



Annual Report 2022

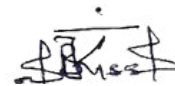
Letter from Chairman

2022 was not what we were expecting, with outside factors that we were unable to control affecting much of our work. It was a year of back-stopping and ensuring that the damage was kept to a minimum, a year of rethinking strategy, building onto our coexistence model, and a year that we came out stronger.

In January, the Government resettlement program from the NCA to Handeni brought communications and activities to a standstill for some months. In July, the threat of drought loomed as nomadic pastoralists moved their herds to the water and grass in Ndutu. The competition for resources increased through November as people migrated from the newly established Pololeti Reserve in Loliondo came into the area. The conditions were created where conflicts were rife between lions and pastoralists, resulting in high numbers of livestock depredations and several retaliatory lion killings, despite the long hours and hard work of KopeLion's team.

The communities of Ngorongoro Conservation Area are the informed custodians of their biodiversity, but it is difficult to protect and sustain this incredible area when so many outside factors are working against you. With increasing challenges coming from climate change effects and external influences, we've included participatory conversation into our 2023-25 strategy as a key supporting factor to our work, hoping that some resilience and solutions can be sought through open and peaceful communication.

In defiance of the challenges that 2022 brought us, we still expanded our area of work, built our team and introduced new coexistence tools to people in Ngorongoro. After some hard lessons, we are set to do things a little bigger and much better in 2023.



Dr. Bernard Kissui
Chairperson, KopeLion Tanzania

We work to improve people's livelihoods and to ensure lion's connectivity across the Greater Serengeti Ecosystem, by engaging with the pastoralist communities and applying cultural, environmental and economic values to our conservation efforts.



Strategic Plan 2023-25

Reducing Conflict



Learn about the programme



“

Had it not been for the great commitment by KopeLion we would have been in disarray with the Lions and the NCAA. We would have killed many lions in conflict and ended up on the wrong side of the law, but the KopeLion Ilchokuti gave their best to preempt conflict when they could. There are very few instances, if any, that we did not receive support from KopeLion when we most needed it."

Elder spokesperson, Alaiyole village

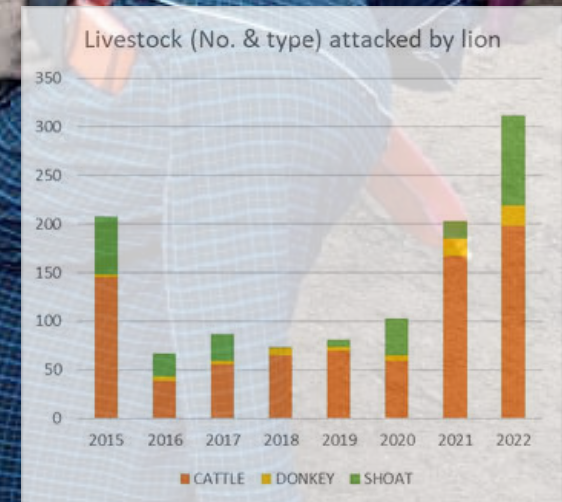
Lion attacks on livestock

The policy changes in NCA and Loliondo had a knock-on effect on Ndutu, causing an unexpected influx of people seeking water and grazing in the area during the dry months of July to November. Together with this year's drought and many lions in the area, there was unprecedented conflict. Our team worked from dawn to dusk, and often through the night, in dusty and desperate conditions. Unable to stop all the losses, the KopeLion Ndutu team were nevertheless hailed, by the pastoralist community, for providing the support that resulted in far higher safety for people and significant, yet uncountable, prevention of losses of livestock and lions, all helping the community to navigate through the long and tough dry season.

Lion attacks on livestock increased in 2021/2022 and consequently so did the retaliatory killing of lions by pastoralists.

The highest conflict intensity occurred in the northwest of the crater where a recently formed pride settled and had numerous cubs. The dense vegetation in the area provided good ambush hunting of livestock, and despite our and herders' efforts, these lions kept targeting cattle. The tolerance for lions here reached a limit.

