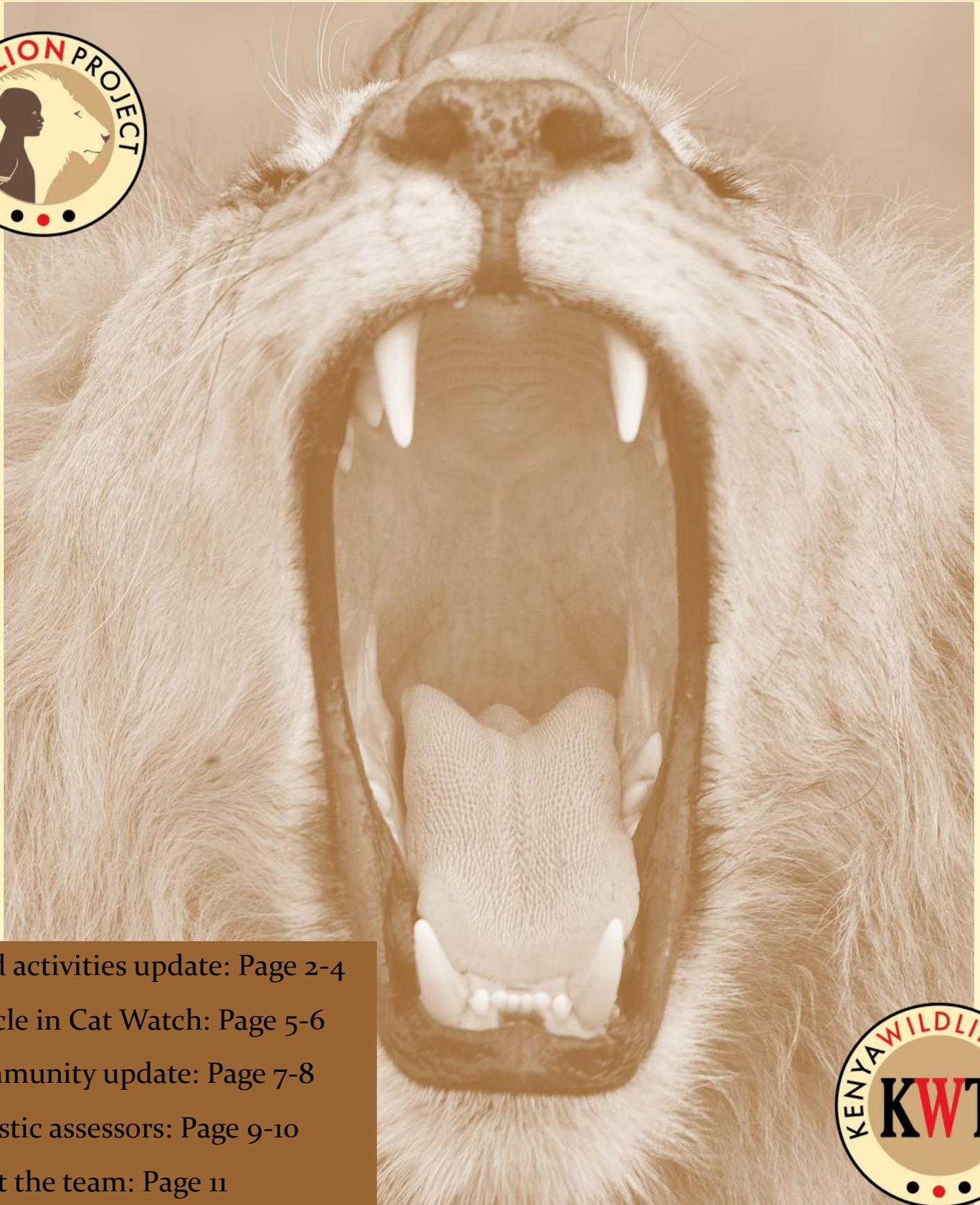


Mara Lion Project

Quarterly Report

01 January 2016—31 March 2016



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Field activities update

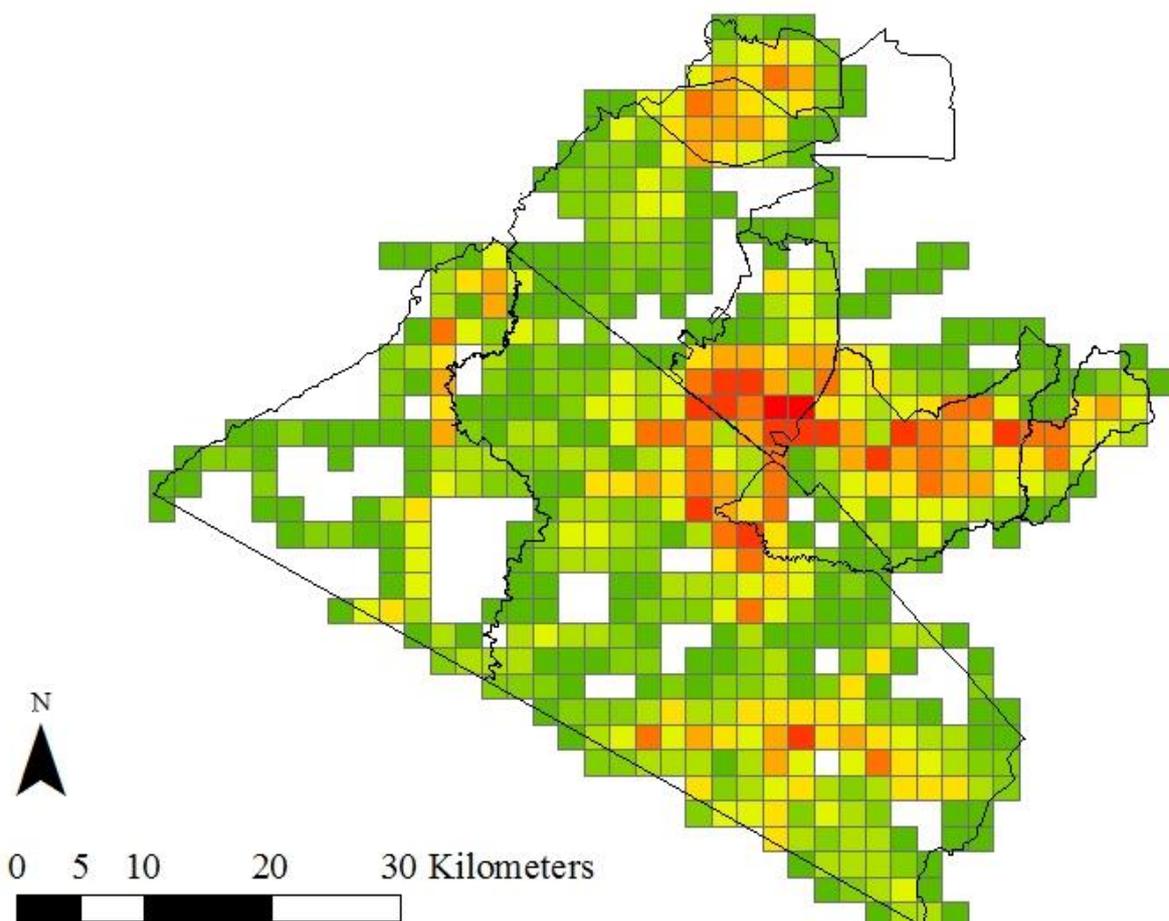
Due to heavy rains, the Mara has seen a proliferation of tall grass. In many areas, this grass has resulted in wild herbivores avoiding these areas and favouring the short grasses. This has resulted in high numbers of wild herbivores outside of the protected areas, and subsequent peaks of human-predator conflicts as predators have frequently followed them out.

