RUMA NATIONAL PARK

ROAN ANTELOPE NATIONAL RECOVERY PLAN

PROGRESS REPORT

APRIL 2021

Introduction

In Kenya, the 12 remaining Roan antelope remain 'locally critically endangered'. Successful conservation initiatives and private ownership in other regions of Southern Africa have restored the numbers of the Roan - the second largest antelope in Africa. There efforts have meant that this magnificent animal is presently listed as Lower Risk, conservation dependent, (LR/cd) IUCN Conservation Status. In Kenya, the generosity of forward-thinking donors has meant that the work of restoring our Roan population is underway, but there is still much work to be done.

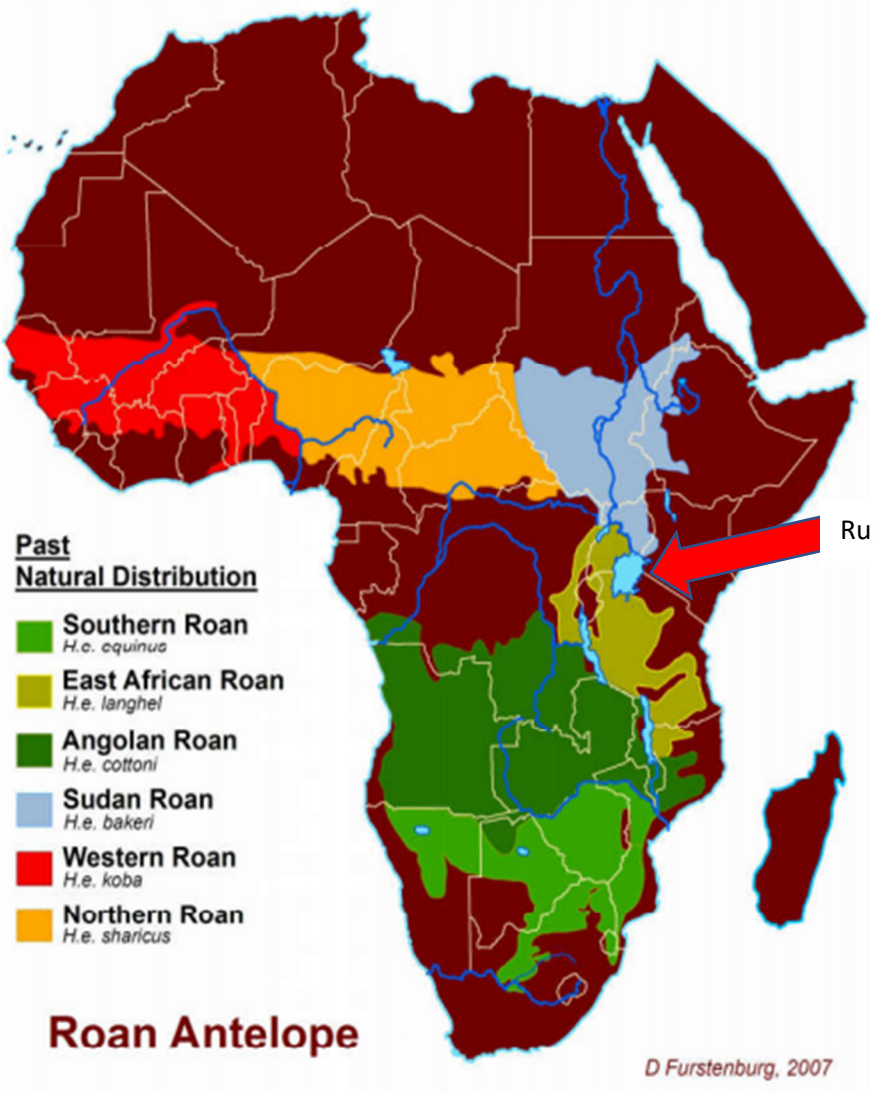
The Roan antelope (Hippotragus equinus) is endemic to Africa (Estes, 2012). The species was formerly one of the most widely distributed antelopes across the African savannas when water was adequate (Kingdon, 2012). However, over the years, due to increase of human population and habitat loss due to the conversion of Roan range to farmlands and settlement areas, the Roan range has been limited. In addition, predation, poaching for game meat and cultural purposes, and frequent fires have further contributed to the decrease of the Roan antelope population and its range in Africa. However, in South Africa there is evidence that when Roan populations are either reintroduced or introduced into protected areas, where active management practices are put in place, the Roan populations steadily increase.

