

# Grevy's Zebra Conservation in Kenya 2021

Report & funding proposal prepared  
for supporters & members of the  
Grevy's zebra EEP conservation projects

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**Marwell Wildlife**  
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[www.marwell.org.uk/conservation](http://www.marwell.org.uk/conservation)

## Acknowledgements

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 Zoo de Montpellier  
 Zoo Frankfurt  
 Zoo Planckendael



Cover: Grevy's zebra stallion, N.Kenya © Underwood  
 This page: Northern Kenya © Marwell

## Introduction

Firstly, I would like to express my gratitude for your unwavering commitment to Grevy's zebra conservation over the last 18 months. I have been surprised and humbled by those zoos that have continued their financial support despite being closed, often for a long time, and without income or donations from visitors. You have prioritised conservation work over all other to make sure the species we are trying to protect as well as the people who share the landscape are taken care of in these very difficult times. For that I cannot thank you enough.

At all times, the health and safety of all our colleagues in Kenya as well as their families were our priority. Our teams on the ground were able to carry on with their daily monitoring due to the remoteness of their locations. Ever changing rules, lockdowns and curfews made things more difficult for our project managers, Enrita and Lizbeth, who live in larger towns, but they remained in contact with our scouts, partners and each other to keep everything going. With the arrival of vaccines, the situation is relaxing in many areas of the country and field trip are possible again, as is working directly with our scouts and, very soon, our outreach work in schools and communities.

While no new projects or activities were possible in 2020 and 2021, we were able to maintain our core work throughout for the benefit of wildlife and people, and the EEP has made this possible.

Thank you!!

**Section A** of this document contains a report of the activities of Marwell Wildlife and its partners regarding Grevy's zebra conservation in the past year. At the end of this section is a list of these partners and, as ever, please feel free to ask Tanya for any further information you might require.

In **Section B** we are presenting our proposed activities for 2022 together with their associated costs.

### The Status of Grevy's Zebra (*Equus grevyi*)

The most recent assessment of a national survey in Kenya, the GGR 2018 has shown an increased number of Grevy's zebra. Approximately 2,800 individuals were counted in January 2018 (Rubenstein, 2018). We are still awaiting the results of the 2020 survey and that will show if the positive trend has continued.

The Grevy's zebra has been assessed in 2016 by the IUCN as Endangered A2acd ver 3.1 (Rubenstein, Low Mackey et al. 2017).

### International Studbook

For the year 2020, the international studbook for Grevy's zebra (Langenhorst, 2021) has recorded 194.316.0 (510) in 119 institutions in 26 countries. Three populations are managed by formal programmes. The European *Ex situ* Programme (EEP) oversees 91.163.0 (254) individuals in 58 institutions; The Species Survival Programme in North America manages 82.128.0 (210) Grevy's zebra in 48 institutions, and Japan has a studbook coordinator for 13.09.0 (22); 8 institutions. Together, these populations provide a genetically and demographically healthy back up to their wild counterparts.

<https://www.marwell.org.uk/conservation/achievements/studbooks>





## Groups and organisations mentioned in this report are:

EWCA = Ethiopian Wildlife Conservation Authority

GZT = Grevy's zebra Trust [www.grevyszebratrust.org](http://www.grevyszebratrust.org)

GZTC = Grevy's zebra Technical Committee

KWS = Kenya Wildlife Service [www.kws.org](http://www.kws.org)

Lewa or LWC = Lewa Wildlife Conservancy [www.lewa.org](http://www.lewa.org)

MW / Marwell = Marwell Wildlife [www.marwell.org.uk/conservation](http://www.marwell.org.uk/conservation)

NRT = Northern Rangelands Trust [www.nrt-kenya.org](http://www.nrt-kenya.org)

Princeton/PU = University of Princeton [www.princeton.edu/~equids/people.html](http://www.princeton.edu/~equids/people.html)

ZSL = Zoological Society London [www.zsl.org](http://www.zsl.org)

## Section A. Summary of Activities in 2020/21

In this section we provide an overview of the work we have carried out towards Grevy's zebra conservation over the last year. Together with our partners from the Grevy's Zebra Technical Committee (GZTC) and with your financial support we have provided crucial monitoring, cooperation with communities, and support for the Kenya Wildlife Service (KWS). We would like to thank you for your ongoing commitment, which makes our work in this area possible.

### National developments

Despite the pandemic several major developments took place in the Kenyan conservation sector over the last year that might affect, hopefully support, our work in country.

In summer 2020, the Cabinet Secretary, Ministry of Tourism and Wildlife, Hon. Najib Balala, inaugurated the new Wildlife Research and Training Institute (WRTI). It will be headed by KWS' former Director of Biodiversity, Research and Planning, Dr Patrick Omondi, as Acting Director. He has nearly 30 years in active conservation and has been working with the Grevy's zebra conservation community for many years. The institution will house a pool of scientists and wildlife researchers, who, in collaboration with other scientists worldwide, will develop a knowledge base to mitigate current threats facing wildlife. It is expected that the WRTI will establish a better and efficient system of monitoring all wildlife-related research activities undertaken in the country and should collaborate with other national and international research institutions. A policy directive has been issued to KWS, to facilitate the transfer of the current research and wildlife training function and assets held by it, to WRTI. The KWS Training Institute, on lake Naivasha southwest of Nairobi, is to serve as the headquarters of the new institute. At the beginning of this year, the WRTI formerly started the process of delinking itself from the Kenya Wildlife Service (KWS) and we will follow the process closely.



Picture 01: Delinking committee at the KWS Training Institute in Naivasha © Kenya Ministry of Tourism and Wildlife

Early in 2021 the Kenya Wildlife Service conducted a recruitment drive for 5500 community scouts following a government directive in 2020. The candidates were drawn from communities within wildlife areas countrywide and Samburu North (Marwell's area of work) benefited too. The main responsibilities will be to raise community awareness about wildlife, reporting incidences of wildlife in distress, reporting of wildlife movement within the community and early warning/intervention of human-wildlife conflict in the communities amongst others. This will support wildlife conservation efforts in our areas. Initial contracts were given for six months to the scouts with the potential of another six, but no permanent positions. The recruits have been trained to go round their communities giving conservation education, information on claims etc and it is hoped, that they will continue to be ambassadors even after their contract ends.

On 7<sup>th</sup> May 2021, Kenya launched its first ever National Wildlife Census covering both land and aquatic wildlife.

The two-month exercise was fully funded by the Government of Kenya and has been executed by the Ministry of Tourism and Wildlife, Kenya Wildlife Service, and the newly created Wildlife Research & Training Institute. The census has been carried out in Kenya's conservation areas and key wildlife rich counties to establish baseline data on wildlife population status and distribution for future use to understand wildlife population trends and shifts in their distribution. The information generated during the census will support implementation of Government of Kenya conservation and tourism policies and support tools for adaptive management.

Marwell and GZT have been asked to contribute in those areas where we work. We also helped with camping equipment and were able to assist with tents and sleeping bags.

## **National Conservation and Management Strategy for Grevy's zebra in Kenya**

All our work is in support of the Grevy's Zebra Recovery and Action Plan (2017-2026) (KWS, 2017).

