

# **Grevy's Zebra Conservation in Kenya 2020**

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



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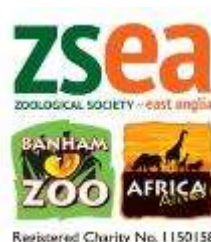


[www.marwell.org.uk/conservation](http://www.marwell.org.uk/conservation)

## Acknowledgements

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Banham Zoo – ZSEA  
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Drusillas Park  
Kolmården Foundation  
Stichting Wildlife  
Wilhelma, Zoologisch-Botanischer Garten Stuttgart  
Zoo de Montpellier  
Zoo Frankfurt  
Zoo Planckendael



Cover: Grevy's zebra during GGR 20 © Marwell  
This page: Northern Kenya © Marwell

## Introduction

Welcome to the latest edition of the annual Grevy's zebra conservation report. While in 2019 our teams battled the challenges of a severe drought, 2020 has seen the world and, especially, conservation turned upside down with the arrival of Covid-19 in all our lives. I can assure you that, at all times, the health and safety of all our colleagues in Kenya as well as their families were our priority. I am glad to report that none of them have so far suffered any issues, probably somewhat protected by the remoteness of our project area.

Early on, curfews and stay-home decrees grounded our project managers, Lizbeth and Enrita, in their homes and all field related trips and activities were postponed, but patrols and camera trapping in the far north could continue while maintaining social distance.

Just before the worldwide lockdowns began, our teams were able to participate in the third Great Grevy's Rally and you can read more on that in this report.

The long term impact of the pandemic on conservation activities remains to be seen but some promising signs of support have already come from the EEP and our donors as they prioritise conservation work above 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. I have been astounded and humbled by the zoos that have continued their financial support despite being closed, often for a long time, and without income or donations from visitors. For this I would like to thank you from the bottom of my heart. It does allow the Grevy's zebra conservation work to carry on. 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 2021 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 currently 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. 2016).

### **International Studbook**

The latest international studbook for Grevy's zebra 2019 (Langenhorst, 2020) recorded 192.298.0 (490) living individuals in 118 institutions in 26 countries. The majority of Grevy's are in one of three managed populations: 93.170.0 (263) individuals are in 56 zoos in Europe (EEP); 81.114.0 (195) are managed by the North American SSP in 49 institutions (US and Canada), and 12.10.0 (22) are coordinated in 8 institutions in Japan. All other Grevy's zebra are kept in non-associated institutions or private hands. Together, these populations provide a genetically and demographically healthy back up to their wild counterparts.

The studbook can be downloaded as a PDF from our website:

<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)

## **Section A. Summary of Activities in 2019/20**

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

### **National developments**

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

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

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

The first two Rallies in 2016 and 2018 were considered successes both in execution as well as in numbers counted. The 2018 survey recorded  $2812 \pm 163$  Grevy's zebra, an increase from  $2350 \pm 93$  two years before (Rubenstein et al., 2018). One result of the rallies was that 70% of Kenya's Grevy's zebras are now identified individually, providing a national data base which already is an invaluable tool for Grevy conservation but will improve with every new photograph and survey.



**Pic.1: Grevy's zebra group sighted during GGR 2020 © Marwell**

As part of the Grevy's Zebra Recovery and Action Plan (2017-2026) (KWS, 2017), a national survey should be carried out every two years, so based on the learnings from those two events, GZTC formed a sub group, the Great Grevy's Organising Committee (Batuk, Grevy's Zebra Trust, Kenya Wildlife Service, Laikipia Forum, Lewa Wildlife Conservancy, Marwell Wildlife, Mpala Research Centre, Northern Rangelands Trust, Princeton University, Samburu Trust, Saint Louis Zoo, Wildlife Direct) and GZTC hired an event manager for the third rally on the 25<sup>th</sup> and 26<sup>th</sup> January 2020. Aim of these appointments was to coordinate the rally logistics that would allow the two-day photographic census to run smoothly including effective communication sharing between the organising committee, organising equipment, accommodation for participants, information dissemination, training and coordination of ground rangers. Everybody's hope was that this third rally will result in a continued upward trend of Grevy's zebra numbers.

As in the years before, the GGR enlisted the public to search for the animals. Almost 700 people in 160 teams participated and took over 26,000 stripe pattern photographs across 30,000 square kms over the two consecutive days.

The Marwell team comprised of Enrita, Lizbeth and our 23 scouts (Pic.2), accompanied by the driver of the Marwell vehicle, 12 volunteer motorcyclists (with their bikes) from the local community, 1 Milgis Trust scout and the Chairman of Ndoto Conservancy, Mr Loitupuny Leparsanti, who was accompanied by a driver and County vehicle. The team also had aerial support from KWS, which comprised of 3 planes, with pilots and observers.



**Pic.2: Marwell GGR team © Marwell**

Just days before the event, Enrita and Lizbeth attended the 'training of trainers' at Nanyuki. This was to enable them to train the Marwell scouts on the method of data collection, how to set and use the cameras and the kind of information that needed to be collected, including photos of the right side of the Grevy's zebra and ensuring the locations were being captured. Twelve cameras (configured for the GGR) were handed to Marwell for their 12 teams.

The Marwell teams were assigned three blocks including the area of Kargi and Korr. These two locations were only included after reports on Grevy's sightings earlier in the year. This turned out to be a good decision as the scouts sighted some of the largest herds in Fallam area in Kargi.



**Pics.3 & 4: Lizbeth and Enrita preparing team for GGR © Marwell**

As with most events of this nature, the teams faced a variety of challenges: Due to the recent rains, the Grevy's had moved further away from communities and into the deserts, making them hard to locate given the distance from the blocks to be covered. While the scouts found numerous tracks of Grevy's zebra, the animals turned out to be very skittish and hence difficult to spot. When they were sighted, they ran away very fast, giving the teams very little time to photograph them (Pics.5&6, 7&8). Communication issues between the aerial spotters and the ground teams on day one, followed by two volunteer bikers leaving the survey, further complicated things.