Indeed, in January alone, we started to document a worrying trend: Five cases were reported to us of lions being found within fenced plots of land. With the proliferation of fencing in community areas, some of it electric, lions have been entering into these plots and sometimes staying within them for days. Fortunately, all of these incidents transpired without any loss of lions, but as the rate of fencing continues to increase, we can expect more such cases in future.

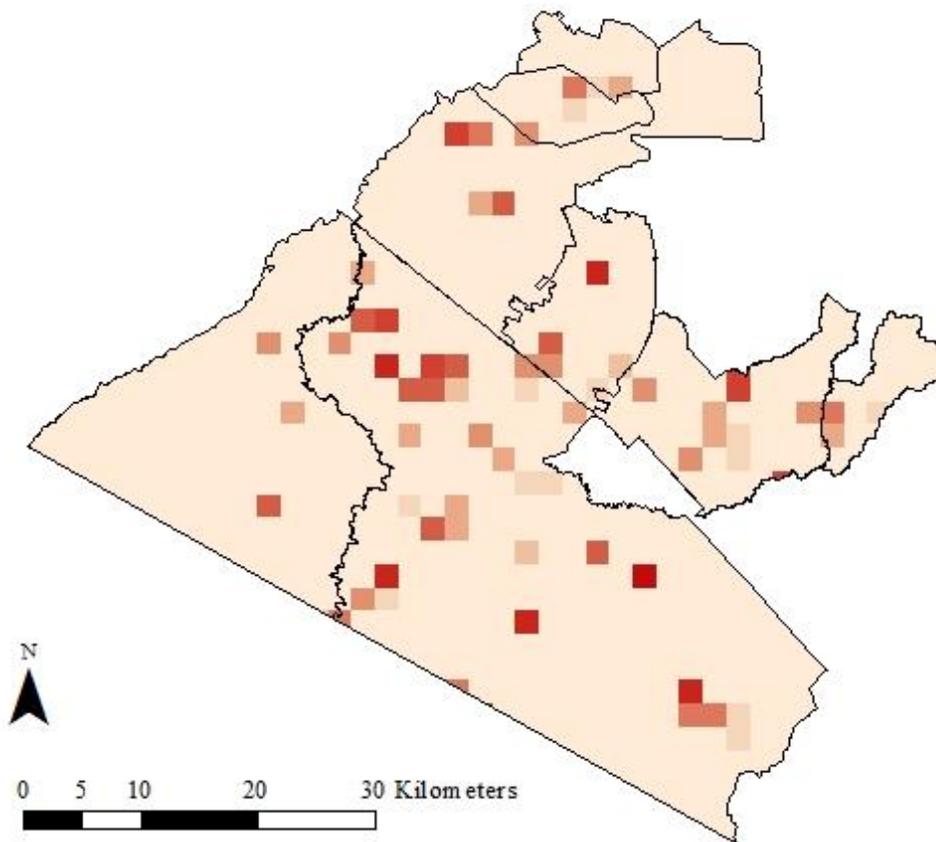
On a brighter note, we are starting a programme to look at how grasslands and herbivores (wild and domestic) impact upon predators. Turn to page 9 to read about this.