### **Monitoring of Grevy's zebra**

#### **National Survey of Grevy's zebra/Great Grevy Rally**

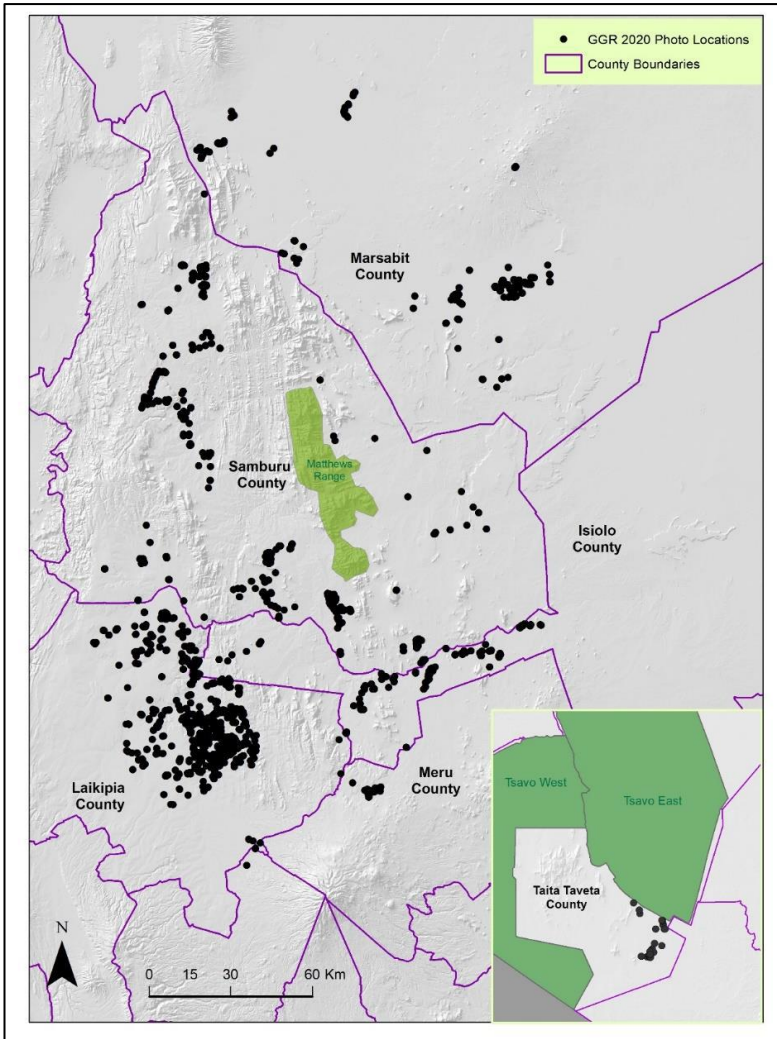
As reported last year, the third national survey, or Great Grevy's Rally (GGR), took place on the final weekend in January 2020, just a short time before the global pandemic shut down activities in many countries. In addition to all those organisations working with Grevy's zebra, the GGR enlisted the public to search for the animals. Over 700 citizen scientists signed up and took part in the GGR. Some of them were repeat teams who had joined in during the GGR 2016, the GGR 2018 or both.

Sixteen community conservancies, distributed across each county, participated in the event. All members of the GGR Organising Committee provided teams, and so did other NGOs, including Samburu Trust, Save the Elephants, Ewaso Lions and Action for Cheetahs.

Samburu North is home to areas that periodically experience insecurity and conflict. As a result of the high risk posed to citizen scientists, GZT, Marwell Wildlife and county rangers, who continuously work in these areas despite the conflict, were the only personnel that could conduct the census in the region. KWS provided aerial support in locating Grevy's zebra in El Barta, South Horr and Laisamis and communicating their location to ground teams.

Once Grevy's zebras were spotted, each team took as many pictures as possible of the right flank of each individual observed. As the stripes on Grevy's zebra are unique to each zebra, the photographs indirectly 'marked' the individual, allowing the 'Sight-resight' methodology to be used (Pic.02).

Overall, 160 teams participated and a total of 150 cameras took 40,182 photos across 30,000 square kms over the two consecutive days (Map 01).



**Map 01: The distribution of photographs taken during the two-day census of Grevy's zebra in Kenya © GZTC.**

All of the image data from the GGR 2020 have been sent to the United States, to the WildMe team. The analysis and results require highly technical computer science engagement and significant labour. Therefore, the experience and prototype tools generated by the GGR events are currently being refined by WildMe into a platform that can be reused locally and repeatedly without external expertise or funding. Once the platform has been completed and tested, the database will be hosted in Kenya and centrally located with a local computer engineer trained to take up the troubleshooting when needed. The plan is that the cost of office and salaries will be taken care of by local partners. We hope to have the database fully functional and in Kenya by 2022. This is very important as it allows Kenya to assume ownership of their own data. This will be a national database where every partner will be feeding in data and downloading outputs from there.

The focus is now on completing this platform to facilitate timely results for future rallies, as well as to ensure that long-term monitoring data collected by GZTC members can be housed and analysed within the same platform.

Once the development is completed, the GGR 2020 results can be generated, and we will report them to you at the earliest opportunity.



**Picture 02: Sample of photos taken during GGR 2020 © Marwell**

While the rally has so far taken place every other year, GZTC and KWS are considering increasing the in-between periods. Finding the manpower and funding every two years is a tall order and not strictly necessary, as the key areas of Grevy's zebra distribution are constantly monitored by all partners of the GZTC. No final decision on this has been made yet.





**Picture 03: Grevy's zebra group © Marwell**

### **Grevy's Zebra Technical Committee (GZTC) Drought Relief**

Hot off the press 1. Sep. 2021: our field team have raised the alarm and are making arrangements to bring hay to those areas where it is needed as I write. We will also be engaging two hay monitors as the affected areas are too far apart to cover by one. Initially, we thought and hoped our areas of work were still providing enough water and food for the Grevy's zebra, but GZT had already begun with supplementary feeding further south where the situation is dire. We are working very closely with GZT and together have applied to KWS for permission to feed as well as established availability of hay from GZT in preparedness this summer. Moving the hay from the GZT area to ours will be a much faster and cheaper operation than bringing it all the way from Nairobi as we did previously.

Thanks to the EEP, we do have the funds in place to respond quickly now that it is needed.

Last summer, Northern Kenya did also experience very dry periods, but luckily never reached the levels that required human intervention in the form of supplementary feeding for the Grevy's zebra.

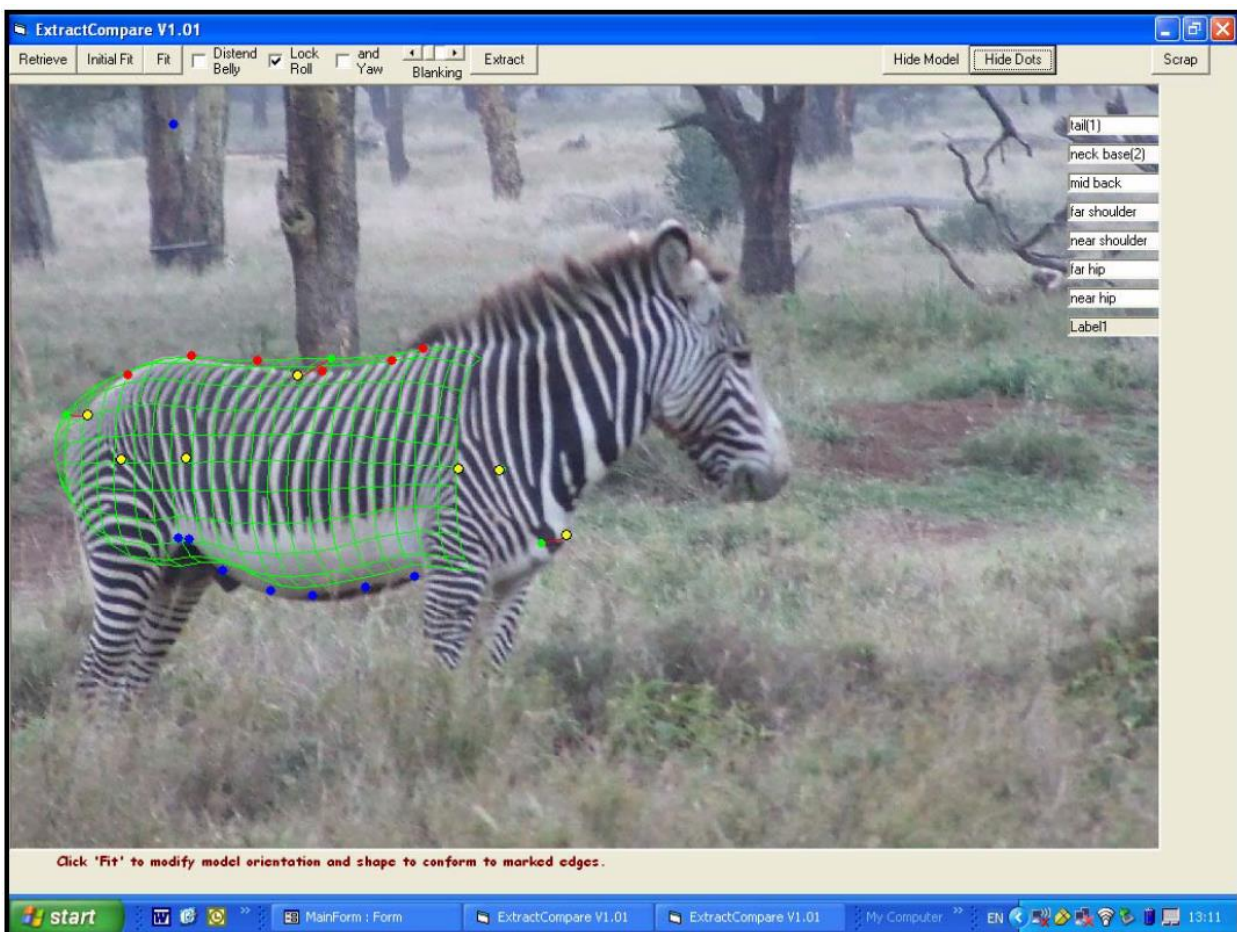


**Picture 04: Northern Kenya © Marwell**

## Digital Stripe Pattern Identification Project

As many of you know, we have been running a national Grevy's zebra database in Kenya for many years, since 2008 to be exact. Owing to their uniquely identifiable stripe patterns, we can track individual Grevy's zebra using digital photographs and stripe recognition software, both feeding into the Stripe ID Database. This is a cost-effective means of monitoring movement, distribution and abundance of Grevy's zebra.

