SKY VET QUARTERLY OVERVIEW

During October 2015 to January 2016 the DSWT/KWS Sky Vet program was called to handle 16 wildlife cases several of which were supported by the DSWT helicopter to help with elephant darting operations as well as search and monitoring operations using the DSWT’s fixed-wing aircrafts.

Of all the cases attended, 14 were elephants with injuries including 6 snare cases, 3 poisoned arrow cases and 1 case with a gunshot wound. KWS Veterinary Officers were flown predominantly to Tsavo East and West National Parks, as well as Amboseli, whilst a vet was also dispatched to Ruma National Park to treat a snared rhino. Other cases saw Nairobi-based veterinary officers flown to the Mara and Meru National Park.

Out of the 16 cases, 14 of the cases were given a positive prognosis whilst one of the cases was given a guarded prognosis due to a severe wound caused by a snare; the elephant is still being monitored by the Aerial Unit and ground teams. The one other elephant whose wound needed closer inspection in Meru National Park was deemed to be improving in condition and the vet decided further veterinary intervention was unnecessary.

During this reporting period Sky Vets saw a decline in cases attended, caused primarily by the onset of the rainy season and a drop in poaching activities, whilst wildlife, particularly elephant herds, dispersed throughout the conservation areas, making it harder for poachers to target them at watering holes. On-the-ground activities of the DSWT/KWS Mobile Veterinary Units continue to cover many cases, yet the veterinary officers are reliant on the support of the helicopter to ensure the success of each darting operation as well as the fixed-wing aircrafts for backup support.

The Sky Vet program has deployed KWS vets to the following locations during this reporting period
CASE 1: 3rd OCTOBER 2015

KOMBOYO, TSAVO WEST

ELEPHANT WITH AN ARROW INJURY

INTRODUCTION
The elephant was seen near the Komboyo water hole with a wound on the left abdominal wall by DSWT patrol aircraft. The team rushed to the area to find the bull moving slowly with two other bulls.

CHEMICAL IMMOBILIZATION & TREATMENT
The elephant was immobilised using 18 mgs of Etorphine in a dan-inject dart from a helicopter but it did not go down after 20 minutes so another dart with 18 mgs was prepared. It took him 7 minutes to go down on lateral recumbency of the right side after he was darted with the second dart.

There was an old arrow injury to the left abdominal wall. The wound was cleaned using water mixed with Hydrogen peroxide. Tincture of iodine was used to disinfect and then Oxytetracycline spray applied. Finally, the wound was covered with green clay. An intravenous administration of 50 cc Dexamethasone Hcl was given through the ear vein and 50 cc of Dexamethasone injected IV.

The anaesthetic was reversed by administration of Diprenorphine Hcl at three times the Etorphine dose. He stood up and walked away calmly.

PROGNOSIS
Prognosis is very good.
CASE 2: 8th OCTOBER 2015

SATAO, TSAVO EAST

ELEPHANT WITH AN ARROW INJURY

INTRODUCTION
The DSWT pilot reported to have spotted a male elephant with a suspected arrow head injury to the left hind limb. The veterinary team located and assessed the elephant from the helicopter before deciding to treat it.

CHEMICAL IMMOBILIZATION & TREATMENT
The elephant was immobilised with 18mg Etorphine in a 3 ml dan - inject dart using the Dan Inject system and was relatively easy from a helicopter. The elephant went down on lateral recumbence after 8 minutes. The trunk was maintained patent using a piece of stick placed across the nostril entrances. The temperature was high hence plenty of water was doused on the elephant to keep the body temperature low. The ears were used as blindfold.

On physical examination the elephant had a penetrating wound to the left hind limb. The wound was relatively fresh and likely to have been caused by an arrow head. The wound was thoroughly cleaned using water and Hydrogen Peroxide before it was lavaged using tincture of Iodine. Topical antibiotic cream and green clay was then applied into the wound to facilitate healing and prevent infection. The elephant was then injected with 100 ml Betamox L.A and 50 ml Dexamethasone at different sites intramuscularly. The entire operation lasted about 20 minutes.

PROGNOSIS
Good
CASE 3: 8th OCTOBER 2015

RUINKA RANCH

ELEPHANT WITH AN ARROW INJURY

INTRODUCTION
The rangers at Rukinga reported an injured elephant with a suspected arrow head injury to the right flank. The elephant was darted from a helicopter for examination and treatment.

