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ISSUE 1 | JULY 2020

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Dr Peter Oberem

Wildlife Ranching during and after the Covid-19 Pandemic

“Science has progressed tremendously with respect to understanding the epidemiology of disease, vaccine development technologies and the new screening for antiviral treatments.”

We are all living through something the severity of which we have never experienced before. There have, of course, been pandemics before, for example the plague or Black Death of the mid-1300s, which is recorded as the most fatal pandemic in human history and resulted in between 75 and 200 million human deaths. At that time, the cause (rat- and flea-borne bacterium called *Yersinia pestis*) was unknown and there was no specific treatment. Modern medicine, especially the use of antibiotics, has completely removed the threat of the plague from modern society.

The beginnings of the modern industrial age with its aggregation of the people in cramped conditions in crowded towns and cities created ideal conditions for the 1889/90 flu pandemic.

Thirty years later (1918/19), a form of H1N1 called Spanish flu, the deadliest pandemic yet,

killed 100 million people, a fifth of those infected.

During the late 1950s, Asian flu, a form of avian flu, infected more than 1 million people resulting in approximately 116 000 deaths.

Then, in 2009/10 another strain of H1N1, swine flu, emanating from Mexico infected 1,4 billion people killing somewhere near 50 million. It was interesting in that it was mainly people younger than 65 years old who were most seriously affected as the elderly had a high level of immunity due to previous exposures to H1N1.

The fortunate thing this time round, is that science has progressed tremendously with respect to understanding the epidemiology of disease, vaccine development technologies and the new screening for antiviral treatments. We await these important scientific developments, unfortunately after the disease reaches its peak in Africa during our forthcoming spring season.

PRIVATE GAME

We build on the successes achieved by *Wildlife Ranching* magazine, whilst providing an engaging voice for the entire private wildlife sector.



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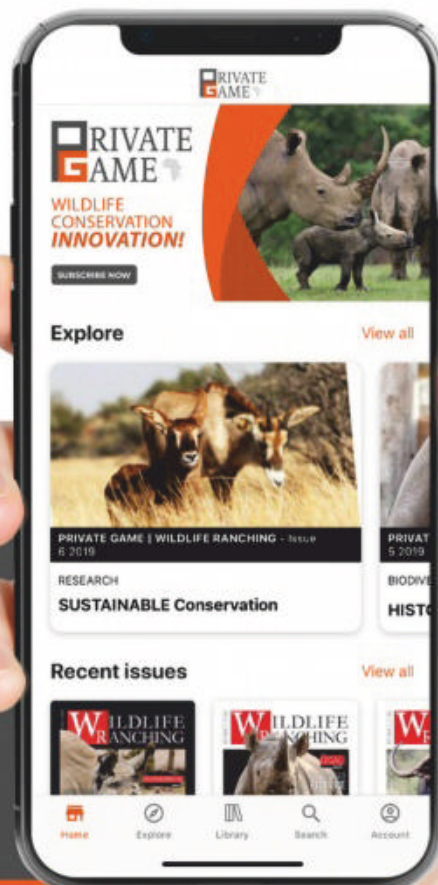
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What we do know is that Covid-19 displays some significant differences from earlier viral pandemics, viz. Covid-19-caused mortalities are much higher at about 2,5% of those who get infected than the 0,02% mortality caused by 2009 H1N1.

It also is far more infectious, with a R-nought value of 2 to 2,5 versus the 1,4 R-nought for the 2009 H1N1 virus.

measures (masks, gowns, sanitisers) and hospital equipment (ventilators and beds). This response, an almost worldwide lockdown, has and is having a massive negative impact on our already dire economy.

While agriculture is declared a critical industry and is exempt from the harshest of lockdown regulations, the consequences of lockdown are still impacting the industry as a

the demand for especially high-end meat and meat cuts has declined to the point that some feedlots are not buying in cattle, putting their businesses at risk. The throughput at abattoirs is down, affecting them; the demand from feedlots for weaners is down resulting in declining prices for farmers. They need to stock more animals, they need more feed, disposable income declines and their purchases of essential medicines, especially preventative ones, has declined meaning less income for the co-ops, who in any case are retailers relying on cash flow from the sales of a wide range of items like clothing which was not regarded as essential during lockdown level 5 and which they were not allowed to sell. Due to cash flow reasons their stock levels decline, affecting the sales from their suppliers, even of items such as essential stock remedies.

“Authorities have decided it necessary to slow the pandemic’s spread in order to give everyone time to prepare the necessary preventative measures.”

Of course, the effects of the disease, deaths and disability are serious, but in the case of Covid-19, authorities have decided it necessary to slow the pandemic’s spread in order to give everyone time to prepare the necessary preventative

whole, in particular the secondary agricultural industries. The entire food chain is essential and needs to be functional or else there will be blockages and damming up of the pipeline leading to product losses.

