

# MPALA MEMOS

NEWS FROM MPALA

TOP STORY

## BABOON POLITICS

*Meg Crofoot*

We've all had the experience of standing around with a group of friends, trying to make plans for dinner. One person is a vegetarian, another a dedicated carnivore, while a third has a wheat allergy. One half of the group is lobbying for a restaurant far from home while the other half is already hungry and would rather not travel so far to eat. Reaching a compromise in a group with such different needs and preferences generally requires extensive discussion and negotiation.

Baboon troops face similar challenges on a daily basis, but they must overcome these conflicts of interest without the benefit of language. How do they come to a consensus about where to go and what to do?

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*Young baboons playing.  
Photo by Laura Budd.*

COMMUNITY

## ALAKARA:

### CELEBRATING COMMUNITY THROUGH BEADWORK



*Members of Alakara beading.  
Photo by Sarada Eastham.*

*Sarada Eastham*

The women create a colorful picture, sitting together beneath the tree in the center of Mpala's staff village. Children scamper around the women's feet and the sounds of laughter carry far. Today the women have gathered, as they usually do on Sunday afternoons, to conduct the business of the Mpala women's beading co-op: Alakara.

Meaning 'happiness' in Turkana, the name Alakara reflects the joy the women feel when they gather and work together

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WITHROW MEEKER & THE MPALA FELLOWSHIP PROGRAM

*Laura Budd*

Thanks to a generous donation from the Meeker Family Fund, Mpala has created a fellowship program to support exceptional Kenyan undergraduate and graduate students from arid and semi-arid lands who are pursuing degrees related to conservation science. The benefactor behind the fellowship is Withrow Meeker, a gracious woman who has been connected to Mpala for many years.

Withrow and her husband John were first invited to Mpala by George Small in the 1980s as he was establishing the Mpala Wildlife Foundation and Mpala Research Trust. At that time there was just one building at the research center. John and Withrow were so impressed with Mpala and by the dedicated staff they met that they brought their daughters and their grandchildren the following year. They have visited many times over the years, sharing Mpala with all of their children and grandchildren. Withrow recalls many fond memories with her family at Mpala and explains that “Mpala had a strong impact on the whole family.”

Withrow and John have been generous donors to Mpala over the years, including financing the construction of the first banda at the research center. Last year, Withrow decided she could be of most help to both Mpala and Kenya by financing the start of a scholarship program that supports Kenyan students completing advanced degrees in conservation science. Withrow strongly believes “every sensible opportunity should be given to the brightest, most capable, most focused minds of the young. They need help to continue their education.”

The Mpala Fellowship Program supported by the Meeker Family Fund is open to Kenyan students studying in a conservation-related field who have completed their first two years of a baccalaureate degree program or are



*Withrow with her grandchildren and Mpala askaris climbing Mukenya. Photo by Ann Ryan.*

starting a Masters program. The fellowship covers their university tuition and provides funds for them to conduct independent research or attend field courses at Mpala for two years. Our first undergraduate fellows are Parashina Lampat and Lalampaa Prischillah, both pursuing a Bsc. in Management of Agroecosystems and Environment; Sururu Reut, pursuing a Bsc. in Veterinary Medicine and Peter Mosiany, pursuing a Bsc. in Dryland Natural Resource Management. Fatuma Mohammed and Marc Napao are our first two graduate student fellows, each beginning a Masters this year. Fatuma is interested in dryland development issues related to climate change and gender balance. Marc is the son of Laurence Nayara, a long-time Mpala employee and the first child of a Mpala employee to graduate from university. Marc is interested in using GIS for natural resource management and protecting vulnerable wildlife species. He will focus his work on lion conservation with Living with Lions.

Withrow envisions her gift as just the beginning of a larger scholarship foundation. She hopes her gift will inspire “other people who appreciate Kenya, young people and emerging nations to help bring young people to Mpala to advance their studies and give them the means to continue their studies”.



## LAIKIPIA'S RAREST MEGA-MAMMAL?

*Douglas McCauley & Mordecai Ogada*

What is Laikipia's rarest big mammal? Some of the most likely candidates include: lions, rhinos, Grevy's zebra and hartebeest. We suggest another nominee for the list: the common hippopotamus (*Hippopotamus amphibious*).

In Laikipia there is nothing particularly common about the common hippopotamus. Mpala, for example, has about 150 Grevy's zebra and probably fewer than 30 hippos. A number of conservancies in Laikipia have more rhinos than hippos on their property.

