



# East Africa Programme

QUARTERLY UPDATE REPORT

January – March 2019



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## Background

The Giraffe Conservation Foundation (GCF) East African office, based in Nairobi, was established to increase collaborative efforts with government institutions, private stakeholders, along with local and international NGOs with respect to giraffe conservation and management. The East African region is critical for the long-term survival of wild populations of giraffe as it is home to three distinct species: Masai giraffe (*Giraffa tippelskirchi*), reticulated giraffe (*G. reticulata*) and Nubian giraffe (*G. camelopardalis camelopardalis*). This report highlights the steps and programmes that GCF has initiated towards conserving the three species in the region in the first quarter of 2019.

## Broad-ranging programmes

GCF continues to work with the Kenya Wildlife Service (KWS) to implement the priority activities identified in the *National Recovery and Action Plan for Giraffe in Kenya 2018-2022* to secure a sustainable future for giraffe in the country. In December 2018, GCF coordinated the export of 301 giraffe tissue samples collected by KWS veterinarians across the range of the different giraffe species in Kenya. The samples, which were collected between May 2017 and August 2018, were sent to our conservation partner Senckenberg Biodiversity and Climate Research Center BiK-F in Germany. Analysis of samples is under way and will determine the taxonomy of giraffe populations and extent of their overlap in Kenya. Findings will also inform management guidelines given that the three species face different magnitude of threats.

Following a ban on non-emergency immobilisation of wildlife in 2018, KWS has taken steps to update the protocols for the safe handling of wildlife in the country. In support of this process, GCF provided input towards the finalising of the draft *Immobilization and Translocation Protocol for the Giraffe in Kenya (2018)*. The updated protocols are currently under review by KWS and will be made available to the public once finalised. GCF will continue to work with KWS to use science to inform giraffe conservation and management in the country and for the best welfare of the animals.

## Specific programmes

### Masai giraffe

Through the support from the National Geographic Society, Wildlife Works and GCF, we held an education event for school-aged children in Rukinga Wildlife Sanctuary near Tsavo West National Park, Kenya. The event brought together 35 primary school students from six schools for a day that included a tour of facilities at Wildlife Works, a game walk, a game drive and conservation talks. The goal of the event was to teach the students how to protect their natural resources and learn more about the wildlife in their area. The students experienced how Wildlife Works makes organic soaps using natural herbs, how to sustainably grow food plants, and make natural dye for art projects. These initiatives ensure that community members have diversified and alternative incomes. The Wildlife Works researchers and our GCF East African Coordinator taught the students about the fauna and flora of Kenya, with a focus on southern Kenya. During the game drive and nature walk students used cameras donated by GCF to Wildlife Works for data collection to practice photography skills. The group encountered a variety of wildlife, including a large 'tower' of giraffe. GCF also provided environmental education workbooks to the students as part of the program. GCF's *Nature Workbook for Kenya* was developed based on the highly successful GCF Khomas Environmental Education Programme (KEEP) in Namibia to provide an experimental learning experience for primary school children. The student participants of this event were the first in the country to use this valuable resource tool and a post-event survey of the participants yielded highly positive feedback from the teachers and students. GCF will continue to work with conservation partners to expand the programme. The Nature Workbook for Kenya is available for downloading on the GCF website.



Figure. 1: GCF East Africa Coordinator, Arthur Muneza talking to the student participants about the biology of giraffe at the Rukinga Resource Centre in the wildlife sanctuary.



Figure. 2: Student participants with the *Nature Workbook for Kenya* before they embarked on the final game drive.



Continuing our partnership with Wildlife Works, GCF has provided valuable field equipment (including notebooks, stationery, cameras, GPS units) as well as motorbikes to undertake detailed human dimensions surveys throughout the Taita Taveta county in Kenya. According to anecdotal information, the county, which is home to the two Tsavo National Parks and a number of community ranches, has some of the highest rates of human-wildlife conflict. Wildlife Works and GCF have recently trained 16 community scouts to survey a total of 350 households from eight villages in areas where Wildlife Works collaborates with the communities. The surveys are scheduled to be completed in June 2019. The study will provide valuable information to help us understand (and better manage) the various social, cultural and economic factors that may influence the interactions between humans and giraffe.

