



Compiled by
Dr. Gregory Rasmussen
Painted Dog Research Trust
Sizinda, Box 285, Victoria Falls
greg@painteddogresearch.org

PDRT Annual Report 2020

Welcome to Dog Tails from Painted Dog Research Trust.

Message from the Director

What a horrific year this has been, but then everybody feels that sentiment. In many ways, I think it has defined all of us as to who we are, and in different ways, each and every one of us has been challenged. Here at PDRT, whilst as everywhere, certain projects had to be on hold, we have had multiple successes and because of teamwork, we have weathered the storm. I am deeply proud of our team. Part of that team of course has been our partners and support network who have stood behind us in these uncertain times. Due to this support, we have not had to stop the ship and despite the COVID storm, we have had some conservation successes. Fingers and legs crossed, here in Zimbabwe COVID has been managed well since the beginning with borders being timeously closed, curfews, severe fines for not wearing a mask, and police roadblocks to ensure that vehicles do not exceed the passenger limit imposed. Also, from day one, all essential shops had to check body temperature, and sanitise the hands of each customer. Consequently, it was kept in check until December but the new rapid spreading variant that entered South Africa, and with movements being relaxed across the border, COVID plied its lethal trade and got into the major cities before another lockdown was imposed. So that is where we stand.

COVID aside, we have had exceptional rains which means that for the first time in 9 years, except for people who planted illegally near the Zambezi tributaries and had their crops and topsoil washed away, many of the rural communities will reap decent crop harvests. The bush is looking amazing, and unlike many of the years when due to water stress the trees dropped their leaves early, this year should be a good seed set. Our home base in Sizinda which five years ago was a sorry overgrazed and eroded site is alive with activity and rapidly growing species diversity. `

Summary of 2020

The year began well with a competent and enthusiastic student team assisted by the help of volunteers Emily Thomas from California, Nicole Kozee DeGennaro from Florida, and Megan Sakuma from Vancouver. No surprises, PDRT was a very happy place resounding with activity and laughter. All was still on track with fieldwork field as there had been no rain and the trees were already shedding leaves that they had anyway had at half-mast for most of the season.

All season we had been excitedly working on the Dining Pavilion which also served during the day as a breakaway working area. We were therefore delighted when final floorboards were nailed into place the afternoon of January 27th but tragically that same night there was a ferocious dry electrical storm that flashed a lightning bolt onto the thatch roof. We attempted a bucket brigade to quell other dry vegetation from catching fire but could only watch the structure go to ashes. Happily, we saved the surrounding bush and, in the aftermath, found out the lightning that had looked like an alien invasion, was simultaneously striking between Hwange and Victoria Falls, 100 km apart. Both towns were devoid of electricity for two days while engineers worked to get power restored. As for us, the electric field destroyed our solar system in two adjacent buildings even though there was no connection to the burnt building other than a force field. Sadly, another example of extreme weather promulgated by climate change.



In January IUCN Save Our Species organised a workshop in Dar es Salaam, Tanzania seeking 20 participants from African conservation organisations for training on key approaches for analysing human-wildlife conflicts (HWC) and suitable methods for addressing them. Participants were drawn from organisations working on human-wildlife conflict-related themes and were invited to suggest a suitable participant for the workshop. As there were limited spaces, and Dr Greg sees it as important that Zimbabwean graduates and undergraduates are exposed to the International conservation stage, we were delighted when our student George Nyawo was selected to attend. Participants were required to prepare Power Point Presentations, highlighting cases of HWC that are prevalent in their areas of concern and how they are working towards managing them. On behalf of PDRT, George

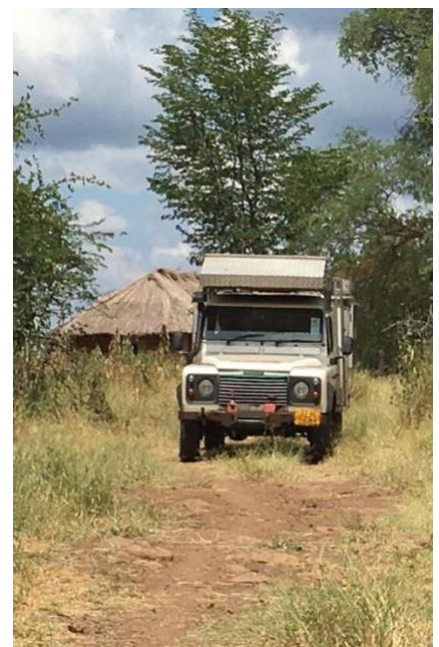
was proud to present “Mitigating Road Kills on the Vic Falls – Kazungula Highway”. Usually one thinks of human-wildlife conflict as wildlife impacting humans through stock losses of crop-raiding. This is of course reverse human-wildlife conflict where drivers are decimating wildlife populations. The workshop was a success with George acquiring knowledge on the different approaches currently in use by different organisations in mitigating the effects of HWC, as well as interacting with other conservation practitioners. Armed with this knowledge, stakeholder mapping/ analysis, and negotiation methods were quickly adopted and included in the Woodlands Community outreach and awareness campaign carried out between February and March.



