# **Sample Proposal**

We are happy to provide you with a sample application and share our gratitude with African People & Wildlife for providing their successful proposal from 2021 as a resource for other applicants. This application features the additional questions for projects which have been funded by Disney for at least ten years. The Disney Conservation Fund supports projects ranging in scale and scope, and this document is intended as an example of just one of many successful proposals.

*IMPORTANT TO NOTE:* We have only included the information from the proposal section (Request Information Section on the application site) as a reference for you, as we thought this would be the most useful. Some questions and formatting may have changed, so the current year's proposal may not be fully represented in this example.



# 1) Request Information

Generate Zip: Generate PDF:

\*Project Title: Northern Tanzania Big Cats Conservation Initiative

Project Description: The Northern Tanzania Big Cats Conservation Initiative works with local

communities to save the country's most threatened lion populations as well as significant populations of cheetahs and leopards. Our successful program reduces

lion-livestock conflict via environmentally-friendly livestock enclosures called Living Walls, protects vital habitat for big cats, and engages local Maasai people in environmental learning, natural resource management, and sustainable enterprise

development.

\*Requested Cash Amount: \$50,000.00

\*Primary Country/Region Where the Tanzania, United Republic of

**Project Takes Place:** 

Project State(s): (Not Applicable)

\*Primary City Where Project Takes Place Arusha (nearest city)

(Or Nearest City):

Geographical Coordinates: -4.23108, 36.31193

Species (Common Name): African Lion Species (Scientific Name): Panthera leo

\*Animal Group: Mammals - Carnivores

IUCN Species Status: Vulnerable

Local Species Status: NA

\*Principal Investigator First Name: Laly

\*Principal Investigator Last Name: Lichtenfeld

University Department: NA

\*Principal Investigator on AZA Institution No

Staff?:

**Primary Project Personnel:** 

Laly Lichtenfeld, Ph.D., African People & Wildlife, Chief Executive Officer and Northern Tanzania Big Cats Conservation Initiative PI. Responsible for program research and design, scientific analyses, and program evaluation.

Mr. Charles Trout, African People & Wildlife, Chief Program Officer. Responsible for programs' technical oversight, field implementation, staff supervision and training.

Ms. Laura Milton, African People & Wildlife, Director of Marketing and Communications. Responsible for marketing and branding, communications outreach, social media and website development and management.

Mr. Yusuph Kaaya, Tanzania People & Wildlife, Finance and Administration Officer. Responsible for coordination between programs, including staff support, accounts supervision, and financial reporting.

Ms. Elizabeth Naro, Tanzania People & Wildlife, Senior Manager of Monitoring, Evaluation and Learning. Responsible for development and implementation of MEL systems, data analyses, report writing and team training.

Ms. Yamat Lengai, Tanzania People & Wildlife, Monitoring, Evaluation, and Learning Program Officer. Assists the MEL senior manager in developing and implementing MEL systems, data analyses, report writing and team training.

Mr. Ramadhani Saidi, Tanzania People & Wildlife, Junior GIS specialist. Responsible for data oversight and problem-solving including field operation of smartphones and tablets, mapping efforts, and support for data analyses.

Mr. Elvis Kisimir, Tanzania People & Wildlife, Human-Wildlife Conflict Prevention Program Officer. Responsible for lion-livestock conflict monitoring, coordination and oversight of Warriors for Wildlife program assistants and officers, and oversight of Living Wall installations.

Mr. Neovitus Sianga, Tanzania People & Wildlife, Community Conservation and Environment Program Officer. Responsible for Sustainable Rangelands program including coordination and oversight of community rangeland monitors and implementation of rangeland management activities.

Mr. Revocatus Magayane, Tanzania People & Wildlife, Environmental Education Program Officer. Responsible for youth and adult education and training programs. Oversees implementation of wildlife clubs, environmental camps, park trips, and scholarships.

Mr. Samson Beah, Tanzania People & Wildlife, Beekeeping Program Officer. Responsible for women's beekeeping activities related to hive management, harvesting, and honey processing as well as technical training for women's groups.

Ms. Catherine Nchimbi, Tanzania People & Wildlife, Enterprise and Marketing Officer. Responsible for women's beekeeping activities related to product development, marketing, and sales.

Additionally, we work with community members as Warriors for Wildlife (50), community rangeland monitors (40), and youth environmental mentors (15).

#### Partners:

African People & Wildlife partners with a number of organizations and institutions to ensure program effectiveness. First, and because we believe conservation programming and activities are most successful when driven by the needs and interests of local people, we collaborate with 35 communities across the region. The Tarangire Lion Project (TLP) is a key partner for lion monitoring via GPS- and satellitecollars. TLP is responsible for all aspects of this work including permitting, fitting collars with government veterinarians, and monitoring lions. We work with key government institutions in our focal landscapes including the Ngorongoro Conservation Area Authority, Tanzania National Parks Authority, and the Tanzania Wildlife Authority as well as regional, district, and village governments. As a founding member of the Northern Tanzania Rangelands Initiative (NTRI), we coordinate our efforts with more than seven conservation and development NGOs active in northern Tanzania, including Oikos East Africa and The Nature Conservancy. We have additional partnerships with NGOs outside of NTRI including the Frankfurt Zoological Society, the World Wildlife Fund, and SORALO-Kenya. We also have MOUs with key academic institutions such as Nelson Mandela AIST and Sokoine University of Agriculture. In terms of international partners, we have long-standing relationships with the National Geographic Society and the Disney Conservation Fund and an evolving relationship with Esri.

\*Project Start Date: 10/01/2021 Project End Date: 10/31/2023

\*Previous Project Funding: Yes

\*In what years has this project been 2007, 2010-2021

funded by the DCF?:

\*Project Funding Years: Yes

Funded for 10+ Years Instructions:

\*Please share any key accomplishments and challenges since your previous DCF grant, and describe how another grant would advance your program in a way that is different/evolved from your previous proposal?:

We focus our initiative on impact and innovation. Since our previous DCF grant, key accomplishments include:

\*23 lions protected from revenge killing by expanded network of 50 Warriors for Wildlife, and Tarangire Lion Project data demonstrate population in recovery phase (previously in rapid decline);

\*Expansion of the Living Walls project with more than 1370 Living Walls positively impacting 17,000 family members;

\*Community rangeland monitoring expanded to a total of 21 communities and village grazing committees improved their capacity for evidence-based decision making, using monthly pasture quality data to adjust and implement grazing plans;

\*Expanded women's beekeeping program from 75 to 100+ women's groups, protecting over 2,000 km2 of wildlife habitat beneath 1300 beehives, and harvesting 4+ tons of honey in one year;

\*120 school students visited Tarangire National Park (pre-Covid 19) and organization innovatively pivoted to produce a virtual tour of the park -- "Tarangire: Our heritage, our future" coming soon!

Certainly, the last year has not been without tremendous challenges as Covid-19 took over the global stage, and we had to adapt our programming to ensure safe protocols for our team and constituents. However, our innovative systems for data collection and management via online platforms proved extremely helpful during this time, and we were able to continue to advance many programs and exceed our annual targets.

A renewed grant from the DCF would be instrumental to our ever-evolving work and commitment to innovation. In the coming years, new efforts include:

\*A cutting-edge geofencing project for reducing lion attacks at pasture;

\*The debut of innovative conservation hubs in local communities for increased data visualization and sharing as well as new rangeland management projects; and

\*The incorporation of a new citizen-science based approach into our youth environmental education efforts and the introduction of "Girls Clubs".

\*Report Submission: Conservation Program Summary: African People & Wildlife.InterimReport.Disney.pdf

The African lion and cheetah populations of East Africa have declined dramatically, particularly outside protected areas. Human population growth, intense livestock grazing, and settlement/agricultural expansion cause habitat loss, habitat fragmentation, and a decline in herbivore populations across East Africa, collectively leading to an increase in human-wildlife conflict (Woodroffe 2000; Lichtenfeld 2005; Riggio et al 2012; Durant et al 2016). Retaliatory killing of carnivores due to livestock loss has further decimated the carnivore populations (Kissui 2008).

Northern Tanzania is a critical region for big cat conservation. Humans inhabit more than 92% of the available ecosystem (46,000 km2). Significant large carnivore populations include the African lion (Panthera leo; est. 900+), cheetah (Acinonyx jubatus; est. 150), endangered African wild dog (Lycaon pictus; est. 100), leopard (Panthera pardus; est. >1200), spotted hyena (Crocuta; numbers unknown), and striped hyena (Hyaena; numbers unknown) (IUCN/SSC 2006; IUCN/SSC 2007). Each of our target species faces unique threats in northern Tanzania. Lions are particularly vulnerable to poisoning (Hazzah et al. 2009), while cheetahs have suffered due to habitat loss (Fanshawe et al. 1991, Crooks et al. 1998). Leopards are among the top three large carnivores implicated in livestock depredation, alongside lions and spotted hyenas (Mkonyi et al 2017a, Ikanda & Packer 2008).

The Northern Tanzania Big Cats Conservation Initiative protects big cats, including Tanzania's most threatened lion population, and maintains landscape connectivity for lions, cheetahs, and leopards across six critical landscapes. Active in conservation in Tanzania for more than 15 years, our specialized model of community-driven conservation explores local points of view, mobilizing rural people to express their conservation challenges in the context of their own experiences and perspectives. Our internationally recognized approach to community engagement is detailed in "Community, Conservation and Collaboration: A Framework for Success" (2019). With support from Disney over the last ten years, our initiative has collaboratively developed practical, proven solutions for human-wildlife coexistence. This includes an integrated suite of activities moving sequentially from lion-livestock conflict prevention to active rangeland management and land conservation, followed by the support of conservation-friendly enterprises. In this manner, we address the three primary drivers of big cat decline in northern Tanzania, namely human-wildlife conflict, prey population reduction, and habitat loss and fragmentation.