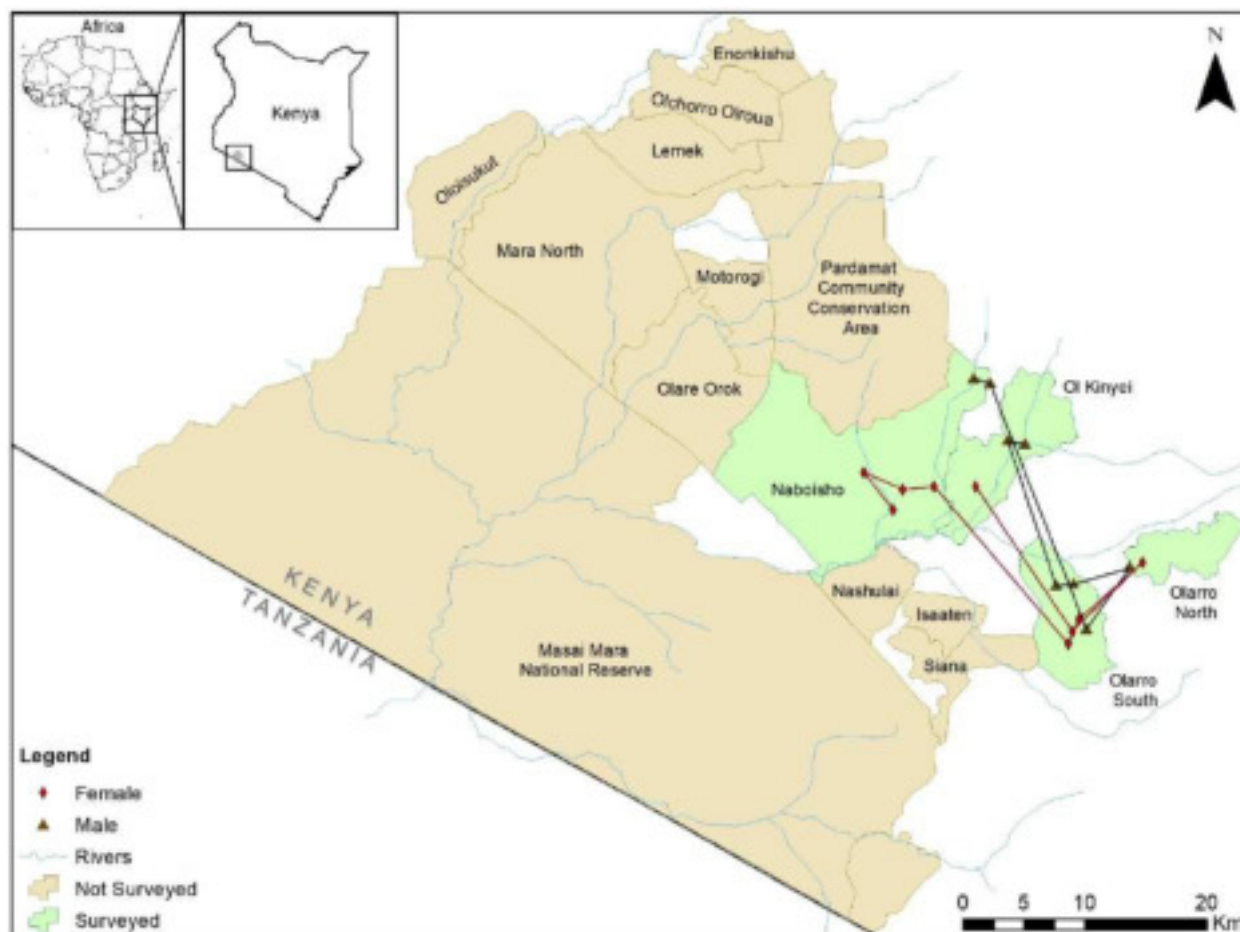


Figure 3: Map of surveyed and yet-to-be surveyed wildlife conservancies within the Masai Mara Ecosystem, Kenya. Our findings illustrate that giraffe regularly move between the conservancies and additional surveys will shed more light on the extent of this movement.

