African Wildlife Conservation Fund

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2022 Annual Report

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January 2022 – December 2022
Ms Jessica Watermeyer and Dr Rosemary Groom

Summary

In 2022, the work of African Wildlife Conservation Fund (AWCF) continued to make impact in the Zimbabwean lowveld for both people and animals. We remain committed to environmental conservation for large carnivores and improved livelihoods for communities living in neighbouring villages.

African wild dogs continued to do well the south-east lowveld. In Gonarezhou National Park (GNP) the trend for the species has remained stable allowing us to take a step back from our year-round monitoring of the packs and shift our efforts to focus on ecological research in critical spaces on the fringes of the park; and potentially more space for wild dogs and other carnivores. In Savé Valley Conservancy (SVC) however, African wild dogs have decreased in numbers over the last two years, and whilst this is part of the natural 'boom and bust' cycle typical of the species and their numbers remain at a healthy density for the size of the protected area, it is a situation that we are keeping a close eye on. We are working hard to mitigate the threats faced by the species and to provide safe space for the packs to recover.

Emerging out of the Covid-19 pandemic, we were able to get our community programs back to near full capacity and return to schools to deliver successful environmental education initiatives. We were delighted to invite children and teachers back into the GNP and the SVC for inspiring day trips to discover the wonders of their country. Our popular conservation cluster competitions received great participation from the community as children shared their knowledge and creativity through art, dance, drama, and poetry. And we were able to establish more conservation clubs in new schools, where children explored the ways they can contribute to a clean environment through plant and tree planting, community litter clean up campaigns and gaining more knowledge about climate change.

Our dedication to investing in Zimbabwean youth and encouraging study and skills development in the field of conservation, science and research remained as strong as ever. We are proud of the fact that seven students who completed attachment placements with AWCF over the years have secured related employment across the country.

Our commitment to supporting the wider community remained strong as we delivered rabies vaccination campaigns across two districts, vaccinating 3,070 domestic dogs against the disease. This helps to not only keep the dogs and their owners protected from the disease, but also reduces the risk of transfer into wildlife areas where African wild dogs and other animals can be infected – a win for everyone!

Excitingly, we launched a new community initiative – the Community Fence Guardians. Here, we have employed and trained local women in a new role to maintain sections of the boundary fence of SVC. Not only are the women supporting their community by reducing the threat of wild animals entering their villages and of livestock wandering into wildlife areas, but they are also able to provide for their families by receiving a salary.

And finally, alongside our hands-on carnivore conservation and community programs, we have been contributing to international research to better understand the impact of climate change on animals.

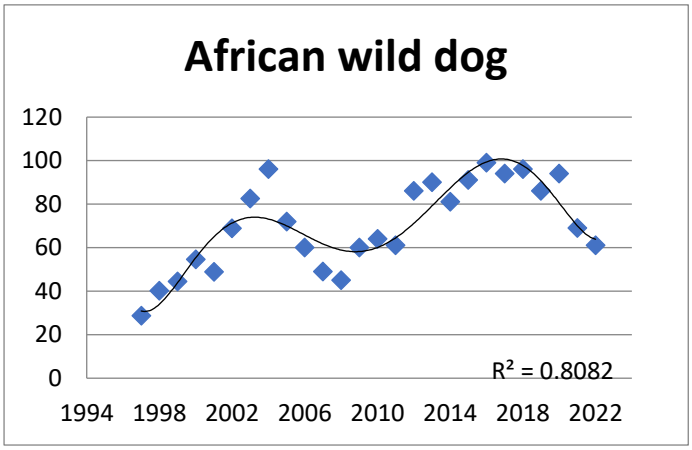
It's been a busy year, but we head into 2023 with renewed motivation and a strong foundation to build on our existing programs and continue to explore more ways that we can facilitate human-wildlife co-existence in the Zimbabwean lowveld - creating an environment where both wildlife and people can thrive.