With some restaurants still closed,

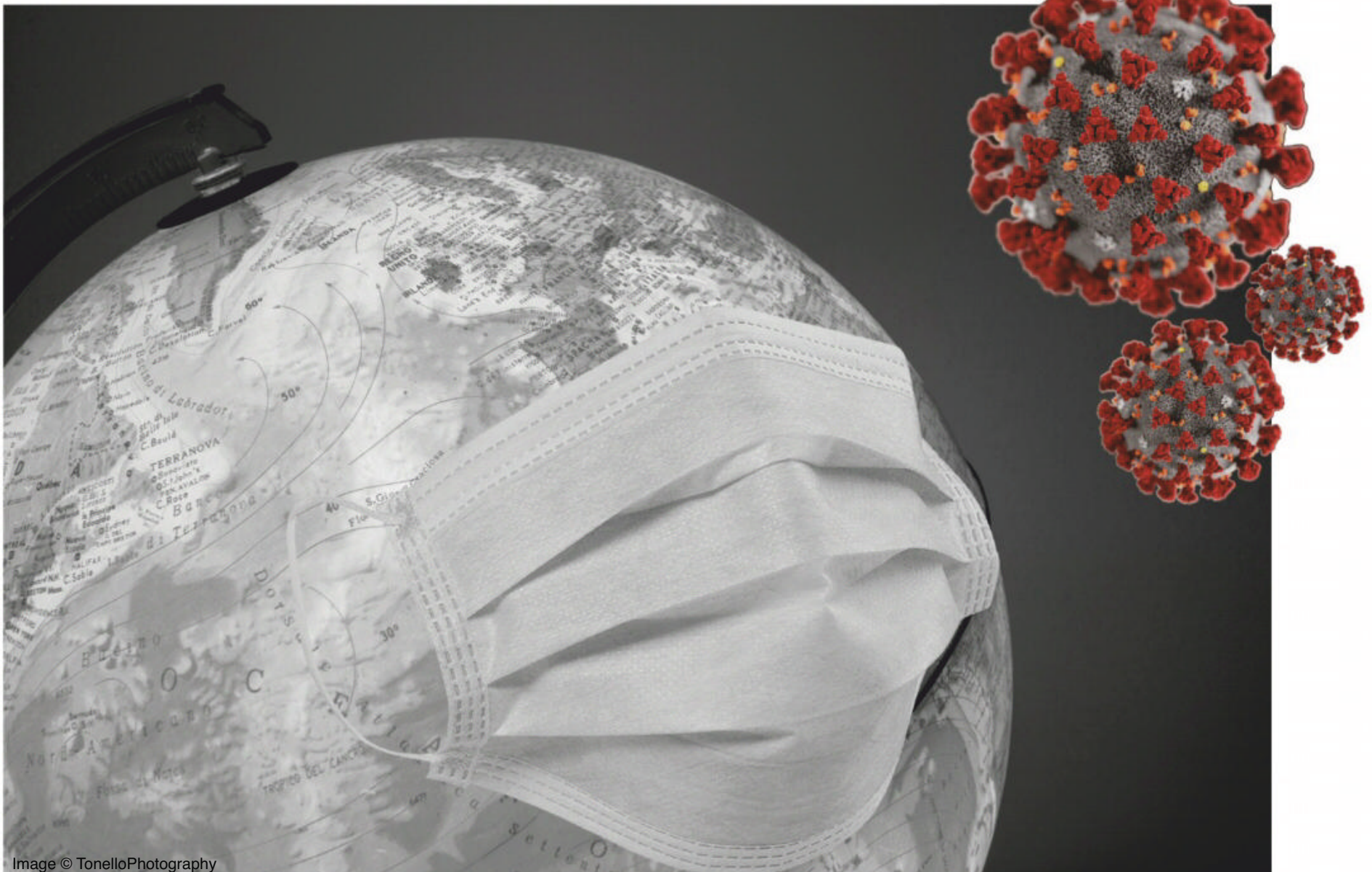


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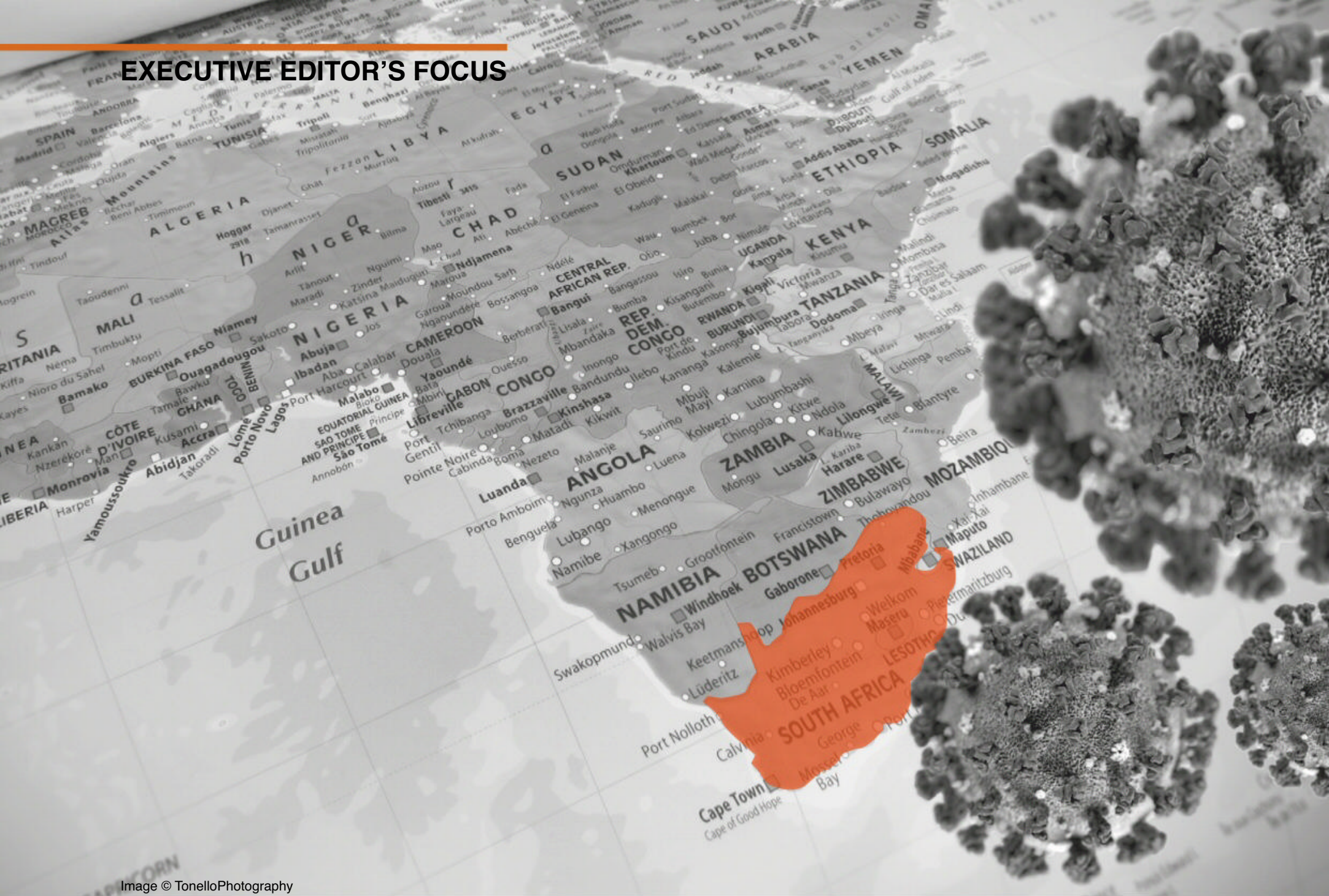


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As a result of the lockdown measures instituted, including closed borders, labourers, especially seasonal and migrant workers on farms worldwide, are facing difficult times, as well as the farmers, who do not have the necessary manpower to do the job. This will drive a worldwide move towards automation and mechanisation which, in the case of South Africa with its mass of unskilled and insufficiently skilled people, will be a major spoke in the wheels of Government's 2012 National Development Plan (NDP), which aims to increase employment in agriculture and agri-processing by 1 million jobs by 2030. This is to be achieved by increasing the labour-

intensive sectors as well as by increasing farmland and farmland utilisation. Major contributory factors are to be an increase in irrigation, an increase in productivity and an increase in exports – all noble ideals.

To my mind, there is some 2,5 million ha in the communal former homelands of South Africa, where much of this improvement can take place relatively easily, for example, half of our livestock (7 million cattle and 15 million sheep and goats) are held on these lands and in dire need of improved skills and improved access to the necessary inputs to reach the levels of commercial livestock production. *It can be done!*



Looking more specifically at the wildlife ranching industry the road has been even rougher with the sad but real decrease in price of breeding game animals, much of this driven by those who know nothing about agriculture and even less about sustainable use of our natural resources. With this leg of the industry in need of medication, the three remaining legs, viz. non-consumptive ecotourism, consumptive ecotourism (hunting) and meat (and other related products such as leather and curios) production, need to come to the fore.

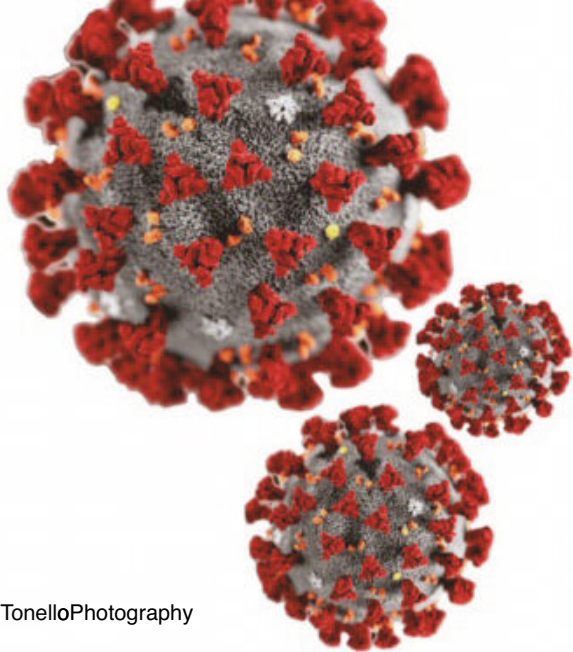


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Unfortunately for the time being, the worldwide lockdown has destroyed ecotourism and trophy hunting, the latter already under pressure from animal rightists and those who do not understand the biodiversity and conservation benefits of sustainable use. Meat harvesting by recreational hunters and trophy hunters is locked down, destroying a further necessary income stream for game ranchers. Formal meat production then is all that is left, but DALRRD is still dragging its heels on the publication of the new game meat regulations – *12 years later, despite all the promises in the world, we still wait impatiently!*

While I, at any rate, wholeheartedly support President Ramaphosa's decisiveness in dealing with this pandemic, we all wait impatiently for the government to continue easing the lockdown, with the survival of many of us depending on it.

The last question is, what will the economic recovery be like? Studies of the economic impacts of earlier epidemics and pandemics such as 2003 SARS, 1968 H3N2, 1957/8 H2N2 and the 1918 Spanish flu have shown

When will this be? I am no expert and my guess is as good as anyone's, but the ending or sufficient relaxation of lockdown will begin to help.

Once the worldwide and South African infection rate show the peak

"We will see happiness and optimism that will lead to a huge economic improvement."

a deep but steep V-shaped drop and recovery with positive growth thereafter.

I believe that in this case we will experience the same. In particular, I believe that after lockdown and once the peak infections begin to show a steady decline, the positive side of human nature will take over, the joy of having lived through the crisis and having survived will stimulate all to work, invest and spend.

is passed (probably early summer, November 2020) we will see happiness and optimism that will lead to a huge economic improvement supported of course by what I believe will be a government driven "Marshall Plan". ■

Keep well, keep strong and together we can make this work.

The operative word is "together".

We have to end the petty squabbles.