Hippos are naturally rare in semi-arid areas like Laikipia because they need daily access to water. However, their numbers have almost certainly dropped in recent years as a result of human-engineered changes including unsustainable extraction of water from regional rivers, development around waterways and illegal killing of hippos due to conflict with humans. These issues are not unique to Laikipia. The International Union for the Conservation of Nature (IUCN) lists the common hippo as a "vulnerable" species and estimates that between 1996 and 2006, global *H. amphibious* populations declined by 7% to 20%.

### HIPPO FACT BOX

- Hippos weigh up to 4500 kg and live 40-50 years.
- Hippos are not strong swimmers and prefer to stay in shallow water.
- Hippos can hold their breath underwater for 5 to 6 minutes.
- At night hippos forage up to 5 km from their rivers.
- Hippos will wag their tail while flinging dung in the water to signal submission to dominant males.
- Hippos exude a thick, oily, pink sweat that is thought to have antiseptic properties and protect them from sunburn.

#### *Why should we care?*

Take a guest to visit a pod of hippos at dawn and watch the moody beasts as steamy breath shoots from their nostrils into the cool air. You and your guests' delight provides one powerful reason to care. But there are other, ecological reasons to care about hippos and to work to maintain healthy hippo numbers. An animal as large as a hippo doesn't live in an ecosystem without causing an impact. The grazing of hippos affects plant communities near waterbodies,

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*Hippos lounging at Hippo Pools.  
Photo by Jen Guyton.*

## KEEPING WATER FLOWING IN LAIKIPIA

*Keir Soderberg, Kelly Caylor, Jeniffer Kinoti and Hanspeter Liniger*

Although some effects of climate change in Kenya are clear (e.g. rising temperatures), others are less obvious. Our team is studying one such unknown: the consequences of climate change for Laikipia's water resources. It is clear that for central Kenya as a whole, the long rains have decreased by around 100 mm over the past three decades. However, an analysis of Laikipia's rainfall by Trenton Franz indicates that annual rainfall has not changed. Rather, storms are becoming less frequent and more intense. Another decade of rainfall data in Laikipia is currently being analyzed by Jacqueline Schmocker (University of Bern) to confirm this pattern.

Much of the water-related research in Laikipia has been undertaken through CETRAD ([www.cetrad.org](http://www.cetrad.org)), based in Nanyuki, in partnership with the University of Bern. One of the regular activities of this Swiss-Kenyan collaboration is to monitor the flow of and abstractions from rivers feeding the Ewaso Ng'iro. They found that water extraction for irrigation took about 30% of the Naro Moru River's annual flow and nearly all of its dry season flow. CETRAD has also promoted Water Resources Users Associations to help manage water and resolve conflicts among users.

The Princeton Ecohydrology Laboratory (<http://caylor.princeton.edu>) at Mpala studies various aspects of the water cycle that affect plant productivity and ecosystem health. We established a long-term field observatory to quantify the carbon and water balance under various land management strategies and help us understand how resilient different types of rangeland are to changes in water availability. Mpala has recently become involved in regional surface and ground water issues and hopes to be a resource for answering questions about sustainable management of Laikipia's water.



*Water level gauges at the Ewaso Ng'iro.  
Photo by Keir Soderberg.*

We have found that the effects of increased surface and groundwater abstractions for small-scale and commercial irrigation have had a larger and more immediate influence on Laikipia's water resources than climate change. This means we can do something proactive about the long-term use of these resources. So, the ball is in our court, but finding a sustainable and equitable level of water usage involves creating meaningful collaborations among researchers, farmers, management authorities and Water Resources Users Associations. Potential new research directions for understanding water in Laikipia include: interactions between surface and ground water, the effects of increasing temperatures on plant water use, and appropriate stream buffer vegetation. These are complex questions, but Mpala's water chemistry and modeling capabilities will help to provide some of the answers in the near future. Watch the websites mentioned above for developments, and if you would like to keep tabs on the soil moisture levels at Mpala with an update every hour go to: <http://cosmos.hwr.arizona.edu>. You can also get larger-scale information on the region's water cycle through Princeton's Africa Drought Monitor: <http://hydrology.princeton.edu/monitor>.