CHEMICAL IMMOBILIZATION & TREATMENT
The elephant was immobilised with 18mg Etorphine in a 3 ml dan inject dart using the Dan Inject system and was relatively easy from a helicopter despite the thick vegetation. The elephant went down on lateral recumbence after 7 minutes. The trunk was maintained patent using a piece of stick placed across the nostril entrances. The temperature was high hence plenty of water was doused on the elephant to keep the body temperatures low. The ears were used as blindfold.

On physical examination the elephant had an approximately 5-inch-deep wound (3-4 weeks old) to the right flank region. The wound was septic and had necrotic tissue with lots of pus. The wound was caused by an arrow which was retrieved from the wound. The dead tissue was debrided and removed. The wound was then thoroughly cleaned using clean water and Hydrogen Peroxide and then lavaged using tincture of Iodine. An opening on the ventral side of the wound was made for easy drainage to prevent further infection. Topical antibiotic cream and green clay was then applied into the wound to facilitate healing and avoid infection. The elephant was also injected with 100ml Betamox, 1200 mg Clindamycin (Dalacin C) and 100ml Dexamethasone at different sites intramuscularly. The entire operation lasted about 20 minutes.

PROGNOSIS
Good
CASE 4: 10TH OCTOBER 2015

INTRODUCTION
There was prompt response to a case brought to the attention of the Kenya Wildlife Service and the DSWT on the 10th of October. A rhino was reported dragging a log attached to a taught cable snare around its neck in Ruma National Park. The Kenya Wildlife Service arranged for an aircraft to be dispatched immediately to fly KWS veterinary Officer Fred Oliang’a from Nairobi using the Sky Vet program. He was joined by KWS Veterinary Officer Dr. Limo, who is seconded to the Trust funded Mara Mobile Veterinary unit, who was to help with the operation.

The Rhino was called Baraka, a well-known bull rhino with quite a history. He was born in 1976 and translocated to the then newly formed Mugie Rhino Sanctuary from Nakuru National Park in 2005. He remained on Mugie for a number of years, however when Mugie was hard hit with rhino poaching incidents in 2011 the Kenya Wildlife Service made the decision to remove the remaining rhinos and translocate them to where they felt they would be safer. Baraka was taken to Ruma National Park where he remains today.

CHEMICAL IMMOBILIZATION & TREATMENT
Once the team reached Ruma they were directed to where the injured rhino was last sighted. Chemical immobilization was done on foot since the thick vegetation cover inhibited the use of a vehicle.

Once he was successfully darted he ran off quite a distance before collapsing, but with aerial support the veterinary team were guided to where he had fallen. Stabilization of respiration was achieved when Smg Butorphanol tartrate was injected through the auricular vein.

The braided winch snare strangling the animal caused a relatively fresh wound around the neck region. Throughout the operation Baraka was cooled with plenty of water to help regulate his body temperature, and his respiratory rate and depth was monitored throughout the treatment.

The wire was quickly cut off using a wire cutter and the inflicted wound cleaned and treated. Once the revival drug was administered he was back up to his feet, no doubt feeling untold relief now that he was free of the crude snare that could so easily have cost him his life.
PROGNOSIS

Baraka, due to rapid response intervention, was given a good prognosis for a full recovery.

With the demand for exotic curatives, and aphrodisiacs driving the price of rhino horn higher than gold, today rhino horn is fetching as much as US$ 60,000 a pound. 95 percent of the world’s rhinos have been lost in the last four decades, with the worst hit populations in Southern Africa.

Thankfully due to the stringent measures taken Kenya has done well to protect their remaining population, ensuring they live in heavily patrolled rhino sanctuaries and protected areas, but as seen in Baraka’s case, the threat to them remains ever present.
CASE 5: 23rd OCTOBER 2015

INTRODUCTION
A report was received from DSWT teams in Ithumba regarding an elephant bull that was dragging a long wire snare on the front leg and had a wound on the left hind limb.