Dr Peter Oberem

CONTENTS

TAKING STOCK ISSUE **1/2020**

UPFRONT

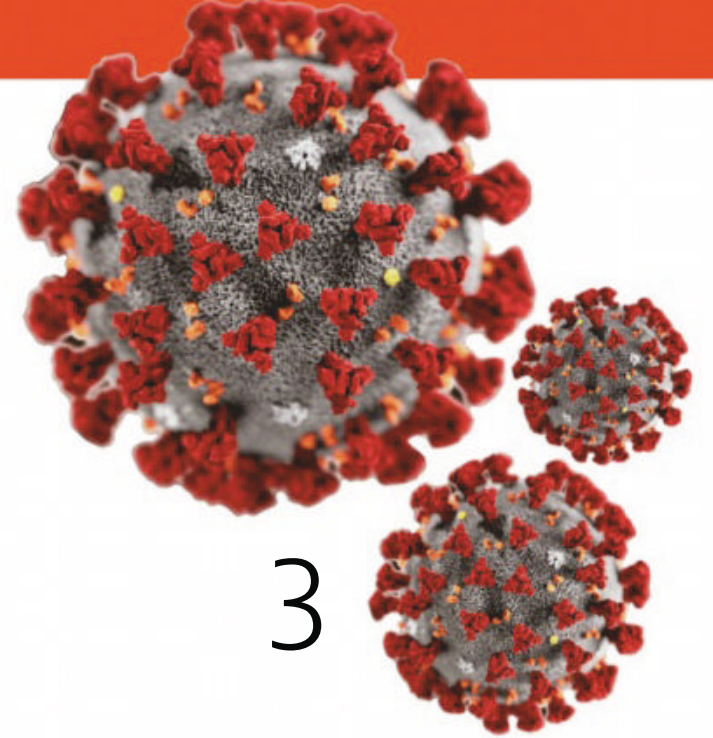
- I** Executive Editor Focus
- 9** Editorial Committee

CURRENT AFFAIRS

- 10 THE BIGGER PICTURE**
Take stock!
- 18 CHANGEMAKERS**
Michael 't Sas Rolfes
- 20 CHANGEMAKERS**
Dr Lucy Kemp
- 22 CHANGEMAKERS**
Emmanuel Koro
- 24 CHANGEMAKERS**
Catherine Semcer
- 26 SECTOR NEWS**
Firearm Amnesty 2019/2020
- 28 OPINION I**
Ban venison?!
- 32 OPINION II**
The meaning of custodianship in environmental law

TOURISM

- 38 PERSPECTIVE**
Corona pandemic and future ecotourism
- 44 CONSERVATION | OUR STORY**
Buffalo Kloof Private Game Reserve



PROA | RHINO FILES

52 PRIVATE RHINO CONSERVATION

Diverse strategies adopted in response to the poaching crisis

BIODIVERSITY

58 RESEARCH

Mate choice, reproductive success and inbreeding in white rhinoceros

MANAGEMENT

68 NUTRITION

Holistic management solutions

78 ECOLOGY

Earth's environmental path

WILDLIFE TRADE

92 HUNTING

Diversifying conservation funding will increase resilience to future shocks

GAME MEAT

100 A NEW LEGAL ENVIRONMENT

Game meat phased approach

LIFESTYLE

106 BOOK REVIEW

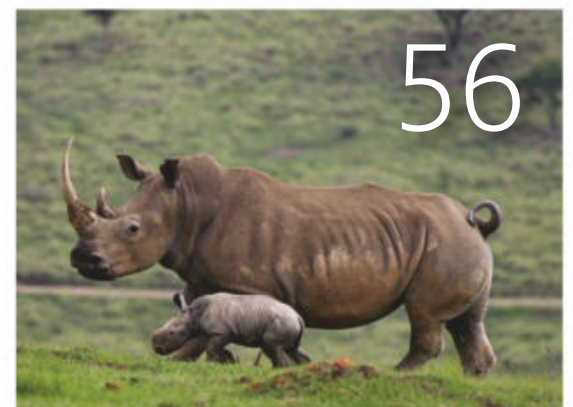
South Africa's survival guide to climate change

110 ECO EXPLORE

Is ecotourism just a buzzword?

116 HOT COALS

Johan's 'Game Meat Marinade'



ON THE COVER

White rhinoceros or square-lipped rhinoceros (*Ceratotherium simum*). Photo © Quintus Strauss

Towards the end of 2018 private landowners in South Africa conserved roughly 40% of white rhinos globally and that figure may be closer to 50% in mid-2020. For the past decade these rhino owners, together with their counterparts in formal state conservation, have battled a ten- to twenty-fold increase in poaching activity. The levels of poaching have been such that scientists have warned of the risks of extinction within decades if current trends are continued. Read the research report on page 52.

There is another threat to the survival of the rhinos that has so far been neglected – the low genetic diversity of the species. Read the research report on page 58.

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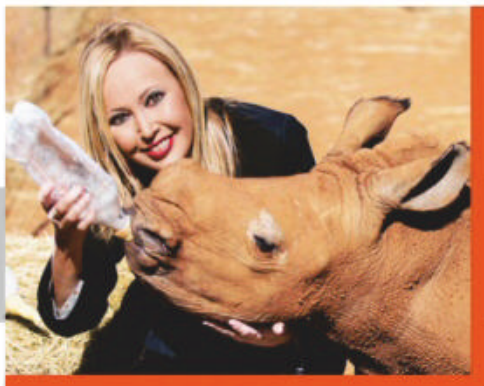
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Erika Alberts

PUBLISHING EDITOR'S NOTE

Southern Africa's wildlife industry has become a contemporary world leader in conservation innovation, providing considerable ecological, biodiversity and economic benefits to the region.

Wildlife ranchers love nature and are conservationists at heart – that is why they choose this lifestyle. What wildlife ranchers in South Africa have achieved over the past few decades is to take 20 million ha of marginal, often degraded agricultural land and improve the broader biodiversity in this huge area (20% of South African agricultural land) through introducing and increasing the numbers of indigenous wildlife species with the consequential improved sustainability of the land, diversity and health of all plants and animals found there.

Adding substantially to the fringes of national parks such as the Kruger, Hluhluwe-iMfolozi and Addo, and providing additional habitat and corridors for numerous species, privately-owned wildlife land supports regional ecological integrity.


The private wildlife sector generates multiple economic opportunities by catering for markets in wildlife-based tourism, hunting, wildlife breeding, game meat production and wildlife products, with significant employment and secondary spin-off benefits to the regional economy.

There is no doubt that southern Africa's wildlife industry – and indeed private wildlife ownership as a global concept – has an opportunity to demonstrate that it has much to contribute to both conservation and economic development. As the wildlife ranching industry enters a new era, let's **take stock**. *Let's take ownership of our journey.*

ADVERTISING SALES AND MARKETING STRATEGIES

PRIVATE GAME offers a perfectly integrated marketing communications model with a mix of print and digital content. As the newly appointed Marketing Manager, **Louis de Bruin** (MES Consultants South Africa) adds a fresh take on client relations and great enthusiasm for the wildlife and outdoor industries of South Africa. He has 13 years of sales experience with numerous prestigious accolades and vast successes to show for his dedicated efforts. His love of nature, avidity for fishing coupled with his congenial yet professional demeanour is sure to make for a prosperous future with **PRIVATE GAME**.



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THE BIGGER PICTURE

by Michael 't Sas-Rolfes



Michael 't Sas-Rolfes



African buffalo or Cape buffalo
(*Syncerus caffer*) breeding bull.
Photo courtesy Thaba Tholo.

The launch of this new publication, *Private Game*, coincides not only with the start of a new decade, but also a potentially dramatic reset of the world economy. This reset, caused by the global Covid-19 (coronavirus) pandemic, will reshape human society, our relationship with nature, and what has come to be known as the wildlife economy. This therefore seems like a very opportune time to **take stock** and consider the past, assess the present and ponder the future.

This new magazine will focus on the contribution of wildlife ranching to biodiversity conservation in South Africa, as well as the business of commercial 'game' breeding and management in the private sector, where the term 'game' denotes wild animals that are hunted. Given that South Africa is home to arguably the world's largest private wildlife ranching economy, it seems appropriate for *Private Game* to be rooted in this country. However, this industry reaches well beyond South Africa's borders and we should view it in that context.

The idea of 'private game' is a relatively new one. However, the evolution of wildlife management by humans has deep roots.

Over hundreds of thousands of years our hunter-gather ancestors slowly figured out ways to form useful relationships with other wild animals, first 'managing' them with techniques such as large-scale fires. Many animals, such as large herbivores, became our food; others, like dogs, started to work with us and share our food. Eventually, management practices

intensified, and a few select species were tamed and then domesticated. For thousands of years our ancestors cultivated close relationships with a fairly narrow selection of such domesticated animals, including cattle, sheep, goats, horses, pigs, chickens, dogs and small cats. However, in more recent years technology has enabled us to claim ownership and control of a wider selection of animals that we value in various ways, without domesticating them.

