

East Africa Programme

Update Report (January – April 2018)



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 between January and April 2018.

Broad-ranging programmes

Conservation efforts for giraffe have increased in the past few years in East Africa and GCF has been at the forefront informing giraffe conservation and raising awareness in Kenya. In March 2018, our East Africa Coordinator facilitated various meetings organised by the Kenya Wildlife Service (KWS) to review and update the National Recovery and Action Plan for Giraffe in Kenya (2018 – 2022). This crucial framework outlines strategic objectives that should be implemented by giraffe conservation stakeholders to conserve populations in the country. It is anticipated that the National Recovery and Action Plan will be commissioned and launched in mid-2018, making Kenya only the second African country to fully develop and initiate implementation of such a crucial policy framework. It is important to note that Uganda, through the Uganda Wildlife Authority (UWA) and with support from GCF and conservation partners, also developed their first-ever National Giraffe Conservation Strategy and Action Plan, which is currently awaiting endorsement. Additionally, efforts are underway to hold the first-ever National Stakeholder Workshop to develop the Tanzania National Giraffe Conservation Strategy and Action Plan in June 2018. In the long-term, the implementation of these plans for Kenya, Tanzania and Uganda will inform and guide the development of a collaborative conservation strategy for giraffe in the East African region – important given the transboundary nature of giraffe habitats.

GCF has been at the forefront of gathering and disseminating the most up-to-date data on giraffe populations across their range for use in conservation policy frameworks. Specifically, our East Africa Coordinator participated in the review and editing of Kenya's National Wildlife Strategy 2030 that will be launched in June 2018. GCF's role was to provide information pertinent to giraffe conservation with the aim to reflect the priority actions identified in the draft National Recovery and Action Plan for Giraffe in Kenya in the National Wildlife Strategy. The programme, funded by USAID and coordinated by the African Conservation Centre (ACC), will ensure better protection of wildlife across Kenya and GCF's contribution will raise more awareness towards giraffe conservation efforts in the country.

Last year, GCF partnered with KWS and Senckenberg Biodiversity and Climate Research Centre (SBiK-F) to study the genetic diversity of giraffe in Kenya in more detail. Our recent efforts have revealed that there are four distinct giraffe species with five subspecies (Fennessy et al. 2016). Importantly, Kenya is home to three of the four extant species of giraffe with limited interbreeding observed. This collaborative study

involves collecting biopsy samples from giraffe populations across the country and will provide crucial information on the genetic diversity of these populations in Kenya, and explore potential areas of interbreeding. With support from GCF, KWS veterinarians and molecular biologists have already collected 255 samples (from 139 female and 116 male giraffe) across Kenya (Fig. 1). Sampling efforts cover areas representing the distribution of all giraffe species in Kenya. Following this, analysis will be conducted at SBIK-F to better understand the genetic diversity of giraffe in the country.

