

# MARA PREDATOR CONSERVATION PROGRAMME



ANNUAL  
REPORT | 2023



# EXECUTIVE SUMMARY

**THE ANNUAL REPORT** for the Mara Predator Conservation Programme (MPCP) in 2023 underscores the program's commitment to supporting stable and healthy predator populations in the Greater Mara Ecosystem through the application of scientific evidence for conservation action. The programme is strongly guided by Kenya Wildlife Trust's core values of scientific rigour and a people-centric approach, and MPCP celebrated its 10th anniversary in November.

The Masai Mara boasts Kenya's most meticulously monitored lion and cheetah populations, evidenced by robust and consistent density estimates, and MPCP conducted its 10th consecutive year of intensive monitoring. During the latest monitoring session, the research team recorded 288 lion and 48 cheetah sightings, contributing to an unparalleled understanding of the region's predator dynamics. The updated lion and cheetah densities will be disseminated in the upcoming 1st quarterly report of 2024.

In response to heightened conflicts between the Topi Pride and local cattle, at the behest of the Kenya Wildlife Service, the research team deployed a GPS collar on an adult female within the National Reserve. Additionally, the continuous monitoring of three lions collared throughout 2023 furthers our understanding of predator behaviour and interaction in the ecosystem.

Comprehensive demographic data for cheetahs, including survival rates for individuals in their first year and population survival trends, have been diligently recorded and updated. A detailed

discussion on the challenges facing Mara cheetahs provides valuable insights for ongoing conservation efforts.

During the year, MPCP continued its community engagements aimed at achieving three core objectives: human-wildlife conflict mitigation, community outreach, and conservation education. 32 recycled plastic pole bomas were constructed, 200 livestock herders were trained on livestock husbandry practices, 8 feedback barazas were held with communities and 6 poison response training with 157 community members engaged. In addition, 20 wildlife club schools were recruited with 833 children registered as members, and a wildlife club open day was organized with 1,100 participants taking part.

The livelihood programme has made good strides with a Mara Ecosystem vaccination strategy formulated, community leaders barazas held with over 180 participants reached and a pilot restoration project initiated using mobile bomas at the tip of Mara North conservancy aimed at restoring degraded lands

As we reflect on the achievements of 2023, the MPCP remains steadfast in its mission to advance conservation through the integration of cutting-edge science and community engagement. The forthcoming quarterly report will delve deeper into the implications of our findings, guiding future actions for the preservation of Mara's unique and vital predator populations.

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# PROJECT OVERVIEW

## BACKGROUND

Kenya Wildlife Trust's flagship Mara Predator Conservation Programme (MPCP) was formed when the Mara Lion and Mara Cheetah projects, both established in 2013, were merged in 2018.

Its vision is to be a world-class conservation programme that provides wildlife and conservation managers as well as policymakers with evidence-based, actionable management recommendations and solutions. MPCP's goal is to ensure the long-term survival of the Mara's iconic predators while promoting coexistence through research and collaboration.

## SCIENCE-DRIVEN CONSERVATION OF PREDATORS IN THE GREATER MARA ECOSYSTEM



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## OVERARCHING GOALS



### FOSTERING HARMONY

To help community members and landowners understand and appreciate the role of predators in the ecosystem



### SCIENCE-DRIVEN SOLUTIONS

To ensure that key stakeholders in the Greater Mara Ecosystem consistently utilise sound scientific information to inform conservation strategies



### THRIVING PREDATORS, THRIVING ECOSYSTEM

To support stable, healthy predator populations in the Greater Mara Ecosystem by providing scientific evidence for conservation action

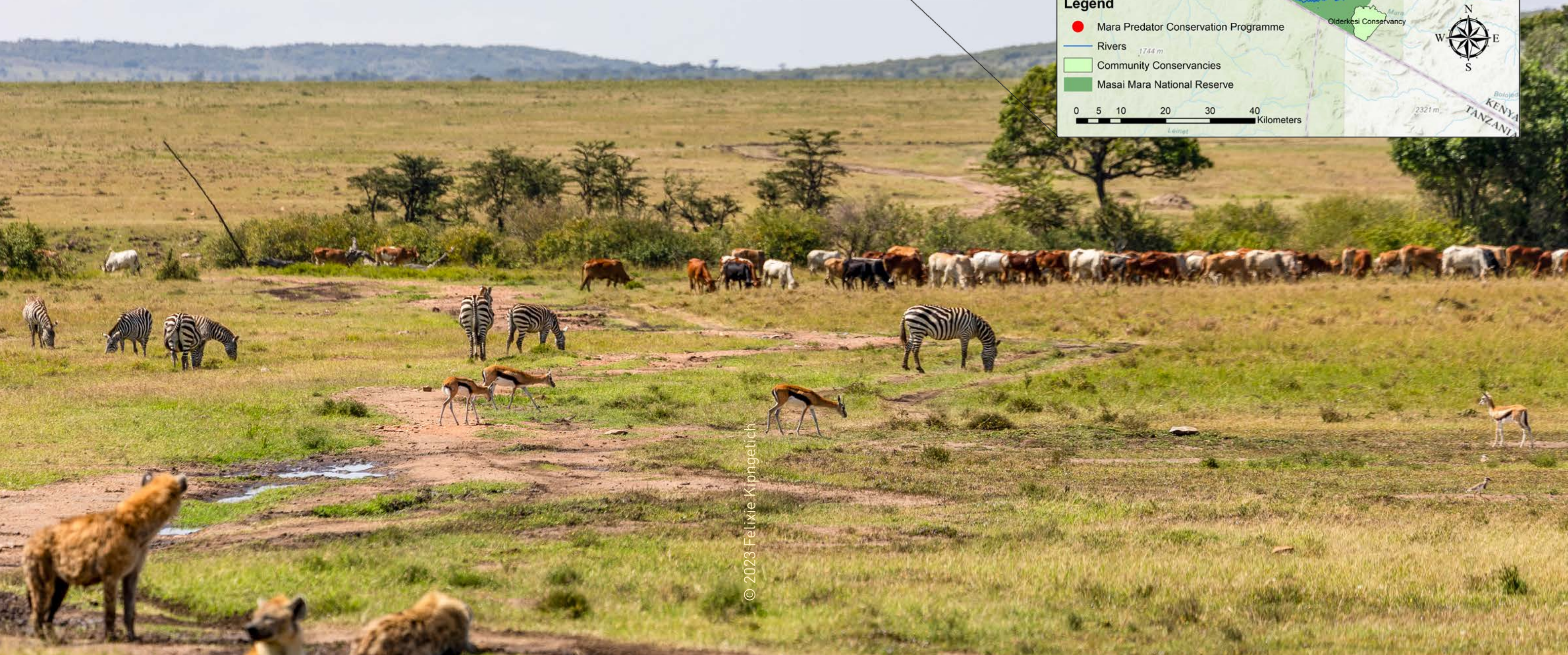
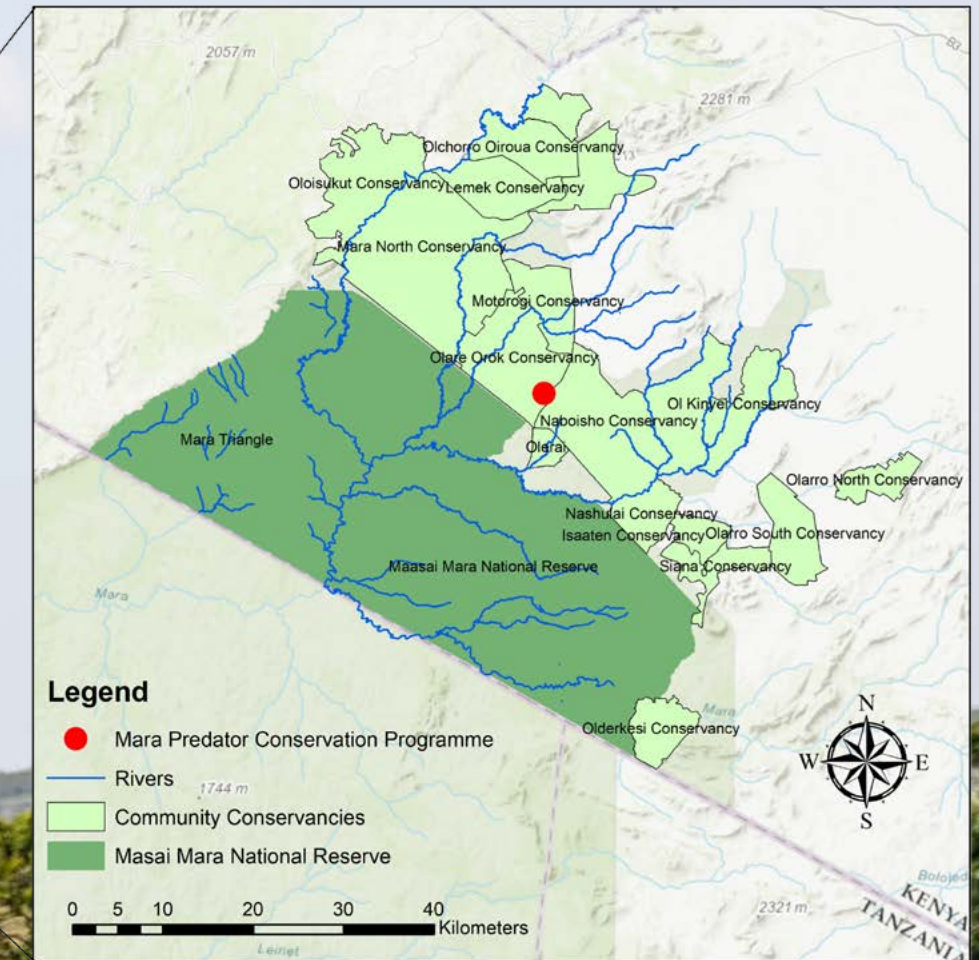


# WHERE MPCP WORKS

The **Mara Predator Conservation Programme (MPCP)** is based at the Tony Lapham Predator Hub in Olare Motorogi Conservancy. Positioned opposite Iseketa boma, our base is very near the border with Naboisho Conservancy. As such, we are perfectly located at the interface between wildlife and the surrounding communities.

Our study area covers the Greater Mara Ecosystem (> 3000 km<sup>2</sup>) in the south-western corner of Kenya. We work in both the National Reserve and the surrounding conservancies. To the south, the Maasai Mara borders the Serengeti National Park in Tanzania, to the north and west it borders intensive agricultural land and east of the Maasai Mara is largely pastoralist settlement. The Programme's Community Team works with the communities around the Mara thereby almost doubling the area that the project covers

# STUDY AREA





# MILESTONES

# IMPACT BY NUMBERS 2013-2023



## A DECADE OF PREDATOR CONSERVATION

The Mara Predator Conservation Programme, Kenya Wildlife Trust's flagship programme (MPCP) was formed when the Mara Lion and Mara Cheetah projects, both established in 2013, were merged in 2018.

Predators are perhaps the central tourist attraction in Kenya, and tourists are increasingly conscious about the long-term environmental wellbeing of the wildlife areas they are visiting. The Kenya Wildlife Trust is advocating a call-to-action to stakeholders, national and international, to work together to secure a stable and sustainable environment for these predators within Kenya's key ecosystems, especially the iconic Maasai Mara ecosystem.

Our ambition is that in a context where key stakeholders have long-term interests in protecting the predators that KWT can lead a discourse of working together for collective impact.



### Catalogues

Over **1,000 lions** catalogued  
**127 cheetah** catalogues



### Lion densities

**18.04 lions/100km<sup>2</sup>** (2022) over the age of 1 year. = **459 lions** > 1 year.



### Lion Ambassadors

**20** ambassadors working with communities in the Mara to enhance coexistence with predators



### Cheetah densities

**0.88 cheetahs/100km<sup>2</sup>** (2022) given as independent resident individuals



### Recycled plastic bomas

**91** Recycled plastic pole bomas (RPPB) across the Mara which is estimated to protect **9,100** cattle or **18,200** shoats from predator attacks.



### Wildlife clubs

**20** wildlife club in **18** primary schools and **2** secondary schools with over **800** members. School children are becoming more involved in conservation related issues



### Community barazas

**72** barazas held so far with over **3,000** participants. From the discussions, people are developing positive attitudes towards predators

### Antipoison campaign

fewer cases of wildlife poisoning have been reported since launch of the campaign which has so far reached over **50,000** people





# RESEARCH UPDATE

## ANNUAL LION AND CHEETAH INTENSIVE MONITORING SURVEY

In 2023, our organization successfully concluded its three-month annual intensive monitoring survey (IMS), a practice upheld since 2014 by the Mara Predator Conservation Programme. This ongoing initiative has proven invaluable in providing updates on the densities and distribution of lions and cheetahs in the short term, while the accumulated long-term data offers profound insights into population trends.

Spanning from August 01 to October 31, the three-month IMS involved a dedicated effort covering a distance of 9173 km. This extensive survey traversed key areas, including the Mara Conservancies, the Mara Triangle, and the National Reserve. Notably, we expanded our study area to encompass Oloisukut, Nashulai, and Olerai conservancies, resulting in a cumulative study area of 2713 km<sup>2</sup>. Details of our efforts and the coverage of the expanded study area are visually represented in Figure 1.