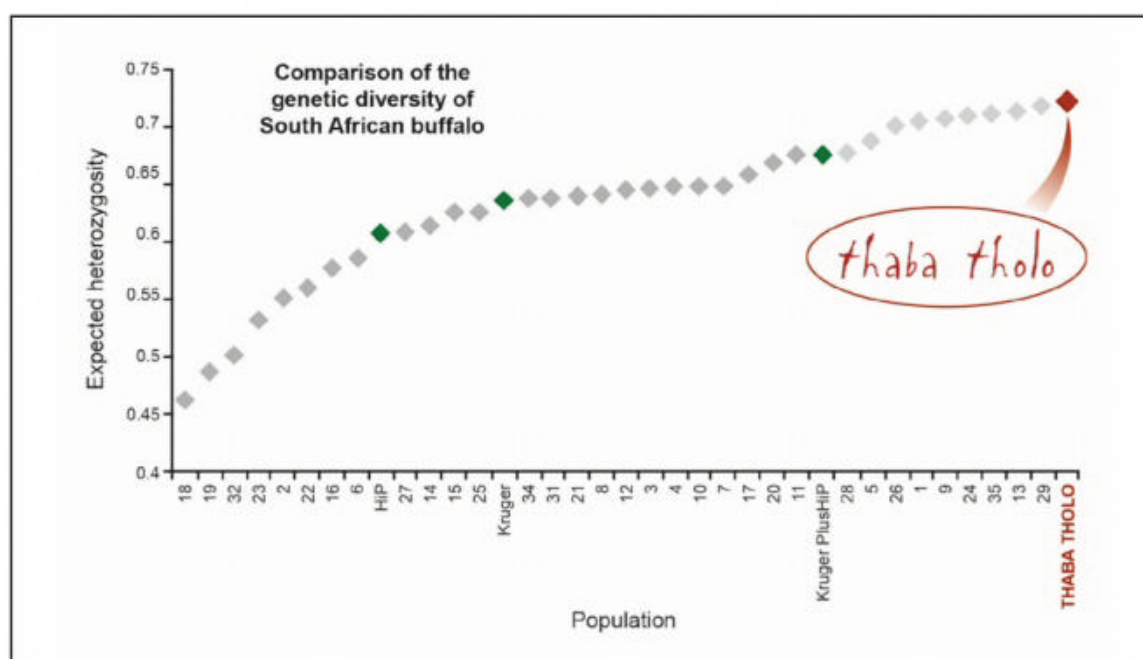


Whereas a private farmer initiative to save bontebok from extinction (by protecting them in a fenced enclosure) dates back to the early nineteenth century, the first wild African animals to be commercially farmed at scale were ostriches, starting in the **1860s**. Almost a century later, the greater private game ranching industry emerged, in both southern and east Africa, with the backing of some key players in the international wildlife conservation

sector. Further supported by some public sector agencies, such as the Natal Parks Board in South Africa, the private sector developed a sustainable-use approach to wildlife management, with managed commercial trophy hunting providing a key source of income. By the **1980s**, South Africa's private sector was starting to play a key role in protecting and breeding rare and threatened species such as white rhinos, sable and roan antelope.

“Supported by public sector agencies, such as the Natal Parks Board in South Africa, the private sector developed a sustainable-use approach to wildlife management, with managed commercial trophy hunting providing a key source of income.”

By this time a hunting ban in Kenya (in 1977) had also sounded the death knell for the game breeding industry in east Africa.



During a research project on the genetic diversity of African buffalo on game ranches in South Africa, Prof. Pim van Hooft (University of Wageningen, Netherlands) found **the genetic diversity on ranches compared favourably to that of the Kruger National Park and Hluhluwe/iMfolozi Parks (HiPs)**. A total of 10 ranches (29.4%) yielded higher heterozygosity levels than HiP and the Kruger combined, which in turn can directly be linked to the admixture of East-African bloodlines.



WILDLIFE ECONOMY

South Africa’s industry received a substantial boost with the passing of the Game Theft Act in **1991** and since then blazed the trail that led to the vibrant industry of the last two decades, comprised of a diverse range of wildlife management practices, from intensive selective breeding through to extensive management for the wildlife viewing and hunting markets. A range of evolving modern technological advances allows for continually improved monitoring and control of larger wild animals. The resultant

“The resultant wildlife economy has played a significant role in the sustainable development of South Africa.”

wildlife economy has played a significant role in the sustainable development of South Africa, helping to conserve biodiversity while providing employment and other economic opportunities for many South African people. South

Africa’s neighbouring countries are also involved in this diversified and sustainable wildlife economy and have come to depend quite heavily on it to sustain their conservation efforts.

Unfortunately, however, the notion of private game has been both misunderstood and gained opposition from various quarters. Last year, **Dr Jennifer Gooden** and I reviewed a wide selection of academic journal articles that criticised private sector involvement in land conservation.

We found two large clusters of criticism, which could be described as technical and political. The **technical criticisms** tend to come from conservation scientists who express concern about certain management practices on privately owned wildlands (many of which practices also occur in state-run reserves). The **political criticisms** generally express anti-capitalist sentiments and concerns about exclusion and elitism. When it comes to private ownership and commercial exploitation of

animals that are viewed as ‘wild’, many members of the public have further concerns related to perceived extinction threats and animal welfare.



Dr Jennifer Gooden

Scan the QR code or visit link.springer.com/article/10.1007/s13280-019-01258-y to access the report, ‘A review of critical perspectives on private land conservation in academic literature’.



Sable antelope (*Hippotragus niger*) breeding bull.
Photos courtesy Thaba Tholo.



Gary Lawrence Francione (born May 1954) is known for his work on animal rights theory, and in 1989, was the first academic to teach it in an American law school.

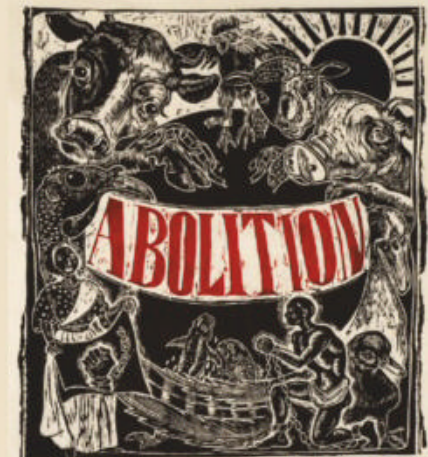
Photo © Vegano Siempre

Perhaps the greatest opposition to the private game industry has arisen from a cluster of activists and their associated non-profit organisations that advocate for strict animal protection through law (often labelled the 'animal rights' movement). Extreme followers of this movement oppose all forms of private animal ownership as well as practices such as meat eating and hunting on moral grounds. American legal scholar **Gary Francione** is one of the thought leaders of the movement and his appeal to **abolitionism and veganism** leaves no room for a private game industry at all. Whereas Francione's ideas might come across to some as being absurdly far removed from reality, a rapidly growing number of affluent urbanised Westerners are developing similar views and increasingly donating generous

amounts of money to organisations that lobby for international bans on hunting and trade in harvested wildlife products. Their influence is already strongly felt by those engaged with CITES, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and is also growing in South Africa. Private game owners should be well informed of these developments and must take them seriously.



Gary Lawrence Francione



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Gary L. Francione & Anna Charlton

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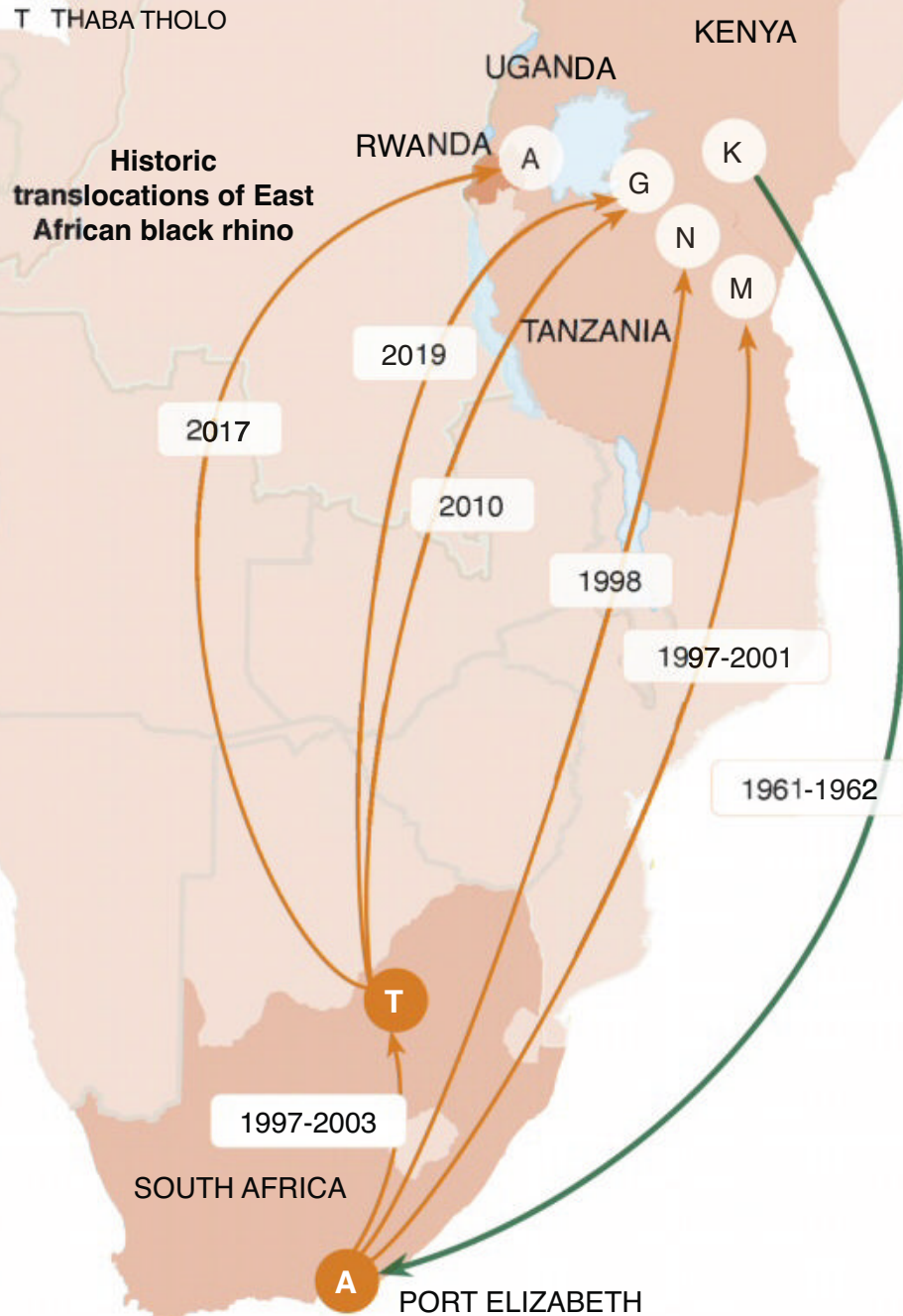
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WILDLIFE ECONOMY