Over the years, the identification of Grevy's zebra has helped determine the health of the population and inform conservation decisions. We have identified movement corridors and contributed to national planning and development projects, ensuring that Grevy's zebra are considered. It is now possible for the national photo database to function as an ongoing, real time tool for monitoring Grevy's zebra in remote areas. Since we have photos going back over many years by now, we have seen some individuals from foal age well into adulthood giving us a much better idea of longevity of this species. Initially, all members of the GZTC provided photos from their areas to the database. The three largest contributors (GZT, Lewa and Marwell) are still using the original software (ExtractCompare, by Conservation Research Ltd.) to record their stripe ID data. Lizbeth is always at hand to help GZT and Lewa with any technical problems or discuss bigger issues with the software's author, Lex Hiby, in the UK. At the same time, alternative tools are being worked on by American colleagues to reduce manpower needed and make the system cloud based. While new contributions have slowed down due to fewer organisations contributing and reduced collection during the pandemic, the national database now stands at 34,601 images, so over 2,000 more than last year.

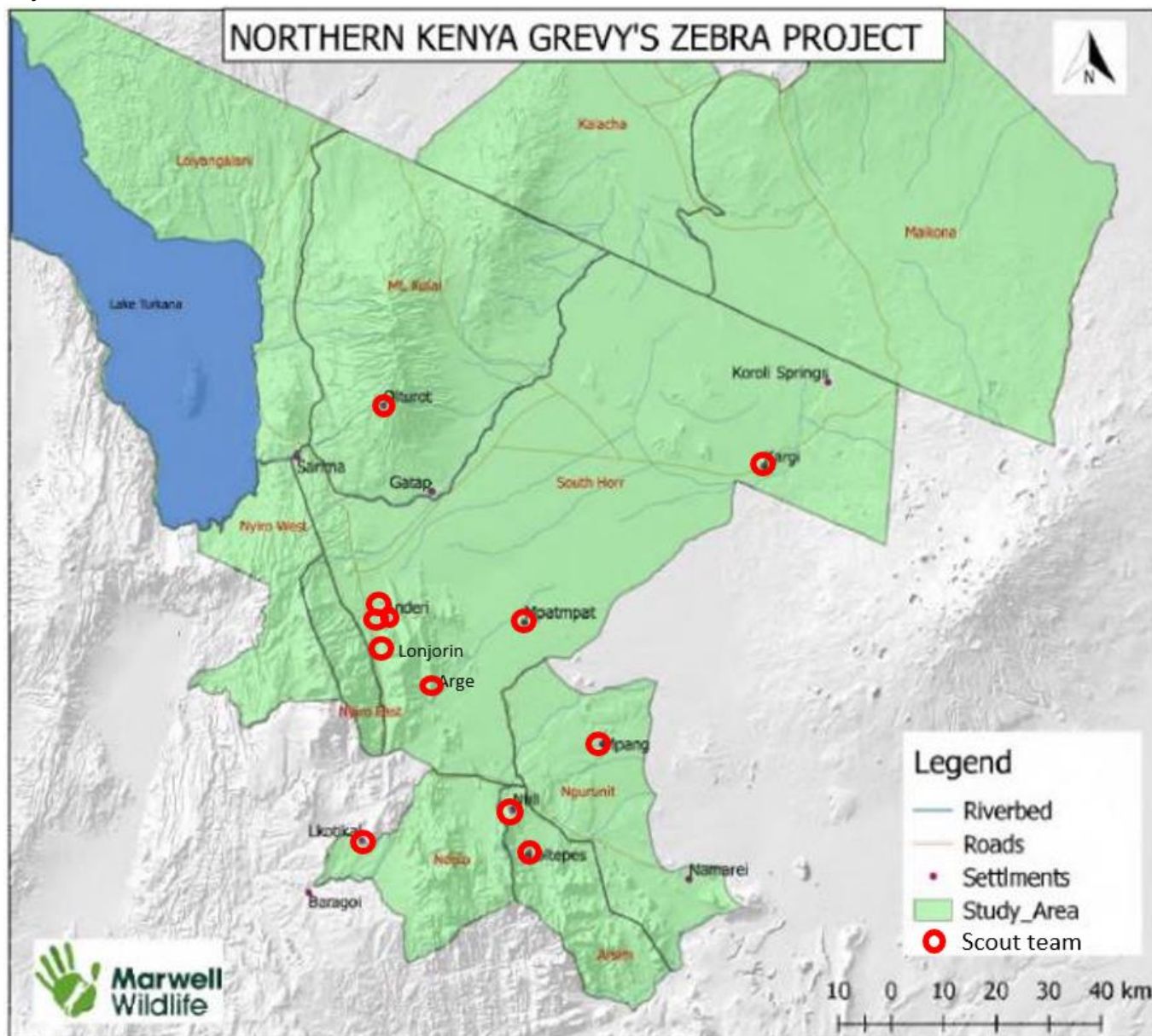


Picture 05: Grevy photo being prepared for extraction of stripe pattern © Conservation Research Ltd.



## The Northern Kenya Grevy's Zebra Project (NKGZP)

Our scouts have been going on patrol throughout the COVID-19 pandemic as each team consists of only two people and their remote location allowed for movements in line with government rules of distancing. They kept in regular contact with Enrita and Lizbeth. Once the countrywide lockdown was lifted, Enrita continued her field visits though much less frequently, and meeting only reduced numbers of people at any one time.



Map 02: Map of our Northern Kenyan study area with locations of scout teams.

## Peace and Conservation for Grevy's zebra in Northern Kenya

Grevy's zebra and other wildlife are dependent on sustainable coexistence with pastoral communities and their livestock in our far northern area of work which the zebra use as a migratory route avoiding human pressures and poaching further south.

Our team of (currently) 23 wildlife scouts, all chosen by and from their local communities, are maintaining a network of 24 camera-traps (Map 02, Pics. 7&8). In addition, they follow zebra trails on foot and record direct observations of all wildlife as well as carcasses on GPS enabled phones with very simple identification pictures. The data from camera traps and phones provide evidence for the presence, relative abundance, and population demographics of Grevy's zebra as well as the presence and

movement of other wildlife. Frequencies of sightings are used as an indication of the species' activity throughout the day and night. The direct observations provide us with information on the Grevy's zebra behaviour, their movements between grazing and water resources and activity patterns. This can also serve as an early warning system during droughts, so we know when supplementary feeding is required. In addition, the scouts report any unusual activities like poaching to Enrita, the team leader. For example, at the beginning of 2021 they saw increasing attacks of livestock by wild dogs in Loltepes, Anderi and Gatap. As it is a bad omen to kill a wild dog, the communities were not retaliating but added extra protection measures since this is seasonal.

Any emergencies, e.g., trapped or injured Grevy's zebra and other wildlife are reported to the KWS vet.

Furthermore, we are running an outreach programme to engage with local communities, raise awareness and provide conservation education.

We recently recruited four new team members with the help of area chiefs & community elders; two from Kargi and two from Lkotikal/Keleswa, and we are happy to report that one of them is a lady from the Rendille community living in Kargi as we are trying to promote female scouting (Pic.06).



**Picture 06: Ltaine Lengurikuri and Lkatina Lengorowai from Keleswa; Ngachar Kijibo and Natadawa Mugar from Kargi**

*Community-based monitoring, using SMART technology.*

Our scout teams use GPS enabled mobile phones with SMART\* software

(<https://smartconservationtools.org>) and the CyberTracker application ([www.cybertracker.org](http://www.cybertracker.org)) to collect and record their patrol data. SMART (Spatial Monitoring and Reporting Tool) is an open source and freely available software application. This software makes it possible to collect, store, communicate and analyse scout-collected data on wildlife, illegal activities, patrol routes, and management actions to understand where efforts should focus, and evaluate scout performance.

