FIELD NOTES

Giraffe Conservation Foundation
http://www.giraffeconservation.org

DECEMBER 2015

Back From the Field

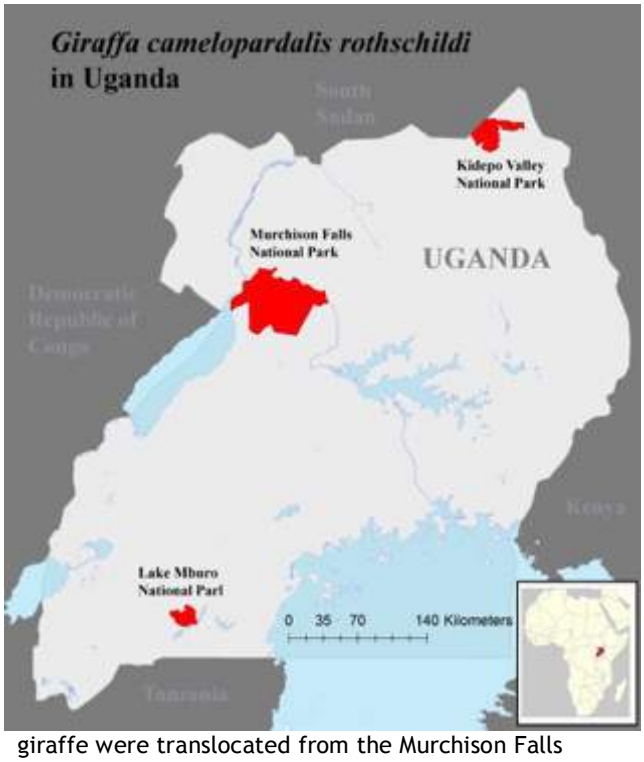
With my binoculars safely stashed on the shelf and my tan-lines beginning to fade, I wanted to take a moment to reflect upon the productive December 2015 field season in Uganda. We had a rather busy month of giraffe studies and conservation work in the field: in addition to continuing the seasonal demographic surveys in Murchison Falls National Park, we also re-visited the recently translocated giraffe in Lake Mburo National Park to work and build capacity among the local rangers in developing a giraffe monitoring programme. I've returned to the office with mountains of data and am looking forward to the weeks of processing and analyzing this information to contribute to our deepening understanding of population processes in Uganda's Rothschild's giraffe. The upcoming year certainly promises to be an exciting time for giraffe in Uganda and across Africa. I look forward to collaborating the giraffe research community to integrate our findings into meaningful conservation strategy across the continent.

INSIDE THIS ISSUE

Developing a Monitoring Programme for Translocated Giraffe

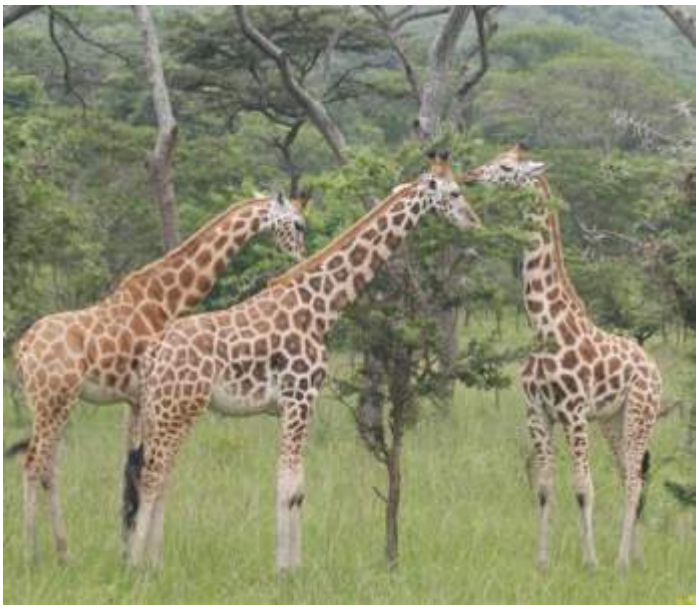
The Rothschild's giraffe, *Giraffa camelopardalis rothschildi*, is among the most endangered of the nine giraffe subspecies with the current global numbers estimated at fewer than 1,700 individuals scattered across isolated populations in Kenya and Uganda. In recent history, giraffe in Uganda have been relegated to two distinct populations - Murchison Falls and Kidepo Valley National Parks (NP). During July 2015, the Uganda Wildlife Authority (UWA) translocated fifteen individual giraffe from Murchison Falls NP to Lake Mburo NP, aiming to create the foundation of a third population.

