

MARA PREDATOR CONSERVATION PROGRAMME



QUARTERLY REPORT
JULY - SEPT 2018



KWT
KENYA WILDLIFE TRUST

EXECUTIVE SUMMARY

During this quarter we started our second lion & cheetah survey of 2018, making it our 9th consecutive time (2x3 months per year) we conduct such surveys. We have now included Enoonkishu Conservancy to our study area. It is only when repeat surveys are conducted over a longer period of time that we will be able to analyse population trends.

The methodology we use to estimate densities, which was originally designed by our scientific associate Dr. Nic Elliot, has been accepted and adopted by the Kenya Wildlife Service and will be used to estimate lion densities at a national level. We have started an African Wild Dog baseline study, which will determine how many active dens we have in the Mara, number of wild dogs using them, their demographics, and hopefully their activity patterns and spatial ecology.

A paper detailing the identification of key wildlife areas that fall outside protected areas was recently published.

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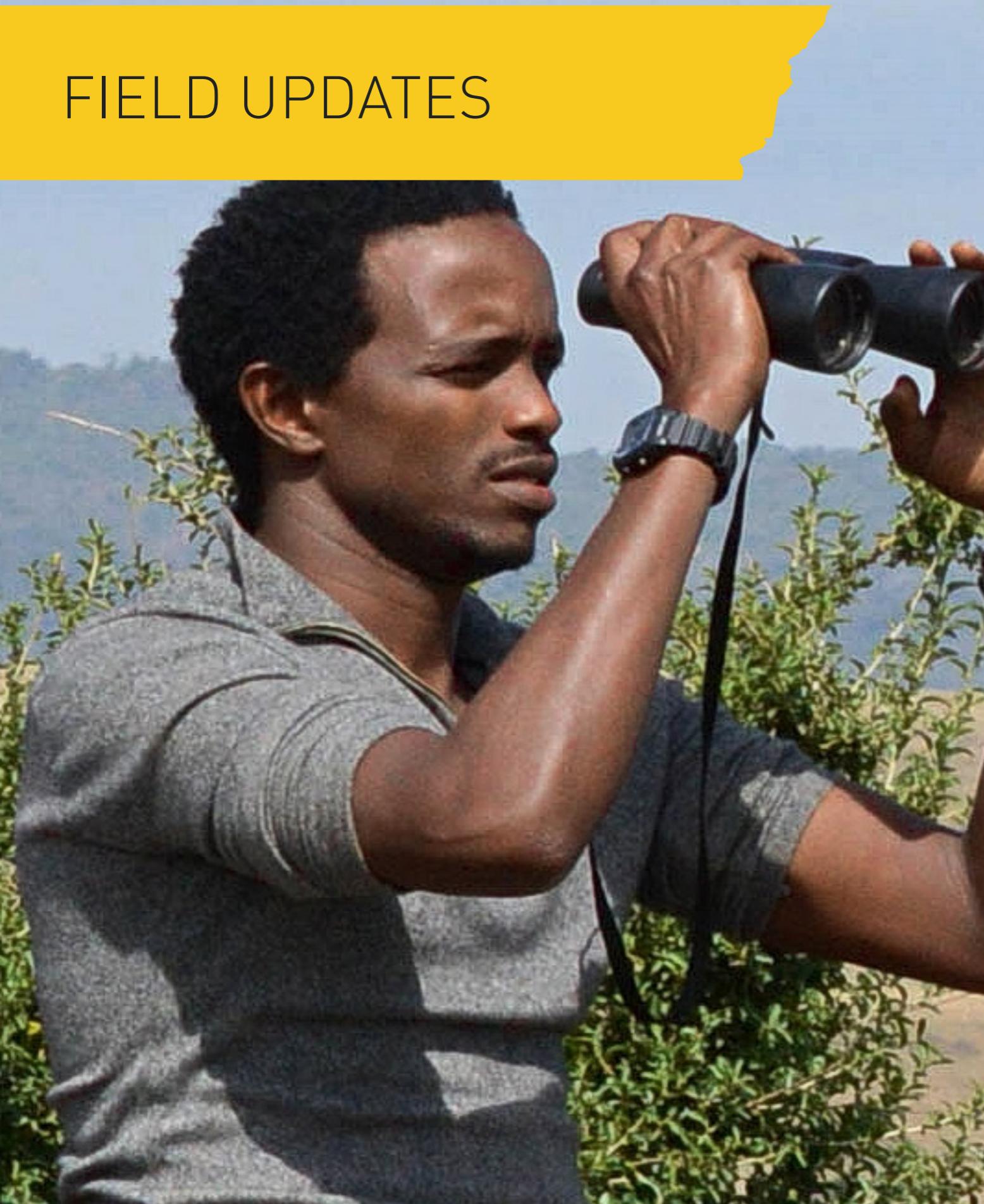
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FIELD UPDATES



INTENSIVE MONITORING

Most of this quarter has been spent focusing on this year's second intensive monitoring period which runs from August to October. This was the fifth consecutive year conducting the intensive monitoring session enabling us to estimate spatial trends in population density of key predator species as well as investigating the relative abundance of important variables such as prey, livestock and tourism.

During this quarter we completed 129 patrols and drove 6,020 kilometers, covering the Masai Mara National Reserve, Mara Triangle and 11 conservancies. We have expanded our efforts into Enonkishu Conservancy.