The following infographic (Fig.01) shows a summary of the 2020 efforts:



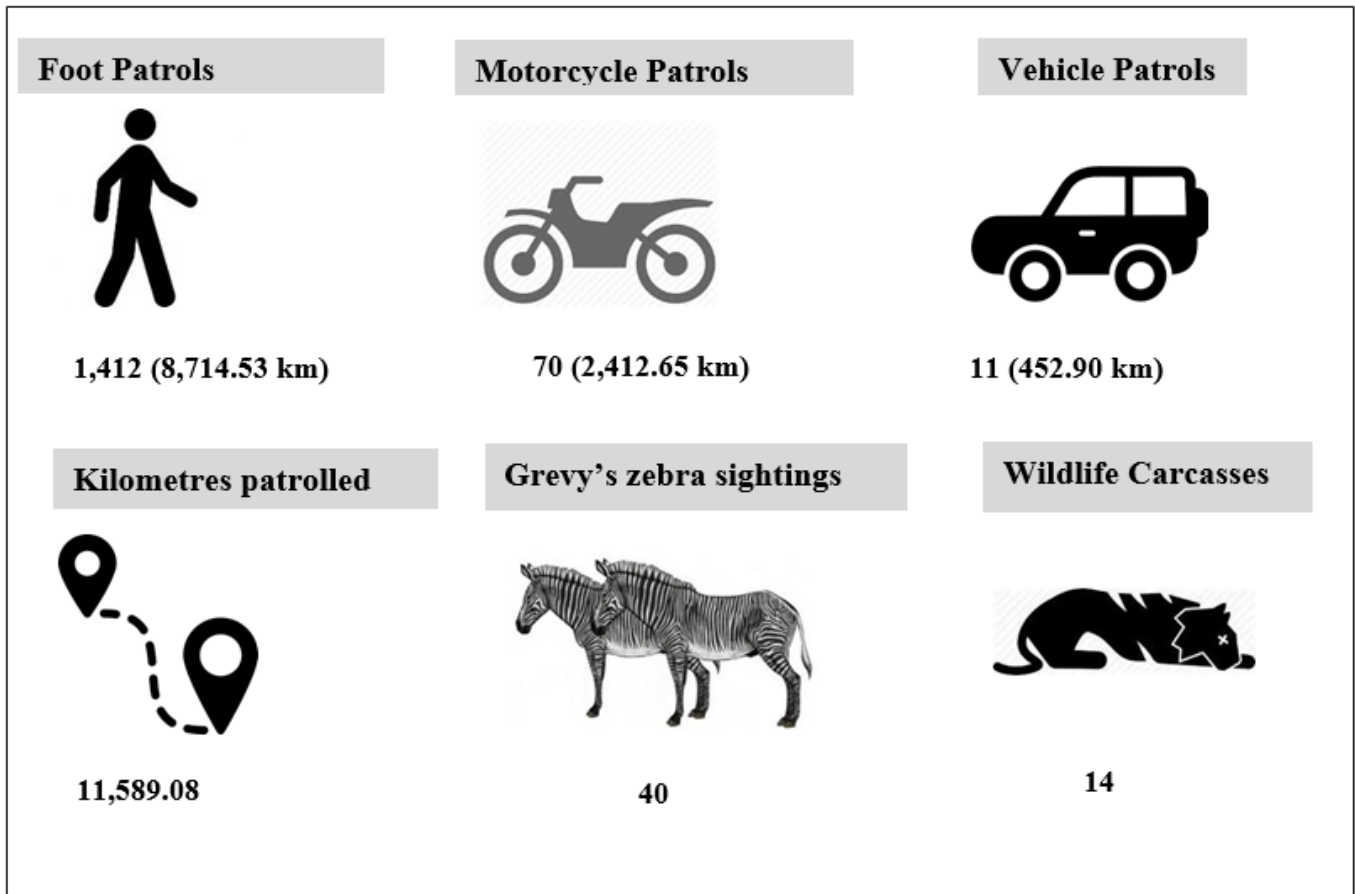
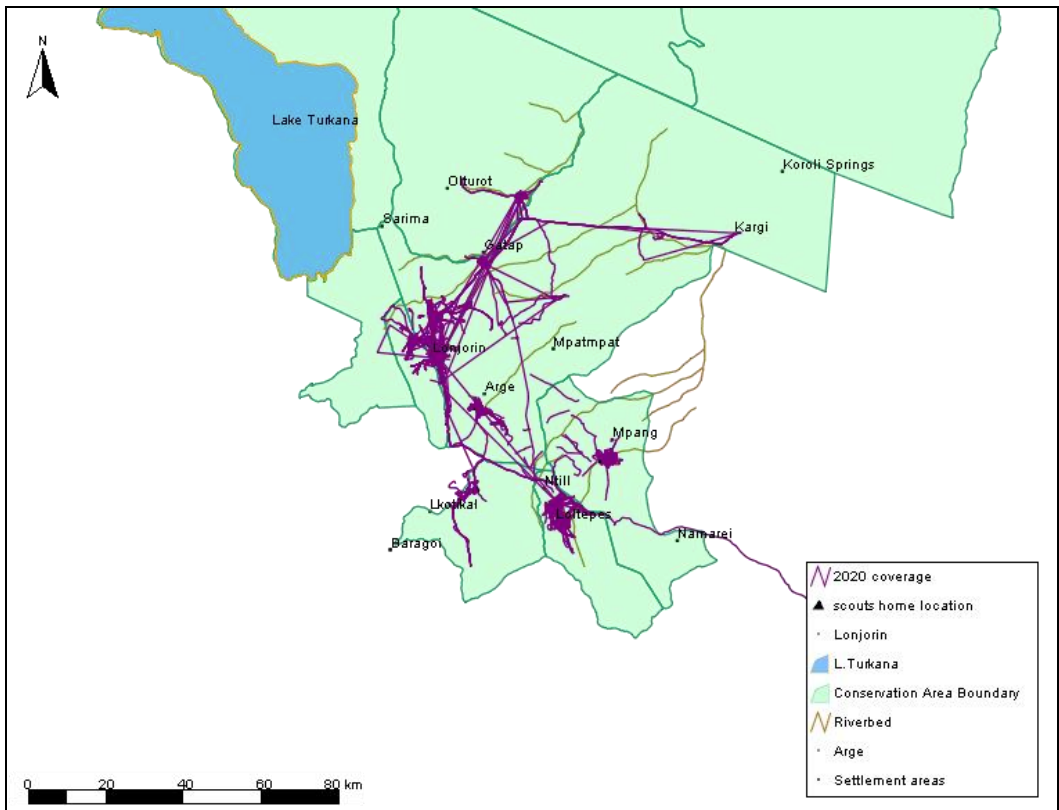


Figure 01: infographic on SMART data results for 2020

The number of patrols increased hugely, nearly doubling from the previous year, and almost twice as many kilometres were patrolled. We think this is due to the fact that the scouts increased their efforts greatly after we had to caution and eventually let go of a team that simply was not performing as agreed and expected. Despite these increased efforts, the number of Grevy's zebra encounters (40) went down. The total number of zebra sighted also reduced (166) (Fig.02). This could partly be due to the fact that more patrols were carried out by motorbike or car. Both methods are very poor on detection of wild animals and we are trying to reduce them in 2021.

Category	Grevy's zebra
Adult Males	57
Non-Lactating Females	14
Pregnant Females	18
Lactating Females	51
0-3 month foals	15
3-6 month foals	5
6-12 month foals	3
Juveniles	3
<b>Total</b>	<b>166</b>

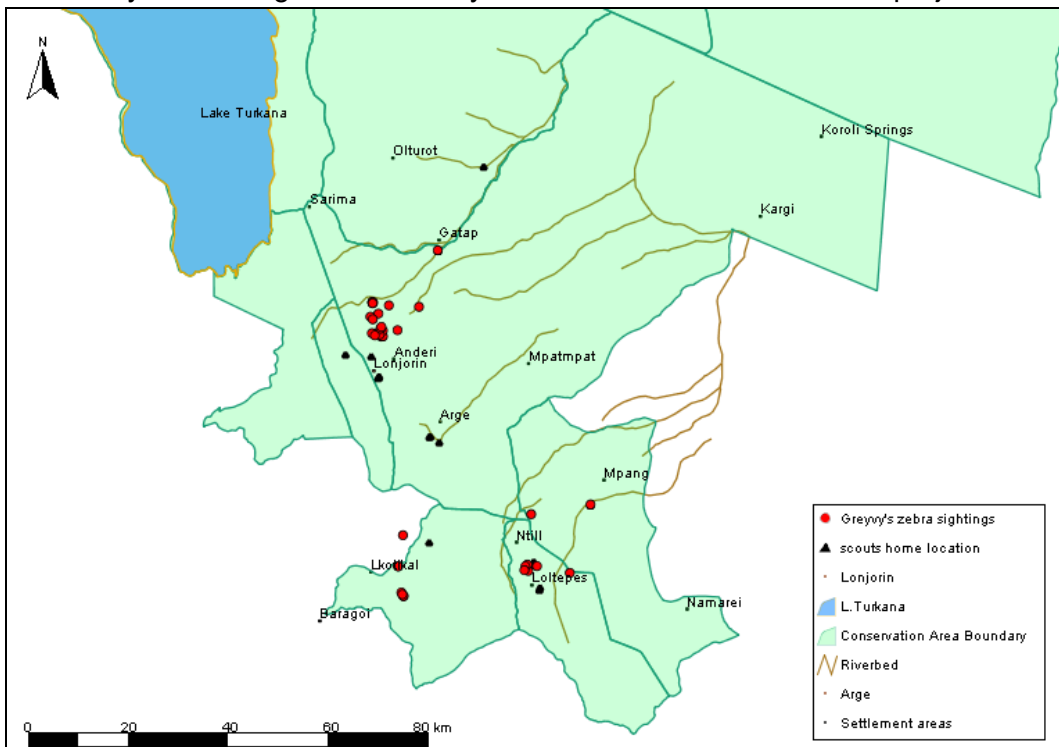
Figure 02: Table showing number of Grevy's zebra sightings in each category in 2020



**Map 03: Patrol coverage during 2020**

While patrol distance has increased, patrol coverage (Map 03) of the individual stations remains poor in some areas like Olturot, Mpatmpat, Gatap and Arge. The data collected through SMART not only provide information on the total patrol coverage but can also break it down by scout team and as such we could see quite clearly where we had weak points in the network. As mentioned above, we had to let go of some scouts this spring. A new team has been recruited and we are hoping this will improve our monitoring of their area greatly.