Our outcomes include the installation of more than 1370 of our innovative Living Walls to prevent livestock depredation, youth engagement and active grassland restoration, and business ventures positively affecting more than 1800 women via a beekeeping project. Our widespread impact includes the measured reduction of livestock killed by large carnivores and retaliatory lion killings (Lichtenfeld et al 2015, African People & Wildlife 2019), evidence of the recovery of the Tarangire lion population (Tarangire Lion Project 2019), as well as improved attitudes of local people toward conservation (Mkonyi et al 2017b).

Led by a team of 150+ Tanzanians, our efforts reach two regions of Tanzania, 5 districts, and 35 communities. National protected areas benefiting include Tarangire National Park, Lake Manyara National Park, Amboseli National Park (Kenya), and the Ngorongoro Conservation Area. Additionally, we positively affect four Community Wildlife Management Areas (Burunge WMA, Natron WMA, Randilen WMA, and Enduimet WMA) with this initiative. We operate from our Noloholo Environmental Center on the edge of Tarangire National Park -- the only rural conservation and community education center in northern Tanzania.

Specific objectives for the next two project years build upon our previous, successful efforts that have received generous support from the Disney Conservation Fund:

- 1.Reduction of big cat-livestock conflict and mortality through the continued installation of Living Walls (200/year; a 15% annual increase in the number of Living Walls across northern Tanzania per year) and Warrior for Wildlife efforts;
- 2.Improved rangeland management via the facilitation of a community-driven system for rangeland monitoring and management (spanning 25 communities) and the support of local pasture restoration projects as well as the installation of new, innovative community conservation hubs;
- 3.Expanded support for conservation incentives and diversified livelihood opportunities via our Women's Beekeeping Project;
- 4. Conservation education and outreach to local communities with an emphasis on rural youth via a suite of activities incorporating the previous objectives/activities and additional citizen-science based programming in schools (approximately 1000 youth reached directly each year).

\*10+ Year Grantee: Impact:

African People & Wildlife (APW) has received generous support from Disney for its Northern Tanzania Big Cats Conservation Initiative for the last 10 years. This support has contributed greatly to the success of our community-driven, big cat conservation efforts.

- 1. Warriors for Wildlife implement a suite of conservation actions from recovering lost livestock to preventing retaliatory killings. Over the last 10 years, the program has grown from just several Warriors to a team of more than 50 across 31 villages. This long-term, landscape scale conflict monitoring is crucial for mitigating human-wildlife conflict, which remains a significant threat to big cats in the region. Warriors initially collected data on paper forms, but now conduct semi-structured interviews with victims of human-wildlife conflict and record data via the mobile application, Survey123. The team has responded to over 3,700 conflict events and prevented over 75% of attempted retaliation killings -- saving 142 predators -- while educating community members about the importance of big cats. The team recovered over 7,500 livestock from pasture, valued at over \$878,000, to reduce the chance of conflict incidents at pasture. These efforts are critical for increasing community tolerance of living with predators and thereby reducing the threat of revenge killing.
- 2. APW's Living Walls program has provided benefits for habitat, wildlife, and pastoralists since 2008. The program has built over 1,370 Living Walls across 34 villages in northern Tanzania, now achieving more than 150 installations per year (up from an initial five per year!). We use conflict data collected by the Warriors to identify hotspots of predator conflict and prioritize Living Wall installations in these areas to maximize impact. Today, community members planted more than 173,000 trees to protect over 226,000 livestock, valued at \$23.2 million. These Living Walls positively impact over 17,000 people by ensuring financial security and increasing tolerance of predators. An estimated population of 500 lions (and growing!) is protected from revenge killing by these Living Walls and their owners' increased awareness of the value of big cats.
- 3) Sustainable Rangelands is APW's newest program, collaborating with and mobilizing local governments to make timely, evidence-based decisions about the management of their grasslands, where large carnivores and their prey also roam. Piloted in 2017, the program now works with 21 villages in four districts. We adapted over time from working at the village level to facilitating cooperation on land management plans at the ward and district levels. In 2020, our team introduced ArcGIS Dashboards to help the village grazing committees visualize pasture quality trends over time. Local governments use these data to improve evidence-based decision-making and build resilience to the threat of climate change.
- 4. In 2016, APW began a Women's Beekeeping program to support 50 women's groups to start environmentally friendly honey enterprises. Since then, the program doubled its reach, supporting over 1,800 women across 104 groups in nine villages. Over 1,300 beehives are now hung across the landscape, facilitating pollination of native species in over 2,100 km2 of grassland, and protecting this critical habitat from tree cutting and conversion to agriculture. The program has continually received positive feedback from women who report higher income retention and economic independence, increased respect in their communities, and a greater sense of empowerment to achieve their ambitions.
- 5. APW's Youth Environmental Education program has reached over 8,000 youth since 2010 through environmental camps and wildlife clubs at 13 schools. The program evolved to include attitudinal assessments that inform program adaptation and increase the effectiveness of each activity. To inspire students to appreciate big cats and Tanzania's vast biodiversity, APW reintroduced trips to Tarangire National Park in 2020 (following vehicle issues). To date, APW has facilitated park trips for over 290 students. The program also supported 65 high-achieving students with scholarships to attend secondary school and university. With the first scholarships awarded in 2010, APW has now seen 15 graduates continue onto higher education, five of whom are current APW university scholars.

APW's new 2030 strategic plan (not yet released, pending website alignment) outlines our commitment to creating innovative, win-win solutions for people and planet. Through our science-based approach to program design and adaptation, we provide valuable opportunities for community members to collect conservation data and visualize results, leading to a greater sense of ownership over conservation programs. Our strategic plan includes measureable targets for 2024 so that we can monitor progress towards our greater objectives and adapt programs as needed in collaboration with partner communities.

# \*10+ Year Grantee: Disney Cast Inspiration:

African People & Wildlife seeks to inspire Disney employees and people around the world through disseminating our results globally and contributing thought leadership in holistic conservation.

On a global level, we seek to influence conservation and community engagement in both practice and theory. We offer many opportunities to provide inspirational program updates and conservation theory to the Disney Cast. We disseminate our results and philosophy to practitioners, donors, and conservation allies through our Viewpoints blog, YouTube channel, and social media platforms. We also network with media bodies to reach a general audience and communicate the science of our work in understandable, meaningful ways. To reach an academic audience, we publish our results in academic journals, speak at conferences, participate in panel discussions including the Half-Earth Day celebration at the American Museum of Natural History in New York City, and host visiting scientists at the Noloholo Environmental Center.

In addition to offering virtual presentations of our work for Disney employees, APW can offer volunteer opportunities for those interested in on-the-ground experience. The Noloholo Environmental Center is located on the border of Tarangire National Park and provides tented lodging, local food, and programmatic transportation to volunteers. Volunteer opportunities often include camera trap monitoring and wildlife photo identification, wildlife transect shadowing, rainfall measurement, and assisting with youth programming such as wildlife club activities or environmental camps. Volunteers are also encouraged to identify new projects to lead. Past volunteers have led initiatives to train staff on basic computer skills or English, design new wildlife club games, create a bird inventory of the avian life around Noloholo Environmental Center, and conduct a market assessment of livestock value at the local cattle market.

APW's field-based location provides unparalleled access to critical wild species, magnificent landscapes, and local culture. As such, our team can provide the Disney Cast with a myriad of unique storytelling opportunities, including filmmaking, photography, personal narratives and other stories, and live events.

For Disney Cast members who wish to engage with APW's work virtually, we can offer them exclusive access to our highly experienced leadership team and holistic conservation work through a variety of formats, such as:

\*Virtual "classrooms": Once conditions are safe to do so, the Disney Cast can gather in a convenient location and engage remotely with our CEO, program officers, and/or local community members. The latter may include one of our youth wildlife clubs or a women's group that participates in the Women's Beekeeping program. After a presentation by APW, the Disney "classroom" would have the opportunity to discuss the presentation content and ask questions of the participants in Tanzania.

\*Educational webinar: If the Disney Cast demonstrates a strong interest in a particular area of APW's work and wants to learn more, our team can create a custom webinar designed to dive deep into the programmatic work and related issues. The webinar will offer special access to scientific data and the inner workings of our holistic programming.

\*Live events from the field: Through special live events, such as the construction of a Living Wall or an early morning game drive, the Disney Cast could experience APW's work remotely in real time and witness some of the incredible wild species the initiative helps to protect.

\*In-depth conversations: APW will provide the Disney Cast with the opportunity to engage virtually with program officers from a particular program or programs. This interactive and personal format will allow for a deep discussion into conservation issues and related stories from the field.

\*10+ Year Grantee: Storytelling: APW has created, led, or leveraged numerous storytelling opportunities a variety of media about the work and impact of the Northern Tanzania Big Cats Conservation Initiative. We consistently engage with the Disney team through our storytelling efforts and aim to highlight our collective efforts whenever possible. In particular, we contributed to the creation and promotion of The Lion King: Protect the Pride campaign in 2019. Video footage of our work was included in both promotional videos, and our co-founder and CEO, Laly Lichtenfeld, was featured in the campaign video highlighting the lion conservation efforts of Disney and its partners. To help promote the Protect the Pride campaign, we published a blog post (https:// africanpeoplewildlife.org/lionking/) on our website, featured a spotlight about our involvement in our 2019 Annual Report and created multiple social media posts.