In January 2019, our conservation partners conducted a 16-day photographic mark-recapture survey in Ol Kinyei Wildlife Conservancy as part of an on-going collaboration to assess giraffe numbers in the Masai Mara ecosystem in Kenya. The road-based surveys captured a total of 1,397 giraffe sightings, later identified as 539 unique individuals (148 adult males, 218 adult females, 49 sub-adult males, 64 sub-adult females and 65 calves). The capture histories from this survey were compared to the results from the first two surveys conducted in neighbouring Naboisho and Olarro Wildlife Conservancies. Interestingly, the findings found that 120 (27 males and 93 females) giraffe had been previously recorded in Naboisho Wildlife Conservancy, while 40 (22 males and 18 females) were first seen in Olarro Wildlife Conservancy. Additionally, 8 (3 males and 5 females) had travelled from Naboisho to Olarro and were then observed in Ol Kinyei Conservancy. This movement between the different conservancies provides the first-ever insights into the habitat use by giraffe in the Masai Mara Ecosystem. By tracking a straight-line trajectory





between the encounter histories of one female and one male, we deduced that the two giraffe travelled a minimum of 50-60km between the different survey periods. GCF will continue to work closely with partners in the area to collect more fine scale data to better understand the spatial ecology of giraffe in the ecosystem, in particular given the urgent need to understand transboundary movement of giraffe between the Mara and Serengeti ecosystems.

Through these combined conservancy surveys, our conservation partners have already identified 1,506 individual giraffe, representing 90% of the 1,682 giraffe that are estimated to occur in the Mara Conservancies. Additional surveys will complement the currently available data to update the population numbers in the Mara, which are likely to be higher. Lastly, five giraffe in Ol Kinyei were found to have lesions similar to giraffe skin disease (GSD). GCF is currently working with stakeholders to identify the etiological agent of the disease. Preliminary results indicate that GSD in Uganda could be caused by a filarial worm that potentially affects livestock and other wildlife as well. This is particularly important given that Masai communities share the landscape with giraffe in the Masai Mara ecosystem, which could promote cross-species transmission of the disease. We will monitor the situation, but it is important to note that so far there is no indication of a link between GSD and early mortality.

In Tanzania, GCF continues to work with the Tanzania Wildlife Research Institute (TAWIRI) to complete the drafting of the *National Giraffe Conservation Strategy and Action Plan* in collaboration with the USAID PROTECT Tanzania project. At the moment, final edits are under review by TAWIRI after new data from recent surveys conducted in late 2018 were incorporated. To cement our partnership in Tanzania, TAWIRI signed a conservation research Memorandum of Understanding (MoU) with GCF in January and GCF's TAWIRI and COSTECH research permits were approved which will facilitate the implementation of our projects in Tanzania in collaboration with TAWIRI and other local stakeholders.

### Nubian giraffe

In February 2019, we conducted the first photographic mark recapture surveys of giraffe in Lake Nakuru National Park (NP) in collaboration with the African Fund for Endangered Wildlife (AFEW) and KWS. The goal of this study is to assess the conservation status of Nubian giraffe in the park. Last year, we conducted a reconnaissance survey in the park where we divided accessible road network in three different transects, each measuring approximately 49km. During our surveys, we covered each transect four times and recorded 32 sightings of giraffe. After analysing our data with WildID, we identified 69 different giraffe (38 adult females, 8 subadult females, 16 adult males, 2 subadult males and five calves). The largest herd we recorded had 18 giraffe with an average herd size of six. We did not record any giraffe on the eastern side of the park (Lanet transect), which has more steep slopes than the other areas of the park. However, we cannot ascertain this as the main reason as to why giraffe avoid this section of the park and we will continue to monitor for signs of giraffe presence. According to data from KWS, Lake Nakuru NP has an estimated 74 giraffe. As we have

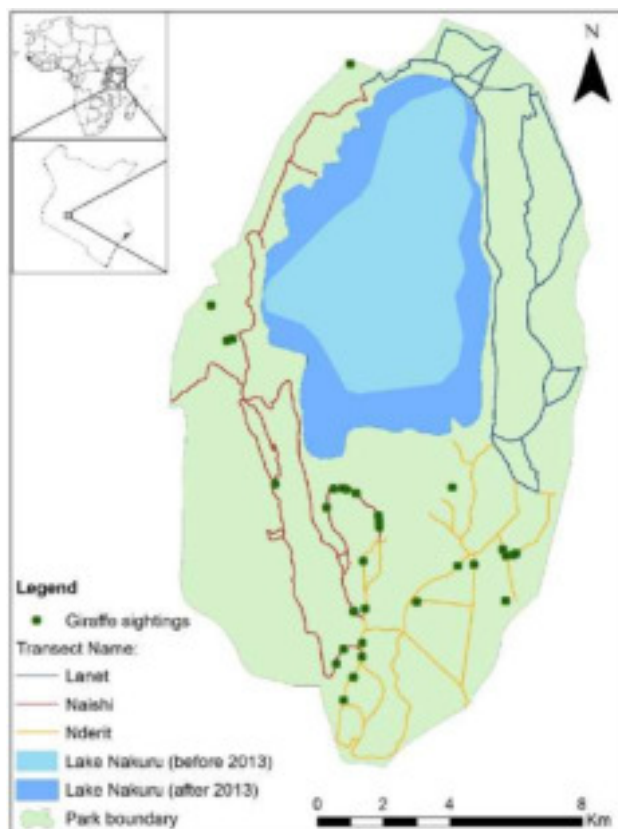


Figure 4: Sightings of giraffe in Lake Nakuru NP during the February 2019 surveys.