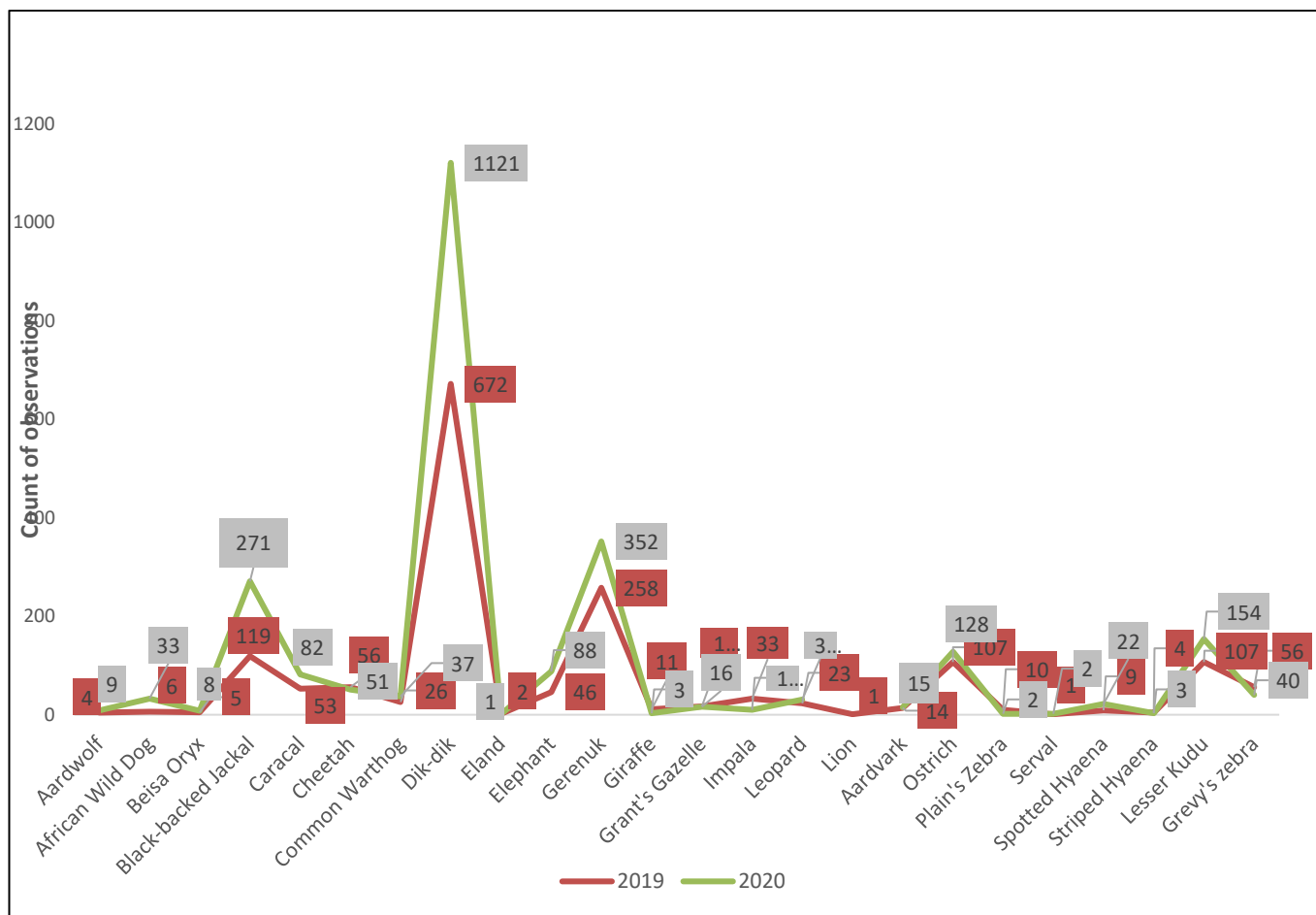
The Grevy's zebra sighted over the year were distributed across the project are as per map 04.



**Map 04 Grevy's zebra distribution in 2020**



Our scouts record data on sightings of all wildlife while on patrol and you can see what they found in 2020 as well as compared to 2019 in the graph below (Fig.03).



**Figure 03:** Count of observations of all wildlife species in 2019 and 2020

For many species the number of sightings increased from 2019 to 2020 as you can see in the above graph. Of those species for which observations are lower in 2020, Grevy's zebra are showing the biggest difference. This could be attributed to poor patrol coverage in Lkotikal, an area where Grevy's zebra are commonly sighted. It could also point to an effect of the 2019 drought. We are paying particular attention to this area to work out the cause for the reduced sightings.

Worth noting is the increase of observations (by 42) of elephant in 2020.



**Pictures 07 & 08:** Camera trap images from scout network © Marwell

### *Carcass sightings*

To ensure credibility of carcass reports during the patrols, the CyberTracker sequence was modified to include a compulsory photograph for each recorded carcass during 2020. This has vastly improved the recording of carcasses or animal parts. The scouts note down the location, species, approximate age and cause of death if it can be verified at all. No Grevy's zebra bodies were detected last year.

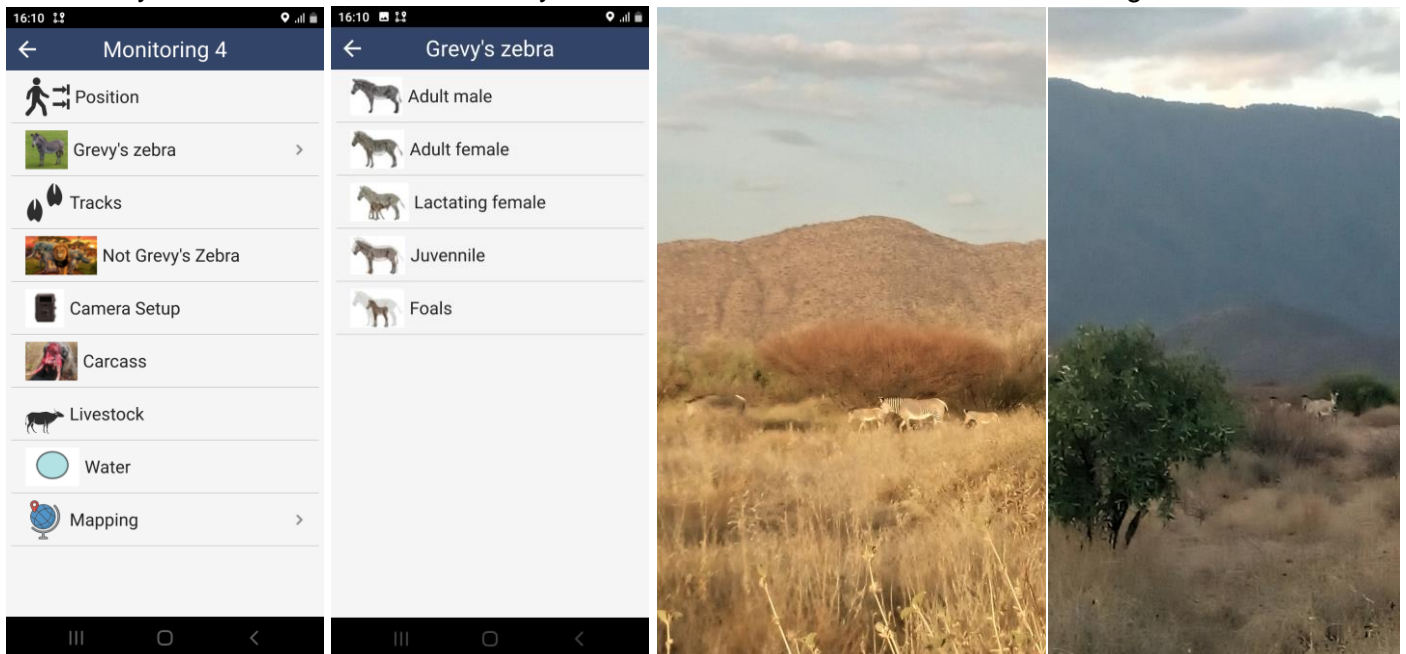
### *Supporting KWS*

In Early July, the Kenya Wildlife Service Senior Warden for Maralal County requested Marwell Wildlife and GZT to support monitoring of Grevy's zebra in Ltugai Conservancy (Samburu Central) and Mugie Conservancy (Laikipia North). Enrita and a colleague from GZT went on patrol in those areas and are now discussing how best to use our scout networks to provide the support requested. (MAP LOCATIONS???)