## NORTHERN KENYA CONSERVATION CLUBS GROW AND THRIVE

*Nancy Rubenstein*

### Recent Activities Include:

- Northern Kenya Conservation Clubs welcomes Ngabolo and Shiloh Naibor Primary Schools, bringing the total club member schools to seven.
- Mpala and Ngabolo clubs have planted gardens of maize, tomatoes, spinach, pumpkins and carrots.
- Ewaso and Naiperere clubs have started beekeeping.
- Kimanjo club raises chickens and gives each Class 8 graduating club member a hen.
- Il Motiok and Naiperere Primary Schools recently received small water collectors from World Vision, and the clubs are hoping to plant trees on their school compounds.
- The club at Shiloh Naibor Primary School, who joined us at the end of May, is planning to improve the school grounds by planting flowers and trees.
- Princeton Grand Challenges is providing scholarships for secondary education for eight graduating conservation club members. In addition to this, three club teachers and one head teacher are receiving support from Grand Challenges towards their diplomas in education.
- Grand Challenges is supporting a community liaison officer from Laikipia Wildlife Forum, who works with the conservation clubs, to pursue an online university degree. Helping to make better teachers is not only good for the conservation clubs; it's an investment in the future of education in Kenya. ■



*Thanks to an anonymous gift, the nursery class at the Mpala Primary School has been outfitted with supplies to enrich the learning experiences of our youngest students. Wall charts, puzzles, games, play dough, paints, blocks wooden animals, cars and trucks have been added to the class.*

*Photo by Nancy Rubenstein.*



*Lending libraries are now in operation at the Mpala, Naiperere and Il Motiok Primary Schools. Students are invited to sign out books, which have been donated to the schools, to practice their English reading and hopefully develop a love of reading.*

*Photo by Nancy Rubenstein.*

# DISCOVERY DAY 2012

*Laura Budd*

Ever wonder what all those researchers are up to on Mpala? Interested neighbors, ranchers, local community members, students, staff and their families came to find out during Mpala’s 3rd Discovery Day on Saturday, May 26th. Researchers gave five-minute “speed talks” to explain their work to the non-scientific audience, and guests had the opportunity to ask questions afterwards. Fourteen researchers presented on topics as varied as why vultures are declining, to understanding how water moves through the environment, how to get grass to return to areas of bare soil, and how livestock and wildlife often benefit one another.



*The Mpala Primary School’s conservaiton club presents a poem about vultures.  
Photo by Laura Budd.*

Mpala Primary School’s conservation club presented poems about the importance of vultures and planting trees, and students from Daraja Academy spiced up the day with a dance performance. While the adults and older students were busy in the classroom, and after a rousing game of tag between students from Mpala’s primary school and undergraduates from the University of Wyoming and the University of British Columbia, Wilson Nderitu, Mpala’s head research assistant, took the younger children on adventures in the field. They searched



*Jen Guyton and Lacey Hughey talk about Mpala’s new Hippo Project.  
Photo by Laura Budd.*

for intriguing insects and birds and learned about ecology and conservation through a few games. They returned with huge grins on their faces.

Afterwards, guests chatted more in depth with researchers over a great lunch prepared by Mpala’s kitchen staff.



*A game of tag before Discovery Day starts.  
Photo by Laura Budd.*

A tremendous thank you to the Denver Zoo for its continued support of Discovery Day and to all Mpala staff who helped make the day a success. ■



# MPALA-AT-A-GLANCE

## Courses & Student Groups

- In May, 22 undergraduate students from the University of Wyoming, University of British Columbia and Moi University participated in a three-week field course studying the ecology and conservation of African Savannas.

- Dr. Vanessa Ezenwa led a one-week introductory field course on Disease Ecology for 10 students from Kenyatta University at the end of June.

## Events

- Daraja Academy hosted the second talk in our new Women in Conservation and Leadership Lecture Series on June 19th. Twenty researchers and over 100 students, staff and volunteers at Daraja came together to hear Dr. Corinna Riginos speak on her work as a field biologist.

- Il Motiok Primary School hosted Mpala's 4th annual Community Conservation Day on July 14th.

