



CAPE
LEOPARD
TRUST

IMPACT REPORT
2017 - 2018







Contents

- 3** *Chairman's letter*
- 4** *Introduction from the CEO*

- 6** *Who we are*
- 7** *Purpose & Vision*
- 8** *Map of study areas*
- 9** *Our strategic goals*

- 10** *Environmental Education*
- 16** *Cederberg project*
- 24** *Boland project*

- 32** *Science in action*
- 33** *Conservation partnerships*
- 35** *Events*

- 38** *Financials & Governance*
- 39** *Current Sponsors*

Cover photo: Cederberg female leopard and cub greeting - Camera trap image
Inside cover photo: Cederberg landscape - Lada Müller



Chairman's letter

Before I started writing this letter, I browsed through the Cape Leopard Trust's annual reports issued since the organization's inception in 2004. It was a humble beginning and we started with little money and no infrastructure. Since then the Cape Leopard Trust has evolved into an internationally recognized research NGO. We have indeed travelled a long road since those early days and it is with great pride that I write this short introduction to the 2018 impact report.

Contrary to the conventional way of thinking, we never aspired to grow into a large organization, but rather to be efficient and relevant, with well defined goals. We want to make a difference in ensuring the sustainable protection of our natural environment, with specific emphasis on the protection of the Cape's mountain leopard and its habitat. I am happy to say that we are making great progress in achieving these objectives. Over the years we have managed to bring together a group of skilled people who now form a formidable research and management team. At the same time we have established superb conservation education programmes for children, which run in tandem with our research projects.

Photo opposite: Emmie and Oom Arrie

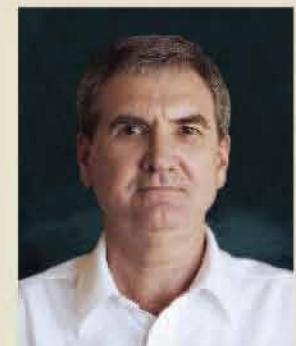
The role of communities and landowners is key in successful leopard and broader biodiversity conservation. The Cape Leopard Trust has been extremely fortunate to have the support of some incredible people since its inception in 2004, who have been willing to share their in depth knowledge of the Cederberg. Oom Arrie Beukes has lived and worked at the farm 'Keurbosfontein' for over 65 years and knows every rock and plant. Arrie is pictured here with his daughter-in-law, Emmie. As a result of landowners collectively pledging to protect nature, the Cederberg Conservancy was formed as a voluntary initiative in which local farmers and landowners banned lethal predator management methods, and celebrated its 20th anniversary in 2017.

We are blessed to have long-standing affiliations with a core of wonderful corporate sponsors and benefactors, who help to ensure that the foundations of the Cape Leopard Trust remain solid and secure. We thank them for their support and encouragement. Thank you also to the many landowners on whose land we work, for their generosity and assistance, particularly in the Cederberg and Boland regions. A special thank you to our partner CapeNature, for their ongoing support and collaboration.

I want to thank the Cape Leopard Trust team for their dedication, hard work and collective sense of purpose. They have compiled this annual report and from their individual contributions you will be able to gain an insight into their work. I hope you will find it interesting and inspiring.

Lastly, a big thank you to our Board of Scientific Advisors, as well as my fellow Trustees, for their support and guidance over the past year.

Johan van der Westhuizen - Chairman



Introduction from the CEO

The world of conservation can be an overwhelming space. So many communities need support, and numerous species lack the protection they need. The future of the 'big 5' and other charismatic species are hanging by a thread. It begs the question: How can we put a price on the environment and the services it provides for our well-being? And how can we find a way to demonstrate the economic value of protecting wildlife as the needs of humans and nature collide, as if they are two separate entities instead of one? This is something we often grapple with as we plan where the Trust should invest its resources for greatest effect.

Natural resource management needs to engage multiple stakeholders with a collective vision to make it successful and sustainable. This is the reason the Cape Leopard Trust is not just about leopards.

Protecting the iconic leopards of the Cape and their vast territories enables us to advocate for the protection of broader biodiversity, and in turn benefit the fauna and flora that call these areas home. With this goal in mind we have put in place a holistic strategy to invest our efforts equally in people, the species and the landscapes around our research areas, to ensure we reach the communities most in need and defend the leopards most vulnerable to persecution and susceptible to exploitation.



The environmental education component of our work is key to achieving these aspirations. We cannot change mindsets without improving knowledge. The environmental education project interacted with over 10 000 young people in 2017, and showcases the year's highlights on page 10. While this number is to be celebrated, the new approach aims to deliver longer term, consistent interventions in communities living on the fringes of leopard habitat to enable us to effect changes in behaviour over time. This is vital if we are to find ways to counter the growing scourge of wildlife and environmental crime in the Western Cape and beyond.

The Boland project shares an update on their investigations into illegal hunting with wire snares, and the commercial bushmeat trade in the Winelands. In partnership with Wilderness Foundation Africa, and the Department of Conservation Ecology & Entomology at Stellenbosch University, students Brittany Schultz and Wian Nieman joined forces with the research team to examine the serious emerging threats to the leopard population.

People often ask us how many leopards are left in the Cape? To address this question, at least in part, the Cederberg team is coming to the end of a year-long camera trap survey and is in the process of analysing the current status of leopards and their prey species. They reveal how the community outreach component of the project is gaining momentum, supporting commercial and subsistence farmers with innovative mitigation methods to manage predator conflict as a way to secure the future for leopards.

We continue to consolidate and nurture existing partnerships, as well as to seek out new relationships, and to celebrate a long standing alliance, we are pleased to feature the CEO of Leopard's Leap Family Vineyard's, Hein Koegelenberg as he shares their philosophy on the conservation of heritage.

Like most of Africa's wild cats, the charismatic leopard faces prolific and varied threats, including loss of habitat and natural prey, direct persecution due to human-wildlife conflict, poaching, wildlife trafficking, trophy hunting and climate change. All influenced by human activities. Our mission is to inspire people to think differently about leopards, and how we achieve this depends on how widely we can communicate the conservation message.

Quite simply, we achieve this with your help, and we truly value our community of donors, sponsors, supporters and partner organisations. This powerful network is what empowers us to do what we do, and will enable us to hold a strong and steady course as we go into the next exciting year. I commend the commitment from each of the Cape Leopard Trust Team, its board of Trustees and its scientific advisors both locally and abroad for their positive contributions.

Finally, we acknowledge each of you for being part of our growth over the last twelve months. We have a collective responsibility to be a voice for nature, and to have the courage to speak out for that which is not for sale at any price.

Helen Turnbull - Chief Executive Officer

Photo opposite: Helen Turnbull
Courtesy of Dylan Lewis Sculpture Garden



Photos: Cederberg male leopard 42 - Camera trap images

Who we are

The Cape Leopard Trust is a non-governmental, not-for-profit organisation engaged in innovative research, conservation and education projects established to facilitate and promote the conservation of biological diversity. The Trust consists of a small, highly dedicated, educated and enthusiastic team, spread across a number of project areas.

The Cape Leopard Trust is an active leopard conservation working group. We strive to use sound scientific research as a tool for conservation, finding solutions to human-wildlife conflict and inspiring interest in the environment through an interactive and dynamic environmental education programme.

Purpose & Vision

To ensure the long-term survival of leopard populations by promoting peaceful coexistence and the protection of landscapes, empowered by scientific research, positive community partnerships, education and advocacy

Photo:

Top left to right

Catherine Kühn – Environmental Educator

Anita Wilkinson – Boland Project Coordinator

Jeannie Hayward – Boland Researcher & Media Spokesperson

Lana Müller – Research & Operations Manager

Yvonne Kamp – Trust Administrator

Helen Turnbull – Chief Executive Officer

Bottom left to right

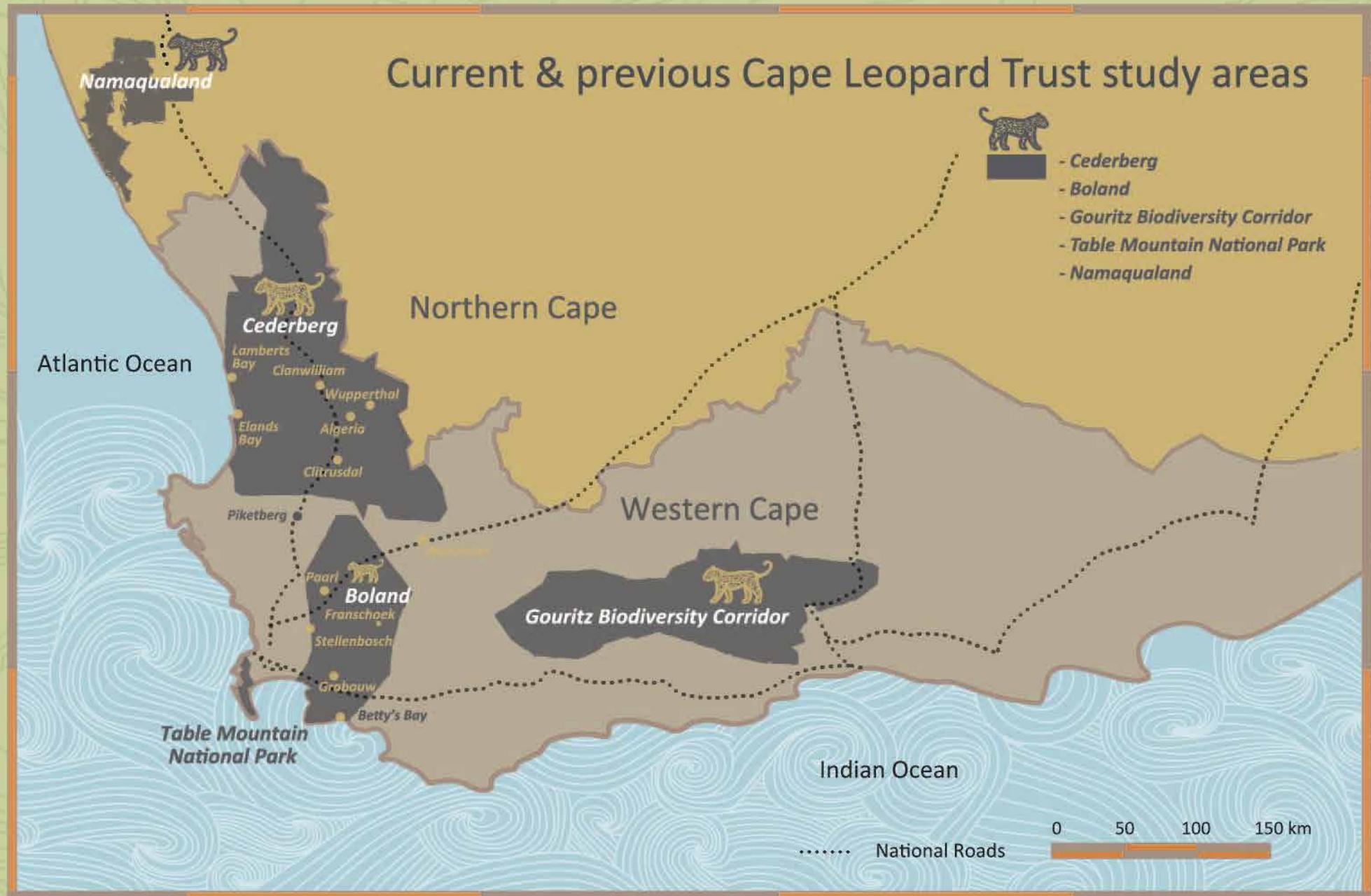
Ismail Wambi – Community Outreach Officer