A AKAGERA
K KIBOKO
G GRUMETI
M MKOMAZI
N NGORONGORO
A ADDO
T THABA THOLO



With less than **5 500** black rhino left worldwide, genetic diversity that may enable the production and survival of more rhino, may be of uppermost importance for the survival of the species. Private game breeders could play a vital role in stimulating and supporting a vibrant and sustainable pan-African – and even global – wildlife economy.



East African black rhinoceros (*Diceros bicornis michaeli*) capture and relocation project to a former range state in Africa.

Photos courtesy Thaba Tholo.

Aside from the resistance from critics, private game owners in South Africa have faced practical challenges in recent years, including drought, the subsidence of the colour variant market, the rhino poaching crisis, strong lobbies to end the practice of trophy hunting and, most recently, the severe market disruption precipitated by Covid-19. At this time the UK is also seriously considering future import and export bans on hunting trophies of certain species, while in the USA a proposed 'CECIL' Act would similarly thwart trophy imports

and have a potentially devastating effect on a hunting tourism industry that is already reeling from Covid-19 impacts. Other emerging threats include backlashes against all wildlife trade in the wake of Covid-19 (for assumed zoonotic disease transmission risk) and the listing of

iconic species under South Africa's Animal Improvement Act. The former have led to calls to shut down harvested wildlife product markets permanently and the latter has species conservationists deeply concerned about potential detrimental effects on biodiversity.

Scan the QR code or visit

theconversation.com/coronavirus-why-a-blanket-ban-on-wildlife-trade-would-not-be-the-right-response-135746 to access the report, 'Coronavirus: why a blanket ban on wildlife trade would not be the right response'.



“Private game breeders could play a vital role in stimulating and supporting a vibrant and sustainable pan-African – and even global – wildlife economy in a post-Covid-19 world.”

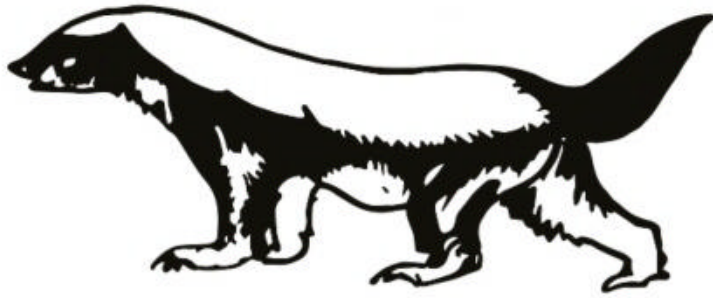


So, given all these headwinds, what are the future prospects for private game, within and outside of South Africa?

I would argue that private game breeders could play a vital role in stimulating and supporting a vibrant and sustainable pan-African – and even global – wildlife economy in a post-Covid-19 world. The fundamentals are certainly right: Game animals breed naturally well in their home environment and provide a range of goods and services that will remain in demand, ranging from international tourists to people seeking healthy protein sources. Rapidly evolving technology will open further opportunities for enhanced management. The challenges to be addressed lie in the realm of public perception, politics and policy.

I suspect that the winners in the game of private game will be those who are **proactive, adaptive** and **entrepreneurial** enough to see and engage with the bigger picture and drive the necessary transformation to deliver the full socio-economic and biodiversity conservation potential of this exciting and dynamic sector of the wildlife industry. ■





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Michael 't Sas-Rolfes

Michael 't Sas-Rolfes is a researcher, writer and consultant, with expertise relating to various aspects of the wildlife economy. He is currently conducting doctoral research at the University of Oxford, UK and

Michael 't Sas-Rolfes

Conservation economist

Research associate: University of Oxford

Research fellow: Oxford Martin School, African Wildlife Economy Institute (AWEI) and Property and Environment Research Center (PERC)

maintains research fellowships with several esteemed institutions, including the Oxford Martin School, African Wildlife Economy Institute (at Stellenbosch University), University of the Witwatersrand and the Property and Environment Research Center (in Montana, USA).

Passionate about nature and African wildlife since childhood, Michael's undergraduate studies in commerce included an analysis

of the role of emerging private sector markets in support of rhino conservation. Following some active participation in the wildlife industry (as financial manager of a working wildlife ranch and founding investor in a commercial private conservation enterprise), he decided to specialise in the expanding field of environmental resource economics and completed an MSc on that topic at University College London. This opened the door to various international consulting assignments on wildlife trade policy and the development of innovative approaches to conservation partnerships and financing. He gained specific expertise in understanding the operation of wildlife markets, both legal and illegal.



CITES CoP17, Johannesburg, South Africa.



After taking a ten-year break from the wildlife and conservation arena, Michael decided to return to engage with the emerging rhino poaching crisis in South Africa. He has since dedicated an increasing amount of

with a deep love for ‘the bush’ and wild spaces in general, he is committed to finding pragmatic and inclusive conservation solutions that work for both wildlife and people, in Africa and beyond.

Michael recognises the critical role of a well-functioning private wildlife industry in supporting the broader social goals of conservation and sustainable development.

He has published extensively in both popular and peer-reviewed academic literature and is an experienced public speaker. He serves on two IUCN specialist groups, the African Rhino Specialist Group and Sustainable Use and Livelihoods Specialist Group, and regularly acts as a policy advisor to various government conservation agencies.

Michael ‘t Sas Rolfes can be reached via media@mlpmedia.co.za

time to further understanding the various complex dynamics that drive wildlife conservation and trade policy in the international arena.

As an avid wildlife photographer

Michael recognises the critical role of a well-functioning private wildlife industry in supporting the broader social goals of conservation and sustainable development.



IXaus Lodge, Kgalagadi Transfrontier Park.



Dr Lucy Kemp

Raised in a family of biologists and trained with an MSc in Marine Biology, yet most happy when in the bush, **Lucy Kemp** was an unlikely candidate to take over a ground-hornbill conservation project, given she spent her whole life avoiding birds, and ground-hornbills in particular, as these were her parents' 'thing'.

Dr Lucy Kemp (Pri. Nat. Sci.)

