

FROM THE EXECUTIVE DIRECTOR

I am excited to share our 2021/22 Annual Report with you to showcase what the Giraffe Conservation Foundation (GCF) team has achieved in collaboration with our partners under continued adverse conditions. The second year of the global COVID-19 pandemic was tough for everyone - maybe tougher than the first, as we expected life to return to some kind of normal quicker than it did. The reality hit hard and many African countries were seriously impacted economically and, subsequently, environmentally. We are proud that we managed to retain all our staff on full salaries, which was not the case for many other conservation organisations, especially in Africa. A big thank you goes to all our partners and donors, who allowed us increased flexibility during these challenging times to keep our team complete and busy. Each team member is vital for our success and our impact on the conservation of giraffe in the wild.

And then, just when we thought that circumstances were finally looking up, we were faced with another reality: war in Europe. Who knows how this is going to change the global situation... Luckily, giraffe live far away in Africa and are not directly impacted by this war; however, inflation and recession are certainly taking their toll on conservation funding. We hope that we can weather this storm too and continue to make a difference for giraffe.

While travel restrictions forced us to concentrate on working in the countries where our team members are based, it also afforded us the time to plan. Impactful conservation needs careful planning and long-term partnership development. However, after the numerous and varied

post-COVID constraints, our team was relieved when the conservation of giraffe and the implementation of projects began to move full steam ahead again.

While saving giraffe is at the centre of all our work, conservation is also about people: the people who share their living space with giraffe; the governments, communities and private landowners who protect their wildlife and create safe spaces for them to live; the conservationists who dedicate their lives to protecting the planet; our team who works hard to secure a future for giraffe; and many more.

The future of giraffe conservation is a team effort. Premised on the initial and fundamental understanding of each situation, getting the correct message out there and following through with targeted management action is at the core of what we do.

Given the positive impact our team and partners are making, we are excited for the future of giraffe conservation. As we #StandTallForGiraffe, we are a voice for giraffe!

Stephanie Jennessy



MESSAGE FROM THE GCF BOARD CHAIR

While our work never stopped, coming out the pandemic we hit the ground running. Unfortunately, we also enter a time of deep economic and geopolitical uncertainty. GCF is the voice for giraffe, and we must ensure that their voice continues to be heard through all the other worrying things currently out there.

In this year's report, you will read a lot about GCF's community-driven approach to conservation. We highlight how critical it is to continue strengthening our relationships with our network of African governments, our regional partners, and global conservation organisations. It is these strong partnerships, and the mutual trust developed over many years of collaboration, that enable GCF to carry out our critical conservation actions in 18 African countries.

Sadly, I would like to pay tribute to our Board member Melle Orford, who passed away suddenly in November 2021. We will miss Melle dearly. We are very grateful for the valuable contributions that she made to our organisation and giraffe conservation.

I welcome ShariLeigh Gordon to the Board, who has joined us as Treasurer.

ShariLeigh brings with her a legal and financial background, as well as several years of experience working in Johannesburg, South Africa.

I would also like to take the opportunity to express my gratitude to and admiration of the entire GCF team for delivering another very successful year!

Most of all, thank you to our generous donors, who continue to support us in these challenging times and without whom our work could not be done. We are proud to be a lean organisation, where almost 90% of GCF's funds go directly to conservation programmes and grants in Africa. Once again, as a non-profit organisation, GCF has received the prestigious GuideStar Platinum Seal of Transparency.

Till Hollmann





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WHO IS GCF?

WE ARE THE VOICE FOR GIRAFFE!

GCF is dedicated to securing a future for all giraffe populations in the wild. We envision a world where all giraffe can live wild and free within their historical ranges or habitats throughout Africa and are protected by the people around them.

United by a common goal, GCF is a family of organisations consisting of the GCF Trust (Namibia), GCF-USA (Florida, USA), GCF-East Africa (Kenya and Uganda), and Freunde von GCF (Germany). All four organisations are legally and financially separate entities, working under the umbrella of GCF. Our shared commitment to a sustainable future for all giraffe populations in the wild is governed by a Memorandum of Understanding.

WHAT ARE GCF'S CORE VALUES?

- Creativity and courage
- Respectivity
- Integrity
- Accountability
- Collaboration

WHAT DOES GCF STAND FOR?

- GCF is an international science-based conservation organisation that provides innovative approaches to save giraffe in the wild.
- GCF is the go-to organisation for giraffe conservation that is proactive and reactive, with a strong collaborative and dynamic team that works within a network of partners on all levels.
- GCF is a leader in supporting a sustainable future for giraffe in/and their natural habitats.
- GCF will continue to organically grow and increase awareness to save giraffe in the wild.

WHAT DRIVES GCF?

- To be a bold, independent organisation
- To not be regimented
- To be disciplined and 'always on'
- To be an open book
- To not over-promise

- To be passionate
- To not be afraid of pushing boundaries
- To be open-minded and flexible
- To be adaptable
- To build trustworthy partnerships and relationships

WHAT ARE GCF'S OBJECTIVES?

GCF's primary objective is to raise awareness and support towards securing a future for giraffe and the conservation of their habitat in Africa, and more specifically to:

- support the conservation of viable and existing habitat for giraffe;
- identify key threats to giraffe in Africa and develop innovative ways to mitigate them;
- raise awareness and promote the value of giraffe conservation in African Range States as well as internationally;
- plan, develop, implement, and administer projects and programmes including the appointment of project staff – in support of its primary objective, in co-operation with local communities and partner institutions, as appropriate;
- collaborate with local, national, and international partners on giraffe conservation efforts in the interests of giraffe conservation in African Range States; and
- raise funds for giraffe conservation and management throughout Africa.

BOARD OF DIRECTORS

As GCF continues to grow in impact and in size, we are making sure that all checks and balances are in place to be fully accountable on all levels. Adding valuable skill sets and knowledge to the GCF Board of Directors is a very important part of this process.

With great sadness, we bade a last farewell to our GCF Board member Melle Orford. Giraffe and GCF have lost a close and loyal friend. Melle's endless energy, courage to ask all the uncomfortable (yet important) questions, and unwavering love for nature will be sorely missed. Our world is a lesser place. RIP.

GCF's multi-national Board includes professionals who represent six countries, four continents, and diverse business profiles. The Board of Directors includes the following members:

Julian Fennessy Chris Kelsch
Stephanie Fennessy Lars Markgren
ShariLeigh Gordon Tim Tetzlaff

Till Hollmann Lindy van den Bosch

GCF TEAM

Saving giraffe is a team effort and working with local and international partners is key. GCF's multi-national team includes people from 13 countries and four continents with a wide range of skills and backgrounds. Our team supports giraffe conservation initiatives in 17 culturally diverse African countries.

Meet GCFs CONSERVATION TEAM

The conservation team, which is overall responsible for our conservation approach, comprises a wide range of skills and expertise. The team's skills and expertise include environmental education and awareness, giraffe biology and ecology, spatial ecology, wildlife management, land management, veterinary science, community outreach and human dimensions, survey and analysis, technology development, project management, and much more.

Meet GCFs FINANCE & SUPPORT TEAM

A highly flexible and organised team that operates in the office is key to any organisation. As a donor-funded organisation, fundraising, solid and accountable financial management systems, and steadfast communication are essential. The team's expertise includes project and financial management, comprehensive communication, marketing, tourism, and much more.