**Pics.5 & 6: one of Marwell scouts sneaking up on GZ for photo ID © Marwell**



**Pics.7 & 8: Good quality photos were difficult to capture © Marwell**

Nevertheless, our teams managed to capture 54 photos of Grevy's zebra and a total of about 81 individual Grevy's zebra were sighted, including foals. The KWS aerial team spotted a total of about 18 individuals during the Rally, including during the recce on 24<sup>th</sup> January.



**Pics.9 & 10: GZ stallion and female/foal group ID photos during GGR © Marwell**

The WildMe team in the US that is analysing the photographs for the GGR will need a bit longer this year to do their job. Not only were many of them off work during lockdown, but they are developing new algorithms which should streamline processes and considerably reduce the manual effort that is currently involved in analysis for future. We are therefore expecting the results of the 2020 rally only at the end of the year and will report them to you once available.

Going forward, pictures taken by scientists, scouts, camera traps and tourists during the intervening years between Great Grevy's Rallies will provide fine-grained data on locations, associations, movements and habitat use as impacted by climate change and human activities. In only a year's time, however, preparations will already begin for the next rally in 2022.

#### *Locust invasion*

During the GGR numerous locusts were sighted and photographed in the Kargi area (Pics.11 & 12). The information was passed on to the GZ Liaison Officer at KWS for further monitoring of the situation. At a later point, numbers became high enough to be of concern and KWS/government had to spray the area.



**Pics.11 & 12: locust invasion during GGR © Marwell**

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

As reported last year already, our project area and its neighbours suffered from a harsh drought in 2019 again. The little rainfall and overgrazing in South Horr led to forage disappearing in most areas and, to a lesser extent, water scarcity; even some of the permanent rivers dried up. In order to prevent the animals, in particular lactating and pregnant females, from losing body condition too much, Lizbeth and Enrita applied to KWS for permission to begin supplementary feeding of hay at strategic points. In cooperation with GZT several hundred bales of hay were purchased in Nairobi and brought to the north by truck, where our scouts were ready to off load and store the hay ready for distribution.

Additionally, we employed a hay monitor for three months to supervise the distribution of hay and to monitor the uptake by the Grevy's zebra (Pic 13). His job was it to ensure that enough hay was provided overnight at each station, while avoiding wastage of hay by creating large amounts of leftovers which would then be taken by livestock during the day.



**Pic.13: Our hay monitor, Lmalmalwa Lekenit**



**Pic.14: Unloading and distributing hay into store© Marwell**





**Pics 15&16: Grevy's zebra coming to feed on hay at night © Marwell**

In September our scouts reported seeing new-born foals in the area and we decided it was crucial to continue the effort into November. Another hay transport was organised with GZT from Nairobi in early October (Pic.14).

The rains did eventually return. It took a while for the land to recover but, happily for wildlife and people, the ground became green and fertile once more. The areas where the scouts had been moving hay in and out of storage and to the feeding locations turned into lush grass thanks to the seed that had dropped out of the hay (Pic.18). In fact, the rainy season lasted longer than in previous years, but we are keeping a close eye on the developments this year. So far, the animals are finding enough food and water.



**Pics.17&18: View of the Matthew Ranges, with heavy rain clouds; Our female scout, Amoki, couldn't hide her happiness as she sat in the new grass that had emerged in front of the storeroom © Marwell**

Just before schools reopened after the winter holidays in January, our scouts transferred 100 bales of hay from the classroom they had been given by the community for hay storage to our Marwell store in Kurungu (Pic 19&20). It will remain here until needed next.



**Pics 19&20: Surplus hay being moved to Marwell storeroom © Marwell**

The extent of the drought and the amount of hay required last summer was such that we had to use all our reserves. As always, the EEP rallied around and came to the rescue by donating many more funds for emergency feeding, so that we are set once more, should extra hay be required in 2020 or thereafter. Thank you for your generosity.