Also be sure to look out for our management report resulting from participatory discussions which followed the screening of our community film. Email us on info@maralions.org for a copy.

During this quarter we completed 141 patrols and drove 8,500 kilometres while recording all predators, people, livestock and vehicles. This map is coloured according to distance driven per cell (green=low, red=high)



Index of abundance for lions over the last quarter . This figure is adjusted according to our effort per 2 x 2 km cell.

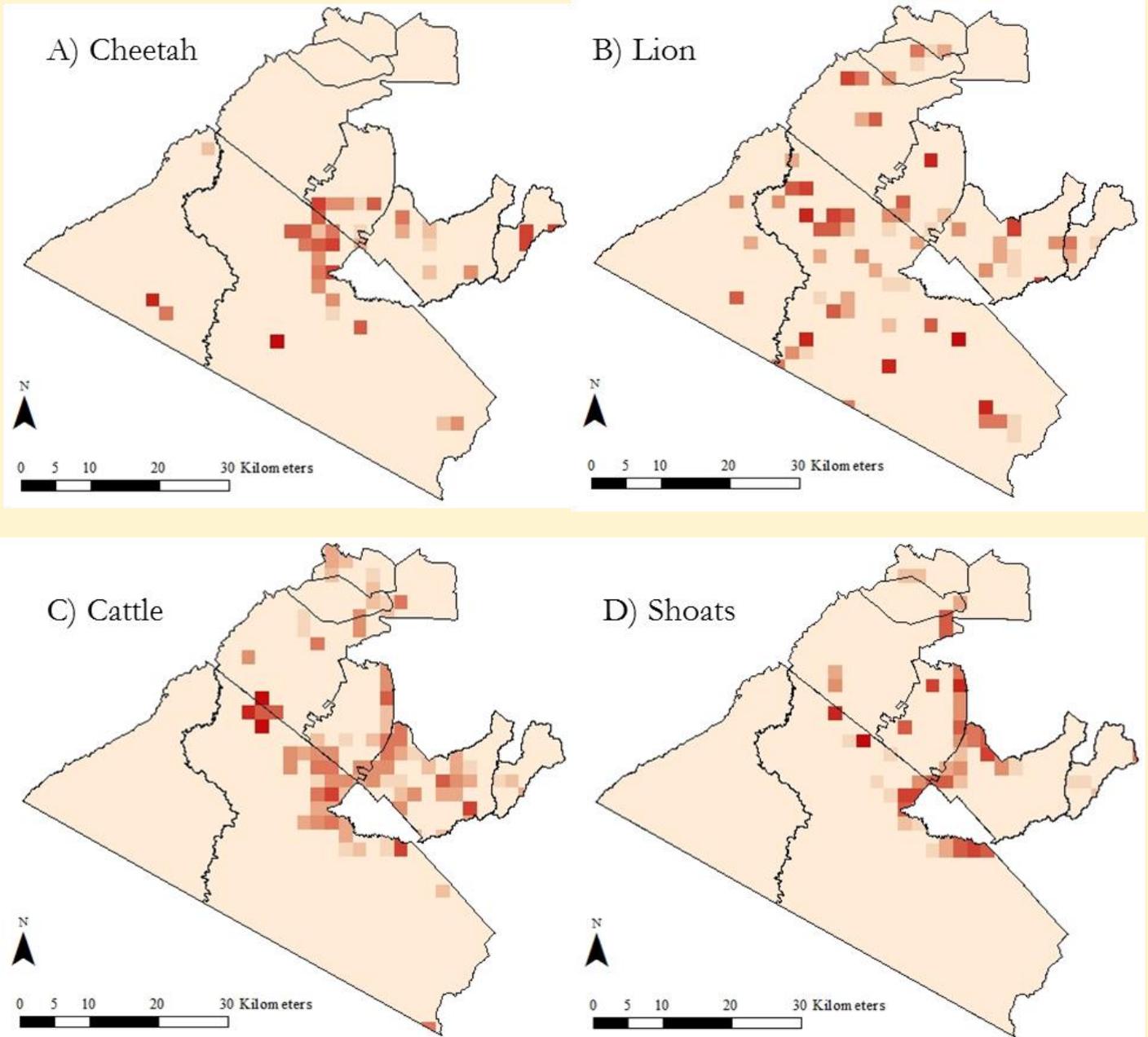


During this quarter we had 112 lion sightings. Despite driving a similar distance to previous quarters, we have had nearly 100 fewer sightings. This is partly due to very tall grass, but future analysis will reveal the true meaning of this decline in sightings.

We are in the process of submitting a scientific paper to a top international journal relating to lion densities across the Maasai Mara ecosystem. We use a spatially explicit mark-recapture approach that not only is producing accurate and precise estimates, but is also spatial. Since we can get at lion and cheetah density on a fine spatial scale, we are able to relate this to other spatial variables that may be influencing lion/cheetah density, for example livestock, settlements, rivers etc. This represents a major advancement in monitoring of African carnivores and is sure to set the benchmark for other studies to follow. Furthermore, it will be the first study to provide figures across the ecosystem.

	January	February	March	April	May	June	July	August	September	October	November	December
Monitoring sessions												

Intensive monitoring
 Less intensive monitoring



Index of abundance for cheetahs, lions, cattle and shoats. This map is adjusted according to our effort, with red areas representing a high index of abundance for a particular species. With excellent rains there has been relatively little livestock pressure on the protected areas. However, it should be noted, that all our data is collected during the day and therefore does not include night-time incursions of livestock into protected areas.





Article written for Cat Watch—
nationalgeographic.com by Nic Elliot

Human-lion conflict requires big solutions

The perilous state of lions has once again been brought to light, this time by the poisoning of the world's most famous lions, the Marsh Pride. This pride has been the subject of



innumerable wildlife documentaries, such as the BBC's Big Cat Diary. Indeed, even as this incident occurred, a BBC film crew were the first to pick it up, since they are here filming for their next big production, 'Dynasties'. If ever you've seen a documentary featuring lions, chances are it's in the Mara, and chances are, it's the Marsh Pride. If you have seen them, it may surprise you to learn that they are susceptible to human-lion conflict, given that most documentaries tend to portray the Maasai Mara as an Eden, untouched by human influence. This is far from reality. A visit to the Musiara area (the home of the Marsh Pride) on any given day will show you lions in the Reserve and a shimmer of livestock and settlement just outside the protected area. Come night fall the lines are blurred as lions and livestock begin to mingle.