Stephanie Fennessy



Maria Pimenta Shaetonhodi Executive Director Finance & Compliance Manager Administrator Social Media Strategist



Claire Gall

In Namibia, GCF runs the largest environmental education programme with regards to participation numbers. The outstanding KEEP team has weathered the COVID-19 storm amazingly well and continues to make a difference by teaching Namibia's youth about what they know best: the



Fiona MacKay



Kudakwashe Mbaiwa Finance Assistant

Koine, Tuareg Eco-Guards Niger Souley Kouato Larwanou, Cloé Pourchier & Razack Moussa Zabeirou Niger Team



Ahmed Akaltou and Torodo

PhD Student Zimbabwe



Janet Kavutha Simon

Programme Officer



Dr Sara Ferguson Conservation Health Coordinator

Dr Julian Fennessy

Director of Conservation



Meet GCFs KHOMAS ENVIRONMENTAL EDUCATION PROGRAMME (KEEP) TEAM Dr Michael Brown Conservation Science Coordinator



Livingstone Hoda, Programme Assistant



Jackson Hamutenya Programme Officer Namibia





wonders of our natural world.

Naemi Antonius Educator



Martha Haukongo Senior Environmental Environmental Educator



Petrus 'Audi' Ekandjo Environmental Educator





KEY CONSERVATION PARTNERS



Working with partners is at the core of GCF's values and conservation approach. Over the past years we have forged numerous key conservation partnerships around the world, particularly throughout Africa. We are proud to work closely with our partners towards saving giraffe in the wild.

Navigating the hierarchical systems of African governments is not always easy; however, when they are successful, these partnerships garner the most amazing results. Working with government partners is key to conservation in most countries. Local communities are the custodians of their wildlife, and their involvement is imperative for the success of any long-term conservation initiative. Local and international conservation organisations and NGOs often provide inroads, insights

and collaborative approaches on many levels towards long-term conservation initiatives. In this respect, GCF partners with many of the cleverest minds in conservation science to achieve high-level signs, outputs and publications. As a science-based organisation, GCF uses the latest and best available science to inform our conservation actions.

This is not an exhaustive list; however, we would like to highlight a few key conservation partners who stood out this year. We are fortunate that there are many more organisations and individuals who continue to provide invaluable support. This support covers a wide range of aspects, which at times comes from unexpected sources. All your assistance is important and together we stand tall for giraffe.

























Movement of Life

















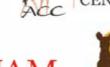
TAWIRI







MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM































GIRAFFE CONSERVATION ACTIONS 17 Ô **₹ CHAD NIGER ETHIOPIA UGANDA** 17 **RWANDA** 17 **KENYA** DEMOCRATIC REPUBLIC OF **1**7 **CONGO CAMEROON 1**₹ **1**₩ 🕏 **ZAMBIA TANZANIA ANGOLA MALAWI i**7 Ô 0 0 ZIMBABWE **NAMIBIA ESWATINI** Ô **MOZAMBIQUE** 13 **BOTSWANA SOUTH AFRICA**

GCF's impact on giraffe conservation in Africa continues to grow. Currently, GCF is involved in and supports giraffe conservation initiatives in 18 African countries.

Our work has an impact on over 400,000 km² (100 million acres) of giraffe habitat and concerns all four species of giraffe. Our range of involvement includes programme implementation, providing direct and indirect technical support to partners, conservation monitoring, and hands-on conservation action.

Our work spans the whole gamut of giraffe conservation efforts. As a network organisation, we see ourselves as a catalyst. We have no intention of doing all the work ourselves or on our own; instead, we aim to inspire

partners to support giraffe conservation. As threats vary greatly between giraffe populations and the countries they live in, there is no blueprint for saving giraffe. Conservation actions and the overall approach have to be adapted to each country, its culture, and the specifics of individual giraffe populations and their habitats.

As such, we design local, national, regional and continental giraffe conservation projects, programmes and initiatives and implement these in partnership with others. As a science-based organisation, our conservation approach is always based on the latest available science. However, it is important to note that we only engage in research that will directly inform conservation actions. Our involvement throughout the continent can be summarised into the following conservation actions:



In several countries we partner with local organisations, which have strong networks and community outreach, to provide anti-poaching and/or de-snaring support. These countries and local organisations include:

- DRC: African Parks Network
- Kenya: Twiga Walinzi; San Diego Zoo Wildlife Alliance
- Mozambique: Mozambique Wildlife Alliance
- Namibia: Etosha Heights Private Reserve
- Niger: AVEN; Sahara Conservation Fund; Wild Africa Conservation
- Uganda: Snares to Wares Initiative
- Zamibia: Zambia Carnivore Programme; Conservation South Luangwa

In Uganda, we directly undertake de-snaring and anti-poaching efforts with the Uganda Wildlife Authority (UWA). One of our wildlife veterinarians works with a UWA team in the Murchison Falls National Park and beyond to de-snare giraffe and other wildlife. To date, our joint team has saved almost 300 critically endangered Nubian giraffe with snare wounds. Without intervention, these giraffe would most likely have died. Effectively, this programme has saved 10% of the entire population of Nubian giraffe in the world.





Capacity Building Education

Anti-poaching



Technical Support



Translocation



Equipment



Vehicle Support



Survey Support

CAPACITY BUILDING / EDUCATION

Supporting and investing in people and communities who share their living space with giraffe is key to the long-term success of giraffe conservation. It was with this in mind that we united our community-based programmes under one umbrella: Twiga Wetu (Swahili for 'Our Giraffe'). Twiga Wetu is a holistic, collaborative and community-driven approach to conservation. As giraffe range is not limited to national parks and government-protected areas, large giraffe populations live amongst or next to people in many African countries.

Through Twiga Wetu, we employ a country- or site-specific approach, adapting experience and knowledge gained from both GCF's and our partners'

programmes throughout Africa. At every opportunity we promote and support innovative community involvement in the conservation of giraffe.

For each programme under our Twiga Wetu initiative, GCF collaborates with local (and often international) conservation partners who have a strong track record of community conservation. The following examples highlight our partnerships under this initiative.

In Kenya, GCF has supported

Twiga Walinzi (Swahili for 'Giraffe Guards') since its inception. A community-led conservation programme with local pastoralists, Twiga Walinzi was developed by the San Diego Zoo Wildlife Alliance (SDZWA) together with local partners in northern Kenya. The large community field team conducts giraffe monitoring, manages a network of camera traps across various communal conservancy areas in northern Kenya,

and leads community-based school outreach and giraffe conservation education programmes. Throughout Kenya, we continue to train African



GCF East Africa Coordinator, Dr Arthur Muneza, is training Kenyan rangers in giraffe survey techniques.

rangers, conservancy members, and local ecoguards in effective giraffe monitoring to gain a better understanding of giraffe numbers and distribution in the country.

Our GCF team continues to survey different giraffe populations in Kenya and other parts of Africa. As we can identify each giraffe by her/his unique coat pattern, we use photo identification programmes to determine how many giraffe live in each population. GCF's team continues to train local game guards and volunteers throughout Kenya in photo survey techniques and how to upload the images to GiraffeSpotter.org in order to contribute to a continent-wide citizen science initiative and to encourage giraffe monitoring.

In Niger, GCF implements a long-term community-based conservation programme with local (AVEN, a local guides' association) and international (Sahara Conservation and Wild Africa Conservation) partners to monitor the remaining West African giraffe. This programme also focuses on education and awareness, which is closely linked with the diversification of rural livelihoods and local income generation.

In Uganda, GCF partners with the Snares to Wares initiative, a Ugandan non-profit organisation, which employs local community members to remove wire snares from the wild in northern Uganda and repurpose them into pieces of art as an alternative source of income. Our collaborative Twiga Wetu programme in Uganda employs the holistic approach of reducing the impact of poaching by linking community support, education and awareness with on-the-ground anti-poaching patrols, snare sweeps, and veterinary treatment of ensnared wildlife.