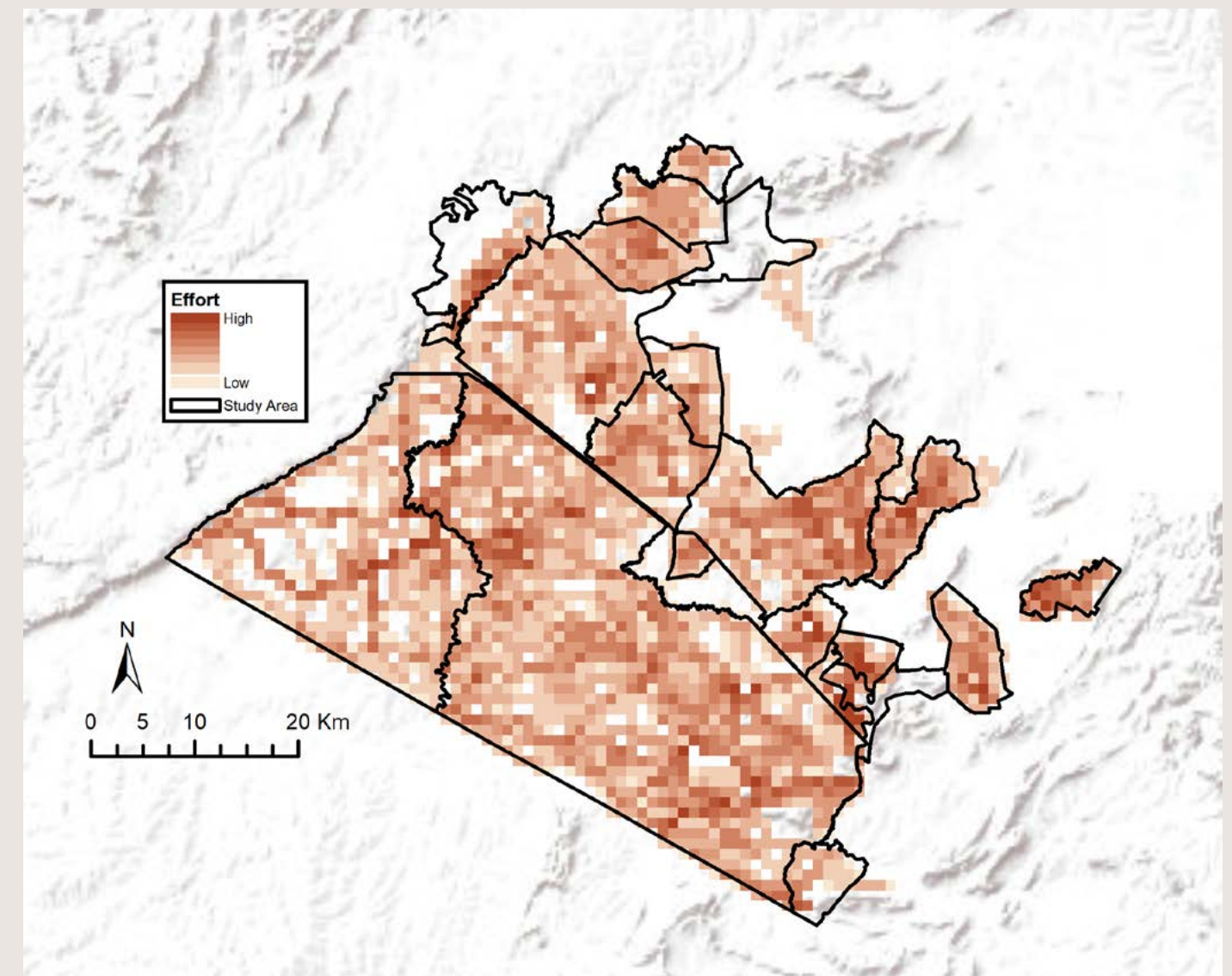


Figure 1. Effort map for 2023 IMS. The darker the area the more effort has been included



# LION AND CHEETAH SIGHTINGS

We recorded a total of 288 lion sightings and 47 cheetah sightings, and their distribution overlaid on our tracks can be seen in Figure 2.

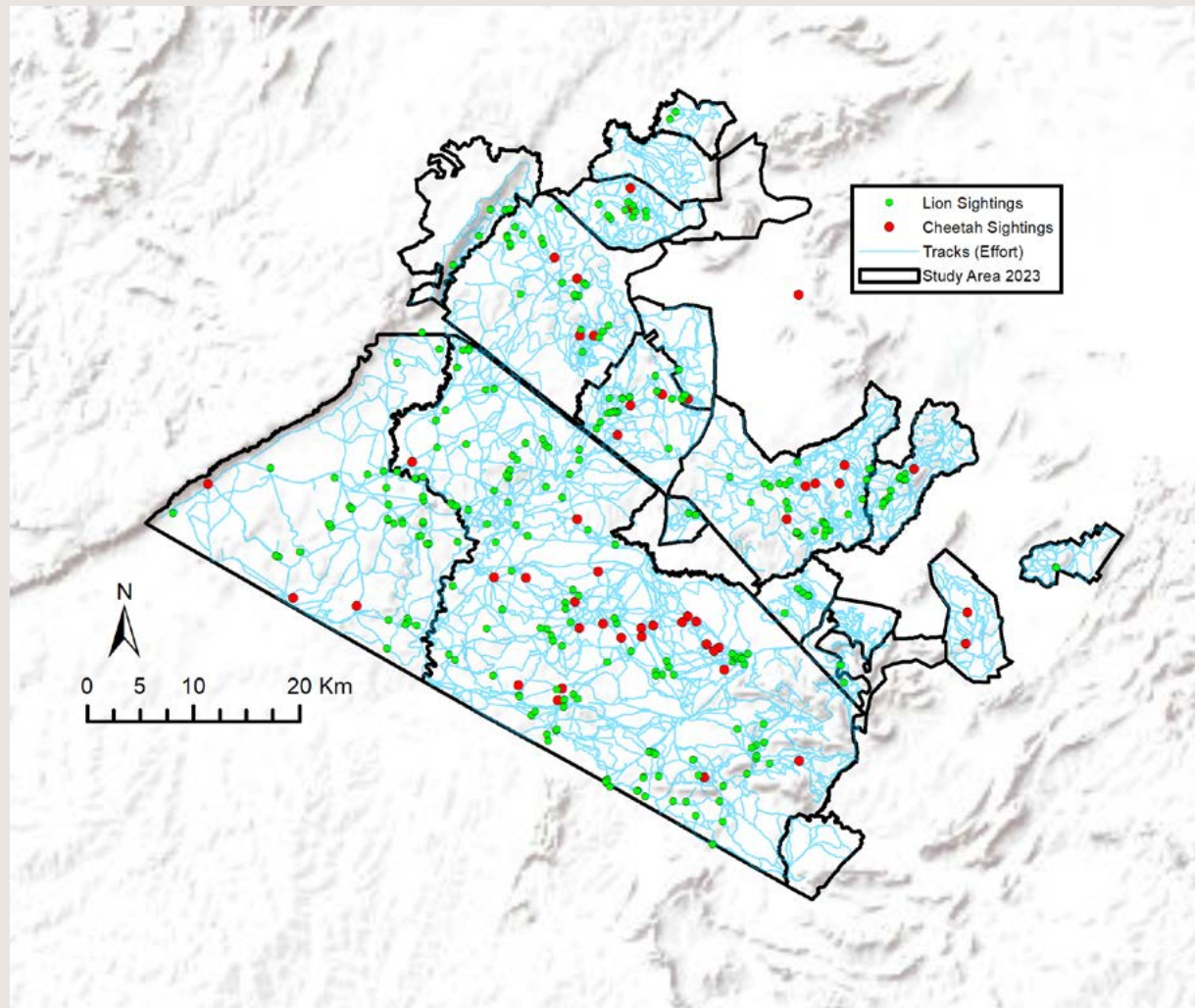


Figure 2. Lion & cheetah sightings overlaid the 9173 km of driven tracks.

Tables 1 and 2 summarise the number of unique individuals of lions and cheetahs sighted during the IMS. We observed a notable decline in the number of cheetah sightings from 2022 but a slight increase in the number of unique cheetah individuals, with 28 recorded in 2023 compared to 25 in the 2022 IMS. However, fewer unique females were recorded in 2023, and this reduction prompts a thorough examination of the actual density estimate, expected to mirror the observed decrease on the ground, where there has been a general trend of fewer adult females.

To delve deeper into the implications of this decline, our team will soon employ a spatially explicit capture-recapture model. This model will yield updated lion and cheetah densities and generate informative heatmaps, providing a nuanced understanding of predator distribution within the Greater Mara Ecosystem.

The results of the spatially explicit capture-recapture model, including the updated lion and cheetah densities, will be unveiled in the first quarterly report of 2023. This comprehensive analysis will serve as a foundation for informed conservation strategies.

Search effort (km driven)	Lion sightings	Lion detections*	Unique individuals >1 year old	
9,191 (7,497)	288 (281)	657 (633)	Male	123 (111)
<h1>Lions</h1>			Female	221 (224)
			<b>Total</b>	<b>344 (335)</b>

Table 1: Summary of lion sightings and numbers during the Aug01-Oct31 2023 survey. \*Lion detections are the total count (including all duplicates) of all lions seen. Numbers from 2022 are in brackets.

Search effort (km driven)	Cheetah sightings	Cheetah detections*	Unique adult individuals	
9191 (7,497)	48 (64))	58 (80)	Male	16 (10)
<h1>Cheetahs</h1>			Female	12 (15)
			<b>Total</b>	<b>28 (25)</b>

Table 2: Summary of cheetah sightings and numbers during the Aug01-Oct31 2023 survey. \*Cheetah detections are the total count (including all duplicates) of all cheetahs seen. Numbers from 2022 are in brackets



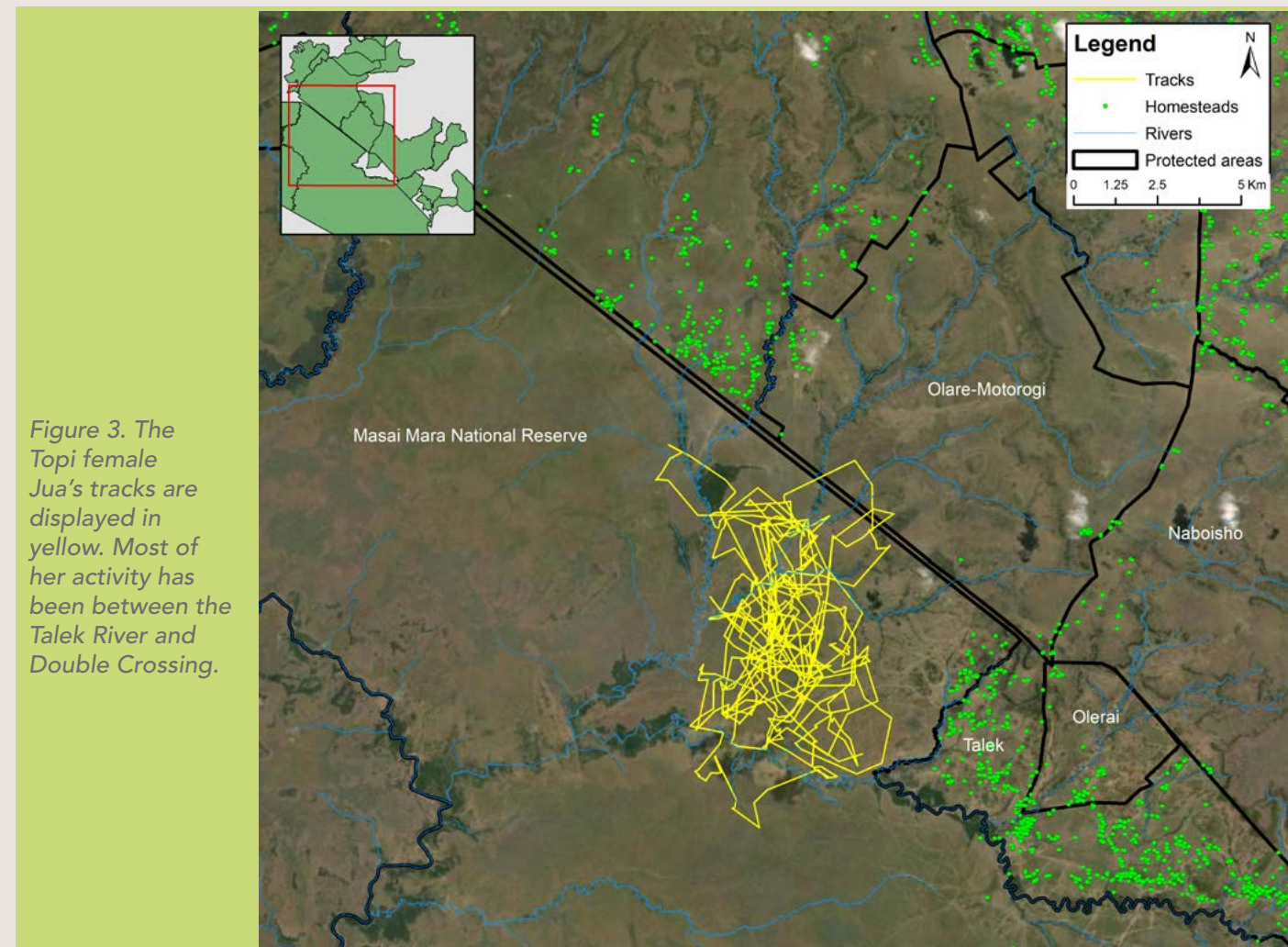
# LION UPDATES

## LION COLLARING

In 2023, a single collar was deployed, specifically on an adult female from the Topi pride. This particular pride is one of the four identified by the Kenya Wildlife Service for collaring by MPCP, given the ongoing and significant conflicts with local communities and their livestock.