While the Marsh Pride exemplify this issue, it is by no means unique in the challenges it faces. Throughout the Mara, lions and livestock interact, and the interface between wildlife and people is growing. This is an age old conflict, and one that is played out throughout the world, wherever there are predators and people in close proximity. The challenge now of course, is that there are more people and livestock than ever before, less space available to predators, and more efficient ways of killing predators. Poison is particularly worrisome, since it has such large effects. Lace a cow carcass with poison and you could wipe out a pride of lions, hyaenas, vultures and other birds of prey. Such is the devastation of poison, it is remarkable that more of the Marsh Pride was not killed.

Although this most recent event is upsetting and reprehensible, it should not grab our attention simply because it is the Marsh Pride. It should grab our attention since this is just one example of the problems that lions and people are currently facing, throughout Africa. The simple reality is that lions can be a menace, they kill livestock and sometimes people. In return, people retaliate and kill lions, using a myriad of different methods. Lions encroach into human landscapes, just as humans encroach into wild landscapes. Conservation practitioners aim to reduce this conflict in many different ways, but so long as there is wildlife and people in close proximity there will always be conflict. It cannot be eliminated altogether, and the task therefore is



to ensure it does not impact the population as a whole. In terms of the lion population, the Maasai Mara is, by and large, a success story, albeit with innumerable challenges that require conservation efforts. Despite enormous pressures, this ecosystem is home to quite possibly the highest density of lions in the world. At 15 lions per 100km², even the shortest visit to the Mara will guarantee a lion sighting. Retaliatory killings of lions do happen, but probably in lower numbers than other ecosystems. Traditional killings of lions by the Maasai warriors is almost non-existent, and tolerance of lions is generally quite high. One of the reasons for this is that the surrounding community receives benefits from the wildlife – they lease their land to conservancies, gain employment, receive indirect benefits from local NGOs funded through tourism and have access to well managed pastures within the private conservancies to graze their livestock.