> In the spring of 2020, we prepared a photographic presentation and related talking points featuring key highlights of the initiative's success for Laly Lichtenfeld's scheduled speech at Disney's 25th anniversary celebration. In November 2020, we supplied the Disney team with a curated selection of 30 high-resolution photographs and accompanying captions for their promotional use. Also in 2020, we were pleased to be featured in Disney's 25th anniversary book.

> APW is thrilled that three of our program officers--Elvis Kisimir, Revocatus Magayane, and Neovitus Sianga--have each been recognized as Disney Conservation Heroes. We have highlighted their honors in various media over the years, including blog posts, email newsletters, and annual reports.

> Through our ongoing storytelling efforts, we aim to capture key priorities of the Disney Conservation Fund, with a special emphasis on the African Lion--a Disney focal species. We also strive to highlight the success of the initiative while educating, informing, and inspiring key audiences around the world. Our storytelling highlights include:

\*In 2017, APW developed a series of impact stories for our website about local Tanzanians whose lives have been transformed through the initiative. We emphasize personal narratives in our communications whenever possible, seeking to amplify the voices and lived experiences of program beneficiaries and team members. The impact stories and their accompanying imagery and quotes have been repurposed for use in presentations, social media posts, campaigns, and other media.

\*In 2018, a filmmaker created a series of videos about the initiative's positive impact on people and wildlife in Tanzania. The videos are published on our YouTube channel and website and have been shared widely across social media. Footage from these videos was shared with Disney for use in the Protect the Pride campaign videos.

\*In honor of World Lion Day 2020, APW published an interactive story map about our efforts to conserve some of Tanzania's most threatened lion populations. We also hosted a Facebook Live event, which featured our CEO and two staff members visiting a Living Wall. The team shared the latest updates on our lion recovery efforts and discussed local attitudes toward lions in northern Tanzania.

\*Over the years, we have engaged influential journalists and media outlets including CNN, the Associated Press, and The Guardian to tell compelling multimedia stories about the work being done under the initiative.

\*APW's co-founder and CEO, Laly Lichtenfeld, has told inspiring stories about the initiative's impact at influential venues including TEDx Jackson Hole, National Geographic, Yale University, and The Explorers Club. Prior to the Covid-19 pandemic, she was also scheduled to speak at Disney's 25th anniversary celebration in Florida.

\*APW regularly shares updates and stories about the initiative's impact through our Viewpoints blog and via Instagram, Facebook, and Twitter. When applicable, we tag our social media posts using the @DisneyConservation handle.

\*We have leveraged relationships with key partners such as Disney, National Geographic, WildAid, and WWF UK to create and bring stories about our work and team to new audiences.

\*In February 2021, we are hosting a photojournalist in Tanzania to capture new personal, multimedia stories from the field, providing a window into the lived experiences of rural Tanzanians who benefit from our work.

Looking ahead to the next two years, APW will increasingly emphasize our thought leadership in holistic conservation through our communications. We will engage key influencers and new media outlets to help amplify our stories, drive advocacy, and inspire people around the world to get involved in conservation--both in Africa and in their own communities. To further this effort, we will also create engaging new videos to help people experience our work on the ground and/or life inside the Noloholo Environmental Center, including a potential virtual reality film.

#### Field Research Objectives:

Goal 1: To continue to monitor the presence of lions and other big cats in areas where we have installed Living Walls and to expand monitoring efforts to new communities across Northern Tanzania.

Obj. 1. To continue to monitor lions and other big cats in the 2021 and 2022 project years across an expanded area by utilizing our Warriors for Wildlife to record presence/ absence and behavioral data via the mobile data collection application Survey123 and by continuing to maintain motion-triggered cameras on the border of Tarangire National Park.

Goal 2: To continue to monitor human-wildlife conflict incidences in all program areas and to expand human-wildlife conflict monitoring efforts to new communities across Northern Tanzania.

Obj. 1: To continue collecting data on human-wildlife conflict incidences in the 2021 and 2022 project years across an expanded area by utilizing our Warriors for Wildlife to record information from interviews with victims of human-wildlife conflict via the mobile data collection application Survey123.

Goal 3: To continue to monitor the abundance and diversity of prey species as an indicator of overall ecosystem health and habitat viability for big cats.

Obj. 1: To continue conducting semi-monthly wildlife counts in the 2021 and 2022 project years with improved precision and accuracy of data collection protocols via Survey123 and increased capacity for population trend analysis and data visualization through ArcGIS Operations Dashboards.

#### Field Research Strategies and Evaluation:

In the 2021 and 2022 project years, we will continue to implement and expand techniques that measure big cat abundance and distribution across our program sites as well as prey species abundance in the communal rangelands bordering Tarangire National Park. We will continue to collect data on human-wildlife conflict, big cat and prey species presence, and wildlife dynamics through several activities: (1) Warriors for Wildlife; (2) Motion-triggered cameras; (3) Wildlife counts; and (4) Tarangire Lion Project GPS collars.

#### 1. Warriors for Wildlife

One of APW's longest running programs, Warriors for Wildlife are tasked with a suite of conservation actions from recovering lost livestock to preventing retaliatory killings. The team of 50+ community members trained annually in large carnivore-livestock conflict mitigation and wildlife monitoring techniques collects data on big cat distribution based on evidence of their presence (i.e. records of scat, spoor, visual sightings, vocalization, etc.). In order to assist Warriors for Wildlife and communities in understanding the presence and movement of big cats in each program site, the Warriors began to record sightings/spoor data with associated GPS points in 2015. In 2016, we introduced an open data kit software that allowed quick uploading of their data to a web-based system for improved real-time monitoring across a large landscape. More recently, with support from Esri, we now utilize the PAMs system that involves a suite of customized apps and dashboards for enhanced visualization and data sharing.

Warriors for Wildlife conduct regular patrols of their village lands. They conduct patrols in response to reports of a big cat sighting in a community, vocalizations close to a boma (household) or livestock at night, or in response to the discovery of signs of big cats during their daily activities. Since 2013, the Warriors for Wildlife have recorded over 3,700 incidents of conflict with large carnivores and over 1,000 non-conflict observations of big cat and wild dog presence. These data are collected via ArcGIS Survey123 and analyzed in real-time through ArcGIS Operations Dashboards. Basic statistics displayed on these dashboards include percentage of conflict reported for each predator species, spatial distribution of conflict and non-conflict observations of big cats, trends in observations of big cats and wild dogs over time, and concentration of conflict and non-conflict observations via heat map.

To determine associations or lack thereof between variables in conflict data, more rigorous statistical analyses are conducted annually. We run a series of Pearson's chi-square tests using Minitab software to explore the relationships between conflict and seasonality, predator type and conflict location, and conflict severity and the presence of guards. These analyses are used to inform conflict mitigation programming, specifically Living Wall installations and education on safe herding practices. With a better understanding of conflict trends, hotspots, and vulnerability factors, we can maximize the effectiveness of Living Walls by prioritizing installations in high-conflict areas and improve herder awareness of safer pastures for livestock.

We also use conflict data to evaluate the success of our Living Walls program. By comparing aggregate conflict data from areas with a high concentration of Living Walls to areas without Living Walls, we can gain insight on the extent to which Living Walls contribute to conflict reduction. We plan to continue measuring the effectiveness of the Living Walls program through a mixed methods evaluation -- triangulating quantitative conflict data, spatial and temporal trends in conflict, and qualitative feedback from Living Wall owners.

We use non-conflict observations to develop presence/absence maps and a basic understanding of big cat movements and behavior via additional mapping of land use types, proximity to households, group size, etc. All of this information helps Warriors understand big cat movement patterns in their area. This also means that a Warrior may intervene or help mitigate a situation before it becomes a conflict event; by knowing where big cats are, they can help direct and assist community members to ensure livestock safety.

#### 2. Motion-triggered cameras

Since 2017, we have deployed motion-triggered cameras, also called "camera traps," along the boundary road between Tarangire National Park and the adjacent communal rangelands. These cameras are strategically located along linear features (roads and riverbeds) to capture observations of big cats. Five camera trap stations along the park boundary are regularly maintained. Each station is outfitted with two cameras, one on each side of the road, so that individual animals can be identified (leopards can be identified by the rosette patterns on each side of their body).

Camera trap observation data are used to monitor big cat behavior and dynamics in the targeted area. For instance, recent photo captures of both lion and leopard cubs provide evidence of healthy, breeding populations. Captures of unfamiliar male lions or groups of lionesses can also provide insights into regional pride dynamics that are useful for informing decisions about land management. Over several years of consistent camera trap data collection, we can begin to explore long-term trends in big cat presence both seasonally and annually. Although we do not currently run statistical analyses of camera trap data to measure population density of big cats, we do use frequency of observations over time as evidence of population growth or decline. Since 2017, the observations of lions captured on our motion-triggered cameras have increased drastically and recently included cubs, suggesting that the lion population in the area is recovering.