The Roan Population in Kenya

In Kenya, the Roan antelope used to occur in Maasai Mara ecosystem (former Narok District), Ithanga Hills near Thika (former Kiambu District), Lambwe Valley, South Nyanza (former Homabay District; Parkinson, 1972) and Tana Area (Estes, 1969). In Maasai Mara, there were about 45 (±17 SE) animals in 1971 (Broten and Said, 1995). However, this remnant population became locally extinct by 1995 (Broten and Said, 1995). In early 1970, close to 100 Roan antelope on a large ranch in the Ithanga Hills, between the towns of Thika and Siakago/Embu, were threatened with extinction by both a scheme to develop their habitat as farmland (Sekulic, 1978) and increased poaching (Parkinson, 1972).

As a result, between 1970 and 1972, the East Africa Wildlife Society facilitated translocation of 38 individuals (Sekulic, 1978) from Ithanga Hills ranch to Shimba Hills National Reserve (Sekulic, 1978). By 1973 only eight animals were sighted in this reserve with the sightings increasing to 13 and 22 animals in 1976 and 1978 respectively (Sekulic, 1978). Overall, the translocated population did not do well and currently there are no individuals at all left in Shimba Hills National Reserve.

The population of the Roan antelope in Kenya was about 300 animals in 1978 with the largest population of about 200 animals being found in Lambwe Valley (Sekulic, 1978). This population decreased from 200 animals in 1978 to about 12 animals in Ruma National Park by the end of 2019 and 14 today.



The Roan Antelope and Ruma National Park

Remarkably, the Lambwe Valley population have managed to persist up to today. Human population pressure however has confined them to Ruma National Park, Homabay County. The park is small and is surrounded by human settlements and mixed farming. Fires pose a major threat to the park as communities use the slash and burn approach to prepare their farmlands towards the end of the dry season. Predation by hyena and leopard are also a serious threat to the 14 remaining Roan antelope – the population in Ruma National Park.

A Roan population of below 50 individuals is below the minimum viable population according to the population genetics criteria (Soule 1980). This means they are unable to naturally recover to healthy levels without deliberate management interventions. Therefore, if the current trend continues, there will be no Roan antelope left in Ruma National Park by around 2025. This calls for urgent attention and targeted interventions to save this species that it on the verge of becoming locally extinct in Kenya.

