

Mara Lion Project

Quarterly Report

01 April 2015—30 June 2015



KENYA WILDLIFE TRUST

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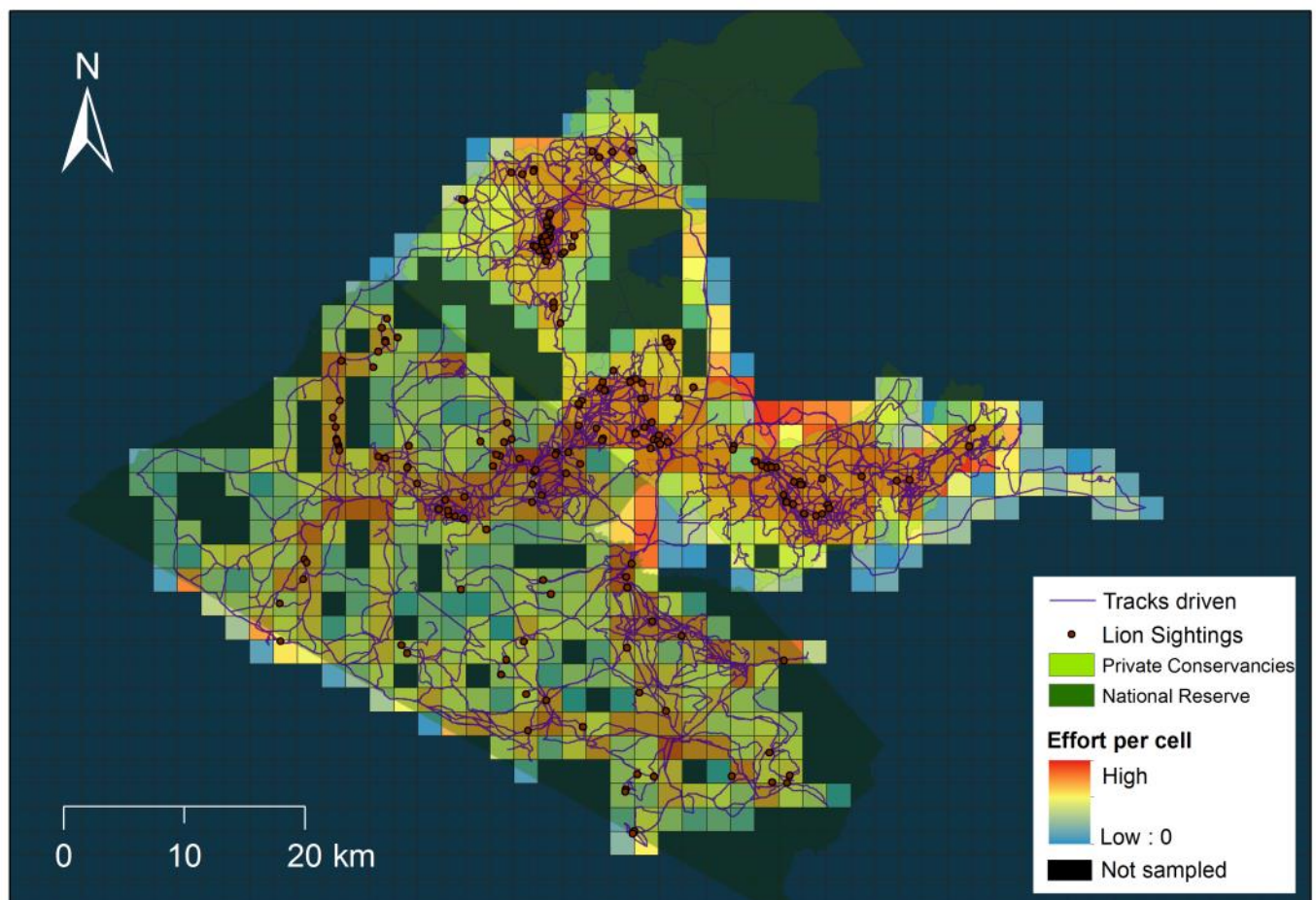
Executive summary

The last quarter was not an easy one for fieldwork. A huge amount of rain (468mm), particularly in April, made for some very sticky situations. The grass took advantage of all the rain, and is over a meter high in many areas. The Mara Triangle and southern part of the National Reserve is covered with tall grass. This is very encouraging and should make for a better migration than has been seen in the last couple of years. The contrast between the grass height inside and outside the protected areas is even more stark than usual. Despite the good rains, the grass outside of the protected areas has remained short, further highlighting the degraded nature of the ecosystem in those areas.