KopeLion Ilchokuti treating a cow with puncture wounds from a lion attack



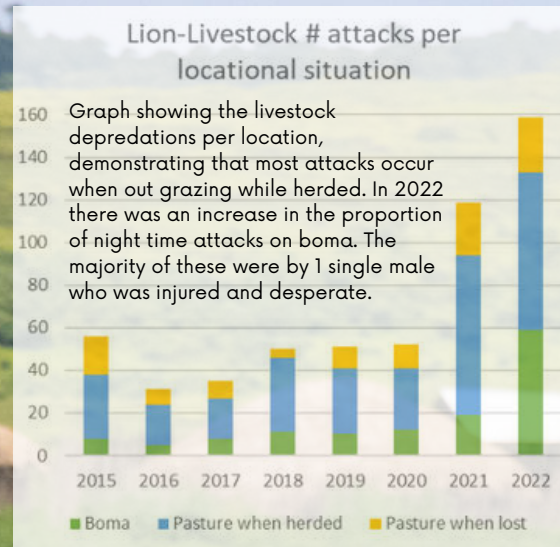
Graph showing the recent increase in livestock depredations by lions in NCA, with cattle being the preferred choice. The proportionally higher attacks on shoat (sheep & goat) in 2022, is largely due to a few events where a lion, or lions, attacked many (up to 19) sheep and goats in one go.

Lion attacks per location

In other areas, where lion numbers have increased, the conflict has been more manageable, with lions clearly selecting wild prey and mostly staying out of trouble. Variations in regions, environment, prey availability, individual lion behaviours, and herding practices all play a big role in the challenging balance of coexistence with a large carnivore.

To ensure the successful connectivity of lions through areas occupied by people with the least harm, there are two key areas where communities can be engaging and where Kopelion can support them; making sure that wild prey is available and not outcompeted by livestock, and fully undertaking the protection and inaccessibility of their herds from lions, through the use of a variety of coexistence strategies and tools.

With data collected from 2021 showing increased lion depredations at pasture when herded and at homesteads (boma), as part of our aim to find a sustainable model for lasting coexistence between people and lions, we introduced two new conflict mitigation tools in 2022; painting eye spots on cow butts and strengthening at-risk livestock enclosures, with funding from IUCN SOS and EU Partnerships





Keeping People, Livestock and Lions Safer

Eye Spots on Cow Butts

Painting eyes on cow butts was set up in the Ngoile area, where a large pride of lions that moved out from the crater had established themselves in an area with many people, to the north of the crater, and had killed many cattle in the previous year.

However with the community suspicious of being moved out of the NCA, despite initial interest, people were unwilling to have the eyes marking their cattle. The few that agreed found that without a cattle crush close by, the painting needed more manpower than anticipated and that the eyespots wore off after a few days. With the seriousness of the drought taking priority, and the pride of lions in the areas having more or less disappeared (either by dispersing elsewhere, dying by natural causes, or being killed in retaliation), we took the decision to stop the trial. We will reassess, rethink and make another attempt in a second area where livestock attacks at pasture are high.

Reinforcing bomas


To address the attacks on homesteads (bomas), we introduced a second new activity - to financially support the strengthening of livestock enclosures.

10 enclosures were located that were severely 'at risk' - some that had previously been attacked by lions, and others owned by poor families or widows with few resources.

Sustainable sources of protection were used - either stems from easily sprouting trees of *Commiphora* spp. for live fences, pollarded poles, thorn branches, or dead wood, in line with NCA regulations, which prohibit the use of artificial material like commonly used chain-link fences. Costs were split with 75% paid by KopeLion for the collection of materials and the rest covered by the enclosure owners for food and labour to build.

Remembering to keep safe

Keeping people, livestock and lions safer have been our focus over the last two years and culminated in 2022, with two short films made to remind people about their traditional practices that have long been used to keep families and livestock secure from predator attacks at the homestead and at pasture. Made together with people living in NCA, in Kiswahili and in Maa, these were premiered and discussed in 15 large village meeting settings, as well as in smaller more rural settings, and will continue to be shown through 2023.

A man, likely a Maasai, is shown in a savanna landscape. He is wearing a yellow beanie with a lion emblem, a red shuka (cloak) over a yellow shirt, and a red patterned wrap around his waist. He is holding a long, thin metal rod with a black handle and a yellow tip, which is connected to a black cable. He is also holding a black bag with a yellow strap. The background shows a dry, hilly landscape with sparse vegetation and a clear sky.

The most effective tool that we have to reduce conflict was, once again, to use the GPS locations of the lions collared by the research project, funded by KopeLion, combined with the Ilchokuti on the ground to warn people of their presence in real-time. Several positions are downloaded daily between 6 am and 10 pm which help us to locate the lion and inform the herders in the area, and this activity is clearly valued by the community.