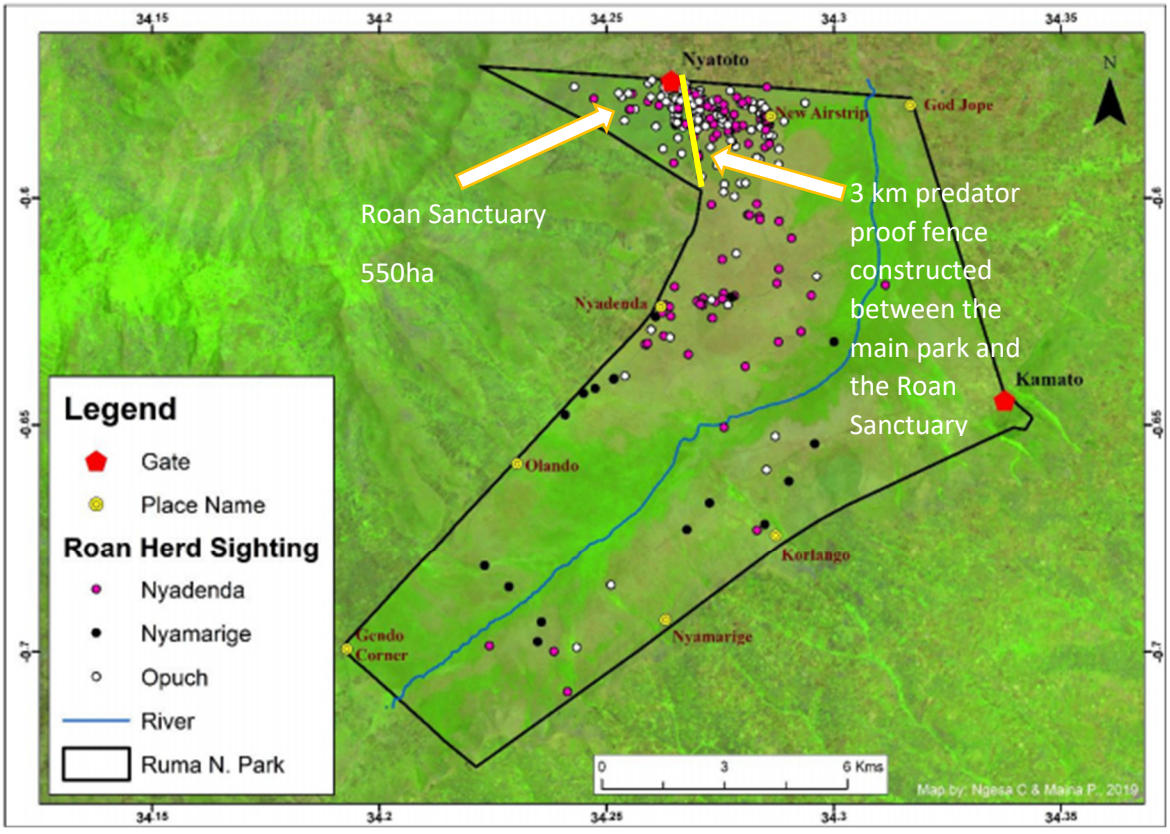
The intervention in Ruma National Park is based on the premise that Roan antelope, under favourable conditions, can increase rapidly in numbers despite critically small populations (Joubert, 1970), but only if well managed.

The joint effort recovery and action plan initiated in Ruma NP aims to reverse the declining trend of the Roan antelope. Since the establishment of the predator free Roan Sanctuary in July 2020, the official numbers of Roan have gone from 12 to 14. This is a worthy accomplishment, but efforts must be sustained as we forge ahead with a long-term management strategy.

KWS Commitment

Kenya Wildlife Service (KWS) is committed to secure the future of the remaining Roan antelope in Ruma National Park (NP). In October 2011 KWS had identified the need to give special attention to the Roan in Ruma NP. In December 2019 KWS worked on identifying and prioritizing the main threats to recovery of the species. This resulted in a National Recovery and Action Plan for Roan Antelope (*Hippotragus equinus*) in Kenya (2020-2030). In April 2020 KWS sent a team of nine to Ruma National Park to conduct a habitat assessment and a field report was produced, including a water Laboratory Test Report of the borehole in the park. In July 2020 KWS team began to design the Roan Sanctuary.

Kenya Wildlife Service (KWS), Northern Rangeland Trust (NRT) and Back to Africa, with technical and logistical support from Earth Sea & Sky, have worked closely to activate the recovery plan. The detailed planning that has taken place has laid a clear way forward for the implementation of key steps to secure the future of the Ruma Roan, beginning with the fencing of the Roan Sanctuary with a specialized predator proof fence.