During a previous trip in July 2015, a team from GCF and Cheyenne Mountain Zoo visited Lake Mburo NP a few days after the giraffe were released in the Park.



giraffe were translocated from the Murchison Falls population to create the Lake Mburo population

This brief reconnaissance trip provided critical insights into the translocation process and offered an encouraging glimpse of the newly established population. The giraffe seemed to be settling down in their new, unfamiliar environment, but we wanted to collect a bit more information to examine these behaviors.



The recently translocated giraffe browse on the abundant acacia in Lake Mburo NP

The management decision to create a new population of Rothschild's giraffe in Uganda, in addition to contributing to the conservation of this endangered subspecies, provided a unique opportunity to potentially deepen our understanding of how giraffe behave in novel environments. Learning how giraffe distribute themselves over this unfamiliar terrain and how they interact with each other could generate a deeper understanding of not only general giraffe biology but also help to inform future conservation translocations. We had heard very interesting stories of groups of giraffe fusing and dissolving over different areas of the Park from both UWA staff and local lodges, but without data to support these observations, the findings would not be able to transcend the realm of the anecdotal.

During the that first post-translocation trip to Lake Mburo NP, we had worked with some of the UWA staff to develop a basic monitoring programme to follow the health of individual giraffe and to begin to understand group structure in this newly established population. It quickly became clear, however, that without the necessary dedicated equipment, the rangers would not be able to collect the appropriate information to address these goals. Additionally, although Lake Mburo NP is a relatively small park - it covers an area of just over 260 km^2 - the gently undulating network of hills and ridges provided ample opportunity for some giraffe to escape our observation from the road network, so we weren't able to verify the location and identity all fifteen translocated individuals. Indeed, we helped to lay the foundations of a monitoring programme during July 2015, but these efforts require consistent work, so we promised our UWA counterparts to return with equipment and technical support. In early December 2015, we returned bringing with us dedicated field and office monitoring equipment to supplement UWA's giraffe monitoring efforts. This assortment of equipment, which included two digital cameras, three binoculars, three handheld GPS units a laptop computer and rechargeable batteries, will allow the research and monitoring staff in the Park to effectively track individual giraffe.

Donated equipment that will play a key role in enabling UWA rangers to monitor the recently translocated giraffe

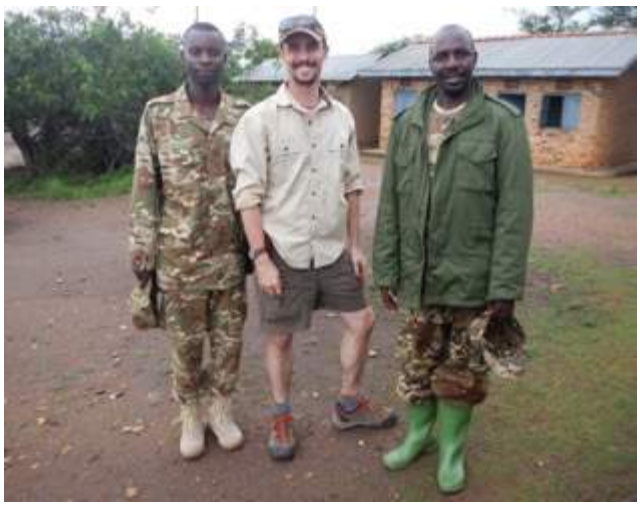
By cataloguing spatially explicit digital images of giraffe and comparing them to a custom-built database of the known individuals in the Park, rangers can map out their distributions and social associations over time.