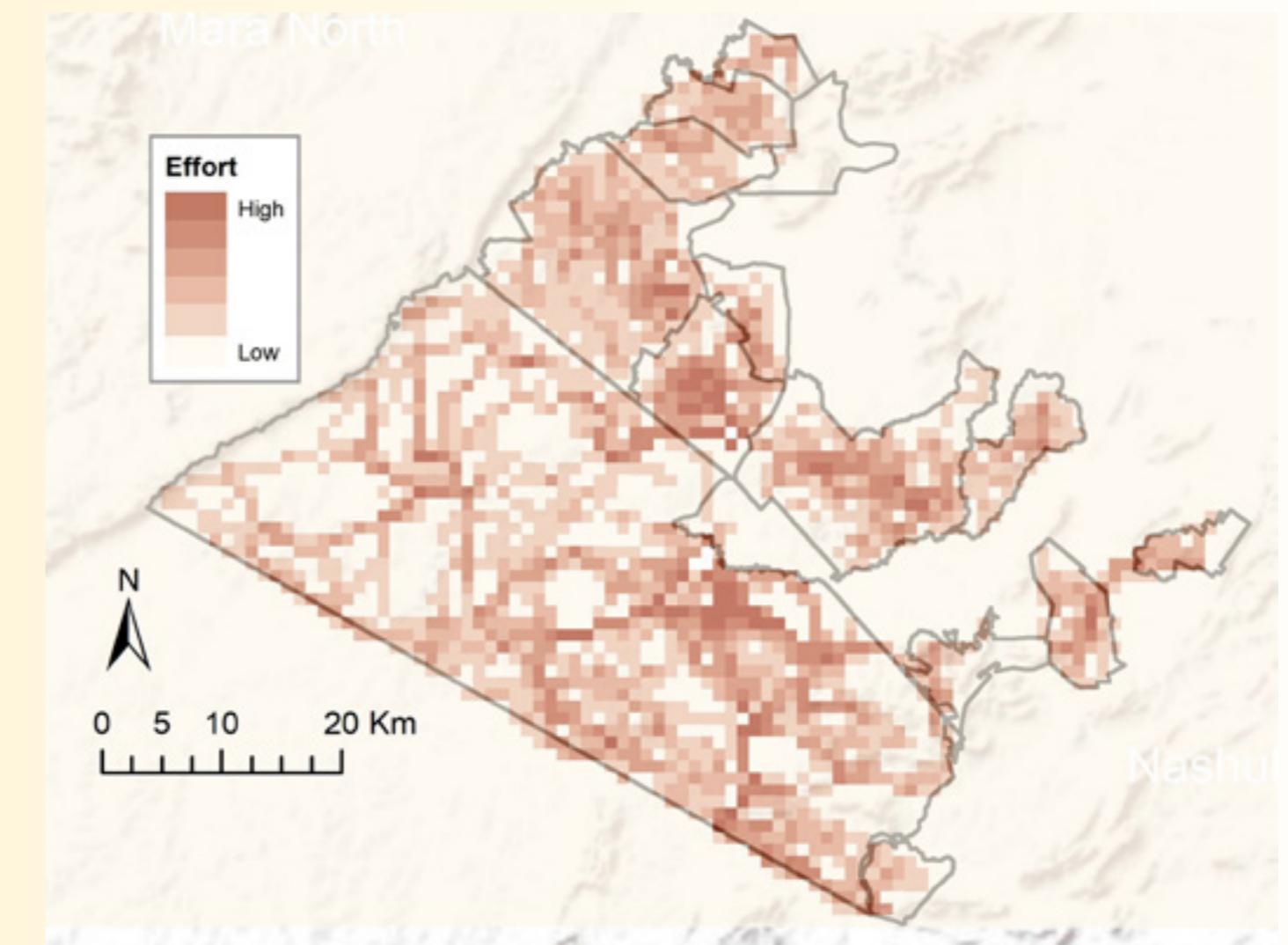


Figure 1. This map shows our effort and is coloured according to distance driven per cell

LION SIGHTINGS

During this quarter we had 170 lion sightings, and the location of each sighting are distributed on the following map and should be viewed in light of the effort map.

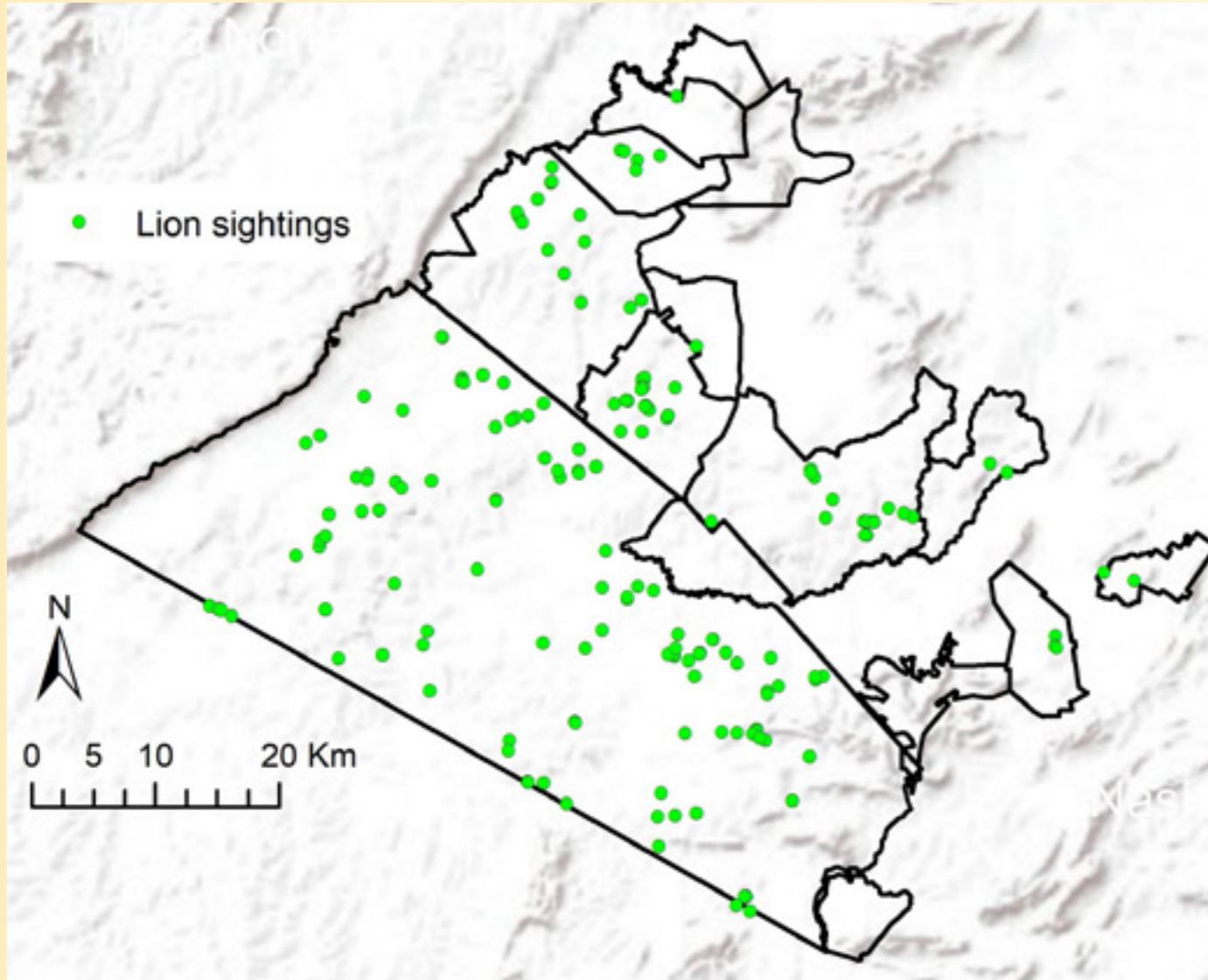


Figure 2. Map showing this quarters lion sightings

CHEETAH SIGHTINGS

We had 76 cheetah sightings during this quarter as shown in the following map. It is noteworthy that we have had more cheetah sightings especially in Mara North Conservancy (MNC) over the years. At least four individual cheetahs have been in MNC this quarter.