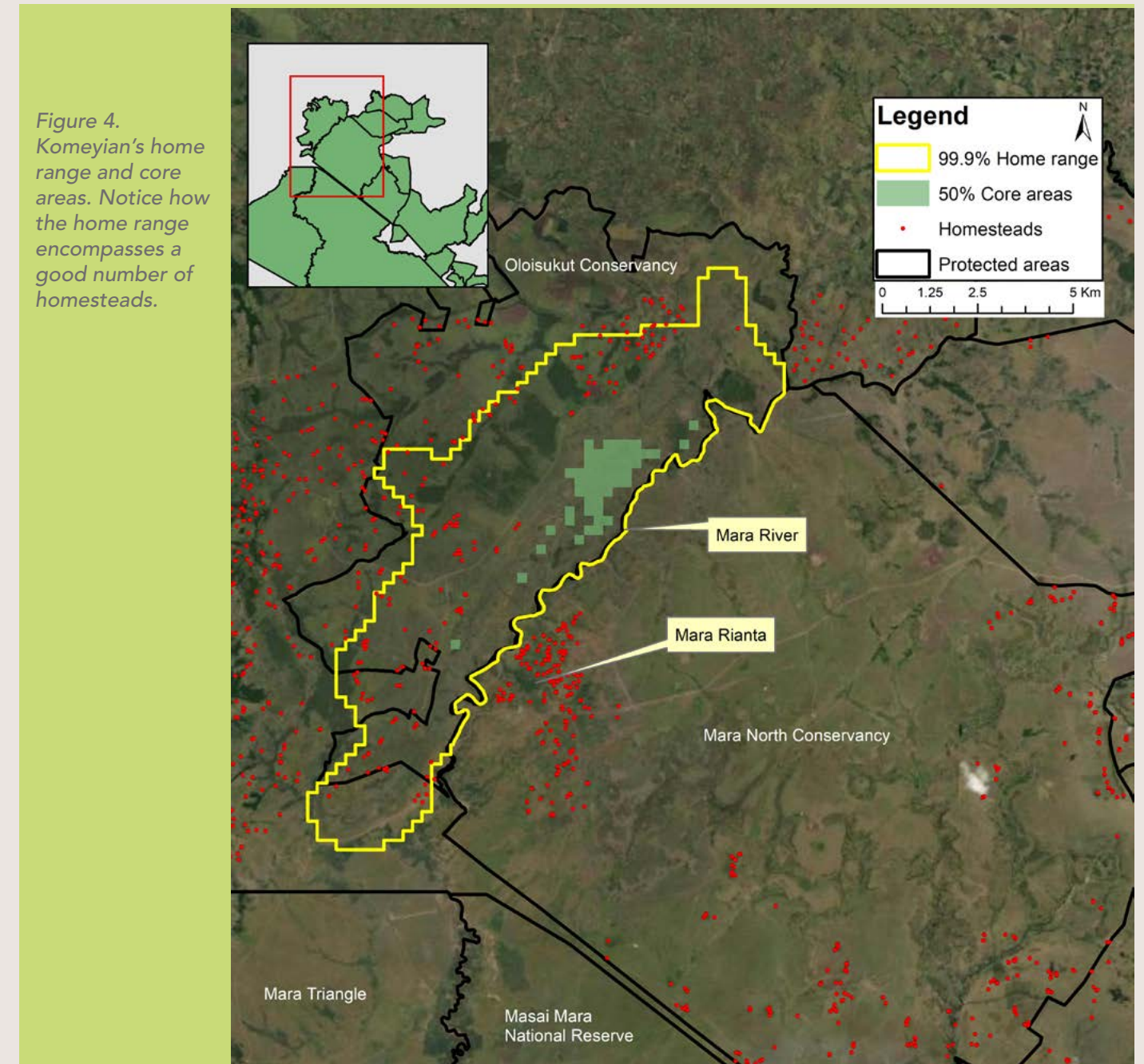
Throughout the year, we consistently monitored the movements of three lions that were collared.

Jua, a member of the Topi Pride, was collared towards the end of November. Consequently, the tracking data included in our analysis only covers the relatively brief period during which she wore the collar. While Jua and her pride were previously associated with the Topi plains, they have currently shifted their location to the area between Doble Crossing and the Talek River. Despite not venturing onto community lands, Jua and her pride regularly encounter substantial numbers of livestock during their nightly excursions into the National Reserve for grazing. The Topi pride has, at times, preyed on cattle, but the local community is well-informed about the presence of the collar. This awareness, coupled with the vigilance of our team and the rangers, is believed to be a deterrent, potentially preventing any retaliatory actions from the community.



# KOMEYIAN

The female lion named Komeyian, wearing a collar in Oloisukut Conservancy, has been actively occupying a significant portion of the conservancy. The conservancy rangers continue to closely observe her, a crucial measure given Komeyian and her pride's frequent use of areas with heightened human activity, as depicted on the map. The primary zone where the pride spends a substantial portion of its time is characterized by the absence of human settlements or livestock activities. Additionally, this area serves as the location for the lionesses' denning sites.





# NAMUNYAK

Namunyak and her Moliban pride have significantly expanded their roaming territory, now encompassing a substantial portion of Naboisho Conservancy. Their home range extends into Olerai Conservancy and the adjacent community area, and they have explored territories belonging to other prides. While the majority of their core usage area has remained unchanged, it continues to be centered around rivers and their associated riparian habitats, which are crucial environments for lions. Notably, parts of their core territory now include an area near Nabosiho Camp, coinciding with the frequent presence of the Ilkisiusu pride in that vicinity.

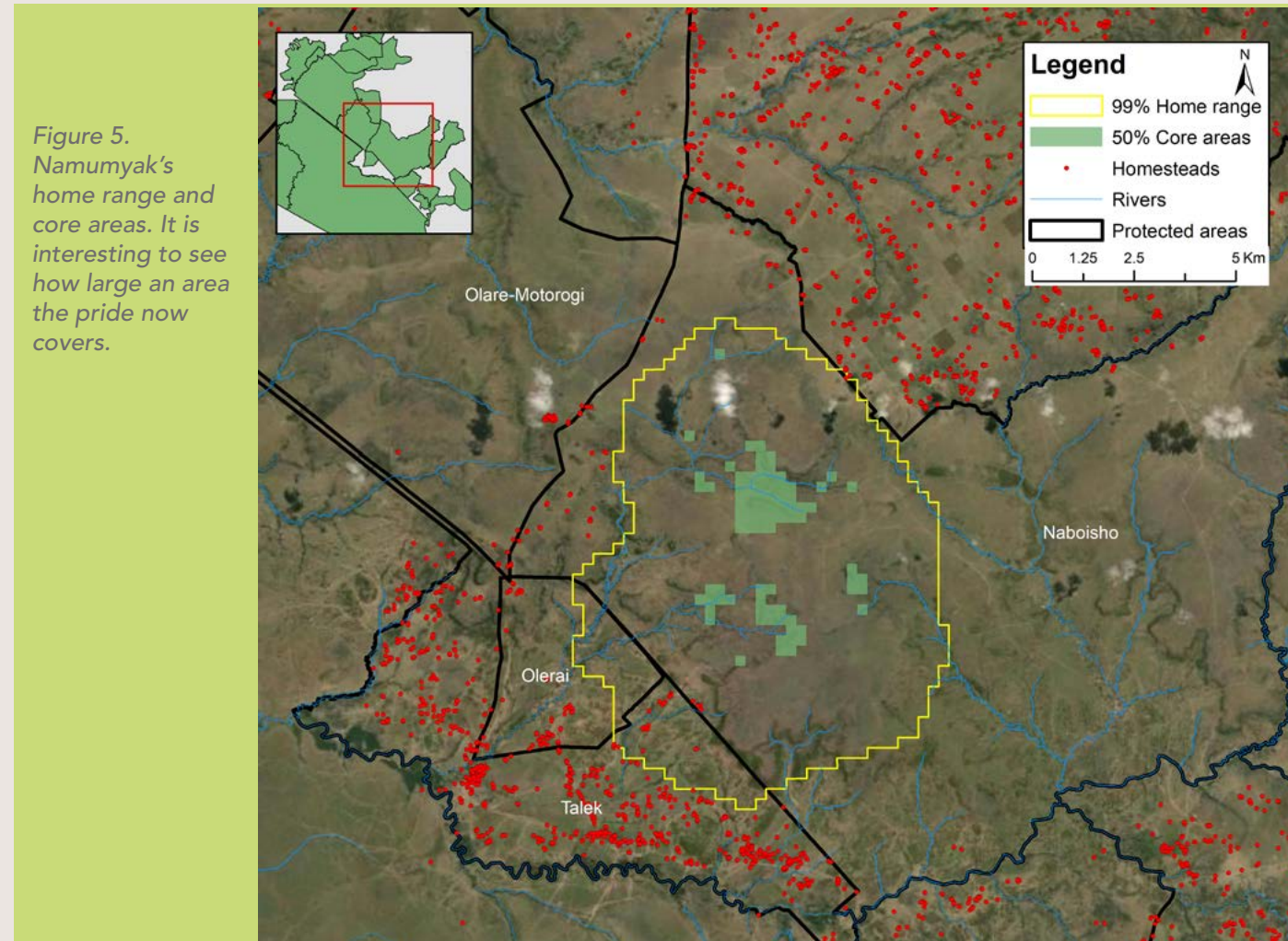


Figure 5. Namunyak's home range and core areas. It is interesting to see how large an area the pride now covers.

# OLE COOK

In 2023, the territorial range of the Ilkisiusu-born male, Ole Cook, and his brother, Lembalang, once again covered nearly the entirety of Ol Kinyei Conservancy and the entire eastern side of Naboisho Conservancy, just as they did in 2022. Patrolling such an expansive territory (134 km<sup>2</sup>) is characteristic of coalition males, and in 2022, their combined territory spanned 275 km<sup>2</sup>. Following their takeover of the Sampu Enkare Breakaway pride, the two males have been more active in the southern region of Ol Kinyei Conservancy, leading to a shift in the placement of their core areas in 2023 compared to the previous year.

For comparison, we have included Ole Cook's map from 2022. The data indicates that Ole Cook and his brother have not forsaken the Lemunyu pride, as they continue to spend time with them. Moreover, when a new male named Olmurrani appears, he is promptly chased away by Ole Cook and his brother.

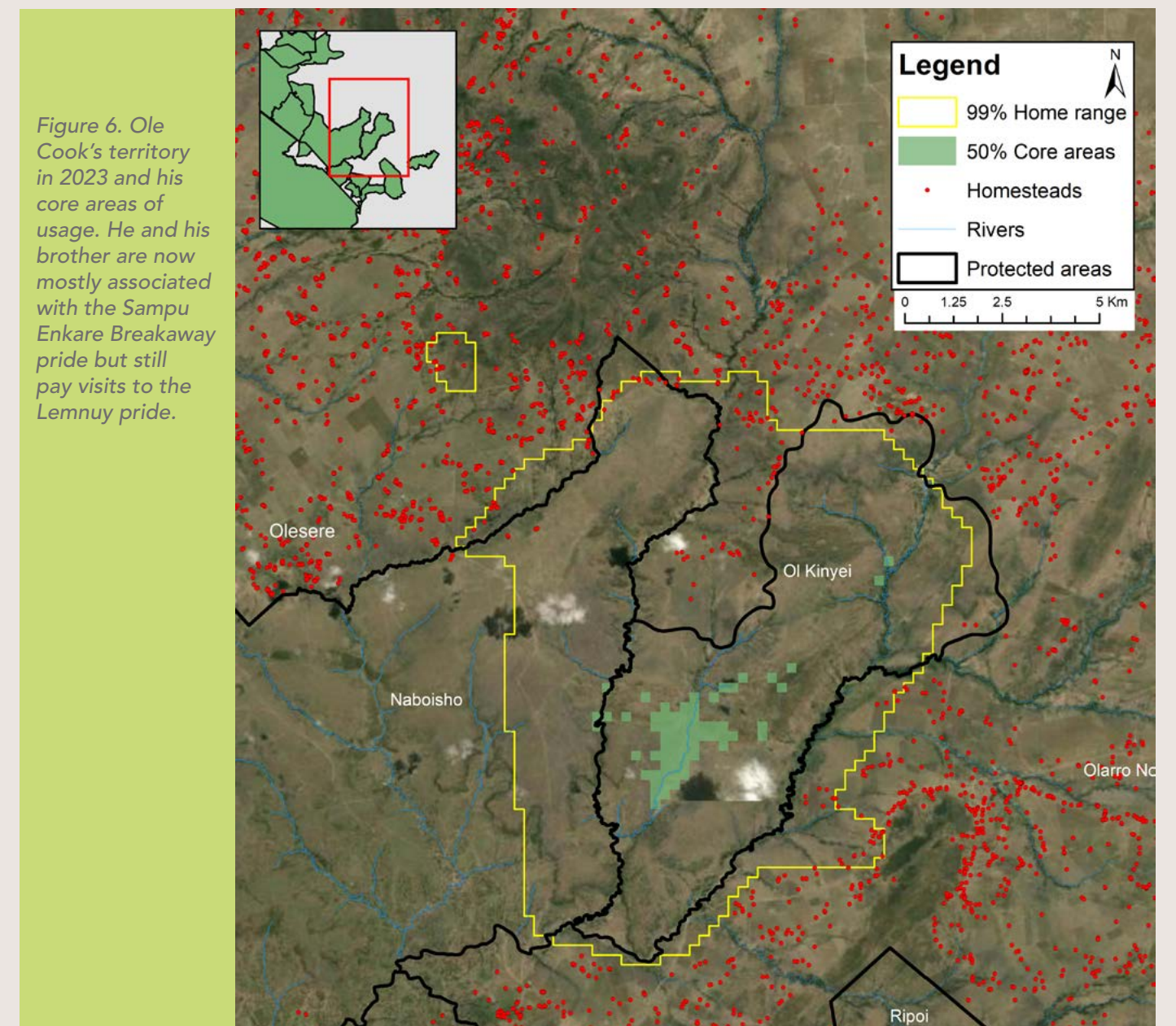


Figure 6. Ole Cook's territory in 2023 and his core areas of usage. He and his brother are now mostly associated with the Sampu Enkare Breakaway pride but still pay visits to the Lemunyu pride.