We review surveying and database protocols at the Park headquarters Photo Credits Melissa Groo

Having been fully outfitted for the task, we set out into the field, ready to test the new equipment and implement the more rigorous monitoring protocols. With UWA rangers, Mihingo Conservation Fund and a photographer/writer duo, we drove the dusty track network of the Park in pursuit of giraffe. Shortly after noon, we encountered the first group of nine giraffe, contentedly browsing on Acacia rather auspiciously situated just a few metres from the road. After finding the giraffe and recording the location of the group, we set into action, methodically photographing all individuals in the group. Giraffe rather obligingly have unique spot patterns which we can effectively use as name tags in identifying individuals. Unfortunately, however, these name tags are not symmetric and the spot patterns on a giraffe left side do not mirror those on its right. To make future surveying easier, we photographed all of the giraffe, associating left side and right side images. While photographing the giraffe, we were also carefully inspecting them for evidence of injury or disease and detailed their condition and locations to be entered into the central database back at the Park headquarters.

Having faithfully executed our protocol and content with the data collected from the first group of giraffe, we left the giraffe to resume their rumination and we again set forth to track down the remaining giraffe. The missing six giraffe proved to be a bit more elusive, and after several hours of searching, we nearly conceded for the day and began our drive back to base. On the return drive, as the sun was beginning its descent, we spotted a giraffe in the distance. Slowly, five other giraffe materialized from the surrounding shrubs, and in the golden light we photographed the remaining giraffe. Indeed, it was a day well spent and we slept well that evening with the knowledge that we had managed to survey the entire population.

Over the next day, we returned to field again to track down the giraffe, refine the protocol and perfect our techniques. The rangers very quickly mastered the new protocol and skillfully handled the equipment. With this newly implemented systematic data collection, UWA has the tools and the technical capacity to explore how giraffe live, gleaning insights that can potentially be applied to giraffe in other populations. Additionally, with a developing citizen science program, tourists will be able to contribute information to this database. Every image captured by every long-lensed tourist can be a data point that can be used to deepen our understanding of giraffe ecology.



The establishment of a viable giraffe population in Lake Mburo NP is a long-term goal that depends on the reproductive outputs of this population. For long-lived species like giraffe (with a gestation period of nearly 15 months), assessing this goal may be years away; however, collecting data on the associations and space use will help in examining key environmental and social factors that contribute to these outcomes. This newly introduced systematic approach to monitoring giraffe will ensure that if any injuries or conflicts arise in the small population, Park officials will be able to quickly detect and mitigate these issues and better understand best practices for future giraffe conservation work.