This has undoubtedly built tolerance for lions and wildlife more generally, but it is not enough on its own to stop all the ecological issues. Predators are still killed, as are herbivores. Competition for grasslands represents a bigger human-wildlife conflict than that of predators and people. Traditionally nomadic, the Maasai in the Mara have become sedentary, owing to subdivision of land. As a result fences are being erected to protect grasslands from wild herbivores and neighbouring livestock. The alarming rate at which this is happening is threatening to cut off traditional migration routes for wild herbivores, which will undoubtedly have a knock-on effect for predators. Concurrently, the number of livestock has sky-rocketed in recent years. People are able to buy more

livestock and erect electric fences, largely due to the benefits they have received from wildlife. And yet there is a disconnect between where the benefits come from and how to ensure these benefits are preserved in the future.

A multitude of solutions to human-lion conflict exist which include fencing wildlife areas, compensation, insurance, flashing lights, predator proof livestock enclosures and relocation of predators. The truth is that there is no one solution, no quick fix. It will take a myriad of solutions, along with improved livestock husbandry, and large scale reform to reduce conflict, but it will not be eliminated. Human-lion conflict is a big problem that requires big solutions. Large changes in the way that people settle, rear and graze their livestock. Changes in family planning and land-use planning. Even changes in the way wildlife areas are managed, so as to include, rather than the traditional exclusion of surrounding communities. Big changes need to happen before we can reduce lion killings and stem the range-wide decline in their populations.

While it is useful to focus on individuals, such as Cecil, and now the Marsh Pride, conservation of a species is less concerned with individuals than with populations. As distressing as it may be, the loss of individuals to human-lion conflict is inevitable, yet unacceptable and punishable by law. Our task is to ensure that these are isolated incidents that do not cause an ever declining population.





Community update—Wildlife clubs

Art Competition

On 17th and 18th March, we held our annual “Wildlife Clubs Art competition” where a total of 167 kids and 10 teachers from the 5 schools we work with took part. The competition was geared at encouraging children to express their perceptions towards lions and cheetahs in artwork. A trainer helped the kids improve upon their skills and learn new ones. The drawings were limited to lions and cheetahs to reflect the animals that the projects focus on. In time, we will select the winning 26 artworks to be incorporated into a calendar.



Leadership baraza

On the 26th of March we organized a workshop at the Predator Hub. We invited 10 elders (5 women, 5 men) to share with them the work we are doing and to discuss their ideas and concerns. We gave two presentations—one on the overall work done by the Mara Lion and Cheetah Projects and one of some of our findings, particularly relating to community concerns. This stimulated productive discussions particularly relating to ongoing fencing. The participants will now act as information disseminators.

Women’s workshop

We held a small workshop with the beading women at the Maa Trust. Realising that women are often left out of issues relating to conservation, we sought to include them. We spoke to them of the work we are doing and the link between wildlife and the tourists for whom they are making products. Our work with the community film has shown that this link is poorly understood, especially by women. We also had discussions on the challenges facing the Mara ecosystem, predators, livestock husbandry and human-wildlife conflicts.





Community film

We have finished analysing the data collected during discussions which followed the film screenings. A short management report is available to anyone on request. The main focus of these discussions was to identify community-led solutions to human-predator interactions. Our results show that the best way of ensuring minimal retaliation against predators is to equally share the benefits of protected areas. This is not just monetary or job creation, but also relates to access to grazing. The full report has more details.



Wildlife Clubs

Our wildlife clubs continue to go from strength to strength. With five schools signed up and well over 100 members, we have a busy curriculum and year ahead. We have managed to stagger the weekly meetings of the clubs so that there is one for each day of the week. This quarter the children took part in a debate (topic: 'which is a better use of land—crop production or wildlife conservation?'), an art competition, an essay writing competition, football matches, tree labelling and litter picking. The primary objective of the wildlife clubs is to inspire the next generation of wildlife conservationists and as such we have designed a curriculum that is intended to motivate children to engage their minds in conservation issues, understand them better and make informed choices. Some activities are fun and light-hearted, while others are sometimes dull, but necessary.



Wildlife club activities: Children receive some tips for their artwork (left) while others had their litter-picking exercise interrupted by a drone! Ryan Howard of Adobe was visiting us and brought this along, much to the amusement of the children!