already identified 69 individuals we anticipate that the number could rise during future surveys. Importantly, all images from the survey will be uploaded onto GiraffeSpotter as a citizen science tool to help monitor the population. Our subsequent surveys will provide more insights in the population size of giraffe in Lake Nakuru NP and determine the extent of giraffe movement between the park and the neighbouring Soysambu Wildlife Conservancy. During the survey, we did not see any evidence of GSD or recent snare injuries, however, we re-encountered the giraffe with a swollen leg and the giraffe with lumps near the shoulders (see previous Quarterly Update Report). Both cases were again reported to the senior scientist of the park.

As part of our efforts to support the implementation of the recently launched *Recovery and Action Plan for Giraffe in Kenya 2018-2022*, we partnered with KWS to hold the second Nubian Giraffe Range Committee Meeting. This was the first follow-up to the meeting held in May 2017 in Soysambu Wildlife Conservancy since the launch of the strategy. Considering these recent developments, stakeholders came together to identify the priorities for Nubian giraffe conservation in Kenya for 2019-20 and draft an accompanying action plan. Seventeen stakeholders from across the Kenyan range of Nubian giraffe attended the meeting and reviewed the work that had been done thus far to protect the population. Specifically, participants reviewed recent translocation history of Nubian giraffe in Kenya, and re-assessed their numbers listed in the *Recovery and Action Plan*. Participants then identified priorities for Nubian giraffe conservation as: 1. Development of a centralised database for Nubian giraffe; 2. Appointment of a Nubian Giraffe Range Committee through KWS to coordinate activities; and 3. Conducting a workshop to train stakeholders on the use of photographic mark-recapture techniques as a standardised methodology for population surveys. These priority actions are in support of a number of strategic objectives and activities outlined in the Recovery and Action Plan that participants selected as targets for the coming year (until March 2020). We are currently working with all stakeholders to collate these targets into the first-ever *Nubian Giraffe Action Plan for Kenya 2019-2020*.



Figure 5: Stakeholders at the Nubian Giraffe Range Committee Meeting at Mayer's Farm, Kenya. Stakeholders identified the priorities for Nubian giraffe conservation in Kenya and charted a collaborative framework to implement the Recovery and Action Plan for Giraffe in Kenya 2018 – 2022 in relation to Nubian giraffe.



In Uganda, the first quarter of the year started with field surveys in both Murchison Falls and Kidepo Valley NPs building upon the solid foundation developed over the past five years in collaboration with the Uganda Wildlife Authority (UWA) and Dartmouth College to increase understanding of the Nubian giraffe population ecology and spatial ecology. In March 2019, the annual National Giraffe Working Group of Uganda met to review the status of activities developed as part of the draft *National Giraffe Conservation Strategy and Action Plan of Uganda*. GCF helped support the meeting and facilitated bringing together all the discussions for the Action Plan for 2019-20.

During the last few months GCF held a series of meetings with representatives from UWA, the Uganda Wildlife and Education Centre, and the Uganda Ministry of Tourism to advance additional giraffe conservation support in the country. As part of our ongoing collaboration, GCF has started to increase our field programme in Murchison Falls NP with an additional focus on supporting a targeted veterinary response to giraffe (and other wildlife) caught in illegal wire snare traps as well as assisting anti-poaching operations (see more information below).



Figure 6: Giraffe legs with snare. Luckily, the snare was detected early and removed before causing much damage.