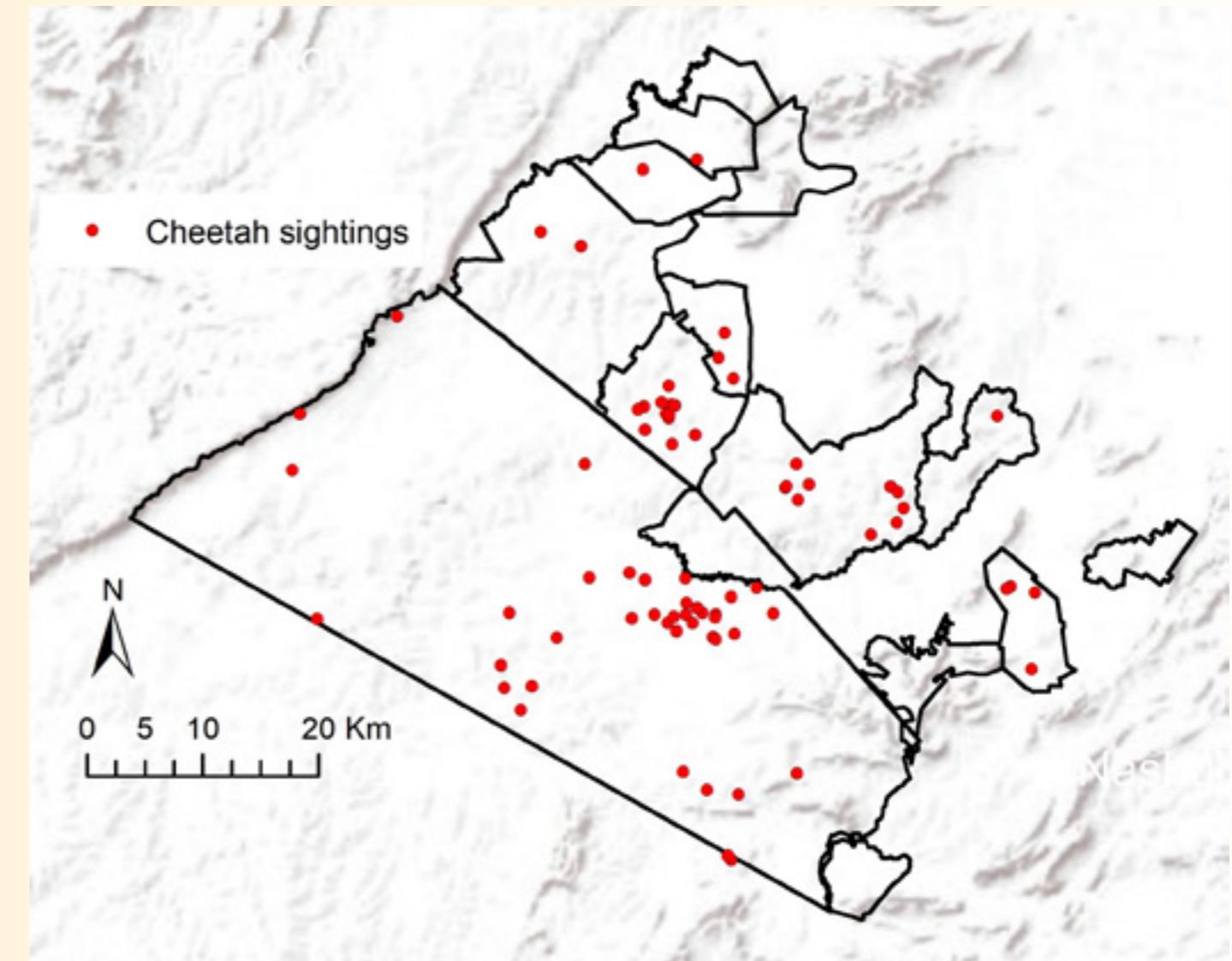


Figure 3. Map showing this quarters cheetah sightings

WILD DOG UPDATE

In July we kicked off a wild dog baseline study, to investigate the current status of wild dogs resident in the Mara and also gaining insight on dispersing wild dogs from the Serengeti.



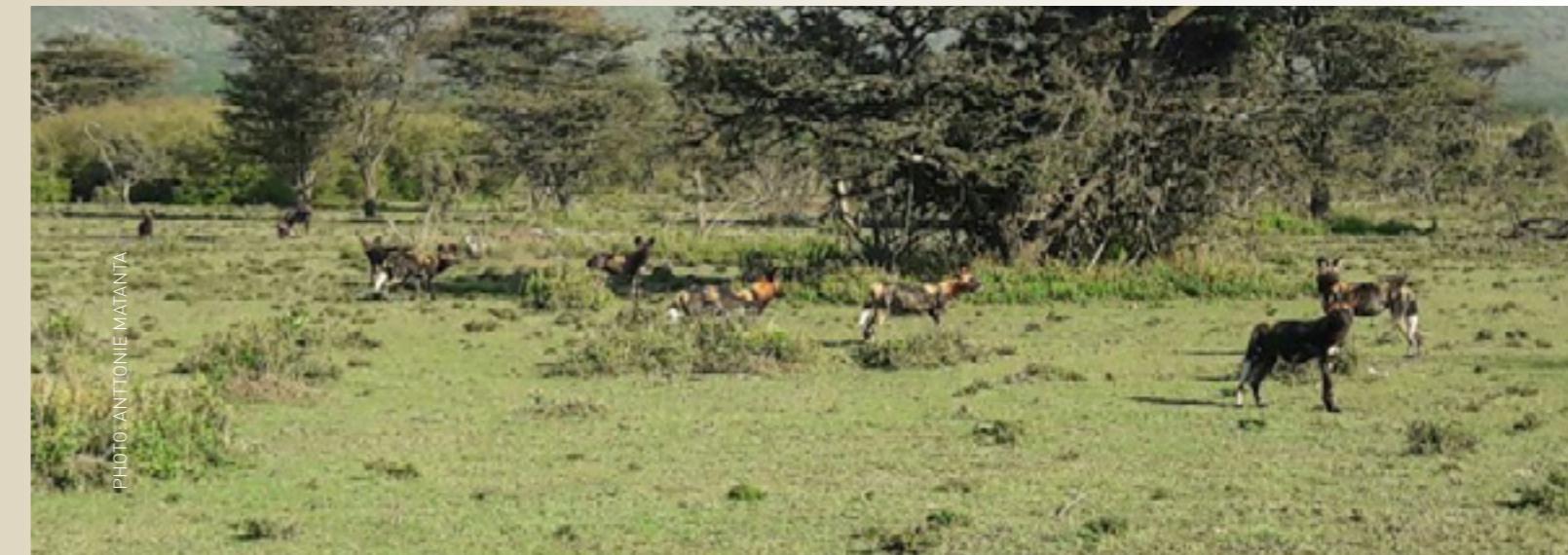
During this quarter, a group of dispersing wild dogs was sighted in Naboisho Conservancy and Olare Motorogi Conservancy on different dates. The group has four adults comprising of three females, of which one had a GPS collar, and one male.