CHEMICAL IMMOBILIZATION & TREATMENT
The elephant was immobilised using 18 mgs of Etorphine in a dan-inject dart from a helicopter. The elephant was immobilized after 8 minutes and went down on sternal recumbency and pushed to lateral recumbency. The huge cable snare was removed which was thankfully not tight. The elephant was then flipped over to expose an arrow wound to the left thigh.

The arrow wound was cleaned using Hydrogen peroxide mixed with water. The necrotic tissues were removed and doused with tincture of iodine. Finally, green clay was used to cover the wound and an intravenous administration of Dexamethasone Hcl was given through the ear vein. Anaesthesia was reversed using Diprenorphine at 3 times the Etorphine dose.

PROGNOSIS
Prognosis is good.
CASE 6: OCTOBER 27TH 2015

MARA, OLARE OROK

SNARED ELEPHANT CALF

INTRODUCTION
A veterinary team was called upon to respond to a report on a snared elephant calf in Masai Mara (Olare Orok conservancy). The Skyvet program was well coordinated to promptly attend to this case; both calf and mother were darted to avoid subsequent retaliation and allow for convenient and safe removal of the snare.

This elephant was observed to be dragging a wire snare on the left hind leg; this was during routine security patrols within the conservancy. The report was conveyed to the David Sheldrick Wildlife Trust (DSWT) who jointly collaborated with the Kenya Wildlife Service (KWS) to relieve the animal in good time.

CHEMICAL IMMOBILIZATION & TREATMENT
The calf (about 2yrs old) was in a herd of approximately 30 elephants, he had a wire snare loosely caught immediately above the digits of the left rear leg; the snare seemed recent and did not intrude through the soft tissue. Nonetheless, it was a good decision to remove the loose wire to avoid any eventual injury. The mother was however very protective of her young calf and considerations to prepare two darts was needed.

The calf was darted from a vehicle using a total dose of 6mg Etorphine Hcl topped up with sterile water in a 1.5ml Dart. The drugs took effect within 7 minutes after which the mother was immediately darted to avoid retaliatory aggression. The adult female was immobilized using 18mg, Etorphine Hcl prepared in a 3ml dart. She went down in about 10 minutes.

The snare was quickly cut and relieved off the leg using a wire cutter. There was no damage to soft tissue hence both calf and mother were only covered with prophylactic antibiotics; parenteral administration of 18000mg and 3000mg Oxytetracycline dihydrate (Alamycin LA 300©) injected intramuscularly.
The reversal process was effected simultaneously using 60mg and 20mg Diprenorphine Hcl for the mother and calf respectively; both injections were delivered through the auricular vein. Recovery from anaesthesia was successful as the mother and calf were united and the rest of the family also joined them.

CONCLUSION
Good since the snare was removed and no wound had been caused. Both mother and calf were fine and re-joined their herd.
CASE 7: 31ST OCTOBER 2015

GALANA RIVER, TSAVO EAST

SNARED ELEPHANT

INTRODUCTION
An elephant bull was seen by KWS rangers at Sangayaya camp attempting to cross the river Galana. The rangers reported it to the Vet Unit who asked for assistance from the DSWT helicopter to confirm the problem. The helicopter reported that the elephant bull was pulling a huge wire snare tied on a log and was in a lot of pain. Because of darkness the operation was scheduled for the next morning.

CHEMICAL IMMOBILIZATION & TREATMENT
The elephant was darted using 18 mgs of Etorphine from the DSWT helicopter. The bull finally fell with his legs facing uphill and a huge struggle to remove the snare ensued. It took an hour to cut through the snare which was made of a steel cable and was as thick as a man’s thumb. The cable alone weighed 10-15 kg and the elephant must have been dragging the branch and snare for several days judging by the amount of pus, swelling and severe damage to the limb which had torn tendons and cartilage. The wound was washed with Hydrogen peroxide mixed with water, the necrotic tissues removed and then doused with Iodine. Green clay was used to cover the wound and long acting antibiotics and Dexamethasone were injected parenterally.

The elephant was turned over using the Landcruiser, so that the leg could be treated all the way around. This also meant that his legs would be downhill, making it easier for him to stand up when he was given the revival drug. A rope was looped loosely over his right tusk and the vehicle was positioned to assist him lift his head and regain his feet. The revival drug at three times the Etorphine dose was given and he was up immediately.