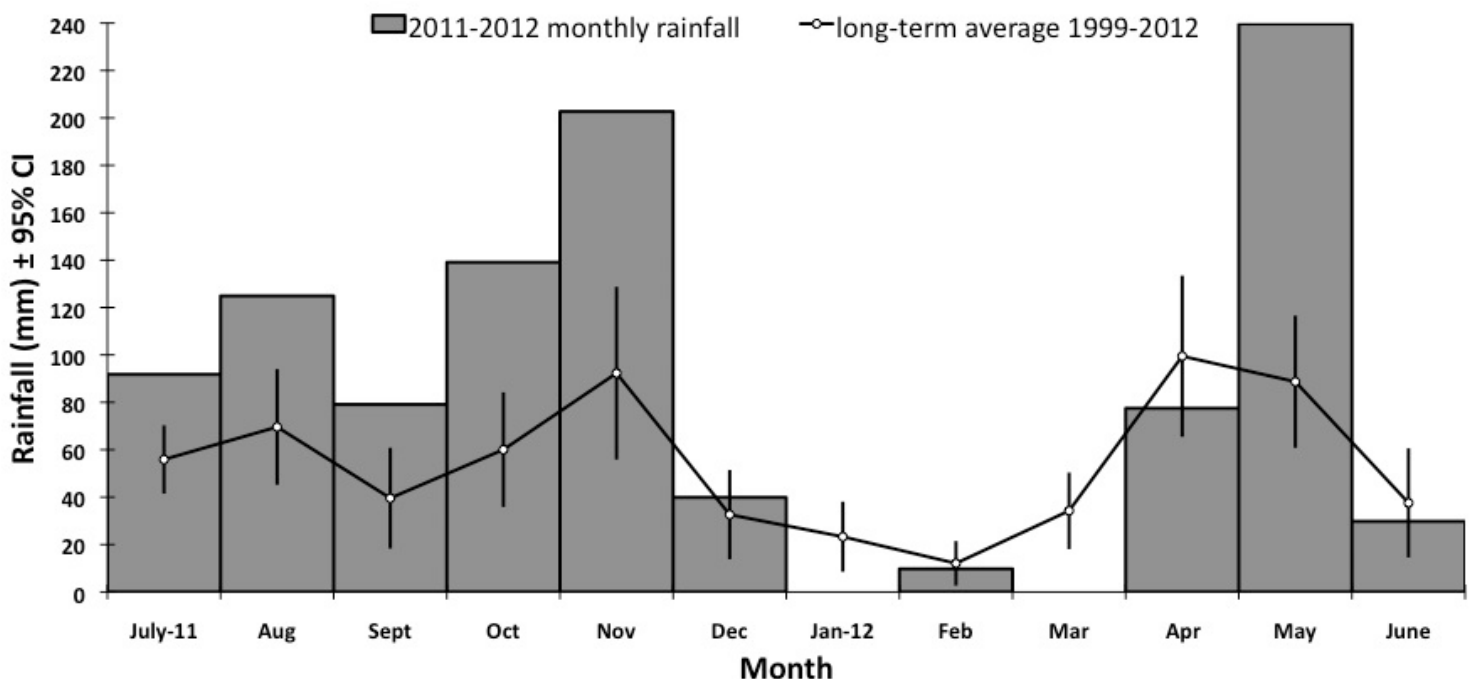
Students from each of the seven schools in the Northern Kenya Conservation Club gathered to present poems, plays, and games demonstrating to their communities what they'd learned about conservation throughout the past year. ■



*Il Motiok students perform a traditional Masai dance at Community Conservation Day. Photo by Laura Budd.*

## MPALA WEATHER CORNER

### MRC RAINFALL 2011 - 2012



## BABOON POLITICS



*The baboon team habituating a baboon group to their presence.  
Photo by Meg Crofoot.*

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Theory predicts that both democratic and despotic decision making can be evolutionarily stable strategies, depending on the balance between the benefits individuals gain by belonging to a group and the costs they pay by compromising

on their preferred patterns of activity. However, the kind of information we need to test these ideas—simultaneous and continuous tracking of the movements and activities of all group members—has never been available for animals living in their natural habitat. Advances in remote sensing technology, particularly the development of high resolution GPS tracking, now make it possible to collect such information. My team will be taking advantage of these new technologies by capturing and GPS-collaring an entire baboon group, then tracking their movements and behaviors in very fine detail. The information will let us examine the relative importance of democratic vs. despotic decision making in baboon groups and determine the efficiency of these two strategies. And, maybe I will then be able to convince my friends that the best option is for me to decide where to go to dinner!

For more information contact Dr. Meg Crofoot at [mccrofoot@gmail.com](mailto:mccrofoot@gmail.com).

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### ANIMAL SPOTLIGHT

## LAIKIPIA'S RAREST MEGA-MAMMAL?

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and nutrients from hippo dung play an important role in shaping life in aquatic ecosystems. From this we can infer that hippos have important effects on both terrestrial and aquatic communities, and their future depends upon the health of both ecosystems.