Christiaan Lochner – Cederberg Research Assistant

Mike Henshall – Environmental Educator (until Dec 2017)

Hadley Lyners – Environmental Education Coordinator





Our strategic goals

The purpose of the Cape Leopard Trust is to ensure the long-term survival of leopards, and thus we need to create an enabling environment to align with this vision. Ultimately conservation can't be successful without conversation. This reality has motivated the Trust to take a people-centric approach in the development of its overarching objectives and activities for the next three years. The following goals have been identified to guide key activities and the deployment of limited Trust resources:

- Establish the population density and distribution of leopards and their key prey species across our research areas.
- Identify and secure suitable leopard habitat and improve habitat connectivity for leopard meta-population management.
- Shift environmental education focus to buffer zones around research areas to impact and support communities affected by leopards and human-wildlife conflict.
- Conduct comprehensive landowner surveys specifically investigating predator tolerance and establish current level of human/leopard conflict.
- Support subsistence and commercial farmers to improve livestock husbandry practices and build knowledge and confidence in holistic predator management.
- Investigate current main threats to leopard prey species and the drivers of prey base depletion in order to plan for and ultimately implement actions to reduce and mitigate these threats.
- Improve systems for more effective conservation management and influence local governance, and ultimately national policy development.
- Monitor emerging threats to leopard survival and collaborate with partner organisations to raise awareness and mitigate these threats.
- Secure a long-term patron that will align with or share synergies with the Cape Leopard Trust.

Targeted Milestones for 2018 to 2021:

1. Establish medium-term leopard population trends in Cederberg and Boland research areas (2017-2020).
2. Quantify and reduce current level of human/leopard conflict by 10% by 2021.
3. Initiate a leopard monitoring project in the greater Piketberg region where a high number of conflict incidents were reported in 2017 (2019-2020).
4. Appoint three predation verification officers and train them in predator identification based on tracks, signs and carcass feeding patterns; also build capacity to mitigate human wildlife conflict within their communities (2018).
5. Consolidate partnership with Qhubeka and Hi-Tec to supply mobility and uniforms to the first three verification officers (2018).
6. Establish community kraaling project to enforce and predator-proof kraals in Heuningvlei community area (2018); ultimately roll out to neighbouring Cederberg communities once initial protocol has been established (2019).
7. Cederberg Community Outreach officer to select and work with 3 communities to create an Environmental Intervention Programme framework and tools to measure positive behaviour change (2018-2019).
8. Extensive review of education materials to develop unique CAPS compliant CLT education resources focused on leopard ecology and conservation (2018).
9. Introduce Environmental Education model to 8-10 new community schools per year (2018-2021).
10. Identify anthropogenic threats to leopard and prey populations with specific reference to the illegal wildlife trade as well as the incidence and drivers of illegal hunting with wire snares in the Boland (2018).
11. Develop protocols and establish pilot snare patrols in the Boland area in collaboration with CapeNature (2019-2020).

Environmental Education

Hadley Lyners & Catherine Kühn

People really can make a difference, if they know how.

The Environmental Education Project team has been doing its bit over the last twelve months to nurture future green ambassadors, and we are pleased to present some of the highlights from the programme.

10 867
participants




Photo: A sponsored group from Piketberg heading to a camp

Through the delivery of camps, daytrips, eco-clubs, presentations, holiday programmes and exhibitions we were able to reach 10 867 participants. Towards the end of the year we were joined by Ismail Wambi, who is responsible for community outreach to support the education team.



Photo: Participants on the Klipspringer Trail in the Boland

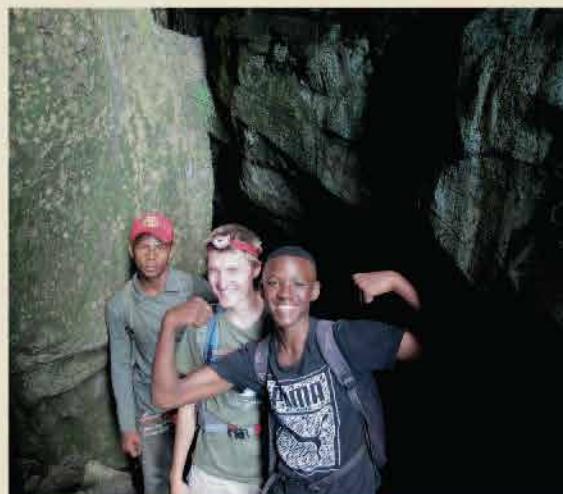
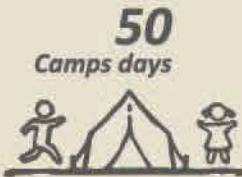


Photo: Discovering Kalk bay caves

Based on Kolb's 'experiential learning model', participants are encouraged to reflect on their experiences out in nature, and our educators are trained to guide reflective conversation in an effort to open a gateway to powerful new thinking and learning.

Wilderness Camps in the Cederberg

Educator Catherine Kühn's article, published in SA Mountain Magazine perfectly sums up the spirit of the wilderness camps we offer in the Cederberg.



"Some of the activities really boost the confidence levels of our participants, and so many fears have been overcome just by allowing each individual the chance to be wild and free in the wilderness that is the Cederberg.



Photo: Hiking the Cederberg



Photo: Discovering a grasshopper while walking a trail in the Cederberg

Encounters such as reaching the top of a rock that had looked so formidable, standing under a waterfall torrent, drinking fresh mountain river water, or swimming in its icy cold depths, jumping into the water from a rock, climbing a rock for the first time, being close to a scorpion, crawling through a cave in the dark and hiking through the iconic Wolfberg Cracks are just a few examples of how lives are changed by nature. It is through these experiences that children and adults alike begin to realise why litter and pollution is a problem, why they cannot just throw their rubbish down anywhere, why it is bad to conduct illegal snaring or promote the sale of animal skins or why setting a fire has a detrimental effect on flora and fauna. These experiences are unique to our programmes and are incomparable to any other. Our role is ultimately to make sure we can all be good ambassadors for nature, not just for the Cederberg, but for the environment and all that it is."

Eco clubs

Eco clubs play an important role in creating environmental awareness, by creating a platform for the youth to participate in appropriate action to address and avoid future environmental challenges. Eco clubs consist of 4 contact sessions at the school and 4 explorations in local natural areas. Regular interventions with the same group provides the opportunity for the education team to enhance their impact and to monitor positive behaviour change.



Photo: Learning about nature using biodiversity information cards



Photo: Learning how to plant indigenous fynbos

Arbour week activities demonstrate that our scope of teaching is not restricted to the leopard and its ecology, but encompasses nature as whole. We were privileged to have had Bongani Mnisi from the City of Cape Town joining us for our Arbour day talk at Muizenberg Junior School. Bongani's goal is to re-establish habitat for pollinating birds, such as sugarbirds in the Cape Flats area. Our EE team facilitated 5 eco club sessions during Arbour Week, and planted a total of 86 indigenous water saving, bird attracting fynbos plants at various schools around the Cape Peninsula.

Bridgehouse School in Franschhoek kindly sponsored a camera trap, which we have set up at Mont Rochelle Nature Reserve. We await some awesome pictures.



Photo: Explaining the role of leopards in nature

Daytrips



It is not always possible for everyone to attend our camps or engage in eco-clubs, and as an alternative we offer daytrips into natural areas that help to raise awareness of environmental issues. Our daytrips encourage individuals to develop an interest in nature and participate in conservation efforts.



Photo: Teambuilding with BJK Industries



We successfully completed a total of 12 day trips and reached 218 participants from diverse backgrounds including orphanages, universities, corporate companies, communities, other environmental education organisations and mountain clubs.



Photo: The pre-camp presentation is important as it prepares learners for their trip. For many participants it is their first time away from home.

Presentations

Our educators reached 9124 people and delivered 46 presentations on leopards in the Cape over the year. The content of the presentations addresses human-wildlife conflict, and explains the role of leopards and predators in maintaining healthy eco-systems. For many children it is their first introduction to the wonders of nature and the fragility of the environment. Each audience differs in terms of their knowledge of a topic, but it is their questions afterwards that allow us valuable insight into how pre-conceptions can be changed through education. The presentations at Karookop Primary School in Piketberg, and the Rijk Tulbagh School were particularly rewarding for the educators, as the children had no idea that there are wild leopards roaming free in the mountains close by.



Holiday Programmes

Our winter holiday programme has been such a successful formula that we are now offering programmes both in the July and September school holidays.

The 10 day July programme was split between two groups, participating in 5 day-outings each. The programme offers a safe haven for children between the ages of 10 and 18, keeping them positively engaged and entertained during the holidays, especially those youngsters from areas where they may be at risk of exposure to substance abuse, violence and gangsterism. The groups from Amy Foundation and Rock Girls hail from Gugulethu and Mannenberg respectively, and were subsidised thanks to funding secured from First Rand Foundation and the National Lotteries Commission (NLC).

Participants from Newberry House Montessori School, the Helderberg Eco-Rangers and Lourensford's farm children can contest to the fact that Spring is an excellent time to explore nature. Learners participated in activities such as tree planting, species identification (mammals, birds, reptiles and plants) and a river health assessment, thanks to a collaboration with Living Labs.



Photo: Judges face the difficult task of choosing winners from the outstanding artworks submitted in the 2017 art competition.