In March 2019 the GCF team supported by partners (Chester Zoo, San Diego Zoo Global, Naples Zoo) spent a week in the spectacular Kidepo Valley NP on the border with South Sudan to undertake the annual giraffe population census and facilitate additional GPS satellite tagging of giraffe. In short, the team surveyed the entire park over a series of days and identified a total of 61 individuals – a significant increase to the 35 individuals identified in 2018. This increase can be largely attributed to two factors: 1. the successful UWA-GCF translocation of 14 giraffe from Murchison Falls NP in August 2018 to the park (all 14 giraffe were accounted for during this survey); and, 2. a total of 12 new calves were documented this year. This is very exciting and shows that the population is growing after many years of being stable and that all recently translocated giraffe adjusting well to their new habitat. The populations was estimated at more than 400 individuals a few years ago and it appears that slowly but surely it is rebounding. Following the survey, we worked with the UWA game capture team to replace four GPS satellite units (“ossi-units”)





which had ceased to function as well as fit one new unit to a female giraffe. Tracking these giraffe remotely is part of GCF's Africa-wide research programme *Twiga Tracker* to better understand how and where giraffe move to inform giraffe conservation and management efforts throughout their range. However, the ossi-units can also provide valuable anti-poaching support for populations which are under threat and enable teams on the ground to monitor specific giraffe more closely. As a recent example, *Luca*, one the large males recently re-tagged in Kidepo Valley NP, made the first reported movement from the park into South Sudan. He safely returned to Kidepo Valley NP and his exciting journey highlights the increasing giraffe range and the need for increased monitoring. You can download *Kidepo Valley Field Report March 2019* on the GCF website for more detailed information.



Figure 7: Movement patterns of 'Luca' the Nubian giraffe venturing north from Kidepo Valley NP across the border into South Sudan (yellow line) and back. This is the first recorded movement of giraffe doing this in recent history and highlights their expanding range.

Following the Kidepo Valley NP surveys, we continued to work with the UWA team to fit 15 GPS satellite units to Nubian giraffe in Murchison Falls NP across the western and central sections on the northern bank of the park. The data from these units will help to better understand the seasonal movement of giraffe between some key habitats. Long-term results will help us understand their movements which will be critical to monitor when the planned oil developments are in full production. Activities south of the Nile River have already started.

For the giraffe tagging in Murchison Falls, we were joined by another GCF-supported team that continues our long-term population ecology study with Dartmouth College (USA) and UWA. The surveys were lead by Dr. Doug Bolger from Dartmouth College as our main field researcher Michael Brown is currently writing up his PhD studies after four years of field research (good luck!). However, Doug was joined by





Drs. Felix Patton and Petra Campbell (both with a background in rhino research), who have more recently conducted a host of giraffe surveys across East Africa. The team plans to continue the biannual photographic surveys in the park. The surveys in Murchison Falls NP were initiated in 2014 and we are looking forward to reading about Michael's findings in more detail in his forthcoming scientific papers. It is important to note that Murchison Falls NP has the largest Nubian giraffe population in Africa, and it is a critical source population helping to populate all other areas in the country. Data collected during these valuable surveys contributes not only to the ever-growing giraffe population database, but also provides a more comprehensive picture of giraffe ecology, spatial variation, and habitat use within the park. The research team drove the established surveying routes over two weeks systematically covering the entire expanse of the northern portion of the park and photographed all giraffe encountered. The entire park was surveyed twice in accordance with robust population survey protocols and the resulting photographs were then used as individual identifiers for giraffe given their unique spot pattern. Through the use of WildID, a specially designed pattern recognition computer programme from Dartmouth College, all giraffe seen during the survey period were identified by their unique spot patterns against a database of thousands of previously encountered individuals. In addition to obtaining photographs of each giraffe, a GPS coordinate, age, sex, presence or absence of giraffe skin disease lesions, and any signs of damage from illegal wire snares were also recorded. Whilst we are still analysing the data, some preliminary results from the March 2019 survey include:

- In total we located 131 different herds of giraffe ranging from 1 to 61 individuals. Out of the total of 1,128 separate sightings, 778 different individuals were identified, following the pattern found in previous years when less giraffe were observed at this time of year as they disperse throughout the park.
- The health status of all giraffe was also assessed during the survey. Out of the 778 different individuals we found 330 animals (42%) to have varying amount of visible skin lesions. Giraffe skin disease was proportionally greater in the Delta area of the park (west) compared to the Wankwar (middle) and Chobe (east) areas (57%, 40% and 3% respectively).
- 17 snared individuals (15 males and 2 females – 2.2% of total observed giraffe) were observed mostly in the western Delta area. The injured animals seemed to stay together in the Delta area, close to water, they travelled on average for 1.5 km between sightings.