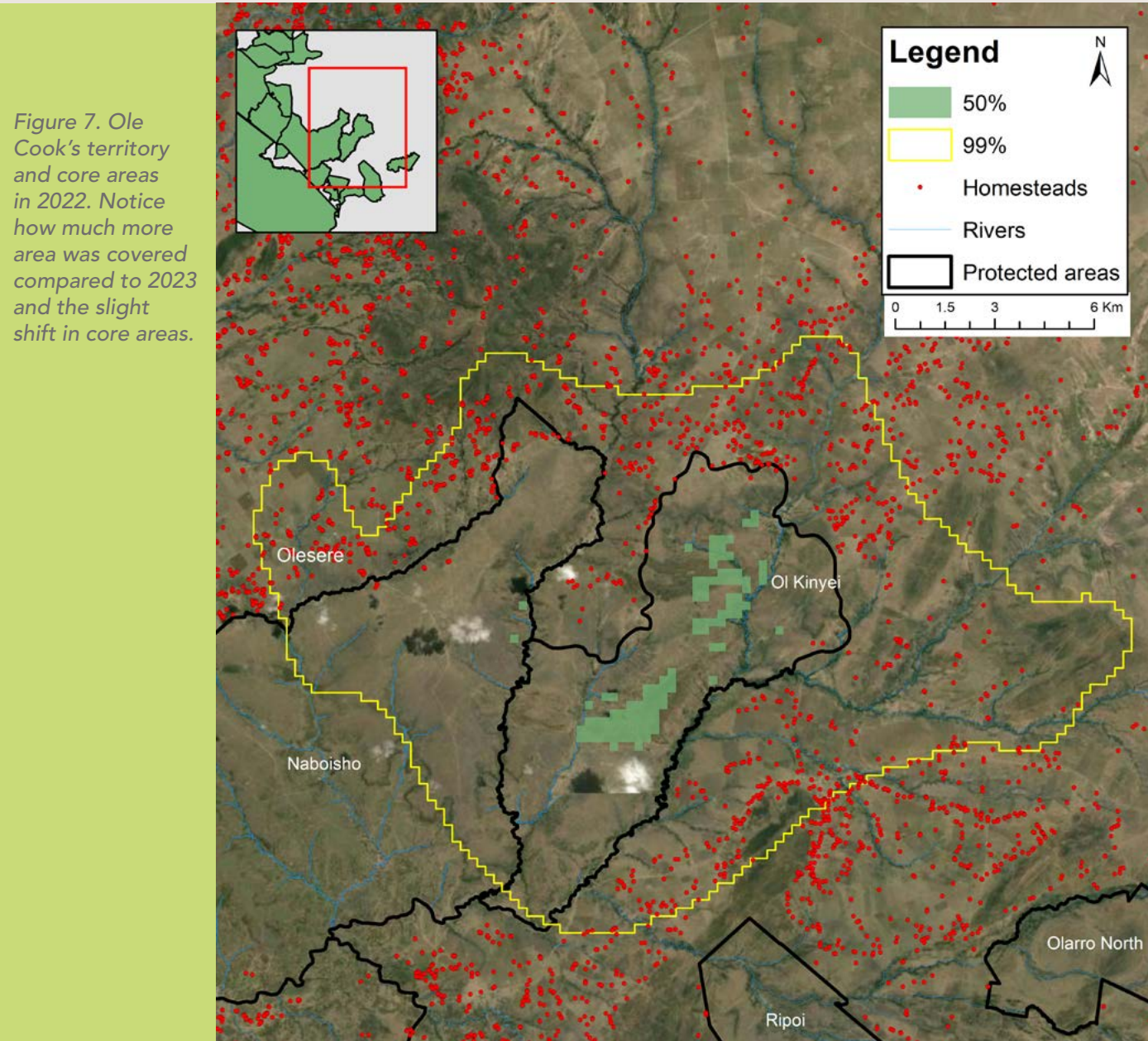


Figure 7. Ole Cook's territory and core areas in 2022. Notice how much more area was covered compared to 2023 and the slight shift in core areas.

# HUMAN-CAUSED LION MORTALITIES

In 2023, MPCP confirmed that two lions fell victim to human-caused mortalities. However, it is important to note that these documented cases represent only a fraction of the actual lion killings. Our ongoing efforts aim to mitigate conflicts and retaliatory acts, although we acknowledge that this remains a challenging task.

One instance involved the tragic death of Longneck, an adult female lion from the Topi pride. She was killed through spearing within the Reserve.

Another female lion lost her life also due to spearing. This incident occurred near the border separating Olare-Motorogi and Mara North Conservancy. She was part of a group of six lionesses attempting to raid a boma. As a defensive measure, the residents killed one lioness, but one person sustained significant injuries during the encounter.

It is crucial to realize that our recorded data only captures a fraction of the lion killings carried out by human hands. Various undocumented cases contribute to the larger challenge we face in understanding and combating this issue effectively.

Our program continues to strive towards minimizing conflicts and retaliatory events involving predators. However, achieving this goal proves to be an arduous task given the complexities and multifaceted nature of the problem.

The documented instances of human-caused lion mortalities serve as reminders of the ongoing challenges faced by conservation efforts. Collaborative initiatives and strengthened measures are necessary to further protect these magnificent animals and promote coexistence between humans and wildlife.

We have obtained a new collaring permit from the Kenya Wildlife Service and plan to deploy additional collars on peripheral prides in 2024. This initiative is integral to our newly established collaring program, which includes connecting the collars to our community Lion Ambassadors for immediate conservation interventions. The aim is to safeguard both livestock and lions through enhanced monitoring and proactive measures.





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## CHEETAHS UPDATES

### CHEETAH CUB BIRTHS, MORTALITY, AND DISPERSAL EVENTS

In 2023, we documented the occurrence of seven distinct mothers (including Nolari, who gave birth on two separate occasions), emerging with a total of 26 cubs from their dens. Unfortunately, eight of these cubs did not survive, as depicted in Figure 8, with comparative data from 2022 also provided. This results in a cub mortality rate of 31% for the year 2023 (compared to 52% in 2022). Notably, the survival rate for cubs in their first year from the 2022 cohort stands at a record low of 22%, considerably below the average rate of 44% observed from 2013 to 2022 (as illustrated in Figure 9).

Furthermore, the count of 26 cubs emerging from the dens in 2023 represents the lowest number recorded to date (see Figure 11). A detailed analysis of these concerning trends is presented in the subsequent section.

We recorded five dispersal events which included six males and two females.

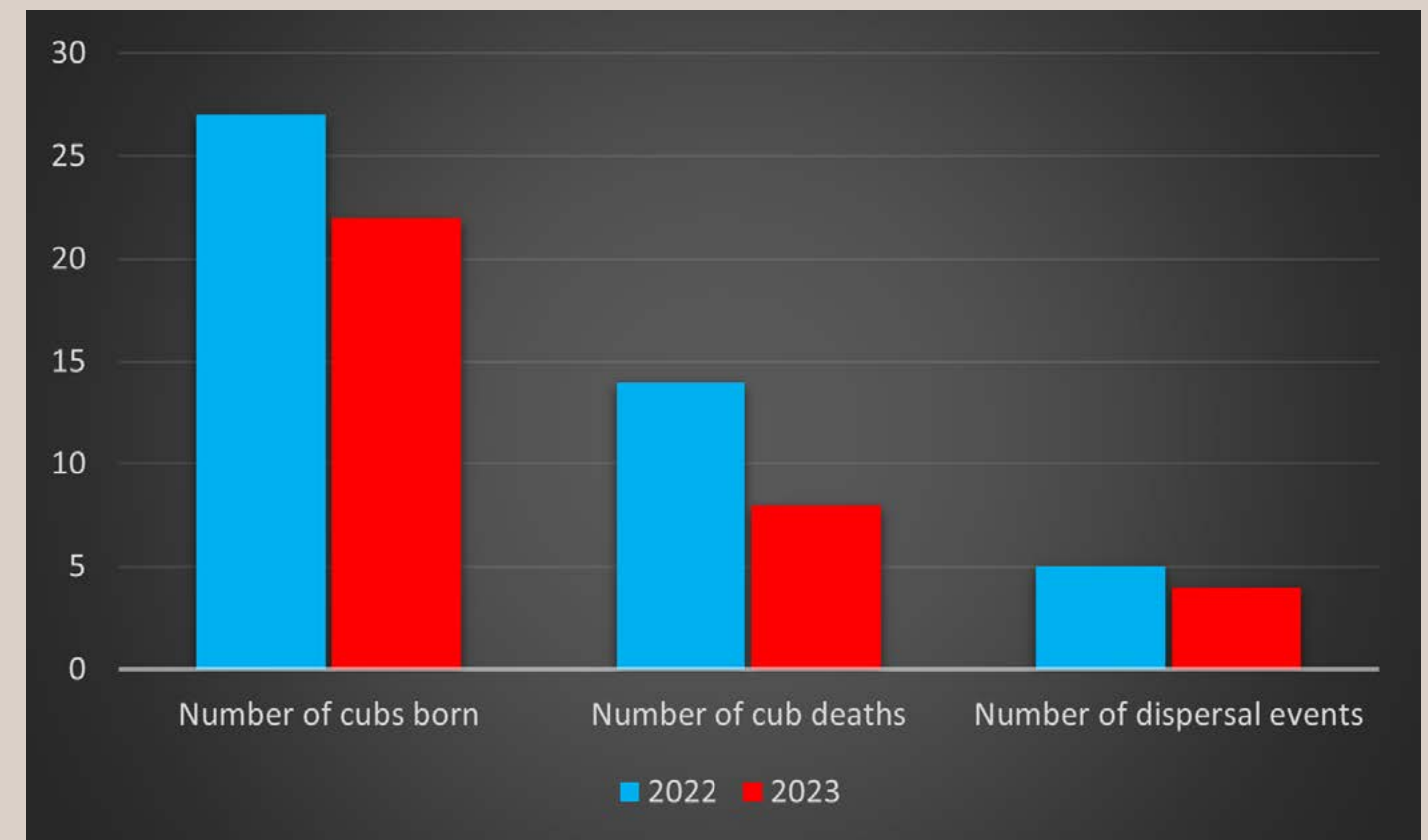


Figure 8. Cub births and deaths and dispersal events in 2022 and 2023. It is important to note that we do not know the exact number of cubs actually being born as they are usually hidden for the first two months when mortality events can take place. We can only record the number of cubs after emergence from the lair.



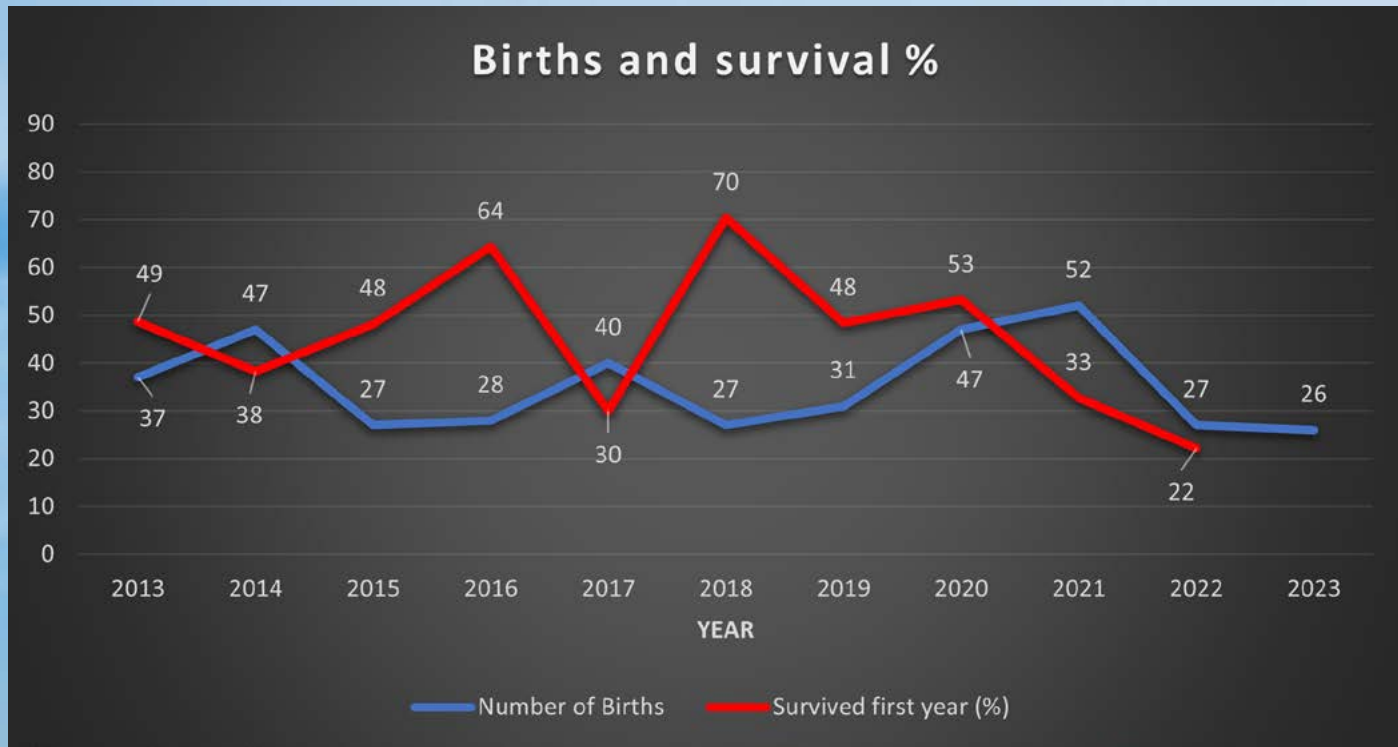
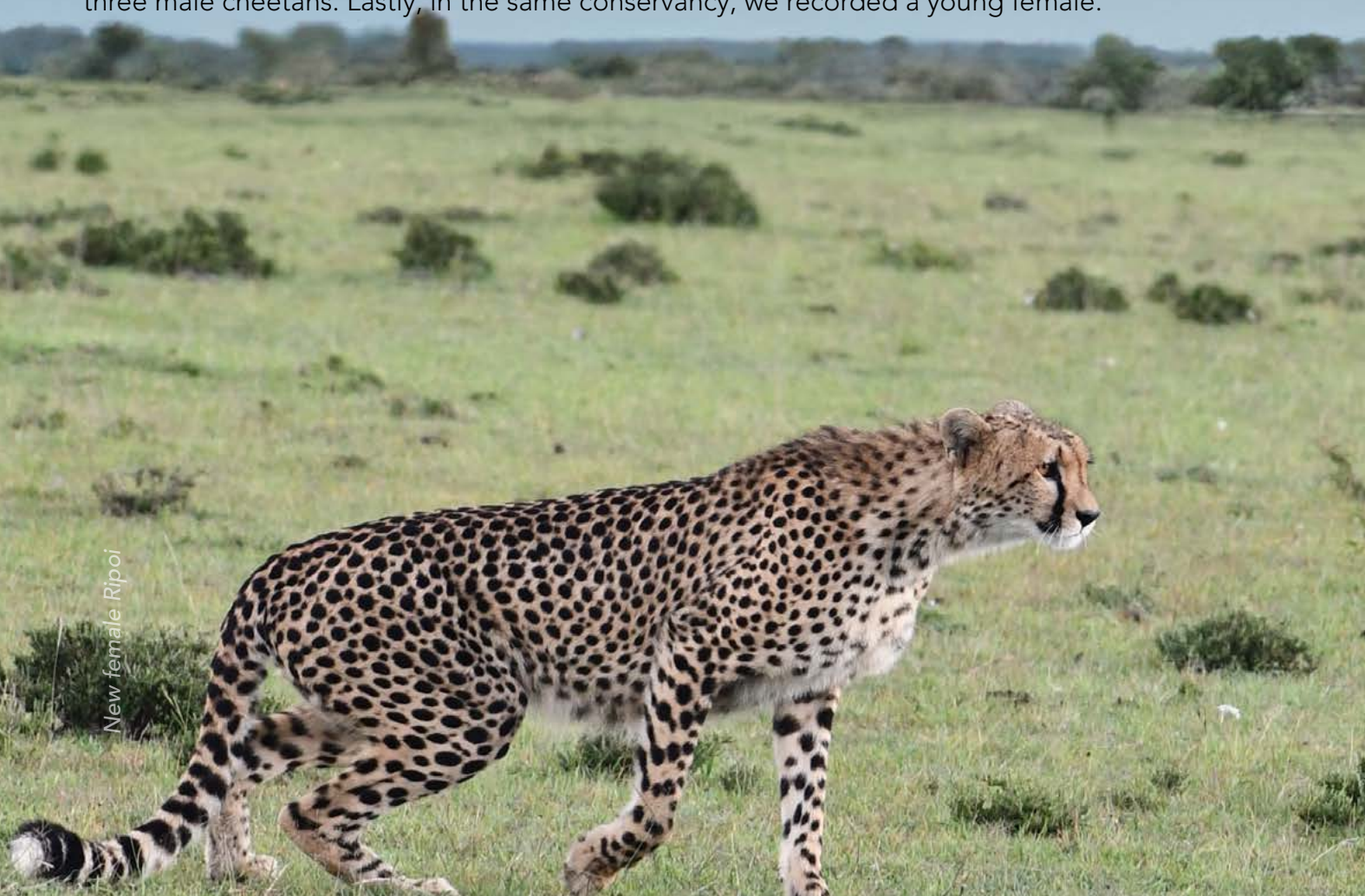


Figure 9. The number of cubs recorded after leaving the lair overlaid with the percentage of cubs that survived their first year. Data is represented from the years 2013-2023.

## NEW INDIVIDUALS

In 2023, we have documented the presence of five new individuals: four males and one female. Firstly, we encountered an elusive adult male cheetah who frequently moves between Naboisho and Olkinyei conservancies. Secondly, in Ripoi Conservancy, we discovered a young coalition of three male cheetahs. Lastly, in the same conservancy, we recorded a young female.



## ADULT MORTALITIES

Regrettably, we experienced the loss of four adult cheetahs in 2023. The first individual, Mbili, was a member of the renowned coalition known as Kiraposhe's Boys, along with Milele. Unfortunately, we found Milele alone, and we were therefore unable to determine the cause of Mbili's demise. Another adult male, part of the coalition mentioned under the section on new individuals, disappeared from Ripoi Conservancy and is presumed dead. In Olarro Conservancy, we discovered the remains of an unidentified adult cheetah.

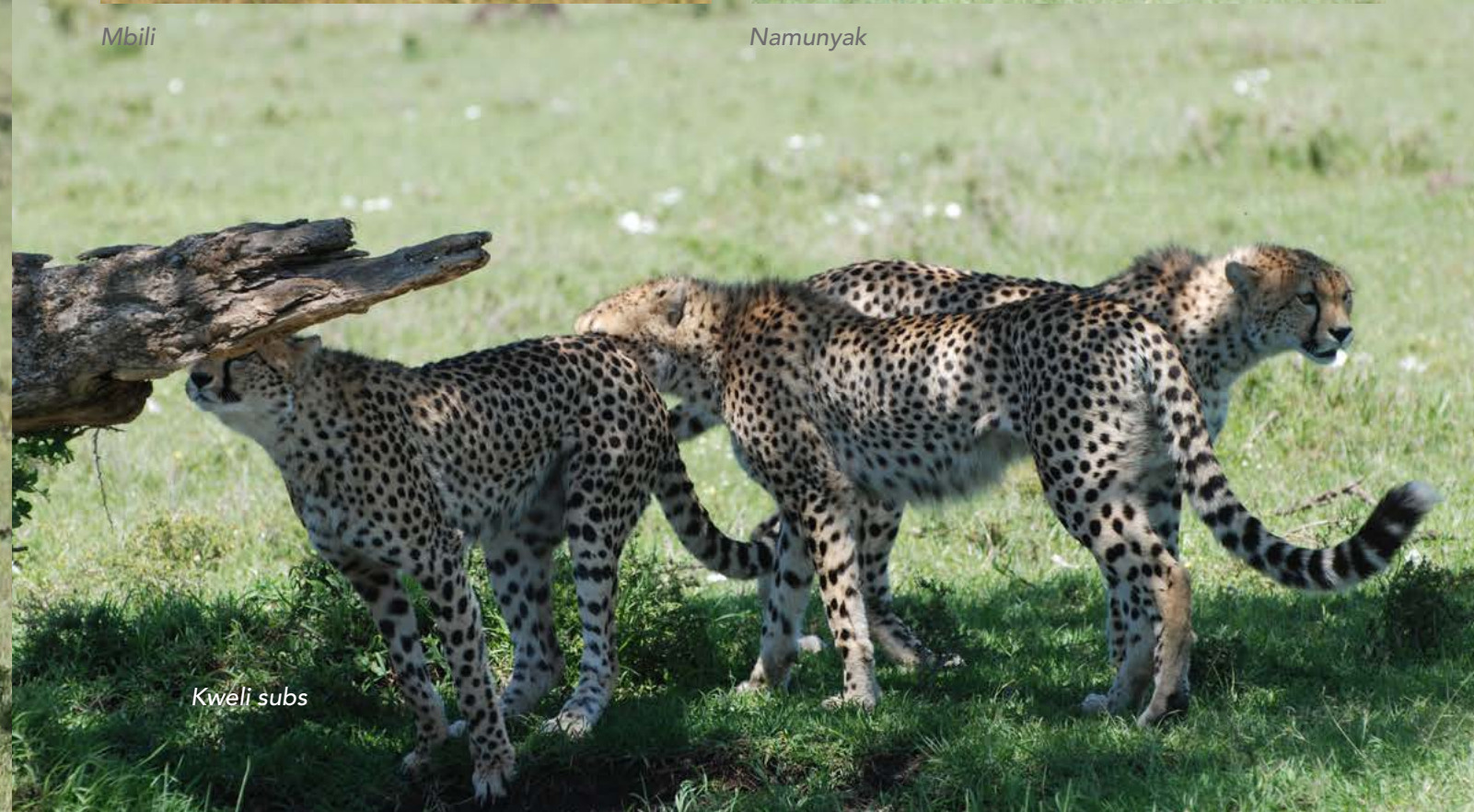
We are currently investigating the identity of this individual. Lastly, one of Risasi's cubs, who had recently become independent from its mother, tragically perished, possibly due to an encounter with a warthog.



Mbili



Namunyak



Kweli subs



## MARA CHEETAH CRISIS

The current situation concerning the resident female cheetah population in the Masai Mara Ecosystem is concerning. Over the past few years, we have observed the disappearance of four females, and the reasons behind their absence remain unknown. Most of these females were residents of Mara conservancies, leading us to suspect that they may have fallen victim to conflicts with people or were killed due to perceived threats when venturing into the community areas.

The missing conservancy females, Kuahidi, Selenkei, and Nebati, have not been sighted for over a year while Entio went missing in 2021, and we are growing increasingly worried about their well-being. Furthermore, our intensive monitoring session in 2023 only recorded sightings of 12 unique adult females, and we have already described the cheetah situation in the National Reserve in the previous year's annual report. These trends are alarming, and it is imperative that we collaborate with the management units, including Narok County, to develop effective measures for preventing further losses. The Mara Predator Conservation Programme will engage in brainstorming sessions to address this issue and develop strategies accordingly.

Additionally, the survival rate of first-year cheetahs is currently at an unprecedented low level, as detailed in this report (see Figure 11). While apex predators, buffaloes, and diseases, for example, have traditionally posed natural threats to young cheetahs, the mothers have been able to compensate by giving birth to larger litters, with records of up to eight cubs in the Mara. However, the increased risks associated with human activities, such as unmanaged tourism and livestock grazing, present unnatural threats that cheetahs might struggle to cope with.

We are committed to sharing our plans to reverse these negative trends in our upcoming reports. By addressing the challenges and working collaboratively, we hope to safeguard the future of the local cheetah population in the Masai Mara Ecosystem.



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## LIVESTOCK ACTIVITY

The intensive monitoring sessions meticulously capture livestock numbers. Figure 10 and Figure 11 visually represent the proportional densities of cattle and shoats (combined sheep and goats), respectively. Livestock numbers and their impact on wildlife exhibit significant variations across different management units and throughout the seasons. It is important to note that the livestock density maps provided here exclusively pertain to the period from August to October.

Leveraging this comprehensive livestock data, MPCP actively contributed to a scientific article examining the ecological outcomes of land-sharing between regulated livestock herds and wildlife populations within one of the Mara conservancies. For a more in-depth exploration of this study, refer to the section dedicated to published papers.

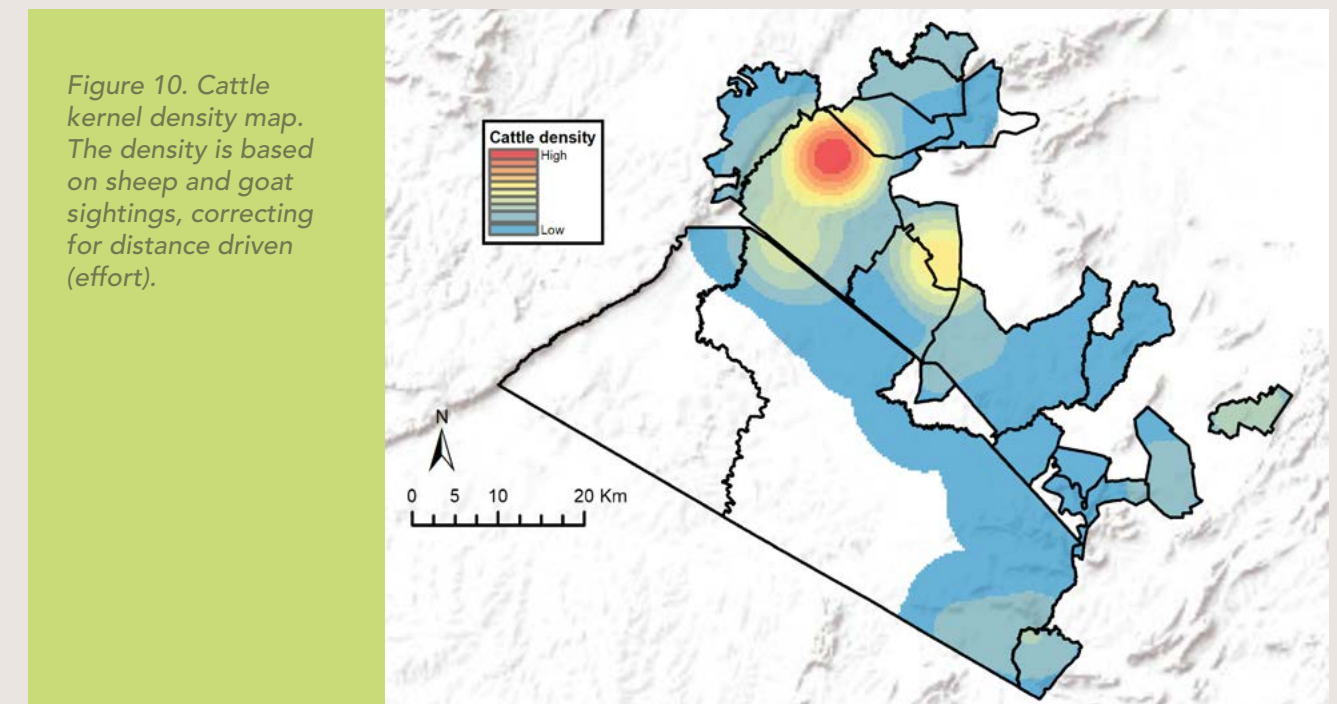


Figure 10. Cattle kernel density map. The density is based on sheep and goat sightings, correcting for distance driven (effort).

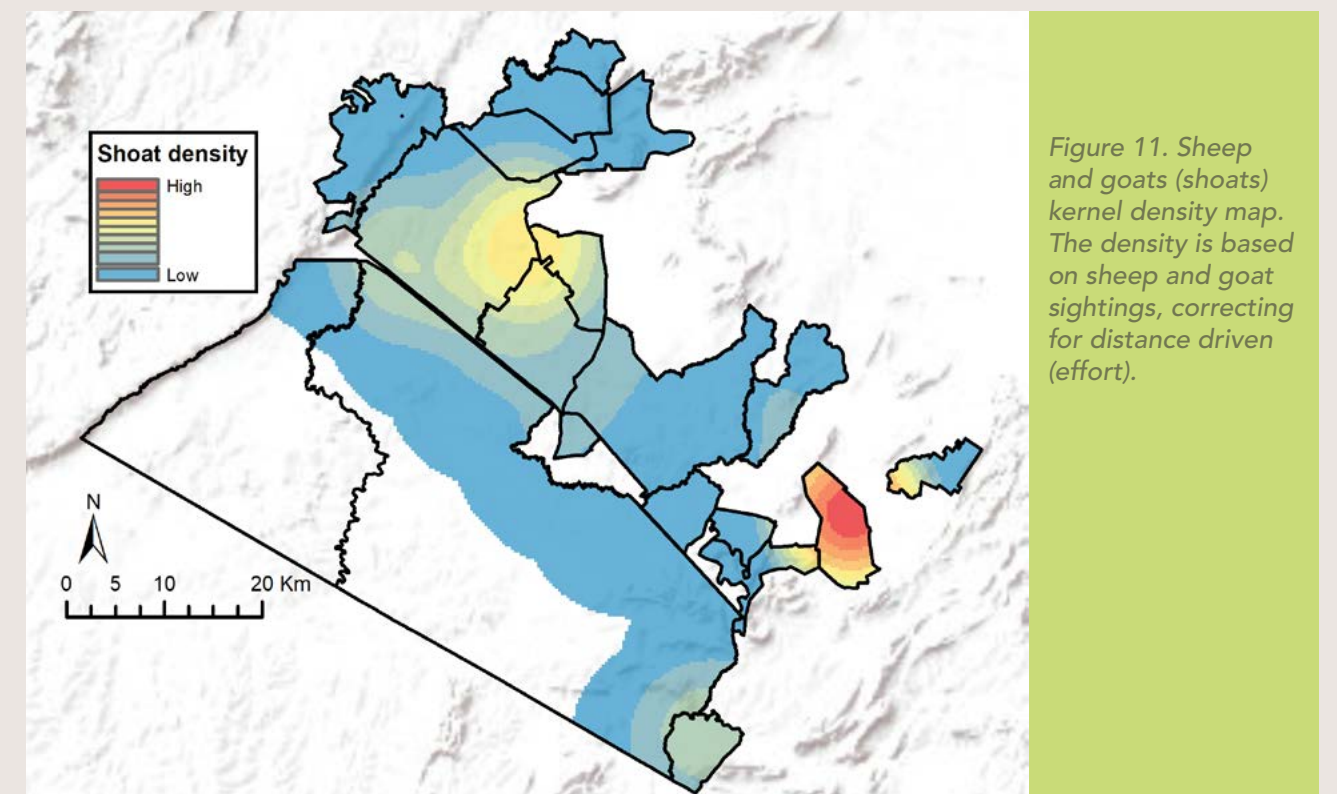


Figure 11. Sheep and goats (shoats) kernel density map. The density is based on sheep and goat sightings, correcting for distance driven (effort).



## EARTH RANGER MONITORING TOOL

The Kenya Wildlife Trust has successfully implemented its EarthRanger platform, which is a comprehensive tool for gathering, integrating, and displaying data related to collared lions. This platform proves to be an effective means of monitoring the movement and habitat utilization of collared lions across the landscape. During this reporting period, four lions are equipped with satellite collars, and corresponding lion ambassadors near these collared lion ranges have their accounts set up. These ambassadors can now view and receive alerts regarding the collared lions, especially when they cross the geofenced boundaries from protected areas to community areas.

This proactive strategy holds the promise of preventing human-predator conflict by addressing potential conflict promptly. (Figure 12).

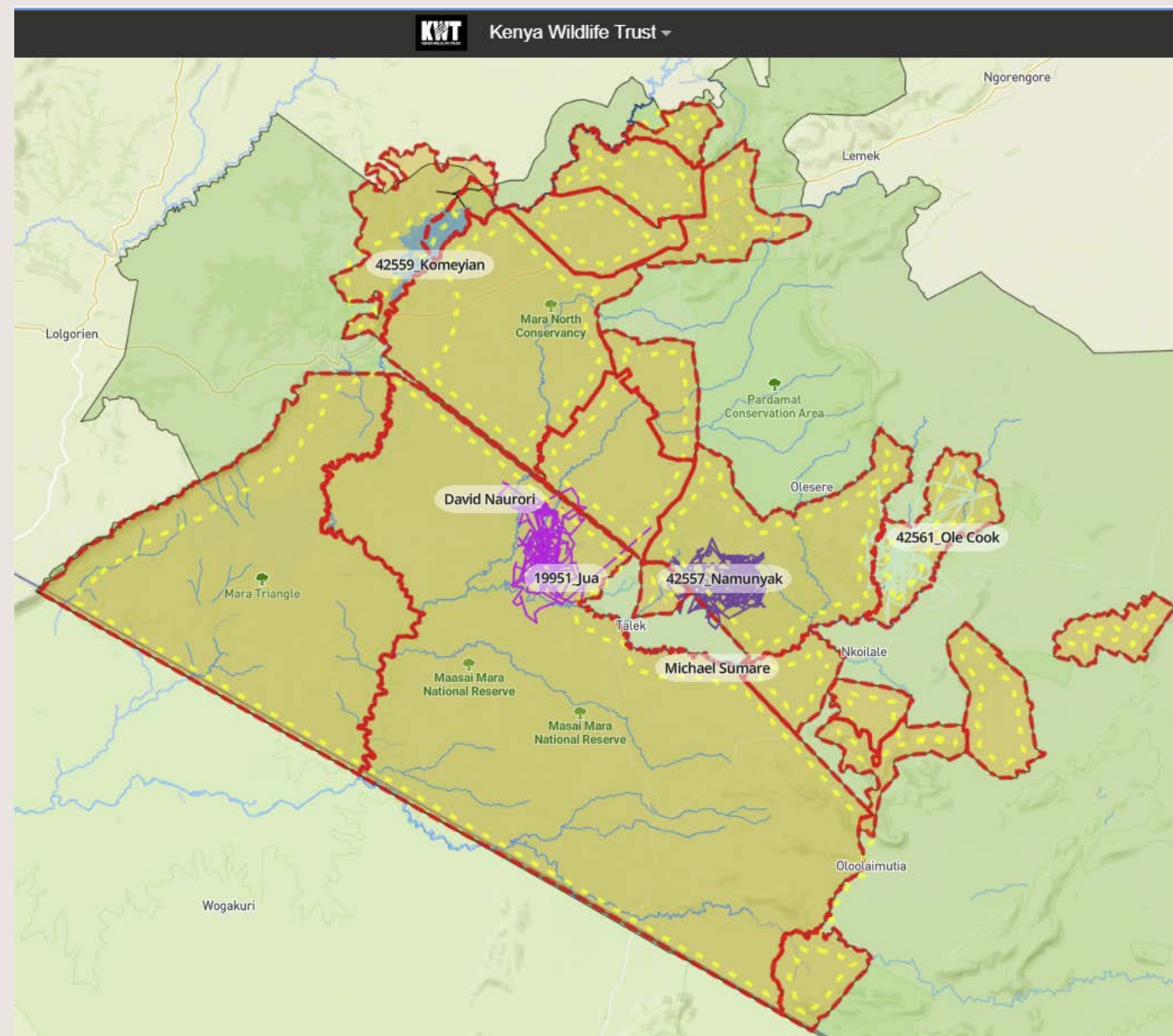


Figure 12. Map showing tracks of the four collared lions between October - December 2023 and Lion Ambassadors (Phone Icons) and their zones in light blue color

## UFUGAJI HIFADHI

Kenya Wildlife Trust's Ufugaji Hifadhi (Livelihood Programme) is dedicated to establishing equitable and financially inclusive digital ecosystems, focusing on rural indigenous communities in wildlife areas. The program aims to mitigate climate change and socio-economic challenges by improving income from livestock through a well-functioning value chain. This approach not only enhances economic gains for households but also contributes to biodiversity conservation.

The foundational principle emphasizes the importance of efficient market value chains, fostering economic incentives for pastoral households to produce livestock more efficiently and at higher market weights. A key aspect of the initiative involves implementing robust livestock health and husbandry systems to reduce livestock mortality and morbidity. To enhance this, the programme prioritizes restoration of degraded landscapes and adoption of grazing plans.

## LANDSCAPE RESTORATION

The Mara ecosystem, home to diverse wildlife, domestic animals, and communities, faces extensive land degradation marked by sheet and gully erosion, and encroachment of undesirable plant species. Human activities, particularly unmanaged livestock grazing patterns without designated areas, contribute significantly to this degradation, leaving soil vulnerable to erosion and water runoff, resulting in arid conditions.

To address this, the Mara Predator Conservation Programme (MPCP) has collaborated with the Mara Grassroot Movement to install mobile bomas (livestock enclosures) and implement regenerative grazing principles. Mobile bomas are strategically placed over degraded areas, allowing concentrated dung, urine, and hoof action to expedite recovery. The initiative, exemplified in the eastern tip of Mara North Conservancy, serves as a pilot demonstration project to inspire wider adoption of regenerative grazing practices for landscape restoration. Recognizing the time required for impactful regeneration, the objective is to spread understanding and encourage widespread adoption of these practices, ultimately transforming the landscape in the Mara ecosystem.



A pilot demonstration project boma in Mara North Conservancy



# LIVESTOCK HEALTH AND HUSBANDRY

## LIVESTOCK VACCINATION STRATEGY

The absence of a comprehensive plan within Maasai communities for managing and preventing livestock illnesses has left their livestock susceptible to outbreaks of both contagious and non-contagious diseases. The reactive approach of vaccinating livestock in response to disease signals has proven ineffective due to inconsistent administration and the absence of specific timelines, making disease control challenging.

To address this deficiency in livestock vaccination in the Mara region, the Mara Predator Conservation Programme (MPCP) organized a workshop through Ufugaji Hifadhi. The workshop, held in Talek and attended by 35 participants, aimed to develop a Livestock Vaccination Strategy for the Mara Landscape. Under the guidance of Dr. Ezra Saitoti, the workshop identified and discussed issues related to animal health, challenges, and prevalent diseases affecting livestock. Dr. Saitoti led the development of the strategy, which was then reviewed by the public during participation workshops to ensure alignment with community needs.

Following these deliberations, a comprehensive livestock health and vaccination strategy was crafted. The strategy aims to enhance livestock health and production, prevent prioritized common livestock diseases, reduce mortality and economic losses, establish a uniform vaccination schedule for all farmers, and ultimately uplift the livelihoods of local communities in the Mara region.



Dr. Ezra takes lead in the identification of various livestock diseases and control measures.

## COMMUNITY LEADERS BARAZAS

The Mara Predator Conservation Programme (MPCP), through the Ufugaji Hifadhi program, conducted a series of meetings spanning three days in different locations across the greater Mara ecosystem. Six meetings in total were organized, bringing together 180 farmers, community representatives, and conservation agents. The main objective of these gatherings was to introduce the Ufugaji Hifadhi livelihood and livestock vaccination strategy calendar while discussing the associated benefits for the community and garnering their support.



Leaders baraza

The outcomes of these engagements were highly encouraging, as attendees not only grasped the positive intentions behind the tailored livestock health program but also recognized the various challenges affecting their livestock's well-being. The majority of meeting participants were male animal owners from diverse clusters, as indicated in the accompanying table.

During these interactive sessions, a thorough examination was conducted to uncover the challenges faced by Maasai pastoralists in the realm of livestock health. It became evident that farmers have taken on the responsibility of treating and, in certain cases, vaccinating their animals, often without awareness of the potential risks associated with handling and administering medicines and vaccines. The absence of government veterinary officers to provide guidance or treatment was emphasized. Consequently, in response to the urgent need for assistance, there has been a surge of individuals presenting themselves as animal health assistants, further complicating the issue by administering vaccinations without proper qualifications. Some key

Disease	Month											
	Jan.	Feb.	March	April	May	June	July	Aug	Sept	Oct.	Nov	Dec
Anthrax												
CBPP												
FMD												
CCPP												
Enterotoxaemia												

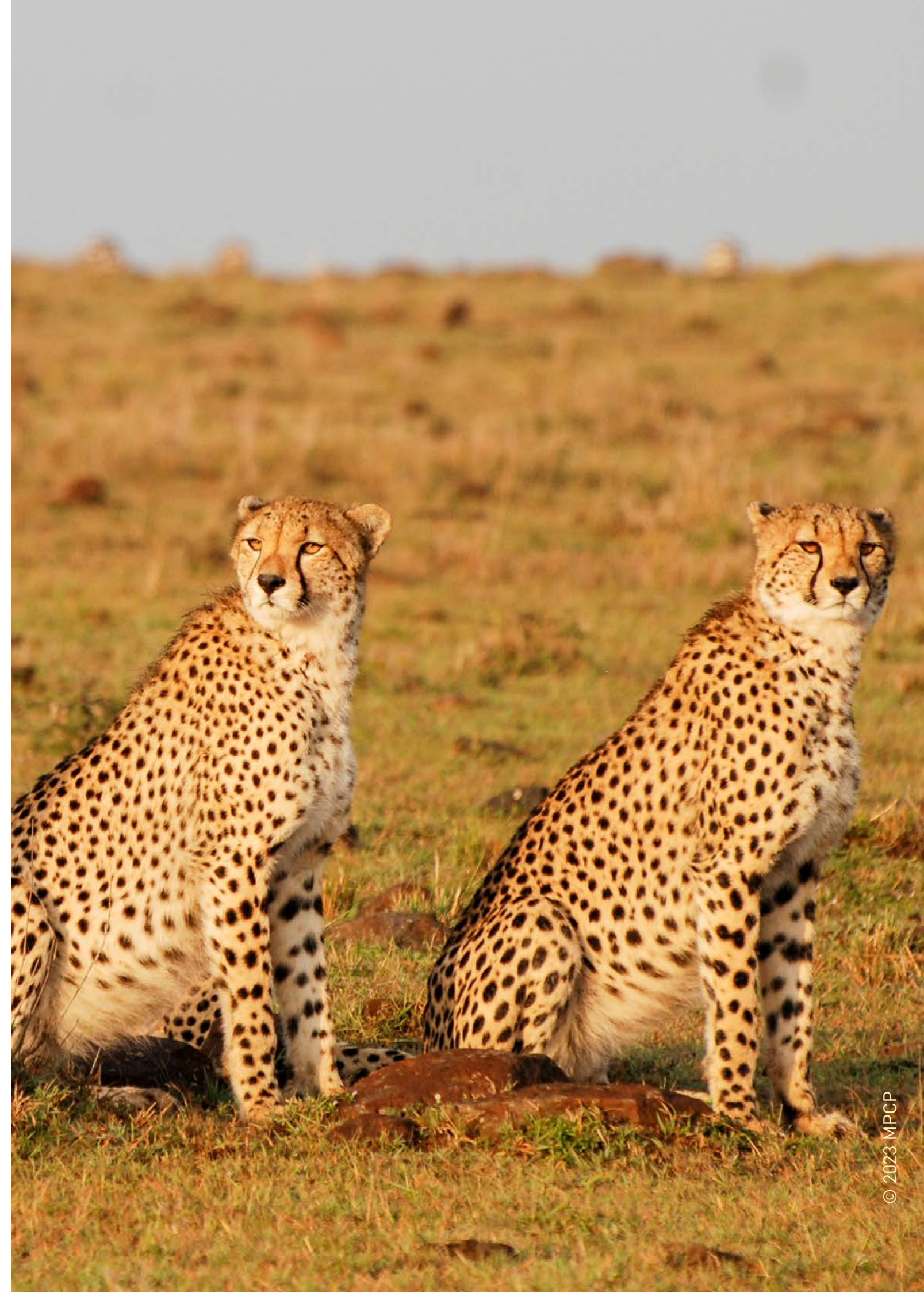
### Key

	The proper time to vaccinate
	The expected period of a disease outbreak; for vaccinated herds, it is the period of immunity.



points that prominently emerged from these meetings include, but are not limited to, the following.

- i. Contagious Bovine pleuropneumonia (CBPP, Olkipei), Foot and Mouth disease (FMD, Olkirobi), and Anthrax (empuruo) are identified as the most prevalent livestock diseases affecting cattle, significantly impacting the economy and livelihoods of Maasai pastoralists. The Ufugaji Hifadhi livestock program by KWT prioritizes these diseases for prevention.
- ii. Farmers express readiness and willingness to participate in the Ufugaji Hifadhi livelihood program, contingent on KWT prioritizing the health needs of their animals.
- iii. Conservation agents are seen as having pivotal roles in coordinating community-livestock activities, including mobilization, identifying common vaccination sites, and estimating livestock populations.
- iv. Concerns were raised about individuals posing as animal health service providers, exploiting farmers' desperation by offering vaccination services for financial gain. These unqualified providers are convincing farmers to vaccinate their animals every three months against CBPP, contrary to the recommended 6-8 month interval, potentially leading to vaccine resistance.
- v. Regular farmers' education is deemed essential, tailored for pastoralists, with a focus on improving animal health and husbandry techniques to enhance economic well-being.
- vi. Misuse/abuse of antibiotics and deworming medicines is highlighted as a pressing issue, with these drugs easily accessible from local Agrovets stores manned by unqualified personnel. Lactating cows are treated, and their milk is sold against prescribed withdrawal periods, posing a public health risk. Additionally, animals not showing signs of recovery are sold to mobile livestock traders, slaughtered, and sold to butcheries in Narok or Nairobi. Dr. Ezra emphasizes the need for KWT to focus not only on preventive medicine but also on raising awareness about the prudent use of veterinary medicines and their impact on human health and the environment.







## COMMUNITY UPDATE

### COMMUNITY OUTREACH AND EDUCATION

Mara Predator Conservation Programme's community outreach prioritizes reducing human-wildlife conflict, community outreach, and educating primary school students about conservation.

In 2023, MPCP made significant progress in these areas which include new methods to protect livestock from predators, training for communities on sustainable herding practices, and engaging educational initiatives for young learners as highlighted in this section.

### HUMAN WILDLIFE CONFLICT MITIGATION

Human-wildlife conflicts are one of the leading threats to predators across the Mara. Livestock depredation inside enclosures at night contributes to significant livestock loss, especially shoats. MPCP works with community members across the Mara to co-design and co-implement human-wildlife conflict mitigation strategies. One such strategy is the adoption of recycled plastic pole bomas, deterrent light,s, and herder training, and a lot of the same in detail below.

#### RECYCLED PLASTIC POLE BOMAS

Livestock losses in nightly enclosures often trigger retaliatory predator attacks, leading to significant mortality rates due to stampedes. Traditional enclosures, particularly vulnerable ones, are easily breached by predators through gaps, resulting in high livestock casualties. A 2021 survey in the Mara region identified weak enclosures made from deteriorating materials like branches and whistling thorns.

To tackle this issue, the MPCP implemented an eco-friendly solution, reinforcing enclosures with recycled plastic poles and triple-twisted chains. This not only provides a sustainable answer but also contributes to environmental preservation, ensuring the structural integrity of the enclosures and effectively deterring nighttime predation threats.

In 2023, the MPCP constructed 32 such reinforced enclosures across the Mara ecosystem. The reinforced enclosures play a crucial role in significantly reducing heavy livestock losses. This, in turn, acts as a catalyst, prompting a shift in community perceptions and attitudes towards predators. The goal is to foster a more tolerant, understanding, and supportive community that embraces coexistence between humans and predators.



*Recycled plastic pole boma recently constructed*



## LION DETERRENT LIGHTS INSTALLATION

The Mara Predator Conservation Program (MPCP) collaborates with local communities to implement community-led solutions. An example involves David Pesi, a Governors Camp scholarship recipient, identifying vulnerable bomas in Enkikwei village. MPCP installed predator deterrent lights in these bomas, securing over 300 cattle and alleviating the fear of lion attacks for the community, as expressed by David.



*David Pesi installing lion deterrent light in one Boma at Enkikwei*

This initiative demonstrates the tangible impact of community-led solutions in mitigating human-predator conflict.

## HERDERS TRAINING

Human-predator conflicts occur both during daytime while livestock are grazing and at night within livestock enclosures (Bomas). To mitigate day-time conflicts, MPCP engaged herders by educating over 200 livestock herders in critical wildlife corridors such as Olare-oro, Isinya conservation area, Pardamat, and Siana during this period.

The training emphasized predator identification skills, proper herding practices, and the importance of reducing predation losses. Village elders contributed valuable insights, promoting vigilance, minimal distractions, knowledge of one's herd, non-interference with other creatures, conflict reporting, and staying awake during herding. Additional tips include rainy season awareness, whistling to deter predators, and regularly gathering livestock while whistling for safety. Collaborative efforts are strengthened through the involvement of conservancy rangers in the training, fostering a cooperative relationship between herders and rangers.



*Conservancy ranger and Lion ambassador leading herders in the identification of predators*

## COMMUNITY OUTREACH AND AWARENESS COMMUNITY ENGAGEMENT BARAZAS

The Mara Predator Conservation Program (MPCP) conducts Community Barazas in various villages to address issues related to predator conservation, discussing challenges and implementing solutions. These cost-effective engagements serve as a crucial platform for disseminating information and receiving feedback from the communities it works with. In 2023, MPCP organized 8 feedback Barazas, attended by 208 community representatives from all 15 Lion Ambassador zones. These events play a key role in enhancing communication and community involvement in predator conservation initiatives.



*Community liaison officer engaging with community members during Wild Dog Baraza*

The team covered several areas including; Meguara, Ildung'isho, Ripoi, Nkineji, Rehero, Pardamat, Oloilepu, and Olchorro Losoit during the Community Barazas. Community members actively participated, engaging in structured questions designed to assess the impact of the meetings on their beliefs and perceptions, both before and after training sessions. The responses revealed negative community perceptions of wild dogs, prompting the need for interventions to change these views, especially considering the resurgence of the species in the Mara ecosystem.

Community members actively participated in interactive sessions, discussions, and

presentations, where they gained firsthand knowledge about the behaviors and ecology of African wild dogs. The focus was on understanding the uniqueness, social dynamics, habitat, and threats facing wild dogs, emphasizing the importance of their conservation and how the community can contribute to saving the species. Participants expressed a desire to attend future Barazas, highlighting the significance of these gatherings.

Overall, the sentiments reflected in the communities indicate that the Barazas were highly effective in reshaping beliefs and perceptions regarding wild dogs.



## POISON RESPONSE TRAINING

The presence of poison for HWC retaliation poses a severe threat to carnivores and birds in the Maasai Mara, similar to many other regions facing wildlife poisoning incidents. In response to this issue, MPCP has undertaken educational initiatives to empower community members in effectively and efficiently responding to wildlife poisoning incidents. In June, six training sessions were conducted in Empopong'i, Olare-orok, Orkarkar, Kishermoruak, Irbaan, and Olesere areas.

Each session involved a short questionnaire to gauge community perceptions, with a total of 157 individuals participating. Of these participants, 133 had heard about poisoning incidents, and 76 had personally witnessed one, underscoring the prevalence of such incidents in the local population's awareness. These training sessions aim to equip communities with the knowledge and skills needed to address and prevent wildlife poisoning.

*Daniel Korio, a Lion ambassador, educating community members on how to appropriately handle a wildlife poisoning incident.*



Poison response kit

The training participants were trained on proper protocols for managing poisoning incidents, including decontamination of affected areas, collecting samples for analysis, and maintaining detailed records of poison-related evidence for future investigations. The training aimed to equip participants with the knowledge and expertise needed to effectively respond to wildlife poisoning cases, minimize secondary losses, and contribute to overall conservation efforts in the area.

Lion Ambassadors were provided with comprehensive poison response kits to assist the community in safely addressing poison incidents without direct contact with harmful substances. This initiative underscores the commitment to building community capacity for proactive and safe responses to wildlife threats.

## CONSERVATION EDUCATION

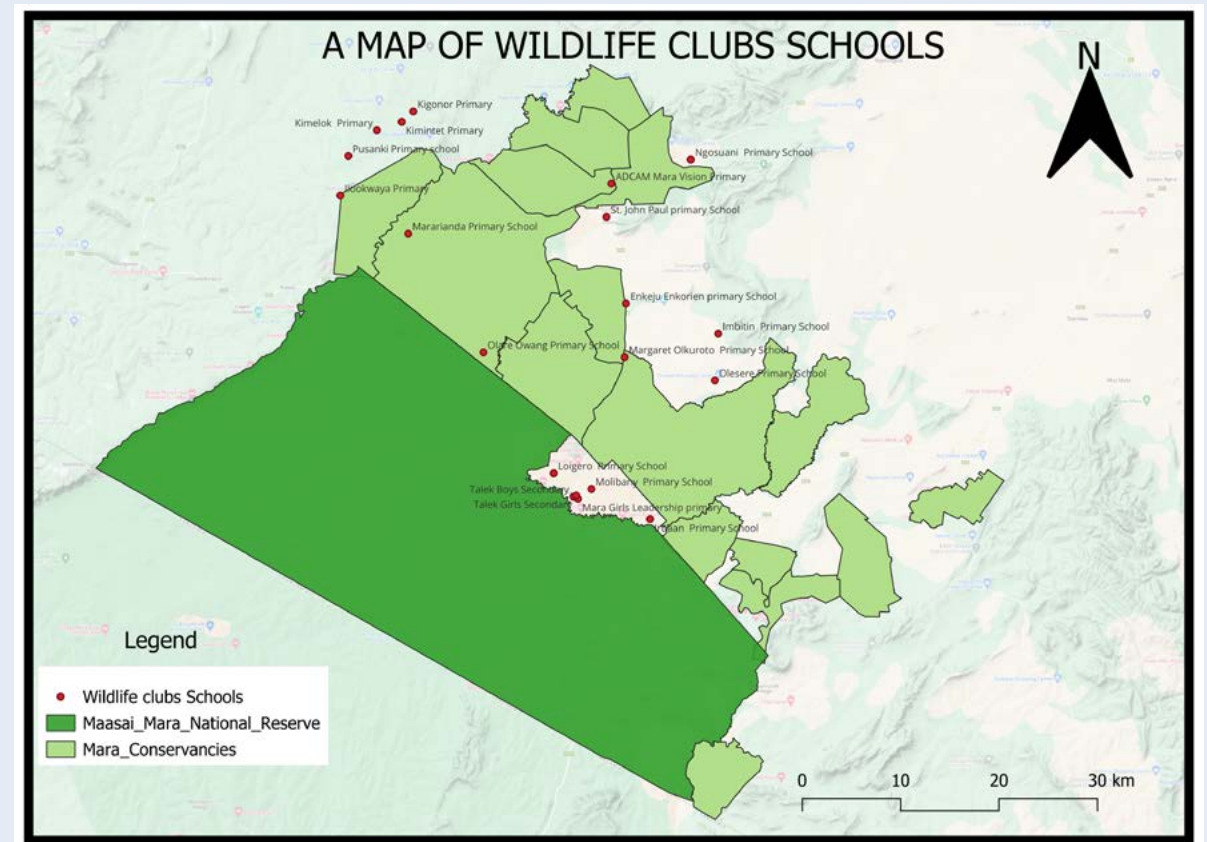
Throughout 2023, the Mara Predator Conservation Programme (MPCP) sustained its commitment to supporting wildlife club initiatives in the Mara ecosystem. The program conducted various activities designed to enhance children's awareness and cultivate positive attitudes towards wildlife. The activities undertaken in 2023 included the recruitment of wildlife club members, training of wildlife club patrons, tree planting exercises, distribution of learning materials, an annual art competition, Holiday Kids Camps, an Annual game drive, wildlife clubs open day, and cleanup initiatives.

This holistic approach reflects MPCP's dedication to fostering environmental education and conservation values among the younger generation in the region.

### RECRUITMENT OF NEW WILDLIFE CLUB MEMBERS

In an effort to expand its conservation education outreach, MPCP included five new schools situated along the border of Oloisukut Conservancy in its wildlife club initiatives. Consequently, the program now supports a total of 20 schools, with over 800 children enrolled as wildlife club members. Among these schools, 18 are primary schools, including Ngosuani Primary School, Olesere, Enkeju Enkorien, Mararianda, Olare Owang, ADCAM, St. John, Mbitin, Magret Kenyatta, Molibany, Irbaan, Loigero, Mararianda, Ilookwaya, Kigonor, Iltolish, Kimintet, Pusanki, and Kimelok. Additionally, there are two secondary schools, namely Talek Boys and Talek Girls.

The map below illustrates the locations of these wildlife club schools, showcasing MPCP's efforts to broaden its impact on conservation education across the region.



A map showing locations of wildlife schools in the Mara ecosystem



## ANNUAL ART COMPETITION

The annual art competition, a flagship event organized by MPCP, serves as a platform for wildlife club children to creatively express their perceptions of wildlife, with a particular focus on predators. This activity aims to instill confidence in members to articulate their feelings about wildlife while nurturing their drawing talents. In the latest edition, the newly recruited schools—Enkeju Enkoiren, Olesere, Olare Owang', Mararianda, Talek Boys, and Talek Girls—participated in the two-day event with 200 wildlife club members in attendance.



*Wildlife club members displaying their artwork after drawing.*

The competition provides valuable insights for MPCP into children's perspectives on wildlife, contributing to a better understanding of their attitudes and fostering a deeper connection with conservation efforts.

## WILDLIFE CLUBS' PATRONS' TRAINING

To ensure the sustainability of wildlife clubs, the Mara Predator Conservation Programme collaborates with club patrons to provide guidance and monitoring for wildlife club members. The approach involves equipping the patrons with the knowledge and skills necessary for successful club management.

In February 2023, MPCP organized a two-day training session with wildlife club patrons under the theme "Together we can protect the wild for future generations." Dr. George, the Conservation Programmes Manager of Wildlife Clubs of Kenya, facilitated the training in Talek. The 30 patrons from the 15 schools participated in sessions covering various topics, including environmental project resource mobilization, the role of teachers in Education for Sustainable Development (ESD) implementation in Kenya, a Whole School Approach in Micro Project Planning and Management, ESD and the school curriculum, and proposal writing.

Following the training, the patrons were treated to a game drive inside Maasai Mara National Reserve. This experience allowed them to observe both natural flora and fauna, including lions, elephants, buffaloes, and other herbivores, enhancing their connection to the environment and wildlife conservation.



*Wildlife club patrons during the training sessions*

## TREE PLANTING EXERCISE

In an effort to combat desertification and enhance forest cover in the Mara region, the Mara Predator Conservation Programme annually procures indigenous tree seedlings and plants them in schools during the long rain season. The region faces challenges such as the rarity of tree species like the Olive tree, driven by factors such as charcoal burning and illegal firewood harvesting, compounded by unpredictable rainfall and climate change events.