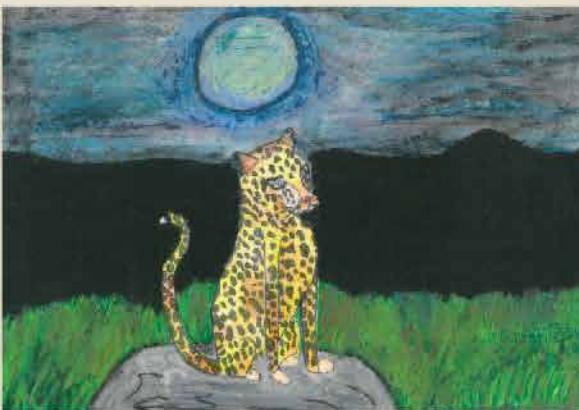
Art Competition and Exhibitions

The 'Essence of a Leopard' was the theme of the 2017 Art Competition, which was once again kindly sponsored by our partner, Bridgestone SA. We had an incredible number of artworks submitted and the judges were really put to the test when it came to choosing the 9 winning pieces and 5 runners up. Judges included Cape Leopard Trust Ambassador and extreme adventurer, Braam Malherbe and Elizabeth Martins, founder of the CLT Environmental Education Programme. The winners were awarded a wilderness camp in the Cederberg, and received copies of the 2018 calendars containing their artworks. The winning art was subsequently framed and showcased at Jaguar Stellenbosch's Above & Beyond art exhibition during the 'Woordfees' festival.



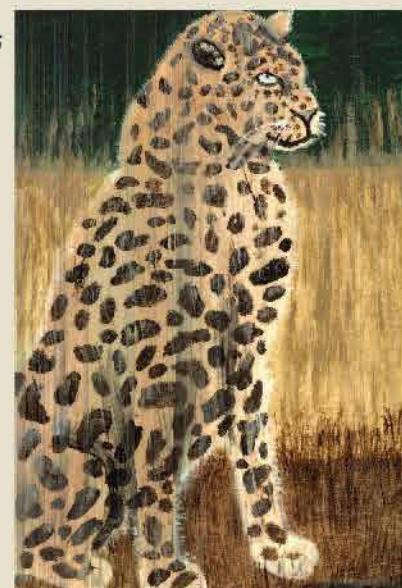


2



Photos:

1. 'Nature Matters' – Ilse Mari Cotzee Age 10
2. 'Leopard Under the Moonlight' – Ailing Guan Age 13
3. 'Bright Eyes' – Marguerite Ruttman Age 13
4. 'Windows to the Soul' – Kelsey Julies Age 14
5. 'Balance' – Joanie du Toit Age 13
6. 'Coolness of a Leopard' – Razeena Ismail Age 10



The road ahead

Over the last few years we have been privileged to create and host nature based experiences for numerous schools in and around Cape Town, and as a result have formed positive partnerships with some incredible schools and learners. However, from the beginning of 2018 we have made the decision to concentrate our work on schools and communities located in and around our core research areas. The new strategy will focus on people that come into close contact with leopards, and will invest in nurturing the children and communities that come into close contact with issues such as human-wildlife conflict. Our vision is to facilitate peaceful coexistence and mutual respect for nature, and in turn, help protect leopards and other species by closing the knowledge gap. Our limited resources must be directed where there is greatest need, and with wildlife habitat increasingly threatened, it is vital we invest in the communities in close proximity to the leopard habitats we work in, to help foster a greater understanding of the role of predators in our environment, and why we should protect them.

As well as the geographic shift, our learning material is undergoing an intensive overhaul to provide a unique portfolio of education material focussed on leopard ecology and conservation which is also compliant with national curricula standards.

We look forward to implementing the new strategy in the latter half of 2018 and to report on progress and lessons learnt in our next impact report.

Cederberg project

Lana Müller, Christiaan Lochner & Ismail Wambi

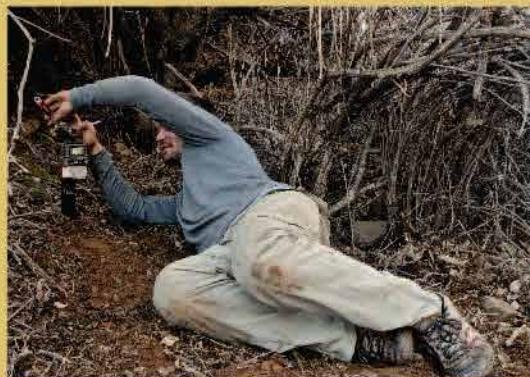
Camera trap Survey

One of the main aims of the Cederberg project in 2017 was to set up an extensive survey using remote field cameras to establish the population status and distribution of leopard and their key prey species. This information will facilitate effective conservation management for leopards and their prey. To this end, 146 cameras traps (73 paired camera trap stations) were placed in an area covering roughly 1700km² of Cederberg wilderness - including all sorts of valleys, peaks, rocky ridges, escarpments and other hard to reach places. It took a couple of months at the beginning of the year to test the camera units, fine tune the protocol and select the best field sites before the actual deployment of cameras could start. Since the setup in July 2017, all the cameras have been serviced twice. This entails downloading all the images (one of the most exciting parts of the work), replacing batteries, trimming back any vegetation around the cameras that could cause false triggers, and making sure that the cameras are working correctly. With the help of our volunteers (Ewan Brennan, Hannes Kok and Barbara Seele) our first five months (July-Nov 2017) of raw camera trap data have been logged into Excel. It's hard to explain just how rewarding it is to look at these photos. They offer a glimpse into the secret lives of many of the very elusive creatures that roam the Cederberg, including aardvark, genet, striped polecat, caracal, African Wildcat, honey badger, otter, aardwolf, and of course the leopards! We have seen images of big, powerful male leopards - sometimes with scars from a territorial fight; of female leopards with cubs; of courtship rituals; of leopards with hyrax kills, and many more.

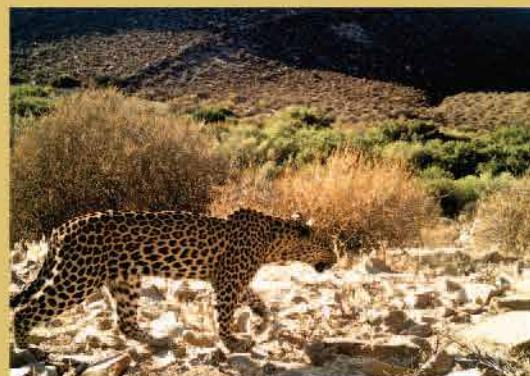


Note: these are preliminary results and will still change during the course of the survey

We look forward to starting with data analyses during the latter half of 2018 in order to determine the population density and trend of the Cederberg leopard population. We will compare our results to those obtained by Dr Quinton Martins who studied the Cederberg's leopards from 2003 to 2012. This comparison should determine whether the population is stable or whether it has increased or declined over the last number of years. We will be reporting on our findings in next year's report!



Photos: Preparing camera traps



Photos: Camera trap images



Photos: Camera trap images

Leopard Diet Composition

Leopards are extremely elusive, and it is therefore nearly impossible to observe them in the field on a regular basis to see what they eat - especially leopards in the Cape Mountains. However, by analysing their scat (faeces), it is possible to determine their diet. Scat analysis is a simple and non-invasive method that looks at the undigested parts of prey such as the hair, hooves and bones in the predator scat. This method works well because the scat is easy to collect, and analysis is relatively affordable. It is also the most commonly used method when determining the diets of terrestrial carnivores (Klare, Kamler & McDonald, 2011).

During the setup and servicing of the camera traps, the research team covered large distances (+/- 800km) on foot, hiking the rugged mountainous terrain of the Cederberg.

During these hikes, leopard scat (total 485) was opportunistically collected along the trails and subsequently analysed by Willem Briers-Louw at Stellenbosch University.

The results in Figure 1 reflect how incredibly adaptable these elusive cats are that roam the mountains of the Cape. Interestingly, although found in extremely low percentages (<1%) the following prey items were also found in the scat: African Wildcat, Caracal, Cape Fox, Small Spotted Genet, Aardwolf and Striped Polecat. This is the largest sample of leopard scat collected thus far in the region and will be used to demonstrate to farmers that livestock accounts for a very low percentage of a leopard's diet, and hopefully this proof will ultimately help bring about a change in the perception of farmers that leopards survive on sheep, goats and cattle.

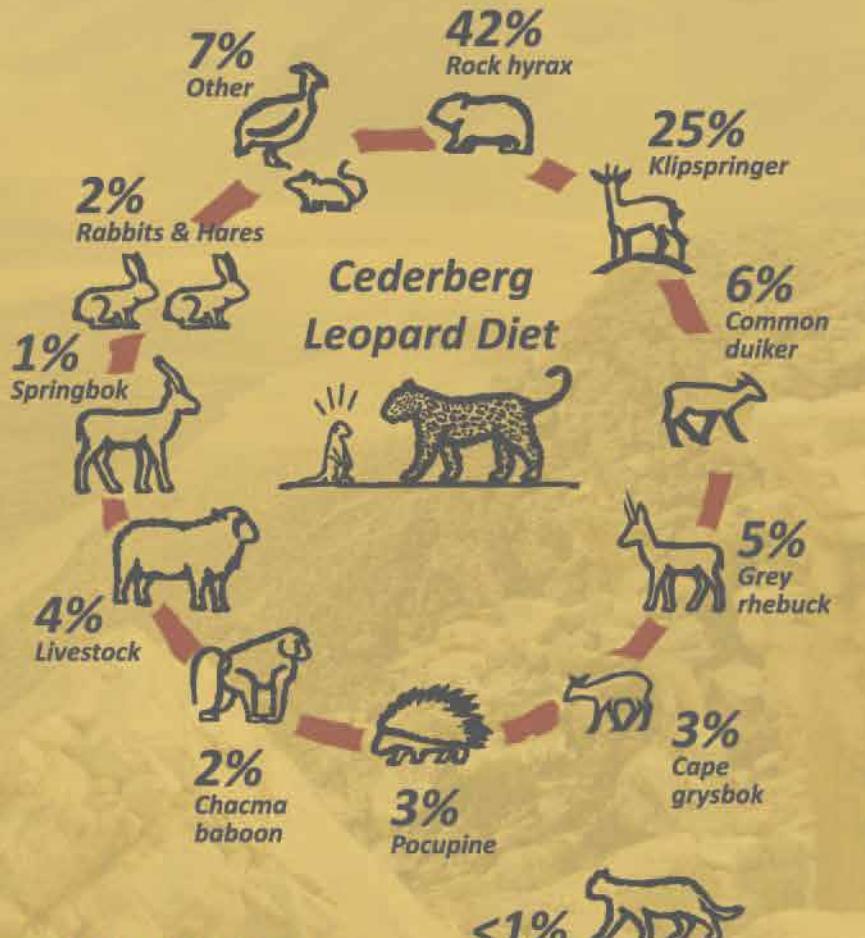


Figure 1: The diversity and proportions of prey identified from leopard scat in the Cederberg

Photo opposite: A Cape Leopard triggers a camera trap in the Cederberg as she carries off her favourite meal, a rock hyrax or commonly known as a dassie



Human Wildlife Conflict

Leopard distribution and population size 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). According to a recent study by Swanepoel et al. (2013), only 20% of South Africa is suitable leopard habitat and it is estimated that only 32% of suitable leopard habitat in South Africa is protected. This decline in leopard numbers is mainly due to habitat conversion and fragmentation, the depletion of natural prey and persecution by people, particularly in farming communities where leopards and other predators kill livestock and impact on the livelihoods of the people.