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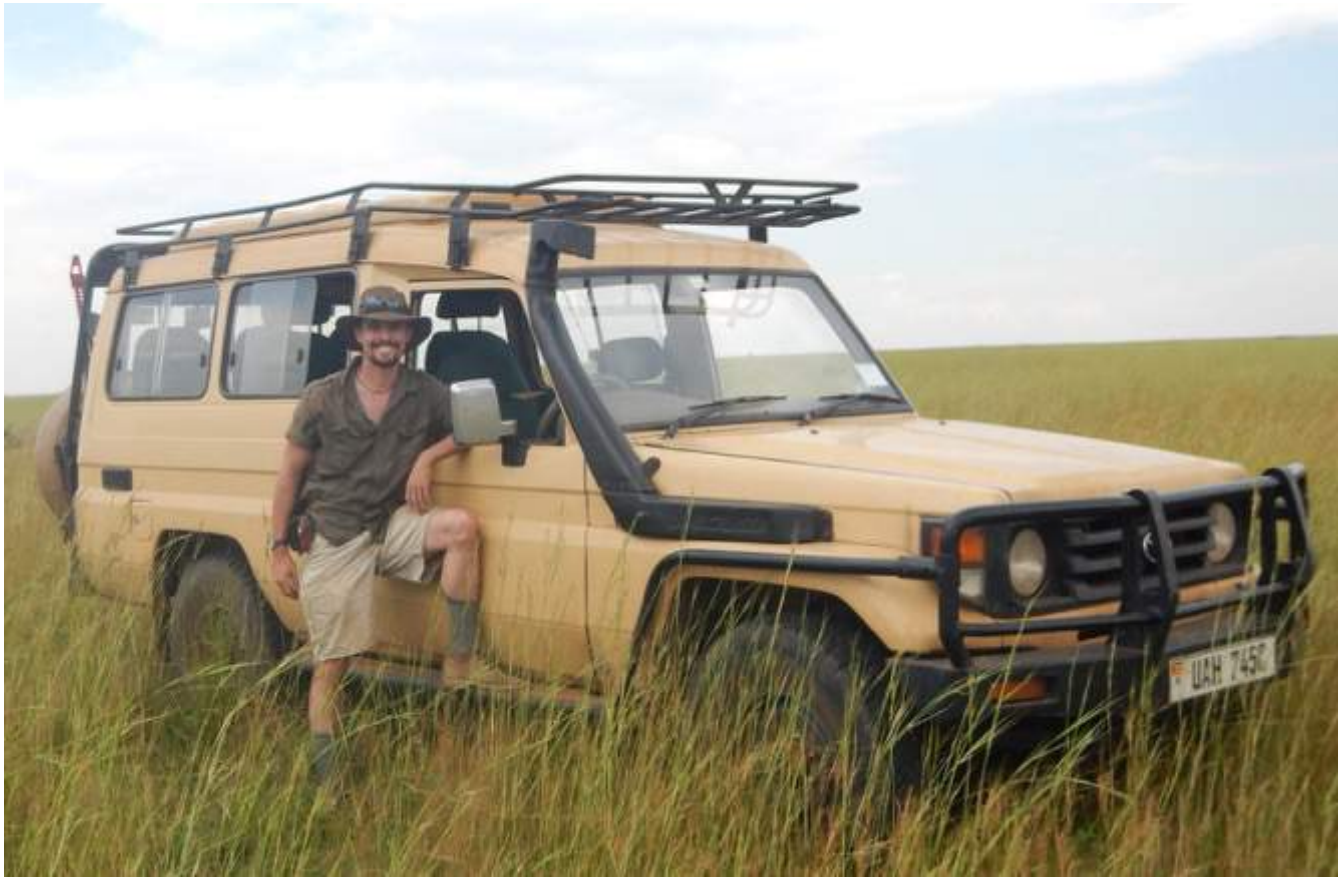
About the Author

Michael Brown is a PhD student at Dartmouth College and research affiliate of the Giraffe Conservation Foundation. His current projects include a comprehensive study of the population ecology and spatial ecology of the endangered Rothschild's giraffe in Uganda. His work examines the individual-to-population level responses to changes in the environment - from seasonal variation in resource distribution to large scale human-driven disturbances. Examining the complicated ecology and natural history of the Park through the lens of giraffe ecology, Michael hopes to explore the interface of population ecology and spatial ecology in dynamic environments and translate these findings into meaningful conservation strategy.