Photo: Four dispersing wild dogs sighted in Naboisho and Olare Motorogi Conservancies

Further, packs of wild dogs ranging from four to 24 individuals have been sighted and reported by rangers and community members around Lemek Hills, Pardarmat Hills and Enonkishu Conservancy. The pack of 24 wild dogs was reported once in Pardarmat Conservancy, and this is something that we are trying to verify. Sighting frequencies in the Lemek Hills by community members and

camp operators are relatively higher. There are potentially two resident packs ranging between Aitong Hills, Lemek Hills and Enonkishu Conservancy, and this is currently being investigated as we are still in the early stages of our field work. Additionally, there are reports of livestock depredation, shoats in particular, within this region which is a potential source of conflict.



A pack of 11 wild dogs sighted recently around Lemek Hill by a local resident

Several potential wild dog dens have been identified, but none are currently active and have supposedly been abandoned by the wild dogs due to encroachment by local people whilst grazing cattle.

Social survey work updates

Following the need to understand human wild dog interactions and conflict, a social survey has commenced to assess any potential conflicts between local people and wild dogs as well as assess perceptions and attitudes of local people towards wild dogs in human dominated landscapes. This will greatly influence decisions on wild dog conservation at the local scale and when we establish active dens, this will together with the survey act as a pointer to where conservation efforts should be prioritised.

Four data enumerators have been identified and trained on how to collect data for the social survey work covering four villages within Lemek region namely: Olkiu, Olchoro, Olkeri and Olturo village.

Camera trap deployment

We have deployed the first infrared motion triggered camera traps around potential active dens to capture data that will facilitate identification of individual wild dogs and their demographics.

DISPERSING MALE LIONS RE-SIGHTINGS

As we continue to monitor predators throughout Mara's protected areas, we come across young dispersing males, especially lions, that have been unsighted for a while and then show up in places where they have not been seen before. A few examples include a dispersing Cheli male from Mara North Conservancy (MNC). He was last seen with his sub-group in MNC in April 2017, and the next time we saw him was in September 2018, alone, 17 months later, between the border of Ol Chorro and Lemek Conservancies. It is not clear if he has been roaming outside the protected areas or not, but seemed to be in good condition, despite being a lone disperser. He is now 3-years-7-months old and looking for females to mate, but his chances of successfully reproducing are slim unless he finds a coalition partner(s).



Cheli pride dispersing male

PHOTO: NIELS MOGENSEN

Three brothers and a sister dispersed from the Salas pride in MMNR mid last year. After eight months of absence, all four lions reappeared in Ol Kinyei Conservancy, moving between there and Naboisho Conservancy. They managed to stay out of our radar for four months until showing up again, this time in MMNR where safari guests and the MPCP team sighted them, but this time without their sister. The three males are now three years old and time will tell if they will manage to take-over a pride.



PHOTO: MARYANN IMGA

One of the three dispersing males in MMNR

PREDATOR MORTALITIES

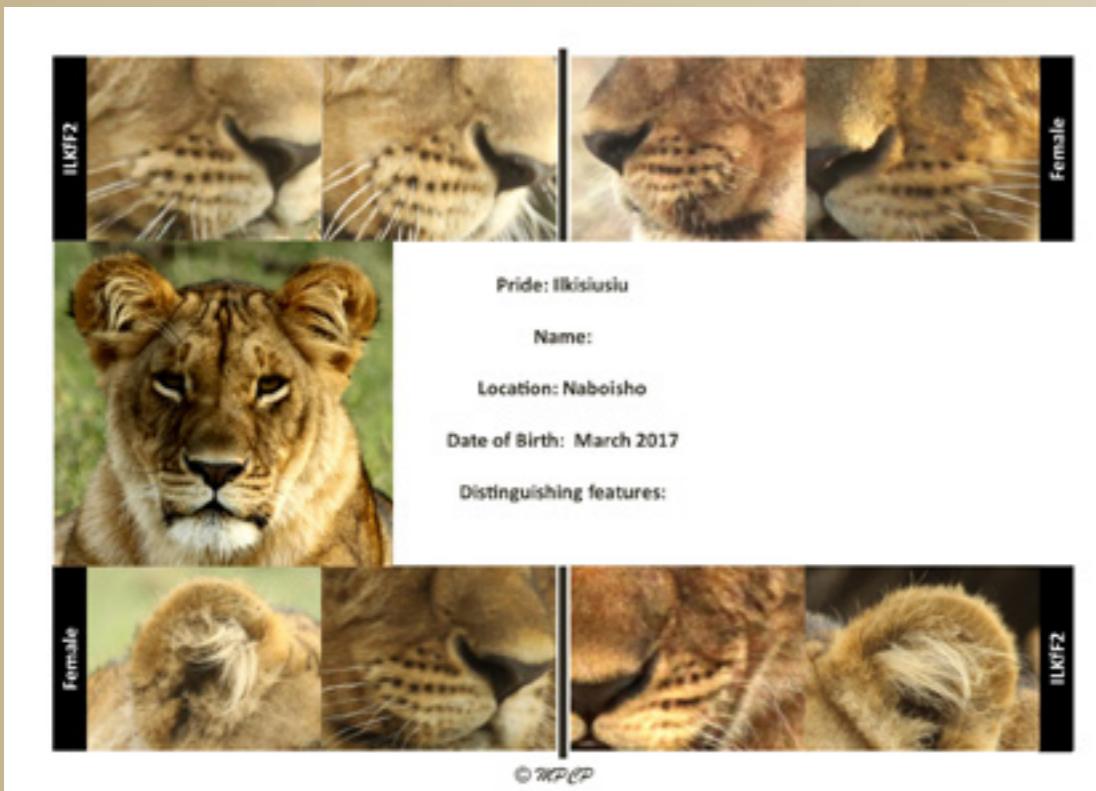
Lion Mortarities

4 lions > 1 year old are known to have died during the last quarter.