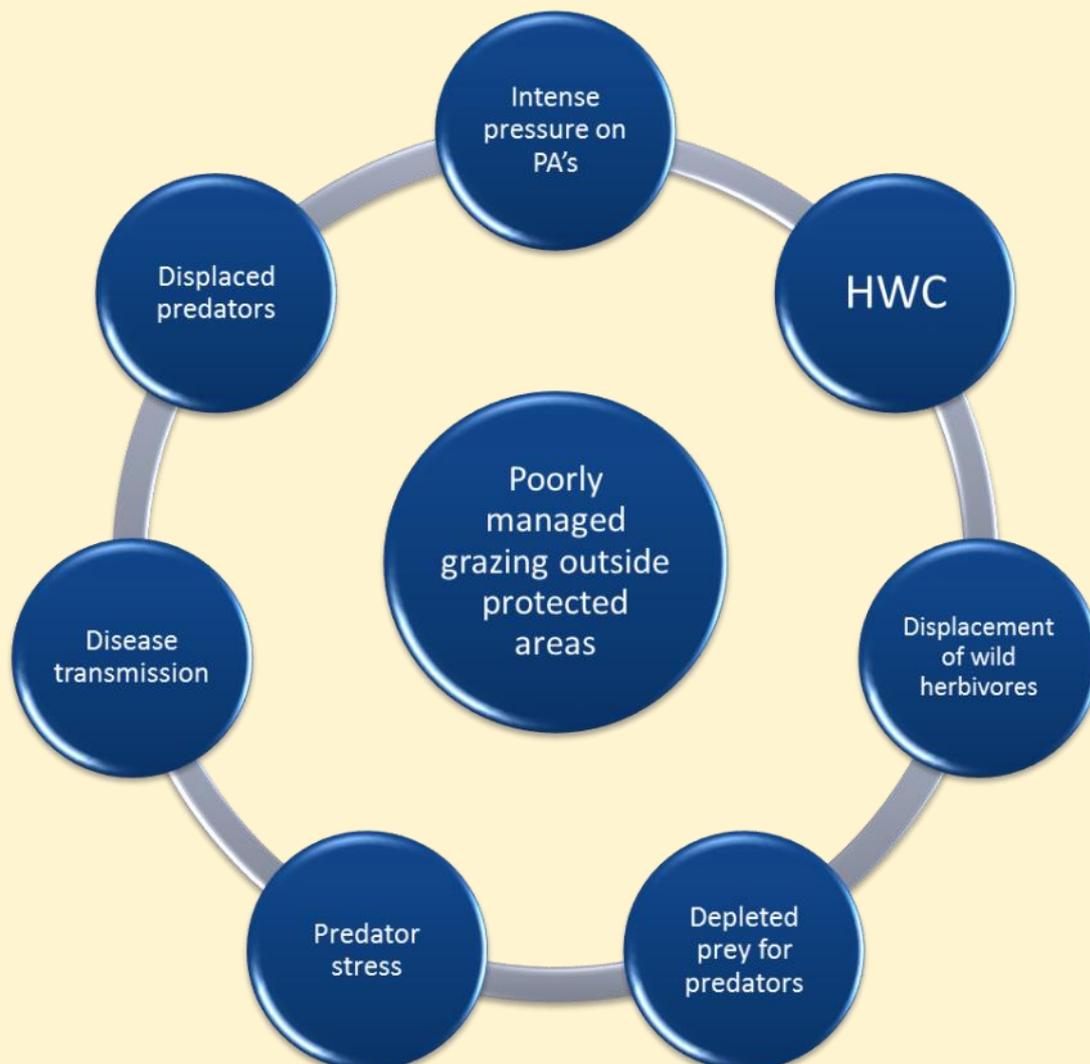




Resource assessor programme

With the support of AWF, we are excited to announce a new programme that will fall under the Mara Lion Project and the Mara Cheetah Project. We recognize that grasslands play a pivotal role in this ecosystem, not only to wildlife, but also to people. Grass, or lack of it, influences the movement of wild herbivores, livestock and predators. As such, much emphasis is placed on managed grazing within the conservancies. However, there is no concerted monitoring of the effects of different management regimes. Likewise, there is limited efforts being made to

improve livestock grazing outside of the protected areas. A major threat to this ecosystem is the enormous livestock pressure on protected areas. When controlled, this can be beneficial, but when uncontrolled, can be highly detrimental as it displaces herbivores and predators. In light of this, our holistic assessors programme is designed at understanding this grass, herbivore, predator dynamic in order to provide data for adaptive management for both the local community and the management authorities so that informed decisions can be made relating to grasslands.