African wild dog conservation, population monitoring and research

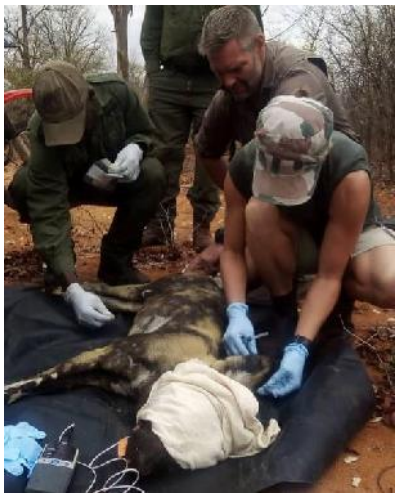
Our work takes place within two prominent landscapes in the Zimbabwean lowveld: Savé Valley Conservancy (SVC/the conservancy) and Gonarezhou National Park (GNP/the park). These areas encompass around 800,000 hectares of space and are part of a wider, significant landscape called the Greater Limpopo Transfrontier Conservation Area (GLTFCA).

1. Savé Valley Conservancy

In the conservancy, African wild dogs remain at their lowest count in 10 years. Across the year, we continued to perform comprehensive and regular monitoring of the species with the annual count totalling 61 adult wild dogs (a reduction from 69 in the 2021 annual count). Despite a decline, the conservancy's wild dogs remain at a reasonable and average density for the species (2.5 wild dogs / 100km^2) and our recorded figures are consistent with the long-term trend of the species to 'boom and bust'.



Wild dogs being caught in snare wire set for bushmeat continues to be the biggest threat to our resident packs. This year, we saved five African wild dogs from snare wires, recorded one wild dog dead from bushmeat poaching and had reports of three additional dogs carrying snare wires, whom we were unable to help. This equates to 15% of the adult population of wild dogs in SVC injured / killed in snare wires compared to 6% in 2021.



Denning season saw five resident packs produce puppies (down from nine denning packs in 2021). A total of 47 puppies were born (compared to 71 in 2021). The survival rate of puppies has increased from 51% in 2021 to 57% in 2022.

A dip in the population status of wild dogs was anticipated by our team, due to the impact of snare wires on dominant dogs and the re-structuring of some of the resident packs, leading to less experienced breeding pairs and smaller litter sizes (typical of younger mothers). As such, the conservancy's packs have been a little more fragile and vulnerable this past year, but we are confident that so long as AWCF and partners can mitigate the detrimental effects of snare-wire poaching, the species will naturally recover and rise through another 'boom' stage in the coming years as they grow in experience.

2. Gonarezhou National Park

In Gonarezhou National Park, we are pleased to report that the population of African wild dogs remains stable at around 100 – 120 adult wild dogs. We continue to work closely with Gonarezhou Conservation Trust to oversee the population, however we no longer comprehensively and directly monitor wild dogs in the park. That said, denning season surveys will be carried out every 2-3 years to calibrate annual surveys and ensure we stay vigilant and responsive to any changes in the population. We will be carrying out a denning survey between May-September 2023.

African wild dogs in the Zimbabwean lowveld.

<u>Pioneer Research: Investigating the impact of climate change on endothermic predators</u>

Over the course of 2021 and 2022, we were involved in a collaborative and international study aimed at understanding, projecting, and mitigating the impacts of climate change as an anthropogenic factor on the endangered African wild dog. This is a multi-site study, and the research team includes researchers from the UK, South Africa, Kenya, Botswana, USA, and Switzerland, in addition to the AWCF team in Zimbabwe. The title of the project is: 'Hot Dogs: *climate change impacts in an endothermic predator'*.

Our contribution to this research involved our team working with international veterinarians to deploy state of the art collars to record the daily movements, and temperature logger implants to record daily temperatures of eight African wild dogs. The movement data and core temperature of the individual wild dogs was logged and correlated with data from local weather stations and will over time allow us

to better understand how changes in ambient temperature might affect the daily movements and hunting success of the packs, as well as their ability to feed and look after their puppies.

In August – November 2022 the collars and implants were removed from the eight wild dogs and the research is now in the data collation and analysis stage. While there will still be some time before the results are published, this research will have major implications for the conservation of African wild dogs because it will help to target conservation action for this endangered species under climate change. Specifically, we anticipate that this work will also benefit populations of African wild dogs throughout Zimbabwe, by helping to indicate how the national wild dog population might best be managed over time.