With four collared lions 'lost' this year (1 killed in self-defence, 2 by unknown causes, likely other wildlife, and 1 that went missing completely) the target to have 8 lions collared throughout the year was not reached. The collars are refurbished and kitted with fresh batteries and a drop-off function, ready for 2023.

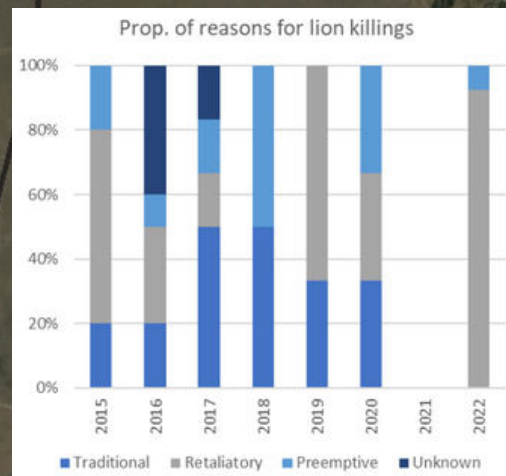
“the Ilchokuti have educated the community and with their GPS and collars, have helped to identify where the lions are, so they can be avoided”

“the information we received from the Ilchokuti about the safe times to collect water and firewood has helped us to reduce incidents of conflict.”