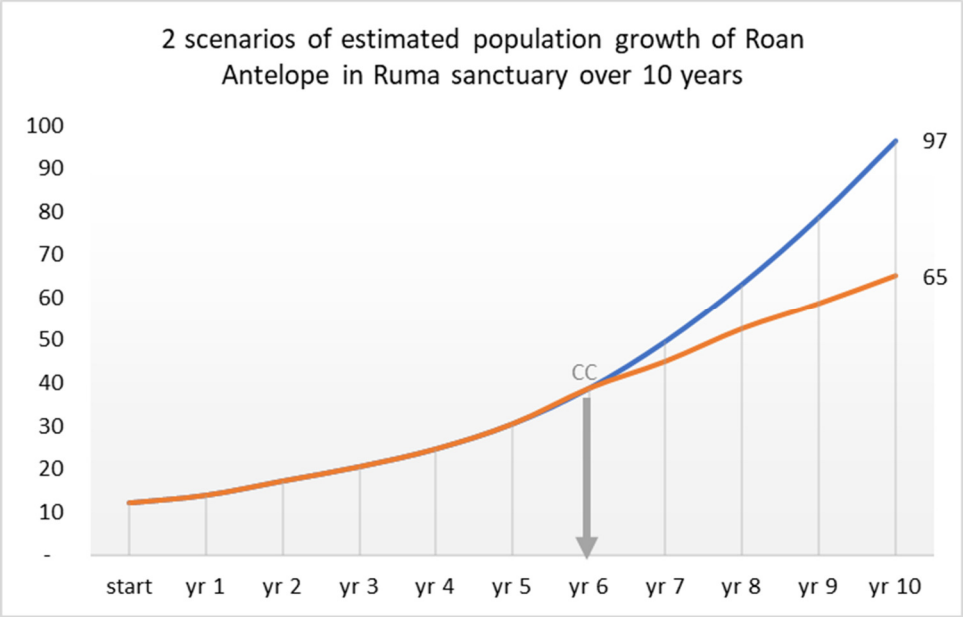
Projected population growth expected within the Roan Sanctuary.

The following table and graph show the projected population increase of Roan inside the sanctuary based on a known starting population of 4 adult males, 7 adult females and 1 juvenile, and with the following assumptions:

- 50% of adult females give birth each year.
- Females become mature at 3 years and give birth to their first calf.
- The sex ratio of calves is equal males to females.
- Average annual death rate is 5% (based on experience with Hirola in Ishaqbini sanctuary in non-drought years)

population demography	**start**	**yr 1**	**yr 2**	**yr 3**	**yr 4**	**yr 5**	**yr 6**	**yr 7**	**yr 8**	**yr 9**	**yr 10**
Ad M	4	4	4	4	6	9	15	20	25	30	34
Ad F	7	7	7	7	9	12	18	23	28	33	37
Immature	1	4	7	11	11	11	9	9	13	20	30
Ad M: Ad F ratio	0.57	0.57	0.57	0.57	0.66	0.76	0.83	0.87	0.89	0.91	0.92
Mortality (5%)	-	1	1	1	1	2	2	3	3	4	5
TOTAL (Scenario 1)	**12**	**14**	**17**	**20**	**25**	**30**	**39**	**50**	**63**	**79**	**97**
popln increase	-	2	3	3	4	6	8	11	14	16	18
% population growth		**15%**	**24%**	**19%**	**20%**	**24%**	**27%**	**28%**	**27%**	**25%**	**22%**

With this scenario it is likely that the sanctuary will reach carrying capacity of 35 – 40 individuals in 6 years. Thereafter it is likely that population growth will slow down due to resource scarcity, intra-specific competition, and social dynamics at which point individuals should be released from the sanctuary and translocated. The graph below shows the projected population growth based on 2 scenarios: *Scenario* 1, where rate of growth does not slow down after reaching carrying capacity; and *Scenario* 2, a slowing down of population growth after year 6. Based on these scenarios, it is likely that within 10 years the population will have grown to between 65-97 individuals.



Summary of Financial Inputs for 2020 & Beyond

The table below represents the funds raised by NRT for the specific stages toward the completion of the Roan Sanctuary, and the in-kind contribution from Kenya Wildlife Service, who have supplied the fencing materials.

Lines 1 & 2 (private donations through NRT) are completed, resulting in a 3km predator proof fence.

Line 3 (Tofauti Foundation) was completed in March 2021.

Lines 4 to 7 summarise the components that are being covered by a 2021 Mpesa Foundation partnership, made possible by our ability to show progress in the last six months thanks to KWS, private donations through NRT, and the funding of the water delivery by Tofauti Foundation.