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Early February Dr. Greg was invited to participate in a meeting of the Carnivore Coalition of the Kavango Zambezi Trans-frontier Park initiative (KCC) to share progress with participants in the other range countries. By special request from Dr. Greg the organisers allowed the whole PDRT student contingent to attend, and PDRT was over-represented with 8 people. PDRT is totally committed to the concept of KAZA whose vision is to create an inter-linking landscape across the five countries (Zimbabwe, Botswana, Zambia, Namibia, and Angola.) Within KAZA various people are voted for to be protagonists of conservation issues, for with Dr. Greg tasked with championing the challenges for carnivores in the complex landscape that connects Hwange National park with the rest of KAZA. At this meeting when Dr. Greg highlighted the fact that 4-8,000 vertebrates were killed on one 70 km stretch of road alone, it was shared that on a similar stretch again running through a wildlife area, in Botswana and Namibia the figure was double. Consequently, to come up with a better understanding of the problem, and to develop effective solutions that could be adopted across KAZA the participants requested Dr. Greg to champion this very complex problem on behalf of the KCC.

Also, in February, Dr. Greg flew out on Valentine's Day to start his US/Europe fundraising tour and the home crew started working on the list of projects he left to be done. One of which was to have the students along with Zulu our conservation educator, develop and execute a social science-based questionnaire in the Woodlands community wildlife area to the south. At this juncture, Amy Young, a member of Global Conservation Force arrived, having a strong background in conflict resolution at the grassroots community level, Amy was instrumental in assisting MK and the students refine their field survey questions and presentation.



In the Woodlands community we had started a new proactive community initiative, based on the satellite collar movements of the Musketeer pack that was utilizing their area. Here the research team led by MK, would visit the spot in the community area where Anne, her pack, and five pups were either that day or the day before. Apart from the public relations value of this exercise, as villagers would identify

with PDRT staff, it also served to let the community see for themselves that the dogs were there, but not a threat and also not there all the time as they believed. This approach helps to resolve a long-term myth dispelling challenge. The myth is that when the dogs are seen they are there to stay and are perceived as a thief waiting in hiding to strike. The truth of the matter is that with such enormous territories they spend little time in any one place and move on. This approach happily led to more dialogue and PDRT sought to glean what the community wanted in terms of help that would in return deliver conservation benefit in terms of reduced snaring. Due to the COVID lockdowns these dialogues were put on hold, but recently one of the community leaders approached PDRT to resume discussion which bodes well.

As the days ticked by, the news of COVID-19 started to reach the initial panic level, and after two days at the airport, Amy got a seat on the last plane out of Victoria Falls, although it was nearly a week before she was safely home to quarantine. The home team, including students, collectively decided to stay on PDRT property and go into lockdown several days before the government decree. The PDRT gate was locked and only opened for a shopping run by Mary. A myriad of work items was added to the list and tackled as much as could be done with the skeleton crew.

In the meantime, Greg landed in the United States on what is the annual two to three-month educational and fundraising marathon to ensure financial security for PDRT through the year and allow him to get back to steer PDRT. The first port of call was to be El Paso where ensued a delightful exchange with a stern immigration officer at Chicago on entry. Once the officer established why he was coming, asked where was my first destination. When El Paso was mentioned, his eyes lit up as he said “That’s my hometown”, so Greg asked what in particular should be on the Paso bucket list. “Eat as much Mexican food as you can” he replied. So Mexican food was the order of the day.