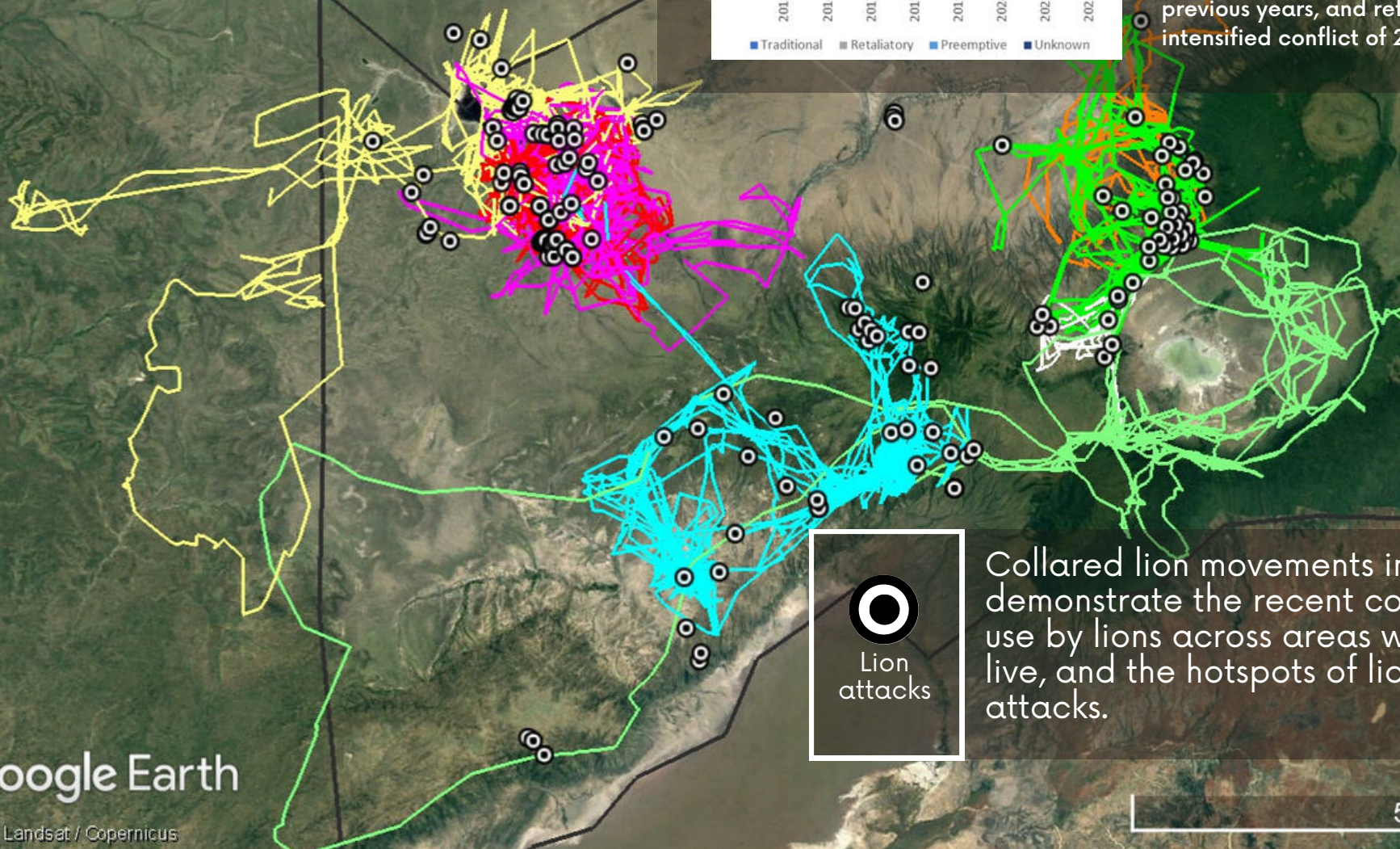
Community members, Meshille

2022

Movements & Attacks



Based on the cases of lion killings that we have recorded over the years, this graph shows the proportional killing motivations. Since 2021 we have not recorded any traditional killing of lions illustrating the determination of the community to put a stop to this cultural activity. In 2022 we documented 5 confirmed and 2 suspected cases of retaliatory and self-defense killings of lions, a spike in numbers compared to previous years, and reflecting the intensified conflict of 2022.




Lion
attacks

Collared lion movements in 2022 demonstrate the recent continued high use by lions across areas where people live, and the hotspots of lion-livestock attacks.

Google Earth

Image Landsat / Copernicus

50 km



Increasing
Tolerance

Increasing tolerance towards lions

The services provided by KopeLion Ilchokuti, such as warning herders about the presence of lions, treating livestock wounded by predators, finding lost livestock and helping to secure homesteads, make it easier for people to live with lions.

The aim for 2022 was to continue to build the ability of the Ilchokuti to help support their communities. Training was provided on climate change effects, pastoralism at a crossroads, further wound treatment and livestock health, in addition to refreshers on telemetry and data collection. Furthermore, the five Ilchokuti Coordinators attended training on leadership styles and how to work effectively as a team.

In 2022, with high conflict, Ilchokuti treated over 1,000 livestock attacked by predators, an increase of 42% from 2021. 90% of the treated livestock recovered. Livestock to the value of \$327,740 was found and returned to owners. A distance of 106,006 km was covered on foot.

A second 'corridor of tolerance' was opened, from the NCA highlands to the western protected areas of Makao, Mwiba and Maswa after several reconnaissance trips, many meetings with the communities of Kakesio, and having received their full approval and welcome.

A baseline household assessment on the Kakesio communities' attitudes towards predators will be undertaken in January 2023 to enable us to measure the impact these Ilchokuti have on increasing people's tolerance to lions.

At the end of 2022, we had 3 new zones marked out, 3 Ilchokuti recruited, and a new Coordinator for the area. With this expansion, we have more than doubled KopeLion's area of work in the last 4 years.

Kickstarting outreach activities was a target for the year, with one of the more rewarding ventures being to take Ngorongoro secondary school students down into the crater, exposing them to wildlife close up, lion ecology and behaviour and the tourism business of conservation. 100 students participated this year with the help of IUCN SOS and EU partnerships, as well as the provision of vehicles from Nomad Safaris and African Environments. Free passes were provided by the NCAA, and 100 more students are waiting for 2023.



Secondary school students from Ngorongoro enjoying the crater and learning about wildlife, tourism and the business of conservation.

\$327,740

worth of livestock
found and
returned to
owners.

1,032

livestock treated
after predator
attacks. 90%
recovered.

105,000

Kms walked
by Ilchokuti.

164

repaired bomas
after predator
attacks



Paying for the presence of lions

Paying for the presence of lions continued throughout the year in 6 villages as part of the 3 year Conservation Incentive Payment trial. In its National Human-Wildlife Conflict Management Strategy, 2020-2024, Tanzania's Ministry of Natural Resources and Tourism ("MNRT") identified conservation incentive schemes as a key tool for mitigating human-wildlife conflict – and specifically identified this CIP Program as an important local trial to be studied. Lion presence is verified through a variety of methods, including visual lion sightings, observations of lion signs (e.g., tracks, scat, hair), and the use of radio telemetry, camera trap photographs, call-ups, and data from GPS-collared lions.