#### 3. Wildlife Counts

2020 marked APW's 10th year of conducting semi-monthly wildlife counts. A team of Community Game Scouts supported by APW surveys four transects over two days - two southern transects the first day and two northern transects the second day. Counts begin at dawn and typically conclude by 10 am. For each wildlife sighting, the team records the species, GPS location on the road perpendicular to the animal or center of the herd, distance of the animal or center of the herd from the road, and number of individuals seen. All data are collected via ArcGIS Survey123 and displayed through ArcGIS Operations Dashboards.

Basic statistics are calculated in real time via the dashboard including total observed abundance, abundance of each species by month, average group size and its standard deviation, average distance from the road and its standard deviation, observed species richness, and observed species evenness. All metrics can be sorted by species and date within the dashboard.

More rigorous spatial and statistical analyses are conducted annually including index of abundance. Indices of abundance are useful to assess prey species trends over time. Used as a proxy for population trends, we calculate indices of abundance as total abundance/total length surveyed. This metric standardizes abundance to account for differences in the number of transects conducted each year. We recognize that this assessment does not account for landscape level trends since it does not distinguish between changes in population and changes in range and distribution. However, this long-term prey species monitoring effort continues to provide useful information about wildlife movement patterns and distribution.

#### 4. Tarangire Lion Project GPS collars

Finally, in partnership with the Tarangire Lion Project (TLP), we are also gaining a deeper understanding of lion movements by collecting and analyzing data from TLP's GPS-collared lions. Using ArcGIS Pro software, we conduct spatial analysis on lion locations over time to calculate metrics such as range size, percent of range inside and outside of the protected area, and overlap in range with other collared lions. Current data suggest resident prides spend over 43% of their time outside of Tarangire National Park, and the collared lions averaged 49.4% of their range outside of the protected area (Tarangire Lion Project 2020). These data are directly informing decisions involving lion conflict mitigation on communal rangelands.

During the 2021 project year, we will expand how we use the data collected from collared lions through an innovative geofencing project. The outcome of this project will be a real-time alert system to inform Warriors for Wildlife and other community members when lions are present on communal rangelands. This will provide opportunity for herders to vacate the pasture, thereby reducing the potential for lion-livestock conflict.

Overall, we commit to the effective monitoring of big cats and prey species in key focal areas to evaluate our impact. In particular, our initiative is helping to deepen the understanding of wildlife population and movement trends in communal lands outside of protected areas. These data help inform our other programming by providing evidence of change in wildlife populations and movements. Meanwhile, evidence of big cats (tracks, scat, sightings, etc.) as detailed above and collected by Warriors for Wildlife provide critical insights into the range of lions, leopards, and cheetahs on communal lands across northern Tanzania.

#### **Animal Welfare:**

elfare: NA

#### \*Education and Outreach Objectives:

Goal 1: To improve the understanding and awareness of big cat ecology and behavior among Maasai youth through exposure to APW's conservation education curriculum for 1000+ children in northern Tanzania.

Obj. 1. To expose students in 13 rural schools across the Maasai Steppe to big cat conservation education including community celebrations, wildlife club activities, environmental camps, national park trips, and environmental scholarships (n.b. certain activities pending Covid-19 considerations).

Note: We incorporate additional community education and outreach activities in our applied conservation activities, as shared learning and strong engagement/outreach are key aspects of our community-driven conservation approach.

# Education and Outreach Strategies and Evaluation:

Youth environmental education is a critical cornerstone of the Northern Tanzania Big Cats Conservation Initiative. Our youth environmental education program officer, Revocatus Magayane, is from the region and has extensive experience implementing education programs. Under his leadership, 16 youth environmental mentors develop and implement various activities, including after-school wildlife clubs, environmental camps at our Noloholo Environmental Center on the edge of Tarangire National Park, national park field trips, and environmental scholarships.

- 1. Wildlife Clubs. Hundreds of rural schoolchildren take part in our after-school wildlife clubs. Students study topics such as big cat biology and behavior, local wildlife ecology, natural resource management, and Tanzania's conservation history. They plan and execute fun-filled, community-wide events like World Lion Day and Earth Day celebrations. Some wildlife club graduates serve as youth environmental mentors, working weekly with wildlife clubs in their communities to organize activities and serve as role models. Student-elected positions include club president, secretary, and treasurer -- these roles offer unique opportunities for ambitious students to lead and be role models in civic responsibility, team accountability, and environmental knowledge. New in the 2021 project year, we will introduce 10 "Girls Clubs" to our existing education program, ensuring young girls have access to a safe and nurturing environment to study and learn important life skills. Our new girl's camps at Noloholo will provide increased support for female youth to engage in our scholarship program.
- 2. Environmental Camps. Weeklong environmental camps provide rural students with in-depth knowledge about specific conservation themes. To participate, campers must complete a written exam and be active members in one of our wildlife clubs or be supported by one of our conservation partners. The camps take advantage of the long school break in June/July, so that students do not miss any official school days. Each group arrives at the Noloholo Environmental Center on a Monday and engages in six days of immersive environmental education activities while staying in our children's dormitory. Noloholo Environmental Scholars act as mentors to the younger students during the camps. Since 2017, environmental camps have included pre- and post-camp knowledge and attitude assessments to gauge the effectiveness of the camp curriculum on environmental knowledge retention and changes in attitude about environmental issues. On average, students' scores increased by 36% on the postassessment, providing evidence that the camp curriculum significantly improves students' environmental knowledge. Attitude assessments have also provided encouraging results; in an exercise measuring the importance of various aspects of the environment to students, perceptions of the value of carnivores, birds, and trees all increased post camp. In particular, the perceived importance of carnivores in an ecosystem rose an average of 18% after camp. We can attribute this change to the multiple camp sessions on the ecological importance of apex predators, specifically for pastoralists.

- 3. National Park Trips. For many of Tanzania's rural youth, visiting a national park is an once-in-a-lifetime opportunity. As part of our Young Explorer's effort, we invite wildlife club members on a field trip to Tarangire National Park, where they see and learn about wild animals in a relaxed atmosphere and receive exposure to the tourism industry. Students receive a Tarangire National Park Young Explorer's Guide and an experienced Tanzanian safari guide accompanies them, providing interesting facts and details about the wildlife and environments of the park (including wetland ecology, wildlife behavior, and the importance of conservation). A key focus of the trip is exposure to Tarangire's big cats and in situ learning about their behavior as well as key threats to their survival. During the week after each trip, the APW Youth Environmental Education Officer administers an evaluation to the students to better understand their reflections from the trip and get recommendations to improve future trips. In 2020 (pre-Covid-19), the students gave the entire experience an average quantitative rating of 4.79 on a 1-5 Likert scale with 5 representing a "very positive" experience (n = 95). Pivoting in 2020 as a response to Covid-19, we commenced production of a USAIDsponsored film, "Tarangire: Our Heritage, Our Future," an innovative, virtual tour of Tarangire National Park as seen from the perspective of a local Maasai woman -- APW team member, Yamat Lengai.
- 4. Environmental Scholarships. Many rural youth in Tanzania cannot afford the cost of education beyond primary school. We provide 30 high-achieving students with six-year, full-ride scholarships to a private secondary school. This is the long-term targeted class size of our scholarship program (5 students/form across Form 1-6). We also award 10 additional youth with scholarships to attend local secondary school. We select scholars through a rigorous combination of exam scores, interviews, and participation in wildlife clubs and environmental camps. In addition, Noloholo scholars receive academic tutoring, mentorship by our APW program officers, and the opportunity to serve as leaders and mentors to younger students during environmental camps and to wildlife club members. As of November 2020, 73% of scholars who sat the Form 4 exam passed (n = 37) and 89% of the scholars who sat the Form 6 exam passed (n = 9). Seven scholars continued education through diploma or certificate programs with six of them completing programs and the seventh is currently working for APW as a Youth Education Program Assistant.

To date, our education team has exposed 8,000 schoolchildren to environmental issues, recruited 800 students into our wildlife clubs and environmental education camps, and supported 65 youth with scholarships for secondary school, college, or university education. The initial cohort of students who received one of our scholarships have already begun to establish themselves as northern Tanzania's next generation of conservation leaders. Our monitoring and evaluation activities have consistently shown that children and youth who participate in our youth environmental education program experience increased knowledge about wildlife and the environment, positive attitude shifts about living with wildlife, and a strong desire to effect change in their communities.

In the coming years, we will strive to improve upon this program by addressing two key areas:

- 1.Increasing participation in actual, field-based conservation projects that are of real value (complementing classroom-based lessons and/or "show and tell" type activities); and
- 2.Helping students learn more about technology and how it applies to environmental conservation (note that this also aligns with Tanzania's national educational objectives involving youth and technology literacy).

We will achieve the above by redesigning our secondary school wildlife club programs by featuring a "citizen scientist mentorship" component that will include the following elements:

\*Conservation Experts & Citizen Science Teams. Each wildlife club will enlist an experienced conservation expert from the region who will work with at least one wildlife club. The expert will organize club members into citizen science teams that can be "plugged into" one or more ongoing conservation research projects and activities. We will base selection of conservation projects on a range of criteria, the most important of which is that there is obvious benefit from the work that citizen science teams engage in. Each team will be directly involved in collecting, managing, and analyzing field based data and observations that are of immediate, practical use to regional and national conservation goals and objectives. Conservation Experts will work closely with APW's Environmental Education Program Officer and school-based Environmental Mentors to ensure that citizen science activities integrate with broader learning goals and objectives.