Over the last few years UWA and GCF have identified poaching, and in particular illegal wire snare traps, as a major conservation threat to Nubian giraffe, as well as other wildlife, especially within Murchison Falls NP. During five years of giraffe surveys in the park, we have regularly observed around 3% of the Nubian giraffe population as being affected by illegal wire snare traps. While giraffe are by no means the target for these traps, the indiscriminate nature of these snares ensures all species within the park are under threat of injury or death. Giraffe caught in these wire snares are often strong enough to break free from the anchor point but can end up dragging the wires around for days to weeks or longer – causing severe wounds, infection, distal limb swelling, and more often than not, permanent limb deformity. In extreme cases wire snares have caused amputation of limbs and death.

Building upon previous data collected over the years documenting the prevalence and to determine the effect wire snare traps have on giraffe morbidity and mortality, GCF has decided to take an active role in supporting veterinary response and other anti-poaching operations with UWA. Skilled field veterinarian Dr. Sara Ferguson recently joined our team after working with Cheyenne Mountain Zoo, one of our conservation partners. With support through a National Geographic Early Conservation Award and from GCF, Sara works closely with UWA on the ground and has already made a difference. She supports UWA's surveying efforts for identifying snared giraffe (and other wildlife) and in turn provides technical and



physical support for quick and appropriate veterinary interventions. Through Sara's work we are aiming to reduce the impact of wire snares on giraffe (and other wildlife) by facilitating early identification and removal of wire snares ideally before any significant damage is caused or by providing treatment and supportive care. Sara has de-snared over 20 animals in her first month in Murchison Falls NP. In addition, GCF is evaluating other avenues to aid in ongoing anti-poaching efforts within and around the park to decrease the presence of wire snare traps (and other illegal poaching implements) in the park. We see this as a critical programme and if you want to provide support, please get in touch.