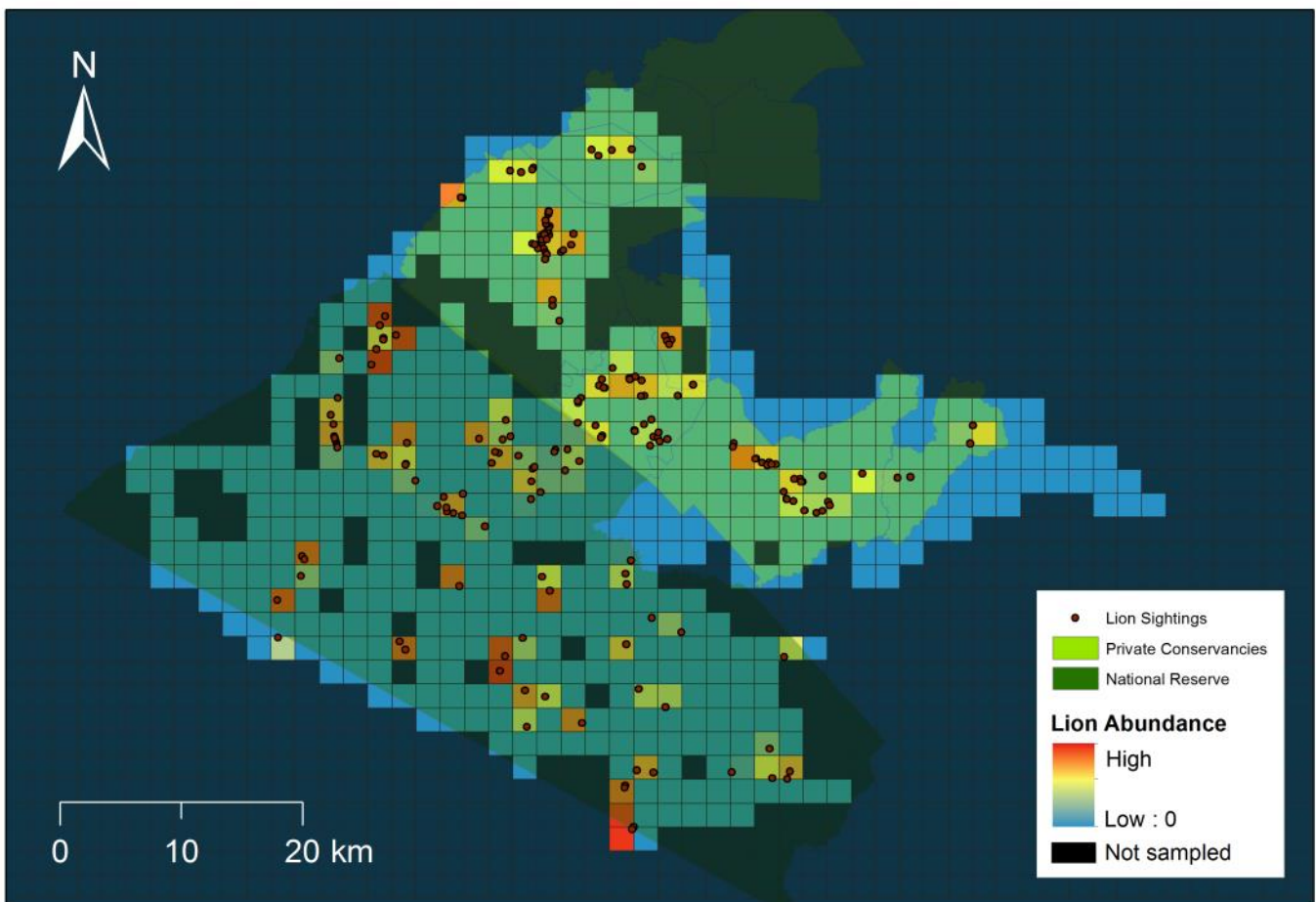
This last quarter was a tough one for lions, with little prey around and unfortunately quite a few recorded deaths. Worryingly the cause of many of these deaths is unknown and in some cases, disease is suspected.

There was also an increase in the number of conflict cases, both with lions and other predators. In one instance, a family lost almost 200 sheep to hyaenas.

During this quarter we completed 176 patrols and drove 9,956 kilometres while recording all predators, people, livestock and vehicles. This map shows all our tracks and is coloured according to distance driven per cell.



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



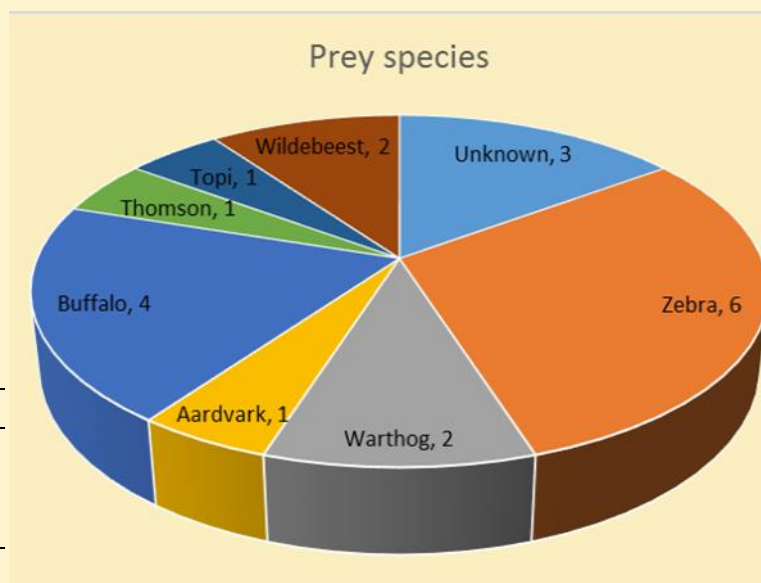
During this quarter we had 218 lion sightings. Below is a breakdown of our sightings for each conservancy and the habitats they were found in. The grass is very tall in most areas, making it difficult to find lions. We also recorded lions feeding on 20 occasions, the most striking being an Aardvark!

Reserve MNC Lemek OMC Naboisho Ol Kinyei

Acacia		8		3	4	2
Riparian	10	1	1	3	3	2
Open Plains	56	7	3		6	1
Woodland			1	12		
Bushes	16	41		10	9	
Kopje	5	2		7		
Whistling thorn				1	4	
	87	59	5	36	26	5

Reserve MNC Lemek OMC Naboisho Ol Kinyei

Short grass	41	47	3	28	23	5
Medium grass	34	9	2	7	3	0
Tall grass	12	3	0	1	0	0
	87	59	5	36	26	5





Biomedical update:

Our biomedical project is starting to gain pace. This is a tripartite collaboration between us (the Mara Lion Project and Mara Cheetah Project), the Kenya Wildlife Service and the Smithsonian Institute. The project has a multitude of aims and objectives, which includes analysis of the genetic make-up of lions, diagnosis of disease and transmission routes, in addition to endocrinology. We were extremely fortunate to receive funding for this project from the BAND foundation and are in the process of developing the programme. In the coming quarter we will continue to equip the KWS research laboratory so that all analysis can be performed within their facilities and with their staff. We are also developing a protocol and plan of action with regards obtaining genetic samples from a large proportion of the lion population. Dr. Suzan Murray and Dr. Warren Johnson from the Smithsonian Institute visited us again this quarter to push things forwards. We had various meetings and charted the way forward over the next 18 months. We also welcome Dr. Patrick Chiyo to the team. Patrick is based in the KWS laboratory and will be performing the lab work.

Borderland Lion Initiative

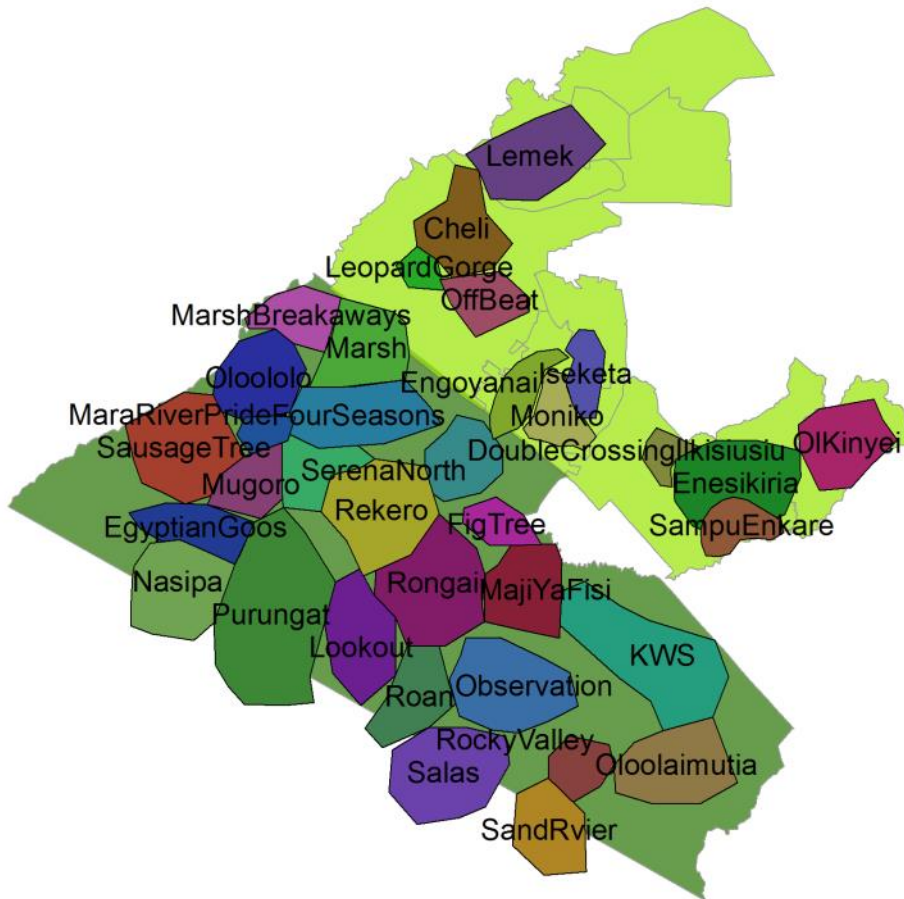
The Mara Lion Project is a part of the Borderland Conservation Initiative (BCI) which aims at conserving lions across the borderland area. During workshops, the BCI identified the Loita forest as a critical corridor for lion and elephant movements. The Loita forest links the South Rift lion population to that of Greater Mara ecosystem and has historically had large elephant and lion populations. The Mara Lion project and Rebuilding the Pride were tasked by the BCI Lion Working group to conduct a preliminary assessment of lions within the Loita Region.



The Loita forest is dotted with openings such as this, where swamps and salt licks draw in herbivores and predators alike.

In accordance with this request the two groups conducted a preliminary rapid assessment survey during the week of April 28th 2015. We based ourselves at Lionel's Hide and very quickly came to understand that the forest is largely intact and contains healthy prey populations. Lion presence is reported and following this initial recce trip, we are planning a more extensive survey of the forest and surrounding plains.

Rough home ranges of female prides

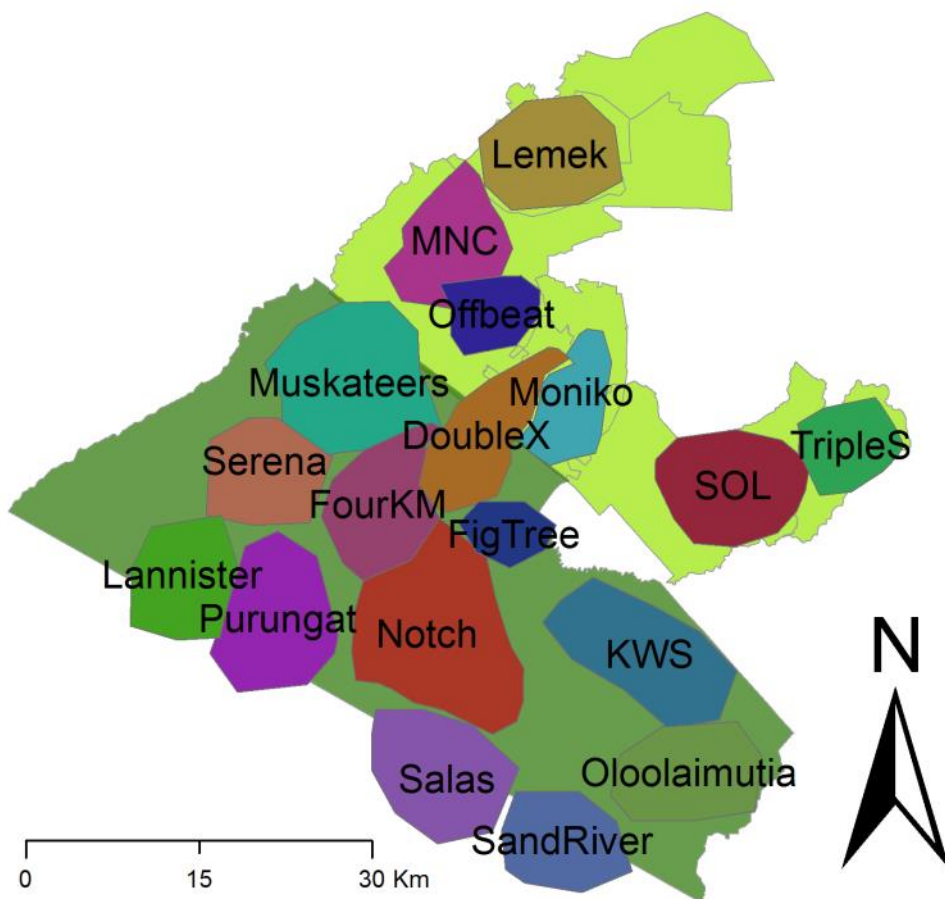


The Mara Lion Project has now been operational for almost two years. During this time we have built up a good idea of all the different prides within the ecosystem.

To date we have documented 35 different prides of females with their cubs and 18 different coalitions of adult males. Then of course there are the dispersing males and females, which are not represented on these maps.

Based on all our sightings over the past two years we drew these rough home range areas for each pride we know. Many prides go by different names depending on who you are talking to, but we have used the most common names.

Rough home ranges of male coalitions



We make no claim that these are actual territory boundaries, since to create those we would need a completely different way of sampling the prides. GPS collars provide the best means for this.

We are also fully aware that some prides are not represented at all. For instance, we know that there are lions in Enonkishu and another pride in the west of Mara North. However, since we have not got enough sightings of those prides we have not included them here.

Each sighting we have, we try to photograph and identify every lion present. With over 700 lions in our database (many of which are dead or dispersed), it is a very daunting task to accurately ID each lion and assign it to the right pride.



Lion Mortalities during the last quarter

During the last quarter we recorded the mortality of 12 lions. Mara North and Naboisho Conservancies recorded the bulk of these, with Olare Motorogi Conservancy losing one lioness. No mortalities were recorded in the National Reserve.

A four month old cub from the Sampu Enkare pride (Naboisho) was found dead by Naboisho guides on 11th of April. Upon examination the next day, we deduced that she had most probably been killed by other lions or hyaenas. She had a puncture mark in her neck, most probably caused by a canine of another predator.

A lioness called Spot from the Enesikiria pride (Naboisho) died on the 28th of April of an unconfirmed condition. On the 25th she was seen moving in an uncoordinated and dissociative manner. She was stumbling and falling and unable to stay on her feet. At first, poisoning was suspected, but since she was not vomiting or convulsing, this was ruled out. KWS vet, Dr. Limo attended to the lioness, but deemed her too weak to immobilise. Instead, she was hand injected with butasal in the hope of stimulating muscle and nerve activity. Unfortunately Spot just got weaker and weaker and eventually died on the 28th. The good news is that her two 10 month old cubs have been adopted by her companion, Sero.

Seven sub-adult females from the Moniko pride (OMC) have recently left the main pride and are regularly found on the boundary between OMC and Naboisho. This area is quite heavily settled by people and on the morning of the 26th of May, a sub-adult lioness was found dead just opposite the main road to Aitong.

A lioness was found dead by Mara Triangle personnel near to the Kichwa tembo airstrip on the 30th of May. Their report states that she most likely killed by other lions, with the well-known Musketeer, 'Scarface', being the prim suspect.

On the 7th of June one of the old females from the Cheli pride (Mara North Conservancy) was euthanized. The lioness had badly mauled a person resulting in this tough decision. Upon examination of her carcass, we realised that she had a badly broken upper jaw and was likely in very substantial pain, possibly resulting in her increased aggression.

A six month old female cub from the Cheli pride (MNC—pg.7). She was one of seven cubs that died after becoming inexplicably paralysed in early April. This cub clearly hadn't moved for a couple of days and had an ants nest being built on her stomach. Despite attempts to help her, she died the day after this picture was taken. Five other cubs from the same pride were also affected but managed to recover.





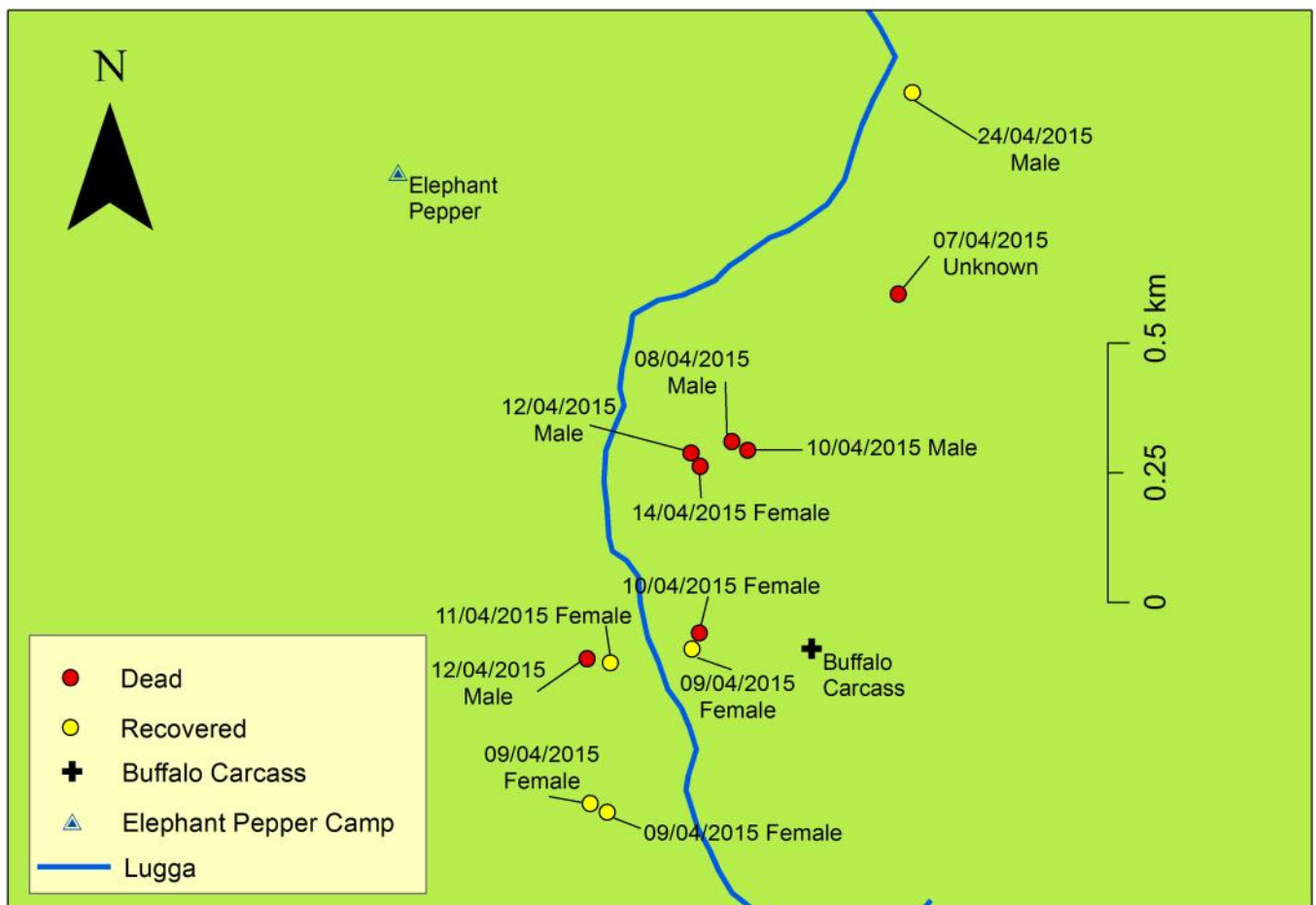
Lion Mortalities during the last quarter

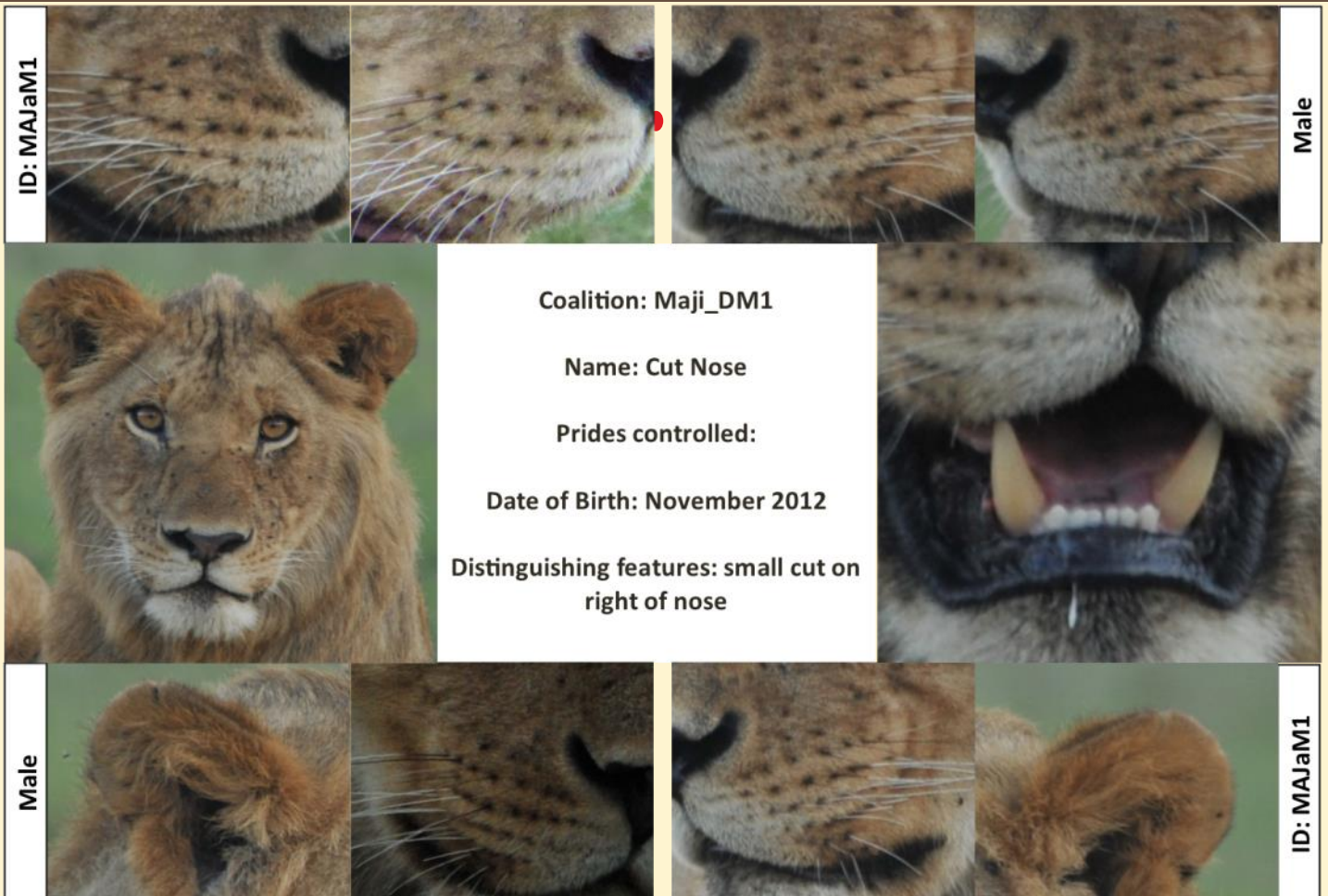
At the beginning of this quarter we witnessed a heart-breaking scene that affected 12 cubs from the Cheli pride (MNC). On 7th April we received a report from MNC that a two month old cub was assumed to have suffered a broken back due to a buffalo (the pride were feeding on a buffalo nearby). The cub died shortly thereafter and the following day we received another report that other cubs were in a similar condition.

We arrived at the scene to find 11 cubs, one of which was dead, while the others were all inexplicably experiencing paralysis to a greater or lesser extent. The other 10 were spread out over 1.5kms and in varying states of recumbence. Some were completely immobile, while others had some movement in their top half. On 9th April, KWS vet, Dr. Limo attended to the cubs and administered Butasal, Amoxicillin, Dexamethasone and Acaricide. Three cubs started to recover that day and were seen walking by the evening. A further cub recovered on the 11th. As the days went by, the remaining 6 cubs became weaker and weaker and were unable to move, despite attempts by MNC rangers to feed and water them.