Demography and De-Snaring In Murchison Falls

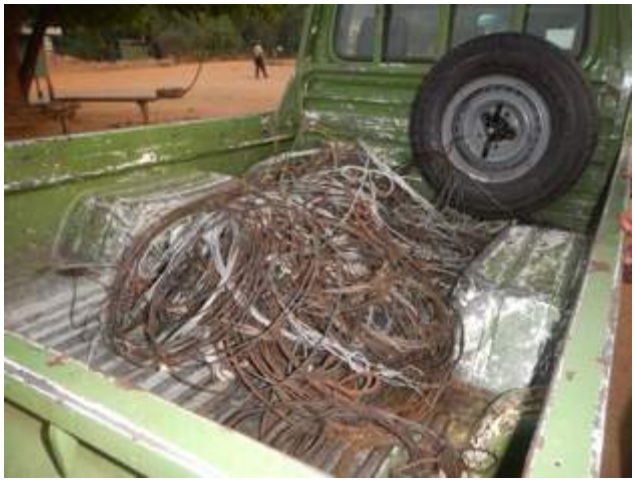
December is one of my favourite times for field work in Murchison Falls NP. Every morning, I head down to the edge of the Victoria Nile and look east as the red sun rises over the southern banks of the swift, broad river. In the fledgling day, before the temperatures reach their tropical potential, the air is still cool and often the soil is still damp from the last of the wet season storms during the previous night. Within these tropical savannas, changes between wet and dry seasons can potentially alter the entire landscape and shift the dynamics of the complicated community of living beings. Those changes are one of the reasons I come to Murchison Falls in December. During the latter part of this month, the wet-season storm clouds typically dwindle as the landscape transitions into the dry season. I am here to see how these changes can influence this beautiful ecosystem, specifically through the lens of giraffe population ecology and spatial ecology. So as I stand on the banks of this storied waterway, I embrace this morning routine as a quiet, contemplative prelude to coming long rewarding day fieldwork. I'll be spending the next 11 hours systematically driving the network of game tracks looking for giraffe photographing them as part of a seasonal demographic survey.

The sun rise over the Victoria Nile is a dazzling way to start each day of survey in Murchison Falls National Park

During these surveys, we aim to find and photograph as many unique giraffe in the Park as possible. These efforts have already yielded some interesting findings: since the inception of our surveys a year and a half ago, we have documented over a thousand unique giraffe throughout the Park, which represents a considerable increase over previous population estimates. In addition to accurately monitoring population size and composition, this protocol affords us a rather unique opportunity to note the location and health of individual giraffes throughout the Park. We drive every passable track in the north side of the Park and cover some serious ground in search of unique giraffe. This pursuit not only puts us in contact with hundreds of giraffe, but it also gives us ample opportunity to witness firsthand the effects poaching on the Park's wildlife.

On its northern edge, Murchison Falls NP is bordered by agricultural plots and a number of large communities. Additionally, Lake Albert and the Albert Nile comprise the Park's western border, allowing relatively easy surreptitious entry into the Park by boat. This close proximity of wildlife and human occasionally leads to conflict; indeed, illegal snaring of wildlife is a serious issue along the waterways near the adjacent communities. Park rangers have described the narrative of the poacher: they sneak into the Park under the cover of darkness, using the river as their highway, and set wire cable snares to catch wildlife for bush meat. Although the wires are likely set for smaller antelope, these cables traps are notoriously indiscriminate and just as easily ensnare giraffe and elephant.

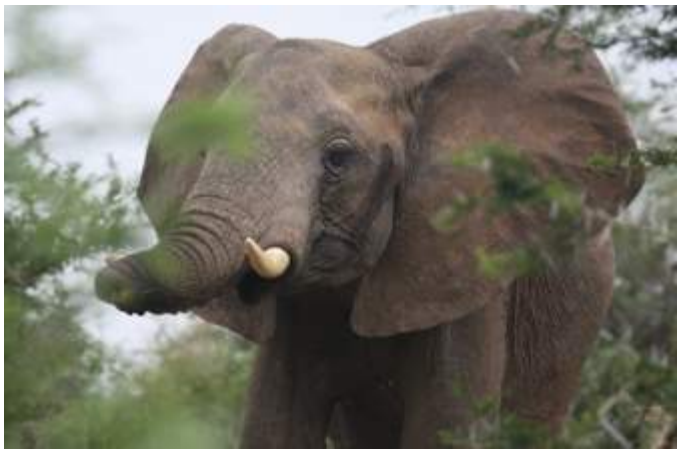
During our giraffe surveys, we have noted snare wounds and scars on approximately 2% of all giraffe in the Park. On multiple occasions, I have also witnessed elephant with severed trunks and



Confiscated wire snares fill the bed of an UWA truck after a successful snare removal patrol

three-legged hyenas; victims of the illegal traps. Despite the heroic efforts of Uganda Wildlife Authority Rangers to find and remove snares from the parks, poachers continue to reset the snares at alarming rates.