Although the Cape Leopard Trust has done much to resolve conflict and create awareness amongst farmers in the Cederberg, human wildlife conflict remains one of the biggest threats to the leopard population. In the last year, 14 livestock predation incidences by leopard were reported in the greater Cederberg/Piketberg area. In one case, the leopard killed 9 sheep including a breeding ram, resulting in a loss in excess of R70 000.

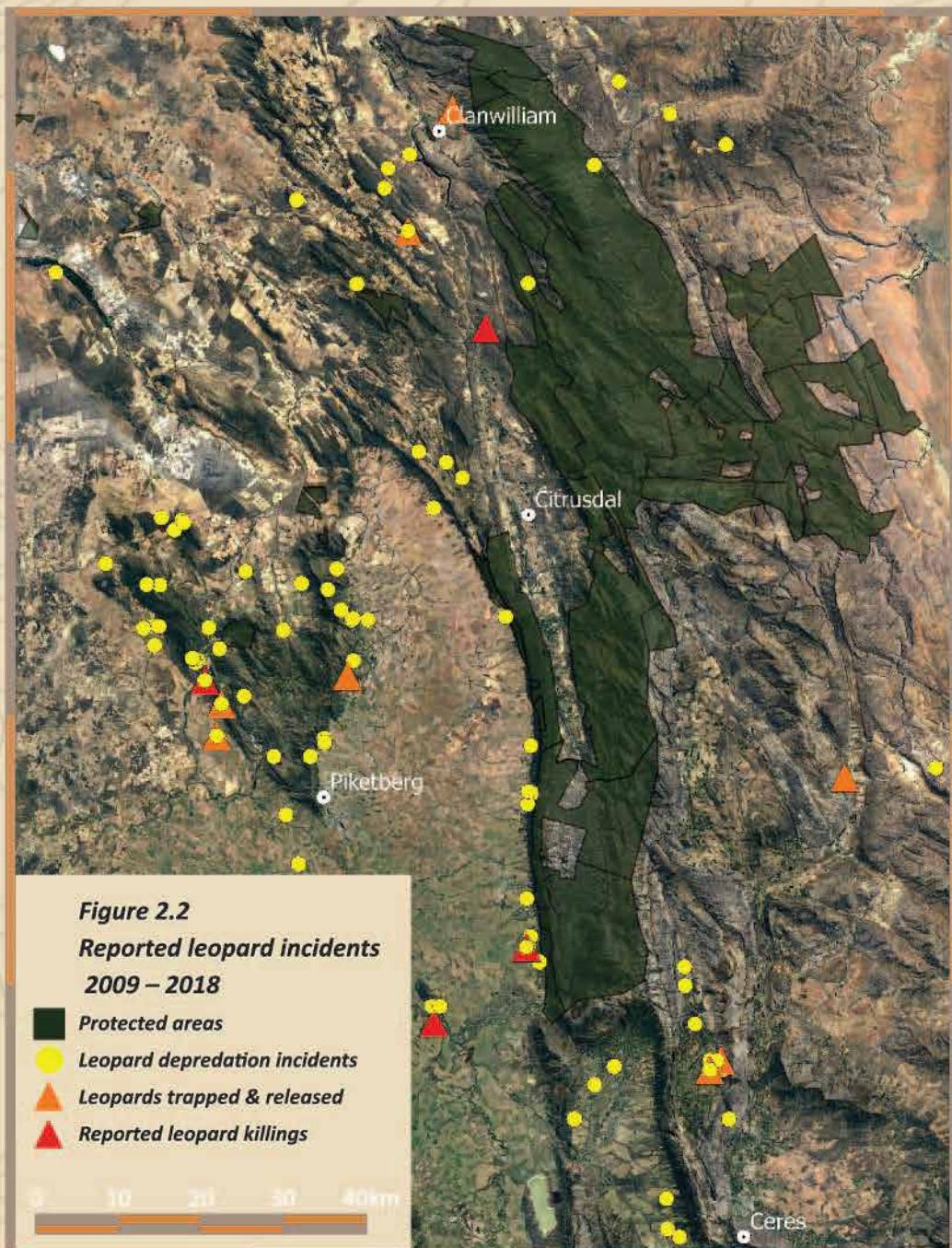
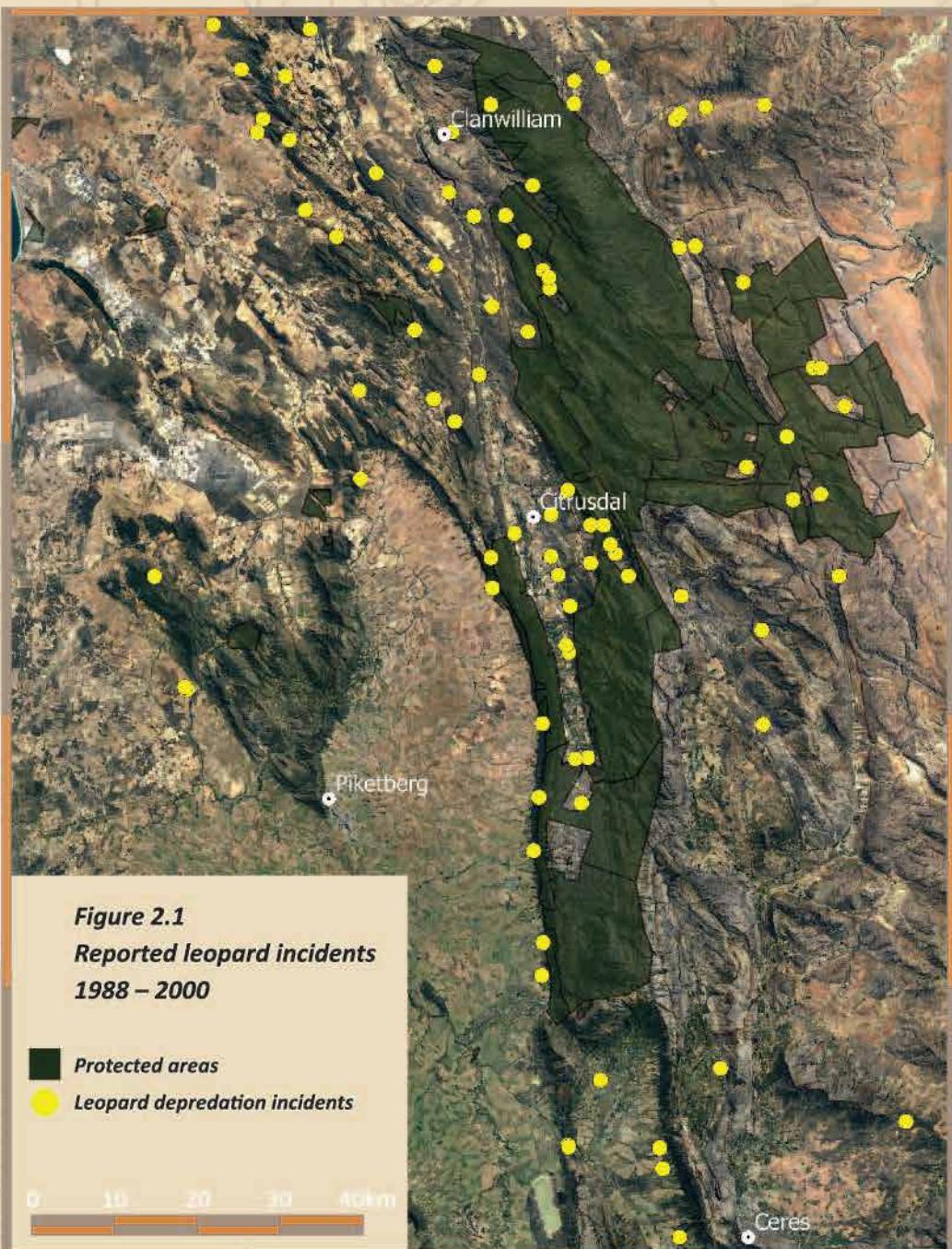
In order to effectively address human wildlife conflict, it is important to first understand the level of conflict and where these hotspot areas are so that we can focus our mitigation efforts where it is most needed.

We have acquired all historical and current data on leopard related incidents in the north western region of the Western Cape from the State of Biodiversity Database, as part of our partnership with CapeNature. After mapping these data, we observed a spatial shift in leopard conflict from the core Cederberg area (1988-2000), westwards towards Piketberg in recent years (2008-2018) (Refer to Fig. 2.1 & 2.2).

This shift may be due to a change in land use from livestock farming to tourism and crop farming in the Cederberg. Improved husbandry practices as a result of years of awareness creation by the Cape Leopard Trust amongst the Cederberg farmers may also account for the decrease in livestock losses in this area. Based on this shift in leopard conflict we have decided to focus our research and conservation efforts toward the Piketberg area in 2019. We aim to set up a camera trap survey along the Piketberg mountain complex and western side of the Cederberg mountains around Citrusdal and expand into the Groot Winterhoek mountains (See Fig 3). This will provide valuable insight into the leopard population in that area, as well as their movement patterns and behaviour. We may potentially also get information on individual leopards raiding livestock (this can be done by setting up a camera trap at a livestock kill and identifying the leopard returning to the carcass).



Figure 3
Planned Cederberg
camera survey areas



Relationship Building & Awareness Creation

As part of the holistic approach to mitigating conflict and ensuring the long-term survival of leopards, it is important to create and foster good relationships with the local farmers and other stakeholders in the area. We appointed Ismail Wambi as the Cederberg Outreach Officer at the end of 2017. His role is to actively work with the local farmers and communities to help reduce human wildlife conflict and conduct environmental education outreaches. Ismail grew up in De Aar (Northern Cape) and comes from a livestock farming family, so he understands the pressure and financial impact predators can have and the complexities of dealing with human wildlife conflict. After completing his B. Tech degree in Nature Conservation, he worked as an Environmental Educator at the Cape Town Environmental Education Trust (CTEET) before joining The Cape Leopard Trust. We are delighted to have Ismail on our team.