\*Technology Component. Practical applications of technology -- in terms of both collecting data in the field and managing it on the computer -- will be a mandatory component of all citizen science projects. Specifically, we believe a basic understanding and use of GIS platforms, visualized on tablets and computers, will be of particular help to most projects. This includes Collector for ArcGIS, Survey123, and Operations Dashboards, which should allow youth to collect, manage, and analyze relevant conservation data in key areas while also visualizing that data via maps and other spatial outputs. We believe that the visual/mapping component is something that particularly excites and motivates youth. In addition, the dashboard applications will allow youth from different schools to communicate and learn from one another, combine their data into a region-wide ecological/conservation mapping project, and communicate with other youth and conservation practitioners around the world. It is important to note that while youth are learning the basic principles and practical applications of GIS, they are simultaneously building their capacity around the use of tablets, laptops, and related software/hardware.

The specific design or architecture of the technological component of our program will be adapted from COBWEB -- or the "Citizen Observatory Web" -- a European research project focused on UNESCO's World Network of Biosphere Reserves. Its objective is to facilitate effective citizen participation in environmental monitoring and governance, with a more specific goal of enabling citizens to play an active role in the collection of environmental data using a combination of mobile apps, geo-servers, and online dashboards

#### \*Applied Conservation Objectives:

- Goal 1: To reduce the retaliatory killing of lions and incidences of lion-livestock conflict in the 2021 and 2022 project years.
- Obj. 1. To install 200 Living Walls annually at targeted, high conflict homesteads or "bomas".
- Obj. 2. To prevent lion-livestock conflict at pasture via efforts led by APW's Warriors for Wildlife and enhanced coordination with the Tarangire Lion Project.
- Goal 2: To improve natural resource management and implement habitat protection activities in partnership with rural communities.
- Obj. 1. To support community rangeland monitoring and management across 25 participating communities, producing real-time data on rangeland quality and directing efforts for rotational grazing, invasive species removal, and grassland protection.
- Goal 3: To promote conservation-friendly landscapes via the support of sustainable conservation enterprises for rural community members.
- Obj. 1. To support a women's beekeeping program via product development, market access, and technical support, reaching 100 women's groups and more than 1500 women.

# Applied Conservation Strategies and Evaluation:

N.B. Some of our methodology below is brief, given there are numerous objectives (and acknowledging the committee vetted some activities in prior applications). Additional details are available upon request.

Goal 1: To reduce the retaliatory killing of lions and incidences of lion-livestock conflict in the 2021 and 2022 project years.

Obj. 1. To install 200 Living Walls annually at targeted, high conflict homesteads or "bomas".

#### Applied Conservation Methodology:

Living Walls are environmentally friendly, predator proof corrals that keep carnivores out of Maasai "bomas" (corrals) where livestock are kept at night. Living Walls protect livestock with 99.9% success (Lichtenfeld et al 2015). To build a Living Wall, community members plant a circle of trees that serve as posts for chain-link fencing. As the trees grow, they create an impenetrable barrier. Living Wall design ensures a simple, durable solution to human-wildlife conflict that requires little maintenance. Community members contribute 25% of the chain-link fencing cost and plant the indigenous trees. Currently, APW has installed more than 1370 Living Walls across northern Tanzania, directly impacting more than 17,000 people. As part of the Living Wall construction process, information sessions are delivered to household members (and interested neighbors), leading to the additional sensitization of residents in carnivore conservation and conflict mitigation.

We measure the success of the Living Walls program quantitatively by comparing records of conflicts at bomas before and after a Living Wall is installed and between areas with high and low concentrations of Living Walls. We also measure success qualitatively by gathering feedback from Living Wall owners and conducting interviews with community members in areas with high and low concentrations of Living Walls. In the coming year, we will be conducting a survey on tolerance of living with predators and comparing the qualitative responses of people with and without Living Walls.

Goal 1: To reduce the retaliatory killing of lions and incidences of lion-livestock conflict in the 2021 and 2022 project years.

Obj. 2. To prevent lion-livestock conflict at pasture via efforts led by APW's Warriors for Wildlife and enhanced coordination with the Tarangire Lion Project.

#### Applied Conservation Methodology:

Our data show that nearly 50% of carnivore-livestock conflict occurs at pasture (though geography matters -- some communities see greater attacks at the "boma" and vice versa, hence the importance of data-driven conservation action). Warriors for Wildlife are community-led teams that prevent livestock-carnivore conflict within their respective communities. Team members guide the installation of Living Walls, verify and collect real-time data about conflict events, monitor large carnivore presence, inform herdsmen via a streamlined communications protocol, and help to locate lost livestock at pasture. Over the years, Warriors for Wildlife have responded to over 3700 incidents of livestock-carnivore conflict in northern Tanzania and have prevented over 75% of attempted retaliations, saving 142 large carnivores. In the 2021 and 2022 project years, Warriors will also receive real-time lion alerts via GPS collars and geofencing to help herders avoid pastures occupied by lions. This involves working with the Tarangire Lion Project (TLP) to improve our systems of communicating real-time lion presence to Warriors for Wildlife on the ground (via movements of TLP radio- and satellite-collared lions). This requires working with a tech company to link the ATS lion movement records to our ArcGIS Protected Area Management system. A functional linkage will allow us to implement geo-fencing support and provide automatic alerts to Warriors for Wildlife when lions approach key pastures, homesteads, and village centers.

Goal 2: To improve natural resource management and implement habitat protection activities in partnership with rural communities.

Obj. 1. To support community rangeland monitoring and management across 25 participating communities, producing real-time data on rangeland quality and directing efforts for rotational grazing, invasive species removal, and grassland protection.

#### Applied Conservation Methodology:

As stated previously, in Northern Tanzania, community rangelands and/or landscapes where people and wildlife interact represent 92% of the available wildlife habitat. As such, the wise management and maintenance of healthy pastures for the benefit of people, livestock, and wildlife directly influences habitat conservation. Improving rangeland quality not only helps community members ensure a stable livelihood, but also helps to sustain healthy wildlife populations reliant on those rangelands. In addition to poor management, the transition to agriculture is threatening traditional grazing practices on communal lands. For example, between 2000 and 2014, The Nature Conservancy (TNC) calculated a 46% increase in area under agriculture.

Our rangeland management activities help define and protect communal grasslands, mobilizing local governments to make timely decisions about the real-time management of their grasslands. . Through regular data collection, assessment, information sharing, and active management, volunteer community rangeland monitors -- selected in conjunction with local leaders -- use the mobile data collection application, ArcGIS Survey123 to provide updates on pasture quality to their community networks. In partnership with these teams of community rangeland monitors, we provide regular updates on pasture quality to local governments and community networks for improved decision-making. Data collected by community rangeland monitors in their monitoring plots include grass height and color, percent bare ground, and frequency of invasive species. Management outcomes include the adoption of rotational grazing techniques and/or the prevention of livestock grazing in defined areas in order to protect dry season grazing reserves and to replenish grass stocks. Rangelands managed under this program have shown measurable increases in grass height, a reduction in the percentage of bare ground, and the return of wildlife species to communal pastures. Communities participating in this rangeland program can also apply to receive access to capital and technical support to implement projects that protect their vital grasslands via rangeland restoration activities and improved enforcement of local rangeland management by-laws.

In the 2021 and 2022 project years, we will pilot the development of local Conservation Hubs, complete with the appropriate infrastructure (office space, internet, etc.) and equipment (large monitors, computers, etc.) for improved data visualization via ArcGIS Operations Dashboards (i.e. HWC and pasture quality data), leading to the greater facilitation of community-driven conservation activities. We will train village government and committee members on evidence-based decision-making and the use of hubbased tools for capturing the decision process. This will support a streamlined system for evaluating local conservation actions, including impact over time, and facilitate a strong adaptive management approach. With better visualization of lion movement, conflict events, and pasture quality data, village decision makers will understand wildlife movement on a landscape scale and make informed decisions about land use, leading to greater benefits for people, livestock, and lions.

Goal 3: To promote conservation-friendly landscapes via the support of sustainable conservation enterprises for rural community members.

Obj. 1. To support a women's beekeeping program via product development, market access, and technical support, reaching 100 women's groups and more than 1500 women.

Applied Conservation Methodology:

The support of environmentally sustainable, local enterprise development represents a key component of APW's holistic approach to conservation and overall theory of change. The Maasai Women's Beekeeping program is an excellent example of how practitioners can harness economic empowerment and livelihoods in a systemic approach to conservation. Beekeeping activities provide the dual benefit of improving women's economic status while protecting critical habitat for wildlife. Under the Tanzanian Beekeeping Act, the presence of beehives protects against tree cutting and cultivation, reducing conversion to agriculture and incentivizing the protection of pastures for livestock and wildlife.

This is a multi-phased program requiring implementation over a longer timeframe. Over the 2021 and 2022 project years, we will continue to move the project towards self-sustainability by supporting the following activities: establishment and implementation of two, local women's honey processing centers; continued provision of entrepreneurship training for the women's groups including small business management, beekeeping, and marketplace literacy; continued training and technical support in hive management, honey harvesting, and processing. In addition, APW's enterprise team will work with the women to scale up their marketing activities to substantially expand their market base and increase their sales revenue.

We evaluate the success of the Women's Beekeeping program by both quantitatively measuring hive productivity and income generation and seeking qualitative feedback on financial independence and women's empowerment from participating women. We also measure the pollination zone of influence around beehives hung in critical habitat in order to better understand the ecological reach of the program. In 2021, we will expand our environmental evaluation of the program to include ecological analyses of the impact of beehives on degraded pastures.