In Tanzania, GCF partners with Traditional Ecosystems Survival Tanzania (TEST) in supporting communities to better understand the distribution of and threats to giraffe on village lands between the Serengeti National Park and Ngorongoro Conservation Area. Additionally, the TEST field team implements site-specific conservation education programmes throughout the region.

In Namibia, the Khomas Environmental Education Programme (KEEP) is the largest of its kind in the country and has so far reached over 12,300 Namibian primary school students and teachers. This hands-on field programme and its cleverly designed educational KEEP Workbook have been adapted for school outreach programmes in other parts of Africa.

Inspiring and educating young people is paramount for the long-term conservation of Africa's wildlife and wild places. Encouraged by the positive feedback on our KEEP Workbook, we decided to develop a more generic Nature Workbook that can be used for environmental education throughout Africa. Additionally, we have made this fun and informative educational resource electronically available to all our partners' community outreach and education programmes throughout Africa.

Despite the COVID-19 restrictions, this year the KEEP team hosted over 2,100 Grade 3 and Grade 4 primary school students from the Khomas Region, the capital region in Namibia. During the times of school closure, the KEEP team initiated the filming of their own short environmental education videos, which were widely shared on social media. The tremendous feedback on these self-produced short videos spurred us to reach even more African students. As such, we partnered with One Africa TV to produce an eight-part series of environmental education videos for television. This series was broadcast Africa-wide on DSTV and shared on social media channels, reaching millions of African children.

EQUIPMENT

For field teams to be successful, they need to be appropriately equipped. In support of

giraffe conservation monitoring and analysis throughout most countries, GCF provides the

much-needed field and technical equipment such as cameras, GPS units, IT equipment and uniforms.





SURVEY SUPPORT

We can only conserve what we know; therefore, gaining a better understanding of giraffe numbers, trends and distribution is critical. As part of ongoing capacity

building and field support, we regularly train African

conservationists, rangers, conservancy members and ecoguards in effective giraffe monitoring and provide valuable funding support.



VEHICLE SUPPORT

maintenance and fuel supplies makes all the difference for giraffe conservation. At times, this support is the deciding

this support is the deciding factor for whether or not monitoring, surveys and/or veterinary interventions can

The provision of a reliable vehicle or supporting vehicle





CONSERVATION TRANSLOCATIONS - GIRAFFE ON THE MOVE



Giraffe are a critically important part of savannah ecosystems. They shape many of the tree species they feed upon and can change their growth patterns through intensive browsing. If giraffe are removed from an ecosystem, some plants' physical structure and growth will change. This change has cascading effects for the whole ecosystem, right down to the soil nutrients and insect communities. Returning giraffe to their historical ranges where they have become locally extinct

helps to restore the balance of these complex ecosystem processes for generations to come. Carefully planned and managed giraffe translocations are a vital tool in achieving this goal.

Habitat loss and fragmentation, in combination with climate change, are the biggest threats to giraffe. Giraffe conservation translocations can be highly beneficial for (re-)establishing new or bolstering small existing giraffe populations. They are an important part of our giraffe conservation toolbox! However, they are a significant and challenging technical and logistical undertaking and require careful planning and long-term commitment, including pre-translocation assessments and posttranslocation monitoring. Together with governments, NGOs and other partners, we go to great lengths in our efforts to secure a future for giraffe. Success has already been achieved in several giraffe range States: Kenya, Malawi, Namibia, Niger, South Africa and Uganda. To date, our collaborative conservation translocation programme has increased and/or augmented over 7 million

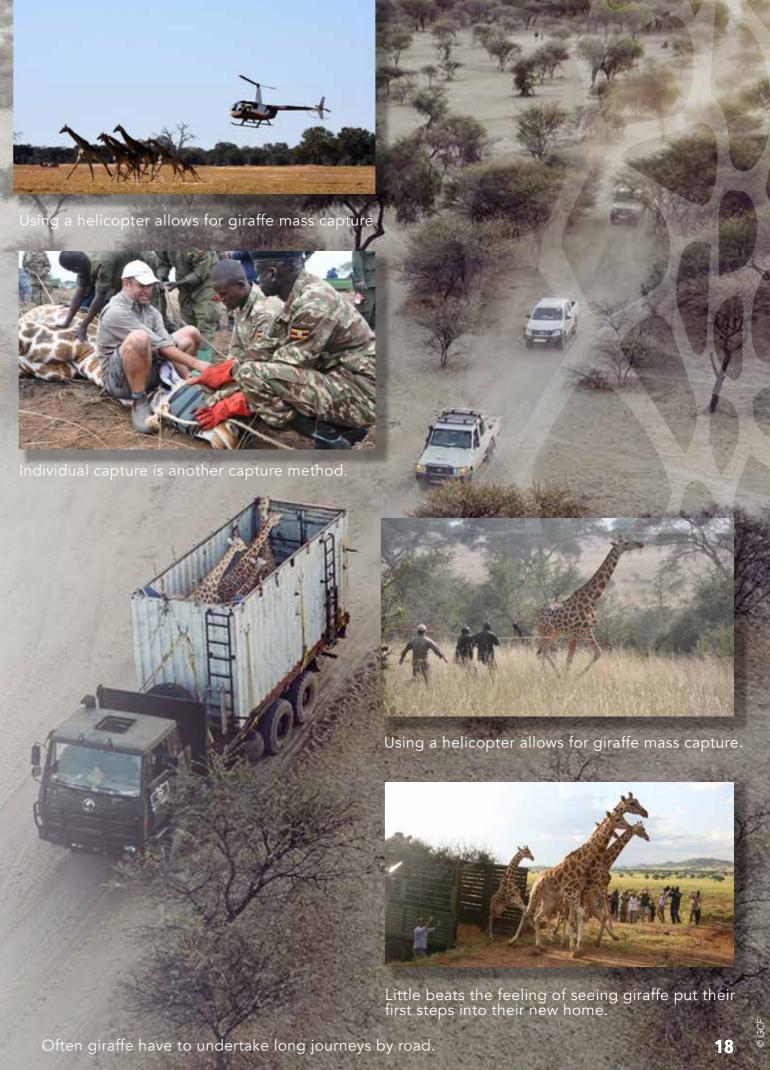
acres of giraffe habitat throughout Africa.

Translocations are truly collaborative efforts and, in many countries, GCF remains at the forefront of supporting these initiatives. Despite international and national travel restrictions this financial year, GCF still managed to successfully relocate 24 giraffe in Namibia and 10 giraffe from South Africa to Malawi. In total, we translocated giraffe more than 3,000 km around southern Africa.