PROGNOSIS
Due to the terrible damage done to the elephant’s leg and especially to the rear tendons the prognosis was guarded.
INTRODUCTION
An elephant bull was seen by DSWT aircraft limping within a group of 3 other elephants.

CHEMICAL IMMOBILIZATION & TREATMENT
The elephant was darted using 18 mgs of Etorphine from the DSWT helicopter. The elephant was immobilized after 7 minutes and went down lying on the right flank exposing the wound to the left rear leg. There was an old healing but bleeding wound to the lateral aspect of the left foot of unknown cause. The wound was cleaned using water mixed with Hydrogen peroxide. Tincture of iodine was sprayed on the wound and wetted green clay applied.

In addition, an intravenous administration of Dexamethasone Hcl and long acting Amoxicillin was given through the ear vein. Anaesthesia was reversed by administration of Diprenorphine at three times the Etorphine dose and the elephant woke up and moved away calmly

PROGNOSIS
Prognosis is good.
CASE 9: 15TH NOVEMBER 2015

SATAO, AMBOSELI  SPEARED ELEPHANT

INTRODUCTION
The KWS reported to have spotted a male elephant with a suspected spear in the right hind quarters. Aided by the DSWT Helicopter, a thorough search ensued. The elephant was finally spotted in thick bush and in the midst of its family. At the best convenience darting was done and attempts made to drive him to some open ground. Unfortunately, the elephant went down in a sternal position in a thick bush. Quick effort was made to have the animal secured to proper lateral recumbence aided by use of a land cruiser.

CHEMICAL IMMOBILIZATION & TREATMENT
The elephant was immobilized using 16 mgs Etorphine Hydrochloride in a 3cc dart using the Dan-inject system from the helicopter. The elephant first went down in sternal recumbence after 10 minutes and was flipped over to lateral recumbence using a land cruiser. The trunk was maintained patent using a piece of stick placed across the nostril entrances. The weather was favourable (rainy) for anaesthesia hence temperatures were at optimum. The ears were used as blindfold.

On physical examination the elephant had a penetrating wound to the right hind quarters and tip of tail. The wound was fresh probably about 24 hrs old and most likely caused by a spear. The wounds were then thoroughly cleaned using clean water and Hydrogen Peroxide. It was then lavaged using tincture of Iodine. Topical antibiotic cream and green clay was then applied into the wound to facilitate healing and avoid infection. The elephant was then injected with 100 ml Betamox L.A and 100 ml Dexamethasone at different sites intramuscularly. The entire operation lasted about 30 minutes.

The anaesthetic was reversed using Diprenorphine Hydrochloride (60mgs) into the ear vein. It took 7 minutes to get up and walk away from the site.

PROGNOSIS
Prognosis is good.
CASE 10: 15TH NOVEMBER 2015

INTRODUCTION
The DSWT pilot at Ithumba reported to have spotted a male elephant with a suspected arrow head injury in the right fore limb. The veterinary team had to locate and assess the elephant from the helicopter since the vegetation was thick. Plans were made on how to immobilize and treat the elephant. The elephant was in a thick bush thicket but relatively easy to dart using the helicopter. The elephant was pushed to a relatively open ground for darting.

CHEMICAL IMMOBILIZATION & TREATMENT
This elephant was immobilised using 18mg Etorphine Hcl topped up with water for injection in a 3 ml Dan inject dart from a helicopter. The elephant went down in a dog sitting position after 10 minutes. He was placed into lateral recumbency with the help of a landcruiser. The trunk was maintained patent using a piece of stick placed across the nostril entrances. The temperature was high hence plenty of water was doused on the elephant to keep the body temperatures low. The ears were used as blindfold.

On physical examination the elephant had an approximately 5-inch-deep wound (1-2 weeks old) on the right fore limb. The wound was septic and had necrotic tissue and most likely caused by a bullet. The dead tissue was debrided and removed and the wound thoroughly cleaned using clean water and Hydrogen Peroxide. It was then lavaged using tincture of Iodine before topical antibiotic cream and green clay were applied into the wound to facilitate healing and avoid infection. The elephant was then injected with 100 ml Betamox L.A, 1200 mg Clindamycin (Dalacin C) and 100 ml Dexamethasone at different sites intramuscularly. The entire operation lasted about 30 minutes.

The anaesthetic was reversed using 60mgs Diprenorphine Hydrochloride into the ear vein was used. It took about 6 minutes to be fully awake from anaesthesia.

PROGNOSIS
Prognosis is good.
CASE 11: DECEMBER 30TH 2015

MARA, SERENA AREA

SNARED ELEPHANT

INTRODUCTION
This report describes a case intervention of one male elephant in the Maasai Mara (Mara Triangle). The elephant bull had suffered a wire snare which had already detached itself, consequently leaving a debilitating swollen leg and a wound with granulation tissues. This case was attended on Sky Vet initiative. The elephant was sighted by Mara Serena wildlife security staff on 29th Dec. 2015. The bull walked with a limping gait.

CHEMICAL IMMOBILIZATION & TREATMENT
Etorphine HCl(0.98%) (M99®) (Norvatis South Africa (Pty) Ltd) 15mg, in a 3 ml Dan - inject dart was prepared. Vehicle darting was carried out. Using a Dan inject dart rifle (Dan-inject APS, Sellerup Skovvej, Denmark) the elephant bull was darted; he was immobilized after 9 minutes.

The elephant was promptly examined. A granulating healing wound about 5cm wide by 1cm depth had formed due to the strangulating wire snare. The leg was swollen. The wound had no pus and was healing with some granulation tissue. Some dead and proud flesh was excised off. The wound was cleaned with copious amounts of water to remove mud and dirt. The wound was thoroughly disinfected with surgical spirit (Ethanol), then again was liberally cleaned with Tincture of iodine. Oxytetracycline spray (Norbrook Laboratories (GB) Limited, United Kingdom) was applied. The elephant bull was injected with the antibiotics. Using 60mg of diprenorphine Hcl (Norvatis South Africa (Pty) Limited) given IV at the ear vein, the elephant was reversed from anaesthesia; (a ¼ of the dose was given i.m). Recovery from anaesthesia was smooth and he ambulated well.
PROGNOSIS
The elephant has been given a good prognosis and should not need further treatment although the rangers on the ground will continue to monitor his progress.
CASE 12: JANUARY 5TH 2016

INTRODUCTION
The snared elephant calf was sighted first in a herd of about 15 members within the vicinity of Mara Cottar’s Camp. The rangers on patrol reported the case and called for immediate intervention while they monitored the herd movement.

The DSWT Skyvet program in collaboration with the Kenya Wildlife Service promptly responded to this case. Both Mother and calf were darted for convenient and safe management and treatment.

The juvenile calf (2 years old) was sighted with a wire snare on her right rear leg. The leg was reported to be swollen and the animal was in overt lameness. All the other members of the herd had been observed to be in good body condition.

CHEMICAL IMMOBILIZATION & EXAMINATION
The juvenile calf was observed to be foraging and she was in fairly good body condition (not deteriorating) and this was a good sign that offered a promising chance of intervention and survival. The calf was confirmed to have a wire snare and a swelling on the distal part of the right rear limb.
Both mother and calf were darted for safe intervention. The adult female was darted using 16mg, Etorphine Hcl (0.98%) (M99®) (Novartis South Africa (Pty) Ltd) topped up with sterile water in a 3 ml Dan – inject dart. The mother was monitored separately from another vehicle after detaching herself from the herd.

The calf followed the herd and was effectively anaesthetized with 5mg of Etorphine Hcl. Darting was carried out from a vehicle despite the challenges encountered by the thick bushes. Both darts were remotely delivered using a Dan inject dart rifle (Dan-inject APS, Sellerup Skovvej, Denmark).

The female calf was confirmed to be in good body condition. Specific examination of the snared leg revealed adverse strangulation and a full thickness break of the skin continuity with significant tissue damage. The wound was heavily infested with blow fly larvae (secondary myasis) and the tissue had become necrotic. However, the braided wire snare did not cut through the bone.

The braided wire snare was immediately cut off using a wire cutter, the wound was then thoroughly cleaned with clean water and debridement done to remove the blowfly larvae and necrotic tissue. Mild hydrogen peroxide and tincture of iodine was used to effectively clean the wound. Green clay was applied on the wound for residual antibiosis. Oxytetracycline spray (Norbrook Laboratories (GB) Limited, United Kingdom) was applied to alleviate fly infestation.

Parenteral treatment was administered with intramuscular injection of 6000mg, Amoxicillin Trihydrate BP (Betamox® LA Norbrook Laboratories Ireland) and Flunixin meglumine 1000mg (Norbrook Laboratories (GB) Limited, United Kingdom) .Subcutaneous injection of 4ml, ivermectin was also administered.

The mother was incidentally found to be having a penetrating wound on the dorsal aspect of the abdomen. The wound was one finger-fit in depth and width and could have been possibly communicating with the dorsal peritoneum. Small amount of Pus was discharging from the wound. The pus was expressed, drained and the wound cleaned and disinfected with flushes of hydrogen peroxide and iodine. No foreign body was recovered from the wound. Parenteral treatment was given through intramuscular injection of 20000mg, Oxytetracycline (LA-200®)

Anaesthesia was reversed using 18mg and 48mg of Diprenorphine Hcl (Norvatis South Africa (Pty) Limited) for the calf and the mother respectively. The drug was given intravenously through the auricular vein. Recovery from anaesthesia was smooth the mother was later confirmed to have reconciled with her calf.
PROGNOSIS
Favourable with consistent monitoring and repeat treatment

Recommendation
• Keen and ardent monitoring to evaluate the healing progress of the wound.
• Repeat assessment and treatment after a period of two weeks.
• Possible rescue and intensive wound management if wound healing would not be responding well after 2 week's evaluation.
CASE 13: JANUARY 5TH 2016

On January 4th a tour driver working in Tsavo called in to report that he had sighted a lion with a snare around its neck. The DSWT team rushed to the location and found the pride of 7 lions, and monitored their movements while SkyVets were called. Whilst waiting for backup the DSWT ground team sighted an elephant with a snare around its back foot. The vet arrived in the field but it was too late to treat the animals. Early on the 5th Jan the helicopter was airborne with the vet, heading to meet the team on the ground.

ANAESTHESIA AND TREATMENT
The young male elephant was darted from the helicopter at 0945, the snare was cut and removed and his foot wound was cleaned and treated. The Vet used anti-biotics and green clean to ensure the wound heals well without reinfection. He was back on his feet 30 minutes later and rejoined his herd.

PROGNOSIS
Good since the elephant was sighted in good time
CASE 14: JANUARY 5TH 2016

INTRODUCTION
After treating the elephant calf in the Mara early in the morning on the 5th, the lion pride was then found again.

ANAESTHESIA AND TREATMENT
From the vehicle the KWS vet darted the young female at 12:00. She was sitting amongst others in the pride making the shot difficult. She went to sleep away from the pride which was then pushed afar with the vehicle. The snare was removed easily with very little damage having been inflicted by the snare on the lion’s neck. By 1330 she was fully awake and joined her pride.

PROGNOSIS
Good since little damage had been inflicted by the wire snare.
CASE 15: JANUARY 28TH 2016

INTRODUCTION
The wildlife monitoring team in Meru National Park reported that an elephant bull had shown severe lameness and a swollen right hind leg. This animal was aggressive when approached. On the 25th an initial attempt by the KWS/DSWT Meru mobile veterinary unit to dart and examine the elephant by vehicle was futile after it ran into inaccessible bush.

Subsequent assessment by a helicopter on the 28th showed that this elephant had improved in condition and that the swelling seen before had reduced. Therefore, no further intervention was required at the time but the elephant continues to be monitored in case treatment is needed.

PROGNOSIS
Good.

No images available
CASE 16: JANUARY 30TH 2016

KOMBOYO, TSAVO WEST

INJURED ELEPHANT

INTRODUCTION
A radio call was received from one of the DSWT ground teams saying they had sighted a big bull with a wound in the Kamboyo area. The bull was located by the DSWT’s aerial unit, along with another, both with unknown wounds on their rump.

On the 30th a Super Cub headed to search for the one big bull sighted the previous evening, which proved fruitless. The other bull was found and treated by a Skyvet team who were flown from Nairobi.

ANAESTHESIA AND TREATMENT
The bull had a wound believed to be caused by fighting another bull, and after treatment went on his way with a 100% good prognosis.

PROGNOSIS
Good