### **Digital Stripe Pattern Identification Project**

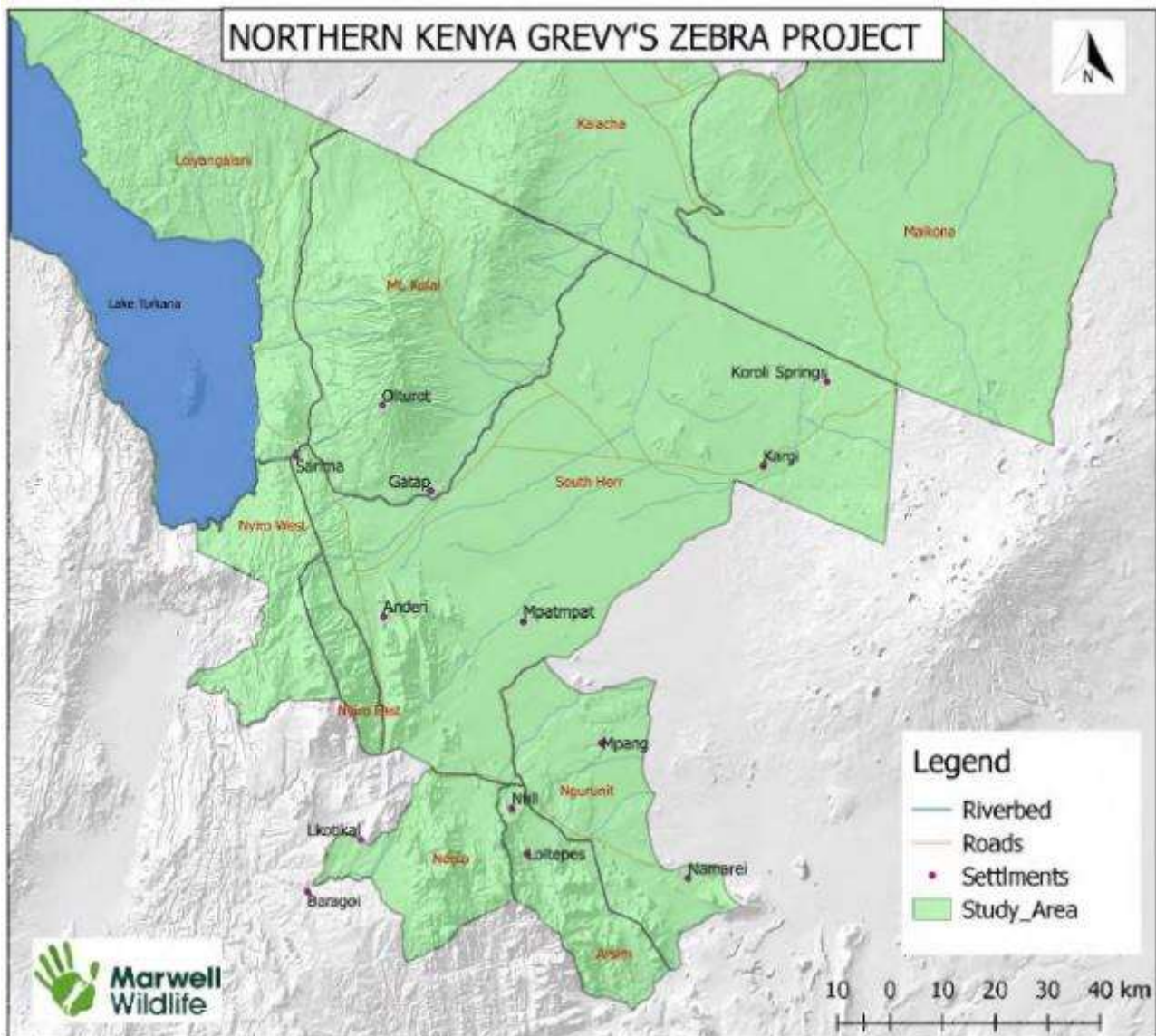
As previously reported (Langenhorst et al. 2019), some of our partners who had begun using alternative tools like IBEIS or were restructuring their data collection protocols returned to using the ExtractCompare program (Conservation Research Ltd.) managed by Marwell as they had encountered severe issues with some alternative tools. Since then, Lizbeth has been retraining colleagues from GZT and Lewa and together with the author of the software, Lex Hiby, they have been tackling database issues to clear a backlog of older images. Lizbeth has also started to enter those images that were taken during the 2020 GGR into the database. We are expecting improved quantity and quality of images this year.

The national database now holds 32,472 images.

As we will continue to collect stripe ID data as one of the principle monitoring methods for the meta population in Kenya, EEP funds help us to maintain the camera trap network and maintain the project's staff requirement.



**Pic.21: GZ stallion in Loibor Seber © Marwell**



**Map 01: Map of our Northern Kenyan study area.**

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

*While our scouts were still going on patrol, all other activities were suspended and Enrita was grounded at home like most of us during lockdown. For this reason, we can mainly report on activities before the Corona outbreak. The data collected during lockdown have also only just been obtained by Enrita and have therefore not been fully analysed. We will, of course, provide you with detailed updates in next year's report again.*

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

Grevy's zebra are using this area as a migratory route as they move northwards due to human population pressure and poaching in the area further south in Samburu District. It is important to understand the perceptions and attitudes of the communities living around the migratory routes as they interact with these animals and affect their access to vital food and water resources. Indeed, the future of Grevy's zebra and other wildlife is dependent on sustainable coexistence with pastoral communities and their livestock. To monitor a wide range of Grevy's zebra and other wildlife factors we have built a network of scouts who are managing a large set of camera traps and carry out regular patrols collecting additional information on GPS enabled phones. Furthermore, we are

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

The key focus of this project remains unchanged. We are working closely with the communities sharing landscape and resources with wildlife. The main objectives are to

- understand the population and ecology of Grevy's zebra and other wildlife in this remote region
- foster community-based conservation and ownership of wildlife conservation effort
- map dry season water sources, key grazing and foaling areas to allow targeted conservation efforts
- monitor and mitigate the threats to Grevy's zebra as posed by disease, drought or human activity
- change attitudes to wildlife for the better and raise/increase awareness of conservation in children from an early age.

Our team of 24 wildlife scouts, all chosen by their local communities, are maintaining a network of 24 camera-traps. In addition, the scouts follow zebra trails on foot and record direct observation of all wildlife as well as carcasses on GPS enabled phones- CyberTracker and SMART 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 if and when supplementary feeding is required.

In addition, the scouts report any unusual activities like poaching to the team leader. Any emergencies, e.g. trapped or injured Grevy's zebra and other wildlife are reported to the KWS vet.