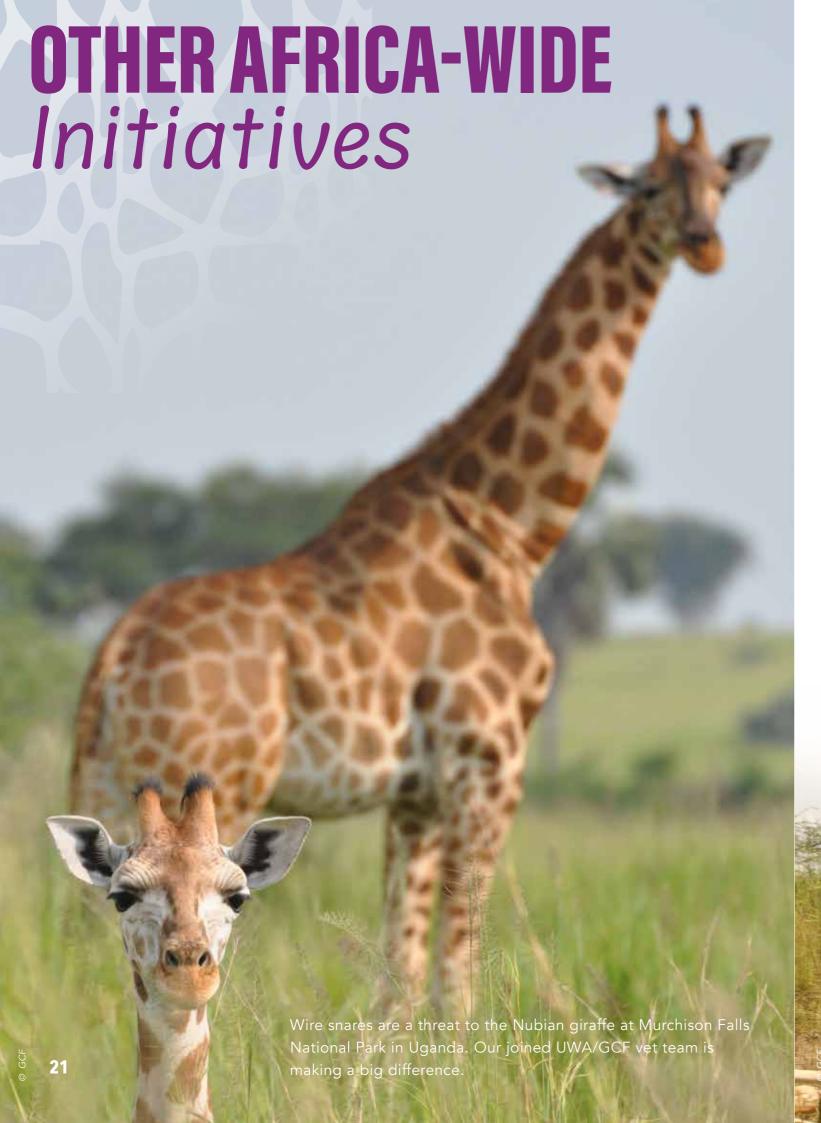
Each translocation is unique and therefore requires specific preparation and planning. First, we need to identify viable habitat. This is often a desktop science-based exercise that is ground-truthed as part of a feasibility study, which also includes assessing the social attitudes of the people who might be neighbouring or sharing their living space with the (re-) introduced giraffe. The overall logistics and permitting process is complicated and can take considerable time. But even when the animals are (re-)introduced into their new home, it is not over... Post-translocation monitoring is an essential part of the process, which is unfortunately either forgotten or not included by many. This monitoring is essential for determining whether a translocation was a full conservation success and for the long-term management of the giraffe.

Some translocations involve crossing rivers.









GIRAFFE CONSERVATION HEALTH INITIATIVE

Through our Giraffe Conservation Health initiative, we are tackling this priority from a veterinary science and conservation medicine perspective. We incorporate a wide range of capacities, including evaluating the best field immobilisation practices for giraffe, addressing disease threats and health issues in wild giraffe populations, enhancing capacity building of the next generation of Africa's wildlife veterinarians, and assisting in the development of new technology for satellite tracking.

Immobilising giraffe is a challenging task that many wildlife veterinarians shy away from. While their long neck and graceful legs make them one of the most iconic animals in Africa, this unique anatomy and physiology requires a true mastery of wildlife capture and immobilisation. In the past, giraffe mortality from anaesthetic procedures was high; >40% in some countries. It was therefore widely accepted that four out of every ten giraffe died during capture or anaesthesia. To put this in perspective, the risk your pet dog will not survive a veterinary anaesthetic procedure is one out of every 2,000 dogs. However, with ongoing scientific analysis of immobilisation practices and advanced training, we have significantly reduced this risk and brought it close to zero. In an ideal world, we would not need to put giraffe at risk through immobilisation. However, it is a critical part of our work in order to learn more about giraffe, to inform our conservation programmes (Twiga Tracker), to undertake conservation translocations (Operation Twiga), and to allow for the quick and effective treatment of giraffe entangled in illegal wire snares. Working together with the foremost wildlife veterinarians and wildlife capture teams in Africa, it is our goal to further develop our best-practice guidelines and to equip wildlife veterinary and capture teams with experience and knowledge to ensure the safety of wild giraffe.

Health aims to address knowledge gaps in giraffe conservation. Relatively little is known about diseases that affect giraffe species in the wild or which diseases or medical conditions are of concern for the survival of these species. Giraffe Skin Disease (GSD) is one such condition. GSD is an emerging disease largely observed in East Africa, which causes grey scaly lesions on the neck, shoulders and limbs. GCF has been actively evaluating how this disease, which is caused by a skin parasite, is spread and its potential impact on the longterm health of giraffe. We work closely with African governments as well as national and international partners to identify and further investigate different aspects of giraffe health as they arise and to determine the best way of addressing them. At the same time, we constantly review current medical practices and new advancements in giraffe health to make best-practice protocols freely available to all interested parties.

As with all our initiatives, Giraffe Conservation

In Uganda's Murchison Falls National Park, GCF runs the largest giraffe de-snaring programme in Africa. Since 2019, we have been operating a mobile veterinary clinic in close collaboration with the Uganda Wildlife Authority. This joint team continuously scans the park for snared animals and quickly jumps into action. During 2021/22, the team removed wire snares from over 155 animals, which includes 115 critically endangered Nubian giraffe. In addition, over 3,250 wire snares were removed from the park during snare-sweeps before they could cause any damage. During the three-year period of its implementation, this programme has saved the lives of ~10% of the world's wild Nubian giraffe population through our direct intervention.

TWIGA TRACKER INITIATIVE

The Twiga Tracker initiative is the largest GPS satellite tracking study ever conducted on giraffe. To conserve giraffe and the diverse ecosystems they inhabit, we need to better understand where giraffe move, how much space they need, and how they utilise their habitats across a range of different environments. This ambitious continental-scale research initiative joins partners from across the globe to better understand giraffe movements throughout their range. By understanding giraffe spatial ecology across Africa, GCF is developing innovative conservation strategies for protecting giraffe and their habitats.

Over the past years a growing network of research partners, spearheaded by GCF, has deployed over 350 specially designed GPS satellite units on all four species of giraffe in 15 African countries. GCF is studying how giraffe interact with a remarkable diversity of habitats, which include the hyper-arid deserts of northwest Namibia, the mesic savannahs of northwest Uganda, the semi-arid scrub of northern Kenya, and the Sahel of Niger. Unifying the understanding of giraffe movement, ecology, and the utilisation of space requires systematic analyses across these different habitats. The data collected from these studies is instrumental in guiding giraffe conservation strategies throughout their range.

Over time, the Twiga Tracker initiative has yielded incredible scientific insights into the mechanisms and patterns of giraffe movement decisions. Since the first descriptions of partial giraffe migration, new insights into giraffe movements in the past year alone include an understanding of giraffe connectivity across a multiple-use landscape in northern Kenya, and an understanding of giraffe chronobiology and movement responses to lunar luminosity. This data is proving essential for deepening the scientific understanding of giraffe movements.

So far, the Twiga Tracker initiative has collected over 2 million data points and led to the publication of over 12 peer-reviewed scientific studies, of which many more are currently in progress.