#### **Project Outputs:**

Number of hectares protected over baseline:

Number of animals in project focal area over baseline (population increase over one year, if applicable):

Number of animals reintroduced into the wild:

Number of people engaged through community conservation outreach programming:

Number of people who have taken action to protect threatened species or habitats based on their experience (through your programming):

Number of people reached by conservation messaging:

Conservation Training: 300
Environmental Education: 1500

Habitat Management: 50000 Living Walls: 2000

Prevention of Retaliatory Killings: 80

Social Media Pages: Facebook @AfricanPeopleWildlife, Instagram @AfricanPeopleWildlife, Twitter

@AfricanPplWild

Photo Upload: Ndito and her Mother.Lichtenfeld.APW.jpg, Ndito.Lichtenfeld 059.jpg,

APW\_WhereWeWork.jpg

**Timetable:** APW.DCF\_Annual\_Grants\_Timeline.2021-2023.pdf **Budget:** APW\_DCF\_Annual\_Grants\_Budget\_2021-2023.pdf

Literature Cited: Relevant Literature Reviewed

Adams, T. S., M. J. Chase, A. Attard, and K. E. Leggett. 2017. A preliminary study of stakeholders' opinions and perceptions of elephants and elephant management in Botswana. Pachyderm: 67-76.

Adams, W. M., and J. Hutton. 2007. People, parks and poverty: political ecology and biodiversity conservation. Conservation and society 5:147-183.

African People & Wildlife. 2019. Human-wildlife conflict and retaliatory killing monitoring via ArcGIS Solutions for Protected Area Management, Survey123. Unpublished raw data.

Berkes, F. 2004. Rethinking community based conservation. Conservation biology 18:621-630.

Crooks, K. R., Sanjayan, M. A., & Doak, D. F. 1998. New insights on cheetah conservation through demographic modeling. Conservation Biology, 12(4), 889-895.

Durant et al. 2016. The global decline of cheetah Acinonyx jubatus and what it means for conservation. Proceedings of the National Academy of Sciences of the USA 114(3), 528-533.

Fanshawe, J.H., Frame, L.H., & Ginsberg, J.R. 1991. The wild dog--Africa's vanishing carnivore. Oryx, 25(03), 137-146.

Hazzah, L., Mulder, M.B., & Frank, L. 2009. Lions and warriors: social factors underlying declining African lion populations and the effect of incentive-based management in Kenya. Biological Conservation, 142(11), 2428-2437.

Ikanda, D., & Packer, C. 2008. Ritual vs. retaliatory killing of African lions in the Ngorongoro Conservation Area, Tanzania. Endangered Species Research, 6(1), 67-74.

IUCN/SSC. 2007. Regional conservation strategy for the cheetah and African wild dog in eastern Africa. IUCN/SSC, Gland, Switzerland.

IUCN/SSC. 2006. Regional conservation strategy for the African lion Panthera leo in eastern and southern Africa. IUCN/SSC, Gland, Switzerland.

Kissui, B. M. 2008. Livestock predation by lions, leopards, spotted hyenas, and their vulnerability to retaliatory killing in the Maasai steppe, Tanzania. Animal Conservation 11(5): 422-432.

Lichtenfeld, L. L. 2005. Our shared kingdom at risk: Human-Lion relationships in the 21st Century. Doctoral dissertation, Yale University, New Haven, CT.

Lichtenfeld, L. L., C. Trout and E. Kisimir. 2015. Evidence-based conservation: Predator-proof bomas protect livestock and lions. Biodiversity and Conservation, 24: 483-491.

Lichtenfeld, L. L., E.M. Naro, and E. Snowden. 2019. Community, conservation, and collaboration: A framework for success. Washington, D.C., National Geographic Society.

Mkonyi, F. J., A. B. Estes, M. J. Msuha, L. L. Lichtenfeld and S. M. Durant. 2017a. Local attitudes and perceptions toward large carnivores in a human-dominated landscape of Northern Tanzania. Human Dimensions of Wildlife. DOI: 10.1080/10871209.2017.1323356.

Mkonyi, F. J., A. B. Estes, M. J. Msuha, L. L. Lichtenfeld and S. M. Durant. 2017b. Socioeconomic correlates and management implications of livestock depredation by large carnivores in the Tarangire ecosystem, northern Tanzania. International Journal of Biodiversity Science, Ecosystem Services & Management. DOI: 10.1080/21513732.2017.1339734

Ostrom, E. 2009. A general framework for analyzing sustainability of social-ecological systems. Science 325:419-422.

Reid, R., D. Nkedianye, M. Said, D. Kaelo, M. Neselle, O. Makui, L. Onetu, S. Kiruswa, N. O. Kamuaro, and P. Kristjanson. 2016. Evolution of models to support community and policy action with science: Balancing pastoral livelihoods and wildlife conservation in savannas of East Africa. Proceedings of the National Academy of Sciences 113:4579-4584.

Riggio, J., A. Jacobson, L. Dollar, H. Bauer, M. Becker, A. Dickman, P. Funston, R. Groom, P. Henschel, H. de longh, L. L. Lichtenfeld and S. Pimm. 2012. The size of savanna Africa: a Lion's view. Biodiversity and Conservation, 22: 17-35.

Sushenjit, B., S. Priya, and W. Limin. 2016. Do Households Gain from Community-based Natural Resource Management? An Evaluation of Community Conservancies in Namibia.

Tarangire Lion Project. 2019/2020. Lion population and movement monitoring. Unpublished raw data.

Waylen, K. A., et al. 2013. Deconstructing community for conservation: why simple assumptions are not sufficient. Human Ecology 41(4): 575-585.

Western, D., J. Waithaka, and J. Kamanga. 2015. Finding space for wildlife beyond national parks and reducing conflict through community-based conservation: the Kenya experience. Parks 21:51-62.

Woodroffe R. 2000. Predators and people: using human density to interpret declines of large carnivores. Animal Conservation, 3: 165-73.

# Background Upload: Diversity and Inclusion:

LICHTENFELD.CV.3-page.2020.pdf, APW Recent Publications and Media for Disney.pdf Since its inception, APW has worked closely with the local, indigenous communities with whom we partner. In addition to its field teams, APW has over 40 full-time staff -- all of whom are Tanzanians from local communities -- and our headquarters is located on land donated by a local Maasai community. Our conservation model consists of a systematic process and community-driven approach that provides strategic direction for all of our community engagement and consultation activities. We have long-established partnerships with the indigenous and underrepresented communities associated with this project. Project components were themselves developed after extensive input from and collaboration with partner communities.

At the local level, we communicate our results in regular feedback meetings with community leadership and other stakeholders including the Maasai people most directly affected by our work. We consider these feedback meetings to be an integral part of our community engagement philosophy. In addition to providing the communities with results from our collaborative programs, the community members can give feedback to us about the success of programs and any challenges or problems they have found with implementation. This system creates positive feedback loops where we learn about unintended positive outcomes of our programs and can then work to enhance those outcomes. Similarly, we can learn about unintended negative consequences of implementation efforts and adjust programming accordingly. We then report to the communities on changes we have made together and describe the results of those changes. We maintain strong relationships with communities through this system of ongoing feedback and information dissemination.

It is also important to note that APW has recently developed a community consultation framework based on our own experience as well as 50 other conservation organizations across sub-Saharan Africa. This framework, developed in collaboration with National Geographic, is titled "Community, Conservation, and Collaboration: A Framework for Success." It highlights best practices for community based collaboration and provides guidelines ensuring that local people are at the heart of all conservation and management efforts. This document specifically informs all projects and activities implemented by APW, including the specific project proposed here.

Pertinent notes/comments regarding this donation (Internal Only):

DCF Grant Extension Notes (Internal Only):

#### **BUDGET template for DCF Inspiring Action Grants**

Insert additional lines as needed. Please round each line item total to the closest \$100.

Please provide justification for requests either as a separate document, or within the "Justification" column.

Please save as a PDF document before uploading to your application in Cybergrants.

#### **Disney Conservation Fund: Inspiring Action Grants**

Date: 2/17/21

Organization Name: African People & Wildlife

Project Title: Northern Tanzania Big Cats Conservation Initiative

Granting Period: Note, if awarded funding, DCF funds will support activities starting in October of the current year. The grant term is two years.