Following reports by Marsabit KWS warden Captain Robert Obrein of giraffes and a herd of Grevy's and other wildlife, our Olturot scouts travelled to the Kargi area for two weeks to verify those sightings. They set up several camera traps and also talked with community members and could confirm the presence of a variety of wildlife. Two of our new scouts were selected from the Kargi area to begin regular monitoring here.

### *SMART development and updates*

The CyberTracker application is to be phased out soon and replaced by SMART Mobile. This is more technical and does require a degree of literacy which our mostly illiterate scouts do not have. They rely on pictures and icons (Pics. 09,10), but SMART Mobile has only limited options for this. Our partners at GZT have the same issue. All scouts will need retraining as SMART Mobile has a totally different interface to CyberTracker. Lizbeth is a member of the SMART community forum and has spoken to the SMART partnership who have added the request for iconising metadata as a development priority. To increase our awareness and get ahead of new developments, Lizbeth has requested to be part of the trial for any new roll outs and was recently sent the links for the latest version for testing.



Picture 09,10, 11 & 12: Two of the iconised screens in SMART and photos taken on patrol on mobile phones

This summer (2021) we have deployed SMART Connect to improve on our patrol efforts and data collection. Currently, the data transfer relies on Enrita visiting the field (Pic.13), downloading data and transmitting them to Lizbeth on her return. SMART Connect is an online application that allows real-time data transfer to 'connect' scouts and rangers in the field to Lizbeth in Nairobi who can analyse and



respond to data much faster than is currently the case. This will make it possible to respond to real-time alerts and enable more effective and rapid operational responses. While some scouts are so remote that they won't have access to the network daily, they will all visit a market at least once a week and be able to transfer their data at that point.



Picture 13: Enrita in the field downloading scout data © Marwell

The Grevy's zebra Trust is currently only using SMART Connect, and they are watching our deployment of SMART Mobile before making any decision to migrate. We are working closely together to get the most out of this technology. The aim is that GZT, Marwell and potentially Lewa all use the same sequence and collect the same data in their respective areas allowing easy comparison and merging of data for all Grevy areas. We will suggest to the Technical Committee for all members to agree a standard for data collection.

In July, Lizbeth together with Clarine Kigoli (ZSL), the (Kenya) national trainer for SMART Connect and Mobile, joined our scouts in the field for several days of full training on the new functionality. Despite being mostly illiterate, our scouts were very eager to learn (Pic.14-17).



Picture 14: Clarine teaching SMART Connect and Mobile in classroom © Marwell



By the end of the training all 12 teams had at least one team member who was comfortable with the new data collection tool with the other not far behind. Regular training sessions will improve on this in the coming months. Also present was a Samburu National Reserve Senior Sergeant who was interested in learning how SMART works with an aim of introducing it to their rangers at the reserve.



Picture 15: Scouts practising the new SMART Mobile © Marwell



Pictures 16 & 17: Clarine (on left) and Enrita (on right) explaining the new SMART Mobile screens © Marwell

### Scout barazas (meetings)

For the first time since the pandemic began, Enrita was able to hold a baraza and bring all the scouts together in late July, following the SMART training. The scouts were very happy to see each other and exchange information directly as they had not been together since the GGR in January 2020. The newly appointed scouts from Lkotikal and Kargi were introduced and got on with the others very well. They also proved to be very quick learners during the training.



The scout team from Loltepes had delivered outstanding work over the last year and was rewarded with a goat each. Their colleagues were happy for them but promised to strive for getting a reward themselves next time round.

As usual the teams reported their experiences, successes and any problems, and all discussed possible solutions (Pics. 18-20)



**Picture 18: Female scouts (left) and male scouts during July baraza © Marwell**

You might remember that Marwell installed large solar panels in selected locations several years ago. These were mainly meant for the scouts to recharge their phones, but communities were allowed to use them at any other time. The scouts have now reported that the panels are no longer prioritised for phones, but that the community (e.g. doctors) are charging their equipment and so scouts cannot charge for data collection. We had expected that this would happen over time and see it as a benefit we have delivered to the communities we work with. As technology has advanced, we are now looking into reliable mobile solar chargers which will be smaller but would allow each scout to charge their phone wherever they are.



**Pictures 19 & 20: Food preparation and meeting in COVID times © Marwell**

Enrita and Lizbeth also discussed a new way for scouts to patrol their areas to ensure more consistent and comparable data of all teams. Many do not understand 'kilometres' when given a certain distance they should patrol. Some also walk random lines away from their manyattas. The new method should be to walk a square of 5km each side. To make the scouts understand what this distance means, they were shown the route from their baraza site to a school 5km away (Pic.21). Many of them were surprised to find that this was a very walkable distance, and we are hoping that they will all follow this guidance.





Picture 21: Scouts on walk to understand distances in kilometres © Marwell

### *Anti-poaching efforts*

We reported last year (Langenhorst et al., 2020) that Marwell has begun a close collaboration with KWS and the Milgis Trust to control poaching which has increased during the pandemic and associated lock downs. We also supported KWS with fuel to allow them a greater presence in the area. This new collaboration appears to be working well with repeated joint patrols (Pics. 22 & 23) and KWS responding quickly to reports of poaching from the scouts. KWS Officers also go into communities to advise and inform them on anti-poaching legislation and correct procedure.



Pictures 22 & 23: Enrita (middle) with scouts and KWS team on anti-poaching patrol © Marwell

### **Conservation Outreach**

As you know, our conservation outreach programme takes Enrita to schools and community groups, as well as college and other adult groups. Due to the pandemic, travelling to and between schools was limited or impossible for a long time. In March, Enrita attended a Northern Kenya Conservation Education Working Group (NKCEWG) webinar organized by San Diego zoo. The organizers shared their experience of using virtual means to engage their students and encouraged the Kenyan teams to explore this. Enrita has