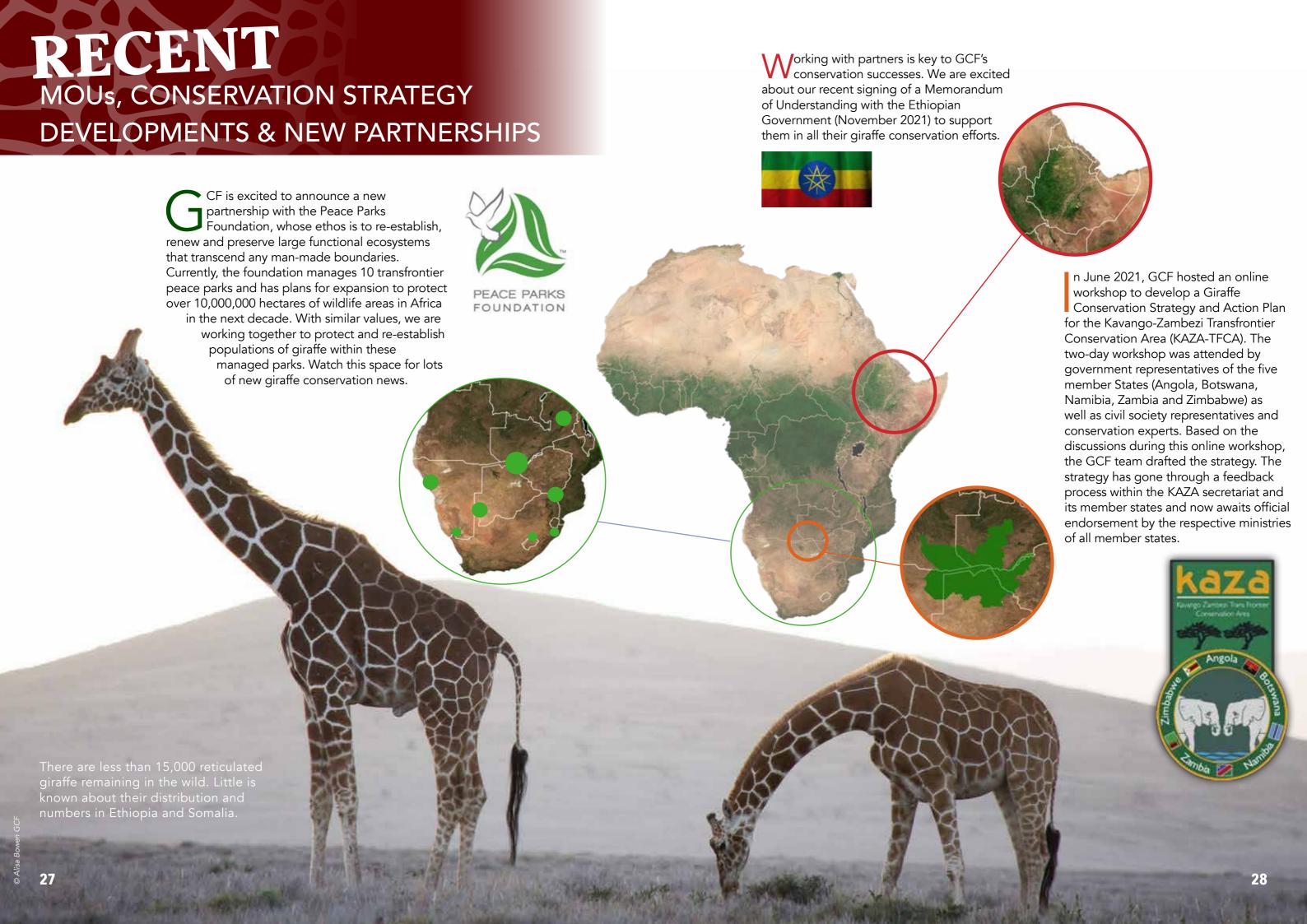
In addition to the valuable scientific data these tracking units are providing, they are proving extraordinarily valuable for active conservation management programmes. In association with Vulcan's EarthRanger, GCF and research partners (such as the Smithsonian Conservation Biology Institute) are developing platforms to share realtime giraffe location data with various partners on the ground. Using laptops or smartphones, our field teams and partners can access the latest locations of tagged giraffe to design more targeted patrols and monitoring programmes. With these technologies, the ranger teams in the Pian Upe Wildlife Reserve in Uganda have been able to locate the giraffe in the vast savannah landscape to monitor their health and status after the conservation translocations of Operations Twiga IV and Twiga V.

In partnership with the Kenya Wildlife Service we monitor giraffe movements in and around the Amboseli National Park. This collaboration documented one giraffe traversing the international borderline between Kenya and Tanzania. Similarly, our collaborative efforts with African Parks in Zakouma National Park in Chad have shown that giraffe regularly leave the formal boundaries of the protected areas. These transboundary movements further illustrate the value of directly engaging with the community and landscape level conservation initiatives to ensure that these animals have the space and diverse habitats they need.

GCF remains committed to using the best available science to design and support effective conservation strategies for giraffe throughout their range. The spatial data and habitat utilisation information collected by these tracking units provides unique and critical insights into the resources that giraffe require. As data continues to stream into our servers from our various research sites, our team is hard at work monitoring their movements and analysing their use of space to figure out ambitious and creative new ways to conserve giraffe.







Other News

NEW POPULATION IN CHAD

Exciting news! When a pilot friend informed us of having spotted a giraffe while flying over central Chad, we were intrigued to find out more. This was the first report of giraffe in this part of the country! As a result, GCF partnered with Wild Africa Conservation, Wings for Conservation, and the Chad Government to undertake an aerial survey of the Koundjourou area in the Guera and Batha Provinces. We are excited to announce the discovery of a new and previously unknown population of critically endangered Kordofan giraffe - the northernmost population ever recorded! Based on individual identification, there are at

The good news continues! The aerial survey also sighted other wildlife species, including the redfronted gazelle, common duiker, African warthog, jackal, spotted hyena, striped hyena, North African ostrich, Arabian bustard and lappet-faced vulture. As a result of these encouraging findings, the Chad Government is now exploring the possibility of establishing a new nature reserve in this part of the country. What an amazing example of successful conservation partnerships and actions that are making a real difference!









GCF ON SCREEN



© youtube.com/TheEllenShow

GCF features in the new documentary ENDANGERED by Discovery and the BBC Natural History Unit. Produced and narrated by Ellen DeGeneres, the documentary follows the efforts of dedicated wildlife conservationists across the globe to compile the latest update of the IUCN Red List - the most comprehensive record of the state of the world's wildlife ever to be compiled. In the documentary, Dr Julian Fennessy talks about GCF's work, and on The Ellen Show, where he subsequently made a guest appearance, Dr Fennessy was truly a voice for giraffe by sharing his giraffe conservation story.

The Conservation in Action series on EarthX TV dedicated one episode to giraffe and GCF. Giraffe - Giants Never Sleep sheds light on the plight of these African icons, but also gives the viewer hope as it portrays the GCF team taking action throughout the continent to reverse this plight and secure a future for giraffe in the wild.

TROPHÉE DE FEMMES 2021

We are very proud to announce GCF's co-founder Stephanie Fennessy as the runner-up for the 2021 Trophée de Femmes Environmental Award (Germany). The prize is awarded annually by the Yves Rocher Fondation to honour female conservationists who are striving to preserve biodiversity and change the world. As this year's award ceremony was cancelled due to COVID-19 restrictions, Steph received her prize from Viktoria Keding of the Namib Desert Environmental Education Trust (NaDEET), **29** who won the award in 2017.



A LEADER IN TECHNOLOGY

As a science-based organisation, GCF is considered one of the world leaders in several aspects of field technology for giraffe conservation monitoring and research.

GCF's Twiga Tracker initiative is the largest GPS satellite tracking study ever conducted on giraffe. To conserve all four species of giraffe and the diverse ecosystems they inhabit, we need to better understand where giraffe move, how much space they need, and how they utilise their habitats across a range of different environments.

Since fitting the first giraffe with a modified GPS satellite collar, which was originally developed for African savannah elephant in 2002, the GCF team has worked with different companies and researchers to trial a range of tracking devices on giraffe throughout the continent. The range of designs that evolved include the initial cumbersome neck collars, head harnesses, ossi-units, tail tags, and a variety of light-weight (or not so light) ear tags. GCF has been at the forefront in giraffe tracker development and field implementation.

Working with WildMe and our timely investment in the development of GiraffeSpotter.org - Wildbook for Giraffe has catapulted GCF to the forefront in the use of artificial intelligence (AI) in photo recognition for giraffe surveys.

Collaborations with partners such as the Senckenberg Biodiversity and Climate Centre and Smithsonian Conservation Biology Institute have allowed GCF to explore the use of state of the art technology in giraffe conservation. In November 2021, EarthRanger announced GCF as one of two recipients of the inaugural Conservation Tech Award. The award recognises organisations that use technology to protect endangered species, monitor ecological changes and animal behaviour, and promote peaceful human-wildlife coexistence.

"GCF's work embodies what we are looking to recognise and encourage through this grant. The team is approaching big, continent-wide challenges that don't have simple solutions, and they are applying a host of technologies in creative ways, ranging from crowdsourced data collection to advanced AI models for identifying individual animals. We hope that the grant aids their work and that others will be inspired to join the effort to empower conservation through technology." - Jes Lefcourt, Director of EarthRanger.

"GCF puts often-hyped technology to the test in real-world rugged field environments, pairs technology with local community knowledge, and helps researchers do less data-wrangling and more science. With strong track records showing an impact at conserving giraffe, the Conservation Tech Award can be a launching pad for novel applications of technology." - Tanya Birch, Programme

Manager at Google Earth Outreach.

As an EarthRanger user, GCF has applied machine learning and rapid geospatial data management and visualisation to understand giraffe in unprecedented ways and to advocate for their protection. GCF conducts repeat surveys of numerous giraffe populations, using pattern recognition and machine learning to compile the world's largest database of known individual giraffe in many populations throughout Africa. In addition, GCF's use

of conservation genomics to reclassify giraffe taxonomy from one to four distinct species has enabled direct conservation decision-making when assessing the best animals to be translocated. It is our hope to inspire a passion to protect these species, who play a vital role in maintaining the balance of ecosystems, but whose numbers have dropped by almost 30% in the last three decades due to habitat loss, human population growth, disease and poaching.



DWARF GIRAFFE IN THE GUINNESS WORLD RECORDS

Giraffe made headlines in early 2021 when GCF researchers for the first time ever described two dwarf giraffe in separate populations in Namibia and Uganda. This study represents the first known accounts of dwarf giraffe in the scientific literature and even triggered a new entry in the Guinness World Records. The giraffe were documented in the Murchison Falls National Park, Uganda, and on a private farm in central Namibia during routine photographic surveys conducted by GCF to determine numbers, population dynamics and distribution of giraffe throughout Africa. Using digital photogrammetry techniques, the researchers measured limb dimensions of the two dwarf giraffe and compared them with others in the populations. They found that these dwarf giraffe have shorter legs; more specifically, they have shorter radius and metacarpal bones compared with others of similar age.

"Instances of wild animals with these types of skeletal dysplasias are extraordinarily rare. It's another interesting wrinkle in the unique story of giraffe in these diverse ecosystems." – Lead author Dr Michael Brown.

The giraffe population in Uganda experienced a

significant bottleneck in the late 1980s due to civil unrest and associated bushmeat poaching; however, it is uncertain whether this particular giraffe – named 'Gimli' by the researchers in honour of Tolkien's Lord of the Rings character – is a result of a possible decrease in

genetic diversity or more likely

a rare medical condition. It

any, these conditions might have on giraffe survival or reproduction; fortunately, the population is rebounding.

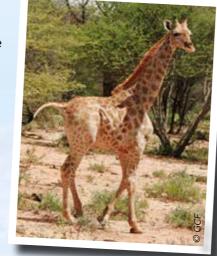
In Namibia, 'Nigel' the dwarf giraffe was born in 2014 and his unique body shape was first observed when he was about four years old – an age when male giraffe are close to maturity. "While the Namibian farmer spotted Nigel regularly over the years, it was only after our observations that he realised that Nigel was not a juvenile but a fully grown male giraffe. It is mainly in comparison to other giraffe that his difference in stature becomes obvious." – Co-author Emma Wells.

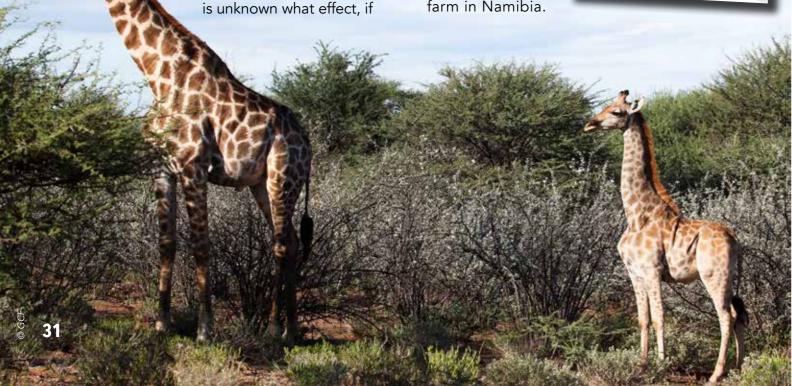
Gimli has not been spotted for a while, and Nigel continues to be regularly monitored by the farmer and the GCF team to see whether any observable variances in his behaviour and social status occur.

Both Gimli and Nigel are now recognised as the first reported dwarf giraffe in the Guinness World

Records. At a height of 2.54 metres, Nigel is about half the size of a typical adult male giraffe.

Nigel is regularly spotted in the company of other giraffe in his home, a private farm in Namibia.







AFRICAN BURSARY IN CONSERVATION (ABC) GRANT PROGRAMME

Giraffe can only be saved in Africa, by African people. Working collaboratively and enhancing the capacity of Africans and Africa's future conservation leaders is at the core of GCF's conservation model and it is a key component of our Twiga Wetu ('Our Giraffe') initiative. As such, GCF continues to support the following students and young professionals in their career:

- Rachael Clark (Chad), MSc University of Glasgow, Scotland
- Freya Cubas (Namibia), MSc Georg August Universität Göttingen, Germany
- Kateřina Gašparova (Niger), PhD Czech University of Life Sciences, Czech Republic
- Jackson Hamutenya (Namibia), MSc Namibia University of Science and Technology, Namibia
- Zazapamue Hange (Namibia), MSc Namibia University of Science and Technology, Namibia
- Martha Haukongo (Namibia), BSc University of Science and Technology, Namibia
- Clíodhna Hynes (Namibia), MSc University College Dublin, Ireland
- Carter Marsh (Uganda), BSc George Mason University, USA
- Kudawashe Mbaiwa (Namibia), MSc The International University of Management, Namibia
- Arthur Muneza (Kenya), PhD Michigan State University, USA
- David O'Connor (Kenya), PhD Goethe University Frankfurt, Germany
- Jaco Olivier (Zimbabwe), PhD Stellenbosch University, South Africa
- Matthew Wachira (Kenya), MSc Nairobi University, Kenya

To increase our impact, GCF has established the African Bursary in Conservation (ABC) Grant programme, which targets African women and men at the early stages of their career in conservation. We aim to support highly motivated individuals in their professional development and in their endeavour to work in the wildlife conservation sector. We envisage these young people as future conservation leaders in their respective home countries. In particular, the GCF ABC Grant aims to support giraffe-focused conservation science studies in natural giraffe range States in Africa.



PUBLICATIONS

We use science to act decisively in addressing giraffe conservation needs. All our research questions have a strong conservation angle and each project will help us to improve our conservation approach and to save giraffe in the wild. The following peer-reviewed papers were published by our team or co-authored by GCF staff members during the reporting period of this Annual Report:

Brown, M.B., Kulkarni, T., Ferguson, S., Fennessy, S., Muneza, A., Stabach, J., Fennessy, J. 2021. Conservation status of giraffe: evaluating contemporary distribution and abundance with evolving taxonomic perspectives. Imperiled: An Encyclopedia of Endangered Species.

Coimbra, R.T.F., Winter, S., Kumar, V., Koepfli, K.-P., Gooley R.M., Dobrynin, P., Fennessy, J.T. & Janke, A. 2021. Whole-genome analysis of giraffe supports four distinct species. Current Biology 31(13):2929-2938 https://doi.org/10.1016/j.cub.2021.04.033

Coimbra, R.T.F., Winter, S., Mitchell, B., Fennessy, J.T. & Janke, A. 2021. Conservation Genomics of Two Threatened Subspecies of Northern Giraffe: The West African and the Kordofan Giraffe. Genes 13(2): 221; https://doi.org/10.3390/genes13020221

Crego, R.D., Wells, H.B.M., Ndung'u, Evans, L., Nduguta, R.N., Chege, M., Brown, M.B., Ogutu, J.O., Ojawang, G.O., Fennessy, J., O'Connor, D., Stacy-Dawes, J., Rubenstein, D.I., Martins, D.J., Leimgruber, P., Stabach, J. 2021. Moving through the mosaic, identifying critical linkage zones for large herbivores across a multiple-use African landscape. Landscape Ecology. https://doi.org/10.1007/s10980-021-01232-8

Dadone, L., Foxworth, S., Aruho, R., Schilz, A., Widdifield, A.K., Barrett, M., Morkel, P., Crooks, G., Fennessy, J. & Johnston, M.S. 2021. Foot Shape and Radiographs of Free-Ranging Nubian Giraffe in Uganda. PLoS ONE 16(12): e0252929. https://doi.org/10.1371/journal.pone.0252929

Dunn, M.E., Ruppert, K., Glikmann, J.A., O'Connor, D., Fennessy, S., Fennessy, J., Verissimo, D. 2021. Investigating the international and pan-African trade in giraffe parts and derivatives. Conservation Science and Practice. https://doi.org/10.1111/csp2.390

Han, S., Dadone, L., Ferguson, S., Bapodra-Villaverde, P., Dennis, P., Aruho, R., Sadar, M., Fennessy, J., Driciru, M., Muneza, A., Brown, M., Johnston, M. & Lahmers, K. 2021. Giraffe skin disease: the clinicopathologic characterization of cutaneous filariasis in the critically endangered Nubian giraffe (Giraffa camelopardalis camelopardalis). Veterinary Pathaology.

Hart, E., Ciuti, S., Herrmann, L., Fennessy, J. Wells, E. & Salter-Townshend, M. 2022. Static and dynamic methods in social network analysis reveal the association patterns of desert-dwelling giraffe. Behavioral Ecology and Social Biology. 76(5). DOI:10.1007/s00265-022-03167-9

Muneza, A.B., Linden, D.W., Kimaro, M.H., Dickman, A.J., Macdonald, D.W., Roloff, G.J., Hayward, M.W., Montgomery, R.A. 2021. Exploring the connections between giraffe skin disease and lion predation. Animal Conservation. In review.

Muneza, A.B., Amakobe, B., Kasaine, S., Kramer, D.B., Githiru, M., Roloff, G.J., Hayward, M.W., Montgomery, R.A. 2021. Socioeconomic factors correlating with illegal use of giraffe body parts. Biodiversity and Conservation. In review.



GIRAFFE CONSERVATION FOUNDATION

FINANCIAL SUMMARY

This year has placed many financial challenges in front of most people.

FUNDS RECEIVED

39

Donations & Grants \$1,495,255

Other Income \$28,387
(Merchandise Sale, Interest Received & Other)

TOTAL \$1,523,642

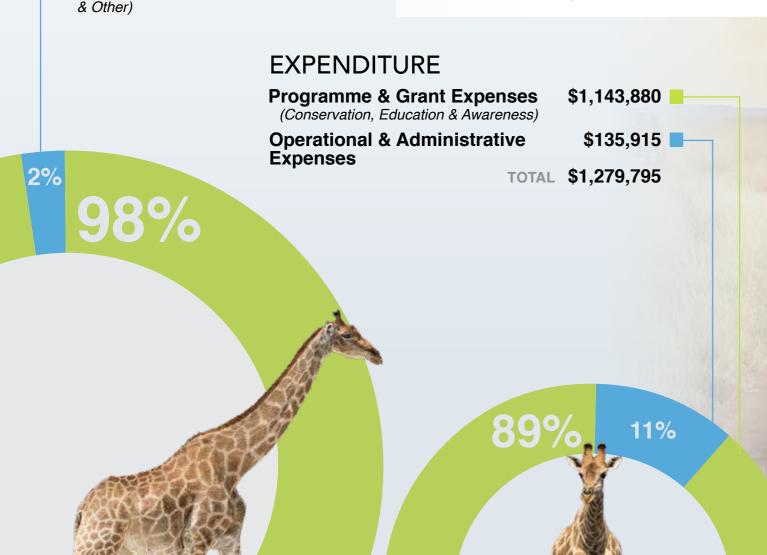
A heightened level of insecurity and unpredictability has become part of our lives. Despite these difficulties and the unprecedented global situation, we have continued to receive valuable support for giraffe conservation. In saying that, our accumulated reserves over the past few years have put GCF in a solid financial position and have allowed us to promise all staff a secure employment position when so many of their family members and colleagues – particularly in Africa – have lost their jobs. We are incredibly proud of this achievement, and we would like to

thank all our donors for their support and the trust they have put into GCF and our team. We can only do what we do because of you; so, thank YOU!

A special thank you goes to Shores, Tagman, Butler & Company, P.A. in Orlando, Florida, who allow us to use their postal address, provide us with amazing pro bono administrative support, collate our financial annual statements, and support us in many other ways with regards to financial compliance in the USA.



GCF has earned the 2022 Platinum Seal of Transparency with Candid (formerly GuideStar). For the third consecutive year, we have received this award for meeting their rigorous criteria for the highest levels of transparency within our operations and results. You can continue to support our work to save giraffe in Africa with renewed trust and confidence.



*All amounts are in USD.



DONORS Our increasing number of generous donors is a testament to GCF's success.

Kris Karnos

Again, this year, we received financial support from organisations, foundations and private donors from over 40 countries. Without this support, we would not have been able to do our work and save giraffe in Africa.

As our donor list continues to get longer and longer, we have decided to include only those who donated US\$250 and above in this report. However, every donation helps. We appreciate all your amazing support, and we could not continue with our important work without you – thank you!