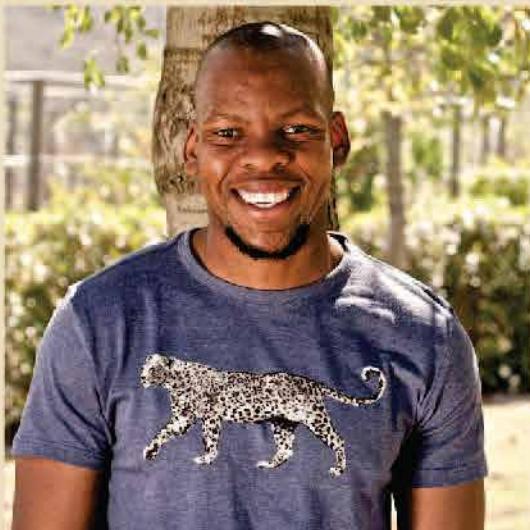


Photo: Ismail Wambi, Cederberg Community Outreach Officer

Looking forward

In addition to extending the camera trap survey to Piketberg, we will also start with a "Kraal" Enforcement Project in the local Cederberg communities of Heuningvlei, Heiveld and Grasvlei. These communities have suffered a number of livestock predation incidences over the last couple of months due to leopard jumping into their "kraals" at night. The aim of this project is to create awareness, develop skills and build capacity for improved husbandry practices. We also plan to distribute 'Incident Report' booklets to local livestock owners in and around our research area for accurate record keeping of all livestock losses. This type of community outreach work plays an important role in both understanding the local context of human-wildlife conflict, and in finding long-term sustainable solutions. We will also employ a community member of Heuningvlei as "verification officer" who will act as a first responder to any livestock predation claims in the direct area of Heuningvlei. This person will be equipped with a GPS device, a camera to take photos of the evidence and a camera trap to set up at a carcass site, in order to identify the culprit on return to the carcass. This "verification officer" will also create awareness within the local community for leopard conservation and provide advice regarding most suitable mitigation measures. Lastly, we aim to procure 5 "Skaapwagter" devices (a predator deterring device – www.skaapwagters.co.za) to add to our conflict mitigation toolkit. We will use it as a rapid response tool to deter predators from an area, reduce further livestock losses and minimize the risk of illegal persecution of leopard and other predators.

Photo opposite: The scarring on the face of this Cederberg leopard indicates territorial fighting.
- Camera trap image



A word of thanks

We would like to thank the local Cederberg farmers and Bushmans Kloof Wilderness Reserve and Wellness Retreat for their support with our camera trap survey over the last year. We are also very grateful to Abax Investments for their commitment and substantial financial support to our project. Finally, a big thank you to Ford Wildlife Foundation for supporting us with a project vehicle. It is greatly appreciated!

References

Balme, G.A., Lindsey P.A., Swanepoel, L.H., Hunter, L.T.B., 2014. Failure of Research to Address the Rangewide Conservation Needs of Large Carnivores: Leopards in South Africa as a Case Study. *Conservation Letters*, 7(1), 3–11

Jacobson, A.P, Gerngross, P., Lemmeris Jr., J.R., Schoonover, R.F., Anco, C., Breitenmoser-Würsten, C., Durant, S.M., Farhadinia, M.S., Henschel, P., Kamler, J.F., Laguardia, A., Rostro-García, S., Stein, A.B., Dollar, L. 2016. Leopard (*Panthera pardus*) status, distribution, and the research efforts across its range. *PeerJ* 4:e1974; DOI 10.7717/peerj.1974

Klare, U., Kamler, J.F., Macdonald, D.W., 2011. A comparison and critique of different scat-analysis methods for determining carnivore diet. *Mammal Review*, 41, 294–312.

<https://doi.org/10.1111/j.1365-2907.2011.00183.x>

Swanepoel, L.H., Lindsey, P., Somers, M.J., van Hoven, W. & Dalerum, F. 2013. Extent and fragmentation of suitable leopard habitat in South Africa. *Animal Conservation*, 16(1), 41–50

Boland project

Jeannie Hayward & Anita Wilkinson

The Cape Leopard Trust's Boland Project study area covers more than 2000 square kilometers of Mountain Fynbos habitat from north of Bainskloof, along the Cape Fold Mountain range southward to the coast at Kleinmond and Betty's Bay. Fittingly, it also overlaps with the UNESCO Cape Winelands and Kogelberg Biosphere Reserves. Although the core of this mountain wilderness is still as untamed as it ever was, the edges are impacted by urban, semi-urban and agricultural land-use and infrastructure. Despite growing human pressure over the past 400 years, leopards have managed to persist here thanks to their adaptability and elusive nature. But for how long?

Anthropocene
'an(t)-thra-pə-sēn

adjective

The period of time during which human activities have had an environmental impact on the Earth, regarded as constituting a distinct geological age.

Living on the edge

Human development has inevitably had a severe impact on Earth's biodiversity and climate. However, as a species, we also have an undeniable responsibility towards and role to play in the mitigation and solution-finding process. In order to solve a problem, one needs to understand the variables contributing to the problem.

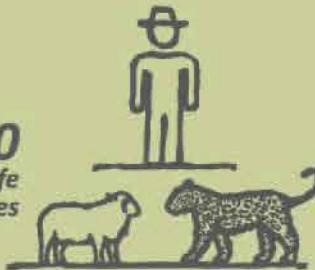
Globally, the major threats to leopards are human-related – habitat loss & fragmentation, depletion of natural prey, hunting for the skin trade, direct conflict with humans (both in agricultural & urban settings) (Jacobson et al. 2016 & Stein et al. 2016). It is no different for the leopard population in the Cape Fold Mountains of the Western Cape. Following a number of anecdotal reports collected over a few years, a pilot study in 2016 showed that the use of wire snares, illegally set to catch small game, was an emerging threat to biodiversity within the Boland Project focus area.

2017 in numbers

540 people reached with public presentations



Advised on 30 Human Wildlife conflict cases



28 private properties in the active camera network



5 new leopards identified from camera trap photos



Boland research questionnaire survey locations

Atlantic Ocean



National Roads



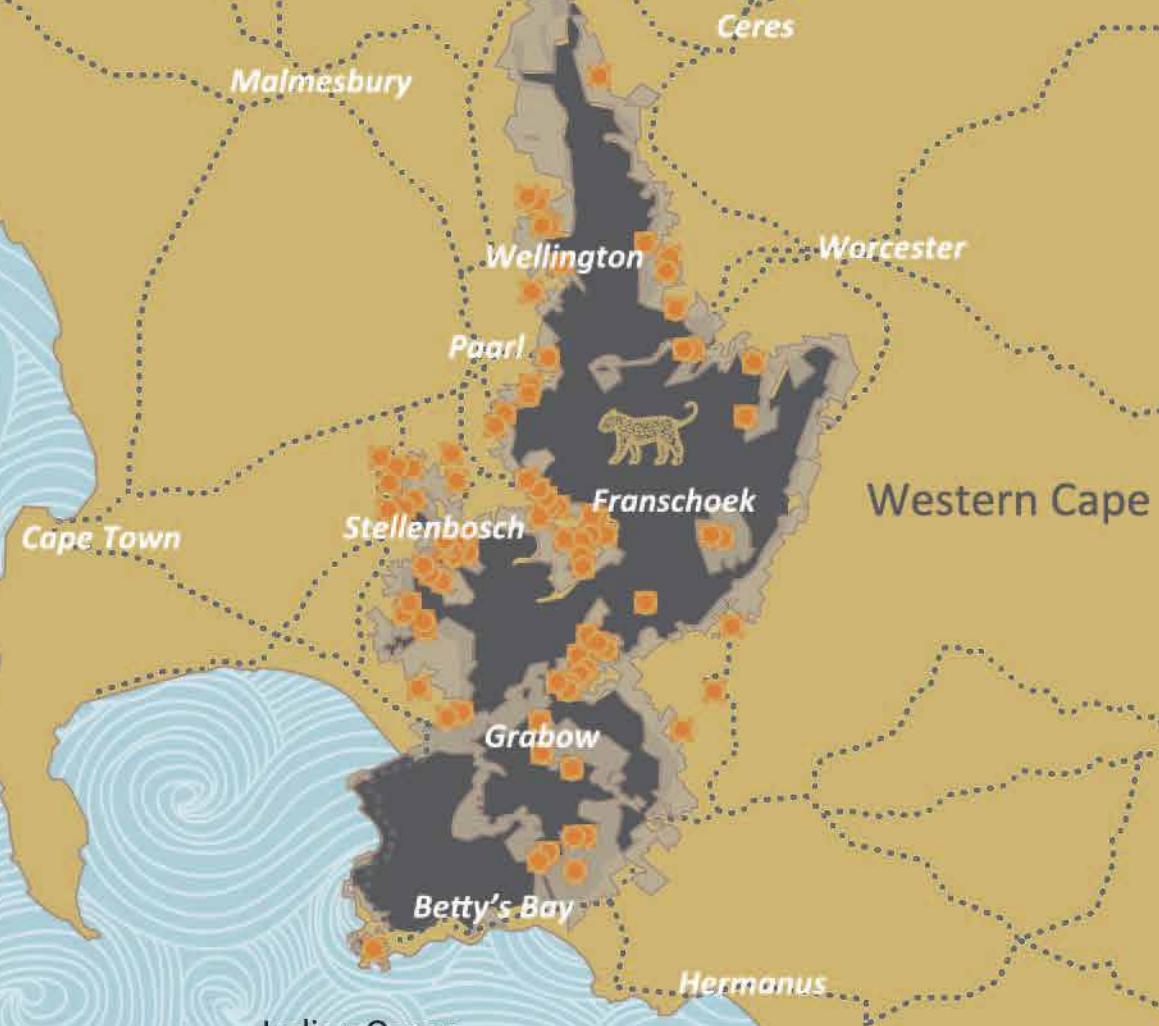
Surveyed properties



Protected Area



Private Property

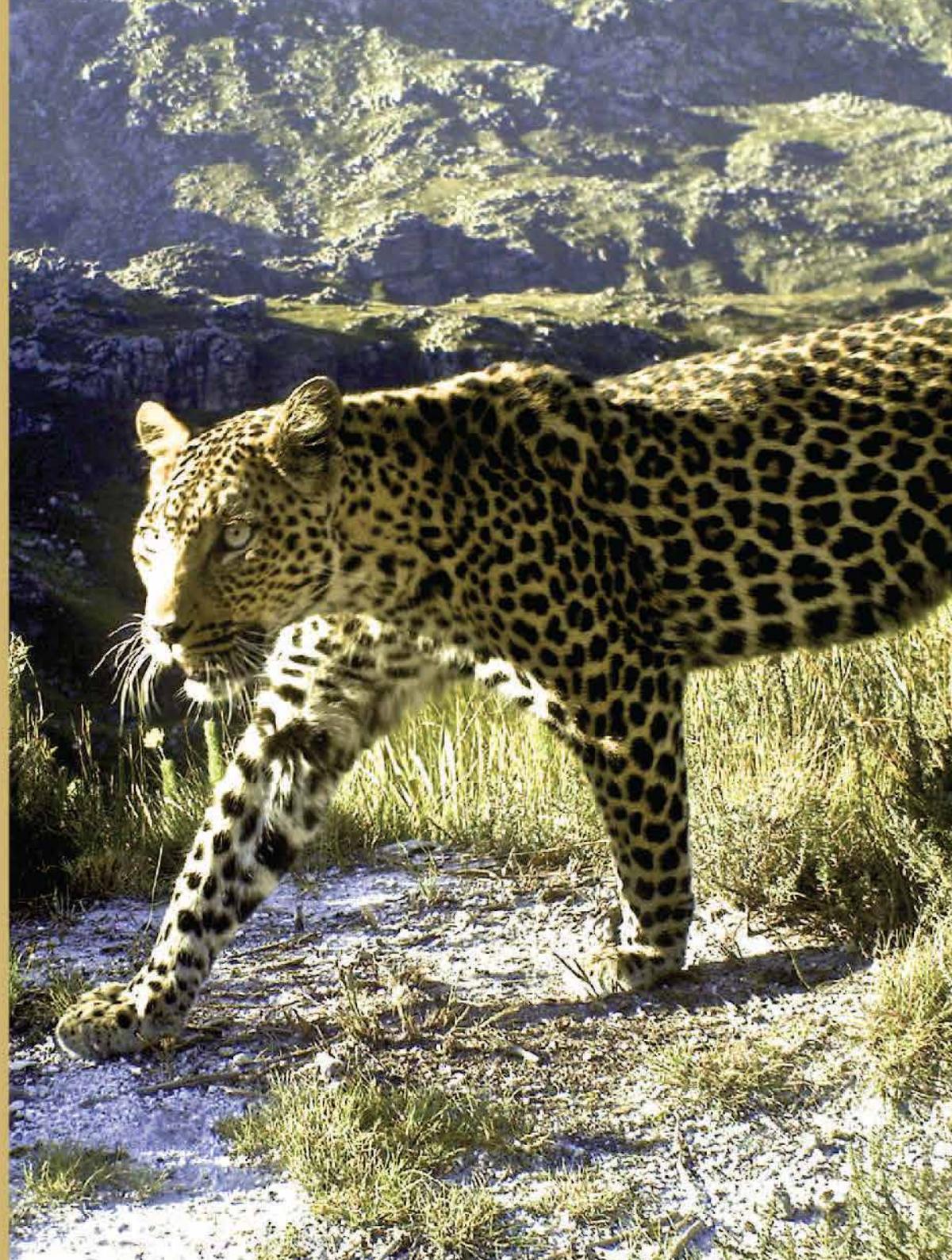


What are the specific threats to leopards locally?

This is the main question of our current research focus. Building on our foundation of pure ecological research, we shifted the direction toward an applied conservation study. In collaboration with the Department of Conservation Ecology & Entomology at Stellenbosch University, we developed two projects to investigate anthropogenic threats to leopard populations, their prey base and their habitat within the Boland focus area. Wian Niemann is investigating factors mainly related to prey off-take, while Brittany Schultz is mainly looking at landscape factors, including land-use changes and fire frequency. Both MSc students are studying under the joint supervision of Prof Alison Leslie and the Boland research team, with Rhoda Malgas providing integral expertise on the socio-ecological methods used for data collection

We collect data on the use of illegal wire snares; legal hunting for management purposes on private property; presence of feral dogs and their interactions with wildlife, as well as perceived changes in animal abundance and distribution. This data is collected via interviews with a property's landowner or manager as well as a number of farm labourers from that property, in the form of structured questionnaires.

Photo: Adult female leopard BF12/Skye photographed in the Hottentots-Holland mountains overlooking Somerset West and Strand - Camera trap image.



What drives prey off-take and is it sustainable?

Wian's study serves as a first demonstration of the large number of factors influencing wire-snare poaching patterns in the Boland study area. The novel and valuable information generated by our data collection and analyses is set to provide local conservation managers and policy makers with constructive guidelines to effectively manage a multifaceted threat affecting native wildlife populations. Our specific aims with this project are summarised below:

- 1. Describe and quantify the various socio-economic, ecological and spatio-temporal factors influencing bushmeat harvesting by means of wire-snare on private properties bordering protected areas in the Boland.**
- 2. Identify and quantify the commercialised trade of bushmeat and ethno-therapeutic animal parts in informal settlements in the Boland.**
- 3. Describe and quantify the various socio-economic, ecological and spatio-temporal factors influencing human-wildlife conflict on agricultural properties bordering protected areas in the Boland.**

Preliminary results specific to snaring (Figure 1) indicate that labourers are more likely to set wire-snare if their relatives hunted in the same way during their formative years; if they belonged to larger families; and if they were unaware of anti-snaring regulations on the property. Motivations for wire-snare practices included the convenience of the method compared to other hunting techniques; food insecurity, and pest control. Properties with higher snaring activity lacked adequate anti-snaring regulations, and housed more labourer families.

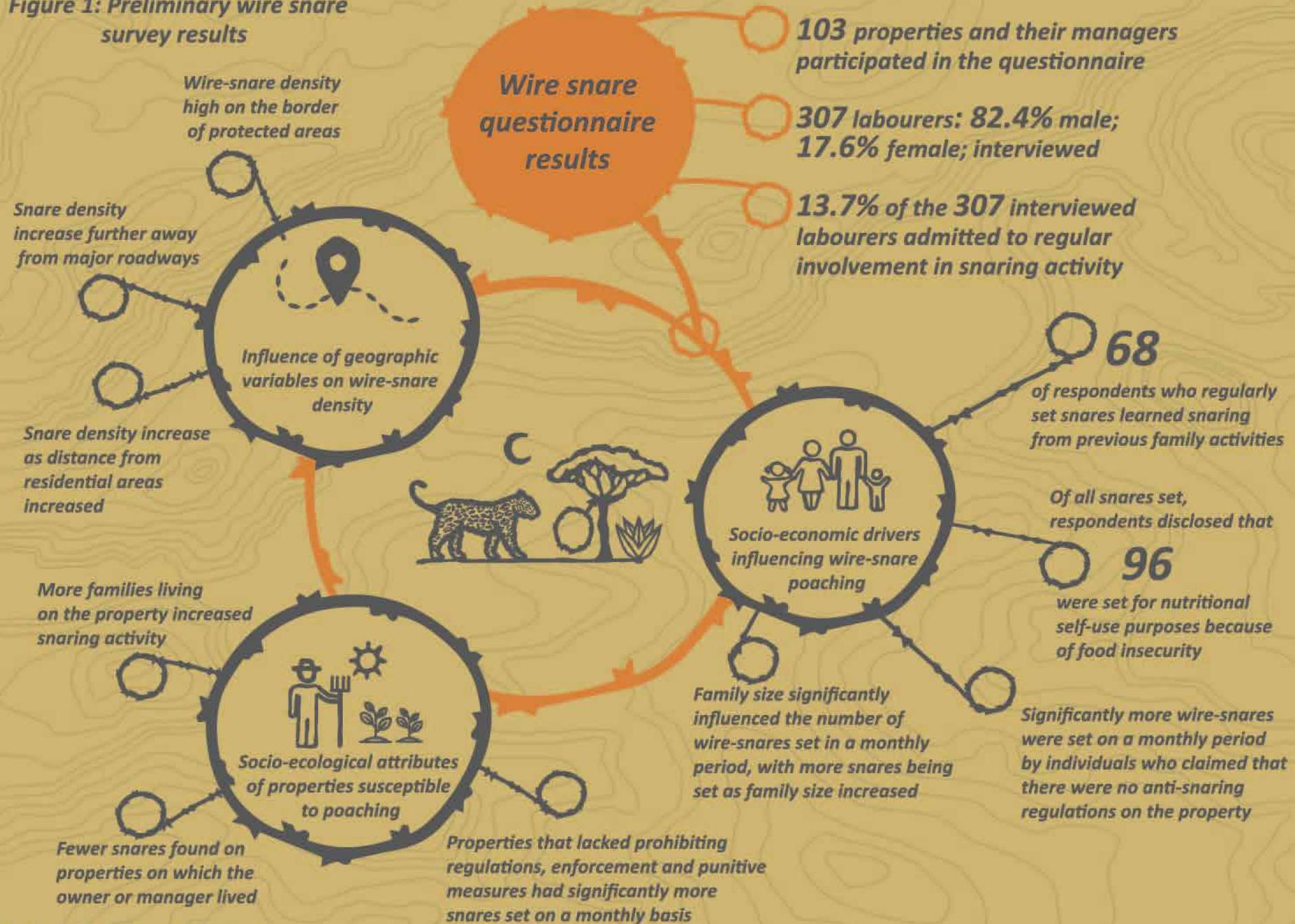
Photo: Klipspringer (*Oreotragus oreotragus*) is one of the main prey species of leopard diet in the Boland area.

Furthermore, wire-snare density decreased further away from protected nature reserve boundaries, and increased further away from major roadways and residential areas.

Small antelope (duiker, grysbok, klipspringer), porcupine and guinea-fowl were the species most frequently caught in wire-snare (Figure 2). It is significant to note that the main prey species representing ~80% of relative biomass consumed in a sample of 173 leopard scats from the Boland region of the Cape Fold Mountains are klipspringer (23.9%), rock hyrax (20.1%), grysbok (19.7%) and porcupine (16.3%) (Figure 3). It is therefore clear that unsustainable off-take of these species along the edges of Protected Areas may have a profound depression effect on prey populations, and may thus negatively impact leopard numbers.



Figure 1: Preliminary wire snare survey results



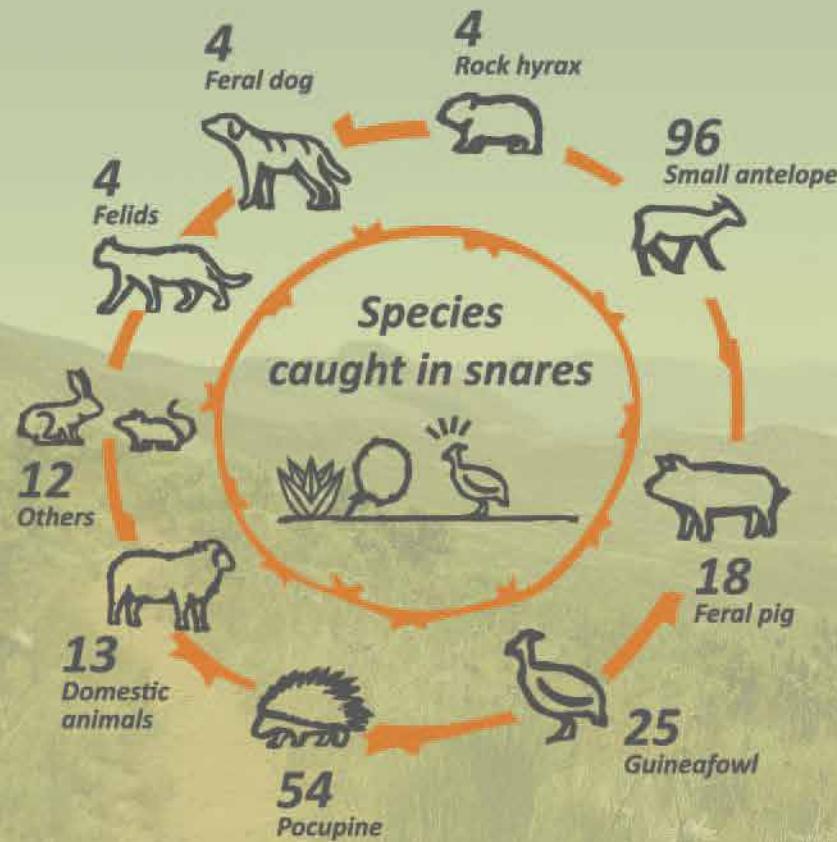


Figure 2:
Furthermore, wire-snare density decreased further away from protected nature reserve boundaries, and increased further away from major roadways and residential areas.

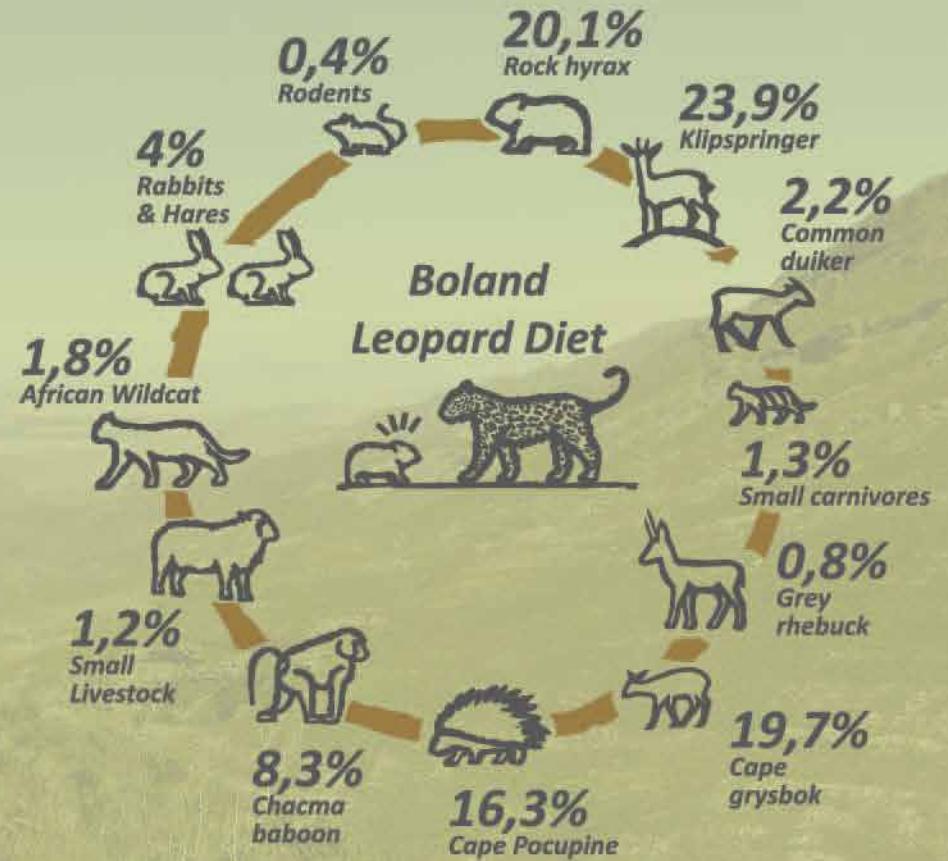


Figure 3:
Leopard diet expressed as the relative % biomass contribution of prey species within a 173 leopard scat sample

A shrinking virtual mountain Island?

A dramatic loss in range (28-51% less than historical Southern African range, Jacobson et al. 2016) and decline in numbers are reported for leopards right across their distribution. For South Africa, Swanepoel et al. (2013) estimated that only 20% of the country represents suitable leopard habitat and that only 32% of this estimated suitable habitat is 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. Brittany's study brings into focus human-related habitat and biodiversity changes over the last three decades.

The main aims and objectives of this are to:

1. Quantify, compare and visualise land-use changes, habitat loss and urbanisation over the past 30 years.
2. Analyse wildfire frequency and its extent over the past 30 years.
3. Describe long-term mammal species abundance and distribution trends through local ecological knowledge (LEK).
4. Describe the extent, origin and reported wildlife interaction of free-roaming and feral dogs in the study area.



Photo: MSc students
Wian Nieman and
Brittany Schultz from the
Department of
Conservation Ecology &
Entomology, University
of Stellenbosch.

What difference does all of this make?

The data we collect and analyse help us to inform conservation management and help effect much needed policy and implementation. The latter half of 2018 will see the initiation of systematic snare monitoring and removal patrols in collaboration with CapeNature. Findings on off-take and species abundance and distribution trends could aid CapeNature in their determination of mammal quota. These data also serve a very important function as information for public awareness and education campaigns both by the CLT and CapeNature Conservation Extension personnel.

New knowledge and an understanding of previously unstudied factors and processes may well have a profound effect on the long-term survival of leopards and their prey in the region.

References:

Jacobson, A.P, Gerngross, P., Lemeris Jr., J.R., Schoonover, R.F., Anco, C., Breitenmoser-Würsten, C., Durant, S.M., Farhadinia, M.S., Henschel, P., Kamler, J.F., Laguardia, A., Rostro-García, S., Stein, A.B., Dollar, L. 2016. Leopard (*Panthera pardus*) status, distribution, and the research efforts across its range. *PeerJ* 4:e1974; DOI 10.7717/peerj.1974

Stein, A.B., Athreya, V., Gerngross, P., Balme, G., Henschel, P., Karanth, U., Miquelle, D., Rostro, S. & Kamler, J.F. and Laguardia, A. 2016. *Panthera pardus*. The IUCN Red List of Threatened Species 2016: e.T15954A50659089. <http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T15954A50659089.en>.

Swanepoel, L.H., Lindsey, P., Somers, M.J., van Hoven, W. & Dalerum, F. 2013. Extent and fragmentation of suitable leopard habitat in South Africa. *Animal Conservation*



***A special word
of thanks***

The Boland team would like to sincerely thank our main project sponsors for their continued support: The Hans Hoheisen Charitable Trust, Wilderness Foundation Forever Wild Leopard Conservation Initiative, and Avis South Africa.

*Photo: Cederberg female leopard 25
- Camera trap image*

Science in action

Annual Fynbos Forum

The annual Fynbos Forum conference took place in Swellendam during July 2017. Hadley Lyners and Michael Henshall attended the event and were able to deliver a presentation on the Cape Leopard Trust and its work to the audience of local scientists and educators. This forum is an excellent way for our education team to network with eminent people working in the Cape Floristic Region (CFR) and to incorporate newly acquired knowledge in their interactions with participants of the CLT's Environmental Education programme.



Photo: left to right: Ewan Brennan (Cederberg volunteer), Lana Müller, Anita Wilkinson, Christiaan Lochner and Helen Turnbull attended the SAWMA Conference 2017 in Goudini.

SAWMA Conference 2017: *Wildlife Management in the Face of Global Change*

In September 2017 representatives of the CLT research team attended the South African Wildlife Management Association (SAWMA) conference, which was held at Goudini Spa. It was an opportunity to network with and meet eminent scientists and conservationists from around the country and beyond, as well as to explore current challenges and potential solutions for managing our precious natural resources. Keynote addresses were given by Professor Barend Erasmus, Dr Pip Masters and Dr John Hanks, the latter of whom received the prestigious Wildlife Excellence Award.

Anita Wilkinson presented preliminary findings from our research collaboration, investigating the incidence and drivers of illegal wire snares in the Boland, with Stellenbosch University. Lana Müller gave a presentation on her work with the Maasai Wilderness Conservation Trust (MWCT) in Kenya on human-wildlife conflict mitigation, and their successes with the implementation of a unique predator compensation model. The Cape Leopard Trust featured in Dr Gareth Mann's (*Panthera*) presentation on a soon to be published collaborative leopard diet paper, as well as in University of Cape Town MSc student, Gabriella Leighton's presentation on work being done on the diet of the Peninsula's caracals in collaboration with the Urban Caracal Project.

Conservation Partnerships

All about Conservation and Education

By Hein Koegelenberg, Chief Executive Officer of Leopard's Leap Family Vineyards

Conservation and education are two very important considerations in South Africa today, especially since their success are very much co-dependent. Without education, conservation is fighting a losing battle and without conservation, whether it is of nature, culture or heritage, we will have so much less to be educated about. Being concerned with both these very important fields, have brought me much joy over the years. Through decades, the Rupert family has displayed a sincere commitment to conservation and environmental care and inspired by such exemplary actions, Leopard's Leap has been involved with the Cape Leopard Trust since its inception and is a proud sponsor of this worthy cause. Through all the challenges and opportunities, both the Leopard's Leap brand ambassadors and I have been very dedicated to our involvement with the plight of the Cape Mountain Leopard. Symbolic of our commitment to the conservation of this endangered species, Leopard's Leap has "adopted" three leopards roaming the Cederberg Mountains. During 2011 a further three leopards, with the Franschhoek/Wemmershoek mountain ranges as their habitat, were adopted under the same conservation initiative. They have been named Nala, Enzo and Sheeva. While its passionate efforts with conservation over the years are very impressive, it is the Cape Leopard Trust's unfaltering commitment to the project that makes a real difference. Staying up to date with and adopting the latest technology, for one, makes a very important contribution to its research efficiency. Employing the most current camera trapping and dietary analysis, the team is able to build on the foundation established by Trust co-founder, Dr Quinton Martins.

As lead investigator for the Audobon Canyon Ranch Mountain Lion Project in California, Quinton provides new insights into mountain lion behaviour using camera technology. Reducing the conflict between humans and wildlife has always been a priority, and the Cape Leopard Trust's commitment to developing sustainable and long-term strategies in this regard is remarkable. The Cape Leopard trust has considerably expanded its efforts to address broader biodiversity conservation challenges by collaborating with organisations such as Cape Nature and Wilderness Foundation Africa. Networks like this help to keep people informed and conscious of the challenges facing endangered predators. Through my involvement with our personnel corps, especially since establishing extended tourism offerings on both La Motte Wine Estate and at Leopard's Leap Family Vineyards, I have seen the difference education and training can make to people's lives. Not only the improvement in knowledge and skill and the way tasks are executed, but also the confidence it brings. Seeing people thrive because of their newly accrued knowledge and extra skills, have motivated my involvement with various other initiatives such as the Cape Wine Auction, the Steps programme for unemployed young people who have finished school as well as the Franschhoek Hospitality Academy and Learning Centre. I am therefore very excited about the Cape Leopard Trust's new initiative of eco schools, bringing environmental education to the Winelands and especially the Franschhoek Valley. Exposing the youth to the notion of nurturing and protection and creating a sense of awareness amongst local communities are wonderful ways of starting the conservation journey. I applaud this way of thinking and am motivated to support the initiative.

Wilderness Foundation - Forever Wild Leopard Conservation Initiative

Matthew Norval, COO, Wilderness Foundation Africa

The Wilderness Foundation's Forever Wild Conservation Programme was developed in 2011 as a response to the rhino poaching crisis and is active through the Rhino Protection Initiative. The Programme was later expanded to include other key species including leopard, as they represent key species symptomatic of the challenges facing the environments in which they live. By using iconic wildlife species as the flagship to draw attention to challenges facing conservation and wilderness areas across Africa, conservation initiatives can be directed towards these species resulting in the protection of landscapes and the associated wildlife, including all the biological components which drive these systems.

Following discussions with the Cape Leopard Trust in 2016 a working relationship was developed and Wilderness Foundation Africa has been supporting the work of the CLT in the Boland and the Cederberg. The partnership is based on a common approach and understanding that wildlife in general, predators in particular, need to be recognised for the role they play in protected areas and the associated agricultural landscapes.

Wildlife crime is increasingly threatening wildlife populations across Africa and the impact in the Western Cape has largely been thought to be limited to marine and plant species. Sadly the innovative survey work that the CLT is carrying out in the Boland region is indicating that the trend now includes a wide range of terrestrial species that threaten these ecosystems.

Wilderness Foundation Africa has a strong protected area focus that works for the establishment, development and management of new wildlife reserves with an emphasis on corridors and linkages between protected areas. It is particularly in this area that further collaboration is envisaged to ensure that opportunities for large landscape conservation recognise the potential contribution to leopard conservation.

Wilderness Foundation Africa values this dynamic and collaborative partnership with the Cape Leopard Trust that ensures the Forever Wild Leopard Conservation Initiative continues to grow in the interest of both species and landscape conservation



Events

Art of Conservation

Henry Taylor and the Art Curator Gallery at Lourensford Wine Estate hosted a wine and canapé evening on Saturday, 16 September, to celebrate the launch of a solo exhibition by acclaimed wildlife artist, Fuz Cafurio. The evening was held in support of the Cape Leopard Trust, and guests had the opportunity to not just meet the artist in person, but also the team behind the Cape Leopard Trust. MC for the evening was global adventurer and leopard ambassador, Braam Malherbe. A painting from Fuz's new collection was auctioned in aid of the Trust, along with a number of desirable lifestyle items.

Photo: Jaguar Stellenbosch hosted an art exhibition as part of "Woordfees"



Above & Beyond

In February 2018, Jaguar Stellenbosch kindly showcased the 14 winning artworks from the 'Essence of a Leopard' CLT youth art competition 2017. This was part of the 'Above & Beyond' Art Exhibition hosted by Jaguar Stellenbosch which promoted local artists. Funds raised from the sale of the original CLT artworks contributes towards the various awareness programmes within the CLT Environmental Education project.

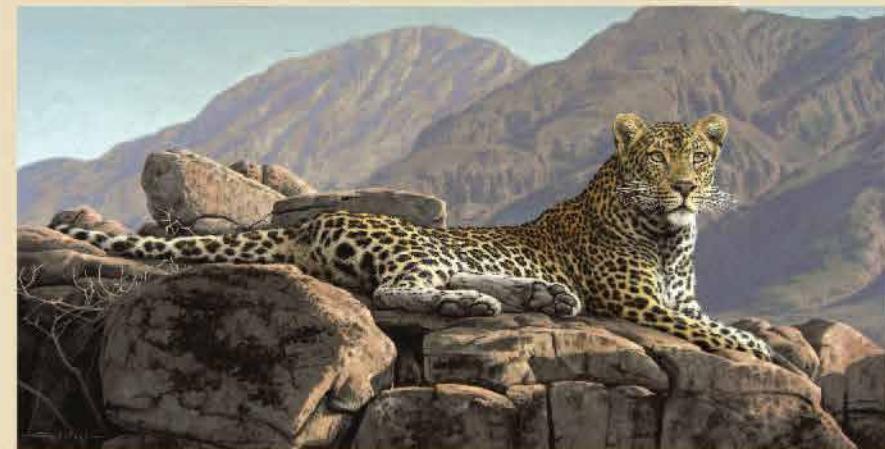


Photo: Painting of a Cape leopard by wildlife artist Fabrizio (Fuz) Cafurio - donated to the Cape Leopard Trust

Zip Zap - We Love Leopards

World Environment Day - Saturday, 3 June 2017

World Renowned Zip Zap Circus School dedicated one of their charity performances to raising funds for the Cape Leopard Trust



Photo: Zip Zap Circus community outreach performances support local charities

ABSA Cape Epic 2018

The Cape Leopard Trust is an official charity partner of the Absa Cape Epic, known as the world's toughest 'untamed' mountain bike stage race. Referred to as '8 days of courage' for good reason, riders, in teams of two, are pushed to their mental and physical limits to get to the finish line. The possibility of injury and mechanical failures is a daily reality. UCI riders who chose to complete the race alone if their partners could no longer continue were originally known as 'Outcasts'. This became a thing of the past when the 'Outcasts' jersey was officially replaced by the 'Lonely Leopard' jersey for the 2018 event. Lone riders identify with the qualities of a leopard, particularly the determination to survive alone and against all odds over harsh, unforgiving territory. The jerseys looked extremely attractive on the riders, and we hope that some leopard features rubbed off!

During the course of the event, the Cape Leopard Trust environmental educators, Catherine and Hadley, donated 3 outreach activities to communities along the route, supporting children from fellow official charity, the Anna Foundation.

Jeannie Hayward swapped her day job as Boland researcher and became a route guide for four days, hosting drive outs in leopard territory for VIP guests to significant vantage points along the day's route sharing leopard stories, while Yvonne, Anita and Helen were at the race villages for registration and grand finale. Teams with energy left at the finish were treated to a celebratory glass of South African MCC, courtesy of our partners, Leopard's Leap Family Vineyards. It truly was an Epic adventure, and we are very appreciative of all the cyclists who rode in aid of the Trust.



Photo: The 15th Absa Cape Epic has been touted as one of the toughest yet, and in 2018 celebrated the launch of the 'leopard' jersey for UCI riders who are lone finishers. Cape Leopard Trust researcher, Jeannie Hayward (left) posed with Esther Süss – the only ladies UCI rider who finished solo.



Sponsors appreciation event - Dylan Lewis Sculpture Garden

In appreciation of the incredible and loyal support from our sponsors, and in partnership with Dylan Lewis, Leopards' Leap Family Vineyards and Jaguar Stellenbosch - the Cape Leopard Trust hosted a memorable evening at the Dylan Lewis Sculpture Garden. Dylan Lewis, world renowned sculptor, and supporter of the Trust, shared his personal story of creative vision, and how it is brought to life through the landscape and nature.



Photo: Dylan Lewis hosted an incredible evening sharing his love for leopards.

Current Sponsors 2017-2018

Sponsors R1m and above

ABAX Foundation

Sponsors R500 000 – R999 999

First Rand Foundation

Sponsors (R 250 000 – R499 000)

National Lotteries Commission (NLC)

AVIS

Ford Motor Company South Africa – Ford Wildlife Foundation

Hans Hoheisen Charitable Trust

Leopard's Leap Family Vineyards

Sponsors (R 100 000 – R249 000)

Bridgestone

Bushmanskloof

Gavin Durell

Rolf Stephan Nussbaum Foundation

Wilderness Foundation Africa

Lomas Wildlife Protection Trust

Sponsors (R50 000 - R99 000)

SA Mint

Joan St Leger Lindbergh Charitable Trust

Community Chest

Johan van der Westhuizen

Christopher Norman & Jocelyn Bretherick

James Edwards & Mike Jones

Nigel Shannon & Dennis Lammenga

Dr Peter Jung & Florian Reichenbach

Adv Niel Louwrens & Nelis Swart

Solutions2Wealth

Sponsors (R10 000 - R49 000)

CTP Printers

Douglas Jooste Trust

Dylan Lewis Sculpture Garden

Kenichi Ohashi/Redbridge Japan

Energizer

Flintsky Interactive

Hi-Tec

Land Cruiser Club Southern Africa (LCCSA)

One&Only Hotel Waterfront

Anel van der Merwe – Anel Trust

Franschoek Wine Tram

Coronation Trust

David Jenkins

Wines2Whales

Wilfred Chivell

Financials & Governance

The Cape Leopard Trust

Registered Trust Number: IT 2720/2004

PBO Number: 930 016 841

NPO 192-416

Board of Trustees

Johan van der Westhuizen (Chairman)

Dr Ian Mc Callum

Prof Bill Horsnell

David Knott

Jannie Nieuwoudt

Helen Turnbull

Scientific Advisory Board

Prof Bill Horsnell (UCT) (Board Chair)

Dr Alison Leslie (Stellenbosch University)

Prof Dan Parker (University of Mpumulanga)

Dr Jacqueline Bishop (UCT)

Dr Frans Radloff (Cape Peninsula University of Technology)

Prof Les Underhill

Statement of Profit or Loss and Other Comprehensive Income

	2017	2016
Revenue	R5 288 854	R4 082 368
Cost of Sales	-R26 571	-R52 832
Gross Surplus	R5 262 283	R4 029 536
Operating Expenses	-R3 955 480	-R3 686 882
Operating Surplus	R1 306 803	R342 654
Investment Revenue	R112 742	R64 349
Surplus for the year	R1 419 545	R407 003
Other comprehensive income	R0	R0
Total comprehensive income for the year	R1 419 545	R407 003

Statement of Financial Position

Assets

Non-Current Assets

Property, plant and equipment	R1 766 273	R1 633 652
Other financial assets	R20 403	R36 735
	R1 786 676	R1 670 387

Current Assets

Inventories	R50 648	R40 805
Trade and other receivables	R186 050	R131 563
Other financial assets	R39 600	R39 600
Cash and cash equivalents	R3 651 925	R2 392 630
	R3 928 223	R2 604 598
Total Assets	R5 714 899	R4 274 985

Equity and Liabilities

Equity

Trust capital	R200	R200
Accumulated surplus	R5 651 207	R4 231 662
	R5 651 407	R4 231 862

Liabilities

Current Liabilities		
Trade and other payables	R63 492	R43 123
Total Equity and Liabilities	R5 714 899	R4 274 985