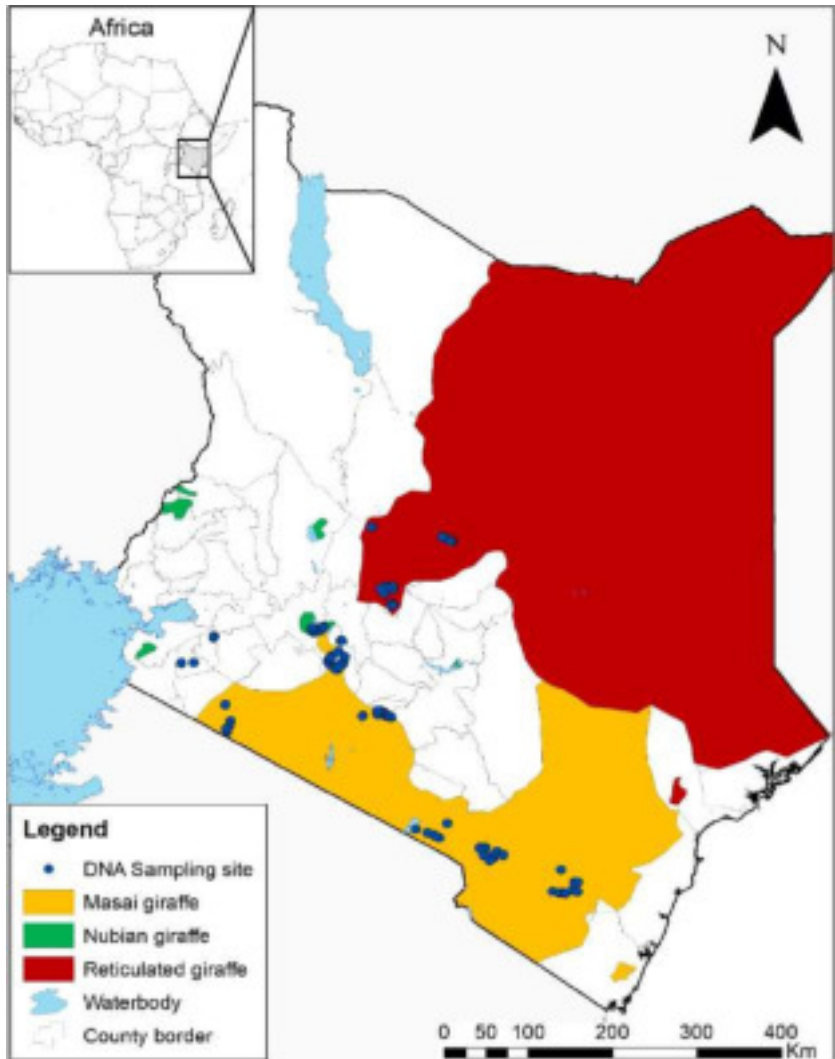


Fig 1. Areas where giraffe tissue samples were collected by KWS with support from GCF.

Through valuable donor support and in partnership with San Diego Zoo Global and Wild Me, we have recently launched ‘GiraffeSpotter – Wildbook for Giraffe’ (www.giraffespotter.org). GiraffeSpotter uses giraffe pattern recognition to assist with long-term monitoring through photographic mark-recapture sightings and is available for use online by all interested parties. This software will enhance and promote citizen science, in addition to raising awareness on giraffe conservation. GCF researchers have already uploaded images from surveys conducted in Mwea National Reserve and Ruma National Park in central and western Kenya respectively as well as other parts of Africa. The pattern recognition (individual identification) capabilities of GiraffeSpotter will hopefully fast-track the development and adoption of a



standardised giraffe population monitoring tool. We continue to improve the site's usability for researchers and citizen scientists. Go online and please upload all your photos to help us better understand giraffe distribution throughout Africa!

While our focus is on giraffe conservation, we are also passionate about educating our future African leaders. Based on the successful workbook for our Khomas Environmental Education Programme (KEEP) in Namibia, we developed a ready-to-use environmental education resource for primary school students in Kenya: the GCF Nature Book – Kenya. You can check it out online on our website or get in touch to get a print-ready high resolution version.

Specific programmes

Masai giraffe

In February 2018, GCF supported KWS to hold the first-ever Masai Giraffe Working Group Meeting at Maanzoni Lodge. The meeting brought together stakeholders from KWS (Amboseli, Masai Mara, Nairobi, Shimba Hills) and private stakeholders (AAC, Africa Wildlife Foundation, Big Life Foundation, Wildlife Works). The participants discussed the major threats that affect Masai giraffe in southern Kenya including poaching, habitat loss and fragmentation, infrastructural development, climate change and mining. Importantly, recent numbers show that the population trend of Masai giraffe is declining. With an approximately 11,500 Masai giraffe remaining in southern Kenya, conservation efforts are required to ensure that the species persists in Kenya. Hence the development and implementation of a species-specific framework highlighting the threats and priority actions to mitigate the threats is key to ensuring the survival of giraffe populations in the country.