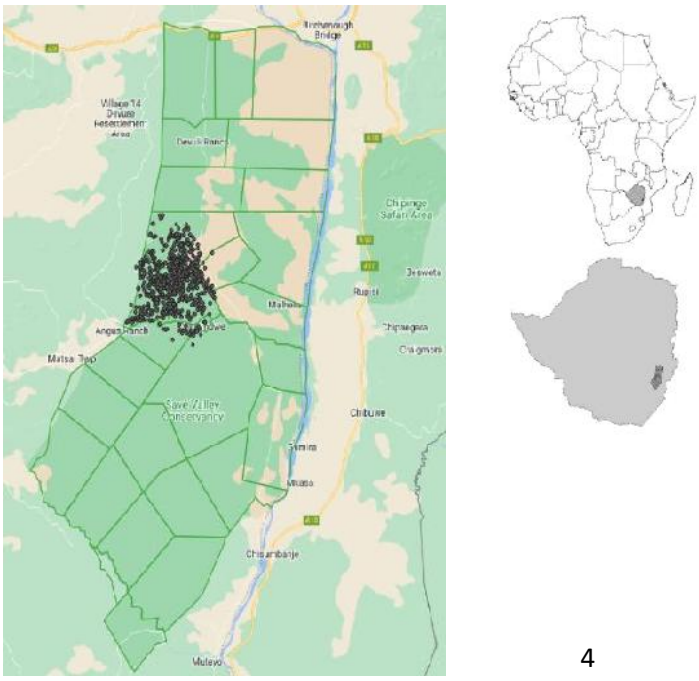
Monitoring trans-boundary movements and anthropogenic impacts on wild dogs and other large carnivores

In 2022 it remained at the heart of the organisation to maintain an environment where African wild dogs and other large carnivores can thrive. An important part of that work is to understand the movement and routes that wild dogs are using to traverse the landscapes across the lowveld and what threats are adversely affecting their ability to thrive.

The primary threats continue to be habitat loss, by-catch in wire snares set by bushmeat poachers, human persecution and rabies disease transferring from domestic animal populations into wild carnivore populations. The loss of landscape connectivity impairs the ability of animals to avoid these threats.

In terms of anthropogenic impacts on the species, accidentally being caught in snares set by bush meat poachers continues to be the biggest cause of adult wild dog death, whilst being hit / killed by vehicles is the most significant human-induced threat for wild dog puppies.

From July 2021 – December 2022, we collared a wild dog to understand more about his and the pack's movements throughout greater SVC. Throughout this time, the wild dog rarely spent any time beyond the boundary of SVC, which suggests that the animals do not perceive the land outside of the boundary as 'safe'. This information is very important when considering trans-boundary movements and the potential for connectivity at the landscape level.



Location of Savé Valley Conservancy in Zimbabwe, and collar data for a male wild dog (June 2021 – December 2022) set to take 4 fixes in a 24 hour period; the wild dogs very rarely crossed the (totally porous) western boundary.

Long-term monitoring of resident large carnivores for conservation management

In 2022, AWCF carried out the 15th and 14th annual large carnivore spoor survey in SVC and GNP respectively (September – October 2022) contributing to long-standing data sets and providing valuable data for ecologists and management. The same methodology has been used annually since 2008 and was pioneered in SVC by Davidson and Romañach (2007).

1. Savé Valley Conservancy

In SVC, the results of this survey highlight lower estimates for lion and black backed jackal in particular. This follows the worrying recent trend of an unexpected decline across large carnivore species in the area as shown in the table below.

Species	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Lion	130	115	190	284	217	223	187	205	251	118	114
Leopard	189	218	295	328	221	359	323	348	391	330	198
Spotted hyena	192	166	150	137	150	193	206	203	235	92	169
Brown hyena	41	50	75	80	70	107	128	146	134	137	105
Black backed jackal	151	199	229	241	234	296	153	187	162	90	67

Population estimates of the key carnivore species in Savé Valley Conservancy from 2012-2022.

We are working closely with SVC to try and understand what may be causing these changes, and to be proactive with management decisions where necessary.

2. Gonarezhou National Park

In 2022 we revised our approach to our annual spoor survey in GNP for the first time in 13 years. This was in light of concerning and low estimates for lions and spotted hyena in the park, as well as a notable dip in leopards which we picked up in 2021. Our results at the time were corroborated by the results of a WildCRU camera trap study conducted in 2021 (Loveridge et al 2022).