During the 2023 rainy season, MPCP acquired and distributed 1000 indigenous tree seedlings to various schools, villages, and conservancies



*Wildlife club members with community members planting tree seedlings in Mararianda primary school.*

in the Mara. The tree planting initiatives were organized and overseen by MPCP's outreach officer, who invited community members and school children to participate actively in the tree planting exercises. Students were encouraged to adopt a tree, taking responsibility for its survival and growth. This initiative aligns with Kenya's broader goal of planting 15 billion trees over the next decade, contributing to environmental conservation efforts in the region.



## DELIVERING THE 'OLE PEENKO' BOOK SERIES



St. John Academy patrons receiving Ole Peenkos books for the library school library

The Ole Peenko's book series has proven to be a highly successful method for disseminating pertinent information on diverse facets of human-wildlife conflict resolutions, climate change adaptation, and human-wildlife coexistence. In the reporting period, over 500 copies of both Volume I, II, and III were printed and distributed to school libraries across the Mara region.

This strategic distribution ensures easy access for school-going children, facilitating their engagement with valuable insights on coexisting with wildlife and addressing environmental challenges. The initiative underscores a commitment to education and awareness, promoting sustainable practices in the community.



New wildlife club members at Olesere school pose for a photo after receiving the book.

## WILDLIFE CLUB OPEN DAY

MPCP organized a Wildlife Club Interaction Day with all wildlife club members from 15 schools. This is also an annual event meant to create interaction among wildlife club members, community members, and other stakeholders on the importance of having conservation education in schools around the Mara.

The event brought together more than 500 wildlife club members, 600 Community members; conservancy managers, and the area chiefs. Members presented conservation-themed items e.g. songs, poems, and dramas to the audience which inspired them to realize the work that MPCP does to make communities in the Mara appreciate and understand the role of predators.



Wildlife club members from Mararianda Primary School presenting a wildlife dance during the event.

## ANNUAL HOLIDAY KIDS' CAMPS



Stella, a wildlife club patron reading Ole Peenko VII with wildlife club members.

The Holiday Kids Camp, an education initiative by MPCP, is designed to bring together a selected number of children during school holidays for an immersive four-day experience focused on imparting conservation knowledge. This unique opportunity allows MPCP's community outreach officers and club patrons to engage with 50 wildlife club members during each holiday period, fostering meaningful interactions.

In 2023, MPCP successfully hosted 100 wildlife club members and 8 patrons from 16 schools during the April and August holidays at Talek Boarding Primary School. The four-day camps aimed to create dedicated time for wildlife club members to learn more about conservation through various engaging

activities. The initial two days involved reading Ole Peenko's book series, which includes stories on human-wildlife conflict mitigation and the importance of wildlife conservation, accompanied by a fun lion Origami game. The camps also featured field visits to newly established project sites, netball and athletics games, artwork face painting, and game drives. This holistic approach provides an enriching experience for the participants, combining education and recreation to deepen their understanding of conservation principles.





*Mwaana from Basecamp educating children on the importance of planting trees*

The final two days of the Holiday Kids Camp were dedicated to engaging outdoor activities. Participants visited nearby projects, including a beadwork project, a tree nursery, and an eco-friendly kitchen garden at Base Camp. A game drive to the Maasai Mara National Reserve offered the children the rare opportunity to witness elusive wild animals, including a rhino. The children also had the privilege of visiting museums and attending a cultural week at Sekenani. To commemorate their stay, the children were awarded certificates of participation after the Kid's Camp, creating lasting memories of their educational and culturally enriching experiences.



*Rhino Group drawing a rhino they saw during game drive*

## TEAM UPDATES

### MPCP STAFF PUBLICATIONS

We contributed to the publishing of three scientific papers in 2023.

The survival of species in the Anthropocene era relies on humans being willing to coexist with them. Unfortunately, this aspect is often overlooked in assessments of habitat suitability and conservation priorities. To address this gap, we propose a sustainable coexistence potential framework that incorporates human willingness to coexist into habitat suitability assessments. In our study in the Maasai Mara, Kenya, focusing on elephants and rhinos, we utilized Bayesian hierarchical models based on 556 household interviews to determine people's willingness to coexist.

We integrated this information with socio-ecological habitat suitability mapping, validated by long-term elephant observations from aerial surveys. We found that willingness to coexist was higher among individuals with little personal experience with a species but significantly reduced when people perceived a species as a threat. The framework identifies areas of low socio-ecological suitability and highlights where increased efforts are needed to engage stakeholders positively, aiming for the long-term survival of large herbivores in human-dominated landscapes.– [\*\*Identifying sustainable coexistence potential by integrating willingness-to-coexist with habitat suitability assessments.\*\*](#)

A subsequent research paper delved into the ecological consequences of coexisting regulated livestock herds with wildlife populations. Initially, at an ecosystem level, we examined the correlation between wild herbivore distributions in the Greater Mara Ecosystem, cattle density, and environmental factors. Subsequently, at a landscape level, we investigated the impact of rotational cattle grazing on the distribution of wild herbivores in Mara North Conservancy.

Lastly, we explored how the functional traits of wild herbivores influence their species-level responses to cattle grazing. Our findings indicated significant variability in the influence of cattle on different wild herbivore species, suggesting a spectrum of interactions from facilitation to competition. Preserving designated livestock-free zones remains crucial, even within rotational grazing systems, to support species that strongly avoid cattle. Rotational grazing systems with controlled livestock densities offer a promising opportunity to enhance the coexistence of wildlife and livestock, thereby contributing to improved wildlife conservation in African rangelands.– [\*\*Rotational grazing with cattle-free zones supports the coexistence of cattle and wild herbivores in African rangelands.\*\*](#)

Our last paper examined the local sentiments towards African wild dogs in the Mara region. We conducted a survey within the Greater Mara Ecosystem to investigate community attitudes regarding the re-establishment of African wild dogs after their disappearance from the region. Through the analysis of data collected from 60 households, we discovered that the proximity to protected areas, land leased to conservancies, and individuals' perception of risk significantly influenced their level of tolerance towards African wild dogs.



Notably, the absence of human attacks and the fact that 78% of respondents had not encountered livestock predation suggested a positive coexistence. For those who perceived a risk, 37 out of 46 recognized livestock predation occurred only when livestock were unattended during daylight hours. These findings underscore the potential for coexistence and the recovery of species in this mixed-use landscape, emphasizing the importance of effective conservation education, livestock management, and economic incentives.– [Coexisting with carnivores: insights into local attitudes toward African wild dogs \(\*Lycaon pictus\*\) in the Maasai Mara, Kenya](#)

## OCCUPATIONAL HEALTH AND SAFETY TRAINING

Between July 24th and 28th, 2023, personnel from St. John's Ambulance Kenya conducted a comprehensive training for the staff of the Mara Predator Conservation Programme (MPCP). The training covered basic first aid and occupational health and safety (OHS). The first aid training aimed to equip staff with essential skills for prompt and effective emergency response, potentially saving lives and minimizing injuries.

Concurrently, OHS training was provided to safeguard worker well-being and maintain a secure work environment by empowering employees with the knowledge to identify and mitigate workplace hazards. Additionally, a fire safety training course was conducted, reflecting a proactive approach to safety that included raising awareness, teaching preventive measures, and ensuring compliance with regulatory standards. All participating employees received training certificates upon completion of the program.



First aid and occupational health and safety training

## STAFF ACCOMMODATION CONSTRUCTION UPDATE

During this period, the first phase of the staff accommodation construction commenced. The current accommodations signify an improvement compared to the previous facility, offering more spacious rooms to create a comfortable and homely environment for the staff. Currently, eight units are nearing completion, marking progress in the construction project.

However, additional funds are needed to ensure the facilities are fully completed, and subsequently, to initiate the second phase of the project, as depicted in the photos below.

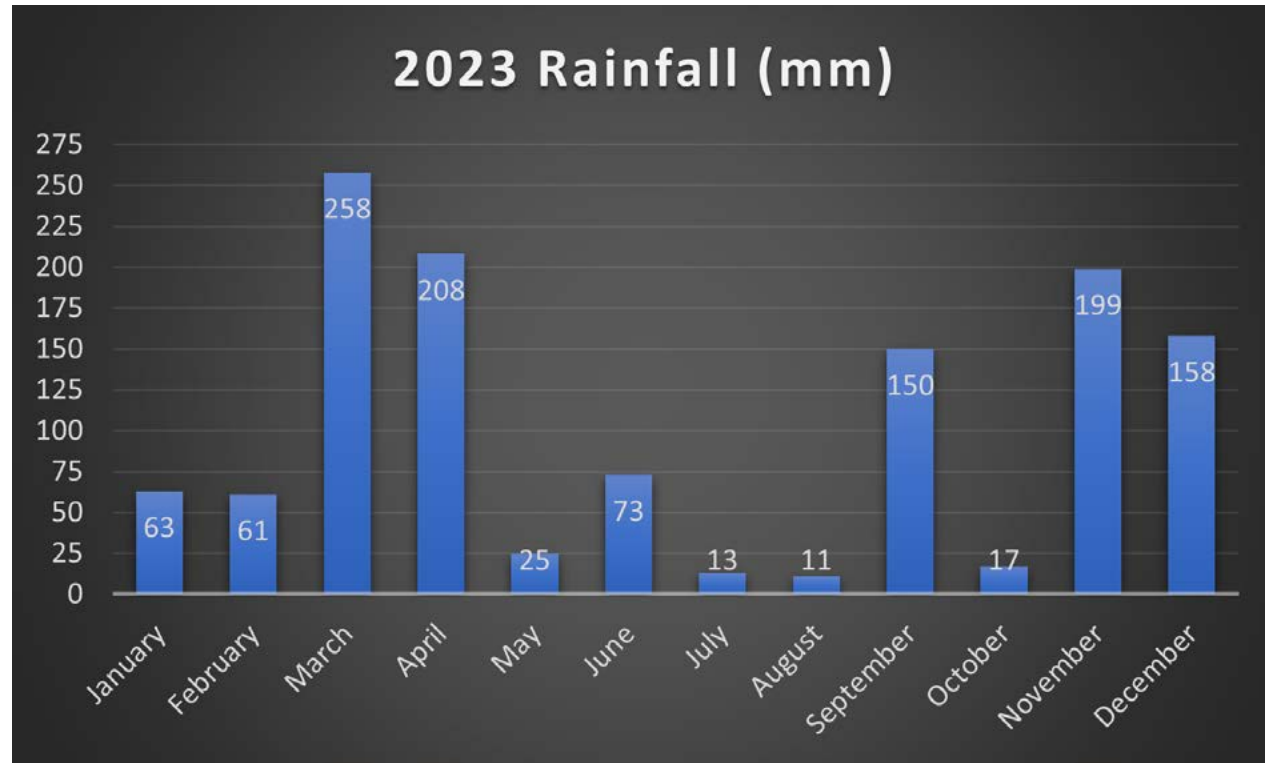


Staff accommodation ongoing construction



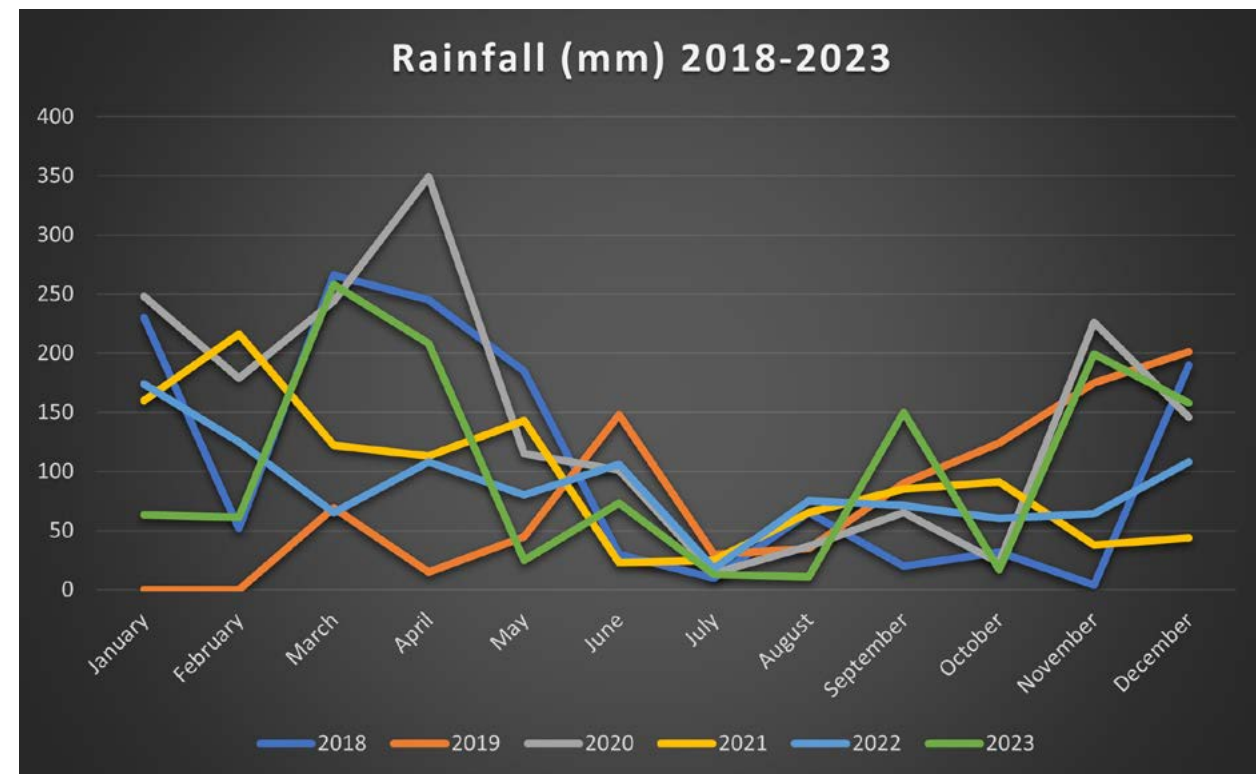
# APPENDIX RAINFALL

We recorded a total of 1235 mm of rain from the Predator Hub's weather station



2023 Monthly rainfall.

Figure 38 shows the rainfall over the last five years, from 2018-2023 to see short-term trends in rainfall. There has been a large variation in the long rains, which usually run from March to May, and the rains have become more unpredictable over the years.



Monthly rainfall from 2018-2023.

# ACKNOWLEDGMENTS

Our 2023 achievements were only possible through collaborations and support from our dedicated partners. We would like to extend our sincere gratitude to everyone who supported us.

In particular, we are extremely grateful to the following organizations for their support.







**Mara Predator Conservation Programme**

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