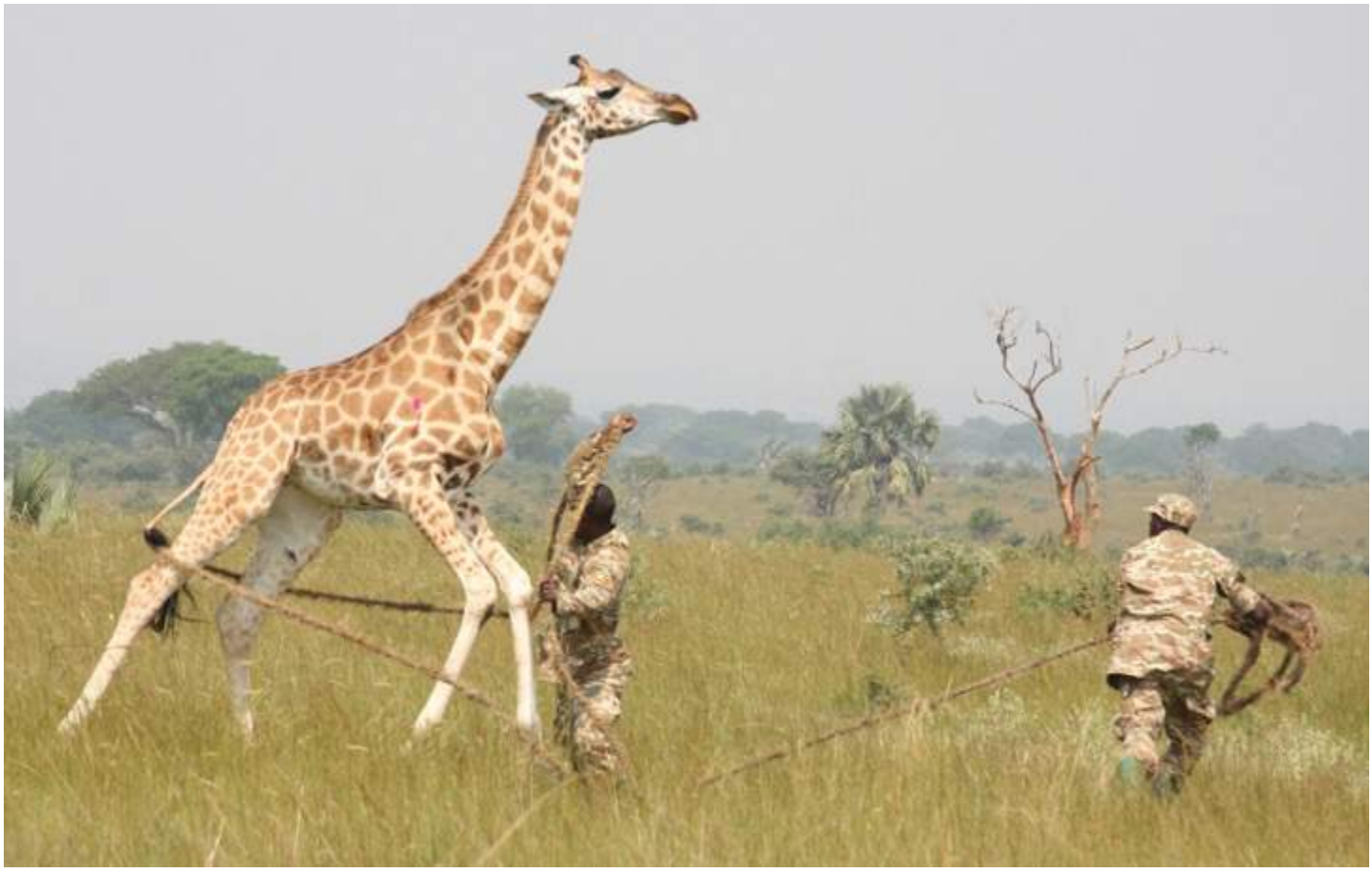
On most occasions, we only witness the aftermath of the snares on giraffe - scars around fetlock, swollen joints, and in one particular giraffe, a severed leg - but from time-to-time, we observe giraffe with the snares still attached. Giraffe are incredibly powerful animals, and they are apparently sometimes able to rip the snare from its anchor and drag the cable from the legs or necks.



