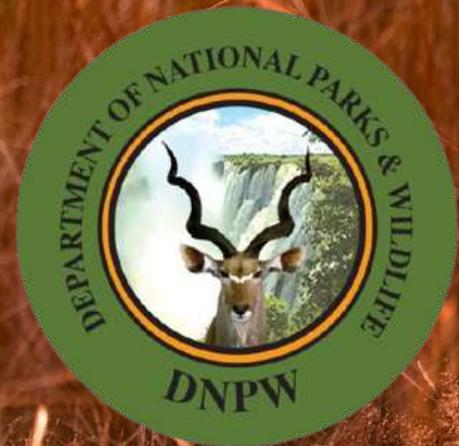




# 2022 REPORT



## Key

 Musekese Conservation Base Camp

 Rivers

 Musekese Lumbeya (KNP)

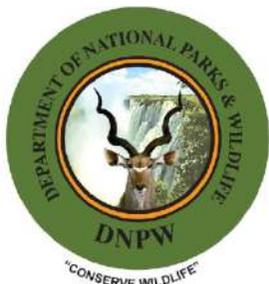
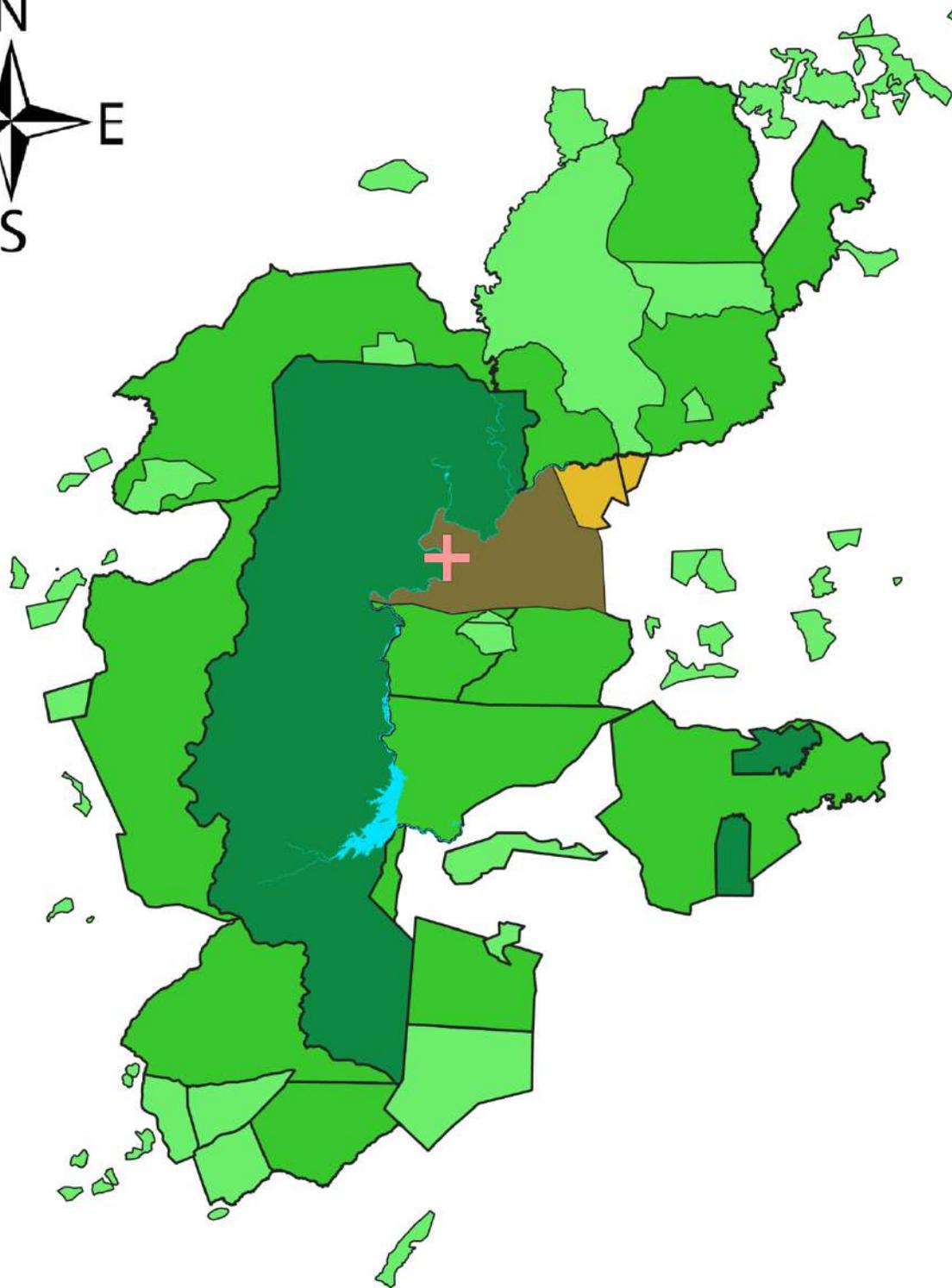
### GKE Protected Areas

 Kafue National Park

 Game Management Area

 Forest Reserve

 Conservancy



0 50 100 km







# 2022 OVERVIEW



2022 was a good year for conservation in and across the greater Kafue National Park. Captured in just a few words, we look back upon it as *transformative, collaborative, and successful*. We celebrate the formation of new partnerships and the strengthening of old; wildlife continues to go from strength to strength and employment opportunities increase as momentum gathers for community-based initiatives. We are delighted to share with you the following select highlights.

- Our Focus
- Our Success to Date
- Law Enforcement
  - Research
- Fire Prevention and Management
  - Intern Programme
- Sport and Conservation
  - Funding
- 2023 and beyond



# OUR FOCUS



**LAW ENFORCEMENT**



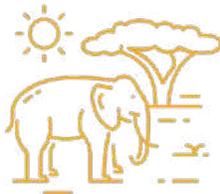
**COMMUNITY  
ENGAGEMENT**



**RESEARCH**



**STAKEHOLDER  
COLLABORATION**



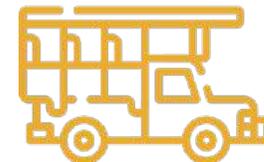
**WILDLIFE AND HABITAT  
MANAGEMENT**



**WOMEN  
EMPOWERMENT**



**ENVIRONMENTAL  
IMPACTS**

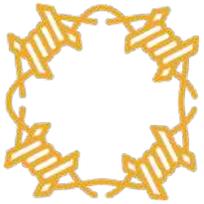


**TOURISM AND  
CONSERVATION**



# OUR SUCCESS TO DATE

\*Figures from Feb 2019 - Feb 2023



**295 Wire Snares Recovered.**



**+17,750 Patrol Days.**



**76 Poachers Arrested.**



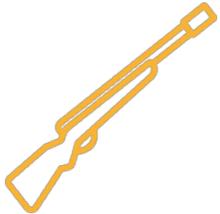
**+2,000kg Bushmeat Recovered.**



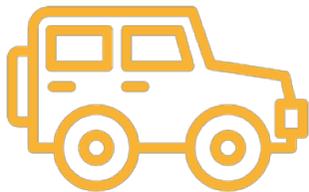
**6 x Full Time Anti-Poaching Teams Trained & Supported.**



**+36,000km On Foot.**



**19 Firearms Recovered.**



**+42,000km in Vehicle.**



**+50 Individuals Directly Supported.**



**1 Fully Equipped Anti-Poaching Unit.**



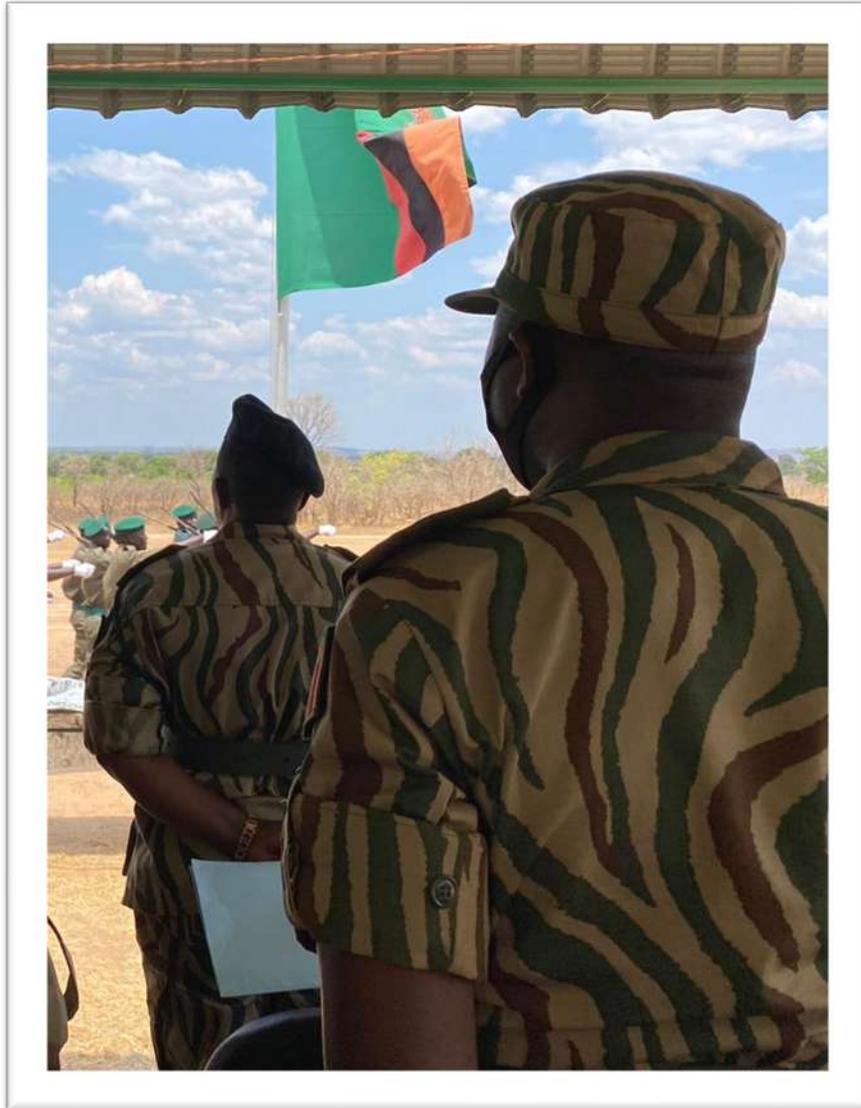
**+10,000km of Aerial Support.**



**1 Aircraft hangar.**



# LAW ENFORCEMENT



In 2022 we increased the number of patrol teams to 6, supporting a total of 41 law enforcement staff and enabling greater and sustained coverage across the region. Patrol intensity increased significantly from 1.28km/km sq. in 2019 to 4.05km/km by the end of 2022. This level of patrolling is necessary to prevent incursions into core areas, enabling wildlife populations to recover.

This was a timely intervention coinciding with an increase in illegal activities detected along and close to the Park boundaries, consistent with the accelerated levels of encroachment in the surrounding GMAs. Patrols were coordinated with DNPW, African Parks, Game Rangers International, Panthera and Mushingashi Conservancy. Scouts also rotated through escort and research duties as and when required.

Patrol teams conducted over 12,000km of foot patrols across the Musekese-Lumbeya region during this reporting period, with additional patrol coverage in both Mumbwa GMA and other parts of KNP on occasion. Multiple arrests, recoveries and intelligence were recorded, contributing to a deeper understanding of the ever-changing threats to the ecosystem. Patrol teams were deployed via combination of vehicles, boat and on occasion by helicopter in collaboration with African Parks.

MC has continued to provide a high level of support to the Nalusanga Gate/Sector, including communications, a container for secure storage, ensuring their vehicle remains serviceable and providing resources for the intelligence and information unit. Teams and staff assisted The Bright Future Project with a large clean-up effort around the main entrance gate to KNP.

Due to changes in park management the anti-poaching aircraft was not utilized, however we have used the time to undertake necessary maintenance in respect of service bulletins and inspections. The aircraft remains serviceable and ready for deployment. We were able to provide fuel for one of the GKLL aircrafts to conduct specific flying over the Musekese-Lumbeya region of the park.

# Patrol Effort 1st March 2019 - 28th Feb 2023



## Key

 ML IPZ Border

 15x15km Grid

## Patrol Effort km per km<sup>2</sup> per year

 0.001 to 0.5 km

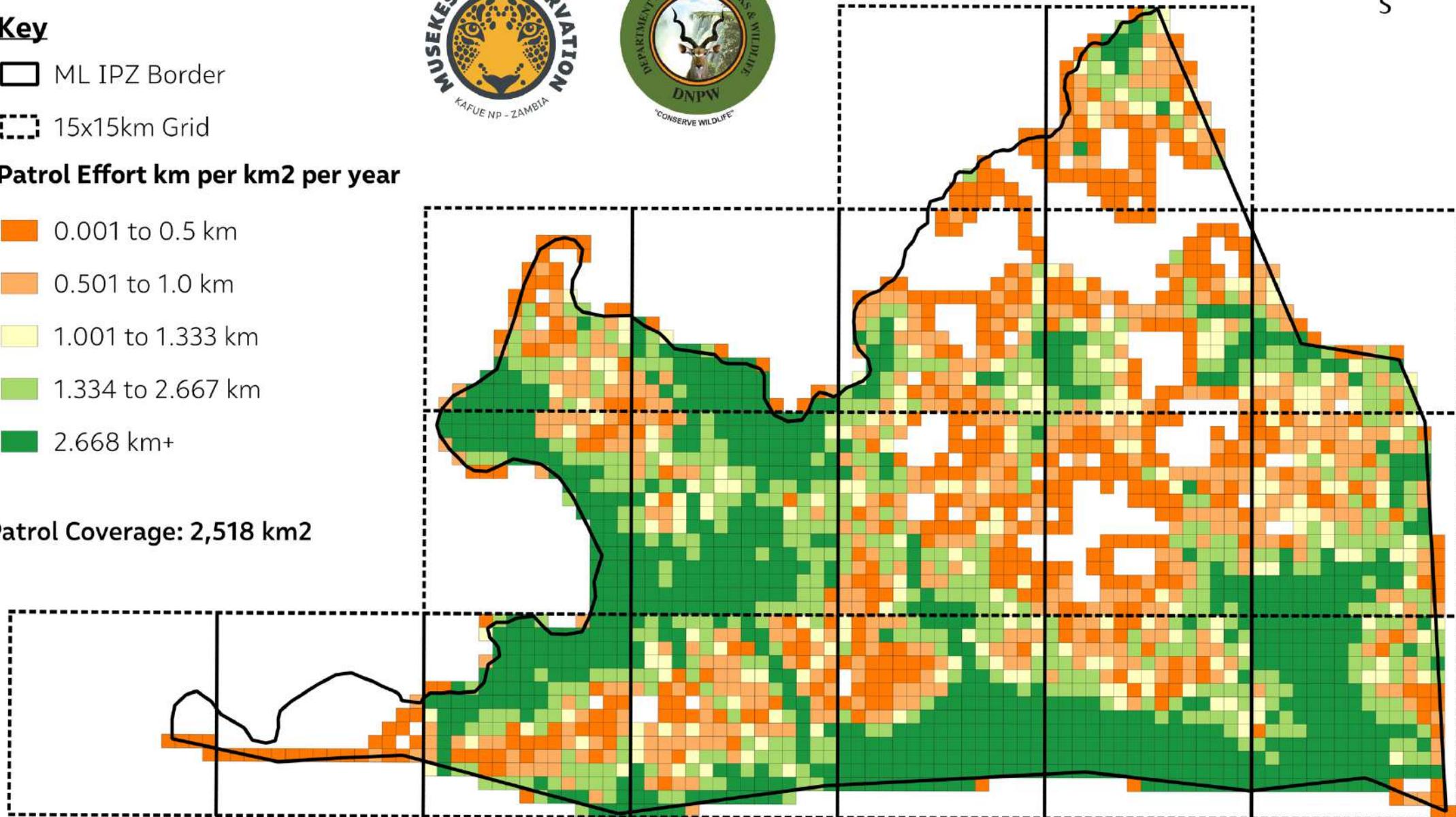
 0.501 to 1.0 km

 1.001 to 1.333 km

 1.334 to 2.667 km

 2.668 km+

Patrol Coverage: 2,518 km<sup>2</sup>



0 10 20 km





# RESEARCH



In 2022 we conducted five primary research projects across the ML IPZ. These included intensive carnivore monitoring to measure all ecological information as well as provide routine snare checks etc. Distance sampling for herbivore population estimates, camera trap grid surveys for carnivore density and occupancy estimates, vehicle based SECR surveys for lion density estimates, and a citizen science project to collect data on all large carnivore sightings by participating camps and lodges. These activities covered a combined area of approximately 1,400 sq. km, or roughly 50% of the Musekese-Lumbeya region of KNP.

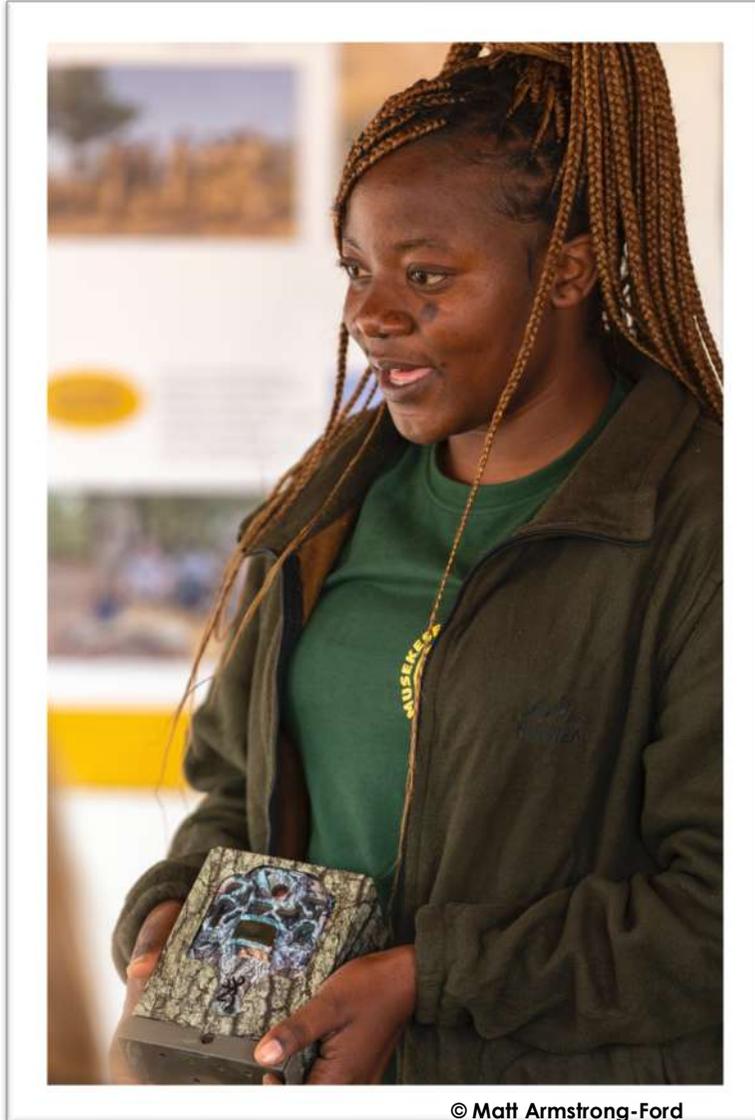
The research team intensively monitored 23 lions across 7 prides and coalitions in the core area, and, collaboratively, 49 lions across 15 prides and coalitions across the entire ML IPZ. A total of 59 painted dogs in five collared packs were routinely monitored across the same region in collaboration with ZCP. Results and analyses, including for leopard and other species, are presented in the research report, which can be requested by email; [info@musekeseconservation.com](mailto:info@musekeseconservation.com).

Research and monitoring activities were done through our partnership with DNPW and in close collaboration with Panthera and the Zambia Carnivore Programme. In 2023 this partnership extends to include African Parks and the Greater Kafue Landscape Limited as part of strengthening park-wide research, monitoring, and knowledge.





# CAMERA TRAPPING



© Matt Armstrong-Ford

For our camera trap work, Musekese Conservation has partnered with NatureSpy, a UK camera trap organisation that supports conservation across the world. In 2022 we increased the number of cameras and designed a survey to quantify carnivore densities in the core area. This evolved into a collaborative study with Panthera in the core area on large carnivore densities. Panthera supplied 80 cameras and we supplied 46, totalling 126 cameras active for the survey.

Through this survey, we were able to estimate preliminary population density estimates for lions and hyaenas in 2022, with leopard data still being analysed. The lion density in the ML IPZ was 1.6 lions >1 year old/100km. To contextualise these results relative to other Kafue surveys, lion density in the ML IPZ is higher than in Kafue South, but lower than Kafue Central and Kafue North. The hyaena density in the ML IPZ was 2.1 hyaenas >1 year old/100km<sup>2</sup>. No results have been published on hyaenas from Kafue surveys, however, these are being analysed by MC and Panthera currently, and comparisons will be made in a future report.

After the collaborative study, we did a faunal inventory survey in the northern section of the ML IPZ using our remaining cameras, with the intent to guide anti-poaching decisions, perform a first assessment of the area, and give us knowledge on how best to design a density survey in the region. We recorded all five large carnivores in the survey, giving us good evidence of the feasibility of performing a density survey in 2023.



21°C



06/30/2022

12:40PM

CAM25LOC21





# WILDLIFE COLLARS



The MC research team spends vast amounts of time in the field, with a lot of that time dedicated to monitoring large carnivores, including known groups and individuals. During this time, it is not uncommon for the team to encounter unknown animals, and in recent months discovered a new sub-group of lions as well as two new wild dog packs.

The *Zambian Carnivore Programme (ZCP)* is one of our key partners in the landscape with whom we have collaborated closely since inception, and together with *DNPW* they assisted in the deployment of wildlife tracking collars onto these groups.

The deployment of these tracking collars will greatly enhance the understanding of carnivores in the region and equip MC's monitoring teams with the spatial and temporal information key to securing their ranges and territories. This 'halo' approach, closely coordinated with our anti-poaching teams, has proven extremely effective in recent years and as a result the populations of large carnivores in the core areas are thriving.



# DE-SNARING



© Panthera

After a successful few years with no snared animals recorded in the core areas we were alarmed when the research team discovered a snared hyena on camera trap, whilst a neighbouring camp reported a sub-adult lion carrying a snare-related wound. A patrol team was deployed into the area of concern and soon discovered a male lion in a snare as well as a warthog. The MC team managed to secure the area and maintain visual on the lion without causing further distress until help could arrive. ZCP & DNPW responded with the required veterinary assistance and conducted the de-snaring exercise with help from the MC research and anti-poaching teams.

Despite our best efforts the hyena was unable to be relocated, however the vigilance of the research team combined with a quick response from the MC patrol team in collaboration with DNPW and ZCP ensured a successful outcome for the male lion and warthog that were released without harm. An additional patrol team was deployed and dismantled further snares, highlighting the importance of a continuous presence of boots on the ground particularly in known hotspots. Thank you to [McBrides'](#) Camp for reporting the young lion with the snare-related wound.





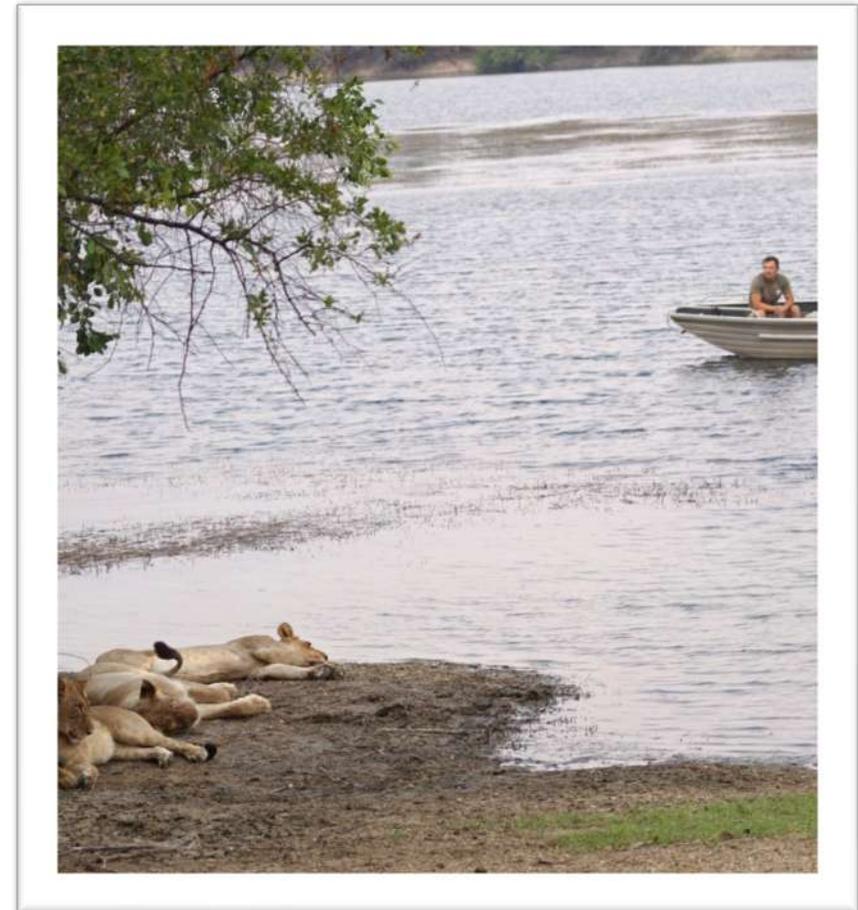
# CITIZEN SCIENCE



Musekese Conservation assists DNPW, GKLL, ZCP, and Panthera with the Kafue Carnivore Coalition (KCC) citizen science programme. Classic Zambia's Musekese Camp within the ML IPZ partakes in recording game drive tracks and carnivore sightings on SMART devices, which are collated by Musekese Conservation on a monthly basis. These data are used by partners as part of their overall citizen science analyses.

Over July 2022 – November 2022, Musekese Camp drove and recorded 2381km in 120 unique game drives/boat drives within the ML IPZ. Musekese Camp guides recorded 209 separate encounters/sightings of various large carnivores during the course of the season, contributing an enormous amount of data to the research undertakings.

Other lodges who are not part of the KCC SMART programme submit ad hoc sightings to the MC-DNPW research teams, who then collate these sightings as part of other projects. Our intention in 2023 is to expand this citizen science work to other lodges in the Musekese-Lumbeya, built on the success of the work at Musekese Camp.





# FIRE PREVENTION AND MANAGEMENT



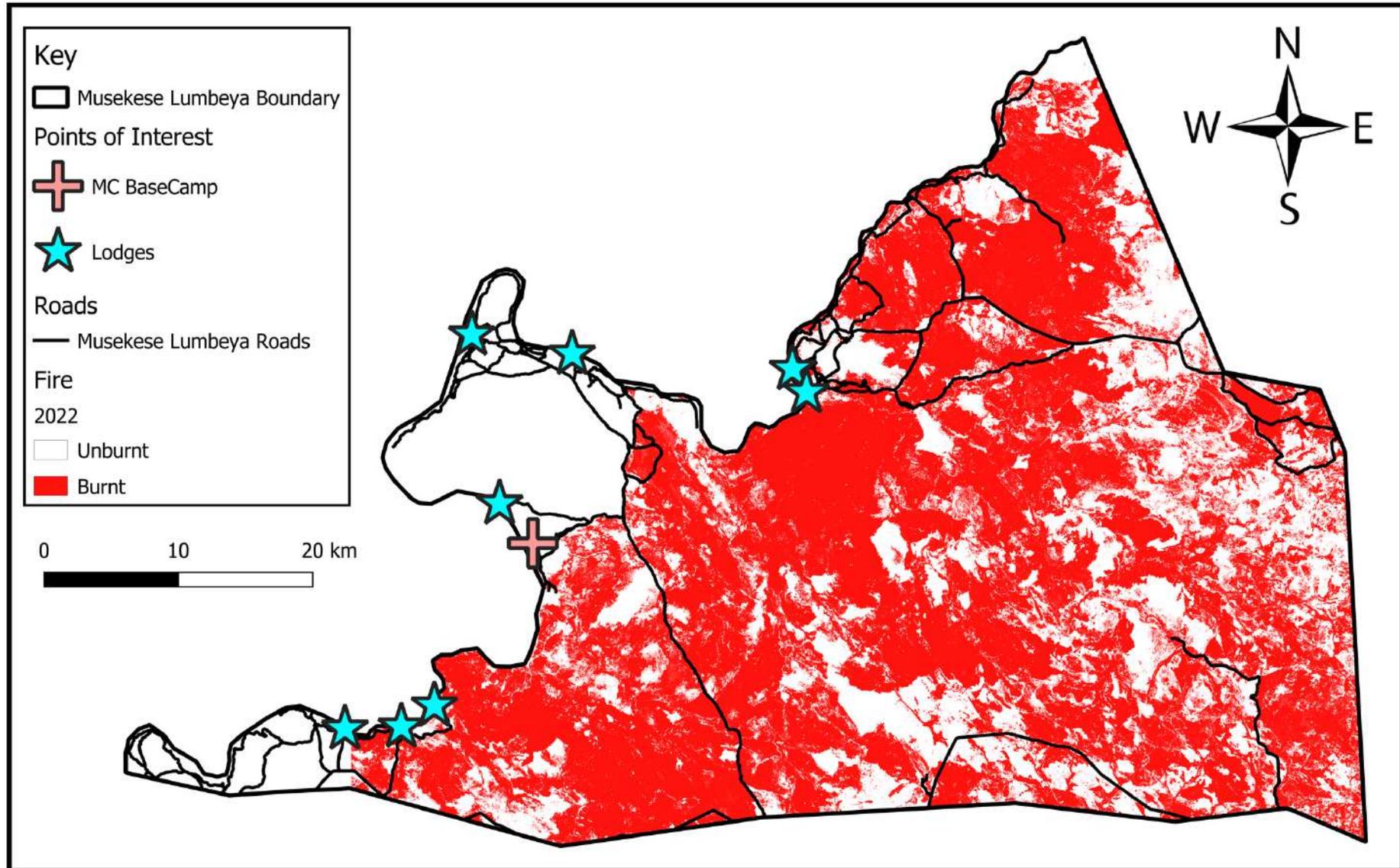
MC takes fire very seriously and year upon year has attempted to expand the coverage and extent of firebreaks. This year, in conjunction with GKLL Fire Fighting Team we were able to increase the length of firebreaks in the core area to approximately 40km and as a result kept some 70% of the core area free from fire. This is critical for the survival of wild dogs, lion, leopard and cheetah known to be denning and nursing pups and cubs in the area.

The map on the following page is indicative of the extent of fire on an annual basis across the ML IPZ. This is perceived as one of the greatest threats to the biodiversity of the greater Kafue National Park and it is imperative that our future plans include detailed analyses of the effects of fire on the ecosystem to determine best practices.

With sufficient resources and the development of strategic infrastructure it is possible to increase the effectiveness of firebreaks and design appropriate preventative strategies. The recovery and, where necessary and appropriate, the reintroduction of large herbivores will also have a positive effect on the impacts of fire and the recovery of grassland and other habitat.



# MUSEKESE-LUMBEYA FIRE MAP 2022







# INTERN PROGRAMME



In May the MC team was joined by two interns from the Copperbelt University in Zambia, both of whom have now joined the MC team on a full-time basis. We look forward to seeing them grow into their roles as they gain valuable experience across various aspects of the project, including research, camp management, human resources and women's empowerment.

MC is committed to providing internships alongside more permanent positions within the organization to ensure that we continue to help nurture Zambia's young conservationists.

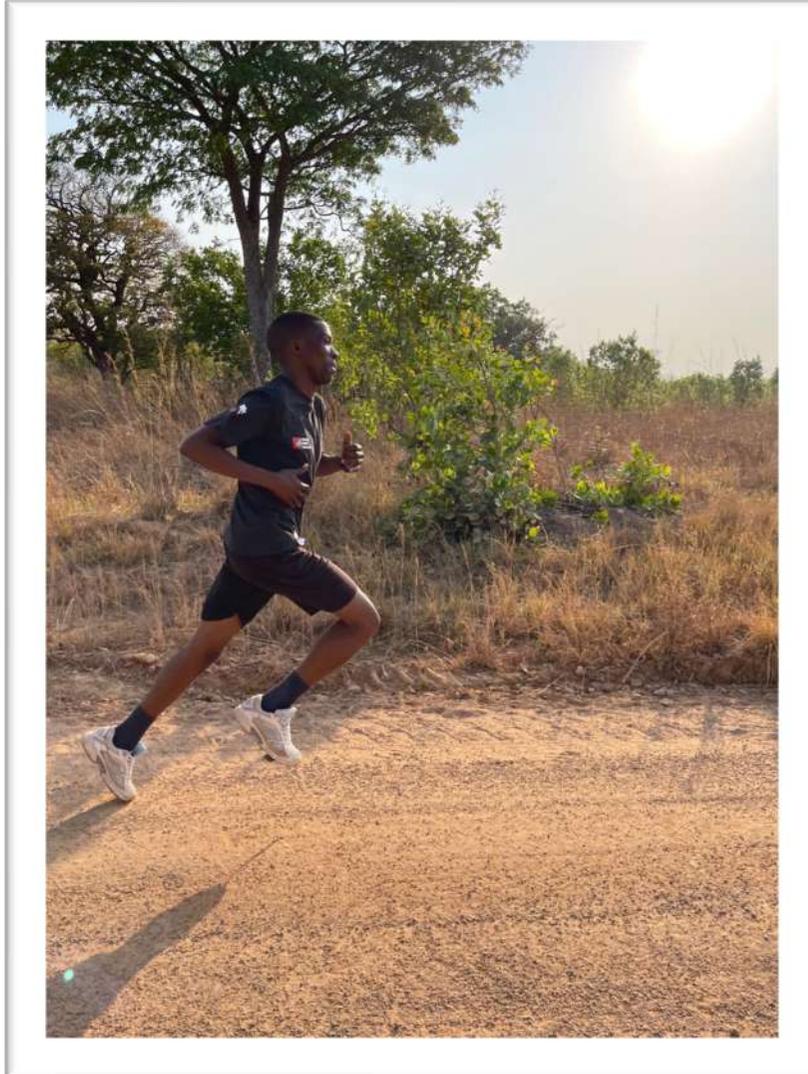
In addition to this, funding and materials were provided for two DNPW personnel wishing to further their studies in the field of wildlife conservation and management.

We look forward to welcoming more interns in 2023.





# SPORT AND CONSERVATION



Sport plays a significant role in supporting conservation efforts, it's a critical tool we like to integrate to build camaraderie, promote physical fitness and maintain morale. We fully acknowledge the challenging and dangerous environment our teams operate within. Sport can provide a much-needed break from the challenges experienced in the field and serve as a team building exercise.

Furthermore, sport can provide a way to unite not only the various pillars of Museke Conservation but also engage with the local communities and build relationships. Our teams work closely with the local communities to gather intelligence, monitor wildlife populations, and raise awareness of the importance of conservation.

In 2022 we participated in two prominent sporting events, Tangila Trail Series and Wildlife Ranger Challenge. Tangila Trail Series takes place in Mkushi, Zambia – in 2021 they hosted the inaugural Solomon Chidunuka Challenge Cup, Conservation organisations across Zambia are invited to submit a team which is a mixture of male and female runners along with Law Enforcement and civilian team. We were also thrilled to participate in Wildlife Ranger Challenge for the 3rd time – we participated in this alongside GKLL and the Chunga Training School.

In 2023 we plan to increase our sporting activities and hold regular sporting activities with the local community such as football matches and running events.



**TANGILA  
TRAIL SERIES**



# FUNDING

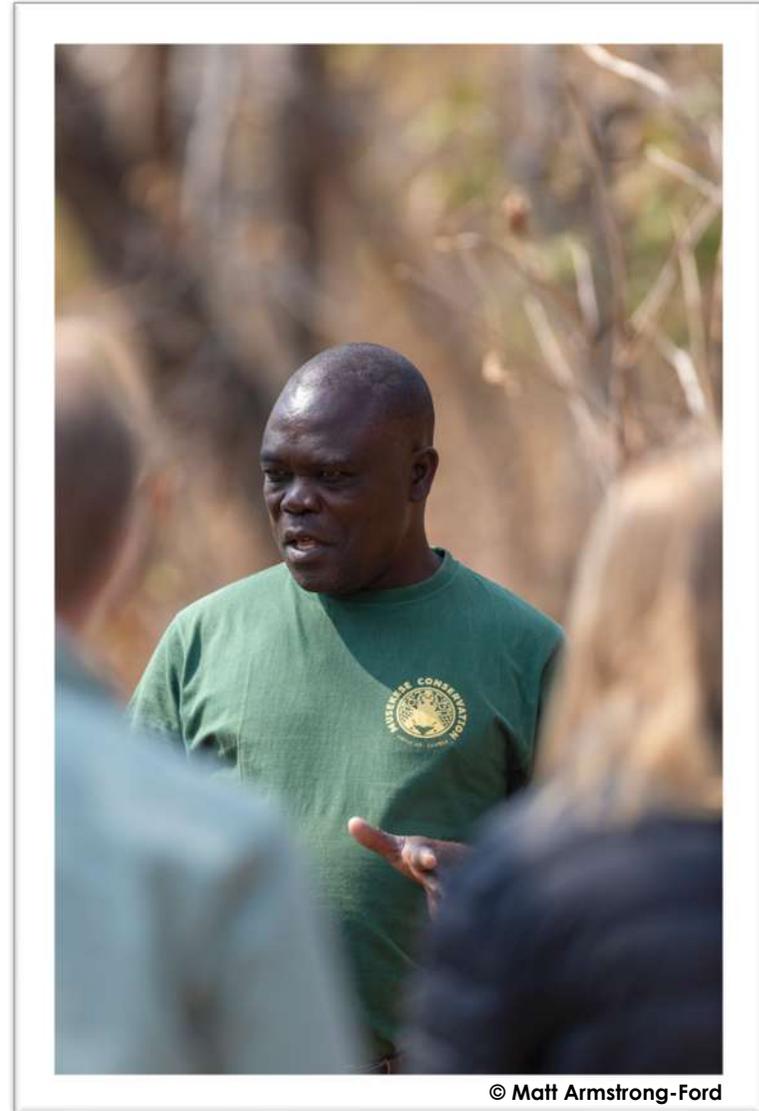


MC continues to promote the relationship between tourism and conservation and we are grateful to the many guests that pass through the [Classic Zambia](#) camps, which put aside USD40 per person per night for conservation. Philanthropic support from many guests beyond their bed night contributions is also a tremendous boost.

Our teams and staff were delighted to be a part of [Tusk's](#) Wildlife Ranger Challenge for the 3rd year in a row (DNPW and AP team members also participated) – for 2022 we were able to raise a significant amount through this initiative, with an additional 25% of this being matched. 90% of the funding was generated through tourism and lodge guests visiting the Musekese Conservation Anti-Poaching & Research base during their stay.

Travel industry partners are beginning to play a part in conservation and responsible companies such as [Swiss African Travel](#), [Busanga Safaris](#) and [Sur la Liri](#) have all made generous contributions. If you are a travel agent interested in conservation then please do get in touch to see how you might be able to support conservation efforts in and around the KNP.

Ongoing support from donors that include [Wildlife Conservation Network](#) and the [Lion Recovery Fund](#) has enabled the funding from tourism to go even further in sustaining the suite of activities necessary for protecting such a large territory from illegal activities.



© Matt Armstrong-Ford





# 2023 AND BEYOND



2022 heralded the start of a new era for Kafue National Park, as on the back of the 18-month Priority Support Plan, African Parks signed the long-awaited 20-year collaborative management agreement with the Government of the Republic of Zambia and DNPW. This created the joint venture Greater Kafue Landscapes Limited (GKLL).

Accordingly, at the request of and in collaboration with African Parks/GKLL, all MC patrol teams shall cease operations within Kafue National Park as of the 1st of March 2023. These teams will be redeployed into neighbouring Game Management Areas where MC will continue to support conservation objectives across the wider KNP landscape. We are immensely proud of our community scouts, wildlife police officers and administrative and management staff that we can pass on this particular baton of our operations inside the KNP, leaving the region much, much richer than when we found it, and look forward to continuing our close collaboration with African Parks/GKLL and partners into the future.

The transition to GMA-based law enforcement presents an opportunity for the project to contribute to conservation in the region to an even greater extent; MC is currently strengthening its agreements with DNPW, Community Resource Boards, Traditional Leaders, and other stakeholders. This will pave the way for the development of much needed community-based natural resource management initiatives – it is our ambition to develop initiatives that enable local communities to lead sustainable livelihoods, facilitate access for community members to employment opportunities and the creation of small businesses, and foster an understanding and appreciation for the natural resources that they live amongst and rely upon.





In addition, MC will re-sensitize all existing patrol teams in the application and observation of human rights, as well as extensive training regarding the laws, acts and land use plans specific to the Game Management Areas in collaboration with the Wildlife Crime Prevention Project. Anti-poaching teams will be at the forefront of preventing the illegal activities taking place in the GMAs, the boundaries of the Park and the M9 road.

Despite the withdrawal of anti-poaching teams from the Park itself into the GMA, the research teams shall continue with their objectives across the Musekese-Lumbeya region of KNP. The research teams are increasing the scope of work and coverage to account for gaps in data and the increasing ranges and populations of large carnivores and other wildlife that has benefitted from previous years' anti-poaching efforts. Data collected will help park management make informed decisions and likewise contribute to a greater understanding of the wider ecosystem, whilst also enhancing the coverage and work of other research and conservation partners in the KNP.

**We look forward to keeping you up to date with our progress in the next chapter of Musekese Conservation**

**Musekese Conservation is a Zambian not-for-profit organization working in the Kafue National Park. Through the generous support of [Dazzle Africa](#) (a 501(3)c) and [The Kafue Foundation](#) (A UK-registered charity) we are also able to receive tax-deductible donations from supporters in the US and the UK. If you have any questions, concerns or would like to make a donation please contact us at [info@musekeseconservation.com](mailto:info@musekeseconservation.com).**

**A great deal of thanks to the [Department of National Parks & Wildlife](#) as well as cooperating partners, including [Game Rangers International](#), [African Parks](#), Mushingashi Conservancy, [Panthera](#) and the [Zambian Carnivore Program](#). Any omissions are purely accidental.**



# IN COLLABORATION WITH



# KEY SUPPORTERS



Lion Recovery Fund



[www.musekeseconservation.com](http://www.musekeseconservation.com)

@musekeseconservation

info@musekeseconservation.com