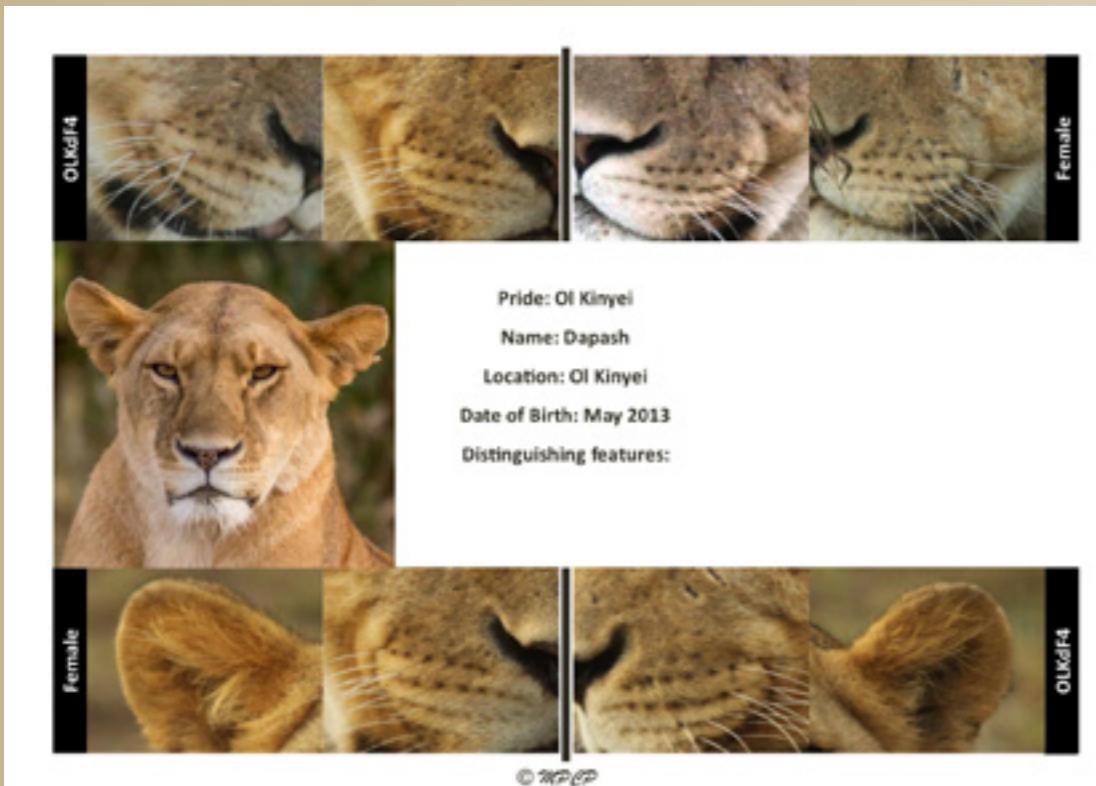
An older lioness from the Porini pride was found severely injured after being attacked by four lionesses from the Fig Tree pride. The Porini pride and the Fig Tree pride overlap extensively and the Porini female was in the wrong place at the wrong time. She was in oestrus and wanted to be mated by the pride males that control both prides. A guide reported that the lion died within 45 minutes of the attack.

A collage of various photographs of lions and cheetahs used for identification. The images include close-ups of faces, ears, and canines. Labels on the images include "ENGaF1", "Female", "Pride: Porini Pride", "Name:", "Location: Porini, Double X", "Date of Birth: January 2009", "Distinguishing features: V-notch on the right Ear and visible ear tears on the left and Half broken left Canine.", and "© MPCP".

A 1.5 year old female cub from the Ilkisiusiu pride in Naboisho Conservancy was killed by male lions. She was found dead by conservancy rangers. We are not sure who killed her, as we have not been seeing intruding males in that specific part of Naboisho Conservancy.



An Ol kinyei pride female named Dapash disappeared from her pride area, leaving two 5-months old cubs behind, and so we assume that she was killed. A lot of elephants were reported around the area at the time she went missing. To our surprise, the pride male coalition looked after the cubs before they were adopted by her sister Retoe, after she gave birth to her own cubs (see more on this story below). Retoe is now the last remaining adult of the Ol kinyei pride.



A 1.5 year old male from the Observation pride was killed by dispersing males from the Roan Hill pride. The Observation pride has currently no pride males, after Earless and Boxernose left the pride. The pride females have managed to keep the intruding males from the rest of the cubs for now.

Documented infanticide

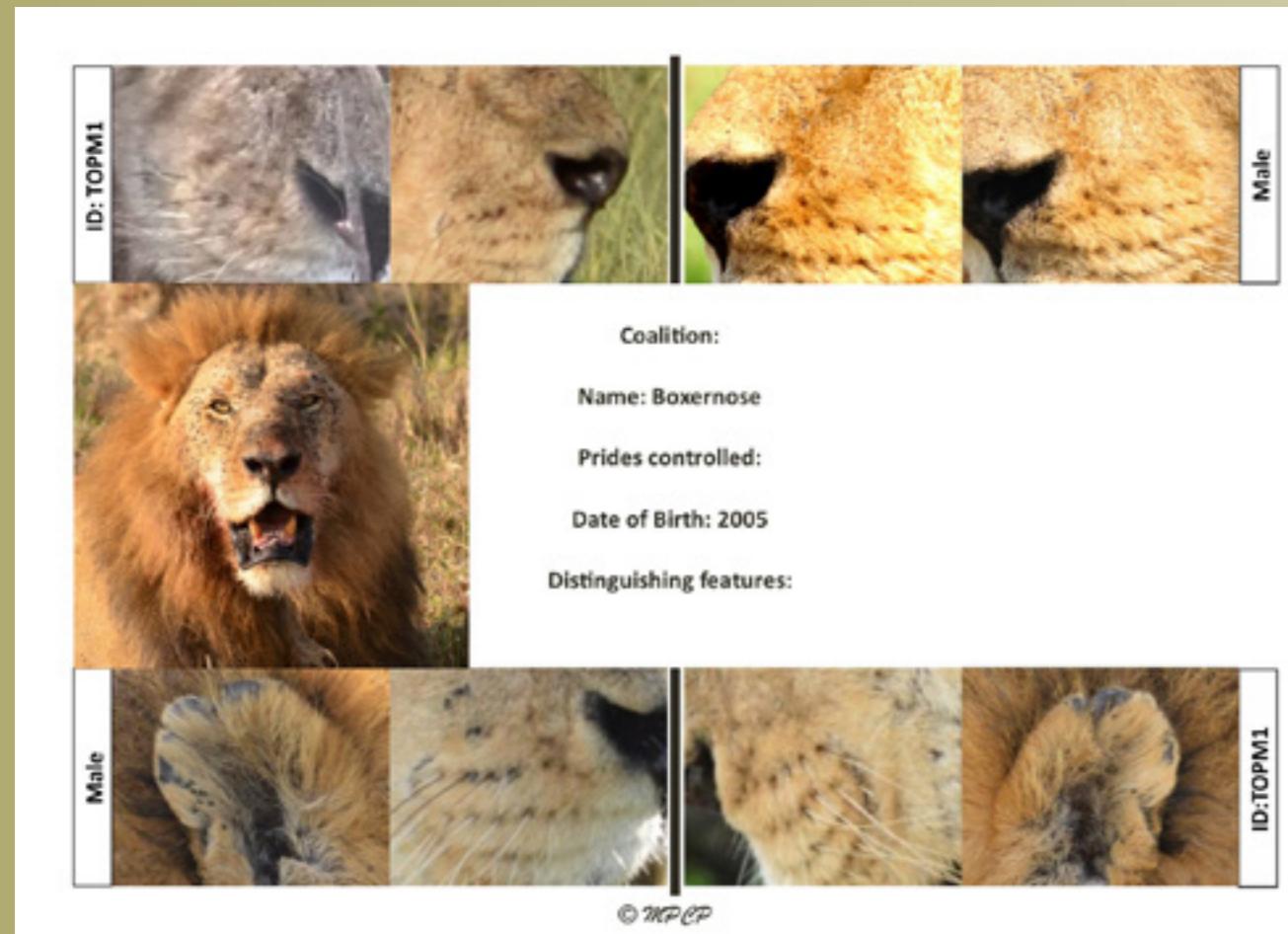
Three cubs belonging to a Cheli pride female in Mara North Conservancy (MNC) were killed by the neighbouring Offbeat pride males, who are looking to expand their territory. The Cheli pride males are busy protecting cubs of the main Cheli group and have a large area in MNC to keep track of. Although it may seem quite disturbing to witness, it's normal and natural in lion ecology. Males want to spread their genes as much as they can, and by killing the cubs the female will come into oestrus relatively quickly. Infanticidal males will stick around and wait for this, and if they are not chased away by the pride males, they will mate and sire new cubs of their own.