Species	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022
Lion	31	45	72	64	77	116	125	54	63	181	112	155	57	66	73
Leopard	255	441	414	524	450	398	388	312	470	402	469	368	216	159	172
Spotted hyena	407	489	553	585	760	671	642	419	479	515	516	610	191	125	163
Wild dog				47		80	100	114	107	125	117	102	*	*	*

Population estimates of the key carnivore species in Gonarezhou National Park from 2009-2022.
** We do not estimate for wild dogs using spoor counts, but from direct monitoring, and with AWCF's shift to work beyond the boundaries of the park in July 2021 we do not have direct monitoring data for the species.*

Our adapted approach to this survey ensures we remain relevant and proactive in our research. The results from the 2022 survey suggest that the estimates for lion, spotted hyena and leopard in GNP remain low, compared to the trend data for the past few years We continue to work closely with our partners, Gonarezhou Conservation Trust, and to assist with the management of the carnivore guild in the park.

Full reports for both the GNP and SVC annual spoor surveys are available.

Monitoring cheetah in SVC and GNP for regional and international conservation importance

It is well understood that spoor surveys are not an appropriate technique for monitoring cheetah, which naturally occur at low densities and are a wide-ranging and elusive species.

It is for this reason that AWCF, in partnership with SVC and GNP, will assist with more focused research on the species in both protected areas. The overarching aim of this long-term project will be; *to develop an improved understanding of the resident cheetah population in Savé Valley Conservancy and Gonarezhou National Park, including population number, age and sex ratio, and distribution throughout the protected area*.

While this work is still in its infancy, we are making good progress towards obtaining and collating important historical and baseline data for the species in both protected areas.

Based on a preliminary data we have identified at least one coalition of 3 males, a female cheetah with 2 cubs, and at least an additional 3-4 individual cheetah moving across SVC. Considering that in the 2022 annual spoor survey we did not detect one track for cheetah, the emerging data is encouraging and emphasises that direct monitoring is the most appropriate method for censusing cheetah.

In GNP, we had a rare and exciting sighting of 6 cheetah at Swimuwini Camp turnoff in June 2022, believed to be a mother and 5 cubs. Further, on the 22nd of March 2022, whilst surveying the Sengwe-Tshipise Corridor, we detected spoor for 2 cheetah in the corridor.

Impact relevant research in the Sengwe-Tchipise Corridor (STC / the corridor)

Bordering the renowned Gonarezhou National Park, the Sengwe-Tshipise Corridor stretches from GNP along the Mozambique–Zimbabwe border, connecting to South Africa's Kruger National Park. The STC is recognised as a vital landscape for wildlife connectivity with AWCF's research effort over the years providing evidence of use by endangered and vulnerable species like African elephants, African wild dogs and cheetah.

However, due to the depletion of the ecosystem from human encroachment, there is an urgent need for continued and comprehensive data collation to fully understand the viability of the area as a corridor for wide-ranging carnivore species, and to drive action with regards to policies and management before the land is lost.

AWCF's head scout, Rueben Bote, began operating fulltime in the corridor since July 2021, tasked with understanding the dynamics of all large carnivore and key herbivore (elephant and buffalo) and to identify barriers to the dispersal of species through the corridor.