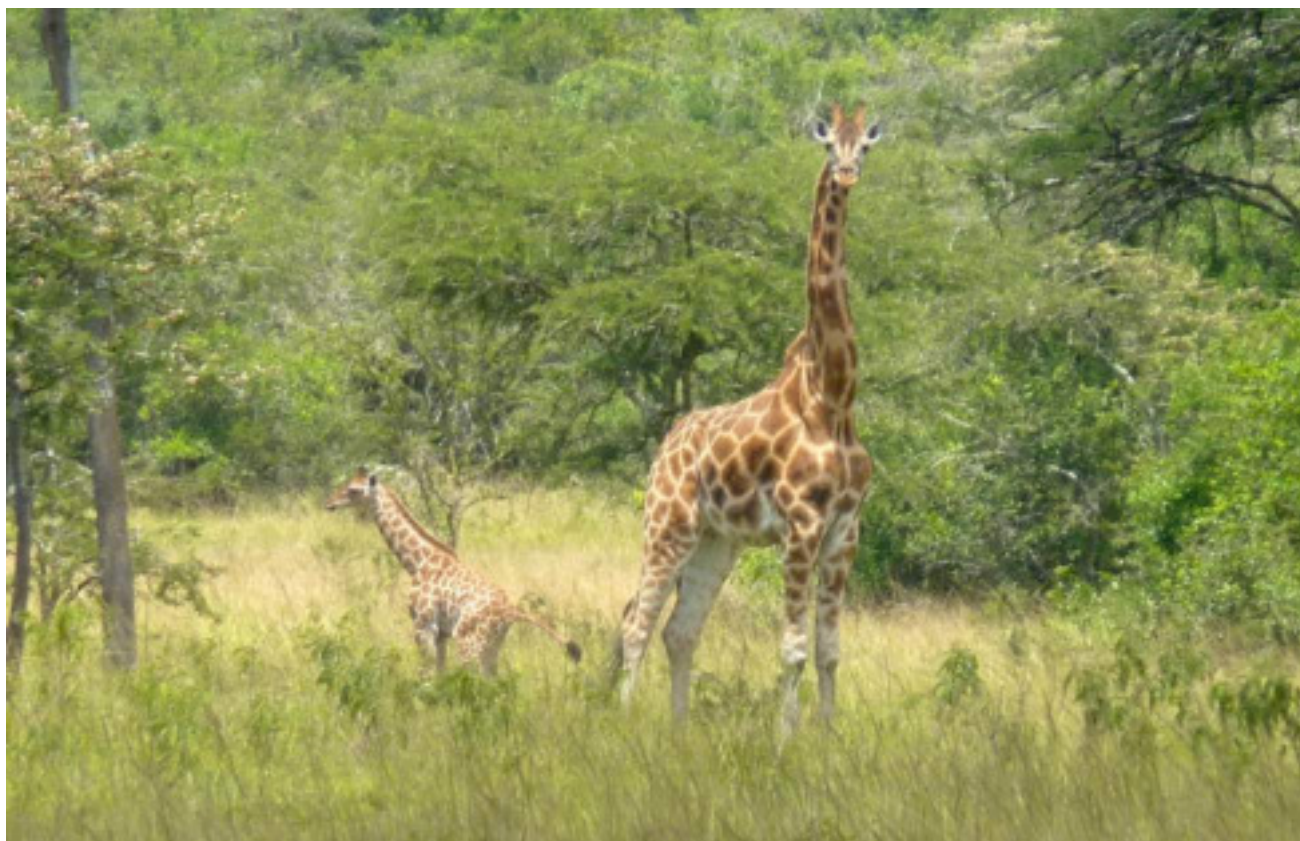


Figure 8: One of the latest additions in Lake Mburo NP – Mystery with her new calf.

In Lake Mburo NP, GCF continues to support Giraffe Education and Research (GEAR) in partnership with UWA and Kacheera Camp. The GEAR team undertakes regular monitoring of the Nubian giraffe population in the park. In a recent monitoring trip, the team spotted yet another giraffe calf (number nine!) bringing the total Nubian giraffe population in the park to 24. This is another example of successful giraffe conservation in Uganda after 15 Nubian giraffe were moved to the park in 2015 from Murchison Falls NP. The GEAR team also continues to take school children from adjacent communities/schools for visits into the park to increase conservation awareness and show the local children 'their' giraffe.

### Reticulated giraffe

In partnership with San Diego Zoo Global, GCF supported KWS to coordinate the first-ever Reticulated Giraffe Range Committee meeting in Nanyuki. This is an important step to help in the implementation of the *Recovery and Action Plan for Giraffe in Kenya 2018-2022*. Participants took this opportunity to also draft the first-ever *Action Plan for Reticulated Giraffe* in Kenya. Given the expansive range of reticulated giraffe in the country, participants were divided into three groups based on the region they were representing: Northern Conservation Area (Mandera, Marsabit, and Wajir counties), Mountain Conservation Area (Meru, Laikipia, Nyeri, Embu, Isiolo and Samburu counties) and Eastern Conservation Area (Kitui, Tana River, Lamu and Garissa counties). While the workshop had 35 participants, we anticipate



that the number will increase for subsequent meetings as reticulated giraffe are the most abundant and widely distributed giraffe population in Kenya. Additionally, a large portion of reticulated giraffe occur outside formally protected conservation areas. As such, this meeting played a crucial role in bringing together stakeholders from different areas of the country. Importantly, the workshop provided a platform for stakeholders from the Northern Conservation Area to draw attention to conservation initiatives in their zone, which potentially has the largest reticulated giraffe population in Kenya. It was reported in the meeting that members from the region have observed an increase in giraffe products, with an emerging market in Kismayu, Somalia. To meet the demands for these markets, poachers are targeting giraffe in Kenya and smuggling them across the border for sale in Somalia.

Two changes were made to the distribution map of reticulated giraffe in Kenya after stakeholders noticed the omission of the range of reticulated giraffe in Mount Kulal Biosphere Reserve in northern Kenya adjacent to Lake Turkana and a small population that is regularly seen close to the A3 road, near Mwingi town. It is assumed that this small population moves in and out of Mwingi National Reserve though it has not yet been established how far south the population ventures. Stakeholders also familiarised themselves with the *Recovery and Action Plan for Giraffe in Kenya 2018-2022* as this is a crucial management tool. Specifically, senior wardens and directors of community conservancies can rely on the strategy to request support from county governments and other donors. This is particularly important given the fact the key priority actions identified by stakeholders are resource-intensive, including: 1. Development of a reticulated giraffe bushmeat trade assessment report; 2. Conducting population surveys in north-eastern Kenya; 3. Use of GPS satellite units to better study the spatial ecology of reticulated giraffe; 4. Recruitment and training of community scouts; 5. Mobilising support for community conservancies; and 6. Provision of water in north-eastern Kenya for wildlife and livestock. Participants were then asked to select priority targets for the coming year, derived from the *Recovery and Action Plan for Giraffe in Kenya 2018-2022*. We are currently working with the senior scientists from the three conservation areas to collate all these targets and actions to draft the *Reticulated Giraffe Action Plan 2019-2020*.