Project Manager: Mabula Ground Hornbill Project

Chair: South African Southern Ground-Hornbill Action Group

Co-chair: IUCN Hornbill Specialist Group

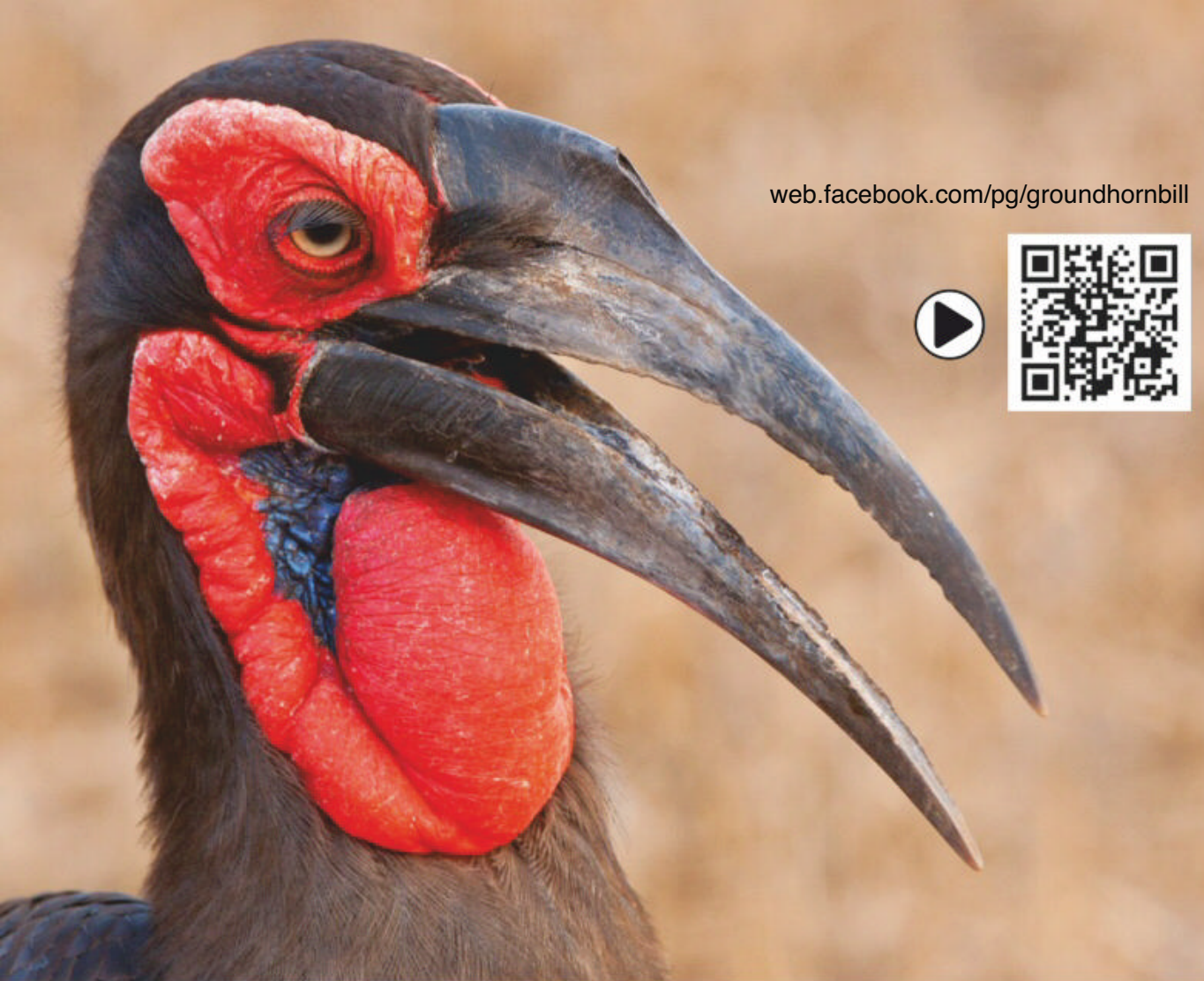
But a childhood of spending time in close proximity to ongoing ground-hornbill research, combined with her growing love of 'the bush' and a strong personal need to conserve wild places, set her on course for a career in conservation.

The southern ground-hornbill had lost 50-80% of its historical South African range (which included much of the Limpopo province) and efforts were proposed to try and reintroduce them to parts of these areas where the birds had become locally extinct. The key to this was that although

they may lay one to three eggs per summer, they only ever raise a single chick to fledge, which means the extra younger chicks can be harvested at hatching, hand-reared and used for reintroduction without affecting the dynamics of the wild population.

By the time Lucy joined the Mabula Ground Hornbill Project, it had already established a wild group of birds on the Mabula Private Game Reserve, and shown that a harvested and hand-reared chick could grow up to become a breeding adult.





web.facebook.com/pg/groundhornbill



CHANGEMAKERS



Scan the QR code or visit
[youtube.com/watch?v=Kq4avyqN2I0](https://www.youtube.com/watch?v=Kq4avyqN2I0)
 to watch the video: 'The Baobab
 conservation rearing centre'. Published
 by Mabula Ground Hornbill Project.



The next steps, to scale up reintroductions and create viable subpopulations, required a whole range of new insights, interventions and techniques.

Adequate funds had to be sought for team salaries, 4x4 vehicles, specialised equipment and on-the-job training. Support from national, provincial and private conservation agencies, societies and owners had to be sought.

Assessments of the local, regional and continental status of the species and its biology had to be collated (which formed the basis of Lucy's PhD thesis). Comparisons of situations from different areas of South Africa and its neighbours (Botswana, Zimbabwe, Mozambique) placed local efforts in perspective.

Less than half of South Africa's 400 breeding groups are in protected areas. Education, intervention and collaboration for the rest were developed using a custodianship programme in rural areas, including farmer's unions, foresters and traditional leadership.

"Lucy's passion for the ground hornbill is evident in everything she says and does – this bodes well for this endangered species in South Africa."

Most recently, a R2 million chick-rearing facility built to supply high-grade stock, resulted in four reintroduced breeding groups and neighbouring groups budding off are leading the way. The Mabula Ground Hornbill Project receives international acclaim for its IUCN stature and research publications in top journals.

Lucy's passion for the ground hornbill is evident in everything she says and does – this bodes well for this endangered species in South Africa.

Dr Lucy Kemp can be reached at
project@ground-hornbill.org.za

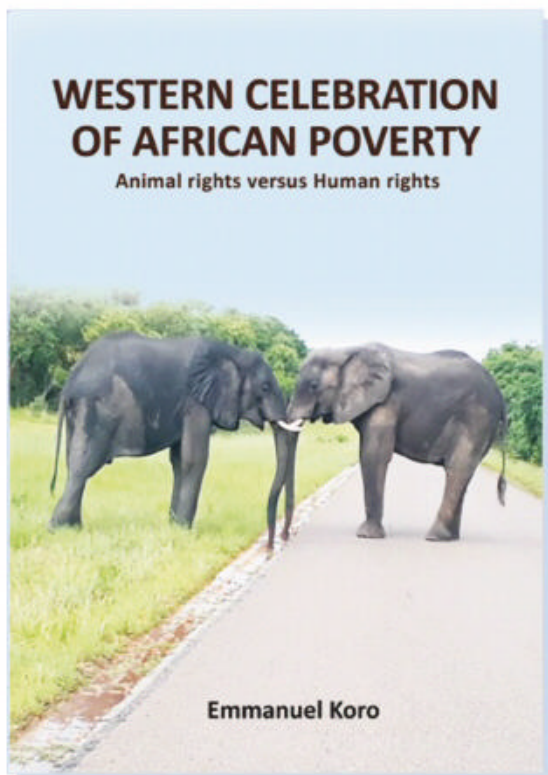




Emmanuel Koro

Emmanuel Koro

Johannesburg-based international award-winning environmental journalist who has written extensively on environment and development issues in Africa.



Western Celebration of African Poverty

What the book is all about and why I wrote it

This book focuses on one of the most frustrating realities in Africa. The continent is resource-rich but poor. Despite Africa's poverty challenges, the book illustrates glimpses of poverty-reducing possibilities in rural southern Africa, under the programme called Community Based Natural Resources Management (CBNRM). The CBNRM initiative enables rural communities to benefit from wildlife. It is a mind-set changing development approach, the benefits of which have transformed former poachers into absolute wildlife conservationists. It has made very traditional communities that used to resist family planning, embrace it, in order to avoid overpopulation that would displace wild animals from land set aside for wildlife conservation.



Eugene Lapointe (President at IWM World Conservation Trust, Former Secretary General at CITES).

The former UN Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Secretary-General (1982-1990) and Switzerland-based IWM World Conservation Trust President, Eugene Lapointe, endorsed the book in the foreword: "*Western Celebration of African Poverty* has something for everyone who cares about wildlife, wild places and human dignity in the developing world," said Eugene. "I cannot recommend this book highly enough."



Western Celebration of African Poverty is available from retailers, book stores and Amazon: www.amazon.com/Western-Celebration-African-Poverty-Animal-ebook/dp/B084JNRZTN



Why I wrote the book

I wrote this book in order to truthfully tell Africa who and what are blocking it from implementing successful conservation and development initiatives that benefit the wellbeing of both its people and wildlife.

I want all Africans and friends of Africa to know that it is outsider influence that continues to scandalously block any scientifically justified grounds for African countries to benefit from their wildlife use through trade.

I call these trade bans unjustified trade sanctions, which have laughably failed to save a single rhino and elephant! The ban on rhino horn and ivory is in force but the media is awash with rhino and elephant poaching, including illegal trade in these products. When an experiment fails, an alternative should be sought. Those alternatives include wildlife hunting, and international trade in rhino horn and ivory.

I would like every African to stop being brainwashed into poverty by those who unjustifiably ban trade in our wildlife and its products. We are nobody's experiment. Trade, not aid, will save African people and their wildlife from poverty and extinction, respectively.