The Offbeat male behind the infanticidal attack

Escaping death

The iconic 14-year old male lion named Boxernose was severely injured close to the Talek area, after being beaten up by the two Morijo males. Earlier this year Boxernose separated from his coalition partner Earless after being attacked by the Hammerkop male coalition. Boxernose was injured and we found him in a bad state inside Naboisho Conservancy, where he recovered from his wounds. He later went to Ol Kinyei Conservancy for a spell and then disappeared, before showing up yet again in the Reserve. He later re-united with Earless but they did not manage to stay together for long. Boxernose was once again alone, fending for himself trying to stay out of other males' way, yet probably still looking for females to mate, until he eventually got beaten up once more. He miraculously recovered from his injuries and has since been sighted by tourists in MMNR.



Cheetah motarities

Every year during the wildebeest migration, there is a cheetah influx in the Mara. This is primarily because of food abundance, which some cheetahs have adapted well to. Since the 2016 migration season, we have been seeing a big male cheetah who was named Keekorok male, along the Kenya-Tanzania border. Last year we saw him just once in August, and we've been looking forward to seeing him again this season. Unfortunately, he was found dead by Hammerkop area in the Reserve in August. Dr. Limo from Kenya Wildlife Service examined the carcass and discovered bite wounds on the cheetahs belly and neck, most likely inflicted by lions.



Image of Keekorok male when he was found dead

INTERESTING LION STORIES

OI Kinyei Conservancy

Two five-months old cubs lost their mother Dapash, who was potentially killed by elephants. The owners of Porini Cheetah Camp (PCC) have been following them closely and have been updating MPCP on a regular basis on the happenings. Almost three weeks had passed since the mother's disappearance and they were always seen alone, but the cubs were not losing too much weight. We speculated how they were surviving, until it was reported by PCC that the pride males were letting them feed on their kills, and also interacting with them. It is possible that Dapash's sister Retoe, who was due to give birth, was also feeding them from her kills, but this was never observed. A few weeks later, Retoe had given birth to her own cubs and Dapash's cubs were seen with Retoe. It seems that Retoe has adopted the cubs and letting them feed of her kills.

It is uncommon for fathers to care for orphaned cubs but at five months of age cubs are already quite resilient.



Dapash with her two cubs

PHOTO: NIRMALYA BANNERJEE



The two cubs after the loss of their mother

PHOTO: NIRMALYA BANNERJEE

Maasai Mara National Reserve



Injured Oloolaimutia pride cub

Earless later joined the two males (originating from the Offbeat pride) controlling the Oloolaimutia pride. We later found that Earless had tried killing one of the Oloolaimutia pride cubs and was thereafter kicked out by the coalition males. He has been a master at finding and being accepted by other male(s).

The four Hammercop Nomads, who are originally from the Mugoro pride in the Mara Triangle, and a male named Long Face (an older brother to the Hammercop Nomads), who was evicted from the Rongai pride, are trying to take over some of the KWS pride females. This pride is a large with eight females and 16 cubs and it is hard for the two Paiya males that control them to keep off the intruding males, as the Paiya males also control the Maji ya fisi pride that has four females and six cubs. The intrusion of the Hammercop nomads and Long Face is probably the reason behind the serious injuries that some of the KWS cubs have sustained.



One of the injured KWS cubs

Earless and Boxernose separated and left the Observation pride in which they were controlling, after they fought with the Hammercop boys earlier this year. Ever since they split, the Observation pride has been roaming vast areas of MMNR. The four pride females have tried their best to protect the cubs but without any pride males to fend off intruding males, things have been tough. During this quarter we have sighted only three females and one out of the twelve cubs they had. They are currently in the Salas area where they are surrounded by other prides and male coalitions including the Salas pride, Roan Hill pride, Rocky Valley pride, Rocky valley males, Roan hill dispersing males and other dispersing males.

Mara Triangle

The Mara triangle has four new males that we think are from the Serengeti. These males are trying to take over the Nasipa pride. The Nasipa pride males, who we call the Ngiro Are males, have not been seen around and have probably been pushed away by the four young arrivals.

The Angama pride, who were initially using the Oloololo gate area has moved quite a distance into the area close to Ngiro Are. This is probably attributed to the fact that the wildebeests came late and utilised the area mostly around the border. The Angama pride of four females and eleven cubs has pushed the Sausage pride and Ngiro Are breakaways further south.