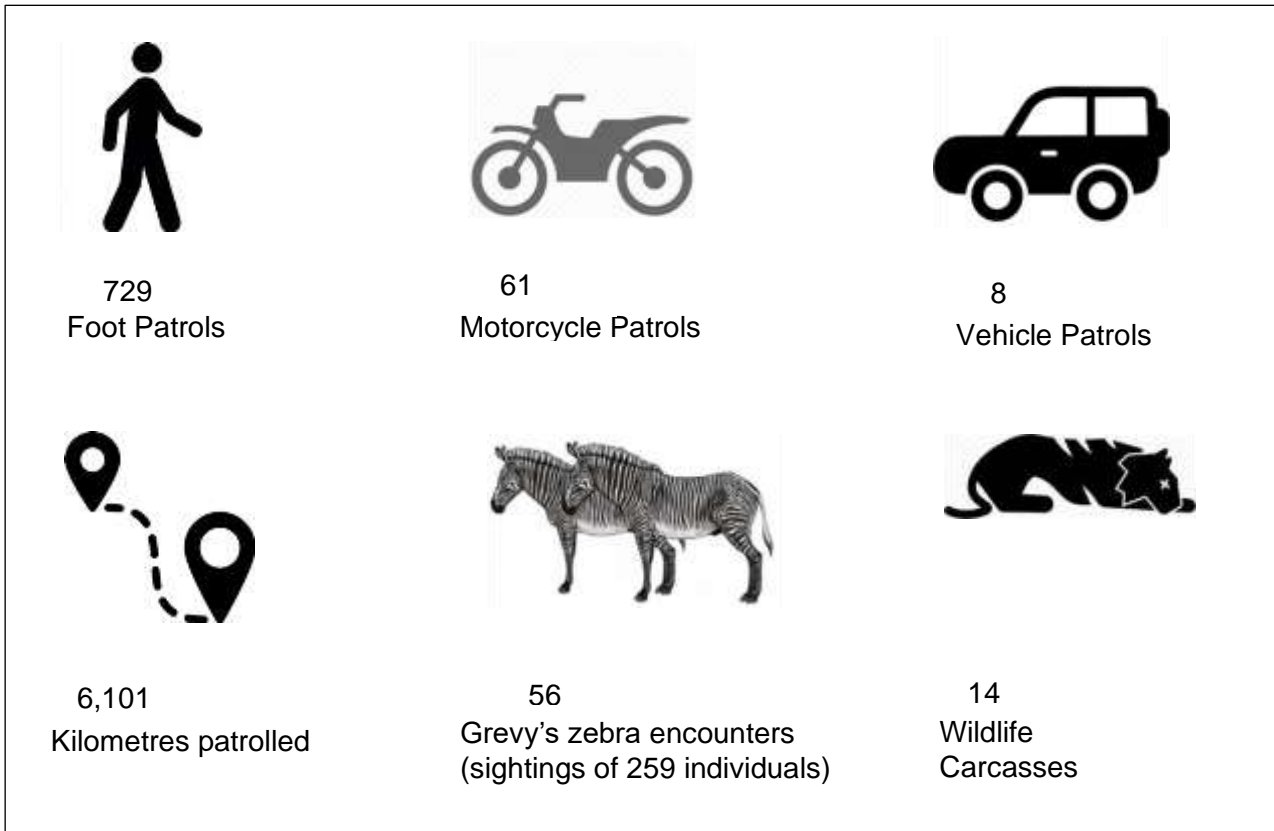
The six female scouts also work as Peace Ambassadors between the different communities in the project area.



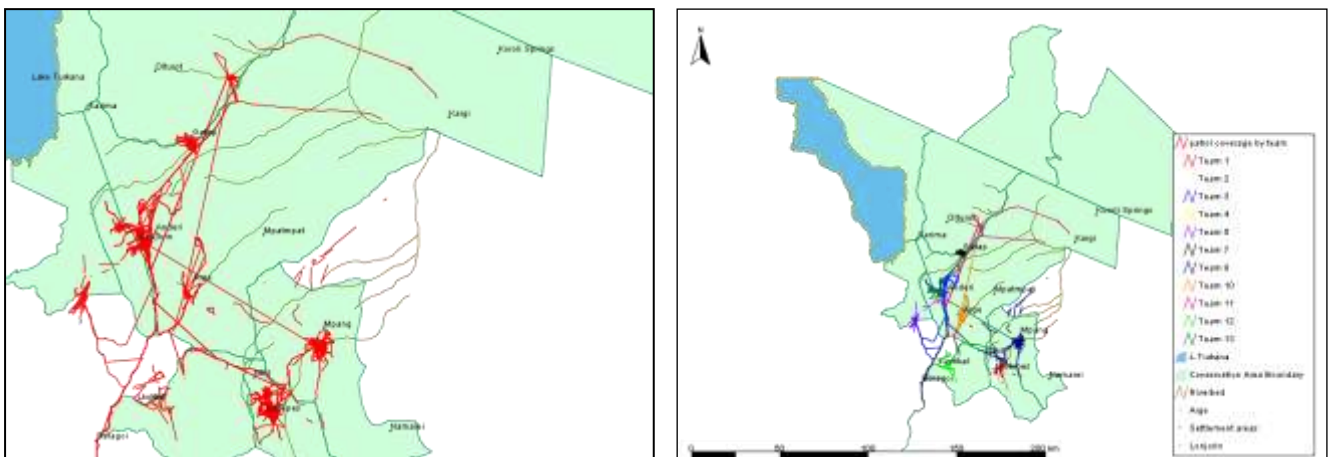
**Pic.22: Four of our female scouts: Santayon, Selina, Ripanoi and Amoki © Marwell**

*Community-based monitoring, using SMART technology.*

Our scout teams use SMART phones and CyberTracker to collect and record their patrol data. SMART (Spatial Monitoring and Reporting Tool) is an open source and freely available software application. The SMART software makes it possible to collect, store, communicate and analyse scout-collected data on illegal activities, wildlife, patrol routes, and management actions to understand where efforts should focus, and evaluate scout performance. You can see an infographic of the 2019 efforts below:

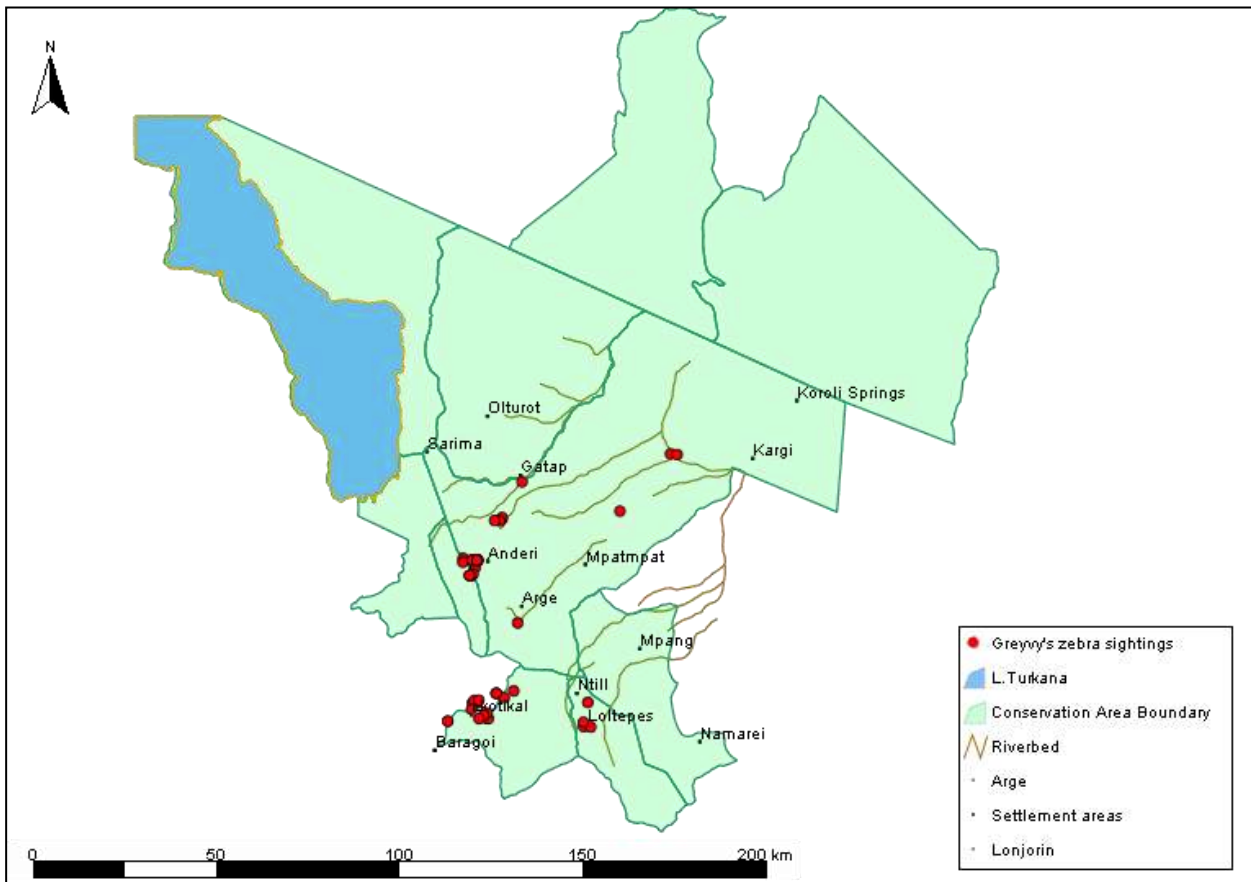


The data collected through SMART not only provide information on the total patrol coverage but can also break it down by scout team (Maps 2&3) and as such allows us to identify where there are any weak points in the network. We could see quite clearly last year and at the beginning of 2020 which teams did not perform as required and can now address this issue with the scouts.



Maps 2&3: Spatial coverage of the scout patrols overall and by Teams in 2019

The Grevy's zebra sighted over the year were distributed across the project as per the map 4. This showed Grevy's in areas not seen in 2018, between Mpatmpat and Kargi.



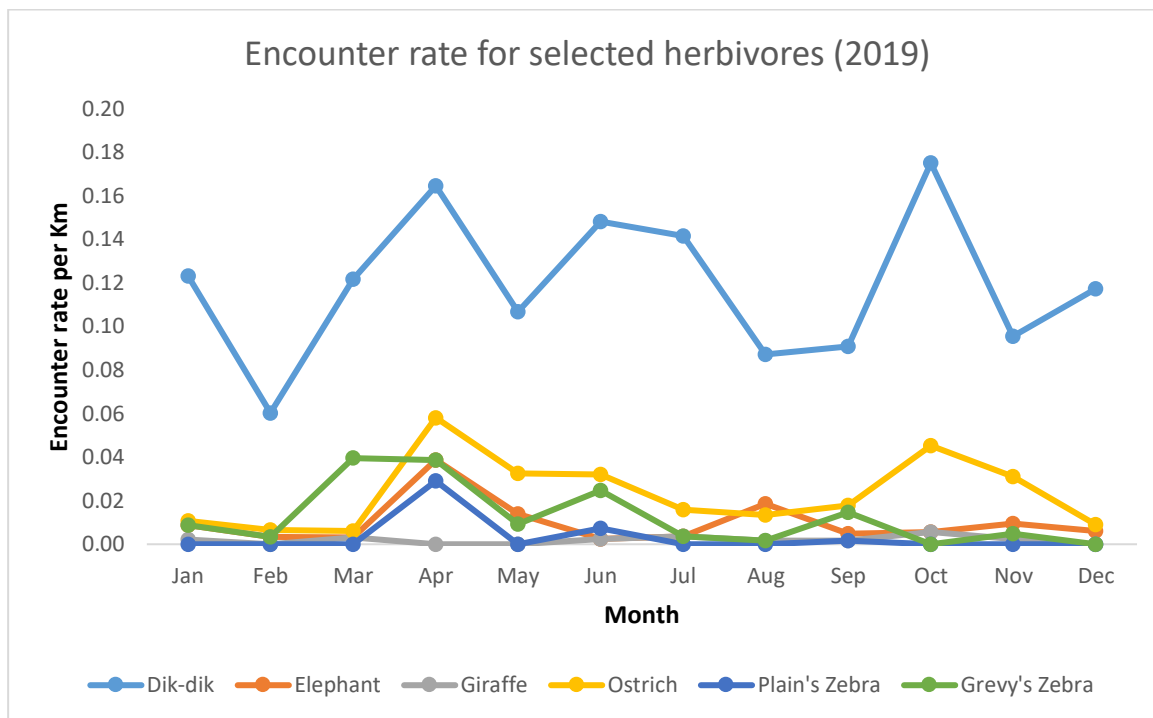
Map 4: Grevy's zebra distribution in 2019

The total number of Grevy's zebra sighted breaks down as per the table below.