El Paso Zoo was followed by pitstop presentations in Albuquerque, Phoenix, Living Desert Zoo, and Los Angeles Zoo with a fundraiser the same day set up by the Global Conservation Force. The next morning it was up to Santa Cruz to meet Guy Oliver from the Marine Mammal Research Institute. People often ask why Dr. Greg goes there, as painted dogs don’t live in the sea. The answer: Energetically they are as interesting as seals so there is a common ground. The team at the research institute are also a great bunch of scientists. After that, it was San Francisco where Linda Tabor Beck held her annual PDRT fundraiser with a special focus to help us get back on track after the devastating fire. This made all the difference and in 2020 PDRT was able to invest in a more robust solar system, and we are fully powered up and better than before. Thank you to all those who supported the event. Then it was a Zoo a day visiting Portland, and Columbus who had designed and sponsored traffic awareness bumper stickers to be carried back to Zimbabwe.



Then Knoxville, Miami with a great brewpub event in Orlando organised by the Disney team Nichole Hill and Brandon Davis, who had volunteered at PDRT. After Orlando, it was Potawatomi and then on to Niabi which turned out to sadly be the end of the trail. COVID was rapidly raising its obnoxious head and within a matter of a day, the itinerary with at least 23 venues on the cards had to be canceled. Now it was more a question of Dr. Greg getting back from Niabi safely to Zimbabwe. The leg to London was the last being flown until further notice and Heathrow was deserted. As Victoria Falls had only one case, PDRT home outside Victoria Falls had the potential to be much safer than anywhere else in the world. Sadly, Dr. Greg only made it as far as Johannesburg as on arrival authorities came checked passports, and allowed everyone off the plane except the five resident Zimbabweans. Armed security guards, with one coughing, and all without masks stayed to ensure nobody left the plane! 15 hours later the plane was reloaded with passengers and it was back in London. So began a 6-month stay for Dr. Greg locked down in England and except for “Zoom” pow-wows, was separated from his pack.

The number of cases in Zimbabwe remained low and as restrictions eased the labour force was brought back, with face masks required and a hand sanitising station in place. The project list was being chipped away. With a quorum of no more than 5 in a vehicle, MK and the remaining students were able to get back into the field to collect camera trap data and monitor Anne and her Pack with five pups and



in June he was delighted to report that the Chundu pack of four adults was denned on the concession of Matetsi

Safari lodge, and the camera trap had shown five pups. With the pups being well fed it wasn't long before at 12 weeks they went nomadic with all



five pups. Tragically they were only nomadic for two weeks when they went onto the Kazangula to Victoria falls Road, a tarred road that runs through the National Parks Matetsi wildlife safari. This is a public access road and except for the two males who were never seen again, the pups and alpha females were killed by traffic. Ironically the only traffic supposed to be allowed to be using the road were cross-border cargo trucks but still, this happened.

Finally, in October, good news arrived! Zimbabwe opened to international flights and even better, Ethiopian Airlines quickly opened the route to Victoria Falls. This was without a doubt a service to customers decision, as passengers were few. This reinforced Dr. Greg's high opinion of Ethiopian Airlines, which has over many years come to the rescue. Greg arrived home to fanfare on the inaugural Ethiopian Airlines to re-open its route into Victoria Falls Airport. The plane was given a water cannon salute by



the Civil Aviation team, and on the runway, there was a welcome party of the Ethiopian Airline and airport staff doing the Jerusalem dance, with the local traditional dancers greeting the passengers with song and dance as they disembarked. <https://www.facebook.com/watch/?v=343877166697105>. Feeling like a dignitary, Dr. Greg entered the terminal by another route as the ministry of health had set up a COVID safe area where papers were checked to ensure COVID free test status, took details of all recent movements, contact number and as it was mandated, the address where you would be locking down for two weeks.

Mary had brought Bongo to the airport and he was resting outside 50 meters from the exit door as allowed by the airport security. Suddenly his senses detected 'Daddy Greg' on the other side of the terminal building and started to whine, then as Greg came through the doors Bongo leaped up and jumped nearly to Greg's shoulders, a memorable reunion.

Back home in Sizinda Dr. Greg was taken on a tour and proud to see what had been accomplished by the 'home Painted Dog Team' during the lockdown. Despite COVID a lot had been



accomplished by the team (Design Mary, Building team leader Ian Ngwenya, Welding MK Moyo, Sizinda local construction crew, and university students). The high-level water tower to provide sufficient



pressure for the student shower-block was complete, and amazingly the student centre, where everything from lessons, to lunch, to movies and simple relaxation will happen was at a good level. As Dr. Greg always insisted that his house details should be the last project, in his absence Mary took the executive decision to complete his kitchen with a 'metallic' green concrete work top

Again, in Dr. Greg's absence wearing many hats, MK led the student team, and apart from keeping the vehicles serviced had ensured that the social science questionnaires, camera trapping and Painted dog databases created for camera trap data from the Chundu pack den were up to date. With a few zoom calls, with Dr. Greg stuck in the UK, everyone had worked proudly as a team as efficiently as any Painted Dog pack would have done.