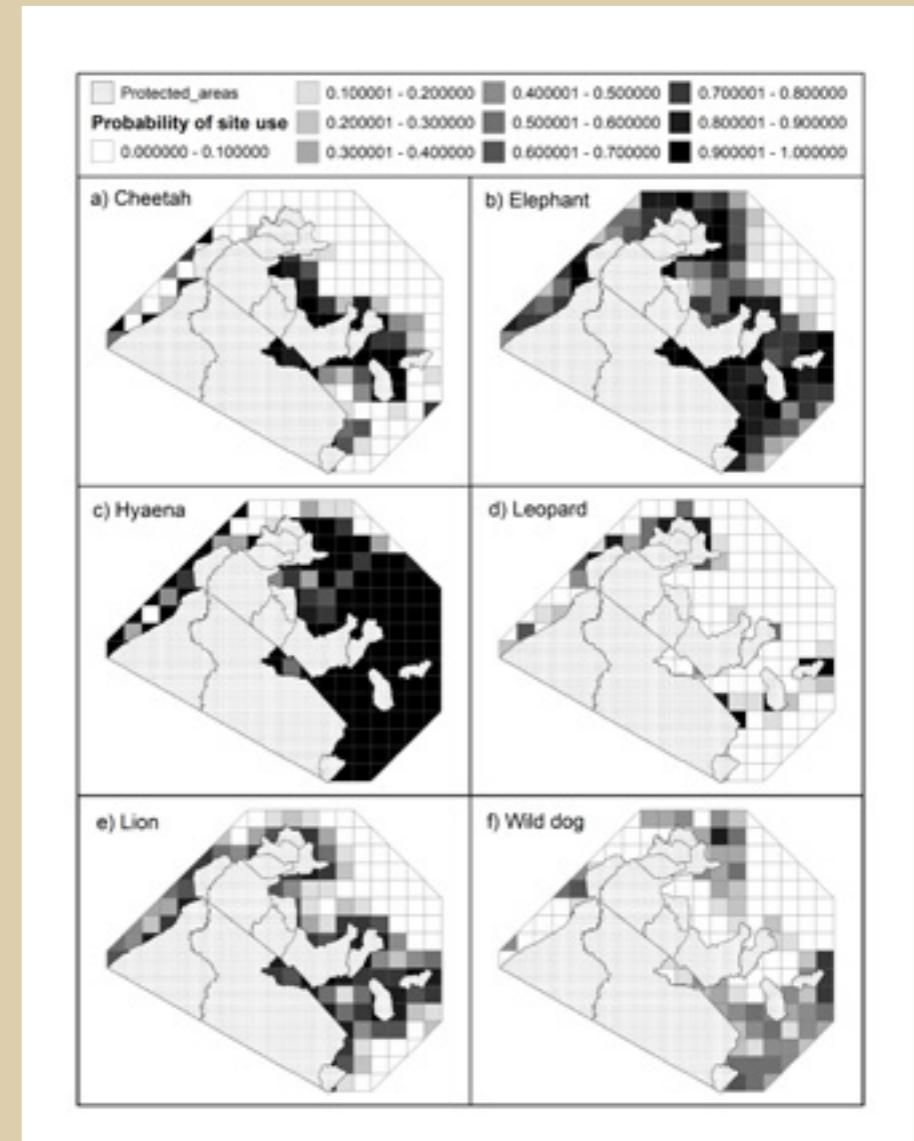
One of the four new Mara Triangle males

PHOTO: NIRMALYA BANERJEE

Publication on multi-species site use outside Masai Mara's the protected areas

A scientific article was published by a study led by MPCP former student Emily Madsen. The paper identifies key wildlife areas using false positive site-occupancy modelling based on presence data for cheetahs, elephants, spotted hyenas, leopards, lions, and wild dogs *Lycaon pictus* collected through interviewing 648 people living outside protected areas. All species, except hyenas, preferred sites closer to the protected areas but site use varied by species depending on habitat type. All six species avoided human presence.

Leopards, elephants, lions and wild dogs preferred sites closer to rivers. The combined map for the six species highlights areas that could potentially benefit from conservation efforts, including the expansion of wildlife areas, and areas where human development, such as a newly tarmacked road, could have an impact on wildlife.



Map: Probability of site use for the cheetah *Acinonyx jubatus*, elephant *Loxodonta africana*, spotted hyaena *Crocuta crocuta*, leopard *Panthera pardus*, lion *Panthera leo* and wild dog *Lycaon pictus* outside the protected areas of the Maasai Mara. Sites (grid cells) are 5 x 5 km.

Original article: Madsen, M. & Broekhuis, F. (2018) Determining multi-species site use outside the protected areas of the Maasai Mara, Kenya, using false positive site-occupancy modelling. *Oryx*. <https://doi.org/10.1017/S0030605318000297>



COMMUNITY UPDATES

COMMUNITY BARAZAS

Our community barazas are aimed at holding discussions with the people who live and interact with wildlife in the Mara. The conversations revolve around various topics related to conservation, coexistence with wildlife and shaping the future of the shared resources. We also use this as a platform to screen our film "Tenkaraki Ilowuarak" which aides us in creating awareness on the various opinions of people towards predators and encourage dialogue in addressing various challenges facing people and wildlife.

Between 5th and 11th September, we held five barazas in Endoinyo erinka, Laila, Enkejien, Saparingo and Marariantia. The barazas were attended by more than three hundred participants who got to watch our film and engage in discussions on various topics. The participants were both male and female and children were also allowed to take part during the film screenings.



WILDLIFE CLUBS

Some of the topics of discussion included:

- human wildlife conflict
- fences and grass management
- predator sightings especially lions and wild dogs
- wildlife poisoning,
- livestock protection e.g predator proof bomas and lion lights

There were varied opinions amongst participants from the different areas visited.

Below are some of the reactions by people from Laila (North West of Enoonkishu conservancy):

- elephants and leopards were identified as major conflict animal with elephants destroying crops and leopard killing livestock
- the use of lights at night was identified as common deterrent used to protect livestock from depredation by predators
- they complained that despite the area having many predators, they were not getting any benefits from tourism

Participants from Enkeju Enkoirien (adjacent to Olare Motorogi conservancy) praised the efforts put towards coexistence through conservancy grazing management. They also highlighted the various benefits they have received.

It is through such barazas that management recommendations can be made to address the mosaic of views and opinions that shape conservation in the Mara.



Our six wildlife clubs are striving well. We managed to carry out activities as planned. Our goal is to educate and excite the next generation about wildlife, ecotourism, and the importance of a balanced and healthy ecosystem. Dominic (our Community Outreach Officer) visited clubs on weekly basis to interact with the members and carry out activities together. Among the activities carried out include conservation talks, clean ups and a visit by Earth Watch team from USA who got a chance to interact with one club where they were entertained through conservation songs, poems and played football together.

The main activity done this quarter was Art Competition. The theme or the competition was "savannah sunset". Apart from nurturing talent of young learners we also want them to appreciate nature and the natural beauty of their landscape. The competition brought together one hundred children from the six schools.

After the art competition, we brought together all the wildlife club members to celebrate this year's achievements. Over 300 members attended the celebrations where each club got a chance to present a conservation themed item in form of songs, poems and role plays.

We look forward to continue to work with the clubs in future.