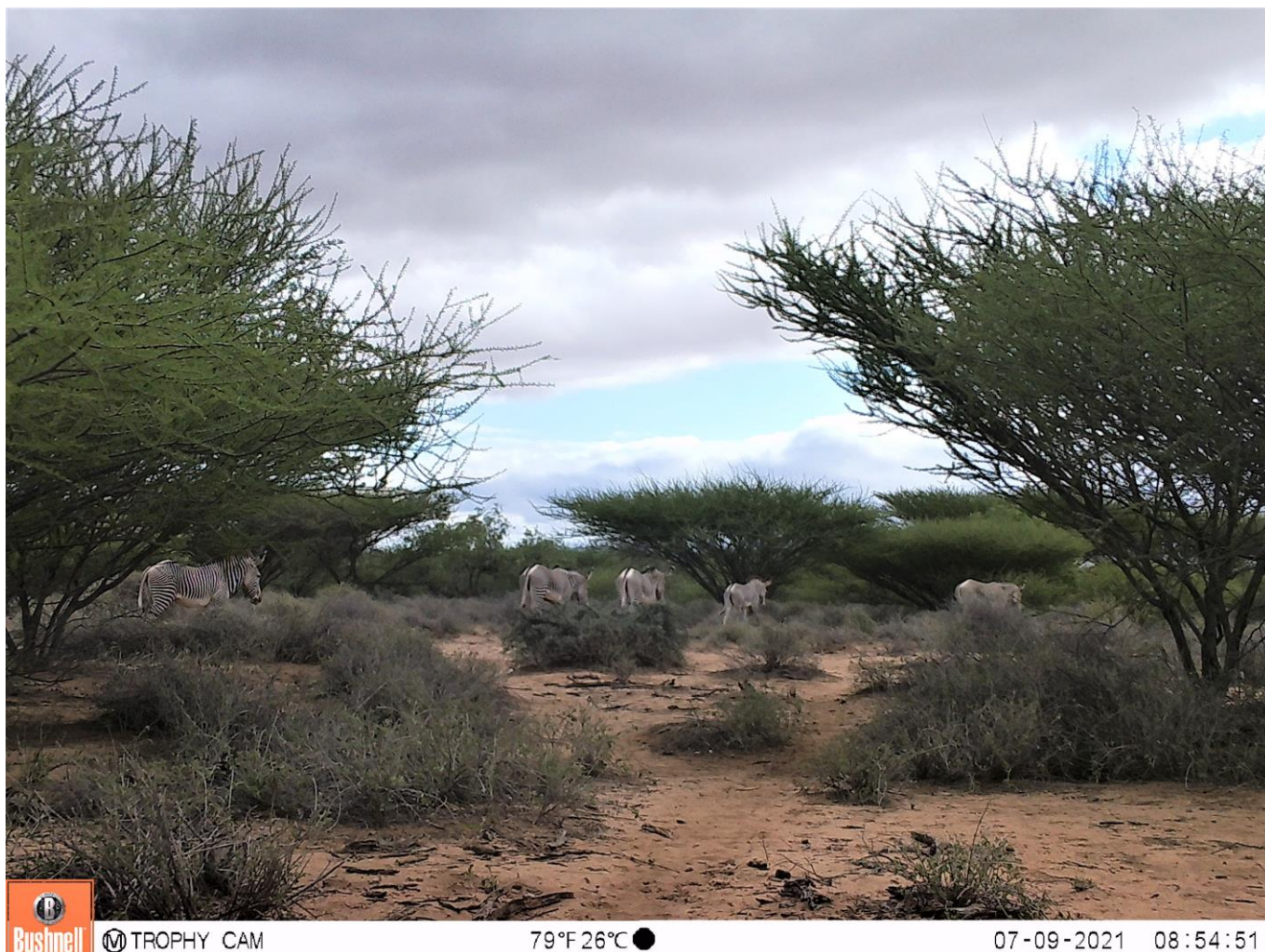


initiated discussions with the respective schools on how this can be implemented. While they all welcomed the idea of video learning, the majority have issues with their networks or are simply lacking suitable computer equipment.

At the time of writing this report, it appears that schools will fully reopen within the next two months, improving the provision of teaching dramatically.

### **Lchekuti / Herders Outreach**

We are hoping that sessions for those children who are not attending school (Lchekuti) will also restart before the end of this year. Enrita is working on a longer-term plan of reaching herders more by involving the scouts as they live in the communities and work with wildlife already. This could open new opportunities for the children to learn.



Picture 24: Camera trap image of female group © Marwell

### **People and capacity building**

#### *Training*

For obvious reasons, any training that was not web based has been cancelled over the last year.

As mentioned above, Enrita attended a Northern Kenya Conservation Education Working Group (NKCEWG) webinar.

Both Enrita and Lizbeth attended a SMART webinar earlier this year. This focused on current and future uses and approaches with SMART.

The first “real life” training was the multi day workshop on SMART Connect/Mobile as reported on above.



Picture 25: Enrita Naanyu Lesoloya, director of Mpatmpat Ltd. © Marwell

## Facilitation of working in Kenya

I mentioned at the end of last year's report that we were trying to set up a Kenya based organisation for better facilitation of our work in country.

In the middle of the pandemic, Enrita Naanyu (Pic. 25) did set up her own firm, Mpatmpat Consultants Ltd., to initially facilitate the management, administration and related costs of Marwell Wildlife's conservation programme in Kenya, including the Northern Kenya Grevy's Zebra Project (NKGZP) and collaborations with other partners, including Lewa Wildlife Conservancy, The Northern Rangelands Trust and The Grevy's Zebra Trust. This organisation also provides a point of liaison with national government, principally via the Kenya Wildlife Service, and with local government, primarily but not limited to the counties of Samburu, Marsabit and Turkana.

Enrita is the founding director and is supported in her governance by a board of trustees which she has drawn from partner organisations and KWS county office nearest to her project work.

Mpatmpat Ltd. allows Enrita to administrate our team of scouts in the North of the country, enrol them in the national health service, support their set up in the Kenyan banking system so they can be paid directly into a bank account, and potentially even employ them at a later stage. This should hugely benefit the scouts and their communities.

Marwell and Mpatmpat are cooperating under a Memorandum of Understanding which aims to facilitate conservation projects in Kenya, engage and include local communities and enable funding of projects and associated costs.

While Mpatmpat currently is financially reliant on Marwell Wildlife, it should allow Enrita to use this set up to develop a national organisation that can apply for grants and other funding, conceive and run conservation and education projects, all with the potential of becoming an independent entity over time.

Enrita does a great job managing not only the field team but all the administrative work that comes with running it.





Picture 26: Territorial stallion, northern Kenya © Marwell

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**Please also read the funding proposal (Appendix B) which will give you a lot more details on our plans.**

The photos in this report have been compressed for distribution by email. If you require higher resolution images, please contact Tanya on [TanyaL@marwell.org.uk](mailto:TanyaL@marwell.org.uk).

## **Our Grevy's zebra conservation colleagues and partners**

Marwell Wildlife works closely with Kenyan conservation partners with whom it develops joint conservation programmes. Our key partners – listed alphabetically – are described briefly below:

### **Grevy's Zebra Technical Committee (GZTC)**

The Grevy's Zebra Technical Committee is a technical and steering committee with a mandate from KWS to evaluate implications of technical recommendations for Grevy conservation before implementation, develop intervention protocols, set monitoring standards and procedures, and evaluate their implementation and effectiveness, reviewing all Grevy's zebra conservation, management and research proposals.

The GZTC is a collaboration among seven organisations all committed to conserving Grevy's zebra, including: Grevy's Zebra Trust (GZT), Lewa Wildlife Conservancy, Marwell Wildlife, University of Princeton (DZ), Northern Rangelands Trust (NRT), and Kenya Wildlife Service (KWS).

### **Grevy's Zebra Trust (GZT)**

The Grevy's Zebra Trust (GZT) has been established to address the urgent need to conserve Grevy's zebra in the community rangelands of Ethiopia and Kenya. GZT has become an integral part of the GZTC.

### **Kenya Wildlife Service (KWS)**

The KWS is the country's statutory wildlife body and is ultimately responsible for the conservation of Grevy's zebra. In partnership with KWS, Marwell Wildlife and the EEP have contributed significantly to the development and execution of the national Grevy's Zebra Conservation Strategy.

### **Lewa Wildlife Conservancy (Lewa or LWC)**

The Lewa Wildlife Conservancy holds some 20 percent of the world's remaining free-ranging Grevy's zebra and hosts a dynamic research programme. Marwell continues to support Grevy's zebra monitoring and research within Lewa, and many of the projects planned by the GZTC will be carried out in collaboration with the Lewa Research Department (LRD).

### **Milgis Trust**

The Milgis Trust is a non-profit organisation founded by wildlife conservationist and safari guide Helen Douglas-Dufresne and her partner Peter Ilsley to sustain the wildlife, habitat and the pastoral peoples' way of life in northern Kenya.

In January 2010 the Trust approached Marwell with a request to establish wildlife monitoring within the Milgis ecosystem and has since become a close partner in our NKGZP.

### **Northern Rangelands Trust (NRT)**

NRT supports the development of community conservancies. Marwell has partnered with NRT to implement a programme of training and capacity building to strengthen wildlife management within all member-community conservancies. In addition, it has co-developed a system for wildlife and vegetation monitoring which is being introduced to a selection of conservancies.

### **University of Princeton (PU)**

University of Princeton have collaborated on a number of Grevy's zebra conservation activities, most notably the Great Grevy's Rally and analysis of the photos collected during the survey. They are also heavily involved in the stripe ID project, which is hosted at Mpala Research Centre in Laikipia thanks to Princeton's close association there.



## **B. Proposed Activities for 2021 – 2022**

Following 18 very difficult months with many activities on hold during the COVID pandemic, Marwell's work in Kenya will remain focused on protecting vulnerable, small populations of Grevy's zebra in remote and under resourced areas. Our scouts were able to maintain most of their monitoring activities but our community work had to be paused due to lockdowns, travel restrictions and simple distancing rules. We will try to reconnect with the people where we work, restart our education outreach and build on the new technologies that were rolled out only recently.

Our network of 24 scouts saw some changes in personnel as well as working techniques and hence requires the training of new scouts and refresher sessions for those who have been with us for a while. Six of the scouts are women who also work as peace ambassadors in their communities. This not only provides manpower for monitoring but creates greater inclusion of the communities we work in as well as their increased understanding of our conservation work. This collaboration goes a long way to overcome political, social and security challenges which are inevitable parts of our work in Kenya.

Our team now works more closely with the conservation authorities, namely KWS, and the past year has seen several collaborations on their request. We were more than happy to support them wherever and whenever possible.