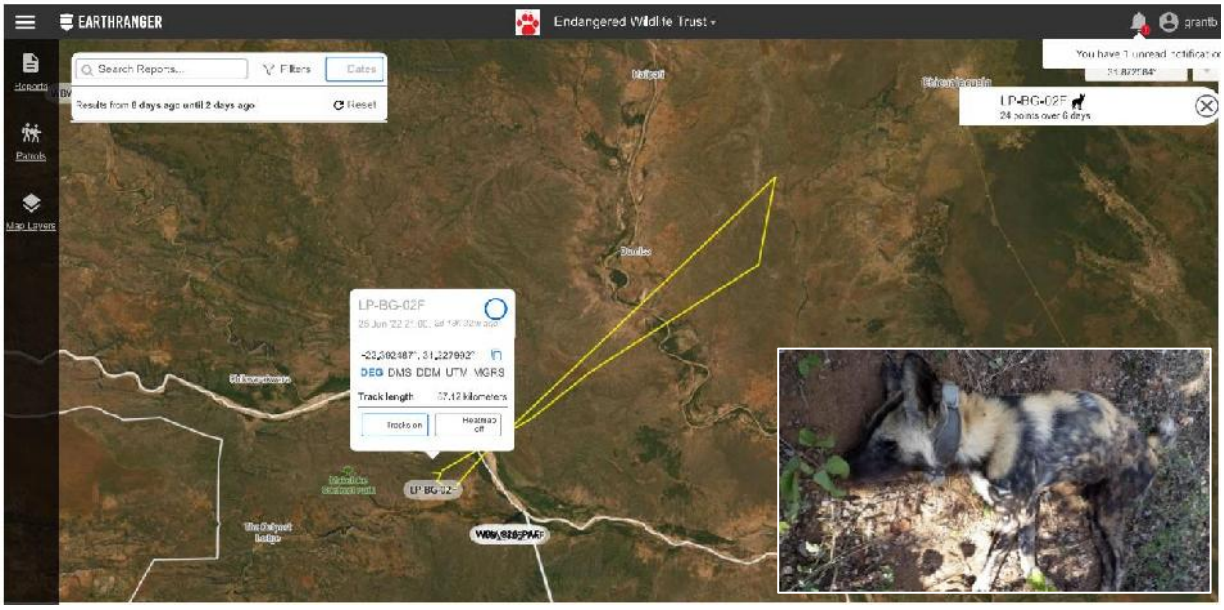
Locating a breeding wild dog pack to the north of the corridor was a major output for 2022. We found a den-site for an African wild dog pack on the 1st of June in Malipati Safari Area. The pack was confirmed at four adults; two males and two females, and very interestingly both females bred and gave birth to puppies (something that we have observed in 32% of our packs on average over 14 years of data in Savé Valley Conservancy). We continued to monitor the pack and in October 2022 the pack stood at seven wild dogs (4 adults and 3 remaining puppies).

Left to right: A camera trap image showing the different sized puppies at the den. The pack was hassled often by spotted hyena.

We also picked up spoor for three wild dogs on the Mozambique boundary, heading south (recorded on the 26th of October 2022), and more recently have been sighting another group of four wild dogs which we believe is moving further east and south into the corridor; we will continue monitoring both packs.

Importantly, we also recorded a dispersal attempt of one wild dog from South Africa into the STC. We received a report (21st of June 2022) from colleagues at the Endangered Wildlife Trust (EWT) in South Africa (who monitor collared African wild dogs in the north of the Kruger National Park - KNP) of a male wild dog who dispersed from South Africa and moved north into Zimbabwe and into the STC. The wild dog crossed over into the corridor but didn't stay long – he turned around and headed back to

South Africa within two days, and was then killed by a snare wire along the western boundary of the KNP.



Dispersal data for African wild dog from South Africa to Zimbabwe. Insert: The dispersing individual died in a snare wire in early July 2022 (credit Endangered Wildlife Trust).

In addition, the AWCF team (working alongside the local authority for the area) covered a total of 446.6km during the annual large carnivore spoor survey in the corridor over 17 days (24th August 2022 – 9th September 2022). The data (see below) strongly suggests a lack of sustainable resident populations of large carnivores. Not one lion or cheetah track was recorded in 2022. Further, we did not detect any spoor or evidence of carnivores moving with cubs / puppies, indicating that it is highly likely that the individuals moving through STC are transient rather than resident.

Parameter	**Sengwe 2014**	**Sengwe 2019**	**Sengwe 2021**	**Sengwe 2022**
Area (km^2)	2665	2665	2665	2665
Combined transect length (km)	420.8	402.8	410.6	446.6
Penetration ratio	1:6.33	1:6.62	1:6.49	1:5.97
Lions				
Encounter rate	1	0	1	0
Number of individual lions per spoor seen	1	0	1	0
Spotted Hyenas				
Encounter rate	17	17	12	6
Number of individual spotted hyena spoor seen	18	20	17	6
Leopards				
Encounter rate	5	7	7	5
Number of individual leopard spoor seen	5	7	7	6

African wild dogs				
Encounter rate	1	6	1	1
Number of individual wild dog spoor seen	12	27	4	4
Cheetah				
Encounter rate	0	1	0	0
Number of individual cheetah spoor seen	0	1	0	0

Encounter rates and spoor numbers for the five large carnivore species in 2019-2022 (and compared to 2014 results)

We continue to build on our work and research in the STC and are beginning to develop multiple years of data which is crucial for informing management decisions and conservation practices, and for the long-term benefit of this project.