Each month, the total number of individual lions determined to have been present within a ward is tallied to calculate the ward's earnings for that month. A total of TSH 54,000,000 (\$23,275) was earned in 2022. Importantly, the total CIP payments earned by the communities in the first half of the trial period (TSH 72 million) were more than triple the value of the livestock losses suffered. There are challenges in project choice and securing agreed upon budgets, but the majority of the funds earned in 2022 have now been earmarked for sponsoring secondary school children at the start of 2023, and for the provision of breakfast to primary schools.

No lions have been killed in retaliation in the CIP trial area.

CIP = positive reinforcement.
Payment for a living lion rather than a dead cow

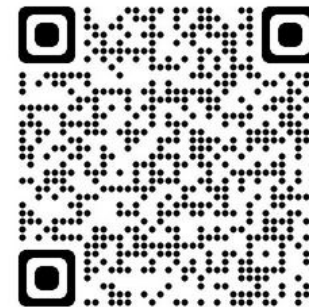
Value of payments for lions = 3x more than value of livestock killed by lions

“

I could not foresee that our lions, one day, would truly wipe our tears"

Loongoijoo Chairman

116 students supported to go to Secondary school



\$23,275 earned from lions in 2022



Monitoring Lions

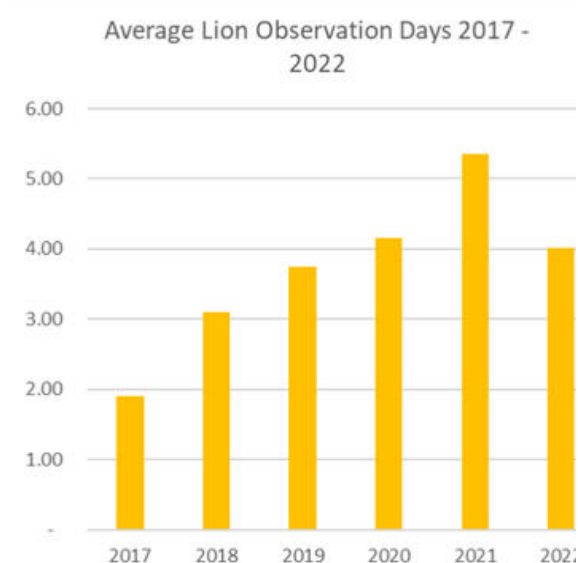


Learn about the lions

Monitoring lions to understand behaviours

Kopelion continued to fund the lion research project activities through 2022. The partnership is strong, with Kopelion contributing information from Ilchokuti activities to the project, and using the lion monitoring to indicate the progress of coexistence strategies.

Based on the total minimum count of identified individuals in the NCA there are 120 lions (of which 46% are adults, (> 4 years), including 60 lions in the Ngorongoro Crater.



Mean Lion Observation Days shows an increase of lion signs up to 2021, when sightings are then lower.

We assume there are another 10-30 lions unidentified individuals, giving a total of 130-150 lions in the NCA. The numbers of lions remain on the lower side in the Crater – likely due to lions' internal and social competitions, and there have been no signs of illness or die-offs.

Lions outside the Crater have done well even with the prolonged dry season in 2021. There were few new recruitments, but good off-spring survival for 2 of the 4 prides in the Ndutu-Masek area who kept most of their cubs born in 2020. Lions settled in the multi-use area of the NCA have remained, but some have faced challenges from intensifying HWC. The positive pattern we are seeing with the high and sustained presence of lions here can be due to environmental factors, but we also assume that increased lion safety resulting from Kopelion's HWC mitigation efforts plays a big role.

Lion observations and range increased across NCA by 12% a year between 2017 and 2021, yet in 2022 the Average Monthly Lion Observation data shows that fewer lions were observed, indicating that the high number of observations in 2021 resulted from the large pride that had settled in the Meshille area. The ensuing livestock depredation, and the loss of three children to lions here in 2021, were clearly challenging for both people and the lions, resulting in lions largely disappearing from the high-conflict area, including dispersals by some of the lions to areas with less human settlement and activity.