Financial input to the project (2020/2021)

	Items	Description	KWS Match USD	Donor Raised USD	
1	Fence Section Stage1	Section A - 2.87km	70,000	20,200 (NRT Private)	2020
2	Technical Support (NRT)	Logistics, communication, and financial support	Management	6,490 (NRT Private)	
3	Water Delivery	Pipes, solar, troughs and camera traps	Borehole and diesel	18,484 (Tofauti Foundation)	2021
4	Fence Section Stage 2	Section B - 8.6 km	100,333	37,385 (Mpesa Foundation)	
5	Fire Management	Firebreaks/fence clearing	Supervision	53,110 (Mpesa Foundation)	
6	Monitoring & Security	Technical services	Supervision	48,709 (Mpesa Foundation)	
7	Technical Support	Technical, aerial, travel	Management	24,467 (Mpesa Foundation) 6,000 (NRT Private)	
8	Ongoing Monitoring, Fire control, water and security	Ongoing KWS roan management and technical support	Management	140,000 (Mpesa Foundation)	2022-2025

Note: Exchange used is 108.6Ksh to the USD

We would like to all express our gratitude and appreciation to all who have contributed to the Roan Sanctuary project so far. The support from the KWS park management has been highly appreciated. KWS senior management has done an excellent job to ensure that the fence materials arrived in sufficient quantity.

We would especially like to recognise the early financial support that was given through NRT that made launching this project possible. Without the initial momentum made possible through this donation we would not be where we are today! As a result of the progress in 2020 we were able to bring on board Tofauti Foundation to complete the water and the Mpesa Foundation who have committed to five years funding.

Progress in Pictures

The planning committee: Earth Sea & Sky, KWS and NRT. *Walking the fence line (June2003) posts, and assessed the best design.*

The KWS truck assists the NRT team and causals from the community put in the posts.


The bottom length of tight-lock netting goes on, with 2ft underground to prevent diggers!


Each post has a custom-made outrigger installed and the top layer of tight lock to stop leopards going over the top.


Two gates for access into the Sanctuary


The finished fence.

The Project Field Launch, January 12, 2020

On January 12, 2021, on a rainy day in Ruma NP, the Mpesa Foundation funded Project, ***Securing the Future of the Last Remaining Roan Antelope of Kenya,*** was launched.

In attendance were representatives from Mpesa Foundation, including John Ohaga, Trustee (representing the Chairman), Les Baillie – Mpesa Foundation Executive Director, Joseph Ogutu, Safaricom Foundation Chairman, and Henry Kilonzo, Mpesa Foundation Senior Manager, Programmes, among others.

Representative from KWS included KWS Board Chair Betty Maitoyo, Acting Director General Edwin Wanyonyi, Patrick Omondi and Charles Musyoki, among others.

May community representatives were present including Friends of Ruma NP, National Youth Service and the local Member of County Assembly, Ruma Ward.

On arrival the guests planted trees in the Roan Sanctuary, before moving on to view the recently constructed portion of 3km sanctuary fence and the roan water system, in the process of being completed.

The official ceremony was led by KWS. Speeches were made by the guests from Mpesa Foundation, KWS and the community member guests. Betty Maitoyo, KWS Board Acting Chairperson closed with a speech thanking Mpesa Foundation and partners such as Northern Rangeland Trust and Back to Africa. “We thank the M-PESA Foundation for this support which is a great boost towards the implementation of the National Recovery and Action for the roan antelope in Kenya (2020-2030) launched by Hon Najib Balala, Cabinet Secretary Tourism and Wildlife in March last year”.