In our efforts to update data on giraffe ecology and collect data on the cultural and socio-economic values of giraffe in southern Kenya, we are partnering with Wildlife Works, based in Rukinga Sanctuary, south-eastern Kenya. Wildlife Works will avail up to ten community scouts to assist in long-term giraffe monitoring, spread across an area of ~2,025km² and extending to the Tanzanian border. According to anecdotal information from counties around the Tsavo Conservation Area, giraffe poaching for bush meat and traditional use (e.g. use of giraffe body parts) is on the rise. Through this partnership and with support of World Giraffe Day 2017, GCF will provide equipment and facilitate training sessions with community monitors and rangers. This equipment will also support anti-poaching efforts by Wildlife Works in southern Kenya. Using the photographic mark-recapture technique, surveys in this region will help to gain a better understanding of giraffe numbers in the area, assist long-term monitoring efforts and further populate the 'GiraffeSpotter' database.

At the start of the year, GCF and the Tanzania Wildlife Research Institute (TAWIRI) completed the first-ever Tanzania Giraffe Country Profile, which highlighted the conservation status of Masai giraffe. Using historical and current accessible data, GCF and TAWIRI outlined the various threats that giraffe face in Tanzania. The report shows that Tanzania has potentially the largest giraffe population on the continent ($n = 26,079 \pm 2,772$) and the process laid the foundation for developing the first-ever Tanzania National Giraffe Conservation Strategy. Together with USAID Protect Tanzania and TAWIRI, GCF will support the workshop that will bring together government institutions, local and international NGOs, academia, community groups and other stakeholders to draft the strategy. This will make Tanzania only the 5th



African country to initiate development of a National Giraffe Conservation Strategy after DRC, Kenya, Niger and Uganda. Considering the transboundary movement of giraffe in East Africa, especially between Kenya and Tanzania, it is important to assess opportunities for regional collaboration beyond the National Strategy once developed.

Nubian giraffe

In March 2018, GCF and the African Fund for Endangered Wildlife (AFEW) completed the road-based photographic mark-recapture surveys in Mwea National Reserve (45 km²) and Ruma National Park (120km²) that were initiated last year to estimate the abundance of their giraffe populations. After covering 1,320km in Ruma NP and 820km in Mwea NR of road transect, we collected 1,268 images in Ruma NP and 549 images in Mwea NR that were suitable for WildID analysis. After additional analysis on GiraffeSpotter by independent observers, our final results indicate that there are 275 giraffe in Ruma NP and 50 in Mwea NR. These results show that the giraffe numbers in the two study areas have increased after conservation re-introductions. In fact, we found that Ruma NP now has the largest population of Nubian giraffe in Kenya.

To our knowledge, this study was the first to collect detailed demographic data of Nubian giraffe in the two study areas and to provide insights into their population structures. The giraffe population in Ruma NP is increasing rapidly given the higher number of females compared to males, with a sex ration of 2:1. We found only one female giraffe with lesions consistent with the manifestation of Giraffe Skin Disease (GSD) in Nubian giraffe in Ruma NP while none were recorded in Mwea NR. Nonetheless, from casual observations, we observed more ectoparasites on giraffe in Mwea NR than Ruma NP. Additionally, during the surveys we observed only two giraffe with snare wounds in Mwea NR. One giraffe required KWS intervention to treat the wound (Fig. 2). We did not observe any snare wounds on giraffe in Ruma NP.



Fig. 2: KWS vet team (led by Dr. Domnic Mijele), AFEW and GCF researchers working together to de-snare a wounded female giraffe in Mwea NR.



As the most threatened giraffe species in Kenya, there is an urgent need to update numbers and provide the most recent estimates of Nubian giraffe. This was one of the priority actions recommended by stakeholders during the Nubian Giraffe Working Group workshop that was held in May 2017. In April 2018, GCF completed a preliminary report collating Nubian giraffe numbers in Kenya. The report outlines the most recent numbers and highlights gaps where updated surveys are required to provide management recommendations. Currently, Kenya has ~680 Nubian giraffe but this estimate will likely increase given that some conservation areas are yet to be adequately surveyed.