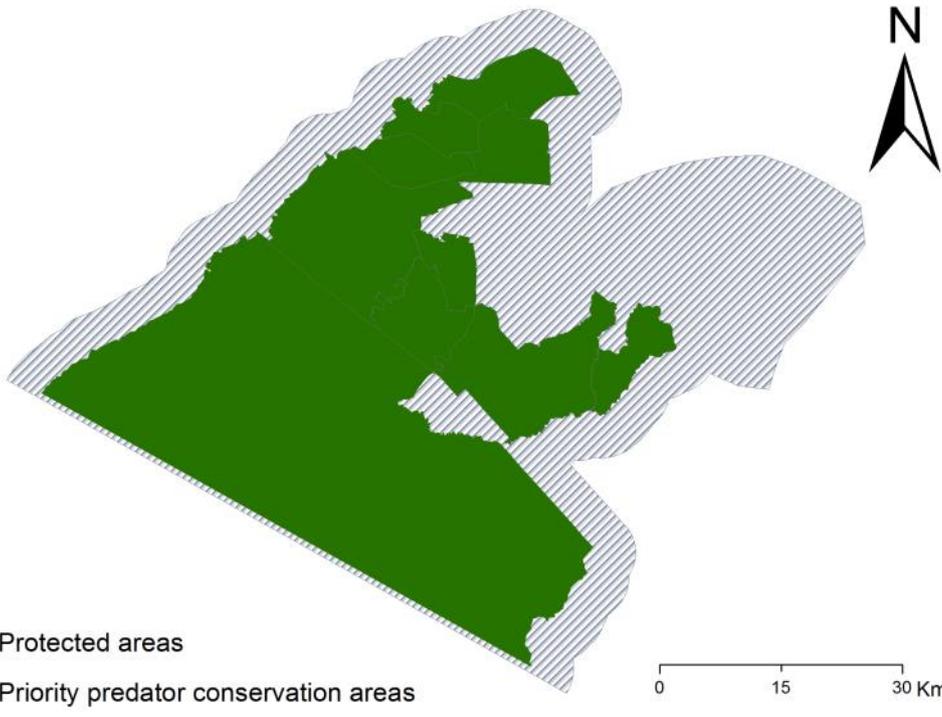


If grasslands outside of protected areas are poorly managed, this could lead to increasing pressure on protected areas and a subsequent kaleidoscope of linked threats to people and wildlife.



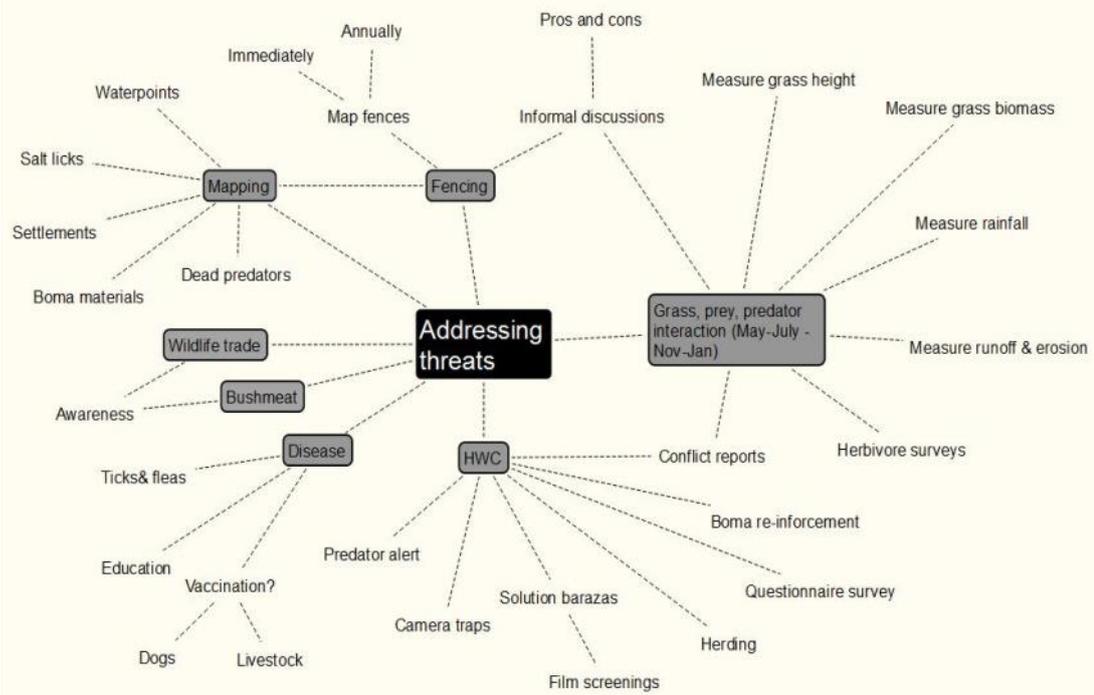
Step 1:

Our primary goal is to conserve the lions and cheetahs within the protected areas. Since they are prone to leaving PA's, we identified priority conservation areas outside of protected areas. This includes a buffer around the PA's and encompasses the loita migration. The buffer is included since lions/cheetahs that predominately reside within the PA's may venture into these areas. The loita migration is included since it is a vital prey route and predators do follow the wildebeest and zebra.