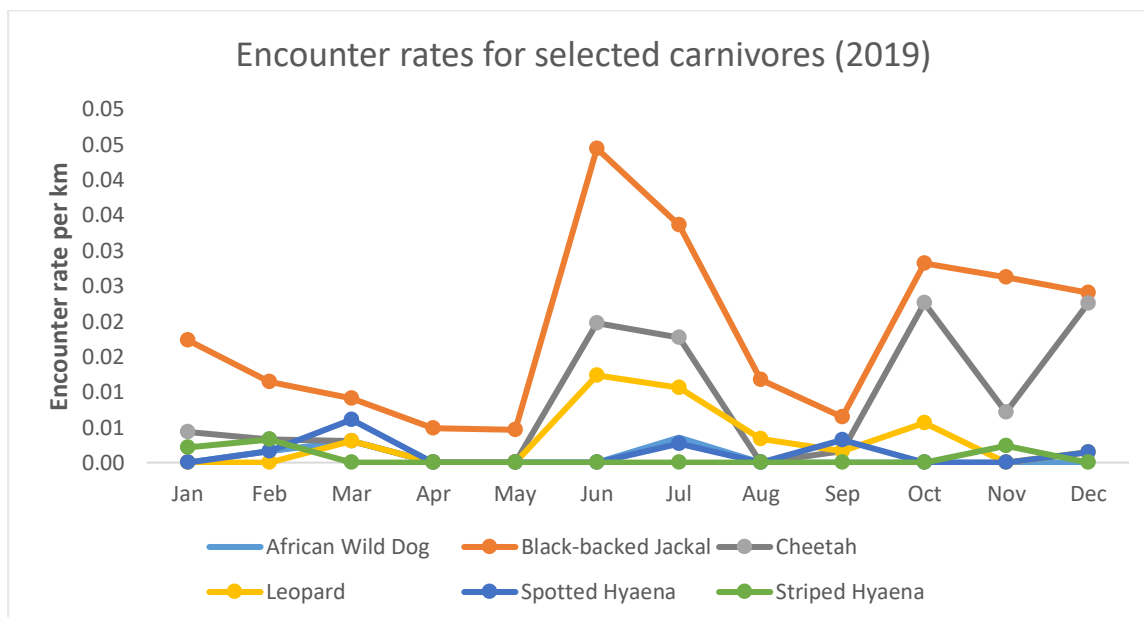
Grevy's zebra observations	No of Grevy's zebra
Adult Males	57
Non-Lactating Females	33
No of Pregnant Females	15
No. of Lactating Females	48
No. of 0-3 month foals	9
No. of 3-6 month foals	48
No. of 6-12 month foals	22
No. of Juveniles	27
<b>Total</b>	<b>259</b>

Table 1 Sum of Grevy's zebra sightings in 2019

Our scouts record data on sightings of all wildlife while on patrol and the results are split here for herbivores, including the Grevy's zebra, and carnivores. (Graphs 1&2)



Graph 1: Encounter rates for selected herbivores between January and December 2019

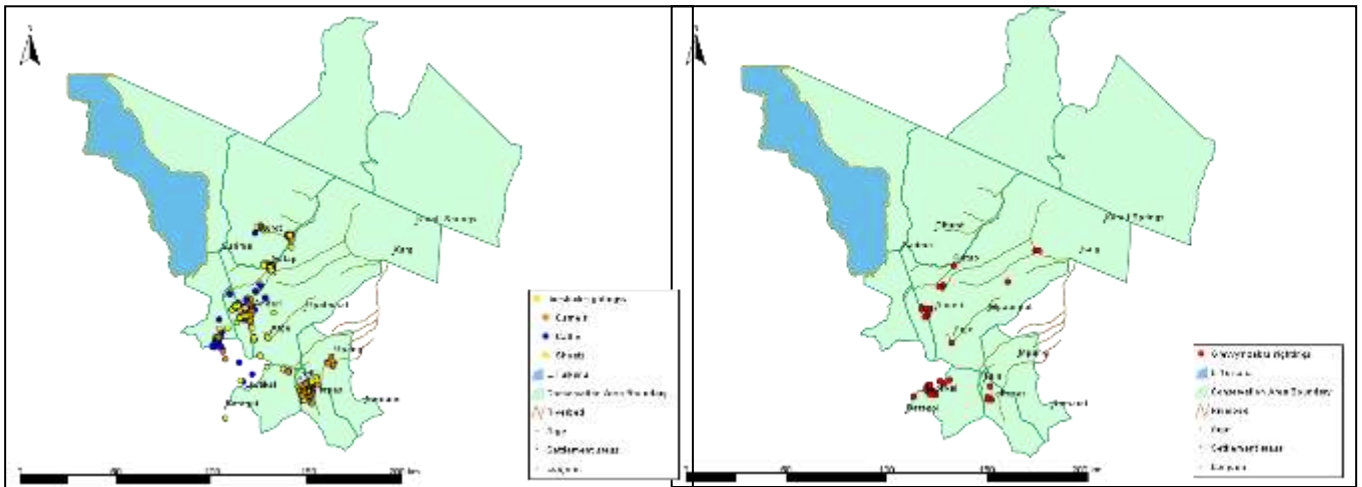


Graph 2: Encounter rates for selected carnivores between January and December 2019

### Carcass sightings

As part of the data collection, the scouts also report on any carcasses they come across during their patrols. Most carcass sightings last year were unverified owing to lack of photographs and upon investigation some lacked credibility and have thus not been included in our data. To address this problem the CyberTracker sequence was modified to include a compulsory photograph for each recorded carcass which began in 2020.

The maps below show the areas where both livestock and Grevy's zebra have been sighted. Livestock observations help us to understand where pressures for water and forage are likely to be most urgent and could lead to unhealthy competition between wildlife and livestock.



Maps 5&6: Mapping of livestock (left) and Grevy's zebra (right) during 2019 © Marwell

Going forward in 2021, our aim is to improve on this technology by deloying SMART CONNECT. Currently the data transfer relies on Enrita visiting the field (Fig.XX), downloading data and transmitting it 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 a central command centre or, in our case, to Lizbeth who can analyse and respond to date much faster than is currently the case. This will help to deal with issues in data collection and make it possible to respond to real-time alerts to enable more effective and rapid operational responses. While some scouts are so remote that they won't have access to the CyberTracker network daily, they will all visit a market at least once a week and be able to transfer their data at that point.

The Grevy's zebra Trust is currently trialling this new addition to SMART and, if found beneficial, we are hoping to adopt it as well.

The hope is that this will not only improve the speed of data availability but improve the reliability of scout patrols and with that the quality of data collected.



Pics 23&24: Enrita in the field downloading scout data © Marwell



### Scout barazas

In September 2019, at the peak of the drought, the scouts held their baraza in Keleswa south of South Horr, an area that overlaps with that of the Milgis Trust. All the scouts reported hardship due to the drought. Many had led their livestock elsewhere to find pasture and water. Some reported increased sightings of hyena and of lion tracks as the animals were coming closer to communities, probably due to more urgent search for food. Luckily, there were no reports of injuries or worse. Those scouts who live in areas with either permanent water or where Marwell was feeding hay all reported seeing Grevy's zebra regularly.



**Pics 25&26: Male scouts and female scouts during a baraza © Marwell**

The scout trainer Lekenit said how impressed he was by the scout network that has grown from only four members to well over 20 by now. He called upon all participants to “embrace conservation and be great ambassadors in our community”. A scout from the Milgis Trust who attended as a guest urged all scouts to be united, whatever their organization – “let's work for wildlife, we are their voices”.

The following baraza which was held in Olturot overwhelmingly brought reports of rain and new growth. Several scouts reported increased numbers of carnivores as well as giraffe and elephants. Grevy's zebra had not been seen at the permanent water sources, a sign that they were finding plenty elsewhere, and that the emergency was over for this year.

All scouts expressed their appreciation for their new team and pay structures including team leaders which were elected by the scouts themselves together with Enrita. It followed the usual feedback to scouts by Enrita and discussion of any issues with phones, camera traps and data collection.

In this, the last scout baraza of the year, Lizbeth and Enrita informed the scout on the latest preparations for the Great Grevy Rally and asked them to inform all their communities of the forthcoming event.



**Pics 27&28: Lizbeth (left) and Enrita (right pic, middle) updating on GGR preparations © Marwell**

On one of her last trips before lockdown, Enrita was joined by a KWS Intelligence Team. They visited the Milgis Trust to discuss the issue of poaching in the area and how all those working here can collaborate to better control the problem. Helen Douglas-Dufresne who runs the Milgis Trust requested that KWS increase their number of rangers in Latakweny and let them work closely with both Milgis and Marwell scouts to share information and increase security. The KWS intelligence team was also interested in understanding our work on the ground and the geographical scope. In the meantime, we have agreed to support them with fuel to increase their presence in the area for the last quarter of 2020.

At the beginning of July Enrita returned to the field for the first time after lockdown. She collected camera and phone data from all the stations, updated the scouts' phones with a newer data collection sequence and provided feedback to the scouts on their previously returned data. Lizbeth is busy analysing all the information.

Enrita also checked the batteries for the solar panels which are based in three communities and found them all to be in good working condition.

During the trip the team observed that the area was quite dry; no rain had been falling for some time, but there was still plenty of grass. At the time of writing this, there has still been no call for supplemental feeding.

### **Conservation Outreach**

As you know, our conservation outreach programme takes Enrita to schools and community groups, as well as college and other adult groups (Pics 29&30). As in most countries, the schools in Kenya closed in spring due to the Corona virus crisis. They only reopened this week, so Enrita has not had a chance to visit any schools this year yet.

Late last year, the project received a donation of high-quality toy animals from Wilhelma, Stuttgart Zoo, selected specifically for the species encountered in our study area, including Grevy's zebra.

Enrita is now very keen to get back into classrooms and teach the children about the animals that share their landscape with the help of these very realistic toys.



**Pics.29&30: Enrita teaching in a school with pictures © Marwell**



Pics 31&32: The new toys ready for deployment © Marwell

### Lchekuti / Herders Outreach

Herders are those children that cannot attend school because they have to look after their families' livestock all day. In her drive to increase conservation education and awareness through outreach visits, Enrita is engaging these groups of children, usually in the evening when they have returned from their duties in the field. As the children, many of them very young, are usually tired at this time, most activities are limited to watching wildlife movies.

During this part, community members and our scouts sometimes join in, all benefitting from this kind of information sharing.

The last session of this kind took place in February 2020. But the children much anticipate their return later this year.



Pic.33: A group of Lchekuti watching a film on the natural world.

## People and capacity building

In September 2019, we supported Timothy Kaaria, Research Officer at Lewa Wildlife Conservancy, to attend the International Wild Equid Conference in Prague where he presented on his research on “Population performance of the endangered Grevy's zebra (*Equus grevyi*) on the Lewa - Borana Landscape, Meru, Kenya.”

In February 2020, Enrita and Lizbeth attended Pathways Africa 2020: Conference and Training on Human Dimensions of Wildlife for which Lizbeth was awarded a scholarship to cover her registration fees.

On 29<sup>th</sup> July 2020 Enrita and Lizbeth attended a SMART mobile Webinar. SMART Mobile/Connect, which is the new addition to the SMART conservation toolkit training is preparing Lizbeth and Enrita for the migration to SMART Mobile for the NKGZP conservation area.

Both of them also attended a meeting with Ewaso Lions to exchange experience about monitoring wildlife using SMART with an aim to further improve our work in South Horr. The main output of the meeting were practical ways of improving equal coverage on the ground so as to have reliable data to us as an indicator of abundance/occupancy and measure encounter rates

Aside from all the Grevy's zebra related developments, it is worth mentioning that efforts are underway in Marwell and Kenya to set up a locally based conservation organisation managed by Enrita Naanyu to provide all our scouts with better administrative care and allow Marwell and the EEP to continue their work in country. We will keep you updated on this. As Enrita is a very determined and enthusiastic person, we expect her to flourish in this new role.



Pic.34: Enrita Naanyu Lesoloyia, Leader Northern Kenya Grevy's zebra Project © Marwell

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<http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T7950A89624491.en>. Downloaded on **05 April 2017**.

**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 2019 – 2020

Marwell's main objective in Kenya remains focused on protecting vulnerable, small populations of Grevy's zebra in remote and under resourced areas. Our ongoing programmes maintain a strong community-based approach and develop local capacity to ensure long-term viability of our efforts in the field. We have expanded our network to 24 scouts in 12 locations last year. 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 continues to deliver its conservation impact across a spectrum of national policy development, species intervention strategy and conservation in remote areas.

Some 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 in 2021.

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 extension of our zoo-based conservation in the field next year.

### 1. Grevy's Zebra Liaison Office facilitation per annum.

The success of the GZTC is grounded in the direct collaboration with the Kenya Wildlife Service as its parent organisation. Marwell is in the process of producing and signing a Memorandum of Understanding with KWS to ensure commitment from both sides towards the conservation of Kenyan wildlife. Supporting the Liaison Officer, a KWS employee, is key to maintaining this structure and providing effective national coordination for conservation activities. The officer needs to be facilitated in their duties only, as salary is covered by KWS. This includes mobilising them around the country with a transport budget and ensuring that there is sufficient funding to maintain their activities. Without this support the office would most likely be closed by the authority owing to budget limitations and this would diminish the effective coordination of Grevy's zebra conservation in general. We need your support to ensure that the GZTC and its partners can continue to operate as successfully as they have done over the years.

#### Outputs

1. Centralised collaborative conservation effort
2. Nationally owned structure and direction of conservation activity
3. National Strategy for conservation and Management of Grevy's Zebra

#### Conservation Impact

Centralised liaison prevents much loss of resource through duplication and wasted effort. By appointing a chief whip through the Liaison Office the GZTC's mandates are monitored and stewarded from inception to implementation. This ensures high productivity.

<b>1. Grevy's Zebra Liaison Office facilitation per annum</b>	<b>£</b>
Travel & Accommodation	4,600
Purchase of Stationery	275
Workshops, meetings & Conference	460
Calling airtime card	185
	<b>5,520</b>

## Northern Kenya Grevy's Zebra Project

### 2. Grevy's zebra monitoring: national stripe ID database & SMART

Our scout teams are in eleven different communities now— delivering new data to our stripe identification database as well as GPS and observational data. We are now at a stage where we can analyse data over several years and get results on population trends in survival and growth. While newer identification programmes are already being used by one or two of our partners, they are still not without major issues, especially in the more remote locations of Kenya, and our Extract/Compare software is currently still the only one all partners can access and contribute to in support of the national ID database for Grevy's zebra. It is therefore more important than ever to maintain our effort on the Stripe ID project.

Connected to this 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 are aiming to add SMART Connect to our tool box. This will also allow us to monitor the performance of our scouts and, crucially, respond quickly to any urgent issues that arise from the data.

#### 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 peer reviewed papers on species biogeography
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 feed back to the field teams and to Marwell make her a pivotal member of the Marwell Kenya team.

<b>2. National Stripe Identification Database &amp; SMART Connect</b>	<b>£</b>
5000km for vehicles @ £ 0.45/km to cover travel to, from and within field sites	2,250
4 x scout leaders @ £ 46/month, over 12 months	2,208
20 community scouts (men and women) £40/scout/month, over 12 months	11,520
1 x stripe ID database license	1,000
<i>SMART Connect set up:</i>	
11 x SIM cards	4
12 x server fees @ £57/mth	684
12x 11 databundles @ £8/mth	1,056
1 x trainingdatabase manager in SMART connect application	180
1 x training field scouts and SMART Connect set up	260
3 x back up phones @ £ 70 each	210
	<b>19,372</b>

### 3. Peace and Conservation Education in Northern Kenya

The NKGZP and its Peace Through Wildlife initiative are thriving 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 has expanded from teaching school children and now includes 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. Our whole team have been invited by our partner GZT to join an intensive training workshop on conservation conflict transformation (CCT). This workshop aims to address specific issues of human-wildlife and conservation conflict facing the endangered Grevy's zebra and will provide the skills to understand, address, and transform conservation conflicts in the communities and regions where we work. This will enable our scouts to ease or avoid conflict on their outings in the field and should also contribute to the project aim of peace between different communities.

### Outputs

1. Peace through common resource conservation
2. Schools engagement
3. Community engagement
4. 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 also depend on for survival.

3. Peace and Conservation for Grevy's Zebra in Northern Kenya	£
Field expenses and transport (£ 550/month)	6,600
Camera/video camera	320
Speakers for Projector	80
Stationary for school visits & community meetings	530
100 x printed shukas (African blankets worn by warriors)	630
100 x printed T shirts (for community training and discussion workshops)	630
200 x printed caps (for community training and discussion workshops)	600
Honda generator	350
	<b>9,740</b>

### 4. Drought Emergency Fund

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. Any contribution, large or small, to this fund will back-stop our efforts in times of need.

### 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 of 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.

4. Drought Emergency Fund	£
Provision of supplementary feed-hay & monitoring ~5 months @ £ 500	2,500
	<b>2,500</b>

## Summary of funding proposal Grevy's zebra conservation 2020/21

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<b>Overall Total</b>	<b>37,132</b>