In April 2018, GCF in collaboration with UWA, Dartmouth College and partners fitted 25 GPS satellite tags (ossi-units) to Nubian giraffe in Uganda to monitor their spatial ecology: 20 in Murchison Falls NP and 5 in Kidepo Valley NP. The data from these collars will supplement the feeding ecology data collected by Michael Brown, PhD candidate at Dartmouth College. During the tagging exercise and previous translocations, tissue samples were collected to determine the etiological agent of GSD. The tissue samples were sent to our partners Cheyenne Mountain Zoo and Colorado State University in the USA for analysis, laying the foundation for a broader study to examine and understand the pathophysiology of GSD across areas where the disease has been recorded. To manage GSD, UWA has trialled a broad-spectrum anthelmintic drug as initial findings suggested that GSD is caused by a nematode, further complicated by a fungal infection. These trials will hopefully inform measures needed to control the spread of the disease in the population.

GCF continues to support post-translocation monitoring in Lake Mburo NP since giraffe were re-introduced there in mid-2015, forging a new partnership with Giraffe and Education Research (GEAR). In the first quarter of 2018, GCF support facilitated several activities, including employment and training of two local project researchers to coordinate efforts on the ground. The new team visited numerous schools in the area surrounding the Park as well as undertook regular monitoring. The long-awaited arrival of the first giraffe calf finally occurred in early April – exciting news and a key sign of the translocation success.

Reticulated giraffe

Last year, in collaboration with San Diego Zoo Global, 11 reticulated giraffe (seven females and four males) were tagged with GPS satellite ossi-units in northern Kenya. Since the ossi-units were fitted, three giraffe were poached, two ossi-units stopped working and one fell off. However, in partnership with San Diego Zoo Global and local partners (Twiga Walinzi), we continue to monitor the health, habitat use and movement of the tagged giraffe (Fig. 3). This is part of long-term efforts to better understand the biotic and abiotic factors that affect the spatial ecology of giraffe across their range using ossi-units. This is particularly important given the fast pace of infrastructural development in the East African region stemming from the Lamu Port-South Sudan-Ethiopia-Transport (LAPSSET) Corridor Project. The construction and expansion of pipelines, roads, railways and ports likely pose a threat to the habitat of reticulated giraffe, the most abundant giraffe species in Kenya ($n = 15,807$). To monitor the spatial ecology of reticulated giraffe in northern Kenya, GCF and KWS have finalized plans to fit additional GPS satellite ossi-units on reticulated giraffe in September 2018 – stay tuned.



