating a catalog of elephants to determine the numbers of transient and resident herds using Mpala
- Frankline Awuor, an intern from the University of Nairobi who is planning to turn his research into an M.Sc. thesis, is studying the effects of the British Army training activities on wildlife in Laikipia

- Vicky Zero, an intern working for Vanessa Ezenwa and Siva Sundaresan, is assessing parasite loads in Grant's gazelles and Grevy's and plains zebras

- A team of engineers and designers working with Princeton University professor Wole Soboyejo successfully tested a prototype of their solar-powered, camel-transported medical refrigerator system

**Visitors have also included several student groups:**

- Three undergraduates from Princeton University (Princeton, NJ, USA) based at Mpala for a semester-long field course

- Twenty-seven undergraduates from Cornell University (Ithaca, NY, USA) for a two-week field course

- Forty-seven students from McGill University (Montreal, Quebec, Canada) for a one-week stint at Mpala as part of a semester-long field course in East Africa

- Two groups of 13 Masters students each from Leeds University (Leeds, UK) participating in two-week field courses at MRC

- Eighteen University of Nairobi Ph.D. students from 11 African nations, who came to Mpala for a one-day orientation trip

## MPALA WELCOMES NEW FINANCE OFFICER

*Corinna Riginos*

Mpala extends a warm welcome to our new Finance Officer, Patricia Kaniu.

Patricia joins us after ten years working as the Finance and Administration Officer for Seureca Consulting Engineers, a Paris-based water and sanitation firm. Patricia holds a Diploma in Business Administration and Management from the Kenya Institute of Management and is a Certified Public Accountant. She is currently working towards becoming a Chartered Financial Analyst.

With her infectious laugh and welcoming smile, Patricia brings both professionalism and warmth to the Mpala community.

Nearly a lifetime resident of Nairobi, Patricia is excited to experience a new side of her country. The biggest change so far? “The fact that we have to keep running from those elephants,” she says with a laugh. In her spare time, Patricia enjoys swimming and travel. She is also a veteran of the Lewa Marathon and hopes to run



*Photo by Margaret Kinnaird.*

again this June. At Mpala, Patricia looks forward to meeting new people from different parts of the world. ■

## FRIENDS OF MPALA:

*Margaret Kinnaird*

**Jenga**, *verb*: a common Kiswahili word meaning to construct, build.

To many English speakers, this word conjures up a tension-filled game where you try to build – and force your opponent to accidentally demolish – a tower of delicately balanced blocks. To those of us on Mpala, Jenga also refers to a lovely, two-story home with a sweeping view of Mpala’s lower escarpment and



*Photo by Sue Macpherson ARPS.*

Baboon Cliffs. Both the game and the house owe their existence to one woman who has had a lasting influence on Mpala: Leslie Scott.

Leslie fell in love with Mpala in 1998 when she accompanied her husband, Dr. Fritz Vollrath, on a visit. Although living in Oxford, England, Leslie was no stranger to Africa. Born in Dar-es-Salaam, Tanzania, she grew up in Kenya, Sierra Leone and Ghana. Africa, and Kenya in particular, remained very much in her soul, and Mpala felt like a homecoming.

Leslie returned to Mpala in 1999 and offered to fund the building and furnishing of a house for visiting scientists. Jenga House – named after the phenomenally successful game she created – became a reality by January 2000 and has since welcomed numerous scientists and their families from around the world.

Leslie joined the Mpala Wildlife

## LESLIE SCOTT

Foundation board in 2003 and served with great dedication until the end of her term in 2007. She continues to be deeply committed to Mpala’s vision of wildlife conservation and strongly supports our scientific approach to understanding and solving conservation issues. This year she provided generous support to Mpala’s institutional research program – allowing us to expand our reach well beyond Mpala’s boundaries to the wider Laikipia landscape.

Leslie, along with Fritz and their two children Freddie and Digby, ventures from her farm in Oxford to her home on Mpala yearly. This March, while visiting Mpala, Leslie spent most of her time putting the final touches on her new book, “About Jenga: the curious story of creating a game that became a household name”, much of which was written in the house that Jenga built here on Mpala. ■

## HAWKMOTHS: CREATURES OF THE LAIKIPIA NIGHT

*Dino Martins*

As many of us are making our way back home at dusk after a long day's work, another set of creatures is just waking up.

Often unnoticed, hawkmoths may nevertheless be just as important to Laikipia's ecology as any large mammal.