Encounters with snares also affect other wildlife in the park. The wire cables sometimes sever the trunks of unfortunate elephants

During this particular round of surveys, we spotted three different giraffe with wire snares tangled around their legs or neck. On two of the giraffe, the snares had only made superficial cuts on the skin, so if the cables were removed quickly, the giraffe likely would not experience any disfigurement or infection. The third giraffe was a bit more unlucky in that the snare appeared to have broken the skin and was slowly cutting through the underlying tissue. This particular giraffe also appeared to have an older snare wound on the same leg as this new snare...a rather unlucky individual and an unfortunate illustration of the state of affairs of snaring in the Park. Fortunately for these giraffe, however, UWA has a professional veterinary response unit that is well-seasoned in combating these situations. We reported these giraffe to the veterinary staff, who quickly came together to devise a plan to remove the snares and medically treat these giraffe.

Murchison Falls is Uganda's largest national park, so searching for three specific giraffe among the hundreds of giraffe that inhabit the vast savannas is a bit of a daunting task. Since our team had most recently observed the snared giraffe and knew roughly where to expect these individuals, we offered our assistance to track the giraffe for the veterinary staff, who would then tranquilize them, remove the snares and medically treat any wounds. With the plan in place, we went to work, tracking and quickly locating the first giraffe. The UWA staff quickly assembled and with a practiced professionalism they approached the giraffe in their LandCruiser. Propelled by compressed C02, a dart filled with a tranqulizer cocktail shot from the veterinarian's gun and embedded in the muscle of the giraffe's front leg. Even from a distance, the tell-tale bright pink stabilizer on the dart shown against the shoulder, indicating a successful hit. Within minutes, the giraffe began to show the effects of the tranquilizer and the rangers carefully moved in on foot to rope the giraffe and bring it to the ground as gently as possible.



Rangers work to carefully rope a tranquilized giraffe so that it can be gently brought to the ground

As soon as the giraffe was on the ground, the team quickly set to work in removing the snare and treating any evident wounds. While part of the team used large bolt cutters to liberate the giraffe from the cable snare, others carefully restrained the head and monitored the giraffes breathing as the head vet prepared and administered the reversal drug. With astonishing speed, the veterinary team had removed the snare and treated the giraffe for its superficial wounds. After a few minutes, the task was complete and the rangers gave the giraffe a wide berth as it recovered from the tranquilizer, quickly rocking itself back to its feet and groggily galloping away from the site. One snare down...two to go.