MEETINGS AND WORKSHOPS

Lion Recovery Fund visit

In September we were honoured to host the Executive Director of the Lion Recovery Fund at the Tony Lapham Predator Hub. We were able to demonstrate our field and community activities as well as have in depth discussions on their work and lion conservation in Kenya and across the continent.

Indian government delegation visit TLPH

Also in September we hosted a delegation from the wildlife and forest departments of the Government of India at the TLPH, led by Professor Okello from Moi University. The aim of their visit was to draw lessons on Human Wildlife Conflict (HWC) mitigation strategies employed by the team across the Mara as well as share their own experiences from India. This was a great honour as Mara Predator Conservation Programme (MPCP) was one of the Kenyan programmes selected as part of a knowledge exchange exercise. After a presentation, we were able to take them to the site of one the recycled plastic poles bomas at Enchorro o Sidan.

Collaborative Research meetings at the Mara

This past quarter, we have hosted several meetings at the Tony Lapham Predator Hub focusing on the Mara's research agenda. These meetings brought together local and international stakeholders, all with an interest in the Greater Mara Ecosystem. Key on the agenda was ways in which the different researchers and institutions represented in the Mara can foster collaboration and ensure that their research outcomes advice conservation across the ecosystem.

Represented at these meetings were; Kenya Wildlife Service, Maasai Mara University, Mara Elephant Project, Mara Raptor Project, Smithsonian Institution, Colorado State University, Maasai Mara Science & Development Institute (through University of Aarhus, Denmark), Michigan State University (through The Mara Hyena Project), Maasai Mara Wildlife Conservancies Association and The Peregrine Foundation.

Following these meetings, we look forward to a Mara research symposium in early 2019.



CHEETAH POPULATION DISTRIBUTION



As part of our monitoring efforts we record new adults, cubs that become independent of their mothers, births, and mortalities

Adults

This quarter we identified five new male cheetahs. In the Masai Mara National Reserve, we observed a coalition of two males (pictured above) around Sopa area and a young male in Pose Plains while in the Mara Triangle we observed two more single males. As all five individuals have been sighted during the annual wildebeest migration it is plausible that they are just following the migrating herds.

Cubs

This quarter we saw four females with new litters. In total, 10 new cubs were recorded of which six were still alive at the end of September. We also received reports that a female in Sand River has given birth but this is yet to be confirmed by our team. We also suspect that Rosetta (Roza's daughter) has given birth but this is also yet to be confirmed.

In the past three months we recorded 40 different adults (18 female and 22 male) cheetahs in the study area. The tables summarises the number of cheetahs that our team recorded in each of the wildlife areas in the Maasai Mara between 1st July and 30th September 2018.

Table 1: Cheetah sightings in the Reserve

Gender	Name	Number of Adults	Number of Cubs	Notes
FEMALE	Imani	1	1	Amani's daughter
	Musiara	1	0	
	Miyale	1	0	
	Anashe	1	1	Amani's daughter
	Rosetta	1	0	Roza's daughter
	Siligi	1	2	
	Nolari	1	0	
	Nashipai	1	0	Musiara's daughter
	Sub Total	4	4	
MALE	5 Musketeers	5	-	
	Hodari	1	-	
	Sopa male	1	-	One male seen Coalition mate missing(Could be dead)
	New males	2	-	
	Koka males	2	-	Their territory lies between Maasai Mara and Serengeti by koka hills.3
	Oloololo male	1	-	
	Sub Total	12	-	
	Total	20	4	

20 different adult cheetahs (8 females and 12 males) and 4 cubs were recorded in the Reserve.

Table 2: Cheetah sightings in Mara North Conservancy

Gender	Name	Number of Adults	Number of Cubs	Notes
FEMALE	Amani	1	3	Amani's Fourth litter
	Sub Total	1	3	
MALE	Kiraposhe's sons	2	-	
	Siriwua	1	-	
	Sub Total	3	-	
	Total	4	3	

4 different adult cheetahs (1 female and 3 males) and 3 cubs were recorded in Mara North Conservancy

Table 3: Cheetah sightings in Mara Triangle

Gender	Name	Number of Adults	Number of Cubs	Notes
FEMALE	Naretoi	1	0	
	Sub Total	1	0	
MALE	Triangle males	2	-	
	New male 1	1	-	
	New male 2	1	-	
	Sub Total	4	-	
	Total	5	0	

5 different adult cheetahs (1 female and 4 males) were recorded in Mara Triangle.

Table 4: Cheetah sightings in Nabiosho Conservancy

Gender	Name	Number of Adults	Number of Cubs	Notes
FEMALE	Nebaati	1	2	Naborr's Elder daughter
	Entito	1	3	Naborr's daughter from her last litter
	Selenkei	1	4	Imani's daughter
	Kiraposhe's daughter	1	0	
	Sub Total	4	9	
MALE	Olkinyei males	2	-	
	Sub Total	2	-	
	Total	6	9	

6 different adult cheetahs (4 females and 2 males) and 9 cubs were recorded in Naboisho Conservancy.

Table 5: Cheetah sightings in Olare Motorogi Conservancy

Gender	Name	Number of Adults	Number of Cubs	Notes
FEMALE	Selenkei	1	4	
	Neema	1	0	
	Imani	1	1	Amani's daughter
	Anashe	1	0	Amani's daughter
	Amani	1	3	
	Sub Total	5	8	
MALE	5 Musketeers	5	-	
	EM	1	-	
	Sub Total	6	-	
	Total	11	8	

11 different adult cheetahs (5 females and 6 males) and 8 cubs were recorded Olare Motorogi Conservancy.

Table 6: Cheetah sightings in Olkinyei Conservancy

Gender	Name	Number of Adults	Number of Cubs	Notes
FEMALE	Nebaati	1	2	Naborr's Elder daughter
	Entito	1	3	Naborr's daughter from last litter
	Sub Total	2	5	
MALE	-	-	-	
	Sub Total	-	-	
	Total	2	8	

2 different adult cheetahs (2 females) and 5 cubs were recorded in Olkinyei Conservancy.

Table 7: Cheetah sightings in Olarro Conservancy

Gender	Name	Number of Adults	Number of Cubs	Notes
FEMALE	Naborr	1	0	First record of her in Olarro
	Haribika	1	2	
	Nasha	1	2	
	Sub Total	3	4	
MALE	-	-	-	
	Sub Total	-	-	
	Total	3	4	

3 different adult cheetahs (3 females) and 4 cubs were recorded in Olarro Conservancies.

Table 8: Cheetah sightings in Lemek & Ol Chorro Conservancies

Gender	Name	Number of Adults	Number of Cubs	Notes
FEMALE	Busara	1	0	Amani's daughter
	Sub Total	1		
MALE	-	-	-	
	Sub Total	-	-	
	Total	1	0	

One adult female was recorded roaming between Lemek & Ol Chorro Conservancies.



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