**"THE MANY PLANTS THAT ARE POLLINATED EXCLUSIVELY BY HAWKMOTHS IN LAIKIPIA INCLUDE THE LOVELY CONOSTOMIUM, A PLANT WITH LONG, NARROW BRILLIANT WHITE FLOWERS ...."**

You might glimpse one of these large moths swirling in the headlights of your car, or feeding on plants that grow on roadside verges. Faithful and frequent visitors to a variety of flowers, hawkmoths pollinate many different species of plants. In fact, 4% of Kenya's flora relies on hawkmoths for pollination.

There are some 12 species of hawkmoths, also known as sphinx moths (Sphingidae, Lepidoptera) on Mpala – a typical set of species for the



*Comma hawkmoth feeding on a Grewia flower. Photo by Dino Martins.*

drier parts of Laikipia. Among the more common ones are the large Convolvulus Hawkmoth with its gray wings and black-and-red striped body, the Comma Hawkmoth – named for the comma-like markings on its wings, the Lined Sphinx with its tan and pinkish hindwings and the Verdant Sphinx – a lovely

emerald green creature with bright orange hindwings.

Hawkmoths are gregarious feeders and visit a wide range of flowers, including species of Jasminium, Datura, Pentanisia and Maerua.

They feed from flowers with their long tongues (probosci) which they keep coiled up when not in use.

While feeding on flower nectar, hawkmoths also pollinate the plants they visit. The many plants that are pollinated exclusively by hawkmoths in Laikipia include the lovely Conostomium, a plant with long, narrow brilliant white flowers that is found on the rocks in sheltered places. In the Mukogodo forest and the riverine forests near Nanyuki, hawkmoths also pollinate the Comet Orchids, beautiful flowers with long



*Convolvulus hawkmoth approaching a Datura flower with its proboscis uncoiled and ready to feed. Photo by Dino Martins.*

tapered spurs that are filled with nectar.

Many of you will be familiar with the "beer moth" that regularly tries to drown itself in your evening tippie. This looks like a hawkmoth, but is actually just an impostor – a mere Noctuid (called Sphingomorpha) with a hawkmoth's appearance.

Seen or unseen, hawkmoths are out there every night, living their lives, and in the process, making life a little prettier for all of us.

If you have any insect-related questions or observations, please send them to me at [dinojmv@oeb.harvard.edu](mailto:dinojmv@oeb.harvard.edu). ■



## BUILDING BETTER BOOKSHELVES



*Students and Head Teacher John Maina with their new bookshelves. Photo by Nancy Rubenstein.*

*Nancy Rubenstein*

While staying at Mpala last July, I visited the Mpala School nearly every day. I spent many mornings singing songs, reading stories, and playing math and language games with the students. There was one thing, though, that kept bothering me about the school's classrooms: there were no good bookshelves.

Thanks to several kind donations, there was a whole stack of books in the school, but since there was no place to display them, they were sitting in the teachers' office. How, I wondered, could we get those books into the students' hands?

I remembered reading an article about making bookshelves from rain gutters attached to the wall.

Using this system, the books' colorful covers are facing the students – inviting them to pick the books up from the shelf instead of hiding the covers like a conventional bookshelf does.

John Maina (the head teacher) and I measured the walls in each classroom, and off we went to Nanyuki to find materials that would work. The gutters we found

were all metal – too sharp and dangerous for classrooms – but they did have plastic PVC piping that would work well. On a Saturday, Maina and John Kibet (the Standard One teacher) got to work with a carpenter, and the new bookshelves were installed.

The next week, I was thrilled to see students reading books and to hear Joyce, the nursery teacher, translating a new story. The books' covers were a splash of color along the classroom walls. It seemed like such a simple thing, but what a difference it made.

Since then, more than 250 new books have been donated to the Mpala School

**“...THE BOOKS' COLORFUL COVERS ARE FACING THE STUDENTS – INVITING THEM TO PICK THE BOOKS UP FROM THE SHELF...”**

and the Conservation Clubs. We owe special thanks to Irby Lovett and his family, Tina Kuklenski-Miller and her family (including MRT trustee Scott Miller), the International Book Club, and other overseas donors for contributing books. ■

## EXPLORING THE HIDDEN FLOW PATHS OF WATER

*Trenton Franz*

When a raindrop falls on Laikipia, it can follow many different paths. It could fall into a river or pond and end up inside a thirsty cow or elephant. It could land on

**"...WATER MAY MOVE SLOWLY THROUGH DEEP SOIL IN A WAY WE DIDN'T EXPECT. THIS WATER MIGHT BE AN IMPORTANT SOURCE OF MOISTURE FOR PLANTS LONG AFTER IT HAS RAINED."**

the soil where it is absorbed by a plant's roots. It could wash over the surface of the soil, carrying the soil away with it. Or, it could penetrate deeper into the soil, beyond where roots can reach it until some later time.