Many of the activities are long term and therefore ongoing, others could not happen this year due to the Corona pandemic, but we are hoping to pick them up again as we go through 2022. We are fully aware that this might be limited as the pandemic and therefore restrictions in parts of Kenya continue. The support we receive from the EEP and the wider EAZA community is critical to this effort, and we hope that you will continue with us in this important conservation work in the field next year.

### **Northern Kenya Grevy's Zebra Project**

#### **1. Grevy's zebra monitoring & SMART technology**

Our scout teams work in eleven different communities – monitoring Grevy's zebra and other wildlife through an extensive network of camera traps as well as foot patrols on which they collect data using GPS enabled phones and simple observation techniques. We are managing a SMART database that allows us to record and analyse a wide variety of parameters which help us to understand the movement & behaviour of Grevy's zebra in the landscape as well as other wildlife. To improve the quality of data and the speed with which we receive the information, we have now rolled out SMART Connect and SMART Mobile to our scouts. Training will have to be ongoing but already we are receiving first results. This technology also allows us to monitor the performance of our scouts and, crucially, respond quickly to any urgent issues that arise from the data.

While the stripe ID database has slipped into the background somewhat, it is still being used by us as well as our partners, GZT and Lewa, as our Extract/Compare software is currently still the only one all partners can access and contribute to. Work on other, cloud-based identification programmes continues but is not ready to be rolled out yet, especially in the more remote locations of Kenya. We are now at a stage where we can analyse data over several years and get results on population trends in survival and growth.

#### **Outputs**

1. Grevy's zebra population data
2. Biodiversity data
3. Movement and spatial ecology data
4. Contributions to the National Conservation of Wildlife in Kenya
5. Revision of the species range map
6. Publication of reports and maps
7. Development of new tools and capacity building through training

## Conservation Impact

Both the Stripe ID database and the SMART data are cost-effective means of monitoring movement, distribution and abundance, and behaviour of Grevy's zebra, as well as other wildlife, threats and the performance of individual teams. Our Database Manager is now responsible for general project management of all aspects of stripe ID and SMART data gathering and management. Her feedback to the field teams and to Marwell make her a pivotal member of the Marwell Kenya team.

<b>1. Grevy's zebra Monitoring &amp; SMART technology</b>	<b>£</b>
5000km for vehicles @ £ 0.45/km to cover travel to, from and within field sites	2,250
6 x full time scout @ £ 66/month, over 12 months	4,752
18 x community scouts (men and women) average £40/scout/month, over 12 months	8,640
3 x new phones @KES 12,500	250
3 x phone charging cables @ KES 500	10
3 x Solar chargers for phones and other equipment @ KES 3,500	70
3 x sim cards @KES 50	1
<i>SMART Connect/Mobile maintenance:</i>	
12 x server fees @ £57/mth	684
12x 11 databundles @ £8/mth	1,056
<i>License &amp; support for stripe ID databse</i>	
1 x stripe ID database license	1,000
Kingbird 150 motorbike for remote scouts @ KES 125,000	830
Annual Insurance @ KES 3,500	24
	<hr/> <b>19,567</b>

## 2. Peace and Conservation Education in Northern Kenya

The Peace Through Wildlife initiative, a hugely important part of the NKGZP grounded almost completely to a halt as lock down restriction took their toll last year. Rekindling all the community relations and ramping up our outreach programme will be on our priority list in the coming year in our efforts to secure the habitat and resources shared by Grevy's zebra, Turkana, and Samburu communities alike. Six of our scouts are women and they serve a Peace Ambassadors in their own communities as well as between communities.

The conservation education work covers teaching school children and sessions for pre-school children, 'herders (children not in school) as well as a variety of adult groups; furthering the understanding of environmental issues and the relationship between people and the habitat and wildlife they share. In the coming months, Enrita will also look at ways to include our scouts more in this work as they could provide knowledge, first-hand experience and even activities to their communities on a more regular basis than Enrita's trips usually allow.

In 2021 Lewa Education Centre has received funds to sponsor several schools to attend a 3 days fully paid exposure tour to Lewa Wildlife Conservancy. They very kindly have invited Marwell to send one of "their" schools on this training, allowing almost 50 children to participate. In response, we would like to sponsor one school to do the same next year in the hope to make this a regular event exposing as many children to wildlife and conservation action as possible.

### Outputs

1. Peace through common resource conservation
2. Schools engagement
3. Herders engagement
4. Community engagement
5. Increased awareness and appreciation of wildlife and its needs



## Conservation Impact

Through community engagement we have sensitized a large and remote population of pastoral people to the relevance of conservation and the importance of wildlife to their health and welfare. Improved social security and an understanding of the role of wildlife and environment provide clear grounds for coexistence of regional communities. This in turn secures habitat and resources that wildlife and people depend on for survival. Exposure of school children to wildlife and its conservation will bring along the conservators of the future.

<b>2. Peace and Conservation Education in Northern Kenya</b>	<b>£</b>
Field expenses and transport (£ 550/month)	6,600
Community meeting (men & women) once a year	98
Outreach for schools/herder @ KES 10,000/quarter	262
Outreach for adult groups @ KES 5,000/trimester	99
Baraza (scouts, elders & community members @ KES 35,000/quarter	920
<i>Equipment</i>	
Camera/video camera	320
Speakers for Projector	80
<i>Wildlife conservatory outing (up to 50 children)</i>	
2 x Bus hire @ KES 20,000	270
Food in Lewa @ KES 20,000	135
2 x Food during travelling @ KES 10,000	135
Contingency 10%	54
	<b>8,973</b>

## 3. Drought Emergency Fund

Severe droughts and the need for supplementary feeding seem to occur every other year now. The emergency fund has demonstrated its value several times already when critical supplementary feeding is required to stave off starvation and keep lactating mares alive in the harshest seasons. With the

increasing variability in climate conditions and unpredictability of rainfall we need to ensure that we are ready to react immediately and at short notice when feed is required.

The experience over the last six or seven years have led to a well-oiled cooperation with GZT in applying for feeding permits from KWS as well as hay procurement and delivery. As long as the funds are available, our teams can provide all that is needed to keep the Grevy's alive through these hard periods.

### Outputs

1. Critically affected lactating females are supported with food during times of need
2. Foal survival is ensured so that succession is guaranteed
3. Community participation provides an opportunity for coexistence with wildlife to be integrated to pastoral lives.
4. Depending on severity of drought, many tens to hundreds of individuals may be saved.

## Conservation Impact

By preventing the loss of foals, entire year class cohorts are saved from starvation during harsh droughts.

This would otherwise interrupt the recruitment cycle and increase the overall decline in the population. Drought preparedness is a key part of the strategy to conserve the National Grevy's zebra herd.

<b>3. Drought Emergency Fund</b>	<b>£</b>
Provision of supplementary feed-hay & monitoring ~5 months @ £ 500 incl, hay monitors, fuel, vehicle hire & hay	2,500
	<b>2,500</b>

#### 4. Grevy's zebra Contingency

While we are not planning on major new work for next year, we would like to be prepared for any additional opportunities. The Great Grevy's Rally should happen next year if KWS is to follow the frequency of previous years as laid out in the national Grevy's zebra conservation strategy (KWS, 2017). However, so far, no decision has been made on this as we are still awaiting the results of the last GGR. If the Rally was to go ahead, it would most likely be halfway through the year and all partner organisations would be expected to contribute. Should the Rally not happen in 2022, we are expecting it to be moved to 2023 and funds would be used at that time.

As reported, KWS is asking partners on the ground more frequently to support and contribute to anti-poaching missions, monitoring of new areas, and provision of equipment or manpower. All these things require funds which are not part of our regular work.

#### Outputs

1. National population estimate
2. Repeatable methodology based on sound science
3. National Grevy's zebra population health and status
4. National population structure

#### Conservation Impact

The first rallies have enabled the Grevy's zebra conservation community to provide reliable population estimates and accurate population structure figures for the species. With every subsequent rally we will improve and expand our knowledge on trends in population performance and survival. The Rally is thus a strategic tool that will guide conservation planning and management going forward. Conservation effort and the mobilization of resources can now be more effectively planned and managed, resulting in greater effectiveness of conservation activities. The results of the Great Grevy's Rally highlight the critical importance of access to grazing and water within a secure environment for Grevy's zebra.

**4. Grevy's zebra Contingency (10%)**

**£**

**3,045**



## Summary of funding proposal Grevy's zebra conservation 2021/22

### Northern Kenya Grevy's Zebra Project

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<b>3. Drought Emergency Fund</b>	<b>£</b>
Provision of supplementary feed-hay & monitoring ~5 months @ £ 500 incl, hay monitors, fuel, vehicle hire & hay	2,500
	<b>2,500</b>
<b>4. Grevy's zebra Contingency (10%)</b>	<b>£</b>
	<b>3,045</b>
<b>Overall Total</b>	<b>34,085</b>