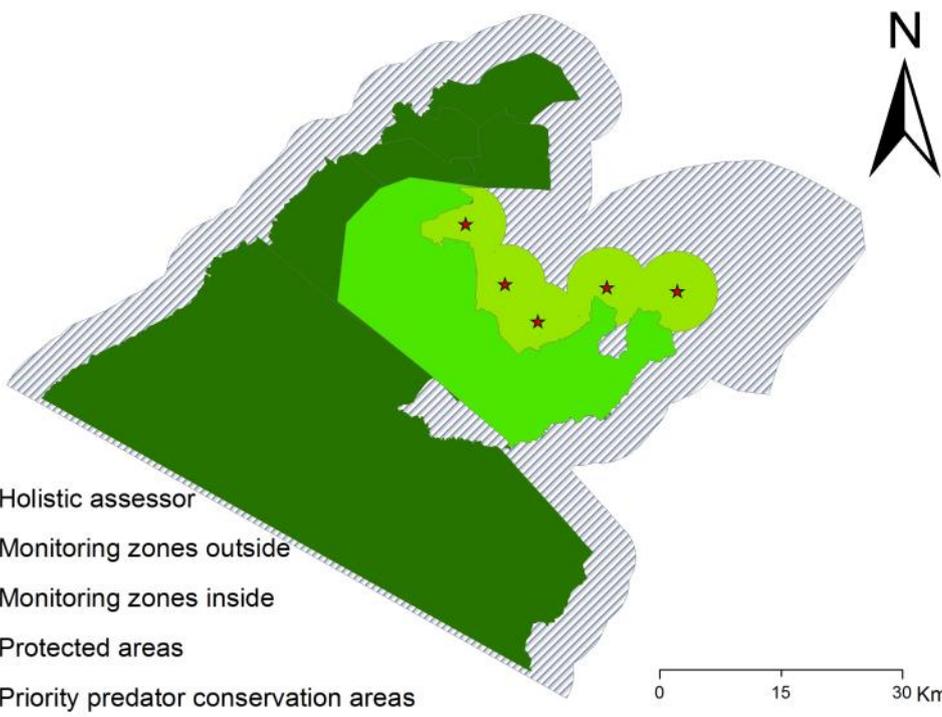
Step 2:

We then set about identifying the primary threats to lions/cheetahs within the protected area and most importantly, the pre-defined priority areas outside the PA's. This exercise not only identified the threats but also outlined how the holistic assessor programme would go about monitoring those threats. The idea is to collect data that will inform both community and wildlife management solutions.



Step 3:

Finally we identified the area of operation for this pilot study. If successful, we will attempt to roll it out over a larger area, but it will start small. Information collected within the protected areas will be compared to that outside the protected areas to understand how the grasslands affect herbivore (wild and domestic) movement and subsequent predator movement. It will also give us some baseline information on the poorly understood loita migration and trends of herbivores and predators throughout.





Meet the team

Dr. Nic Elliot - Principle Investigator

Nic has worked with lions since 2007, focusing his research and conservation efforts on dispersing males. In 2007 he joined the University of Oxford's WildCRU and returned to his native Zimbabwe to conduct a PhD on the ecology of dispersal in lions which he completed in 2013.



Michael Kaelo - Chief Community Officer

In 2005 Michael joined Kenyatta University for a BSc. in Environmental Studies and Community Development. In January 2012 Michael started an M.A in Environmental Planning and Management at the University of Nairobi after which Michael joined the Mara Lion Project.



Niels Mogensen - Chief Project Officer

Niels conducted a BSc. in Biology at the University of Aarhus and later transferred to the Department of Behavioural Biology at the University of Copenhagen for his MSc. His fieldwork focused on how the Maasai and their livestock affected lion behaviour.



Dominic Sakat - Community Liaison Officer

In 2007 Dominic was enrolled in the Koiyaki Guiding School, where he attained his bronze KSPGA guiding certificate. Since August 2011 Dominic has been working in the communities of the Mara in an effort to mitigate against human-lion conflict.



Kelvin Koinet - Research Assistant

Kelvin is our newest team member. He has a long pedigree of conservation work, primarily in Kadjiado county, from where he originally comes. Kelvin is currently conducting a Bachelors degree through correspondence from the University of Nairobi.

Internships

Kolua Kikanae

Kolua spent six productive weeks with us at the end of last year. He is a current student at the Maasai Mara University in Narok. Kolua is extremely enthusiastic and put his mind to any task given to him.

The Mara Lion Project encourages the application of local internships and invites applicants to get in touch via info@maralions.org





Acknowledgements

We would like to thank everyone who has supported us so far and especially those of you who are keen to support us in the foreseeable future.

Funding and logistics

In particular we would like to thank AWF, WWF, the BAND Foundation and Basecamp Foundation for their generous provisions. We are extremely grateful to those individuals without whom this project would not function, namely Allan Earnshaw, Nick Lapham, Skip Dunn and Nigel and Barbara Dundas.

Collaborations and partners

We thank the National Reserve Warden, Mr. Maxwell Naisho for his support. In addition, the close working relationship with the Kenya Wildlife Service, both in Nairobi and in the Mara is much appreciated. The conservancy managers have been very supportive, and we would like to thank Richard Pye, Justin Heath, Damian Fison William Hofmeyr and Brian Heath. We would also like to thank various guides and tourists for providing photographs and information relating to lions. We thank the Mara Cheetah Project and camp managers, particularly at Kicheche, Asilia and Salas for their continued support.