Emmanuel Koro can be reached at @ emmanuelkoro96@yahoo.com

"Trade, not aid, will save African people and their wildlife from poverty and extinction, respectively."

African bush elephant
(*Loxodonta africana*).

Photo © Villiers Steyn





Catherine E. Semcer

Catherine E. Semcer
Research fellow: Property and Environment
Research Center (PERC) and African Wildlife
Economy Institute (AWEI).

Catherine E. Semcer is a research fellow with the Property and Environment Research Center (PERC) where her work focuses on rights and market-based solutions to policy challenges in environmental security, conservation finance and sustainability.

“Catherine’s work focuses on rights and market-based solutions to policy challenges in environmental security, conservation finance and sustainability.”



Scan the QR code or visit youtu.be/igW__rltZOE to watch the video, ‘Conservation Perspective: Catherine E. Semcer’. Video published by Dallas Safari Club.



Catherine is the past COO of Humanitarian Operations Protecting Elephants (H.O.P.E.), a boutique NGO delivering training, advisory, assistance and procurement services to African counter-poaching programmes. During her tenure with H.O.P.E. she was responsible for leading the opening of projects in Zimbabwe, Mozambique and Ethiopia.

Prior to working with H.O.P.E. Catherine served as Senior Washington D.C. Representative for Sierra Club, where she worked to advance conservation programmes in the Department of Defence to increase training range sustainability as well as further efforts to conserve the greater sage grouse. Her work led to her being recognised by the USDA-NRCS for “outstanding contributions” to their Sage Grouse Initiative.

Catherine began her career with McKinsey & Company where she supported the Environmental and Non-Profit Practices.

Her research and commentary have appeared in the *International Journal of Environmental Studies*, *The Hill* and other publications. She has also been a guest on programmes including *Intelligence Squared US* and *EconTalk*, where she has debated and discussed the political economy of African wildlife conservation.



Lion (*Panthera leo*).
Photo © Steve Heap

In addition to her work with PERC, Catherine serves as a research fellow with the African Wildlife Economy Institute at Stellenbosch University in South Africa. She is a member of the Sustainable Use and Livelihood Specialist Group of the International Union for Conservation of Nature (IUCN) and the Protected Areas Finance Working Group of Conservation

Finance Alliance. She is also a contributing editor to *Conservation Frontlines* and a past field editor of *African Indaba*, the official African publication of the International Council for Game and Wildlife Conservation (CIC).

Catherine is a graduate of Muhlenberg College.

Catherine E. Semcer can be reached at @ catherine@perc.org

For more information and articles by Catherine E. Semcer, visit

www.perc.org/people/catherine-e-semcer-2/



In her spare time, she enjoys fly-fishing, upland bird and waterfowl hunting, and sailing.



FIREARM AMNESTY

2019/2020

– The (Most) Controversial Declaration



Johan Martin, Director at Martin & De Beer Inc. Attorneys in Bloemfontein and franchisor of the Legally Armed Group.

OVERVIEW

Firearm amnesty was declared from 1 December 2019 to 31 May 2020 in terms of section 139 of the Firearms Control Act, 2000 (Act 60 of 2000) (the Act).

The aim is the reduction of the number of illegally possessed firearms. It has never been a success as criminals do not surrender their guns.

A person who partakes may not be prosecuted in relation to

- the firearm, for having it without the appropriate licence, or
- the ammunition, for having it without having been in lawful possession of a firearm capable of discharging the ammunition.

You may apply for a licence in respect of that firearm within 14 days from the date on which the firearm was surrendered.

If a licence is granted, the firearm and ammunition must be returned to you.

It is important to note that the condition of the current amnesty that an applicant could not apply for a licence where documentary proof of previous ownership cannot be produced, **surely made way for holders of expired firearm licences who wish to legalise their firearms again.**

Ballistic tests are conducted and if an application for a licence has not been lodged, such firearm will be destroyed.

At the time of writing this article, it was the last day of the current amnesty period declared by the Minister.

CURRENT AMNESTY, THE MOST CONTROVERSIAL DECLARATION YET

Green licence still valid

SA Hunters was granted an interdict during **2009** against the police prohibiting them to criminalise the so-called 'green licence' holders who failed to make use of the transitional provisions of the Act by not renewing same. This interdict is still valid, so are the green licences, as it was not contested.

Law abiding citizens who did renew their green licences to that of the so called 'white licence', were now obliged to again renew their white licences and competency certificates within the time frames as set out in section 27 of the Act.

Police did not regulate section 24 of the Act & the white licence renewal time frames of section 27

Section 24 of the Act states that the holder of a white licence must apply to the Registrar for its renewal at least 90 days before the date of expiry of the licence, and if not, that the licence terminates in terms of section 28 of the Act. **But** the police ignored section 24 & 27 by processing 'late renewals'.

Late renewals stopped by police in 2016

Then on **3 February 2016**, Acting National Commissioner Lieutenant General Phahlane stopped it in its track when 'clarifying' section 24 of the Act in giving instructions that from then on no expired white licence will be renewed and persons trying to do that be told that they are not in lawful possession of same and that it must be surrendered to the nearest police station.

SA Hunters challenged section 24 and 28

SA Hunters then challenged the constitutionality of sections 24 and 28. In **July 2017**, Acting Judge Ronel Tolmay in the High Court, ruled in favour of SA Hunters. Judge Ronel Tolmay at the time deemed the sections unconstitutional and gave parliament 18 months to amend the Act.

Constitutional Court overturned Judge Tolmay's ruling

On **7 June 2018**, the Constitutional Court (ConCourt) overturned this ruling declaring sections 24 and 28 constitutional, leaving about 450 000 gun owners destitute and being forced to surrender their firearms and ammunition.

Gunowners SA then interdicted police from collecting or accepting guns as ordered by ConCourt

On **27 July 2018** Gun Owners SA (GOSA) successfully interdicted the Minister of Police from accepting, collecting and/or demanding the handing over of firearms as ordered by the ConCourt.

Minister appealed GOSA's interdict

On Friday **22 May 2020**, the matter was heard in the Supreme Court of Appeal and judgment was reserved. On Friday **24 July 2020**, more than 450 000-gun owners, unlawfully in possession of their guns, were stripped of protection they had.

Minister applied for extension of firearm amnesty.

Decision imminent.

The Minister has already approached Parliament to extent the amnesty as it could not be fully utilised because of the Covid-19 pandemic.



Is the extended amnesty, if passed, your last chance to legalise your 'illegal' firearm of which the licence has expired?

Now that the GOSA interdict failed you, certainly!

For more information contact Johan Martin on +27 (0)83 391 8180 or @johan@mdbinc.co.za.