Education and Outreach in the schools surrounding GNP and SVC

We run a powerful and effective education and outreach program. All our work with schools and communities is done with support from the Ministry of Education, with formal support letters from the Provincial Education Director, the District Education Officers (DEO), and signed MOUs with the Rural District Councils.

Key outputs of our education and outreach work in 2022 includes:

- As part of our environmental education (EE) program we carried out EE lessons to 6,480 grade 6 students in 108 primary schools adjacent to SVC and GNP.

- Facilitated the launch of Conservation Clubs in 30 primary schools through two training workshops (May 2022) involving 60 teachers, 30 school heads, and representatives from the Chiredzi and Bikita District Education Offices

- Eight educational day trips into SVC involving 12 schools, 180 students, 36 teachers, eight parents, and eight ward councillors (June 2022), and ten day trips into GNP for 24 schools, 214 students, 72 heads and teachers, five DEOs and 22 School Development Committee members (October 2022).

- Carried out annual conservation interschool (cluster) competitions (March, August, November 2022) benefitting 63 primary schools and directly involving 630 children, 126 teachers, 63 school heads, and 1,311 community members.

Left to right and top to bottom: A learner from Chiremwaremwa Primary explains the importance of biodiversity to her classmates, AWCF's Victor Chibaya delivering an EE lesson at Mashoko Primary, a learner at Chionja Primary provides a recap of what she learnt, and AWCF's Godknows Nyuwani enthusiastically delivers a lesson.

Annual inter-school (cluster) conservation competitions

Cluster competitions are a key activity at the heart of our environmental education program and essential for promoting conservation awareness and capacity building to local villages. Not only do they benefit the young participants from local schools, but they effectively engage the wider community including teachers, parents, community leaders, elders, and local authorities.

Linked to important term themes, these competitions are a great opportunity to reinforce important messages and encourage children take the lead to teach older members of the community. Our key themes include: The World Around Us, Flora and Fauna, and Us and Our Environment – spreading the conservation message.

Sixty-three primary schools took part in the cluster competitions, directly involving 620 children, 126 teachers, 63 school headteachers and 1,311 community members across March, August, and November 2022. The children competed across various categories: drama, poster presentation, poetry, art displays and a conservation quiz with prizes awarded including stationery and school supplies, and guided day trips into conservation areas.

AWCF's cluster competitions are exciting and meaningful days, thoroughly engaged by our local schools and well supported by the wider community and key stakeholders.

Educational and fun day trips into wildlife areas

Our educational day trips into wildlife areas remained popular in 2022 and we were able to extend the project to include more children and community members than ever. In Savé Valley Conservancy, we organised for twelve primary schools to visit the conservancy, including 180 learners, 36 teachers, eight parents and eight ward councillors. In the Gonarezhou National Park area, 24 schools took part, including a further 214 learners, 24 head teachers, 48 teachers, five representatives from the District Education Offices and 22 School Development Committee members.

The day trips give the participants an exciting and rare opportunity to experience and learn more about wildlife in its natural habitat and familiarise them with various aspects of wildlife management and conservation including the career opportunities found in the fields of conservation and tourism. It is important for us to give platform for parents and community leaders to see and have a better understanding of AWCF's work in wildlife conservation and community development.

Left to right and top to bottom: learners were fascinated to see a herd of elephants drinking water and mud bathing in SVC, AWCF's Victor explaining to the learners and other participants various activities that take place for ranch management and Kudakwashe explaining the safari business to the learners and its contribution to wildlife conservation, Learners and community members from Madzivire primary school enjoying their tour of the Sango camp in SVC.

Providing scholarships for students to attend secondary school

In 2022 we continued to support (tuition and welfare) 19 secondary secondary school students and four university scholars though our scholarship program. This support included a conservation and leadership field course between 8th -11th of December 2022.

We offer scholarship bursaries to excelling students among the selected primary schools in our schools' program. Students under the scholarship programme have their secondary tuition fees paid for and are provided with uniforms. Our support also extends to providing extra lessons and stationery supplies (where needed) for the students, and to help pay for accommodation should children need to attend schools far from their family homes. These children are all needy, and none of the students would have had the opportunity to attend secondary school without our support. The students are known as Predator Scholars, in order to maintain the link between the wildlife and the benefit.