With the Ewaso Water Project, we are trying to understand what happens to rain after it hits the ground on Mpala and surrounding communities – and what consequences this may have for wildlife, livestock and people. In the hydrology-related component of the project, we want to know how deep into the soil rain reaches, how fast soil dries out after it rains, and how different vegetation types and patterns affect what happens to this rain.

In 2007, we set up an experimental study on Koija Group Ranch to measure soil moisture at several different depths in four different patch types. We installed moisture probes, which measure and record soil moisture,

under *Acacia tortilis* trees, *Acacia mellifera* trees, grass patches, and areas that only had bare soil.

Our results so far demonstrate that during

most rainfall events, water doesn't penetrate deeper than 20 to 30 centimeters into the soil in any of the four patch types. This suggests that the soil itself can limit how deep water can normally travel.

However, the soil under the different types of patches dried out at different rates. For example, bare areas dried out more quickly than areas covered by grass or trees because evaporation from the sun is greater in

areas with no shade.

We also found that rainfall can affect soil moisture deep in the soil (at 70 centimeters depth) up to a month after it actually rains. This result is particularly interesting because it shows that water may move slowly through deep soil in a way we didn't expect. This water might be an important source of moisture for plants long after it has rained.

In March and April of this year, we are beginning a new portion of this project to further investigate how water is flowing deep in the soil. Because we can't dig up enough soil to answer this question directly, we are using a non-invasive technique called electromagnetic induction (EMI).

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*Trenton Franz and Lizzie King using electromagnetic induction to "see" where water is below the soil's surface. Photo by Joseph Kirathe.*

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## EXPLORING THE HIDDEN FLOW PATHS OF WATER

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The EMI instrument looks like a 4-foot long pipe and is carried by hand. As it passes over the ground, it records electrical signals deep in the soil that are produced by soil moisture and other soil features, such as rocks.

This unique glimpse underground will allow us to measure how water moves deep in the soil. Already the instrument is giving us clues into the effects of overgrazing, old livestock corrals, and invasive plants on soil and the water deep inside it.

If you have questions or would like more information about this project, please contact me at [tfranz@princeton.edu](mailto:tfranz@princeton.edu) or check out our website at [http://caylor.princeton.edu/Princeton\\_Ecohydrology/Welcome.html](http://caylor.princeton.edu/Princeton_Ecohydrology/Welcome.html). ■

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## MPALA STAFF REACH OUT TO HELP THEIR NEIGHBORS

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With the help of Research Assistants John Lochukuya, Hussein Mohammed, and John Lemboi, as well as Driver John Kamau and Head Teacher John Maina, Magda and Eunice began a food-donation campaign among both Research Centre and Ranch staff.

During the "Mpala Save a Life" campaign, which ran for a week in February, nearly

40 members of the Mpala staff donated maize, beans, rice, maize meal, and posho totaling Ksh 5,000 in value.

Director Margaret Kinnaird pledged that Mpala Research Centre and Conservancy would match these donations.

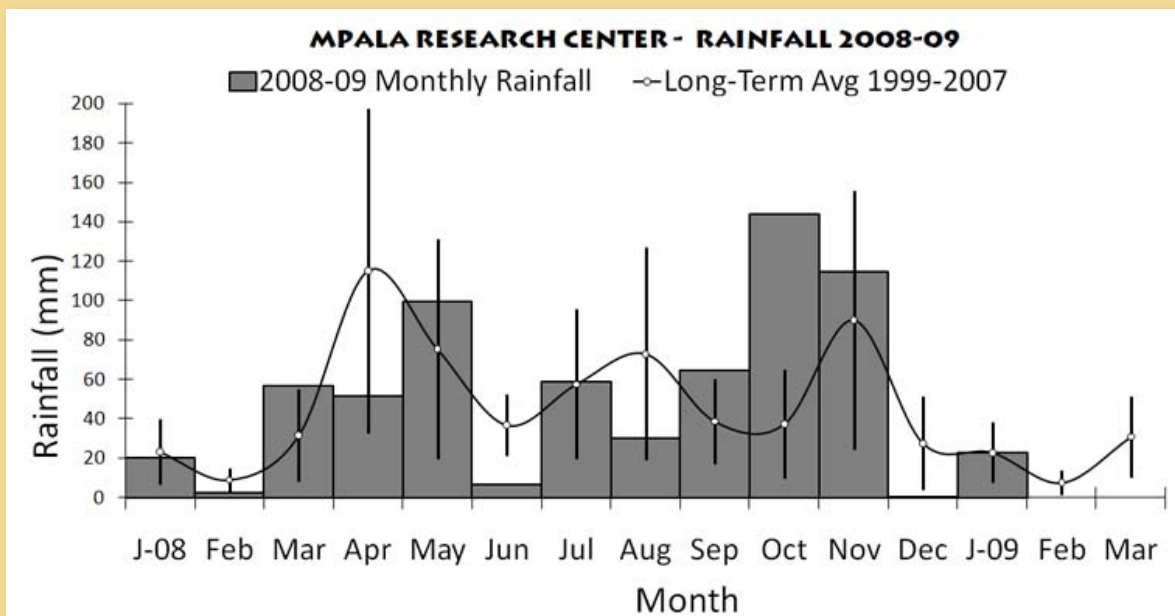
As a result, the campaign was able to give the Red Cross of Laikipia Ksh 10,000 worth of dry goods to help

feed hungry residents of the district.