In the closing months of 2020, the building team was doubled as the huge task to complete the septic tank and wastewater system started in earnest. As PDRT property site is on rock, to deal with huge volumes of black and grey water that will in the longer-term need to be managed in an environmentally friendly way is a challenge! Dr. Greg set the target to capture all the wastewater so it could be used twice. This project entailed putting in septic tanks and laying a labyrinth of underground wastepipes to two 60,000 litre /16,000-gallon underground tanks where the water will be final treated with aeration and pH adjusted. A marathon job that will continue into 2021 and provide water that will be ideal for the proposed indigenous tree nursery and vegetable garden.

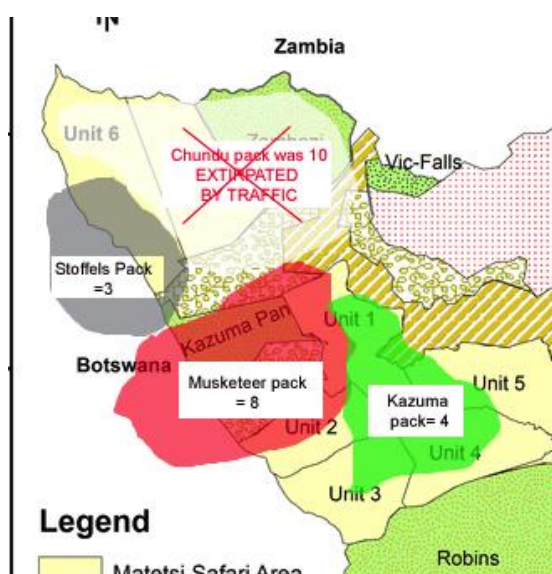
A happy ending to 2020, was the return of Loswitha Murugani who is with us for the year on her attachment from Chinhoyi University. We have been proud to support her for the last six years, first facilitating her to get the necessary qualifications to enter University and supporting her through her education. In a couple of years Loswitha will be the first young woman to graduate in the Sizinda rural area.



A smiling Loswitha after a field lecture on the skeletal anatomy of an elephant that died of natural causes

Research Report.

Whilst the data from the social science questionnaire have yet to be fully exploited, one very revealing metric was that driver attitude to Painted Dogs was correlated with the Country drivers grew up in. Happily, after 33 years of conservation work, it was good to see data highlighting that Zimbabwean drivers measurably showed the most positive attitude to painted dogs with significantly less empathy from drivers from South Africa, Zambia, and Botswana. Whilst disheartening, at least it showed where to target messaging. The loss of the Chundu pack has left a vacant territory and also this vacuum is setting the healthy Musketeer pack up for what is known as an ‘ecological trap’. This happens when species’ follow correct ecological cues, but are unaware of the fatal danger and follow in the footsteps of former occupants.



Analysis of den disturbance data.

In 2020 there were disturbing reports about the collapse of the Mana Pools painted dog population, and this was believed to be linked to disturbance by researchers, tourism, and filming by the BBC. This prompted analysis of data collated from 1993 to 2016 and the impact of den disturbances.

‘Disturbed dens’ are defined as those that have been visited by foot or vehicle more than once every ten days for periods greater than 5 minutes.

‘Undisturbed dens’ are defined as those only visited to set /recover camera traps on foot every 10-14 days and during the heat of the day when the dogs were away from the entrance, Maximum length of time at den 5 minutes.

Table 1 Differences in activity in Disturbed vs NOT disturbed dens

Painted Dog Activity/Mortality	Dist.	NOT Dist.	Positive impact of NOT being disturbed
Mean frequency of den moves between Birth and 16 weeks	5.6	3.2	57% less den moves
% of pups born known to have died during moves	42%	16%	38% less pup mortality
Number of hours adult dogs visible close to the den	13	24	1.9 times more pup guarding
Pup mortality during first nine months when nomadic	65%	32%	Half the pup mortality
Leg length as a proportion of body length in pups that reached 14 months	93.6 %	97.5 %	Leg length 4% greater
Food procured as measured by mean belly score (higher = better fed)	0.07 6	0.08 8	Greater amount of food procured 15%

Dynasty documentary

It was a fact that the Dynasty filmmakers, by their own admission in their introduction, went ‘above and beyond’ in their filming and breached boundaries that they hitherto had not infringed. This meant intensive following and day and night observation not just during denning but at the other times of the year.

Scrutiny of the Dynasties documentary highlighted departures from what previous Mana and other data show to be normal.

The number of pups that first emerged from the den in both the packs intensively studied was significantly less than would be normal for either the alpha females themselves as based on their reproductive history, or for painted dogs as a species based on published data on pack size-related litter size at emergence at two to three weeks of age show that the larger the pack the greater the litter size.

Thus, according to data the Alpha female of the Vundu pack ($n=9$) would be expected to produce ± 9 pups yet only showed two pups at emergence equating to a significant 78% reduction in what would have been expected. The alpha female of the Nyakasanga pack ($n=19$) would be expected to produced ± 16 pups yet only five emerged equating to a significant 69% reduction from the expected litter size. As in previous years, both females produced litter sizes commensurate with their pack size, this significant reduction signaled the probability of a stress effect, and where ± 25 pups were born but they died underground and unseen in the den and were eaten by the alpha female. As stress is known to be the number one cause of lactational deficiency, the probability is that unbeknown to those filming the den, the pups died of starvation. Moreover, across species, data show that overt stress is rarely perceived, and whether to stay, or move is based on risk assessment. When the pups are so young, it is a fact that the risk of moving the pups is exceptionally high and thus the pack will choose what they perceive to be the lesser risk.

Education

In Zimbabwe as in many other countries, the first school term ended prematurely in February. In October conditional to schools following COVID health regulations, the Ministry of Health declared children could go back to school. Consequently, in early November, teachers returned to work and classes resumed along with PDRT Conservation education programs. Before the holidays started in early December, 15 school visits were made by Zulu our Conservation Educator with 465 pupils benefiting from conservation education. With it being easier to socially distance in the space of PDRT, an additional 128 children visited PDRT in the last two months of the year and benefited from various hands-on conservation education programs conducted at the centre. Some of the lessons conducted at PDRT Ecology Centre included our ‘Kids for Science Program’ which also involves interacting with undergraduate students studying Biological Sciences, that are on attachment to PDRT. These students assist children to grasp certain important biological concepts. Being from the local community, Loswitha who was also with us, was indubitably both an asset and role model to inspire local children to further education.

In November, from the three target schools, 25 children, accompanied by the undergraduate students enjoyed a trip to the Forestry Commission arboretum. Here, with Agnes the forestry botanist, children were taught about the importance of planting trees, the correct procedure in sowing tree seeds, and nursery management. Despite the truck



carrying the children breaking down, it transpired to be an amazingly productive afternoon that will be a regular event in 2021.

On the school closing day, students from one of the target schools, Sizinda Secondary School, witnessed awarding of conservation prizes to two students, who on their own volition, rescued a Leopard tortoise about to cross the main road near their homesteads, 8 kilometres from PDRT. Realising the tortoise was in danger of being run over by motorists the two boys picked the tortoise and decided to take it somewhere safe. That safety they deemed was Painted Dog



Research Trust. The tortoise was released at the Centre, and it was named Thembalisco, from Thembani and Lisco the names of the two rescuers. Their bringing the tortoise to the centre was considered to be one of the results of the effectiveness of PDRT's educational program.

Targets and Dreams for 2021

Complete the Children's bush camp and have the first intakes.

Complete Construction of a Student Dining/Recreation/lecture centre where workshops can be better facilitated.

Establishing an indigenous tree nursery.

With funding we also wish to take the conservation ecology centre to the first-floor level.



So, to conclude.... Special thanks to the PDRT team for their commitment, to the community they serve, and of course ... the Painted Dogs and Bongo!



Importantly PDRT continues to be grateful to the individuals and organizations who choose to advance our infrastructure, education and research programmes through generous contributions as well as the local organisations that help us logistically, the companies that deliver good service and try to assist us ensure that our funds raised go as far as they can go.

Special appreciation:

AAZK Milwaukee Chapter Household, Aggie Pagnillo Household, Al Gilbert Household, Amy Young Household, Andrea Ewald and Stephan Meyer-Ewald, Anil Kripalani Household, Barbara and Rob Dicely Household, Barbara VanHecke Household, Blank Park Zoo, Bonnie Beaudoin Household, Brandon Davis, Brenna Craft Household, Bri L. Household, Brittany Ackerland Household, Brittany Tommila Household, Carlos E Figueroa Household, Carol Kendle Household, Carol Zoltowski and Alfred Gilbert Household, Cathryn Gabor and Rob Fuller, Christine Flynn, *(continued)*

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