The annual scholarship course (always hosted at our project base in SVC), alongside equipping the children with sound conservation knowledge, includes team building and confidence work, as well as career development and professional skills. This is in an effort to prepare them for work or study opportunities.

Launching a community fence guardian initiative

This year, we embarked on a partnership project with neighbouring communities employing six women from four villages adjacent to the western boundary of SVC (May 2022). The fence guardian project is a community engagement program that seeks to address human-wildlife conflict issues prevalent around SVC, and to improve livelihoods by creating employment opportunities. Community members have been employed to maintain and mind a portion of the perimeter fence of SVC which falls within their village. This project gives priority to women who are often marginalised and excluded from socio-economic activities.

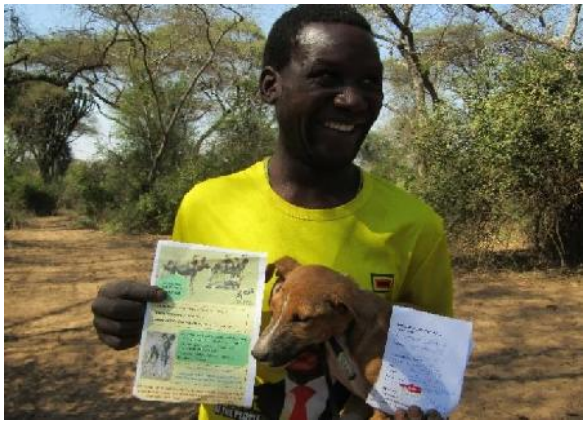
This partnership with the communities is proving to be incredibly valuable in terms of building trust and facilitating open communication; providing the platform for understanding human-wildlife conflict issues, and an opportunity to strengthen intelligence work against possible poaching. We are building the basis to be able to move forward with genuine solutions and options for human-wildlife coexistence.

Left to right: AWCF's Kuda Takarinda with our six fence guardian ladies; and prior to the start of the program we carried out baseline surveys on human-wildlife conflict in each village. These surveys will be repeated after a year so that we can better understand how / if the program has helped to promote coexistence.

Domestic dog vaccination campaigns

One of the prominent threats to African wild dogs and other carnivore species is outbreaks of the rabies virus. We tackle this head on by providing communities living near the boundaries of both SVC and GNP with the opportunity to have their domestic dogs vaccinated.

In 2022, rabies vaccination campaigns were carried out in Chiredzi District (April) and Bikita District (August) in targeted communities. A total of 3,070 domestic dogs were vaccinated: 1,450 dogs in April, and 1,620 dogs in August. This work was carried out in partnership with Veterinarians for Animal Welfare Zimbabwe and with veterinarians from the district offices.



Left to right and top to bottom: Community members bringing their dogs for vaccination, AWCF's Kudakwashe explaining the purpose of the rabies campaign at the same time handing out flyers with information on the conservation of wild dogs and the prevention of rabies at Chegwite dip tank, a community member holding a vaccination certificate for his dog, community based vaccinators visited households in their areas of work to ensure that every dog was vaccinated.

Supporting anti-poaching efforts to mitigate the threat from snaring

African wild dogs are the flagship species of our organisation, and the sustainable conservation of resident packs is central to all our efforts. We continue to do what we can to create safe space for wild dogs and other wildlife. This includes; removing snares from the field, reporting criminal activity, and closely monitoring our high-risk packs. However, the most effective approach by far is to support our local anti-poaching units (including through logistical support, manpower, financial support for intelligence operations), which is something we continue to prioritise.

Left: Our partners, Anti-poaching Tracking Specialists, in SVC after apprehending a bushmeat poacher.

Conclusion

Throughout 2022, AWCF made important strides in our research aims and community initiatives. We remain invested in the long-term conservation of large carnivores in the lowveld of Zimbabwe and to uplifting the communities living close to wildlife areas. Our research contributions continue to be significant for regional and international stakeholders working to improve global conservation efforts. Our community programs remain popular and appreciated within neighbouring villages and positive evaluations are testament to the commitment of the entire team towards our organisational objectives.

We look forward to 2023, knowing that we are building upon a solid foundation of research and activities that conserve Africa's precious wildlife and help her people.

AWCF's main partners are: