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LEWA WILDLIFE CONSERVANCY – KENYA WILDLIFE SERVICE:

MOUNTAIN REGION VETERINARY UNIT

2017 ANNUAL REPORT

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List of Abbreviations

- HEC - Human Elephant Conflict
- HWC - Human Wildlife Conflict
- KWS - Kenya Wildlife Service
- Lewa / LWC - Lewa Wildlife Conservancy
- MVU - Mobile Veterinary Unit
- NRT - Northern Rangelands Trust
- SNR - Samburu National Reserve

I. PROGRAMME BACKGROUND

The Kenya Wildlife Service (KWS) – Lewa Wildlife Conservancy (Lewa) Mountain Region Veterinary Unit (MVU) is a service delivery vehicle and an emergency response team dedicated to providing timely and effective veterinary care to all wildlife in need in Northern and Eastern parts of Kenya. The MVU is supported by a recently established veterinary unit in the Meru Conservation Area. MVU consists of one veterinarian, Dr. Matthew Mutinda, from the KWS, and one driver from Lewa.

MVU prioritizes threatened wildlife species, such as black and white rhinos, elephants, Grevy's zebras, wild dogs, hirolas, and mountain bongos. MVU's work encompasses several areas, including:

- The Aberdares and Mt. Kenya National Parks, Buffalo Springs, Samburu and Shaba National Reserves;
- Private conservancies and ranches in Laikipia, such as Lewa, Borana, and Ol Pejeta Conservancy, and Solio Ranch; and
- At least 33 community conservancies operating under the umbrella of the Northern Rangelands Trust (NRT).

The 2017 Annual Report covers wildlife veterinary activities that took place in 2017. These activities include translocations, rescue operations, fixing of tracking devices on animals for research, and medical treatment of sick animals.

II. SUMMARY OF ACHIEVEMENTS

Through the MVU, Lewa and KWS improved the living conditions of wildlife in protected areas and adjoining communities. With its commitment to protecting and preserving wildlife, the MVU achieved the following in 2017:

- Clinical Interventions – delivered 112 clinical wildlife interventions to rhinos, elephants, Grevy's zebras, lions, and other species;

- Conflict Mitigation – successfully mitigated multiple potential incidences of human-wildlife conflict through the translocation of animals destroying property, or those in danger, to neighbouring conservancies;

- Veterinary Management Interventions - improved prey-predator population ratios to protect rhino and Grevy's zebra populations through temporary lion contraception; prevented the outbreak of diseases, and vaccinated 1,429 domestic dogs to mitigate the spread of Canine Distemper to wild dogs; fitted tracking devices on 14 wildlife for security monitoring and research;

- Innovation and Best Practice – continued with the Wildlife Apprentice Program to train new veterinarians on interventions for wildlife management; contributed scientific knowledge and research through published work in peer-reviewed journals.

The following sections provide a detailed report of the MVU's activities and progress made in 2017.

III. CLINICAL INTERVENTIONS

A. Clinical interventions per species

The MVU prioritized cases involving threatened wildlife species, where majority of clinical interventions involved emergencies that required immediate attention. The following list is a summary of cases that required the MVU's interventions in 2017, which will be discussed further in the report:

- Rhinos and elephants received 48% of the total wildlife intervention cases carried out within the year. Both species are abundant in the region and they are commonly affected by diseases and suffer from fractures and wounds from poaching attempts and territorial fights with members of their own species. Gunshot wounds from failed poaching attempts contributed to the bulk of these cases.

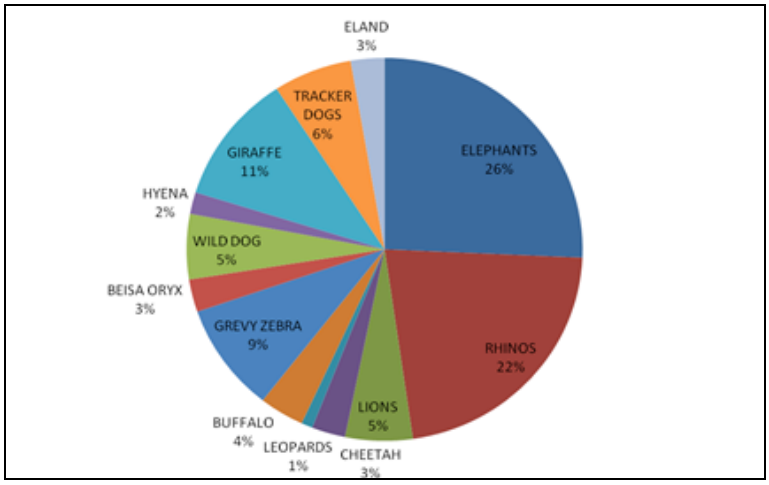
- Animals stuck in snares in community areas and the forested area of Mt. Kenya National Park were also common and required emergency interventions. Snares are targeted at small wildlife; however, bigger wildlife get injured and trapped in metal spikes, causing them harm.

- Disease outbreaks still remain a significant threat to endangered species. In 2017, there was a massive outbreak of Canine Distemper in the region that decimated a significant population of wild dogs in Laikipia County. Cattle transmitted diseases caused massive die-off of buffaloes and impalas in Mugie Conservancy in Laikipia. This may have been caused by infected cattle and wildlife feeding from the same pasture and water source.

- With NRT and other partners, the MVU rescued and transferred 13 elephant calves (less than a year old) to the Reteti Elephants Sanctuary. The survival rate of these calves at the elephant orphanage was about 60%.

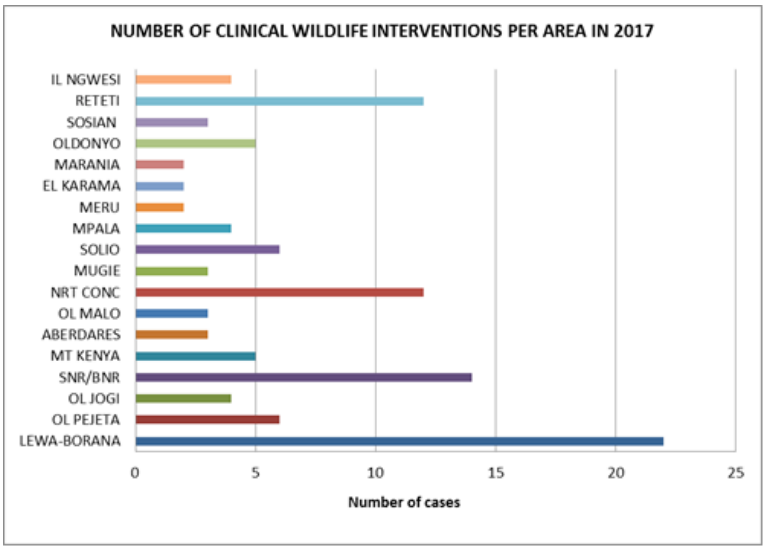
It is worth noting that Lewa closed 2017 without losing a single rhino to poachers in its conservancy grounds. This four-year streak of zero rhino casualties in Lewa since 2013 can be attributed largely to improved rhino monitoring and anti-poaching surveillance measures. An analysis of wildlife veterinary interventions in 2017 showed a 12% reduction in clinical interventions for gunshot wounds from poaching compared to 2016.

Chart 1: Percentage of MVU interventions per species in 2017



B. Clinical interventions per conservation area

Chart 2: Number of MVU Clinical Wildlife Interventions per area in 2017



The Lewa-Borana Conservancy recorded the highest number of clinical cases since it is the base of MVU. The Samburu landscape comes second with its large number of migratory elephants. NRT Community Conservancies had the third highest number of veterinary cases due to its various wildlife species that required urgent medical attention. The other cases were reported from areas with equally large populations of rhinos and elephants.

C. Reasons for intervention and types of treatment given to at-risk, injured, and sick animals

The MVU moved across Northern and Eastern Kenya to conduct wildlife rescues and medically treat animals. The table below provides a comprehensive overview of the reasons for MVU's wildlife interventions in 2017.

Chart 3: Reasons for MVU Wildlife Intervention in 2017

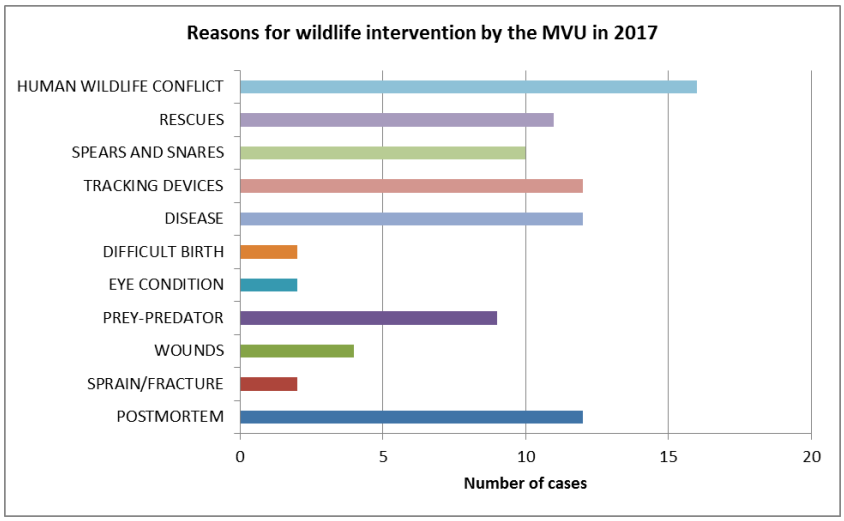


Plate 1: (L) A territorial male Grevy's zebra with a foreign object on its leg, which was removed successfully by the MVU. (R) Bullet wound treatment in a bull elephant

Plate 2: A poached black rhino and the bullet that was retrieved after postmortem

D. Restored health of sick and injured animals through medical treatments

Excessive hunting on the part of predators is a key factor in frequent MVU deployments. In Lewa and Samburu National Reserve (SNR), lions and cheetahs prey on Grevy's zebras at disproportionate numbers. Cheetahs, for example, prey on Grevy's zebra foals that are under one year of age. This predation leaves Grevy's zebras vulnerable to injuries or even death. In 2017, MVU has successfully treated a total of 27 Grevy's zebras that have been wounded and injured in prey-predator interactions.

Plate 3: An x-ray image showing the kinked posture between C3 and C4 of a Grevy's zebra foal

The MVU also conducted general health check-ups for other animals. In addition, a few animals that had complications while giving birth received appropriate care and support.

Plate 4: (L) The hind legs of a calf is seen hanging from the giraffe in labour. (R) A chimpanzee from the Ol Pejeta Conservancy receiving a health check-up

IV. CONFLICT MITIGATION

A. Mitigated human-wildlife conflict (HWC) through wildlife translocation

The MVU played a critical role in mitigating HWC—and potential injuries and deaths it can result in—by moving animals to other conservancy areas. HWC ensues from negative interactions between communities and wildlife. Examples include when animals get caught by snares targeted at smaller bodied wildlife, or when animals destroy properties in communities. Extended dry seasons further exacerbate HWC, since it intensifies competition for water and pasture, and scarcity pushes wildlife to look for food from lush community farmlands.

The MVU conducted several strategic translocations in 2017. In Leparua, a lion was moved after it killed 56 goats within 18 months. A buffalo, on the other hand, was moved from Kitchich Camp in the Mathews Ranges after it became a threat to the Camp. Six elands were also translocated from Ol Donyo Farm to the Sera Rhino Sanctuary to avoid further damage on a flower farm. The elands' gene pool at the Sera Rhino Sanctuary has since benefited from this new movement. Other animals translocated to the Sera Rhino Sanctuary included 14 oryxes. These animals were guided by a helicopter over a distance of 14 kilometers to shepherd them toward the Sanctuary. The fence was opened about 140 meters wide and was immediately closed after the push.

Plate 5: (L) A cheetah with a wire snare around its waist. (R) A buffalo translocated from Kitchich Camp to the Sera Rhino Sanctuary

Table 1: Translocations of wildlife facilitated by the MVU in 2017

Species	Donor	Recipient site	Number
Lion	Lewa/Leparua	Tsavo National Park	1
Buffalo	Kitchich Camp	Sera	1
Eland	West Gate	Sera	1
Eland	Ol Donyo Farm	Sera	6
Oryx	Adjacent areas	Sera	14

B. Enhanced wildlife GPS-tracking

Some of the wildlife under Lewa's protection are fitted with GPS-enabled collars which help in wildlife monitoring and research. Similar to how mobile phones work, the data received from these collars help conservancies determine wildlife's preferred habitats, migration patterns, diet, and sources of food and water. The GPS-tracking system also alerts researchers and security teams when a collared animal is in danger. In 2017, the MVU fitted varied GPS-tracking devices on 14 wildlife. These operations are normally sanctioned by KWS to ensure scientific merit and conservation integrity. Thus, only animals with pressing cases are permitted to undergo this procedure.

Plate 6: A lion fixed with a GPS-enabled collar

Table 2: Wildlife species fitted with GPS-enabled collars by the MVU in 2017

Species	Area	Institution	Number
Beisa Oryx	Nakuprat	NRT	3
Elephant	Baragoi	STE	1
Wild Dog	Marania	Mpala	2
Wild Dog	Ol Jogi	Mpala	2
Lion	Lewa/Borana	Lewa	3
Lion	Sosian	Lion Landscapes	3

While the technology-enabled GPS tracking system is a vital piece to protecting wildlife, an equally important process for the preservation of rhinos is ear notching. Ear notching is the process by which each rhino is allocated a permanent, unique national identity number on its ears. These marks facilitate efficient identification and monitoring of rhinos. In 2017, the MVU successfully ear notched five white rhinos within Lewa (Table 3). Among other wildlife, the MVU also conducted postmortems on dead rhinos to determine the cause of death.

Table 3: Black and white rhinos earnotched by the MVU in 2017

Location	Species	ID Code	Name	Outcome
Lewa	White Rhino	2585	Gilbert	Successful
Lewa	White Rhino	2593	Harari	Successful
Lewa	White Rhino	2588	Tulifu	Successful
Lewa	White Rhino	2601	Emso	Successful
Lewa	White Rhino	2603	Nasa	Successful

Table 4: Black and white rhino postmortem report in 2017

Area	Species	Sex	Cause of Death	Horn
OPC	Black	Male	Drowning	Present
Solio	White	Male	Poaching – Dart	Present
Solio	White	Female	Poaching – Dart	Absent

C. Reduced human-elephant conflict through trimming of elephants' tusks

Human-wildlife conflict is a common problem that occurs when wildlife and human beings compete for resources. Reports from Kenya indicate that majority of the reported HWC cases in the last decade are related to Human-Elephant Conflict (HEC) incidents. The most common incident that results in HEC, injuries, and loss of elephants lives is when elephants encroach on communities' farmlands and destroy crops. Different methods have been researched and implemented to prevent this around the world. At Lewa, while the conservancy has installed high-cost electric fences to separate elephants from communities, clever elephants have used their tusks to break through the fences to get to farmlands. As a stop gap measure to reduce the breakages of fences and prevent rising HEC incidents, the MVU partially trimmed the tusks of problematic elephants to reduce its impact on fences that border exclusion zones.

Another measure employed by the MVU was to translocate elephants from conflict prone zones to the safety of parks and conservancies. These interventions have reduced conflict with farming communities residing close to conservancies.

Table 5: List of elephants whose tusks were trimmed on Lewa in 2014 – March 2017

No.	Name	Age	Sex	Date de-tusked
1	Mjasiri	Adult	Male	22/02/2014
2	Keke	Adult	Male	22/02/2014
3	Monk	Adult	Male	27/11/2014
4	Tyson	Adult	Male	26/11/2014
6	Melo	Adult	Male	07/02/2015
7	Tony	Adult	Male	13/02/2015
8	Right Tusker	Adult	Male	19/10/2017

V. VETERINARY MANAGEMENT INTERVENTION

A. Improved prey-predator population ratio through lion contraception

Lewa-Borana has an estimated population of about 40 lions in a landscape, which is also home to 11% of the world's Grevy's zebra population, as well as 12% and 15% of Kenya's black and white rhino populations, respectively. Given that 25% of a lion's diet comprises Grevy's zebras, the hunt for these animals skews the proportion of lions to Grevy's zebras and even rhinos.