CAPE LEOPARD TRUST

ANNUAL REPORT 2016 - 2017

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Cover Photo: M6 (Male leopard #6), also know as Max, from the Cederberg Wilderness Area. Photo taken with a Bushnell camera trap on 'Mied se Kop' in August 2010, with the iconic Tafelberg massif in the background. He was captured and collared as part of the Cederberg research project at the end of May 2011, and weighed 28kg at the time. He was the first adult leopard for which we had an accurate age estimate at the time of collaring (7 ½ years), thanks to the fact that he had been captured once before as a juvenile on the 22nd August 2005 after killing a lamb on a farm. He was released on site and remained dominant in the area before being pushed out by another male, M13. Six years after our first "meeting" with Max, he established his own prime territory which included Sneeuberg and Driehoek.

Cover credit: Athol Moult

WILDERNESS

"Have we forgotten that wilderness is not a place, but a pattern of soul where every tree, every bird and beast is a soul maker?

Have we forgotten that wilderness is not a place but a moving feast of stars, footprints, scales and beginnings?

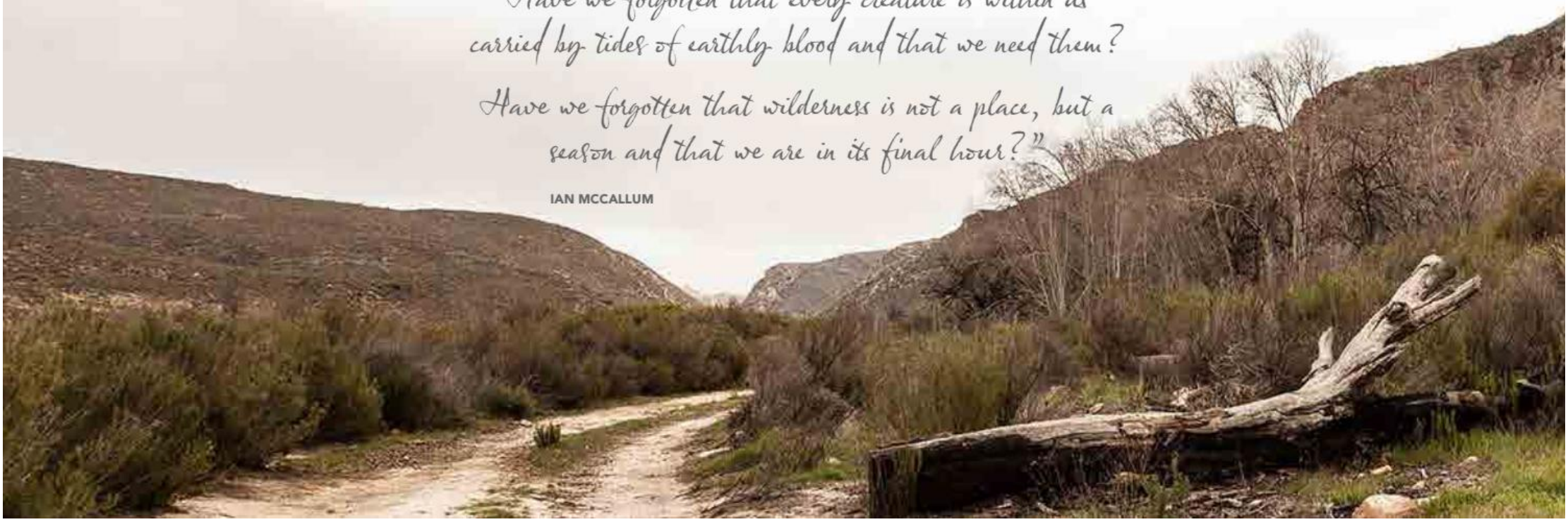
Since when did we become afraid of the night and that only the bright stars count? Or that our moon is not a moon unless it is full?

By whose command were the animals through groping fingers, one for each hand, reduced to the big and little five?

Have we forgotten that every creature is within us carried by tides of earthly blood and that we need them?

Have we forgotten that wilderness is not a place, but a season and that we are in its final hour?"

IAN MCCALLUM



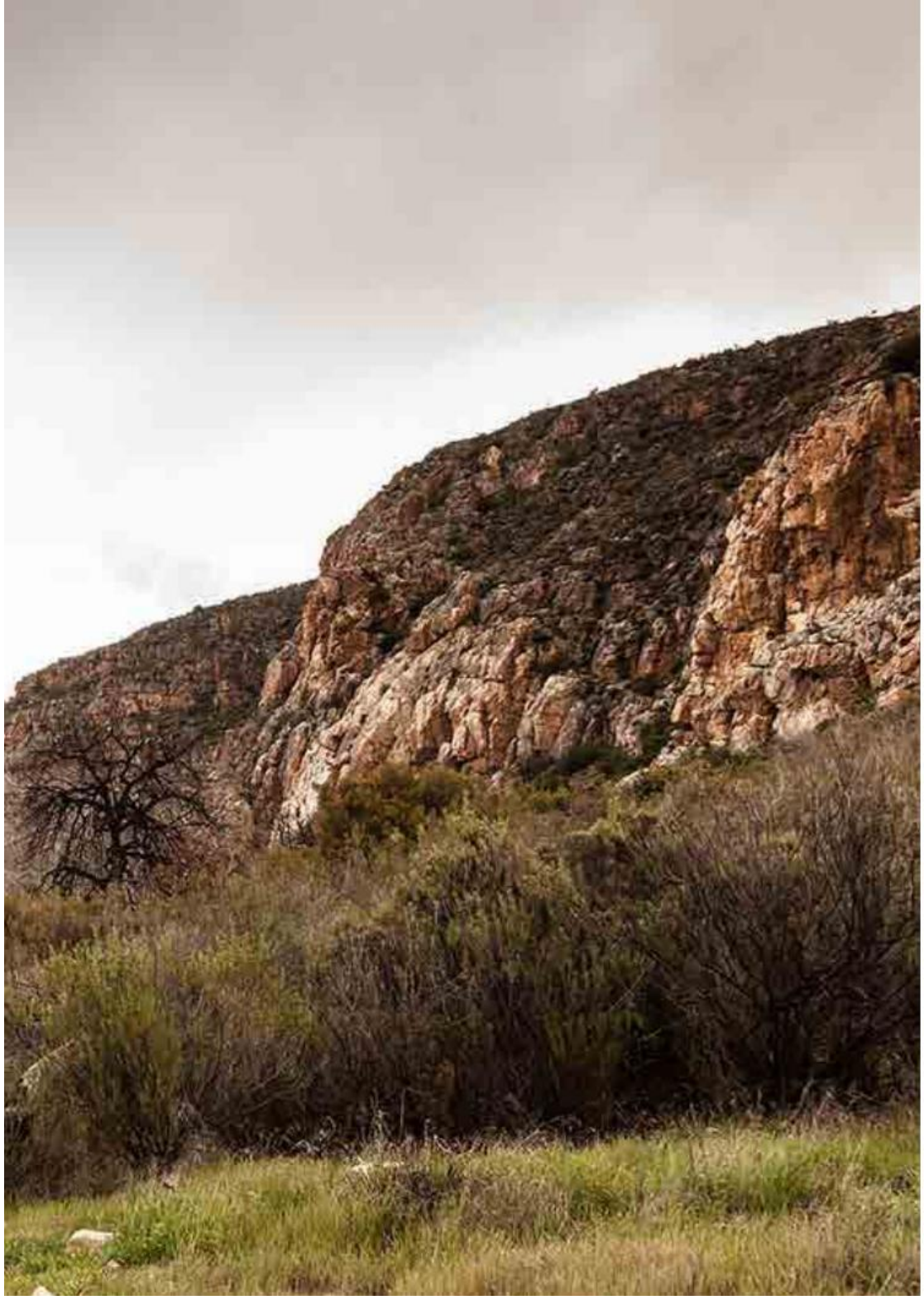


PHOTO CREDIT: CEDERBERG - PIXEL REVELATION

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Letter from the **Chairman**

Johan van der Westhuizen

The stated purpose of the Cape Leopard Trust is to ensure the long-term survival of leopard populations in their natural habitat. We are fortunate to have the support and encouragement of many different people from various walks of life, who collectively, in some way or other, strengthen us in our efforts to achieve this objective. In these times when natural environments are increasingly under threat from human encroachment and the resultant devastation, it is gratifying to know that there are so many people who care enough to work together with an NGO such as the Cape Leopard Trust to protect our biodiversity. This fantastic collaboration is a golden thread that runs right through our entire organization.

Obtaining funding for environmental research in South Africa is very difficult, being in competition with the more popular funding of social projects which companies seem to prefer to enhance their corporate image. This is a pity because human society ultimately depends on a healthy environment and that requires an eco-friendly

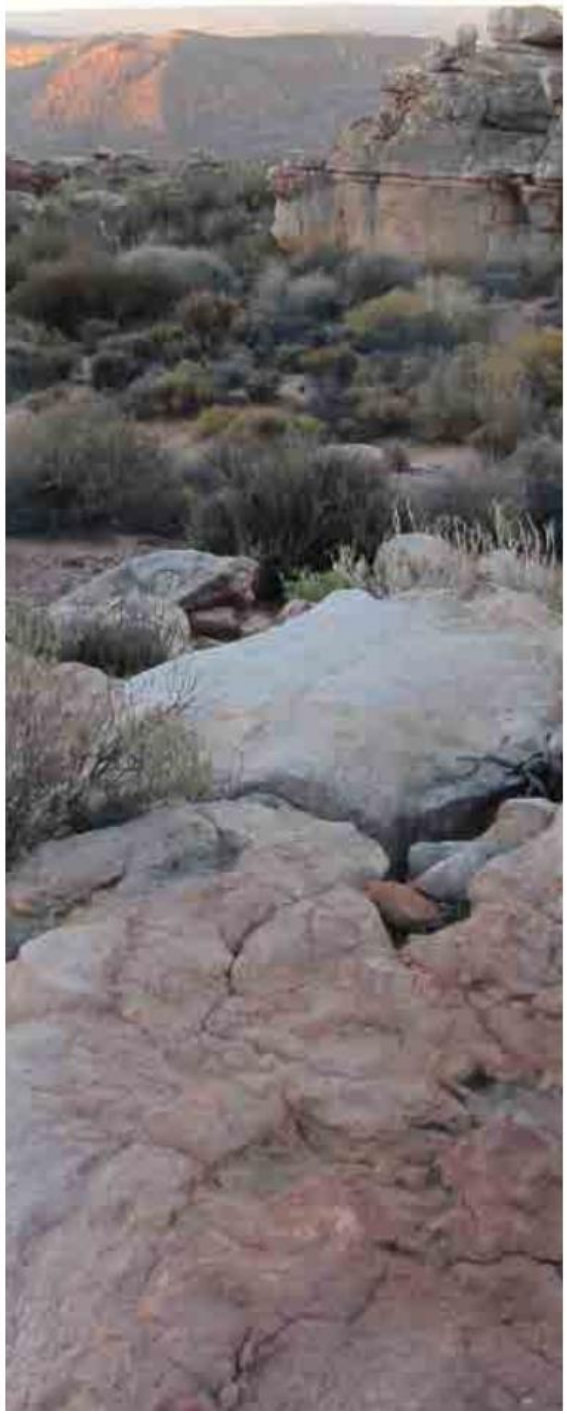
lifestyle, something which needs urgent awareness in our country. Fortunately, we have wonderful sponsors who fully support our vision and are passionate about what we do. What sets our sponsors apart is that they not only share in our successes, but also understand and support us in times when we encounter disappointments. We at the Cape Leopard Trust value greatly this quality and level of sincerity. It makes it possible for our researchers to work without the constant threat of funding difficulties and possible financial impediments which might otherwise compromise the scope of project objectives.

To maximise our efficiency it is important to revise and refresh research programmes to make use of the latest technologies, methodologies and trends in evaluation. You will notice elsewhere in this report that all our research projects are in the process of being re-designed and equipped with the necessary resources needed to comply with changing requirements and conditions. Our environmental education projects are also in a phase of adjustment and we are in the process of launching a new programme with a focus on the local communities situated in and around our project areas. In future our educators will reside within these communities, which will ensure frequent contact and interventions over extended periods of time. We are excited about the possibilities of longer term mentorship programmes that will enable us to monitor and measure the results of our education efforts.

This past year was the first time we had an operative Scientific Advisory Board as part of our team. We are indeed fortunate to have this superb fountain of knowledge available from the academic community to assist and guide us in our endeavours. Our thanks to these scientists for their generous support and for making time available to offer us their advice and help. Their contributions are already making a significant impact on our activities.

Our partner, CapeNature, has given the Cape Leopard Trust terrific support during the past year. The Cederberg offices at Matjiesrivier and Algeria in particular assisted us with setting up our new expanded Cederberg research project, as well as our revised education programme. We value this constructive partnership and would like to thank CapeNature for this.

Lastly, my thanks to our CEO, her management team and staff for their enthusiasm and dedication. They are a small group of permanent staff who work very hard and do a tremendous job, often with limited resources at their disposal. Also, my thanks to the Board of Trustees for their usual dedication and inputs into the activities of the Cape Leopard Trust. The roles played by the various trustees are often out of the limelight, but are nevertheless of great importance in assisting management in running an efficient organization and ensuring that fiduciary requirements are always adhered to. It is a privilege and pleasure to be associated with this Cape Leopard Trust team.



Introduction from the **CEO**

Helen Turnbull

Compiling and creating what we hope will be a representative and informative review of our activities spanning across the last year or so is quite a daunting task, but it also allows for some valuable moments of quiet reflection. Looking back, this has been an exciting and dynamic time of change and growth and I am pleased at how the Trust is transitioning organically into a new phase of maturity.

As part of this journey we initiated a five-year strategic plan for the organisation. The process was interactive and involved all staff and researchers working together as a team to collectively define the goals and conservation aspirations of the Trust. It was an opportunity to affirm our history and define our future purpose: **To ensure the long-term survival of leopard populations by promoting peaceful coexistence and enabling the protection of broader biodiversity, empowered by scientific research, positive community partnerships, education and advocacy.**

We revisited our visual identity to inject fresh energy, and with expertise from creative professionals we re-designed and updated our logo, and after an extensive content overhaul we launched a more streamlined and efficient website.

In presenting this, our latest annual report, it is a pleasure to share our recent achievements, and to acknowledge those who have been integral to us to reaching our goals.

Our projects are all looking strong, and now led by homegrown talent, something we feel is important for developing world class South African conservationists and supporting skills development.

The extensive planning phase for the Cederberg project camera survey is complete, and logistics are being finalised ready for Lana Müller and her team to go 'live'. The new study is ambitious, and the area much larger than previously researched, thus naturally more challenging, but we must 'scale up ' our efforts if we are to make a significant difference to human-predator tolerance and to find a way to enable improved predator management.

The Boland research team has partnered with the Wilderness Foundation and Stellenbosch University to increase its capacity and reach. You will read more about plans for landowner and community surveys to allow an in depth investigation into the extent of illegal hunting with wire snares. This is reportedly a growing problem in many wild areas, and the impact it has on biodiversity will be considerable unless formal research is undertaken to investigate the drivers and motivations for this behaviour.

The Environmental Education Project has completed another successful year. Back in August Hadley Lyners took over the reigns as Environmental Education Coordinator and is settling into his new office based role after three years as an environmental educator. His work includes intensive behind the scenes planning necessary for the smooth running of the programme, curriculum development and fundraising. Hadley highlights recent successes of the project in his summary.

We bid farewell to Dr Bogdan Cristescu and Kristine Teichmann, Namaqualand PEACE Project as they deliver their final report, which concludes a three year placement with us as lead researchers in the CLT, Woolworths, Conservation South Africa (CSA) and SANParks partnership. The analysis of their findings is underway, and we look forward to the results being documented in high profile international scientific journals in the near future.

The Urban Caracal Project has completed its two year field work term. From the outset this project has been full of surprising discoveries under the leadership of Dr Laurel Serieys. With no known or documented genetic markers available for caracals, these had to be designed from scratch, and we anticipate pioneering research findings to come from the data. We particularly acknowledge Joleen Broadfield, for her incredible work ethic as project research assistant, as well as SANParks, City of Cape Town and the SPCA Grassy Park Wildlife Unit for their facilitation and support in making this sometimes challenging city based research possible.

UCT student, Elsa Bussiére, and the Cape Cryptic Carnivore study serves up some special Karoo magic as she shares the latest findings from her project, and we present some personal insights from Cape Leopard Trust partners new and old.

In a year that proposed the legal trade in rhino horn be re-opened, and with plans afoot to lift the moratorium on leopard hunting in 2018, mobilising conservation action is even more urgent. Rhinos, lions and elephants, three of Africa's so called Big 5, as well as the organisations trying to protect them, continue to battle the scourge of unrelenting poaching, while under the radar we continue our efforts to ensure the survival of the fourth of Africa's icons, the leopard. The focus of our new research is not therefore not only to study leopard ecology, but to facilitate the development of a holistic and proactive management approach that will enable efforts to sustain leopard populations both in and beyond our local borders. The power of collaboration is key, and to assist us as a tehnical partner we have enlisted the help of Dr Raj Amin from the Zoological Society of London (ZSL). Raj provides some insight into recent ZSL driven advances in camera trap technology, and how its global uses will enhance vulnerable species monitoring.

In closing, I express my personal thanks to the awesome support team behind the Trust. First, for the positive contributions from our Board of Trustees and Scientific Advisory Board, as well as the professional commitment from each member of our staff. Second, heartfelt appreciation to our partners and sponsors. Each of you empowers us to continually raise the bar and push new boundaries. We value your investment and belief in us as we walk this long road together, with a shared vision for Cape leopard and broader biodiversity conservation.

As an organisation we are privileged to offer a voice for these majestic and elusive cats, bringing them to life through the different dynamics of our work, and making sure the plight of leopards is never forgotten!

We hope you will find inspiration in these pages.

Helen

Gavin Durell

Nature's Classroom - **Environmental Education**

Hadley Lyners, Catherine Kühn and Nicole le Roux

Our focus in the education project is to deliver experiences in nature that change the way young people see themselves, and to inspire them to protect the environment. We use the opportunity to share knowledge and to empower, by re-connecting young people with the natural world. We achieve this through a range of interactive and thought provoking activities that instill an attitude of reverence and respect, leading to an improved understanding of the environment. Thanks to our partners we were able to subsidize or sponsor all participants this year and ensure the programme remains accessible to all.

OVERVIEW OF THE EDUCATION PROJECT ACHIEVEMENTS

We have been fortunate to receive funding and sponsorship from the National Lotteries Commission, Rand Merchant Bank, Joan St Leger Lindbergh Charitable Trust, SA Mint and Bridgestone South Africa in this financial year. As a result we were able to deliver another successful camp programme with a busy Cape Town programme to match.

2016 **Education Project Figures**

ACTIVITIES	NO. OF ACTIVITIES	PARTICIPANTS
Camps	25	519
Day trips and eco-clubs	20	268
Presentations	28	2 868
Holiday Programme	7	20
Exhibitions	4	599
TOTAL NO. OF PARTICIPANTS		**4 372**

EDUCATION PROJECT OBJECTIVES

The leopard is the apex terrestrial predator in the Cape, and we use this iconic species to provoke on-going communication around the importance of protecting biodiversity. We explain the reasons why we should ensure the continuation of its existence, and why maintaining a healthy prey base is necessary. We share information on the various threats to leopard survival and the resulting negative effects on the fauna and flora if leopards were to become

extinct. More importantly, how all of this would affect the well-being and livelihoods of people.

Our topics cover many aspects of conservation and the motivations for why we should protect the environment. It is important that we not only teach, but that we encourage tangible connections to take place through seeing, hearing and feeling nature through interactive learning.

Our main objectives are to:

- Raise awareness about the plight of leopards and human-wildlife conflict issues
- Change the practices of young people and their communities through experiential education
- Foster a relationship between young people and the environment
- Introduce the concepts of research and conservation to the public using environmental education as a conduit to enhance the requirements of the national curriculum
- Increase the accessibility of conservation and environmental education to disadvantaged communities.

CAMPS

2016 Camp Figures

Total camps	25
Sponsored camps	11
Number of camp days	83
Participants	519
Supervisors	84
Primary school groups	8
High school groups	2
Adult groups	7
Returning institutions	12
Camps arranged by NGOs	8

Using the spectacular Cederberg and Cape Peninsula as a backdrop for our work, we share knowledge and impart information, while the beauty and magic of nature does the rest. Through a combination of 'hands on' practical teaching methods, and

our 'classroom in the wilderness' we are hugely privileged to be able to provide meaningful and life-long learning experiences. The findings from our research continually inform the programme, and this dynamic overlap between projects is the magic ingredient that makes the Cape Leopard Trust environmental education offering truly unique.

Water is an important conservation challenge for us all, especially in the Western Cape. We promote the importance of catchment areas and raise awareness of the threats posed by alien plants on natural biodiversity, particularly how alien invasives threaten our water reserves. We explain the connection between fires and fynbos, and how fynbos is adapted to fire, but only at the correct intervals. We expressly discourage the use of hunting with wire snares by explaining the impact this has on wildlife and all biodiversity, as well as the detrimental and far-reaching effects of other indirect threats such as poisons and pesticides, habitat loss, fragmentation and degradation.

In 2016, we hosted a total of 25 camps, 18 of which were at Matjiesrivier. The remainder were held at CapeNature's Grootwinterhoek Nature Reserve, or at Simonskloof Mountain Retreat Farm in Montagu. We had some challenges in 2016 which meant we had to move our campsite temporarily from Matjiesriver, but despite this hiccup we had 335 participants passing through our environmental camp programmes.

We experienced many new and exciting things during our time away from Matjiesrivier, but if re-affirmed to us that the Cederberg is where our camps need to be. The Cederberg is where the education project began, and it lies at the heart of our research work where currently an intensive camera survey is taking place. Going forward we are planning to appoint a full-time community outreach coordinator who will be based in the Cederberg, to enable small villages and towns that lie on the fringes of our research area access to environmental education. By providing more regular support and intervention we aim to encourage positive behaviour change and reduce environmental abuse, working hand in hand with CapeNature.

We had an especially interesting camp at Simonskloof with the participants from Adam's Farm home in Plumstead, a permanent residence for intellectually disabled adult women, run by a dedicated team of nurses and staff. Below is an excerpt from a story written by Catherine Kühn, one of our educators, about this particular camp:

"On the way everyone was chatting away and when we arrived at our destination and the women climbed out of the bus they were instantly in awe of the beauty surrounding them.

I showed them around the campsite and explained the compost loo's, this was a very new concept and there was a lot of laughter and joking. We took a short hike to the dam and some of the ladies swam in the cold water. That night we braaied under the stars and attempted to make stok-broodjies (stick bread) with dough twisted around a stick. The dough made us sticky as we twisted it around and around branches and tried to cook it on the fire. It was a big hit, the group kept saying they want to do this again at home!

Early in the morning we awoke to a loud thunder storm and flashes of lightning. The group huddled together in their tents at first light laughing. A highlight for myself and for the group was coming across three huge Aardvark burrows. Hilda, our intern, and I each climbed into the opening of the burrow, large enough for a human! Not surprising though, because adult Aardvark can weigh up to 65kg!"

Despite cold temperatures at night we had some memorable experiences in the Grootwinterhoek mountains too. The daytime temperatures were very pleasant and the groups especially loved swimming in Paradise Pool – a crystal clear mountain pool found along the trail towards Die Hel.

On all our camps we strive to teach participants how to be nature aware. Each camp is different, and the groups themselves bring new dynamics into the mix, which makes the whole process exciting and invigorating for the environmental educators and interns. Interesting sightings and encounters in 2016 include:

- A dead Cedar tree sapling on the Welbedacht hike up to Tafelberg sparked a conversation about the plight of Cedar trees in the Cederberg, its plight made more prominent by the annual Cedar tree planting and celebration initiative that CapeNature has put in place to help save the critically endangered species.
- Armadillo girdled lizards hiding under rocks on the Lots-se-Vrou hike were a fortunate find. Seeing such beautiful but 'scary' animals like this up close can often change the minds of those who perceived these animals as ugly, dangerous, and deserving only of death.
- The glorious Disas in bloom at Disa Pool showcases the raw beauty of the area and makes a walk particularly worthwhile. The call of a baboon sentry, and the screeches of young baboons playing (or fighting) are a feast for the senses. Termites going crazy after the first rains, blou-kop koggelmanders doing 'push-ups', and discovering caracal kill-sites are all part of the experience.
- Bird life is abundant in the Cederberg. Black eagle nests and pairs can often be seen flying above us, rock kestrel nests at Stadsaal, or a Cardinal wood-pecker pecking away are just some examples.
- A spotted genet visiting the camp, or leopard tracks in the sand create wonder and awe.
- The sunsets and sunrises are spectacular, and it would be hard not to be inspired by seeing scorpions under UV light, hearing the eerie call of a Barn owl at night, or studying the intricate details of a fynbos plant under the microscope.

We are enormously privileged to be able to view beautiful rock art sites left by the San and Khoi Khoi peoples. We tell our groups about the special connection these ancient people had with nature, and why their art is protected so fervently today.

It is probably true to say that each of the participants we get to know through our programme leaves us having experienced some kind of personal growth, and newly acquired skills learned. We value this special opportunity to convey the conservation message to future nature custodians, and to be proud and positive ambassadors for the incredible country that we live in.

INSIGHT FROM AN INTERN

"The second season of camps for 2016, saw over 300 participants enjoying the stunning Toktokkie campsite. With a huge range of ages and backgrounds; university students, working adults, high and primary school learners, there was a never an ordinary week in Matjiesrivier Nature Reserve.

The occasional leopard scat found along the road into the Toktokkie camp was a constant reminder of the presence of these awesome cats. Participants marvelled at just how close these guys really were.

Many campers overcame their fears while getting acquainted with our spidery neighbours who tended to frequent the showers. It is positive experiences with wonderful wildlife like this that marks the beauty of the Toktokkie camp.

The camps are unique nature experiences that include things that simply cannot be found elsewhere, such as swimming with rare fish, waking up to the birds singing and falling asleep under the vast array of over a million stars.

Many of the children that came to Toktokkie camp told us how this was their first time in a tent, first time hiking and first time with no cell phone signal! After the initial fear of 'isolation', nature did what nature does best, and made the participants fall in love with it.

It is safe to say that every person who came to the Toktokkie camp through the Cape Leopard Trust programme leaves feeling more positively connected to the planet on which they live."

PRESENTATIONS

We held a total of 28 presentations in 2016, helping us to reach a total of 2 868 people. Our one hour presentations provide a glimpse into the research findings of the Cape Leopard Trust. Groups are shown photographs from camera traps or a map of the range of an adult leopard. The presentations are ideal for school size groups and during the year were delivered to primary schools, high schools, NGOs, mountain clubs and staff from the City of Cape Town.

DAY TRIPS

We operated a number of day trips with destinations that included the Kalk Bay caves for the Cape-Explorers club, Paarl Rock with Soetendal NGK school, the Hottentots Holland Nature Reserve for Applewood Preparatory amongst others, visiting and highlighting a selection of wilderness sites and reserves around Cape Town.

ECO CLUBS

We maintained our links with Herschel Girls Preparatory and also with the NGO, Thrive, in Hout bay conducting a total of 12 eco-clubs last year, each at a different location, with relevant and current topics of discussion for each session. We focused our themes on the importance of protecting the rich biodiversity of the Cape, and particularly on saving water.

EXHIBITIONS

Muizenberg Festival gave us an opportunity to showcase our work and we reached 599 people through our workshops and exhibitions.

HOLIDAY PROGRAMME

We were thrilled to partner with Cape Town NGO, Rock Girls, once again for our 2016 holiday programme, which enabled 20 young boys and girls from Manenberg to spend their winter holiday experiencing the wild and beautiful areas in the Cape. This concentrated programme is one of the ways we can connect on a deeper level with our communities.

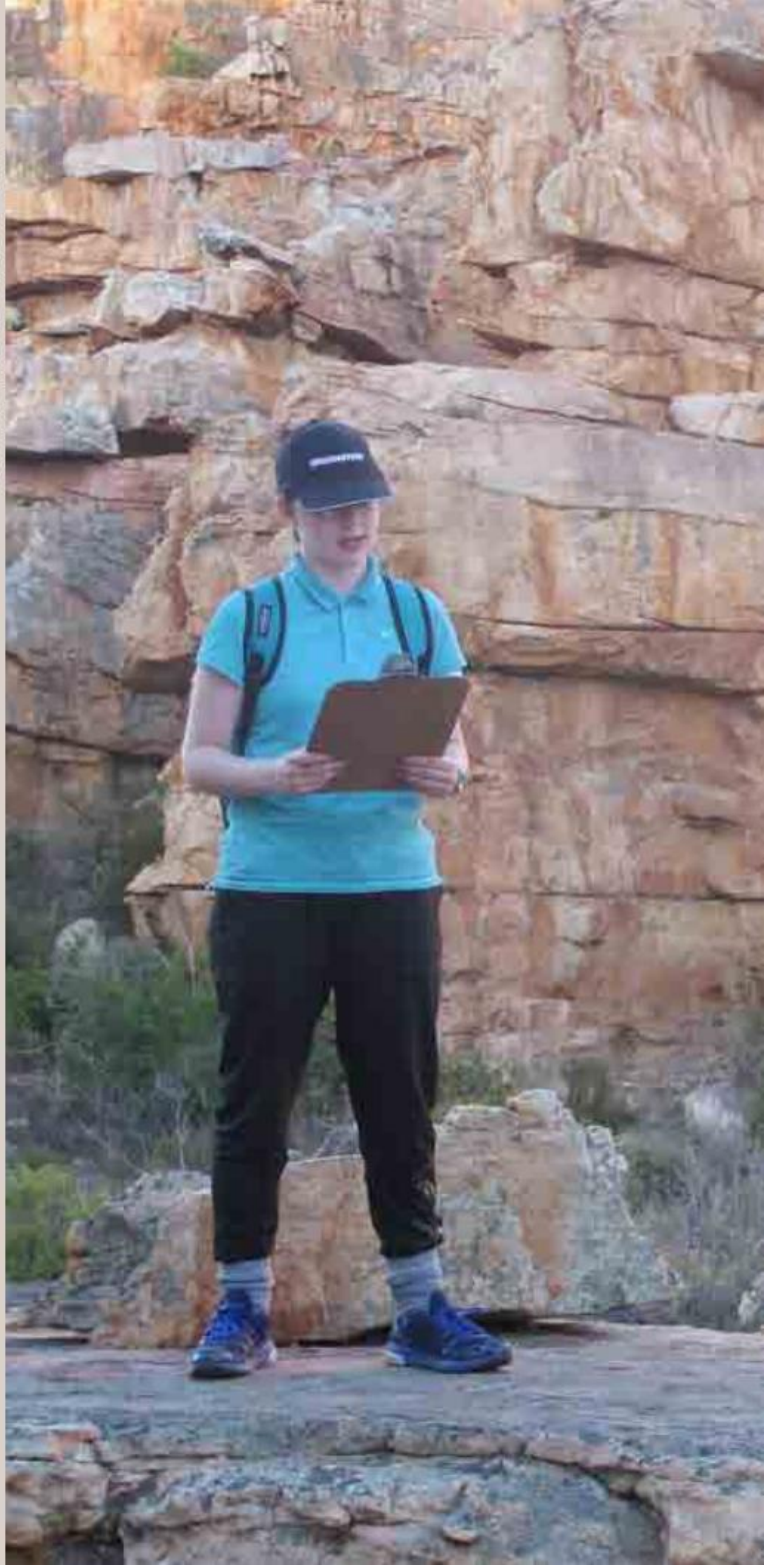
ART / POETRY COMPETITION

A highlight of our year is the annual art competition, which in 2016 was once again kindly sponsored by Bridgestone South Africa. This time we decided on a different criteria to attract new talent, and instead of drawings we invited youngsters to submit poetry with the theme: "Is Nature Calling You?"

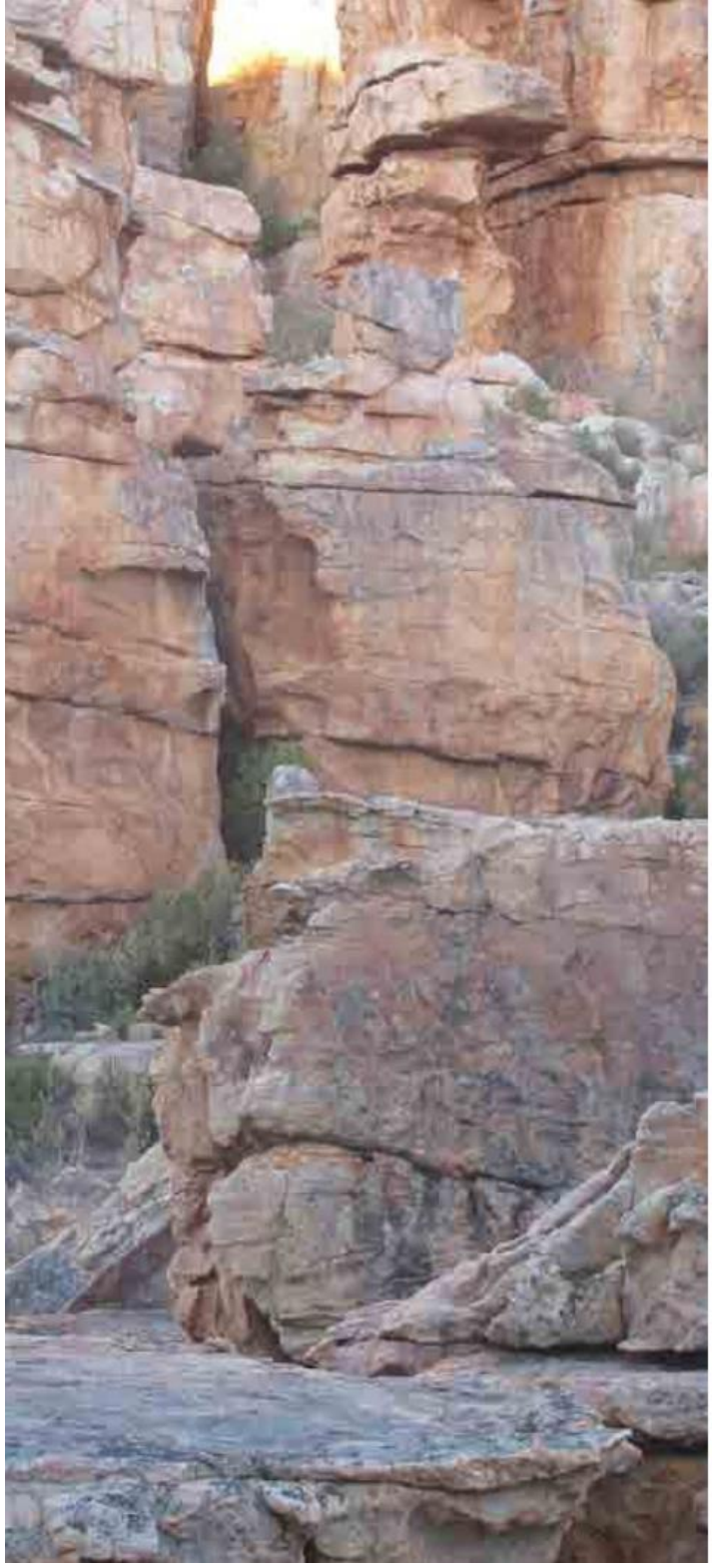
Poetry is an intricate creative process of stringing a sequence of words together to invoke an image or emotional response. It can send a thousand messages or one great message. There are no rules, and just like sketching, the artist is the sole creator of the masterpiece. It is a personal and revealing journey, the words breathe the very spirit of the author and we were truly inspired by the standard of works we received. There can be no doubt that Cape Town's schools are full of talented young scribes. We were overwhelmed with entries from a wide variety of age groups. After a difficult deliberation amongst the judges, 12 winning poems were selected, and these literary gems made up our 2017 calendar.

Our camp programmes often incorporate art and poetry into the activities, so it was fitting that we chose writing as our platform for 2016, to give those with a different artistic talent the chance to participate in our annual competition.

In celebration of Earth Day, 22 April 2016, we were kindly hosted by Hotel Verde, to exhibit and auction the wonderful paintings from the previous year's art competition. It was a special way for us to thank the artists, and share their talent with guests who joined us for a night of African magic.



MEGHAN SHARING HER 'TREASURE' POEM.



IN CLOSING

A heartfelt thank you to all our sponsors, partners and interns who continue to make our work possible. We appreciate those who support us by attending events and willingly giving donations at presentations, or offering support in kind. We wish to recognise Nicole le Roux, for her dedication and commitment as temporary Environmental Education Coordinator, and congratulate Hadley Lyners who was promoted to the position in July. We particularly value our relationship with Cascade Country Manor in Paarl, who not only provided us with a home base in the Winelands, but also hosted our second trail run event (see page 33). Every contribution, no matter how small or large makes a difference.

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Cederberg Research Project

Lana Müller - Operations and Research Manager

PROJECT FACTS

- Total Study Area: +/- 22 827km^2
- 150 Camera Traps

PERSONAL INTRODUCTION

Having worked in Kenya for many years in an area where the local Maasai community was in constant conflict with predators such as lion, hyena and leopard due to livestock depredation, I realized how vital it is to include people into conservation planning, especially in areas where communities are directly affected by predators on their land.

The experience in Kenya taught me to think out of the box and dream big. This philosophy guided my approach in the setting up of the new Cederberg Project.

SETTING THE SCENE

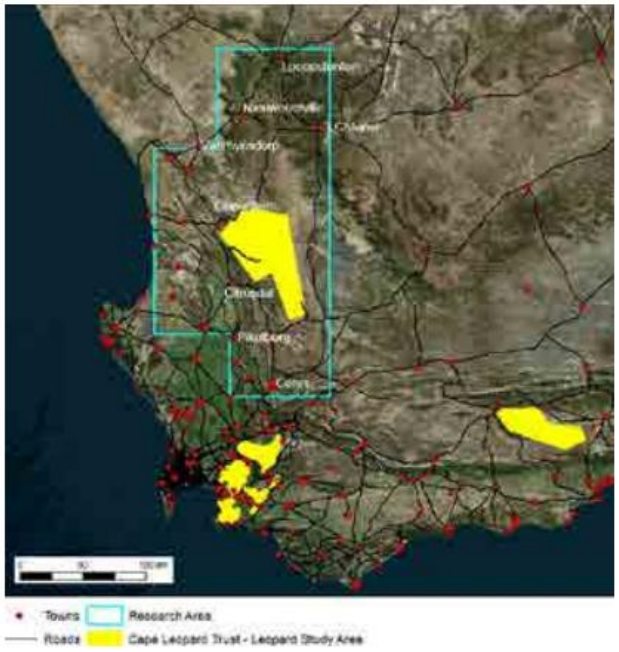
Leopard distribution and population density has decreased significantly across Africa over the last century (Jacobson et al. 2016). It is estimated that leopards have disappeared from 37% of their historic African range (Balme et al. 2014 & Jacobson et al. 2016) due to habitat conversion and fragmentation, the depletion of natural prey and persecution by people, particularly in farming communities where leopards and other predators impact on livelihoods. According to a recent study by Swanepoel et al. (2013), only 20% of South Africa is suitable leopard habitat and it is estimated that of that only 32% of suitable leopard habitat in South Africa is protected.

As the rate of species loss escalates, there is an increasing need for applied research that contributes and converts to effective conservation. Most leopard research studies in South Africa focus primarily on ecological themes, rather than conservation and management aspects (Balme et al. 2014). Hence, there is a serious lack of information regarding the distribution and abundance of leopards in South Africa. This gap in knowledge needs to be addressed with urgency to assist and facilitate leopard conservation efforts (Gros et al. 1996). The lack of insight on actual leopard numbers constrains our ability to understand the influencing factors (i.e. retaliatory killing) that shape community interaction in human wildlife conflict situations, and thus undermines effective conservation of these felids.

It is these key considerations that have guided the framework, structure and goals of the new Cederberg project.

PROJECT PLANS

The long-term vision of the Cederberg project is to protect and maintain the remaining leopard populations in the North-Western part of the Cape Fold Mountains and surrounding areas, to secure connectivity between leopard strongholds, and to increase localised support for leopard conservation through education and advocacy.



WE AIM TO ACHIEVE THIS GOAL THROUGH THE FOLLOWING SPECIFIC OBJECTIVES

1. Establish the population status and distribution of the Cape leopard and key prey species to facilitate effective leopard conservation.

2. Identify suitable leopard habitats and secure connectivity between these areas for leopard meta-population management.

3. Determine the levels of human wildlife conflict and leopard persecution across the study area, and implement measures to mitigate this conflict in high risk sites (population sinks).

4. Establish the level of threat posed by illegal snaring/poaching to the leopard's natural prey base.

5. Develop systems and capacity for improved and effective leopard conservation through a holistic management approach.

Our project activities will include an extensive camera trap survey over the next 5-years, stretching from Loeriesfontein in the North to Ceres in the South bordering the survey area of the Boland Project. We aim to cover an area of +/-22 827km^2 (2282700 ha) focusing on core leopard areas as well as surrounding farmland where leopard corridors may potentially exist. Through grants received from Rolf-Stephan Nussbaum Foundation and ABAX Foundation we procured 150 Cuddeback Colour X-change cameras for this purpose. This will be the largest survey undertaken in the Western Cape and will contribute significantly to the existing gap in knowledge regarding leopard numbers and establishing their population status.

The project will employ local community members to work as community rangers, trained to collect valuable wildlife sightings data, and data on illegal activities such as illegal snaring. This will help create awareness and provide an opportunity for the community to be directly involved in the project, through skills development and capacity building.

A community outreach officer will be employed to engage with local stakeholders such as farmers and members of local communities to identify areas with high threats to leopards, primarily through landowner surveys. The results will enable us to help farmers mitigate livestock losses by providing farm-specific advice on potential deterrents.

By applying a multi-pronged approach of community intervention, research, education, law enforcement and advocacy, we plan to develop an array of protocols and tools that could potentially assist and inform other geographical areas that require assistance with improved leopard management and conservation.

The acquired knowledge and lessons learned from rolling out the various components of the project will equip the Trust with the ability to support other regions with leopard management.

PHOTO CREDIT: PIXEL REVELATION

OVERVIEW OF 2016

It has been a busy, but very exciting year for the Cederberg project. The year kicked off with the compilation of a systematic and comprehensive, 5-year holistic project plan with clear goals, project activities and measurable outputs. A lot of thought and discussion went into this and we are confident that with a well-structured plan in place we will make a difference, not just to the leopards, but to the people of the Cederberg and beyond.

Extensive efforts have gone into re-establishing former relationships and creating new partnerships, such as with the Zoological Society of London (ZSL), Ford Wildlife Foundation and Suzuki South Africa. Influenced by the motivation provided by Dr Raj Amin from Zoological Society of London, ZSL has agreed to serve as technical advisor to the Cape Leopard Trust's research projects. Ford Wildlife Foundation has shown their support by sponsoring a brand new 4X4 Ford Ranger XLT for the Cederberg project and Suzuki South Africa has agreed assist us with a makeover for the Suzuki SJ10, fondly known as "Frikkadel", one of our first ever project vehicles.

The required permit from CapeNature was finally secured, and a camera survey protocol was then developed to ensure the survey is scientifically rigorous.

The painstakingly planned survey area will be divided into 50km^2 grid cells and will have two paired camera trap stations within each grid cell (4 cameras). Quinton's findings indicated that the minimum home range of a female leopard to be 74km^2, so with this design we will have at least 3 paired camera trap stations per female home range. Males typically have home ranges 2 to 3 times larger than females.

A new research assistant, Christiaan Lochner, joined the team, and we welcomed our first project volunteers, Jamie Redden from the UK and Grant Baker from USA, to help with the camera survey design and other preparations for the fieldwork (i.e. testing of cameras, fundraising etc.).

LARGE SPOTTED GENET.

We now have everything in place for the first survey and very excited to be finally deploying the new cameras in the field. We will compare our data with previous research done by Dr Quinton Martins (2010) and Honours student Corlè Janssen (2013) to determine the population trend of leopards in the Cederberg. Quinton discovered through his research that leopard densities in the Cederberg vary between 0.25 – 0.99 leopards/100km^2 in the Karoo and between 1.8 – 2.3 leopards/100km^2 in the Fynbos.

Looking forward to 2017 and new discoveries. Suffice to say, we can't wait to see the results!

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Boland **Research Project**

Jeannie Hayward and Anita Wilkinson

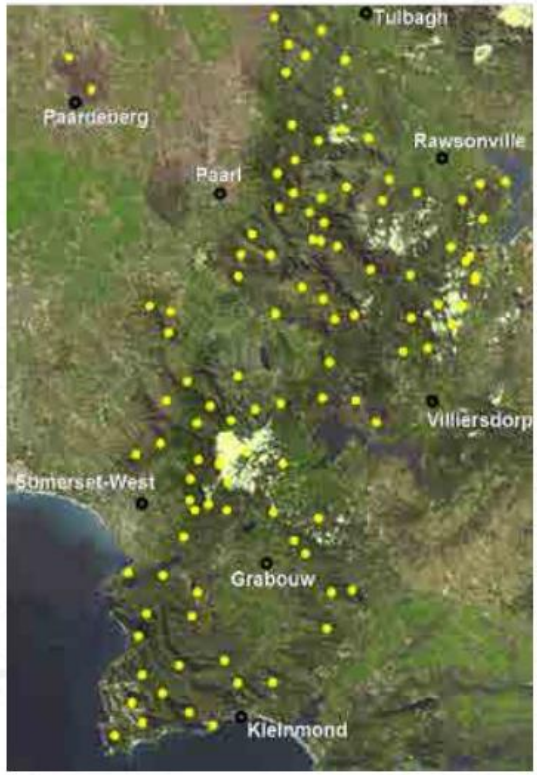
Long-time followers and supporters of the Cape Leopard Trust will by now be familiar with the CLT's Boland Project, coordinated by Anita Wilkinson and Jeannie Hayward. The Boland study area overlaps with the UNESCO Cape Winelands and Kogelberg Biosphere Reserves and covers more than 2000km2 of Mountain Fynbos habitat from north of Bainskloof, along the Cape Fold Mountain range southward to the coast at Kleinmond and Betty's Bay. This seemingly untamed mountain wilderness is virtually completely surrounded by urban, semi-urban and agricultural land-use and infrastructure, but leopards have managed to persist here, despite growing human pressure, thanks to their adaptability and elusive nature. Along the same lines, the CLT Boland Project has also been able to thrive thanks to fantastic financial support from, amongst others, the Hans Hoheisen Charitable Trust (as administered by Nedbank Private Wealth in its capacity as sole trustee), the Wilderness Foundation Forever Wild Leopard Conservation Initiative, the Bags4Good initiative, and continued vehicle sponsorship from Avis Southern Africa.

LEOPARD CONSERVATION AND MANAGEMENT

Since the inception of the Boland Project, the Boland team has deployed remote-sensing cameras at over 130 locations and consolidated leopard images and sightings from a large number of camera traps on private land surrounding the study area. It has become increasingly clear that, although we usually think of leopards in the Western Cape as primarily a mountain-dwelling species, these cats are also remarkably adept at traversing lower-lying fringe habitat on the human-wildlife interface. It is because of this that the Boland team has been closely involved in a number of leopard-related incidents over the past months.

In June 2016, a young male leopard killed a number of African penguins close to the Stony Point penguin colony in Betty's Bay. Although the leopard was behaving completely naturally in utilising a locally abundant, easy food source, African penguins are endangered and a protected species (and the same goes for the leopard!), and their complete lack of defences against land predators is the reason why they normally nest and breed on offshore islands. The attack did not happen in the demarcated, fenced colony, but in a thickly vegetated area fairly close by. The Boland team was consulted by partners CapeNature to give insight into the cat's behaviour and provide input for the management of the situation. Preventative and mitigation measures were put in place to protect the penguin colony without adversely affecting the leopard.

In February 2017, a female leopard was accidentally caught in an illegal wire snare on a private property on the Paardeberg, in the Swartland district. The Boland team and CapeNature were fortunately alerted to the leopard's plight by a local resident



BOLAND RECORDED LEOPARD LOCATIONS.

before the animal suffered any major injury, and the leopard was safely released with no lasting harm. This incident however highlights the worryingly high incidence of illegal wire snares in the greater Boland area, and sadly many animals die as a result of this indiscriminate hunting method. Read more about the Boland team's research on this threat below.

In February 2017, a leopard was hit by a car in Bainskloof Pass near Wellington. The animal sustained severe injuries, including a broken back as well as massive internal trauma, and sadly had to be put down. The Boland team was notified of the incident and together with CapeNature, a Boland researcher inspected the carcass to take various morphometric measurements and samples. The leopard was a beautiful and healthy adult male, known to us from camera trap photos as a territorial male in the larger Bainskloof area, and referred to as BM30 (Boland Male #30). He was a good size for a fynbos leopard, weighing in at 37kg and was estimated to be around 5 years old. Leopards getting hit and killed by vehicles is fortunately not a regular occurrence in the Western Cape, but it can – and does – happen, and every time it does it is an unnecessary loss of life. Almost all incidents happen at night, on mountain passes and roads going through or past mountainous terrain. BM30's death emphasises the need for all motorists using these roads to exercise caution and drive slowly – not only for the sake of leopards, but also their prey and other small carnivores. Countless mammals like caracal, mongoose, genet, polecat, honey badger, porcupine, rabbit, hare and dassie get run over by cars on the roads leading through and around the mountains every day. This highlights how human activity and developing infrastructure is hampering the movement of animals in a human-modified ecosystem.

In another incident a sub-adult female leopard had attracted a lot of public attention in the Gordon's Bay area due to her apparent lack of fear for humans. The Boland team had kept track of reports, sightings and photos of a small leopard along Clarence Drive close to Gordon's Bay. According to these reports, the young cat was very inquisitive and not skittish and elusive as one would expect. The situation escalated when in March 2017, a leopard was filmed approaching and standing up next to vehicle on the road leading to the Steenbras lookout point. The Boland team identified this cat as BF20, the same youngster as in previous sightings in the area. It became clear that an intervention to manage this individual was prudent due to the potential risk to people and the animal itself. An action plan was agreed upon between CapeNature, the CLT Boland team and City of Cape Town Biodiversity Management. Soon after, a leopard was incidentally caught on a smallholding near Gordon's Bay in a cage trap legally set for feral dogs. The Boland team was able to identify this cat as BF20. CapeNature's conservation services officials, a veterinarian and a CLT researcher responded to the call-out and inspected the animal. She was healthy and in good condition. Considering the protection and safety of the animal, coupled with the threat she could potentially pose to humans, it was collectively determined that a conservation translocation would be the best course of action. As a rule the CLT and CN does not support translocation as a management strategy due to leopards' highly territorial nature and the possible negative cascading effects of moving individuals. However, given that BF20 was a young (no older than 2years) sub-adult that did not yet hold and aggressively defend a territory, the chances of her infringing on another leopard's territory would be

slim and she should be able to integrate into a new area without trouble. BF20 was rehomed to a safer habitat where she will be able to live freely in a natural environment.

RESEARCH

Investigating anthropogenic threats to leopard (Panthera paradus) and their primary prey (medium-sized mammals) in edge habitat surrounding core protected areas in the Cape Winelands and Overstrand areas of the Western Cape Province, South Africa.

In 2016 the global threat status of leopard (Panthera pardus) was up-scaled from near threatened to vulnerable on the IUCN Red Data List. Leopards have a wide global range and are locally common in some parts of Africa and tropical Asia, however, recent research highlights that their population numbers and distribution are drastically decreasing in large parts of their range due to habitat loss and fragmentation, hunting for the skin trade and conflict with humans.

There is a dire need in South Africa for applied research on leopards outside protected areas. A dramatic loss in range (28-51% less than historical Southern African range) and decline in numbers is reported for leopard in the region - with the primary drivers being loss and fragmentation of suitable habitat, depletion of natural prey and direct persecution by people. Furthermore, only 20% of South Africa is reported to represent suitable leopard habitat and of that only an estimated 32% of the suitable leopard habitat is reported to be formally protected.

The core mountainous habitat in the Boland study area is preserved due to its status as a Protected Area, however edges (or fringe habitat), mostly on private property, are heavily impacted by habitat alteration and growing human peripheral activities. During 2015 and the first half of 2016, following the identification of wire snares as an emerging threat in the Boland, a preliminary investigation was launched to ascertain whether illegal hunting with wire snares (presumably for bush-meat) was a common and widespread phenomenon in the study area. A successful funding application to Wilderness Foundation Forever Wild in 2016 enabled us to further pursue the research as part of their Leopard Conservation Initiative. We have since broadened the scope of the research to include additional anthropogenic threat categories relevant to leopard in the study area, in our data collection and analyses. Illegal hunting with wire snares addresses merely one aspect of prey depletion in the focal study area. Going through the effort of data collection through interview questionnaires presents the Boland team with the ideal opportunity to include additional aspects of prey depletion, i.e. legal undocumented mammal (prey) off-take (eg. in the form of damage-causing animal control); utilisation of Local Ecological Knowledge (LEK) to look at perceived changes in mammal abundance and distribution; documenting numbers and distribution of feral domestic dogs (exerting pressure on prey base through predation).

We subsequently recruited two tertiary students from Stellenbosch University and the Boland team is now assisting in the supervision of these students' thesis research. Brittany Schultz is enrolled for an MSc degree with the Department of Conservation Ecology & Entomology under the supervision of Dr. Alison Leslie and Wian Nieman is enrolled to complete his BSc Honours degree with the Department of Botany & Zoology under the supervision of Prof. Theresa Wossler. Both students are also co-supervised by Rhoda Malgas (lecturer with Department of Conservation Ecology & Entomology) whose experience and intimate knowledge of survey methods are integral to the survey design.

MEDIA

We continuously strive to connect previously uninformed people with nature and to correct common misconceptions about leopard presence,

ecology & behaviour as well as their habitat and prey. Doing this has the potential to lead to increased appreciation and understanding of biodiversity, which in turn mobilises landowners and the broader public to engage in biodiversity conservation. The Boland team assists with the CLT's public relations and communications, especially at a scientific and technical level.

Social media networks allow us as an NGO to reach a large national and global audience, and to link with partners and sponsors in the public domain. We are active on three social media platforms: Facebook, Twitter and more recently Instagram. Facebook is still our main form of social media communication and interaction with a following of around 7500 page likes (Twitter just over 900 followers and Instagram 300). Some of our most popular posts recently amassed hits in excess of 120 000.

Private & sponsored camera traps: A high premium is placed on public participation in the form of private camera traps. Landowners and managers regularly express interest in obtaining remote-sensing cameras for their properties. The Boland team assists with the procurement, placement and set-up of these cameras, on the basis that the landowners then contribute their photo data to the Boland Project database. A great number of fantastic photos and thrilling leopard records have been obtained in this way – all data points that would not have existed had it not been for the interest and buy-in from public citizen scientists.

W2W beneficiary & Cape Epic route tour presence: The FNB Wines2Whales MTB Events has been a supporter of the CLT Boland Project since 2011 when they first donated five digital camera traps to the project. Since then, the Boland Project has been listed as an official beneficiary with the added benefit of publicity and awareness opportunities. Although leopards are adept at traversing rough terrain and dense vegetation, they do like 'the path of least resistance' and often make use of mountain bike trails. Three identified leopards currently frequent the FNB W2W MTB routes: Bacardi (BM26) on Lourensford and Vergelegen Wine Estates; Diego (BM27) on Vergelegen and Paul Cluver Wines; and Scott (BM12), an established, dominant male that holds a vast territory in the Kogelberg Biosphere.

In 2016, the CLT was confirmed as an official charity of the ABSA Cape Epic for a three year period (see page 32). Sections of the routes fall within the Boland study area and traverse the territories of known dominant leopards. This synergy between the "untamed mountain bike race" and the untamed mountain leopard, provides another platform for knowledge sharing and awareness raising through event publicity channels and the VIP Route Tours, which the Boland team proudly took part in.

Other highlights: In November 2016 the Cape Leopard Trust re-usable shopping bags hit selected Woolworths stores countrywide. As part of the initiative a dedicated web page is created for each cause bag with a corresponding QR code. The Boland Project's current research into the anthropogenic threats facing leopards and their prey is featured as part of the leopard bag initiative and a portion of the funds donated to the CLT is directed to the Boland Project.

Working closely with our IT partner, Raramuri Design, the Boland team was instrumental in directing the rejuvenation of the Cape Leopard Trust website. The end-result is a modern and visually appealing overview of our organisation and leopards in general, with specific reference to populations in the Fynbos biome of the Western Cape; the research, conservation and environmental education projects we engage in; regular news items; detailed donor & sponsorship acknowledgement and a one-stop online shop for CLT merchandise.

Finally, an exciting design process to be involved in was the development of the new-look CLT logo and brand identity, which coincided with the launch of the new website. We are grateful to Athol Moult for his patience during the process of re-defining our brand vision. They say a leopard can't change its spots, but it can certainly get an expert makeover!

Namaqualand **Predator Ecology & Coexistence Experiment (PEACE)**

Dr. Bogdan Cristescu (UCT), Kristine Teichman and Corlé Jansen

The primary goal of the Namaqualand PEACE project is to test the effectiveness of Livestock Guarding Dogs and Eco-Rangers (herders trained in ecological data collection) at minimizing predation on small livestock by wild predators. In addition, the various data collection techniques employed through the 2.5 year intensive field study in the Northern Cape yielded multiple datasets that the research team is using to answer related questions to the main study objective.

Fieldwork on the Namaqualand PEACE project was completed in March 2016, and we have been analyzing the data ever since. Two core field team members have relocated outside the study area and are living in Canada and the United States of America, whereas the third remains in the Northern Cape. Most of the research summarized below forms part of Kristine's PhD research at the University of British Columbia, Canada. Corlé was involved in the project before Livestock Guarding Dog and Eco-Ranger introduction and has obtained a MSc (Stellenbosch University) by comparing predator diet on commercial farms to a national park. Bogdan worked on various aspects of the project as research coordinator and postdoctoral fellow at the University of Cape Town and is currently taking on another postdoctoral fellowship at the University of California, Santa Cruz.

PREDATOR DIET

To address the main project goal, our team radio-collared and tracked caracal on farmlands. Based on camera trap photos, caracal appear to be the most abundant medium-sized predator in Namaqualand. Once caracal were collared, we were able to visit locations where the animals spent a lot of time in a small space and from which we were able to assess their behaviour. Our main interest was to investigate what caracals eat on private commercial farmlands, as well as how the diets might differ if we introduce Livestock Guarding Dogs and Eco-Rangers with specific flocks of sheep and goats. With the help from dedicated volunteer field technicians that came from South Africa and overseas, the team was able to visit over a thousand sites that caracal had used, finding evidence of the caracal feeding on prey at over a hundred of them. To gain a broader view of caracal diet as well as to understand what other predators in the region consume, we also

FIGURE 1: PREY REMAINS FOUND AT A FEEDING SITE OF A COLLARED CARACAL. HERE THE CARACAL CONSUMED A DASSIE LEAVING LITTLE TRACE OF EVIDENCE BEHIND. **PHOTO CREDIT: CORLÉ JANSEN**

FIGURE 2: HARES ARE AN ABUNDANT PREY ITEM OF CARACAL ON FARMLANDS.

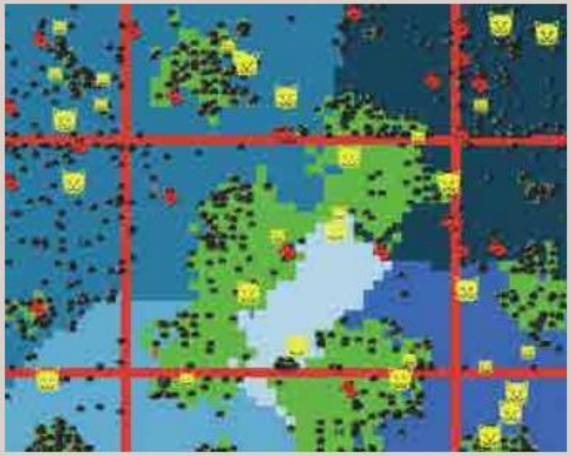


FIGURE 3: THE INDIVIDUAL-BASED MODEL SET-UP INITIATES WITH FEMALE (SMALL) AND MALE (LARGE) CARACAL (YELLOW), SHEEP (BLACK) AND LIVESTOCK GUARDING DOGS (RED) SET ACROSS 6 FARMS (BLUE). LIVESTOCK GUARDING DOGS AND SHEEP ARE CONFINED TO FARM CAMPS SEPARATED BY RED FENCES AND CARACAL LIMIT THEIR MOVEMENT WITHIN THEIR ASSIGNED HOME RANGES. THE GREEN PATCHES DEPICT FORAGE AREAS FOR SHEEP.

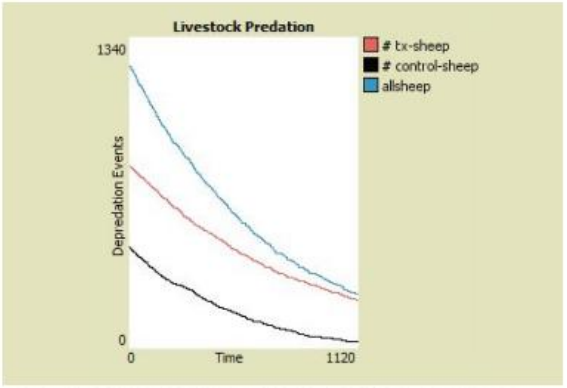


FIGURE 4: COMPARISON OF LIVESTOCK LOSSES TO CARACAL IN THE LIVESTOCK GUARDING DOG TREATMENT (TX-SHEEP) AND CONTROL FARMS WHERE NO DOGS WERE INTRODUCED (CONTROL-SHEEP). THIS SIMULATION WAS SET AT HIGH CARACAL DENSITY, FEW LIVESTOCK GUARDING DOGS AND WEAK PREDATOR DETERRENCE.

collected caracal, back-backed jackal and leopard scats. From scat analysis we identified 24 prey items for leopard, 31 for caracal and 35 for black-backed jackal. Interestingly enough the two main prey items of caracal did not differ between the land-uses: dassie and lagomorpha (hares and rabbits) remained the two main prey items in the national park as well as on farmlands.

PREY AVAILABILITY

Just because a predator feeds on a specific prey, such as caracal feeding mostly on dassies, it does not necessarily mean that caracal are preferentially selecting dassies for their diet. To be able to investigate prey preference, information is needed on the abundances of different prey items that are available to caracal. With the study area including both private farms and the Namaqua National Park, and management differing between these two land designations, prey availability needed to be assessed for each area. We used a 810 km^2 camera trapping grid with 180 camera stations to estimate medium and large prey for the study area, from hares and dassies to large antelope. To estimate the density of small prey, we used a mark-recapture framework; we trapped small mammals, such as mice and other small rodents, marked them with a non-toxic marker and clipped a small patch of hair off, recorded the species captured, released them and then repeated this procedure for two additional nights to see just how many of the same (and new) small mammals we would capture. This allowed us to calculate small mammal density or, in other words, how many small mammals were available for caracal to eat!

CARACAL MOVEMENTS

Beyond potentially affecting the predators' diet, introduction of Livestock Guarding Dogs and Eco-Rangers may influence how predators are actually utilizing the space. For example, having a human-introduced canid large "predator" (i.e. Livestock Guarding Dog) that marks the areas with urine and scat and makes its presence heard through barking might influence where the predators move. To assess changes in caracal movement patterns in response to the introduction of Livestock Guarding Dogs and Eco-Rangers, we placed GPS radio-collars on the caracal, the Livestock Guarding Dogs and the livestock, all of which were set to record a location at the same time every 3 hours. We will use these data to determine whether Livestock Guarding Dogs deter caracal from sheep by comparing, for example, the distance of caracals from sheep flocks before and after the introduction of dogs and humans.

Currently we are assessing the effectiveness of Livestock Guarding Dogs at protecting sheep from predators in an Individual-Based Modeling framework (Figure 1) by simulating multiple scenarios. Specifically, we are comparing the proportion of caracal predation events on farms with and without Livestock Guarding Dogs and manipulating 1) dog density 2) dog predator deterrence effectiveness and 3) caracal density on farmlands (Figure 2). We are assigning behavioural rules to the dogs, caracals and sheep based on the data that we collected in the field and we are aiming to have some definitive results by the end of this year.

LEOPARD OCCURRENCE

Although we used an extensive network of camera traps, we did not acquire many photos of leopards. We are analyzing the camera trap data for leopard based on the slightly more than 100 leopard photographs we acquired. Most photos are repeats of the same small number of individual leopards, but our Black Flash cameras which we used to create minimal interference with the animal's behavior do not always allow us to uniquely identify leopards from the night-time photographs. We are planning on using the data and statistical models to generate predictions on leopard occurrence in the area.

TROPHIC DYNAMICS

One of the aspects of the study involves comparing animal species and Succulent Karoo vegetation differences between Namaqua National Park and private farms around the park. We recorded habitat characteristics, predator and prey numbers at 100 sites located both within Namaqua National Park and on private farms around the park. Analyses linking all these data using complex modelling techniques are on their way and will demonstrate whether differences in predator abundance on farmlands and the park influence the abundance of animals (e.g. duiker, hares, dassies) at lower trophic levels and, in turn, how these differences affect vegetation structure.

SMALL CARNIVORES

One great thing about camera traps is that they photograph all animals beyond a certain minimal body size that cross their sensor. Together with Jacques de Satge who has an interest in studying competitive interactions between carnivores, the team has been able to monitor small carnivores in Namaqualand. These animals do not impact livestock but very little is known on their distribution and ecology. We found that some of these small predators avoid each other by being active at different times of day or night, with all small carnivores generally avoiding African wildcats. Overall, yellow and grey mongooses were active more during the day, the small-spotted genet and striped polecat were active more at night, whereas wildcats were active both during the day and night.

WAY FORWARD

We are excited to be working on the data and on the reporting of results that are starting to emerge. Several manuscripts are beginning to take shape and we hope to be able to share the outputs of at least a couple of them in next year's Annual Report of the Cape Leopard Trust. The work will be subject to peer-review to ensure its rigor and high scientific standards. We hope that the outcomes of this study, especially as they relate to testing the effectiveness of Livestock Guarding Dogs and Eco-Rangers, will be used to formulate guidelines for management that integrate limiting depredation with wildlife conservation.

FIGURE 5: LEOPARD WERE RELATIVELY RARELY DETECTED ESPECIALLY ON FARMLANDS.

FIGURE 7: AFRICAN WILDCATS WERE WIDELY DISTRIBUTED AND ACTIVE IRRESPECTIVE OF TIME OF DAY.

FIGURE 6: THE SUCCULENT KAROO BIODIVERSITY HOTSPOT OFFERS A SPECTACULAR DISPLAY OF PLANT LIFE. **PHOTO CREDIT: CORLÉ JANSEN**

Urban Caracal Project
No Free Lunches

Laurel E.K. Serieys - Ph.D., Project Coordinator, Urban Caracal Project, Postdoctoral Researcher, University of Cape Town

PHOTO CREDIT: KEVIN SHIELDS

Foraging at the urban edge leaves caracals ('rooikat') vulnerable to cars, poisons, and poachers.

A LINK BETWEEN PREY AND THREATS TO SURVIVAL?

If the urban edge is resource abundant, urban-adapted carnivores may forage disproportionately in these resource hotspots. However, the attraction of carnivores to forage close to human-dominated landscapes can increase human-wildlife conflict and increase the vulnerability of carnivores to anthropogenic threats. With this in mind, one key component of the Urban Caracal Project has been to investigate the spatial ecology of caracals ('rooikat,' 'lynx') in the urban landscape with particular focus on their diet and threats to their survival. The urban landscape we have been fortunate enough to work in is that of Cape Town. Here, caracals inhabit open space fragmented by extremely variable types of human disturbance, ranging from sparsely populated agricultural fields (largely vineyards) to high-density informal settlements with up to 46 000 people/km^2.

HOW WE STUDY DIET AND THREATS TO SURVIVAL

To study the complex ecology of this rarely seen, elusive wild cat at the urban interface we have been trapping and radio-collaring the caracals. Using radio-collars, we are able to monitor their movements, and unexpectedly, gain unique insights into their diets and threats to their survival. From November 2014 – September 2016, we captured 29 caracals and radio-collared 26 (10 females, 16 males; the other 3 caracals were too young to radio-collar). Each caracal was radio-collared for approximately 5-6 months, and during this time, we monitored their movements in near real-time. In total, we have collected more than 60 000 GPS locations from the 26 caracals.

To study their diet, we relied on the radio-collar data. We quickly discovered that although caracals prefer smaller prey (i.e. dassies, small rodents and birds), they tend to find a spot where they prey on numerous birds or small rodents and remain in the area for 3 hours to more than 3 days, feeding to fulfillment. During this time, they move very little and if we map their movements during these static periods, what appears is a "cluster" of GPS locations on a map. With the help of our international and local volunteer teams, we investigated more than 500 GPS clusters! When visiting those clusters, we searched for remains of potential prey and evidence of sleeping and grooming beds. At these clusters, we also often found scat (a.k.a. fecal matter) left by the radio-collared caracals. We collected more than 600 scats to further investigate their diet by dissecting the scat for prey remains. University of Cape Town Master's student, Gabriella Leighton, has been busy at work on that project and we continue to learn a lot!

Simultaneous to the diet investigations, we are tracking sources of death in the caracals. If a radio-collared caracal dies, the collars notify us of the location and we are often able to recover the body quickly. For uncollared caracals, we frequently rely on the general public to report the discovery of a dead caracal (often road kill) to us. It has taken a lot of work to get the word out to call our caracal 'hotline' when a dead caracal is found, but we've had better success than anticipated. We have been able to collect 28 reported dead caracals in and around the Cape Peninsula since early 2015. Furthermore, twelve of our radio-collared or tagged caracals have been found dead in the Cape Peninsula and Cape Flats and, in total, we've collected samples from 40 dead caracals in approximately two years.

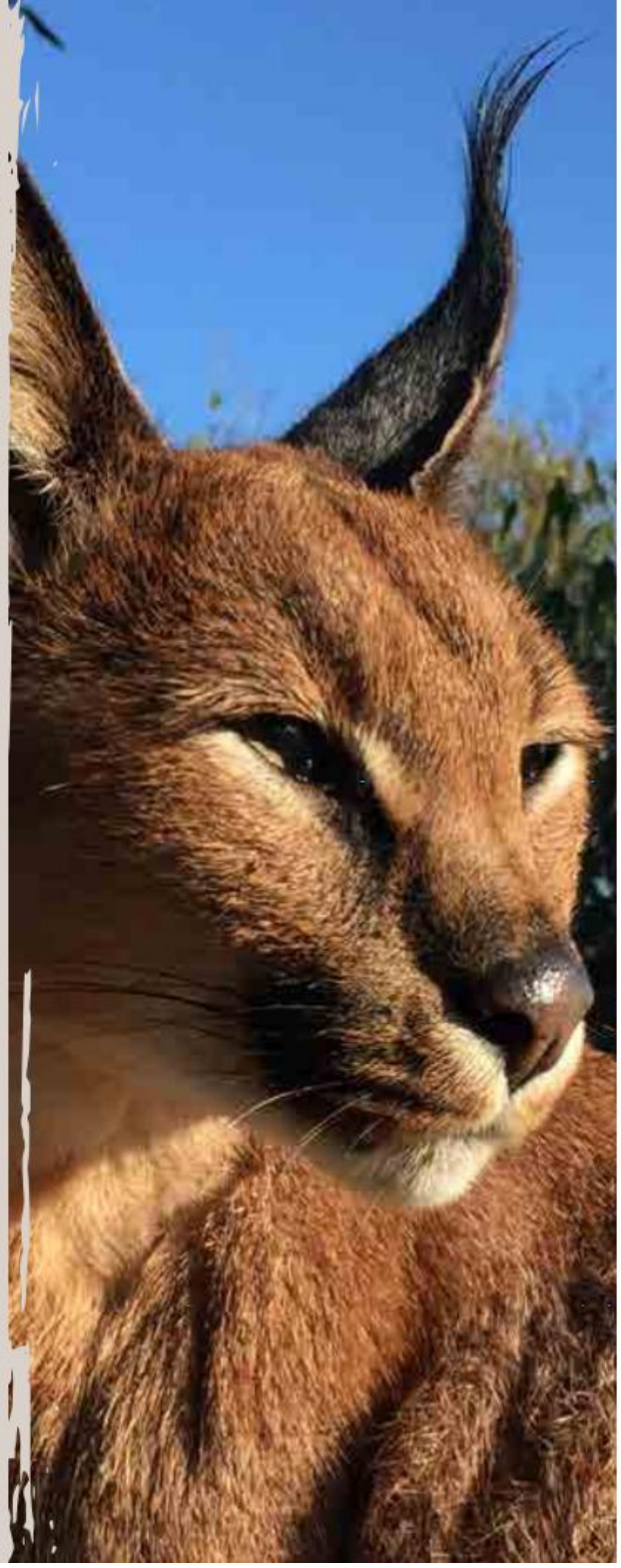


PHOTO CREDIT: PANTHERA AFRICA

WE ARE LEARNING THAT CARACALS ARE ISOLATED IN THE CAPE PENINSULA

We were able to quickly see that the dense urban matrix of Cape Town, particularly areas east of the M3 and north of De Waal Drive, are important barriers to movement for our cats. This finding is not surprising, but what has been surprising is that we have also discovered that although these caracals are limited to a relatively small area of approximately 220 km^2 of available wildlife habitat, they do not use all the green space available. Instead, they seem to have some preference for edge habitats, whether it is the coastline or the urban interface. Overall, all green space is not equal to these caracals.

A VARIED DIET LENDS FLEXIBILITY, BUT ALSO CONFLICT

Urban caracals will eat just about any small mammal or bird if they are able to catch it! Although some have individual preferences (e.g., Atticus [C#10] loves dassies and Disa [C#27] loves shorebirds), all of our caracals have a very wide avian and mammalian prey base. We have documented caracals to prey on native mammal species like vlei rats, cape mole rats, grysbok, dassies, bontebok and even porcupines! There have been a lot of bird species too, such as hadedas, guinea fowl, a variety of pigeon and dove species, and even a buzzard. On occasion, caracals have also preyed on domestic animals that include domestic cats, sheep, and chickens. Through our cluster investigations, we find that birds comprise nearly 70% of the prey remains we discover. Using the alternative method to study diet – the dissection of the scat found at the GPS clusters – we found nearly 70% of the prey caracals consume to be small mammals. What explains this difference? Most likely it is the ease of finding a pile of feathers in the field at the GPS clusters, as opposed to a few whiskers the caracal may leave behind from the small mammals. Overall, what is apparent is that caracals are doing what caracals are supposed to do, that is feed on species they find in their native habitat.

Although caracals are primarily preying on native species, their predation of domestic animals is quite a contentious topic– and not just in the farmlands. The predation of domestic cats (found at 5% of GPS clusters, and in 1% of scats) in urban areas can be heart wrenching for pet owners, and lead to rising negative feelings towards caracals. Sometimes, if multiple domestic cats go missing in a single estate or neighborhood, homeowners point to caracals as the likely culprit, whether or not they actually see a caracal in the area. Together, residents may rally to have the potential culpable caracal removed and either euthanized or relocated. Both options are a very short-term solution to a long-term problem though, and so we do not assist in these efforts. Not surprising, however, is that this source of conflict has shown up as a source of death for our caracals.

WHAT ARE CARACALS DYING FROM?

When we recover a dead caracal, either tagged or opportunistically found, we perform a standardized autopsy procedure. Through this methodology, we collect samples that we use for disease, pesticide, and genetic testing. We collect teeth to help us age caracals (we can't age them by just looking at them), and we do our best to pinpoint the source of death for each caracal. What we are finding has come as a shock to us.



First, mortality in these urban caracals is high and they are up against a lot! Vehicles, pollutants, poaching, conflict with other caracals, fire, and disease kill caracals in and around the Cape Town area. On rare occasions we have not been able to identify a cause of death, so it is possible that the caracals are confronted with more than just what we've found. Lethal control and being killed by dogs are other likely sources of death for wild caracals near urban areas.

Another surprising finding is how many of our tagged or radio-collared caracals have died. The caracals are radio-collared for a relatively short period of time– only 4-6 months of their entire life! Yet we have recovered nearly 50% of those animals dead, for a variety of causes, in the Cape Peninsula, either while they are radio-collared or after the collar falls off (i.e., the collars do not make them vulnerable to other sources of mortality). In fact, early analyses suggest annual survival for adults is less than 50%. In other words, their probability of surviving one year is approximately the same as a flip of a coin. For young males, the figure is far lower at only 17% for juveniles! By far, though, the least surprising source of death, vehicle collisions, seems to be the principal threat– of 40 deaths, we can attribute 27 deaths to being hit by cars. Rat poisons have killed more than one caracal, and diseases potentially contracted from domestic cats are also likely important threats to urban caracal survival.

WHAT'S THE LINK BETWEEN SEARCHING FOR FOOD AND INCREASED VULNERABILITY TO HUMAN THREATS?

Understanding both the benefits and detriments of the urban interface for urban-adaptable species is essential to mitigating threats and to conserving species as urban areas expand.

The fact that cars kill caracals comes as no surprise, but some of the sources of death are unexpected, such as poaching, poisons, and disease, but what does their hunting strategy have to do with increased vulnerability to human threats?

I described that not all green space is equal to our caracals, and that they have preference for the edge habitat. On average, we find that the GPS locations for adults are 3 times as far away from the urban edge (approximately 700 meters on average) than for juveniles (generally around 200 meters). Yet 62% of the GPS clusters we have investigated for adults and juveniles are less than 500 meters from the urban edge. For clusters where evidence of prey is found, they are generally around 250 meters from the urban edge. These early findings suggest that adults in particular, may move closer to urban areas to find easy prey, and then move away from the urban edge when they need to rest or patrol their territory.

Spending more time at the urban edge to hunt increases the probability that caracals will encounter human threats. Caracals will have to cross roads to approach the urban interface. Caracals will come into contact with domestic cats and dogs that may carry diseases that can kill them. Caracals may inadvertently become poisoned if they prey on rodents that people are targeting with poisons and, even in the city, caracals are at risk of being targeted by poachers. One of the project caracals, Prospero (C#26), was discovered captured in a gin trap in Hout Bay, on the border between an affluent residential area and Orange Kloof (SANParks property). We were fortunately able to release and radio-collar him, and within three months he was hit by a car in Constantia. Recently while in the field to send a "drop off" signal to Azure's (C#16) radio collar, Joleen Broadfield (Urban Caracal Project Field Team Coordinator) and I came upon a scene of Azure being chased into a tree by dogs of poachers from a nearby township. The poachers may not have initially been targeting caracals, but should the opportunity strike, caracals will be killed and eaten, as we have seen for two other untagged caracals that we opportunistically collected samples from. We were able to help Prospero and Azure escape their poaching fate, but not all caracals (or other wildlife) are so lucky, even around the Cape Peninsula where it is least expected!

WHERE TO NEXT?

The high mortality in the Cape Peninsula is astounding. What's more is that if the peninsula

is geographically isolated from larger caracal populations by the dense Cape Town urban matrix, maintaining a stable, genetically viable population will become more difficult over time. The Cape Peninsula itself continues to increase in fragmentation, with new commercial and residential developments popping up at a rapid pace. More cars are on the road as more people move into the area and, with increased development, increased human wildlife conflict will arise as well. As the proportion of domestic cats free-roaming the mountains where caracals live increases, so will the death toll of domestic cats killed by predators and cars. Accordingly, with more humans will be more poisons used in areas near wildlife habitat.

The first field phase of the Urban Caracal Project was to identify how caracals move across the fragmented landscape, and determine if they are spatially and genetically isolated. We programmed our collars to collect fine-scale movement data to address just these questions. As happens in most research studies, only more questions have been raised as we address the ones we started with!

In the future, once we complete our genetic analyses, and identify important movement corridors in our large dataset already collected, we would like to radio-collar caracals for approximately 2-year time frames to address the high mortality in the Cape Peninsula population, and learn more about the imminent threats these urban cats face. It is far easier to identify roads as an important threat, as often there is physical evidence of the animals dead on the roads. But, if animals are poisoned, poached, or die of disease in hard-to-see places, deeper investigation over longer time frames is required.

WHAT CAN YOU DO?

Many people that live in close proximity to wildlife habitat, particularly in the cities, have little idea that rich wildlife communities exist in nearby preserves. Many have little idea of how much our lifestyles impact our wildlife, just in the daily practices of caring for our own homes. For example, rat poisons need not be applied in wildlife habitat to have serious impact on wildlife populations! Even if you limit the use of poisons to within the confines of your house, the rodents don't die immediately, and as they become weaker, they may venture into nearby wildlife habitat and become very easy prey.

Free-roaming cats are also an important, but rarely considered is the way we humans have impact on local wildlife. The beloved domestic cat can roam much further than we think! In killing birds, reptiles, and small mammals, they reduce the biodiversity around them. If they become a meal for a predator, they may infect the predator with disease that can also lead to reduction in biodiversity. Finally, the conflict and heartbreak created when a domestic cat goes missing, whether or not at the 'paws' of a caracal, stirs negative community feelings towards caracals.

We encourage those who wish to practice good wildlife stewardship to keep domestic animals inside, especially at night when nocturnal predators like caracals are on the move. Be sensible about your interface with wildlife and don't try to feed or water wildlife as that could foster a boom in rodent populations that you may then be tempted to control with poisons. Encourage the community as a whole to reduce poison use. Respect speed limits, not just for your own sake, but for others too. Finally, stay interested and engaged in your wildlife community! **To report road kill ASAP– give us a call at 079-837-8814.** Finally, report any caracal sightings through our quick and easy online report form: **www.urbancaracal.org/report-sightings-roadkill/**

Please follow our progress on **Facebook.com/UrbanCaracal** and our website **(UrbanCaracal.org)**. Thanks to all who have actively supported us with donations and sightings reports, and especially to the partners who have been part of this exciting research opportunity that has enabled us to uncover far more than we would ever have imagined at the outset.

Joan St Leger Lindbergh Charitable Trust

BRIDGESTONE
Your Journey, Our Passion

Cape Cryptic **Carnivore Project**

Elsa Bussière - PhD Student and Les Underhill - PhD Supervisor

2017 is likely to be the final year for the Cape Cryptic Carnivore Project. In August 2015, after two years of fieldwork, the camera trap survey undertaken in the western part of the Little Karoo came to an end, and all photographs have now been processed. The team is currently focusing on developing statistical tools to explore the gigantic and overwhelming dataset collected with 222 camera trap stations, over 4327 km² of rugged Karoo mountains and which revealed the presence of 91 wild animals (55 mammals, 39 birds and 1 reptile).

Animal behavior is influenced by its environment and therefore by the other members of a community, which is why although our attention is primarily aimed at elusive carnivores, we look at the mammal community as a whole.

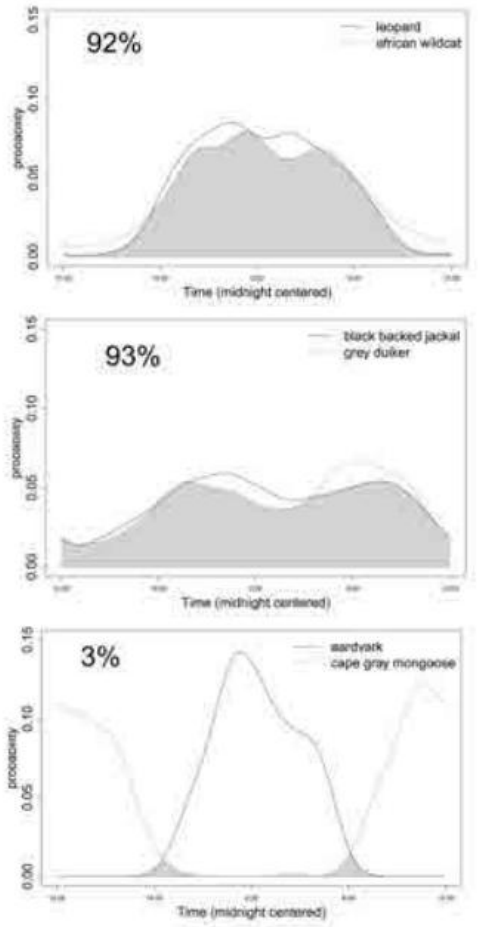
Most of our work has been put into understanding how mammal species make use of time and space and how they share it. These insights could bring light on understanding mammal competition and predation in a semi-arid desert.

ACTIVITY PATTERNS

The time stamps showing on the collected photographs allow us to produce, for all mammal species, a curve of activity throughout a 24h day. The curve shows for every hour of the day, the probability for the species to be active, in other words: mobile. Taking the example of aardwolves, caracals and Cape gray mongooses, we can see how different elusive carnivores evolved different activity patterns to adapt to the environment. Aardwolves are fully nocturnal, contrarily to Cape gray mongooses that are fully diurnal. Caracals are however active throughout the day.

It is possible to quantify the level of similarity between two species' activity patterns by calculating the coefficient of overlap when placing their activity curves on top of one another. Thus we know that within the mammal community of the Little Karoo, leopards and African wildcats have very similar activity patterns, with a 92% coefficient of overlap.

GRAPH ONE



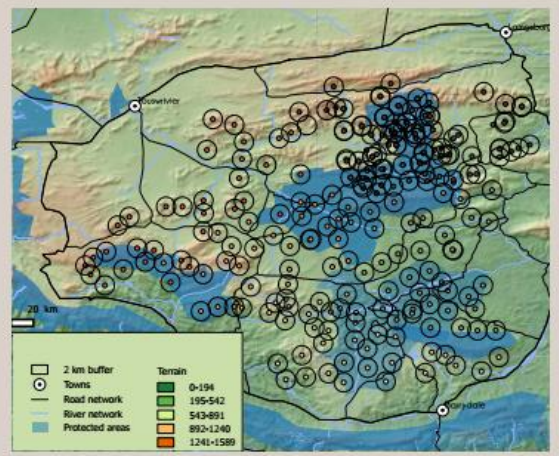
SPACE PREFERENCES

Many landscape factors are susceptible to affect species presence (altitude, vegetation, distance to water… etc). We believe that topography and precisely terrain ruggedness strongly influences the presence (or absence) of certain species in the landscape. The 222 camera trap stations used in this study were located in valleys – where the landscape is flat and the ruggedness is close to 0 – but also in mountain paths where the terrain slopes change abruptly and the ruggedness values increase consequently.

BROWN HYENA

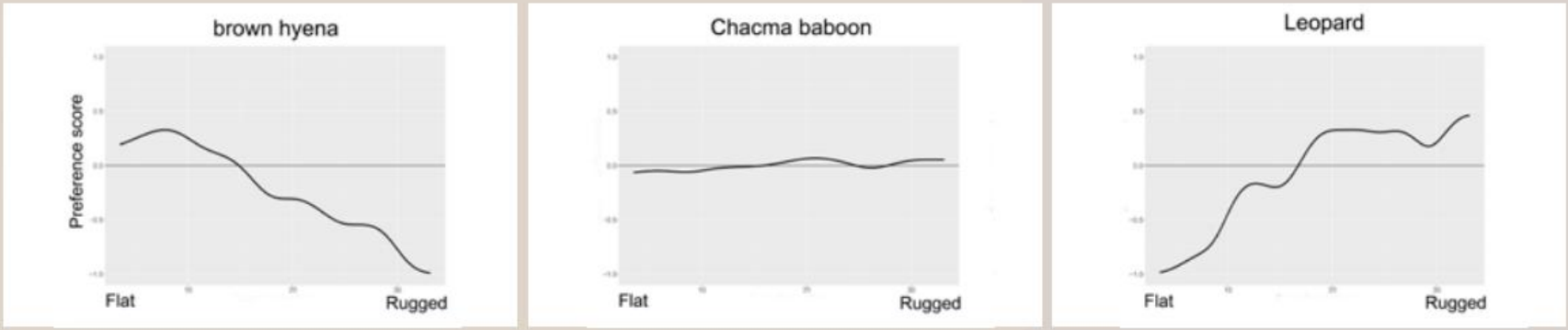
These results showed us that the brown hyena is a fully nocturnal species that favors flat terrain, and which activity pattern is highly similar to that of the bat-eared fox (91%), aardwolf (86%), Cape porcupine (84%), leopard (82%) and small spotted genet (80%).

We hope to continue to find new ways to explore camera trap data so that camera traps can be used as sensor networks for monitoring animal communities in space and time.



We use specific statistical tools that take account of the landscape in which species evolve and of the usage that each species makes of it. The output of this analysis is a curve of preferences. In other words, for each ruggedness values, a preference score (ranging from -1 to 1) is given. Thus we know that rock hyrax, klipspringer and leopard are the three species that favor rugged terrain the most, contrarily to springbok, Cape hare and steenbok which favor flatter grounds.

GRAPH TWO



CapeNature
Conservation Partner

As the conservation authority mandated with the statutory responsibility for biodiversity conservation in the Western Cape, CapeNature's partnership with the Cape Leopard Trust has become a valuable part of its work in conserving the precious natural resources of the province.

Nature in its purest form is in perfect harmony; every plant, animal and insect has a specific place and purpose and forms an important part of the Western Cape's ecosystem. This ecosystem provides essential services for life, including fresh water, pollination, quality soil and others so that humans can thrive, plant crops and herd cattle to produce food and work the land.

With leopards being at the top end of the food chain, they are considered an indicator of the state of the ecosystem in which they live. Therefore, the effective regulation of wildlife in the Western Cape is also a vital part of the overall strategy to conserve the province's biodiversity.

CapeNature's Wildlife Management Programme is informed by the organisation's overall strategic approach, and places particular emphasis on integrating ecological and socio-economic objectives, supported by co-operative governance. It is designed to draw all key stakeholders into the process of managing the Western Cape's wildlife resources on a sustainable basis, and due to the extensive home ranges of leopards, much of this conservation work is done outside the borders of CapeNature's protected areas.

Therefore, partnerships with landowners and NGOs such as the Cape Leopard Trust have become paramount for the future of these animals.

Our partnerships with landowners adjacent to nature reserves as well as the Cape Leopard Trust, have led to what we believe to be a healthy leopard population. This was achieved largely by changing landowner perceptions about leopards as mere damage causing animals, to that of key indicators of a healthy ecosystem and a main ecotourism attraction for our province.

In 2015, CapeNature and the Cape Leopard Trust solidified this partnership through the signing of a Memorandum of Understanding which bears the aim of sharing a vision to gain scientific knowledge of predator ecology to improve the management and conservation of multiple predator species.

Additionally, the partnership continues to ensure the promotion and implementation of holistic, non-lethal mitigation control methods in predator management, including a proactive approach to rescue and release, wherever possible, trapped predators, including leopard, caracal, black-backed jackal and other wildlife in the region.

As a key stakeholder in predator management in the Western Cape, the Cape Leopard Trust has established itself as a valuable member of the Western Cape Wildlife Forum and also supports the goals and strategies of the Predation Management Forum – both vital platforms where affected stakeholders work together to provide positive contributions to conservation.

CapeNature

Zoological Society London (ZSL) **Conservation Partner**

Dr. Rajan Amin

Terrestrial mammals and birds play critical roles in ecosystem function, including herbivore regulation, nitrogen cycling and maintaining plant diversity. Many mammal species are also becoming rare due to excessive hunting and habitat loss / fragmentation. Therefore, understanding the ecology of terrestrial mammal and bird communities, and monitoring their populations are critical conservation needs. However, for many areas, we lack information on the status of most of these species that is collected consistently through time.

Technology, especially the use of camera traps is now revolutionising wildlife ecology and conservation. A wildlife camera trap is a camera left at a location, rigged so that any approaching wild animal will automatically trigger the shutter release and take one or more photos or video sequences, without the photographer being present. Camera-traps are not a new technology and the first attempts to use them to record wildlife were made as early as 1877. In 1906, camera trap photos were seen widely for the first time when George Shiras published photos of free-living wildlife in the National Geographic Magazine. In the early years, camera trapping was rather a specialist and limited activity, mainly because the equipment was bulky and difficult to use, involving weighty cameras and arrays of trip wires. But although the equipment was clumsy by modern standards, from the outset images obtained this way were especially valuable for the often candid and relaxed behaviour that was captured.

Today camera trapping has been transformed by technology to become a major tool for conservation organisations such as the Cape Leopard Trust (CLT) and the Zoological Society of London (ZSL). Miniaturised heat and motion sensors have replaced wires and pressures pads. Invisible infra-red flash units provide night time monchrome images without the startling effect of conventional flash. Very large numbers of high quality digital images can be stored, and modern batteries allow these devices to operate unsupervised night and day in remote locations for months at a time. This gives us the opportunity to obtain vital information on the status, and learn important aspects about threatened and elusive wild animals such as big cats as well as some of the problems they face.

The images emerging from these projects are often engaging and useful in their own right, but we also need strong data management systems and robust analytical methods to turn the many 100s of thousands of images generated into scientifically valid conclusions. The development of new analysis tools has not so far kept pace with the potential created by the new technology. In an evolving technical partnership, ZSL and CLT are working to develop the statistical theory behind new methods that make full use of the information emerging from camera trap surveys. We are also developing new software tools that make it easy to manage camera trap data and produce information that is relevant to critical conservation questions.

We typically use arrays of camera traps spaced across large areas to assess the distribution and abundance of key species of conservation concern and conduct biodiversity surveys, for example to understand the impact of humans on whole animal communities. However, we also sometimes target key locations with cameras, such as dens or nest sites, to provide a history of the activity and behaviour of a target species. By partnering with key conservation organisations such as the CLT, ZSL is carrying out camera trapping surveys across the globe, including projects in Europe, Africa, the Americas, South and South-East Asia and Antarctica, targeting iconic species such as the Cape leopard, tiger, and okapi, as well as a huge range of lesser known wildlife.

ZSL | LET'S WORK FOR WILDLIFE

ABSA **Cape Epic**

Yvonne Kamp

'Untamed' with the Absa Cape Epic - the World's Toughest Mountain Bike Race

We are thrilled to have been selected as one of four official charities partners associated with the Absa Cape Epic. This annual mountain bike event has taken the cycling world by storm, and has the reputation of taking riders to their emotional and physical limits. Despite that, potential entrants scramble to secure entries and the opportunity to cycle across spectacular landscapes in Cape leopard territory. The eight-day challenge tests endurance and ultimately, survival. We invited Absa Cape Epic CEO, Lynn Naudé to share her thoughts on their partnership with us.

OFFICIAL CHARITY | ABSA CAPE EPIC

Over the past year the Absa Cape Epic has increased its support for charities and is exceptionally proud to be associated with the Cape Leopard Trust and its amazing work.

The Trust ticks some very significant boxes for us and, as such, is a great fit with the race.

From 2015 the Cape Epic decided to take a more targeted approach to its corporate social investment initiative and chose to highlight and support those which make a sustained impact for key stakeholders, including the towns we pass through and the Western Cape generally.

Among our criteria for choosing charity partners were programmes linked to a regional cause and those that focus on environmental issues: the sport of mountain biking is anchored in interaction with the environment and this is a key area of focus for us.

Since the Absa Cape Epic traverses leopard territory it also aligns with the event's reputation as the 'Untamed' mountain bike race. It is an incredible opportunity for riders to discover pristine landscapes, where the leopard still roams free and, as an apex predator, maintaining the eco-system balance. We believe it is a symbiotic link – the wild ride supporting the wildlife – helping to ensure the long term survival of leopards in their own habitat.

We welcome the opportunity to use our platform globally and in South Africa to highlight the work being done by the Trust and also the opportunity to educate and reach more and more people. This year, for example, one of the Trust researchers joined our Epic VIP Route Tours as a guide and her talks to sponsors and dignitaries about its work were much appreciated by our guests.

Like them, we have become big admirers of the Trust's exceptional commitment to its cause and wish it every success in its important endeavours.

Lynn Naudé - CEO

Ford
Wildlife Foundation

For the past 25 years, the Ford Motor Company of Southern Africa (FMCSA) has supported more than 150 conservation projects and invested over R30 million to help maintain wildlife and ecosystems in South Africa. In September 2014, Ford Officially established the Ford Wildlife Foundation to continue that support.

It is in upholding this tradition that the Ford Wildlife Foundation chose to partner with the Cape Leopard Trust to support its aim of researching and protecting the remaining leopard populations in the Cape Fold Mountains and surrounding areas. The Foundation recently handed over a new Ford Ranger to the Trust to join its Cederberg project, where it will assist the research team with implementing a large-scale camera survey.

The efforts by the Cape Leopard Trust to produce a robust scientific study of leopard populations in the Cederberg, with the aim to inform leopard management policy and contribute to national monitoring protocols, aligns directly with Ford Wildlife Foundation's conservation objectives on all fronts.

"The Ford Wildlife Foundation plays an important role in giving support to conservation of wildlife in South Africa and Sub-Saharan Africa," explains Neale Hill, Director: Marketing, Sales & Service for Ford of Southern Africa. "The key element for that is really looking at wildlife conservation on three crucial fronts: education, research, and conservation projects per se."

"The Foundation is a body that consists of Ford Motor Company, as well as members of our dealer network, and experts from the wildlife conservation sector that sit on the Foundation's board to help us make decisions about which projects we are going to support to drive conservation and protect wildlife in Southern Africa," says Hill.

The Foundation is supported financially by FMCSA, and the non-government and non-profit partner organisations nominated by Ford and the Ford Wildlife Foundation board are supplied with vehicles to enable them to conduct their education, research, and conservation initiatives. With the support of Ford's extensive dealer network, the vehicles operating in all Ford Wildlife Foundation projects are monitored and serviced by Ford to ensure they operate at peak efficiency.

Earth Day 2016
Art Auction

Hotel Verde, Africa's first Carbon Neutral Hotel hosted and sponsored a special celebration of conservation, art and poetry on Thursday, 21 April 2016 in honour of Earth Day. The magical event showcased 14 winning pictures from the recent children's art competition, which were auctioned on the night to raise funds for the environmental education project. We wish to thank Hotel Verde, Leopard's Leap Wines and Designstar for their unwavering support and for creating a night to remember.












Trail Run **2016**

Catherine Kühn

A rather inclement October morning greeted the enthusiastic runners at the second K-Way Cape Leopard Trust trail run event, kindly hosted once again by Cascade Country Manor in Paarl. Over 200 participants took part this year, an increase of 60 on 2015 numbers, a sure sign that the run could become a regular spot on the sought after trail run calendar. Specially designed trails of 25 km, 14km and 4km across leopard territory were on offer, ensuring a variety of fitness levels were catered for as a family-friendly day out. An added excitement were the hidden 'leopards' along the route to earn the keen spotters a prize. The majestic Klein Drakensberg Mountains provided a spectacular backdrop, and though the runners had a bit of rain to contend with along the way, the conditions didn't dampen the spirits and merely served to 'whet' the appetite of the eager participants.

There was entertainment in the form of face-painting for budding young "young cats', and for more mature feline fans, Jaguar Stellenbosch presented their own "Big Cat', offering opportunities for car enthusiasts to test drive a new and suitably spotted Jaguar F-Pace adventure vehicle.

The team from Leopard's Leap Family Vineyards not only took part in the run, but were also on hand with a tasting of their delicious wines, while food trucks from Cascade Country Manor had local specialities on sale as the prizes were given out, making it an enjoyable outdoor experience for both the runners and supporters on both sides of the finish line.

A special thanks to Maika and Volker Goetze of Cascade Country Manor, for hosting us at their beautiful property once again, and to Eckhardt Kühn, activities manager at the hotel, for the hard work in designing, building and maintaining the trails.
A successful event like this always requires support from enthusiastic partners, and we would like to express our appreciation to all those who willingly donated their time, their resources and their willingness to provide prizes for the deserving winners.

2016 Fundraiser hosted by **Donald Greig Gallery**

Helen Turnbull

It all started with a Leopard.

Big cats were out in full force on a blustery summer's evening as guests gathered on the red carpet at the Donald Greig Gallery in the Waterfront for a rather unusual art auction. Imposing and regal, two bronze lions flanked the grand entrance to the newly opened gallery and foundry and alongside three impressive big cats from Jaguar, Stellenbosch, including the spotted F-Pace adventure vehicle, specially branded for the occasion to raise awareness of the Cape Leopard Trust.

Earlier in the year, an exclusive list of artists and conservationists were invited to design a unique art piece, to be crafted from a blank, leopard shaped wooden canvas. The 18 completed art works interpreted in their creator's signature style and influence were showcased against the commanding backdrop of the gallery and foundry.

Guests mingled amongst leopard inspired art works and Donal Greig bronzes before formal proceedings began with talented local MC and auctioneer, Nik Rabinowitz, helping to raise over R420 000 for the Trust.

Donald and Ali Greig kindly hosted us at their impressive new home, now the largest bronze foundry in Africa, and generously donated two bronze leopard sculptures for the auction from a limited series of ten entitled 'Leopard in Motion'.

It was a memorable night of firsts: the inaugural charity fundraising event to be held at the new Donald Greig Gallery, the official launch of the Woolworths Cape Leopard Trust shopping bag, and the release and maiden tasting of the wine based 'Leopartini' cocktail crafted by our sponsors, Leopard's Leap Wines.

It was a truly magical evening to celebrate leopards, and in no particular order, we wish to express our heartfelt appreciation to the following artists who made the evening possible. Their valuable contribution and support empowers and enables our vision: to ensure the long-term survival of the Cape's mountain leopards:

Beezy Bailey

Francine Scialom Greenblatt

Caroline Kappers

Megan Carr

Darren Nobodyfamous

Johnny Clegg

Ers Silke

Rachel Smith

Lindy Solomon

Tracy Payne

Donald and Ali Greig

Matete Matsubatse

Wendy Patterson

Dame Jane Goodall

Kim Donaldson

Nik Rabinowitz

Maureen Visagie

Athol Moult

Heath Nash

Cathy Abraham

Deziree Smith

Liz Smith

Dr Ian McCallum

DONALD GREIG FOUNDRY

Leopard's Leap FAMILY VINEYARDS

JAGUAR STELLENBOSCH


DONALD GREIG
SCULPTURE

Out & **ABOUT**

MY PLANET

The MyPlanet programme was launched as an extension to the MySchool My Village initiative and has become one of South Africa's biggest community fundraising platforms.

By applying for a free card, consumers can support a worthy cause close to their hearts, without it costing them a cent, by swiping the card at a growing network of partner stores.

The partners donate a percentage of the consumer spend to the designated charities. The Cape Leopard Trust is one of the charity beneficiaries and over the last year has received approximately R15 000 as a result of the beneficial partnership.

MySchool MyVillage MyPlanet

A SPIRIT WITH A SOUL – SNOW LEOPARD VODKA MEETS THE CAPE LEOPARD

Described as the world's first "conservation" vodka, *Snow Leopard Vodka* was recently launched in the South African market. To mark its Cape Town debut, the 'Conservation Martini' cocktail was served for a limited time at 'The Stack' bistro, with a percentage of each martini sold during the December and January holiday season donated to the Cape Leopard Trust, raising a total of R10 000.

Snow Leopard Vodka was created 8 years ago by UK business man and philanthropist, Stephen Sparrow to raise awareness of the plight of snow leopards through an extraordinary tasting, top quality vodka which could make a significant contribution to helping save the Snow Leopard and other endangered species from extinction. A percentage of the proceeds from sales contributes to the Snow Leopard Trust and other wildlife projects such as ours.

BAG YOUR LEOPARD FOR A CAUSE

It all started more than 10 years ago when retailer, Woolworths, embarked on their 'Good Business Journey' that included a pledge to reduce the chain's output of single-use plastic bags offered at in-store till points. In a partnership with Flint Sky's Bags4Good initiative (www.bags4good.org.za), attractive reusable cause-themed shopping bags are distributed through national Woolworths stores to raise awareness of environmental issues and other worthy causes.
A premium on the price of each bag sold means that consumers can invest, not just interest in a cause, but also make a difference by way of a donation.

In 2016, the Cape Leopard Trust was invited to be featured on a cause-themed shopping bag. The 30 000 bags allocated to the Cape Leopard Trust are a positive fund raising mechanism and offer the consumer a way to support our work by buying a bag. We would like to thank Athol Moult and Di Botha, whose combined creative talents made the leopard bag one of the fastest selling yet!

CAPE LEOPARD TRUST

Board of **Trustees**

Prominent researchers, conservationists and businessmen form part of the Board of Trustees. Each trustee brings with them a wealth of knowledge, passion and guidance. We are ever grateful for their contributions and continued support.

WE ARE HONOURED TO HAVE THE FOLLOWING INDIVIDUALS SERVE AS TRUSTEES FOR THE CAPE LEOPARD TRUST:

JOHAN VAN DER WESTHUIZEN (CHAIRMAN)
Co-founder of the Cape Leopard Trust and retired businessman and farmer, Johan van der Westhuizen now devotes much of his free time to conservation. Johan is a founding member of the Cederberg Conservancy, and also founding member and chairman of the Red Cederberg Karoo Park, a conservation area in the unique Cederberg succulent Karoo.

DR. IAN MCCALLUM
Medical doctor, psychiatrist, naturalist, writer and former Springbok rugby player. Ian is one of the founding members of the Wilderness Leadership School and is Leadership Project Director of the Wilderness Foundation. Over the years Ian has been involved in a number of critical conservation efforts, and in 2012 was part of a six month coast-to-coast journey across southern African countries, linking major conservation areas and following ancient elephant migration paths. The entire 'Tracks of Giants Expedition' was completed on foot, mountain bicycles and in kayaks.

PROFESSOR WILLIAM HORSNELL
Lecturer and researcher in the Institute of Infectious Diseases and Molecular Medicine, University of Cape Town. Bill's interest in natural history led him to undertake a degree in Applied Zoology at the University of Leeds, and from there he developed an interest in parasitology and biochemistry. This resulted in a PhD at the Royal Veterinary College in cellular biology and biochemistry. Bill has been a part of the project since its inception and has been the driving force behind the Cape Leopard Trust Scientific Advisory Board.

DAVID KNOTT
A now retired and former fiduciary specialist, David has extensive experience of trust management and over the years has worked with a number of established trust companies. He was at one time CEO of Syfrets Trust and subsequent to the 2001 merger of Syfrets, BoE and Old Mutual he was appointed Head of Fiduciary Product for the BoE Trust up until his retirement.

BRENDHAN KANNEMEYER
Brendhan is a successful businessman who established BJK in 1997 after his time as Procurement Manager of Tiger Brands. BJK has since developed into a major logistics company, and yet in his spare time Brendhan still manages to be an enthusiastic conservationist. He often assisted and accompanied Quinton Martins with his research work, including the collaring of leopard and monitoring by helicopter, Brendhan "Jock" Kannemeyer has been a supporter of the Trust since 2004. BJK Industries is a long standing donor to the Trust.

JANNIE NIEUWOUDT
Jannie Nieuwoudt is a 7th generation Cederberg farmer and chair of the Cederberg Conservancy. He has been a supporter of the Cape Leopard Trust for many years and is currently the secretary of the Red Cederberg Karoo Park. Jannie was one of a group of farmers who decided to ban the use of inhumane gin traps in terms of improving predator management and was a founding member of the Cederberg Conservancy.

Scientific **Advisory Board**

The CLT Scientific Advisory Board was established to create a collaborative academic platform to advise on predator focused scientific research. Using the Cape Leopard Trust as its overarching identity the board will assess research project applications and record these at a central point, ensuring that research is not duplicated and the trust's research is relevant and that standards are continually improved. The role of the board is to encourage greater cooperation between academic institutions, motivating new partnerships and increasing access to potential funding opportunities.

WE WOULD LIKE TO INTRODUCE THE MEMBERS OF THE FOUNDING BOARD:

PROF BILL HORSNELL (RESEARCH BOARD CHAIR) – UNIVERSITY OF CAPE TOWN

Prof Bill Horsnell is a lecturer and researcher at the Institute of Infectious Diseases and Molecular Medicine, University of Cape Town. Bill has had a long term interest in natural history, which led him to undertake a degree in Applied Zoology at the University of Leeds. Here he developed an interest in parasitology and biochemistry, which resulted in a PhD at the Royal Veterinary College in cellular biology and biochemistry. His in-depth knowledge of the local and international research environment makes him an ideal choice to facilitate and chair the newly established advisory board. Bill has been a part of the Cape Leopard Trust since its inception and has agreed to chair the Scientific Advisory Board for its first three years.

PROF LES UNDERHILL – UNIVERSITY OF CAPE TOWN

Les Underhill is Professor of Avian Demography and a former Trustee of the Cape Leopard Trust. He was appointed to the Department of Statistical Sciences at the University of Cape Town in 1972 as a Lecturer, and received ad hominem promotion to Professor in 1992, after having been Senior Lecturer (1976-1982) and Associate Professor (1982-1992). The Animal Demography Unit leads the MammalMAP project in partnership with the Mammal Research Institute at the University of Pretoria. This initiative is a collaboration with professional scientists, conservation organisations, wildlife authorities and citizen scientists across the continent. The aim of MammalMAP is to help consolidate African mammal locations into an open-access digital database. The database software will generate online distribution maps that will not only yield crucial information for species and landscape conservation policies but will provide an excellent platform for educating the public about African mammals and their conservation challenges.

DR JACQUELINE BISHOP – UNIVERSITY OF CAPE TOWN

Jacqueline Bishop's research interests centre on the use of molecular, behavioural and ecological data to understand the relative contributions of genetic drift and selection in shaping variation in natural populations of vertebrates. This involves a range of molecular and analytical approaches to elucidate evolutionary genetic history from the level of individuals and parentage assignment to the analysis of genes, populations and species. Jacqueline has an ongoing interest in the evolutionary drivers of mate choice behaviour, together with understanding the relative importance of adaptive genetic variation in free-living populations. Working within this framework Jacqueline uses a number of taxa as models to test current theories. These have included crocodiles, rhinoceros, baboons and mole-rats, and more recently seabirds, bats and marine fish.

DR STEPHEN COMPTON – RHODES UNIVERSITY

Dr Steve Compton is an English ecologist and entomologist with a particular interest in plant-animal interactions. Research themes include the biological control of aliens, the conservation of rare insects, the pollination of fig trees and the biology of parasitoids. Currently, Dr Compton holds academic positions at Rhodes University, Grahamstown, South Africa and the University of Leeds in England. His research is largely field-based and mainly carried out in warmer parts of the planet.

DR ALISON LESLIE – STELLENBOSCH UNIVERSITY

Dr Alison Leslie of the Department of Conservation Ecology & Entomology at Stellenbosch University is collaborating with the CLT on a number of exciting leopards and other carnivore projects both in South Africa (Gouritz and Northern Cape leopard projects) and in Malawi. Former Cape Leopard Trust CEO, Quinton Martins, joined the department as a research fellow at the beginning of 2014 and still holds

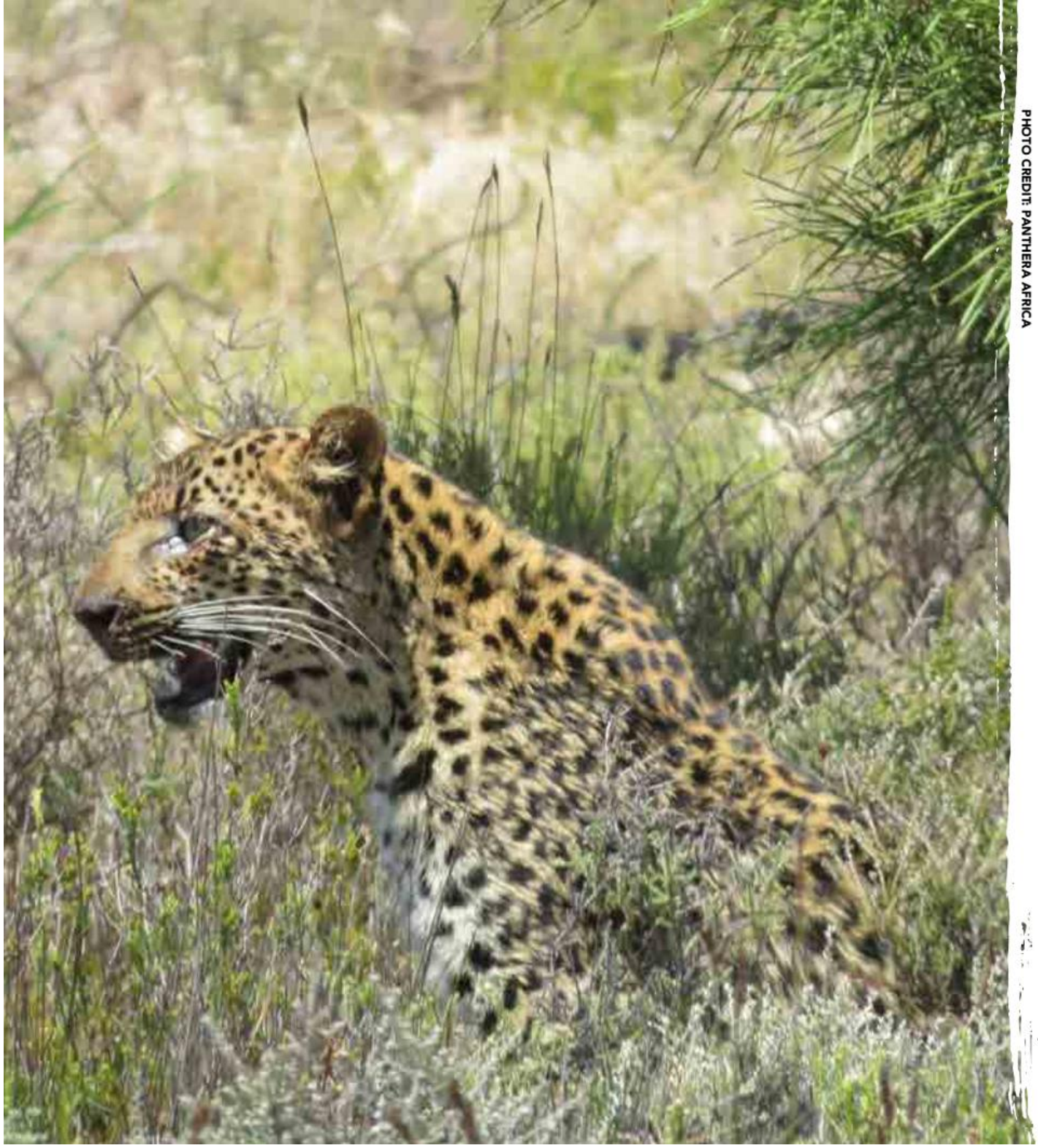


PHOTO CREDIT: PANTHERA AFRICA

this position. Alison is a senior lecturer in wildlife management in the department, and has a PhD and MSc in vertebrate ecology & physiology from Drexel University in the USA and a BSc Zoology & Botany from the University of Stellenbosch. Alison's research interests are broad but lie primarily in the field of wildlife management, including human/wildlife conflict. Alison has worked extensively in South Africa, Costa Rica, Botswana, Zambia, Malawi and Burundi. Her current research focus is in Majete Wildlife Reserve in Malawi in collaboration with African Parks Pty (Ltd). Alison has published numerous peer-reviewed papers and is continuously presenting her work at national and international conferences.

PROF DAN PARKER – UNIVERSITY OF MPUMALANGA

Prof Parker is an Associate Professor at the University of Mpumalanga and continues to maintain research links with the Rhodes University Department of Zoology and Entomology. Dan trained as zoologist under the mentorship of Professor Ric Bernard at Rhodes University completing an MSc on giraffe feeding biology in 2004 and a PhD on the impact of elephants on the ecosystems of the Eastern Cape, South Africa in 2008. In between MSc and PhD studies, he took a research "gap year" and worked for Oxford University's Hwange Lion Research Project in Zimbabwe alongside Drs Andy Loveridge and Zeke Davidson igniting his keen interest in carnivore biology.

Auditors **Report**

PKF Constantia Valley Cape Town

PKF
chartered accountants
& business advisers

REPORT OF THE INDEPENDENT AUDITOR ON THE SUMMARY FINANCIAL STATEMENTS

To the Trustees'

The accompanying summary financial statements, which comprise the summary statement of financial position as at February 29, 2016, and the summary statement of comprehensive income, are derived from the audited financial statements of The Cape Leopard Trust for the year ended February 29, 2016. We expressed a qualified audit opinion on those financial statements in our report dated January 24, 2017. (As disclosed in our Opinion paragraph)

The summary financial statements do not contain all the disclosures required by International Financial Reporting Standards for Small and Medium-Sized Entities applied in preparation of the audited financial statements of The Cape Leopard Trust. Reading the summary financial statements, therefore, is not a substitute for reading the audited financial statements of The Cape Leopard Trust.

Trustees' Responsibility for the Summary Financial Statements

The Trustees' are responsible for the preparation of the summary of the audited financial statements.

Auditor's Responsibility

Our responsibility is to express an opinion on the summary financial statements based on our procedures, which were conducted in accordance with International Standard on Auditing (ISA) 810, "Engagements to Report on Summary Financial Statements.

Opinion

In our opinion, the summary financial statements derived from the audited financial statements of The Cape Leopard Trust for the year ended February 29, 2016 are consistent, in all material respects, with those financial statements.

Our qualified audit opinion is based on the fact that, in common with similar organisations, it is not feasible for the trust to institute accounting controls over cash collected from donations prior to initial entry of the collections in the accounting records. Accordingly, it was impractical for us to extend our examination beyond the deposits actually recorded. Our qualified audit opinion states that, except for the effects of the described matter, those financial statements present fairly, in all material respects, the financial position of The Cape Leopard Trust as at February 29, 2016, and of its financial performance for the year then ended in accordance with International Financial Reporting Standards for Small and Medium-Sized Entities.

PKF Constantia Valley Cape Town

PKF Constantia Valley Cape Town Inc.

Registered Auditors

Per: Frans Boonzaaier

Partner

12 July 2017

PKF Constantia Valley Cape Town Incorporated - Reg no 2005/003248/21 Pr no 900675

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F +27(0) 21 713 8499

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W www.pkf.co.za/constantia-valley

Directors: Kari Andersen - Kobus Nel - Frans Boonzaaier - Patricia Andrews - Ruena McDonald

Financial **Overview from PKF**

The Cape Leopard Trust
Registration Number IT2720/2004

Financial Statements for the year ended 29 February 2016

SUMMARY STATEMENT OF COMPREHENSIVE INCOME	2016	2015
Revenue	R 4 082 368.00	R 3 868 445.00
Cost of Sales	R -52 832.00	R -25 464.00
Gross Surplus	**R 4 029 536.00**	**R 3 842 981.00**
Other Income	R -	R 5 262.00
Operating Expenses	R -3 686 882.00	R -3 437 145.00
OPERATING SURPLUS	**R 342 654.00**	**R 411 098.00**
Investment Revenue	R 64 349.00	R 44 126.00
Surplus for the Year	**R 407 003.00**	**R 455 224.00**
Other Comprehensive Income	R -	R -
Total Comprehensive Income for the Year	**R 407 003.00**	**R 455 224.00**
SUMMARY STATEMENT OF FINANCIAL POSITION		
Non-Current Assets (Property, Plant, Equipment)	R 1 633 652.00	R 1 548 388.00
Other Financial Assets	R 36 735.00	R -
Total Non-Current Assests	**R 1 670 387.00**	**R 1 548 388.00**
Current Assets (Inventories)	R 40 805.00	R 42 130.00
Current Assets (Trade & Other Receivables)	R 131 563.00	R 141 103.00
Other Financial Assets	R 39 600.00	R -
Current Assets (Cash & Cash Equivalents)	R 2 392 630.00	R 2 132 588.00
Total Current Assests	**R 2 604 598.00**	**R 2 315 821.00**
Total Assets	**R 4 274 985.00**	**R 3 864 209.00**
EQUITY & LIABILITIES		
Trust Capital	R 200.00	R 200.00
Accumulated Surplus	R 4 231 662.00	R 3 824 659.00
LIABILITIES		
Current Liabilities (Trade & Other Payables)	R 43 123.00	R 39 350.00
Total Equity & Liabilities	**R 4 274 985.00**	**R 3 864 209.00**

DONATIONS FROM R 100 000.00 AND ABOVE

Wilderness Foundation
Leopard's Leap Family Vineyards
Gavin Durrell
Rolf Stephen Nussbaum Foundation
Anthony Nederer
Joan St Leger Lindbergh Charitable Trust
Hans Hoheisen Charitable Trust
BJK Industries
Woolworths
Abax Foundation
National Lotteries Commission (NLC)

Staff

Helen Turnbull
Chief Executive Officer

Yvonne Kamp
Trust Administrator

Lana Müller
Research & Operations Manager

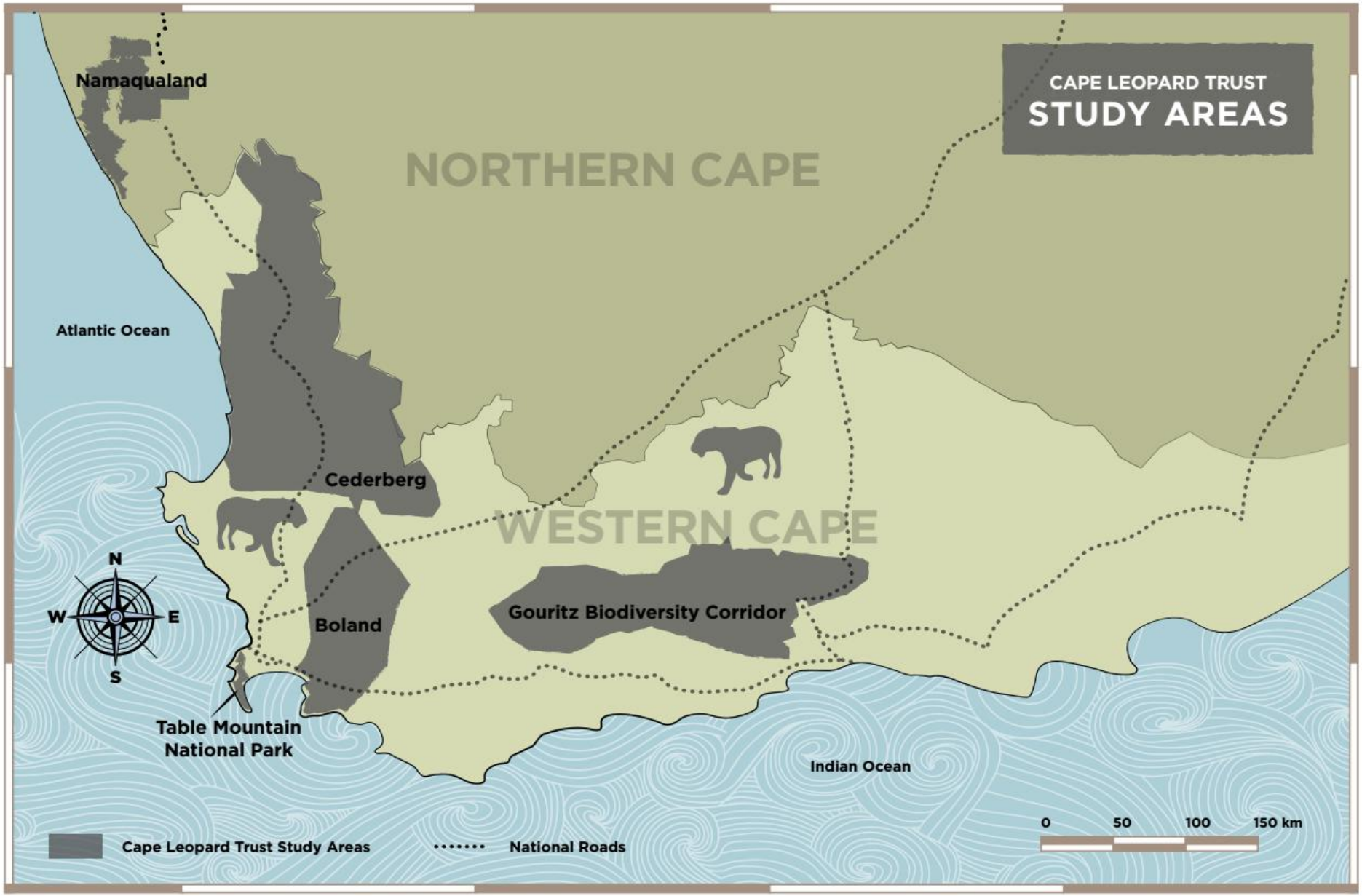
Jeannie Hayward
Boland Researcher

Anita Wilkinson
Boland Project Coordinator

Hadley Lyners
Environmental Educator/Co-ordinator
(from August 2016)

Catherine Kühn
Environmental Educator

Nicole le Roux
Environmental Education Co-ordinator
(to end July 2016)


CAPE LEOPARD TRUST
STUDY AREAS
NORTHERN CAPE
WESTERN CAPE
Namaqualand
Atlantic Ocean
Cederberg
Boland
Gouritz Biodiversity Corridor
Table Mountain
National Park
Indian Ocean
N
W
E
S
0
50
100
150 km
Cape Leopard Trust Study Areas
National Roads

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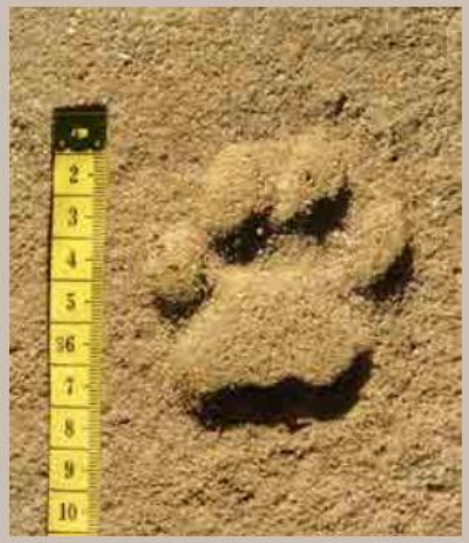
LISA LOSKEN
DESIGN CONSULTING



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DESIGNED BY LISA LOSKEN DESIGN