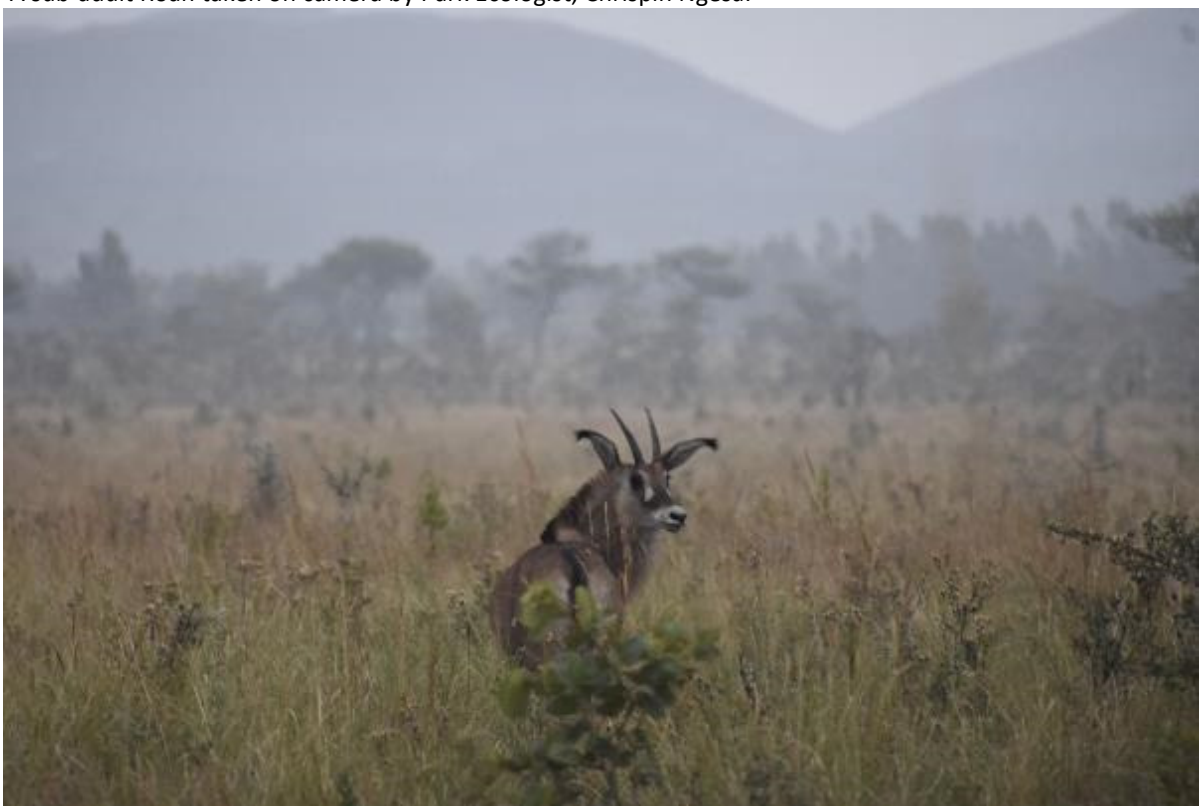
KWS Sebior Management, Edwin Wanyonyi, Betty Maitoyo, Patrick Omondi

The new tractor and mower, donated by Mpesa Foundation, will be key in firebreak management.

Aerial of the fence line and the double-sided firebreak, a total of ten metres wide.

The new Suzuki donated by Mpesa allows the field monitoring to be extremely effective.

A sub-adult Roan taken on camera by Park Ecologist, Chrispin Ngesa.



A male Roan.

The camera traps have confirmed that there are five subadults – a good start for future stock!

Recent cameras on the water troughs show the Roan are using the water troughs in the Sanctuary.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Future Plans

As we continue to establish the Roan Sanctuary the focus now is on active management of the Roan themselves. The next step is to remove hyena and leopard from the sanctuary, and to ensure that they cannot re-enter in the future. This will be done by intensive field monitoring, patrols, fence maintenance and camera traps.

Fire management is an ongoing and critical task that will continue through community participation.

Water management though sufficient for now requires a further upgrade in the future as the existing borehole is old. The plan is to upgrade the borehole and power it through solar.

Ongoing technical support through NRT, Earth Sea and Sky and Back to Africa will continue to provide expertise and support to the KWS management team.

Increased monitoring technology will be introduced, along with in depth monitoring of the progress of the Roan to understand the best options for future reintroduction of a fresh genetic pool which is expected in 2-3 years time.

We hope you enjoyed this report, and thanks again for your support!