# **Specific line values and Additional Funding Sources Redacted**

Budget Category	Description	Unit Cost (USD)	Number of Units	Total (USD)/Year	Requested Disney Support Year 1	Requested Disney Support Year 2	Additional Funding Sources (Pending, In- Kind)	Justification Detail
	*Please note the DCF wil	I not fund any budget ite	ems that suppo	rt government	officials, staff, agencies, et	c. that may be working with	n your organization on o	a conservation project.
Salaries			1					
								Essential for program implementation
Human-Wildlife Conflict Program Officer	Living Wall Installation and HWC Project Oversight							
HWC Program Assistants	Human-Wildlife Conflict (4) & Living Wall (1)							Essential for program implementation
Warriors for Wildlife	Monitor and prevent big cat conflicts							Essential for achieving objectives
Community Conservation and Education Officers	Program Development and Implementation							Essential for program implementation
Youth Leadership Mentors (2 youth per club)	Engage with students in wildlife clubs (13 clubs)							Essential for achieving objectives
Rangeland Management Program Officer	Program Development and Implementation							Essential for program implementation
Community Rangeland Monitors (2 per community)	Vegetation assessments, pasture management							Essential for achieving objectives
Bee-keeping Program Officer	Assist with hive monitoring and harvesting							Essential for program implementation
Marketing and Development Program Officer	Product development, marketing and sales							Essential for program implementation
Junior GIS Specialist	Data management, analyses and mapping							Essential for monitoring outcomes
Senior Monitoring, Evaluation and Learning Manager	Evaluate programs, analyze data, generate reports							Essential for monitoring outcomes
Monitoring, Evaluation and Learning Program Officer	Evaluate programs, analyze data, generate reports							Essential for monitoring outcomes
Drivers for all programs	All vehicle movements and maintenance							Essential for program implementation
Subtotal salaries			138 people/year	188100	8700	8700	<u>)</u>	
Travel expenses	Out and the first facilities to							Web as to of the self to Tanana's
Fuel/Travel for HWC Program	One program officer, 5 assistants							High costs of travel in Tanzania
Fuel/Travel for Conservation Education Program	2 education officers							High costs of travel in Tanzania
Fuel/Travel for Rangeland and Beekeeping	4 program officers (motorcycles and vehicles)							High costs of travel in Tanzania
Fuel/Travel Costs for Monitoring Program  National Park Trips	2 program officer 4 trips						_	High costs of travel in Tanzania High costs of travel in Tanzania
Noloholo Food and Beverage (\$2500/month)	30-40 people/month						_	Onsite hosting of team
Noloholo Utilities and Vehicle Maintenance	6 vehicles, 4 motorcycles, 10-acre campus		1					Poor road conditions and high maintenance costs
Notoriolo Ottificies and Venicie Maintenance	6 venicies, 4 motorcycles, 10-acre campus						-	Poor road conditions and nigh maintenance costs
Subtotal travel expenses				117000	4000	4000		
etald annults a								
Field supplies	Lastellation materials to annual language A40 F							Deal costs
Living Walls installations	Installation materials, transport, long-term M&E		}				-	Real costs
Subtotal field supplies		1	1	110000	2200	2200	┪	
Subtotal Held Supplies				110000	2200	2200	1	
Meetings & workshop expenses			1				1	
Wildlife Club Activities	Expenses and Materials		ĺ					For activates designed by students
Environmental Summer Camps	20 children/camp; 2 schools per camp							Food, accommodation, materials, travel
Workshops in Rangeland Management	4 workshops per year							Food, accommodation, materials, travel
Warrior for Wildlife Training at Noloholo	50 individuals, 5 days; all materials etc. as above							Food, accommodation, materials, travel
Entrepreneurship and Bee-Keeping Support	Support for 100 Women's groups							Food, accommodation, materials, travel
Various Community Meetings and Outreach	Materials, food, transport						1	As described
Subtotal meetings & workshop expenses				39500	3000	3000	1	
Capital expenses			<del> </del>				1	
Smartphones, Tablets, GPS etc	Equipment breakages, new officers		1				1	For data collection via ArcSurvey 123
Uniforms, Boots, Tents, Backpacks	Refreshing equipment as it wears out		1				1	As described
	men coming equipment up it wears out		1			1	1	, 15 acconoca

Budget Category	Description	Unit Cost (USD)	Number of Units	Total (USD)/Year	Requested Disney Support Year 1	Requested Disney Support Year 2	Additional Funding Sources (Pending, In- Kind)	Justification Detail
Subtotal capital expenses				31600	0	0		
Miscellaneous								
Environmental Scholarships - Secondary School	30 students							30 full-ride scholarships to private school and 10 local
Rangeland Management Activities	Support for invasive species removal, erosion control, etc							Support for effort and equipment.
Subtotal miscellaneous				68000	4800	4800		
Subtotal				554200	22700	22700		
Ladinate Casta (Occade and Associated associated ASSA)								*Reminder: Fringe/benefits/overhead line items should
Indirect Costs/Overhead (total not to exceed 10%)				55420	2270	2270		be included within this section.
Total (annual cost)				609600	25000	25000		

#### TIMELINE for Disney Conservation Fund Inspiring Action Grants

Insert additional lines as needed.

Please save as a PDF document before uploading to your application in Cybergrants.

#### **Disney Conservation Fund: Inspiring Action Grants**

#### Date: 2/17/2021

Organization Name: African People & Wildlife

Project Title: Northern Tanzania Big Cats Conservation Initiative

Granting Period: Note, if awarded funding, DCF funds will support activities starting in October of the current year. The grant term is two years.

If your project timeline falls outside of this timeframe and you receive a grant, you will need to submit a grant modification request at www.disney.com/conservation.

#### \*Reminder: If extenuating, unforeseen circumstances will prevent your team from submitting your reports by the deadline,

an extension request is required. Visit disney.com/conservation to submit a grant modification request.

The Disney Conservation Fund does not consider travel an extenuating circumstance and asks for your help planning around travel to submit reports by the deadline.

ACTIVITY	DESCRIPTION		2021	l	2022									2023													
Please shade cells in the calendar columns to con	Please shade cells in the calendar columns to correspond with the months that each activity will happen.		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
EXAMPLE: Submit report to DCF	Log into Cybergrants and scroll to the "Proposals Requiring Action" section to complete and submit reports.														Mid-Term Report Due												Final Report Due
Field Research																											
Lion Population Monitoring	Monthly activity with emphasis on data collection by Warriors for Wildlife. Analyses of 2022 project data in comparison to 2021 project data occur in Sept 2023. Training sessions occur at Noloholo Environmental Center.																								Data Analysis	Final reports and analysis	
Community Engagement/Conservation Education																											
Conservation Education for Schoolchildren	Annual Lion Conservation Education activities commence in Jan at beginning of the school term. Environmental camps carried out during school vacations. National Park trips occur in Aug/Sept/Oct. Evaluations ongoing and report filed by conservation education officers in Sept 2022 and Sept 2023.				New Noloholo Scholars Selected; Initiate Girls Clubs			Earth Day Activity		Environm ental Camps	Environm ental Camps	World Lion Day Activity	National Park Trips; Report	National Park Trips			New Noloholo Scholars Selected			Earth Day Activity	,	Environm ental Camps	Environm ental Camps	National Park Trips; World Lion Day Activity	National Park Trips; Report	Final reports and analysis	
Conservation																											
Living Wall Installation	Work concentrated during dry season and short rains for ease of material transport and installation. Progress report filed in Sept 2022 and final report with analyses in Sept 2023 by the human-wildlife conflict program officer.												Progress Report												Report	Final reports and analysis	
Prevention of Attacks on Livestock at Pasture	Increasing number and response of Warriors for Wildlife to reports of lost livestock and large carnivore presence in pastures (including practice of livestock avoidance measures) promoted in both years, all months. Training sessions occur at Noloholo Environmental Center.												Report												Report	Final reports and analysis	
Community Rangeland Management and Monitoring	Community rangeland management occurs on a monthly basis with bi-monthly reporting to the pastoral/livestock committees; Management decisions implemented following meetings for improved pasture conditions. Pilot conservation hubs activated in October 2021. Reports filed in Sept 2022 and 2023.			Pilot 2 Conservation Hubs									Report												Report	Final reports and analysis	
Women's Beekeeping Support	Product and marketing support and environmentally- friendly entrepreneurship training occurs throughout the year. Bee-keeping support is variable and depends on individual hive conditions. Reports filed on each activity in progress and final reports in Sept 2022 and 2023.												Report												Report	Final reports and analysis	



#### **Selected Recent Publications and Media Features**

#### Stories of Resilience from 2020

APW Viewpoints Blog, December 2020

#### **Roaring Toward the Future**

ArcGIS StoryMap, August 2020

#### Women and Wildlife Gain Ground in Tanzania

APW Viewpoints Blog, May 2020

## Thank you to the Disney Conservation Fund

Social Media Feature, April 2020

#### **Communities Protecting Biodiversity in Northern Tanzania**

Swara Magazine, April 2020

### **Building Futures Through Wildlife-Friendly Honey**

APW Viewpoints Blog, February 2020

#### The Next Generation of Lion Kings

Instagram Feature, December 2019

#### Conservation's Unsung Heroes - Yamat Lengai

WildAid, November 2019

#### Lion Patrol: Learning to Share the Savannah with Big Animals

Associated Press, October 2019

#### **Living with Lions | What Can Be Saved?**

Associated Press. October 2019

#### Double Harvest: Maasai Women Keep Bees and Get to Conserve Their Environment

Africanews, October 2019

## Disney's 'The Lion King' Supports APW's Efforts to Protect the Pride

APW Viewpoints Blog, August 2019

#### The Lion King | Protect the Pride

Instagram/IGTV Feature, August 2019



#### The Lion King | Protect the Pride

Instagram/IGTV Feature, August 2019

## Disney's 'The Lion King' Supports APW's Efforts to Protect the Pride

E-Newsletter Feature, July 2019

#### The Lion King | Protect the Pride

Social Media Feature, June 2019

## The Lion King | Protect the Pride

Social Media Feature, June 2019

## Conserving Northern Tanzania's Large Carnivores Via a Community-Driven Approach

IUCN SOS - Save Our Species, February 2019

#### Interview with Dr. Laly Lichtenfeld

Conservation Without Borders Podcast, March 2018

## **A Wildly Needed Balance**

Thinking Animals United, February 2018

#### Addressing Human-Wildlife Conflict in East Africa

Africa Geographic, April 2017

## Beekeeping Empowers Maasai Women in Northern Tanzania

USAID, April 2017

#### **Lion-killer Maasai Turn Wildlife Warriors to Save Old Enemy**

CNN Inside Africa, February 2017

#### **Finding the Balance for People and Nature**

TEDx Jackson Hole, October 2016

<sup>\*</sup> Scientific publications, technical reports and manuals, annual reports, and briefs are located and/or referenced on our <u>website</u>.

# Laly L. Lichtenfeld, PhD

# PERSONAL INFORMATION **REDACTED**

# PERSONAL INFORMATION **REDACTED**

## Co-Founder and Chief Executive Officer of African People & Wildlife / Tanzania People & Wildlife

A professional wildlife and social ecologist dedicated to "Finding the Balance" between people and wildlife with twenty years of on-the-ground experience in wildlife protection, land conservation, and community-based natural resource management with a regional focus in East Africa. Dr. Lichtenfeld is a long-term resident of Tanzania and is fluent in Swahili.

- Ph.D. 2005 Yale University, Disciplines: Social Ecology and Wildlife Ecology, Dissertation: Our Shared Kingdom at Risk: Human-Lion Relationships in the 21st Century.
- 1999 M.S. Yale University, School of Forestry and Environmental Studies. Majors: Social Ecology and Wildlife Ecology.
- B.S. 1996 University of Richmond, Westhampton College. Major: Honors Biology. Phi Beta Kappa and Summa Cum Laude

#### Professional Experience

2005-present Co-Founder & Chief Executive Officer, African People & Wildlife (APW), a US 501(c)(3) non-profit organization and Tanzania People & Wildlife (TPW), a Tanzanian registered NGO. Focused on protecting intact ecosystems where people and wildlife interact, APW and TPW help rural communities build their capacity to pursue complementary conservation and sustainable development strategies via an internationally-recognized approach and model of community-driven conservation. These organizations offer scientific guidance, co-create and implement conservation and development programs in partnership with rural communities, inspire information exchange and leadership development via educational outreach, and provide ACTIVE® Community Engagement support to partners in Africa.

#### 2000-2005

Principal Investigator, Lions and Community Conservation, Tanzania. Team leader of multidisciplinary project addressing human-lion conflicts in the Tarangire ecosystem of northern Tanzania. Social and wildlife research included large carnivore population monitoring across protected and non-protected landscapes, analysis of local perceptions of wildlife and community conservation, and livestock-predator conflict studies.

#### 1998-1999

African Wildlife Foundation Project Assistant, Arusha, Tanzania. Developed an innovative framework for Maasai communities to monitor their wildlife and natural resources on the rangelands of Northern Tanzania. Contributed to AWF's strategy for landscape level conservation across the Kenya/Tanzania border in the Amboseli/Kilimanjaro ecosystem.

#### 1996-1997

U.S. Fulbright Research Fellow to East Africa. Kenya Wildlife Service, Kenya. Designed and conducted research evaluating the ecological and social benefits and costs of a community-based conservation initiative in southern Maasailand. Results contributed to co-authorship of a seminal publication on community natural resource management in the Journal of Society and Natural Resources (cited more than 650 times).

#### Major Interests:

To develop mutually beneficial strategies for conserving large landscapes where people and wildlife interact via innovative programming in human-wildlife conflict prevention, species conservation focusing on lions and other big cats, community empowerment and engagement in rangeland management, youth and adult conservation education, and the development of conservation incentives for rural people.

#### Selected Honors/Awards/Grants

- National Geographic Society Named "Woman of Impact" and Leading Female Visionary
- Women of Discovery Awardee for Conservation, Wings WorldQuest, 2019
- IUCN Save Our Species Grant Awardee for African Wildlife, 2019-present
- Lowell Thomas Awardee for Open Space Preservation, The Explorer's Club, 2016
- National Geographic Society Explorer, Expedition Leader and NG Big Cats Initiative Grantee, 2010-present
- Distinguished Alumni of the Yale Tropical Resources Institute and Yale Visiting Fellow, 2006 2015
- Clinton Global Initiative, Complimentary, Invited Member African People & Wildlife, 2014 and 2015
- USAID "Endangered Ecosystems of Northern Tanzania" grant awardee with NTRI, 2015
- UNDP Equator Prize Finalist Tanzania People & Wildlife, 2014
- French Agency for Development, AFD, "FISONG" project grant awardee with IGF, 2013
- Celebrating Yale Women: Uncommon Women Working for the Common Good, Recognized Panelist, 2010
- Disney Worldwide Conservation Fund Grant Awardee, 2007, 2010- present
- Ford Foundation Initiative in Reinvigorating Area Studies Grant Awardee, 2000
- Fulbright Scholarship Award to Kenya, J. William Fulbright Foreign Scholarship Board, 1996
- Willie M. Reams Award for Outstanding Achievement in Biology, University of Richmond, 1996
- Clarence Denoon Scholarship for Most Outstanding Student in the Natural Sciences, Richmond, 1995-1996

#### Selected Speaking/Presentation Venues

TEDx: 2016 <a href="https://www.youtube.com/watch?v=fNTgFUu\_gic">https://www.youtube.com/watch?v=rL79XLvVBsc</a> National Geographic Society, the Academy of Natural Sciences, The Explorer's Club, Society for Conservation Biology, Yale University, The US Forest Service.

#### Academic Publications

- E. Naro and L. L. Lichtenfeld, 2020. Transcending the boundaries of conservation and community development to achieve long-term sustainability for people and planet. Book Chapter in Biodiversity Conservation: Addressing Modern Challenges through Multidisciplinary and Forensic Approaches, Springer Nature (in press).
- 2019 <u>Lichtenfeld, L.L., E. Naro, and E. Snowden. 2019. Community, conservation, and collaboration: A Framework for Success. National Geographic Society, Washington D.C., and African People & Wildlife, Arusha, Tanzania.</u>
- Mkonyi, F. J., A. B. Estes, M. J. Msuha, L. L. Lichtenfeld and S. M. Durant. 2018. Large carnivore distribution in relationship to environmental and anthropogenic factors in a multiple-use landscape of northern Tanzania. African Journal of Ecology. DOI: 10.1111/aje.12528.
- Lichtenfeld, L. L. 2017. Book review of Conflicts in Conservation: Navigating Towards Solutions edited by Stephen M. Redpath, R. J. Gutierrez, Kevin A. Wood and Juliette C. Young. Quarterly Review of Biology, June 2017.

#### Academic Publications (continued)

- Mkonyi, F. J., A. B. Estes, M. J. Msuha, L. L. Lichtenfeld and S. M. Durant. 2017. Local attitudes and perceptions toward large carnivores in a human-dominated landscape of Northern Tanzania. Human Dimensions of Wildlife. DOI: 10.1080/10871209.2017.1323356.
- Mkonyi, F. J., A. B. Estes, M. J. Msuha, L. L. Lichtenfeld and S. M. Durant. 2017. Socio-economic correlates and management implications of livestock depredation by large carnivores in the Tarangire ecosystem, northern Tanzania. International Journal of Biodiversity Science, Ecosystem Services & Management. DOI: 10.1080/21513732.2017.1339734
- Mkonyi, F. J., S. M. Durant, A. B. Estes, M. J. Msuha and L. L. Lichtenfeld. 2017. Fortified bomas and vigilant herding are perceived to reduce livestock depredation by large carnivores in the Tarangire-Simanjiro ecosystem, Tanzania. Human Ecology. DOI: 10.1007/s10745-017-9923-4
- Durant, S. et al. 2015. Developing fencing policies for dryland ecosystems. Journal of Applied Ecology. doi: 10.1111/1365-2664.12415 (provides scientific evidence cautioning against the adoption of widespread fencing as a conservation measure in Africa's drylands).
- 2015 Lichtenfeld, L. L., C. Trout and E. Kisimir. 2015. Evidence-based conservation: Predator-proof bomas protect livestock and lions. Biodiversity and Conservation, 24: 483-491.
- 2013 Creel, S. et al. 2013. Conserving Large Populations of Lions The argument for fences has holes. Ecology Letters. doi: 10.1111/ele.12145.
- 2013 Riggio, J., A. Jacobson, L. Dollar, H. Bauer, M. Becker, A. Dickman, P. Funston, R. Groom, P. Henschel, H. de Iongh, L. L. Lichtenfeld and S. Pimm. 2013. The size of savanna Africa: a Lion's view. Biodiversity and Conservation, 22: 17-35.
- Lichtenfeld, L. L. 2007. Representing rural communities in lion conservation: The development of small-scale, participatory programs. African Lion News 7: 44-46.
- Lichtenfeld, L. L. 2005. Our shared kingdom at risk: Human-Lion relationships in the 21<sup>st</sup> Century. Doctoral dissertation, Yale University, New Haven, CT.
- 2000 Kellert, S. R., J. N. Mehta, S. Ebbin, and L. L. Lichtenfeld. 2000. Community natural resource management: Promise, rhetoric, and reality. Society and Natural Resources. 13: 705-715.

#### Memberships and Affiliations

- Founding member of the Northern Tanzania Rangelands Initiative (NTRI) for landscape level conservation, a coalition of organizations including TNC, the Wildlife Conservation Society, and Tanzania People & Wildlife
- Founding member of "Practitioners Pioneering Ideas in Strategy and Design at the Convergence of International Conservation and Development" A Transdisciplinary Working Table. <a href="http://www.transcenddiscipline.com/">http://www.transcenddiscipline.com/</a>
- Ngorongoro Conservation Area Auuthority Research Advisory Committee (invited member)
- African Lion Working Group (special matters committee)
- No Water, No Life (scientific advisor)