By the 14th five more cubs had died, leaving one lone male cub still in poor condition. He managed to crawl into a ditch and remained there for another 10 days, slowly beginning to feed and gaining more upper body strength day by day, before he pulled himself out. We are not

A map showing the location of the 12 affected cubs from the Cheli pride. In total seven died and five recovered, although were still weak and had very poor back leg movement. The cubs mothers were ever present (none showed any similar symptoms) and every morning and evening came in to check on their cubs. The dates show when each cub either died or recovered.





Originally from the Maji Ya Fisi pride in the National Reserve, this coalition of three young males have recently dispersed. We have seen them at Balloon Crossing in the Reserve, after which they came into Olare Motorogi Conservancy, before heading back to the Reserve, where we last saw them at Survey Hill. They are with one of their sisters.



Does anybody know this lion?

Although we have now developed 81 catalogues for all the prides and coalitions that we know, we still regularly see individuals we cannot identify. This young male was seen in Naboisho and Olare Motorogi. He is in the company of two other males of a similar age. Get in touch if you know them.



School wildlife clubs

Good progress was made this month with the wildlife clubs. With support from Basecamp we were able to enrol five schools into the Wildlife Clubs of Kenya programme. Around 150 students eagerly came forward to become members and at the end of the quarter we facilitated the training of the wildlife club patrons. Five teachers from each school attended the training session that was inspiringly led by representatives from WCK. Together with WCK, we have developed a curriculum of activities for the clubs and will actively participate in them. It is our hope that this initiative will foster the appreciation for nature that these children have already shown.



Human-wildlife conflict questionnaire

In order to better understand and respond to human predator conflicts, we designed a questionnaire that helps us gather information on various aspects that relate to human-wildlife conflicts. These aspects include livestock depredation, husbandry practices, wildlife trends,



solutions to human wildlife conflicts among others. We have so far completed over 400 questionnaires and have that many still do to. Once complete, we will use the data to map hot-spots of conflict for the different predators. This will help us, and others, to focus our efforts going forwards. As our community programme develops, the questionnaire, together with the community film, are proving vital aids to giving us a good structure.



Community film

There was significant progress made on the screening of the film and the responses are intriguing. The film is designed to provoke discussion among the community on what some of the perceptions, costs and benefits associated with predators are. The aim of the discussion is to seek community-driven, sustainable solutions to depredation. We have planned for fifty screenings (men and women) throughout the Mara ecosystem and each screening is made up of between ten (10) and fifteen (15) participants who watch the film and discussions steered towards solutions and discussing the plausibility of the major solutions proposed to interrogate their feasibility and sustainability in the area.



Human-wildlife conflict

During the last quarter there has been an increase in human wildlife conflicts that can partly be attributed to the change in predators movement in relation to prey abundance. With the grass in



many areas being very tall, some lion territories are rather devoid of wild prey which may lead to some lions, especially those living on the edge of protected areas, resorting to livestock killing. To highlight just a few, we have had two incidences of livestock massacres by hyaenas during the month of June. The first incidence was at Empoo village in Oloolaimutia where a man lost 200 sheep (90% of which had fetuses) and the second one only days later in Olare orok villages where a man lost 29 sheep to hyaenas (5 more injured will die). Although

these are isolated events, our data shows a significant peak in conflict over this past rainy season.



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 field-work 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.



Kasaine Sankan - Senior Research Assistant

Kasaine has been studying carnivores in the Mara ecosystem since 2008, first with hyaenas and from 2011, with lions. He obtained a Certificate in Wildlife Sanctuary Management and a Diploma in Wildlife Management from the Kenyan Wildlife Service Training Institute.



Questionnaire team

We have temporarily employed ten local assistants who are carrying out the questionnaire survey. Each person was carefully selected based on their qualifications and the area in which they lived. They will be with us for a further two months.



Internships

Francis Sopia

In 2011 Francis enrolled in Zetech College to study tour guiding and later joined university of Nairobi in 2012 to study for a B.A. in Social Sciences. He is assisting with the screening of the predator film, amongst other duties.



Fiona Tande

Fiona holds a B.S in Community Development from Daystar University. She is helping with a cheetah identification software and is also assisting in the creation of a curriculum for the wildlife clubs.





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, 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.