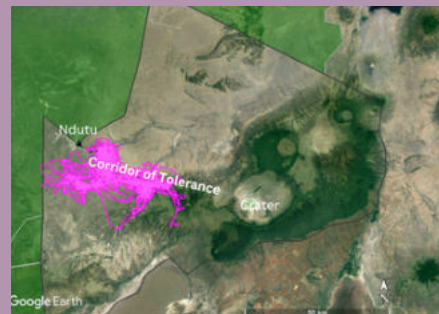
Traversing the Corridor of Tolerance:

Despite conflict and challenges, the goal to restore connectivity has been scored. The tolerance and generosity of the NCA community have allowed nomadic males to traverse the landscape, hook up with females from distant prides and sire offspring that have survived, adding diversity to the gene pool, and increasing lions' chances of survival. Two of the lions wearing GPS collars are a testament of this; Lopirr and Laipangwa.

Lopirr (Buddah): Collared Jan 2021. Still active.

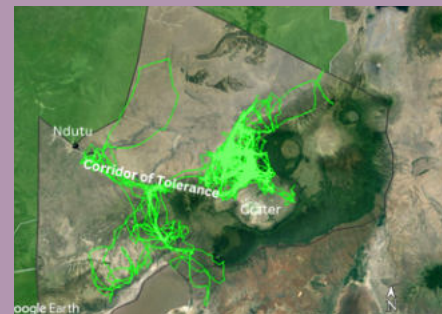
Lopirr was born in June 2017 to the Crater Lakes pride. He and his brothers recently successfully traversed through the 'corridor of tolerance' and took up with the Twin hill pride in Ndutu, siring cubs, of which three survived at the end of 2022, indicating a successful transition of genes from the Crater to Ndutu.

Lopirr continues to reside with collared female, Nadine and her pride sisters, and to navigate the conflict



Laipangwa: Collared August 2018. Died July 2022.

Laipangwa was born in March 2015 in the Ndutu area. In June 2019 he ventured into the slopes of Ngorongoro Crater joining a group of lionesses originating from the Lakes pride in the Crater and stayed elusive on the NW slopes of the crater, in an area full of people and livestock. He was seen several times in 2022 together with a juvenile male and another smaller cub. Both are presumed to be his offspring with the crater females. The pride then largely splintered, and in July 2022 Laipangwa was found dead and is thought to have been killed in a fight with males from the Crater.





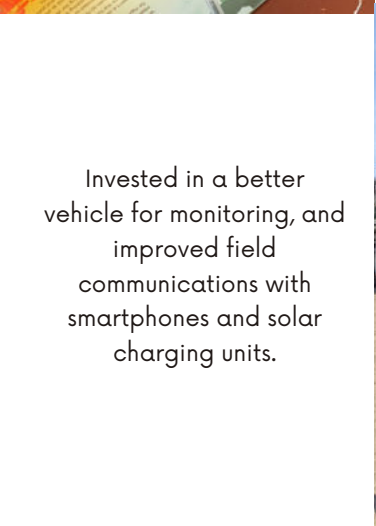
Published the children's book 'Living with Lions' in collaboration with PAMS Foundation and WildAid.



Attended the African Protected Areas Conference in Kigali, Youth 4 Nature, NGO's Forum, and WCN Expo.



Hosted and demonstrated our work to PAMS Foundation, Honeyguide, Lion Conservation Mentor's Organisation, WWF, Asilia, TAWA, Lincoln Park Zoo, MWEKA and PAW Foundation.



Invested in a better vehicle for monitoring, and improved field communications with smartphones and solar charging units.



Connected face-to-face with environmental/conservation donors, partners, and people in the USA.



Added 2 new members to the Boards of Directors.



Presented information and contributed to the MNRT review of the Tanzanian Lion and Leopard Conservation Action Plan.