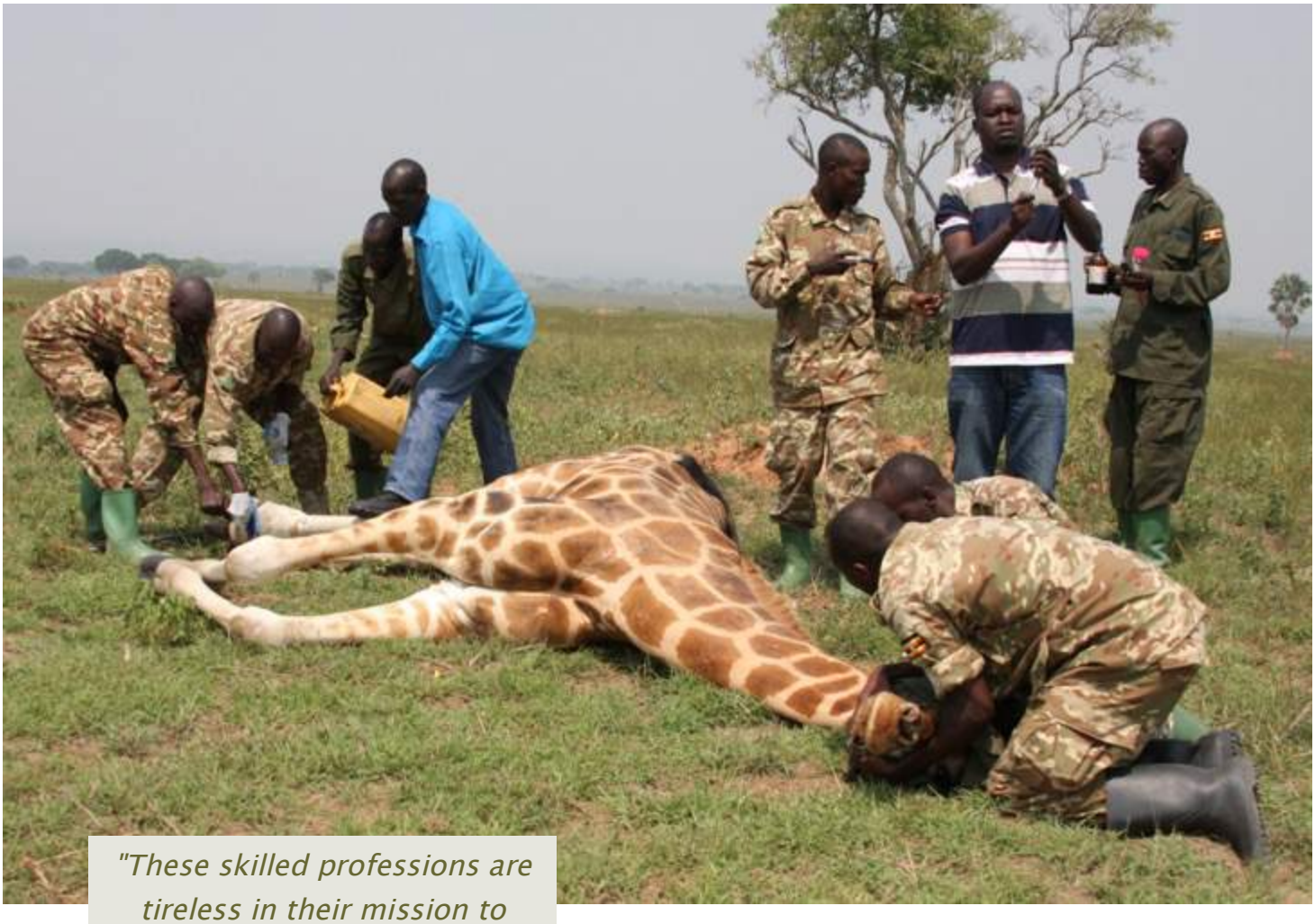
An UWA ranger cleans both the old snare wounds and the newer snare wounds of an immobilized giraffe

On this particular day, the giraffe were extraordinarily (even if unknowingly) cooperative

and we managed to locate the other two giraffe and remove their snares within three hours.

Our seasonal demographic surveys are designed in part to monitor and inform conservation strategy on the time scale of giraffe reproduction, which may be measured over the span of years. This long-term monitoring is essential to understanding the factors that contribute to giraffe population growth, but in instances such as this one, it is indeed rewarding to see the immediate conservation benefits of our work in Murchison Falls NP.

Within the span of two days, we were able to observe snared giraffe, assist in their immobilization and help with the removal of the snare, thus ensuring that these giraffe would not fall victim to the indiscriminate traps. Throughout this process, I was continually impressed with the dedication of the UW staff. Working at the front lines of wildlife conservation in Uganda, these skilled professional are tireless in their mission of protecting Uganda's natural heritage.



"These skilled professions are tireless in their mission to protect Uganda's natural heritage"

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