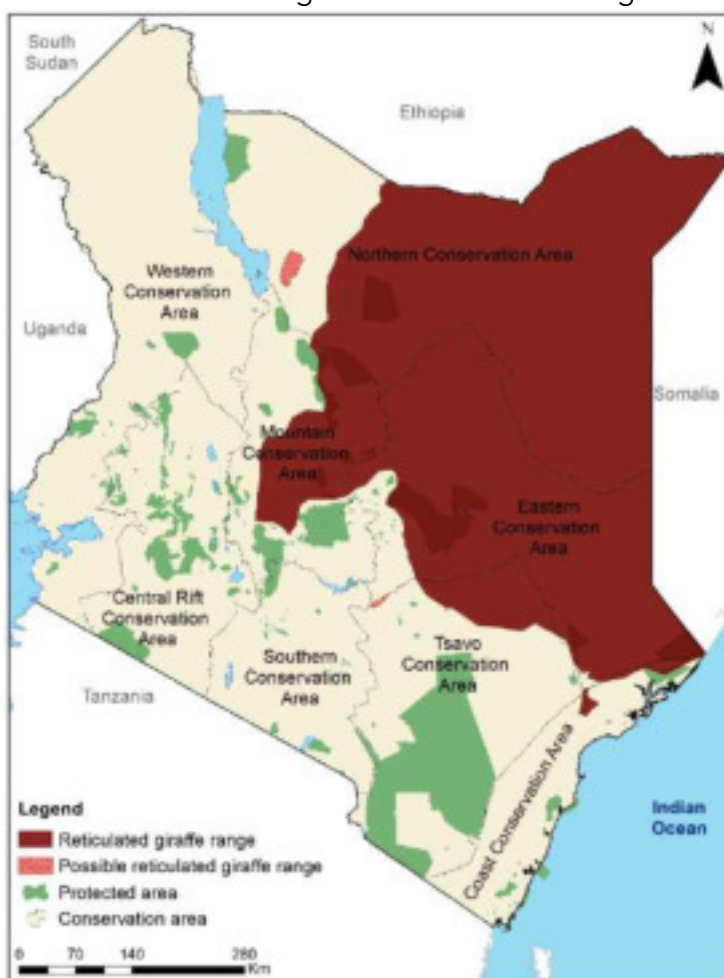


Figure 9: Map of Conservation Management Areas used by the KWS. A large portion of reticulated giraffe occurs in community conservancies and private wildlife sanctuaries.





Figure 10: Dr. Fred Omengo, senior scientist of the Mountain Conservation Area guiding participants of the Reticulated Giraffe Range Committee meeting through the structure and content of the *Recovery and Action Plan for Giraffe in Kenya 2018-2022* to later derive priority actions for reticulated giraffe conservation in Kenya.

### Awareness raising and capacity enhancement

To enhance and raise awareness on giraffe conservation status in the region, we have continued to build partnerships across the globe and give invited lectures. Our East Africa Coordinator Arthur Muneza gave tea time conservation lectures at the Giraffe Manor in Nairobi in partnership with the Safari Collection to raise awareness on the conservation status of giraffe and initiatives across their range to reverse their decline. We also developed an educational poster on the giraffe population in Uganda, highlighting their plight as well as conservation success stories of our partnerships in Uganda to save the critically endangered Nubian giraffe. You can download the poster from the GCF website or get in touch for a high-resolution version.

In March 2019, the GCF team in Uganda was accompanied by a BBC film crew for a special on IUCN. This was a great opportunity to share the latest information on giraffe, especially the conservation success of Nubian giraffe in Uganda. Stay tuned for this exciting documentary to be released in 2020.

The GCF team have also recently published a number of scientific papers in peer-reviewed journals. Michael Brown, PhD candidate at Dartmouth University, published a paper in the *Journal of Global Ecology and Conservation* on the country-wide assessment of current and historical distribution of giraffe populations in Uganda. His research presents the most comprehensive assessment of giraffe populations in Uganda and incorporated photographic mark-recapture surveys in Murchison Falls NP. GCF East Africa Coordinator, Arthur Muneza, led the drafting of a paper in the *Journal of Wildlife Diseases* that utilised both digital and camera-trap photographs to quantify the severity of giraffe skin disease (GSD) in Ruaha and Serengeti NPs, Tanzania. This was the first statistical analysis and classification of GSD severity categories as previous research has utilised subjective classification of GSD severity. All of these efforts will ensure that GCF is at the forefront of increasing awareness and education opportunities around giraffe conservation and management in East Africa.



## Partners & Supporters