\$50.000 and above

Cleveland Metroparks Zoo Fort Wayne Children's Zoo Murray Haseler Ivan Carter Wildlife Conservation Alliance Lars Markgren Moet Hennessy / Glenmorangie Moondance Foundation Naples Zoo at Caribbean Gardens Terk Charitable Trust Vulli - Sophie La Girafe

\$20.000-\$49.999

Chester Zoo Chevenne Mountain Zoo The Ellen Fund Highpoint Haven (Dan Houck, Lauren Kimbro) & Eric Flossic Jamie & Kevin Kratt Randall Lamb & Carvel Glenn Mey Share Foundation Sandra Moss Royal Zoological Society Scotland Safari Zoo Cumbria

\$10.000-\$19.999

The Tapeats Fund

Auckland Zoo Blank Park Zoo Candis J. Stern Foundation Columbus Zoo Detroit Zoo EarthRanger, The Allen Institute for Al Galanthus Foundation Suzanne Holt & Gerald Weber Sr Lehigh Valley Zoo Linda McIngvale Prabha Sarangi & Connor Clairmont Zoo New England

\$5,000-\$9,999

Beauval Nature Bellewaerde Park The Cranaleith Foundation Pam Davis **JenniferDurning Explorers Against Extinction** Fota Wildlife Park Greenville Zoo

Marty Simione in memory of Victoria Ann "Vicky" Michelis Victoria Ann Michelis Otis & Elizabeth Chandler Foundation Play for Nature Reid Park Zoo Riverbanks Zoo The Rufford Foundation Pamela Tate Pamela Turek Linda Vidosh Zempel & John Zempel Woodland Park Zoo World Giraffe Day Celebration Facebook Group The Yves Rocher Foundation Zoos South Australia

\$1,000-\$4,999

Africa 360 Travel

Abilene Zoo

Alabama Gulf Coast Zoo B Bryan Preserve Binder Park Zoo Birmingham Zoo Blair Drummond Safari & Adventure Park Joseph Boenitz The Burkehaven Family Foundation Cameron Park Zoo & Botanical Society Canada Fund for Local Initiatives/ Fonds canadien d'initiatives locales Chantecaille Beaute Peai Croucher Colleen Crowley Donna De Weil Deirdre Dickison Memorial Fund Dickerson Park Zoo The Dixit Family Gift Fund Robert Fulton GoGreen Fund Victoria Gordon & Bob Bradlev Michael & JoAnn Hamm

Elizabeth Herman Richard & JoAnn Hirth Till Hollmann Honolulu Zoo's Aloha 'Aina Conservation Fund Graeme Hunter Jacksonville Zoo AAZK Chapter Joyce Kaneshiro & James Poley Kansas City Zoo Katie Adamson Conservation Fund Ann Kohlligian The Kromer Family Fund Lake Tobias Wildlife Park Laura Landau Jes Lefcourt Lewina Tzu-Chi Lin Lion Habitat Ranch Sheryl & Gary Lum Kristie McIndoe Diana Meistrell Memphis AAZK Chapter Mesker Park Zoo & Botanic Garden Milwaukee County Zoo MNKY Stakepool Linda & Bill Murray New Zoo & Adventure Park Orin & Vicky Oberlander Odense Zoo Parco Natura Viva / ARCA Foundation Parco Zoo Punta Verde David Penswick John & Nuri Pierce **David Posner** Potawatomi Zoo Leah & Rance Raney Mieka Ritsema Cheryl Rothman Mary Sanford Hunt Sedgwick County Zoo Solana Giraffes Katie & Hannah Souvannavong Loncke & Lilly Spitz Tanganyika Wildlife Park

Team Gerald/ Highpoint Haven

(Dan Houck, Lauren Kimbro &

Jessica Chapman)

Jess Thompson Tidewater AAZK Chapter Margaret & Robert J Van Andel Liv & Colin Van Dyke Jorge Vazguez Wags & Menace Make A Difference Laurel Walsh Weingut Klerner / Sebastian Ulrich White Post Farm Jason Wiggam Zoo de la Boissiere du Dore la Chataigneraie \$250 - \$999 A I Steenkamp Primary School Bruce Abbott ABWAK Giraffe Zoo Keeper Meeting James Adams Elena Adrianza-Tangrea & Joseph Tangrea Seth Allen Jacqueline I Alschuler Fernando Amaro Animalia Betty Areson John Basinger Andras Benedek Rachel Bhattacharvya Diane Bilderback Elizabeth Bower Leslie Brown Cape May County Zoo AAZK Chapter In honour of Julie Christopher Cass Iri Cermak Sally Clair Barbara Clark Columbus AAZK Chapter Joel Conley Sandra Cregan Ashley Desaro John Desmond Dickson-Smith Giving Account Divinity LA El Paso Zoo

Kathy Gerry

Kirstine Lighthart Wayne Little JesalMavadiva Jean McCarty Mikki McGuire Barbara McIntyre Katya Melluish Robert Menzies Sandra Farkas Pamela Metz Ilene Fine & Jay Pomerance Dinah Miller Inai Finnsson For Kids' Sake Publishing Richard Morgan Mark & Indra Frank Lynette Morgan Gloria Freeman John Murphy Joyce Fuller Nicole Gallo Julie Newcome Generous Giraffe Society - NFT Lana Nichols Gentle Giant Foundation Elizabeth O'Connor Calvin Genzel Maureen O'Donovan Michelle Gerheim

Edward Gilpin Omuta City Zoo The Glenmorangie Company Clay Goldberg Jane Goodman Damon & Teri Ground Dianne Hall Harrington-Spink Charitable Fund Dirk Heimermann Henry Vilas Zoo Oren Hopkins & Laura Dupuy Elisabeth & Emil Hovius Indian Creek Zoo William Johnson David Kammerer Donald & Diane Kendall Khomasdal Primary School Candice Kochenour Richard Kondzielaski Mark & Karen Koten Martti Ahtisaari Primary School

Otjomuise Primary School Dallas Passmore Dale Peterson Aimee Pierce Pillsbury Winthrop Shaw PIttman Preysman Giving Fund John Price Pride Membership / Pea Horsley Tammy & Gary T Raak Alan Rafferty Red River AAZK Chapter Mary Reilly Terry Reinbold Rio Grande Valley AAZK Chapter Christiana Rizzo Ian Robertson Monika Rodas Virginia B Rogers Rolling Hills Zoo Briselli & Jeannee Sacken Safari North Wildlife Park Luanne Schafner Jacob Schlatter Landen Scott Christopher Seabock Seneca Park Zoo Brenda Serniak David Shiben Roberta Smith Sonia Sorbo Tiffini Sorcic Rob Stevens Line Stromland John Sturtevant Narine Stygar Peter Sufka Ellen Sullivan Jo Teale Jennifer Theissing Thomas & Alson-Milman Charitable Fund **CK Torrence III** Tucson AAZK Chapter Bettina Weber James Weckerle Aimee Weiss Phoebe Weselev Susan Wheatcroft Jeff White Judy Whitney Wildlife Safari Wildwood Wildlife Park Zoo & Safari Darrick Wong Robert Woolsey June Ziola Samantha Zitola

Joy Helbing

Svlvia Hepler Anne Hoffman Andrew Hollo JC Jarvis Robert Johnson Walter Johnson Lorrain Joyce Elizabeth Kolbe Cedar Kraus Klara Kurowski Julie Lapitino Nancy Latner

Gwendolyn Lee Jeanne Lehmann Living School de Oliveira **Donald Livingstone** Mark Patrick Lobene Mark/Alex Plumer/Lathrop

Bruce & Eleanor McLear Margaret McNarry Georgann Meadows Christine Mittelstead Istvan Zoltan Nagy

Omaha AAZK Chapter