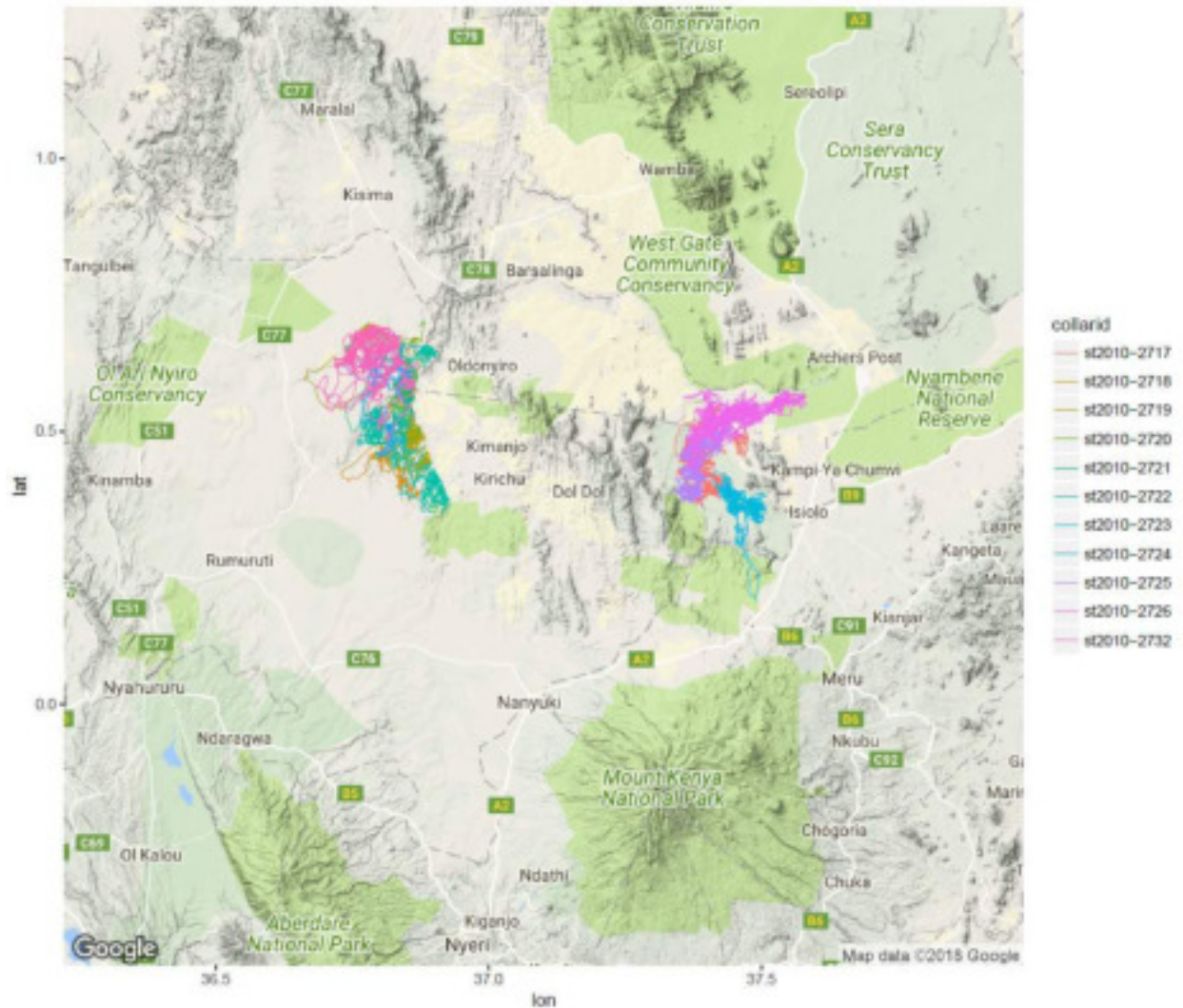


Fig. 3: Movement patterns of the giraffe in the two populations that were tagged in northern Kenya in June 2017. Each colour represents a unique individual and highlights the fusion-fission nature of giraffe movements. Recordings are up to February 2018.

Awareness raising and capacity enhancement

To enhance and raise awareness on giraffe conservation status in the region, we have continued to build partnerships in Kenya. Our East Africa Coordinator continues to give conservation lectures to visitors at the famous Giraffe Manor in Nairobi, facilitated by Safari Collection. These offer a great opportunity to share the latest and greatest with a targeted giraffe crowd. Through a dedicated partnership, GCF has partnered with AFEW to provide technical support in developing a research department within the Giraffe Center, coupled with targeted field conservation research training. These efforts will ensure that GCF is at the forefront of training conservation leaders within East Africa and increase awareness and education opportunities around giraffe conservation and management.





Fig. 4: GCF East Africa Coordinator, Arthur Muneza, giving a presentation at the Giraffe Manor's Tea Time Conservation Lecture. Through these efforts, we strive to increase awareness on the conservation status of giraffe populations across Africa.



PARTNERS & SUPPORTERS