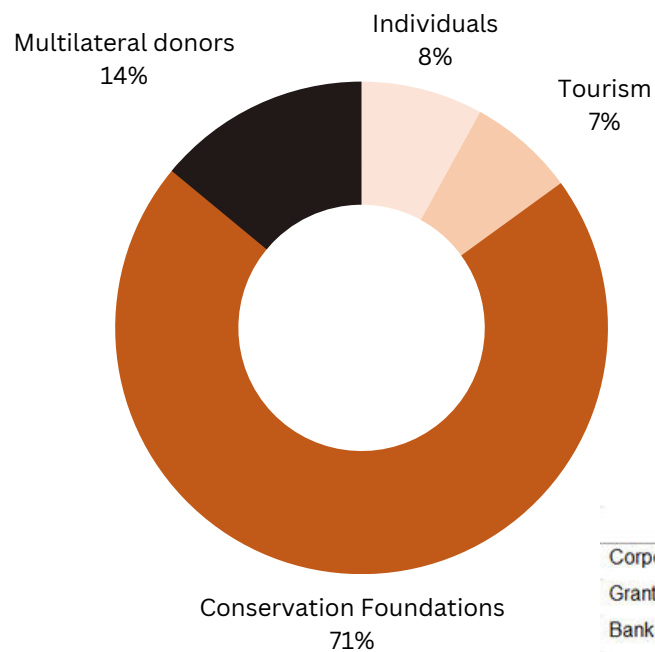


Developed our M&E plan through a two-day session with Maliasili. Telemetry training, and MBTI with management & Coordinators

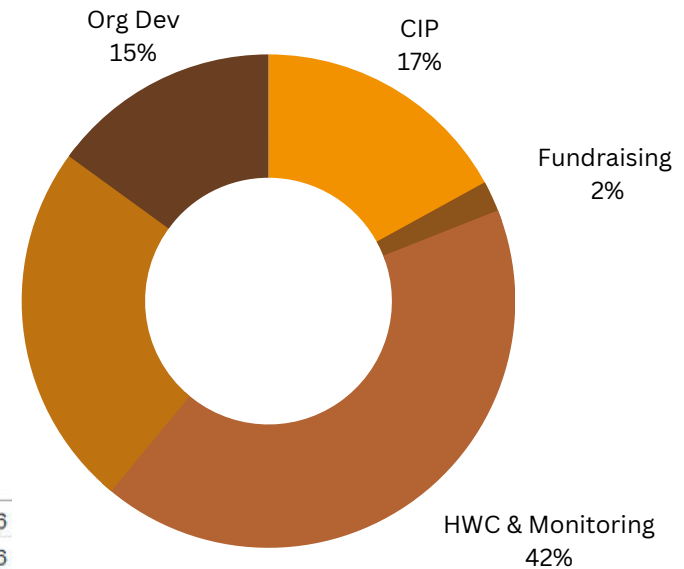


Facilitated NCA stakeholders meeting on 'Simba Safety' in Karatu resulting in the development of films and visual posters for meetings & distribution.

Financials



Field Operations
24%



Category	USD
Corporate Contributions	24,656
Grants	381,606
Bank Interest	13
Grants receivable	36,490
Other Types of Income	1,724
TOTAL REVENUE	444,489
Capacity Building	5,388
Capital Expenditures	38,834
Direct Program cost	69,685
Finance	2,420
Fundraising	5,364
Office Operation	16,343
Other Expenditures	225
Personnel	246,202
Professional services	8,178
Travel	51,344
TOTAL EXPENDITURE	443,983

Subject to change upon final USA audit

Ilchokuti

Altapway Olewanga
Alting'idai Olteritoi
Balasi Gitonyoda
Kambaine Sauni
Katakara Orishi
Kayanda Olenini
Kinyi Olendolok
Kisyombe Telele
Larusai Kuya
Laambarakwo Saning'o
Leapa Ndiuni
Loseryan Kulangai
Maanda Lemati
Mahing'ida Maleck
Masanja Tulito
Mbekure Mujuu
Moson Sindima
Mussa Nongirimban
Ndelelya Olepesai
Ngaayai Ormunderei
Oloning'o Noongirimban
Sabore Olojuu
Sandet Kitumi
Silo Gisung'uda

Ilchokuti Coordinators

Lazaro Oletekero
Lukas Moiri
Ndolok Kilitya
Rapaito Matunda
Rumas Olelekipa

Field and Office

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Emmanuel Lufilisha Research Assistant
Gladness Manase Finance & Administration Manager
Lilian Lepere Field Office Administrator
Ololotu Munka Programmes Coordinator
Retilda Nicolas Household & Logistics Coordinator
Roimen Lelya Lion Monitoring & Conflict Officer
Sally Capper Director of Development & Strategy
Selina Macharia Phone Operator & Data clerk

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Ngorongoro Conservation Area Authority
Ngorongoro District
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PAW Foundation
Project Survival
Safina Conservation Fund
Tanzania Wildlife Research Institute
WWF Germany

And thank you for all the many more cherished individual donations that we received throughout the year, to the interns that have joined us working in the field and office, and to the pastoralist communities and the help that they have provide to the project and to protect lions..



Connect with us
to
reconnect lion
populations



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