"We can all feel good about what we have done," Eunice says, "because we know that somebody was saved." ■

**"... THE CAMPAIGN WAS ABLE TO GIVE THE RED CROSS OF LAIKIPIA KSH 10,000 WORTH OF DRY GOODS TO HELP FEED HUNGRY RESIDENTS OF THE DISTRICT."**

### MPALA WEATHER CORNER





## COMMUNITY CONSERVANCIES ARE GOOD FOR GREVY'S ZEBRA

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Grevy's share land with pastoral communities through 90% of their range – so understanding how they can coexist with people and livestock is critical to their conservation.

We began by setting up partnerships with six communities near Mpala – Il Motiok, Koiya, Tiamamut, Nalare, Ol donyiro, and Longopito. In each community, we have trained two scouts to monitor wildlife. Scouts walk daily routes around their community's land. Whenever they see wildlife or livestock they record their map location using a handheld GPS unit. Scouts also record Grevy's dung and tracks, as well as the locations of settlements and water points.

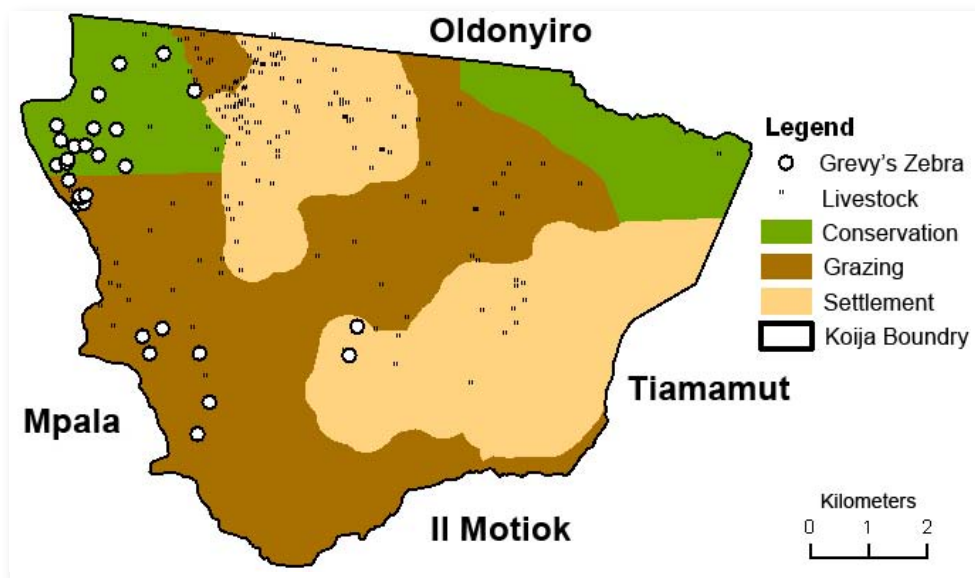
So far, the scouts have reported seeing Grevy's foals on five of the six communities – suggesting that these communities are important breeding areas. Grevy's seem to prefer spending time in the conservation areas rather than

sharing space with people and livestock. In communities without conservation areas, though, Grevy's are forced to overlap more with livestock.

These results are just the first to come from the scouts' data, but already they have prompted the African Wildlife Foundation to increase its investment in community conservancies in several of these communities. In the next year, we plan to synthesize the scouts' data

for more wildlife species, not just Grevy's zebra. We are also planning to expand our monitoring efforts by building partnerships and training scouts in new communities.

If you want to learn more about the Laikipia Grevy's Zebra Project and our scout program, please contact us (Siva: [ssundaesan@denverzoo.org](mailto:ssundaesan@denverzoo.org); Ilya: [fischhoff@gmail.com](mailto:fischhoff@gmail.com)) or visit our website: : [www.princeton.edu/~equids](http://www.princeton.edu/~equids). ■



*In Koiya Group Ranch, data from scouts show that more Grevy's zebra are seen in the conservation area than in the grazing and settlement areas.*

*Map by Siva Sundaresan.*

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