*What are we doing?*

In partnership with colleagues at Laikipia Wildlife Forum, University of Nairobi, National Museums of Kenya, Kenya Wildlife Service, various Laikipia wildlife conservancies, and the IUCN, we have launched a new project to study the role of

hippos in the ecosystems of Laikipia. We are using tools from the disciplines of ecology, hydrology and chemistry to understand how hippos influence the habitats in which they live and to determine what risks hippos face in our area.

*Got hippos?*

Do you have hippos in the rivers or dams on your land? Please help us learn more about Laikipia's hippos by sharing information on their numbers and locations in your area. Sightings and information can be emailed to Dr. Douglas McCauley: [mccauley@berkeley.edu](mailto:mccauley@berkeley.edu).

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## ALAKARA: CELEBRATING COMMUNITY THROUGH BEADWORK

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and the happiness they hope to share with those who buy their products to take home to far-away friends and family.

The Alakara women’s group is learning business skills that will continue to serve them far into the future. The group showcases its unique pieces in a new display cabinet in Mpala’s dining hall. With sales income going directly to the women and their families, they are able to increase their investments in education, health care and supporting their extended families.

The Alakara women recently participated in a day-long training event that took them to Mitumba Art and Nanyuki Spinners and Weavers to learn from and network with other successful women’s groups. They visited several shops in Nanyuki and took note of how products are displayed and current market pricing on beadwork.

Picoty Chepkemoi, a member of Alakara and one of Mpala’s outstanding chefs, said that through Alakara she is learning about working with a large group, expanding her



*Members of Alakara at Mitumba Art.  
Photo by Sarada Eastham.*

communication skills and boosting her confidence as an artist. “I love the work that we do together,” Picoty shares. “It is inspiring to see how well we can work as a group, and it is so much fun to have the chance to learn so much!”

For more information about Alakara, please visit us at: [www.mpala.org/Alakara.php](http://www.mpala.org/Alakara.php) ■

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*The members of Alakara.  
Photo by Sarada Eastham.*

# MPALA PUBLICATIONS 2011

**This list is comprised of the publications related to Mpala Research Centre released within the first half of this year:**

Dunne, J., R.P. Evershed, M. Salque, L. Cramp, S. Bruni, K. Ryan, S. Biagetti & S. di Lernia. 2012. First dairying in green Saharan Africa in the fifth millennium bc. *Nature* 486: 390-394.

Franz T. E., K.K Caylor, E. G. King, J. M. Nordbotten, M. A. Celia, and I. Rodríguez-Iturbe. 2012. An ecohydrological approach to predicting hillslope-scale vegetation patterns in dryland ecosystems. *Water Resources Research* 48: W01515.

Miller, G.R., J.M. Cable, A.K. McDonald, B. Bond, T.E. Franz, L. Wang, S. Gou, A.P. Tyler, C.B. Zou and R.L. Scott. 2012. Understanding ecohydrological connectivity in savannas: a system dynamics modelling approach. *Ecohydrology* 5:200–220.

Ogada, D.L., Torchin, M.E., Kinnaird, M.F. and V.O. Ezenwa. 2012. Effects of vulture declines on facultative scavengers and potential implications for mammalian disease transmission. *Conservation Biology* 26: 453-460.

Porensky, L.M. and K.E. Veblen. 2012. Grasses and large herbivores reinforce landscape heterogeneity by excluding trees from ecosystem hotspots. *Oecologia*, 168:749-759.

Pringle, R.M. 2012. How to be manipulative. *American Scientist* 100:30-37.

Veblen, K.E. 2012. Savanna glade hotspots: plant community development and synergy with large herbivores. *Journal of Arid Environments* 78:119-127. ■

## MPALA WILDLIFE FOUNDATION & MPALA RESEARCH TRUST

### Founder:

George Small (1921-2002)

### Mpala Conservancy Manager:

Michael Littlewood

### Contact Information

(USA)

Tel: (410) 244-7507

### Mpala Wildlife Foundation Trustees:

Donald Graham, Chairman  
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Mpala Wildlife Foundation  
PO Box 137  
Riderwood, MD 21139-0137  
USA

(Kenya)

Tel: 254-62-32758

### Mpala Mobile Clinic Coordinator:

Shannon Wreford-Smith  
shanni@wananchi.com

Mpala Research Trust  
P.O. Box 555, Nanyuki  
Kenya

[www.mpala.org](http://www.mpala.org)

### Executive Director:

Margaret Kinnaird, PhD  
mkinnaird@mpala.org

### Newsletter Editing and Design

Natasha Soderberg  
Corinna Riginos  
Laura Budd  
Amy Wolf