APRIL 2020

REPORTS ABOUT WILD MEAT

ENVIRONMENTAL ALARMISTS

ARE WILFULLY

SPREADING

MISINFORMATION

**IT'S NOT FOOD
IT'S VIOLENCE**

DIRECT ACTION EVERYWHERE

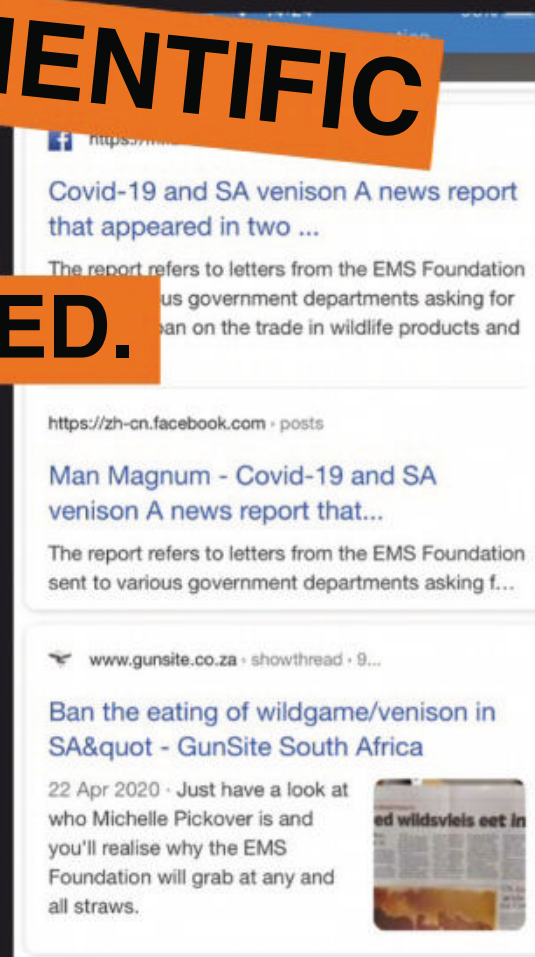
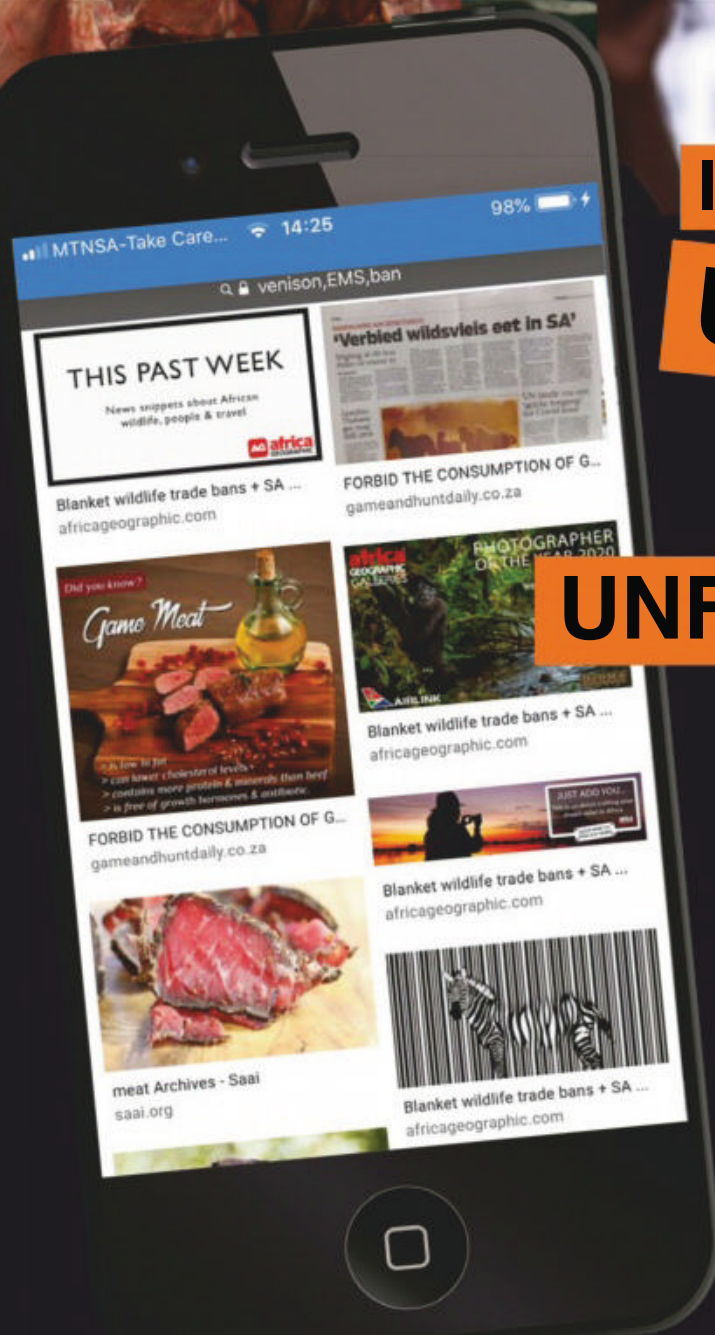
IT IS BLATANTLY FALSE,

UNSCIENTIFIC

AND

UNFOUNDED.

Blue wildebeest carcasses. Photo © Melde van der Spuy



BAN VENISON?!



Dr Gert Dry

In light of the Covid-19 pandemic, the EMS Foundation calls on government departments to ban the slaughter and eating of venison in South Africa and the export thereof.

It is clear that environmental alarmists are wilfully spreading misinformation.

Misrepresentation is a perception or manifestation through words or behaviour, and is not factually correct. There is a significant difference between bush meat, as is commonly used in the African continent, and regulated venison production. The bush meat practice is largely unregulated, but is an important source of protein for millions of people. This bush meat is the utilisation of any animal, reptile, amphibian, insect, bird, primate, etc.

THERE IS A BIG DIFFERENCE BETWEEN BUSH MEAT AND VENISON, WHERE VENISON REFERS TO ANTELOPE.

The venison value chain in South Africa has no similarities to the rest of Africa and China's bush meat usage. The venison supply chain is based on proper meat safety standards.

The original venison value chain was developed during two nationwide workshops (LABS). The first by the then Department of Environmental Affairs and Tourism (2015), and then by the Department of Agriculture's Operation Pakhisa (2016), where the value chain was properly discussed and developed. The proposed meat value chain was subsequently submitted to a thoroughly independent socio-economic impact assessment by the Department of Planning, Monitoring and Evaluation.

The South African Constitution also explicitly provides for **sustainable utilisation** of South Africa's natural resources. The principle of **sustainable utilisation** is a thorn in the side of biocentric NGOs and is the smokescreen for banning venison.



Kudu fillet.

Furthermore, the South African Veterinary Council's portfolio for food safety and security has written to the Minister of Agriculture and in principle supported the meat value chain.

i The venison initiative will create 110 new processing plants by 2021. This will increase to 300 plants by 2030. It will mainly strengthen the rural economies and be owned and managed by medium-sized enterprises (SMMEs). The initiative will create a new market for game farmers through R650 million by 2021 and R7 200 million by 2030. This represents sales of 180 000 animals per year by 2021 and 2 million by 2030. It is estimated to create 1 700 jobs by 2021 and 19 400 by 2030.

It is vitally important to mention that **meat safety** and health of venison are not negotiable.

First, it is properly regulated in accordance with the meat safety legislation. Further applicable are the traceability processes of the **International Organisation for Standardisation (ISO)**.

As far as current practices on farms are concerned, hygiene is of utmost importance and hunters also hunt for their own use on farms. If anyone follows the path of logic, they will realise that mankind has **historically used game meat** long before agriculturally produced beef, mutton and pork started. The use of venison was undoubtedly healthier. It is well known that the average saturated fat content of buck hunted is only 2% compared to 14% of beef. It is estimated that beef from feedlots will have an even higher fat content.



Kudu fillet flambé.
Photos © Quintus Strauss

The WHO made two strong recommendations to counter the highly contagious disease (COVID-19 pandemic) and its mortality rate, of which enhanced immunity of each individual, besides washing hands, is the most important. It is therefore of utmost importance to emphasise the health properties of venison and its positive effects on chronic conditions such as high blood pressure, high cholesterol and protein deficiencies.



Comparative studies between beef, mutton, chicken and venison have proven to show that venison consumption in terms of animal protein results in excellent health and immunity. The nutritional index has a scientific basis and, in cases like the current pandemic, would be the logical choice as an immune booster.

i It should also be mentioned that the hunting process takes place in a “Covid-19 safe” environment (greater social distance and avoidance of groups of people), in sharp contrast to the abattoir environment. Other important points to consider when choosing a protein food are the natural low pH of venison (based on scientific research) that inhibits and even stops microgrowth, as well as the low incidence of diseases in wildlife.

Comparing the venison practice in South Africa with that of China, the Middle East and Africa in terms of the Covid-19 pandemic is clearly opportunistic by environmental alarmists. It is blatantly false, unscientific, and unfounded. The principle of **sustainable utilisation** as contained in the Constitution is the real target of these biocentric organisations.

@gcd@aquasand.co.za

The meaning of custodianship in environmental law

by Ian Cox




Ian Cox

Ian Cox is a commercial attorney practicing for his own account in Durban. His interest in environmental law was piqued when DEFF tried to list trout as an invasive species. Ian is a passionate fly-fisherman. He quickly realised that environmental laws were not being developed or applied as the Constitution intended.

A custodian is somebody who is responsible for taking care of or protecting something.


Section 25 of the **Constitution** obliges the state to protect an **environment** that is not harmful to our health and wellbeing through reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The term ‘**environment**’ can be confusing as it can mean different things to different people. So it is notable that the **Constitution** does not refer to ‘the environment’ as something physical like the biosphere, which is our planet. It refers to ‘**an environment**’.

 This constitutional idea of ‘**an environment**’ is defined in the umbrella environmental law, the **National Environmental Management Act** or **NEMA**, as **an ideal or sought-after condition rather than an actual physical thing**.

NEMA defines ‘**environment**’ as: “the surroundings within which humans exist and that are made up of

- (i) the land, water and atmosphere of the Earth;
- (ii) micro-organisms, plant and animal life;
- (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and
- (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being”.

 The **United Nations Rio Declaration on Environment and Development** does not define ‘environment’, but it is clear from a reading of the text of the declaration that it applies the same meaning to ‘environment’ as the **Constitution** and **NEMA** do. *This is not surprising as the Rio Declaration informed the drafting of both laws.*



“The state is duty bound to take reasonable legislative and other measures aimed at securing an environment that is not harmful to our health and wellbeing.”

It is important to make this distinction because this is the ‘**environment**’ that the state holds in trust for the benefit of present and future generations of South Africans. This means the state does not hold the actual biophysical environment in trust. *It is rather duty bound to take reasonable legislative and other measures aimed at securing an environment that is not harmful to our health and wellbeing.*

The nature of the state’s custodianship of the environment is very different to the situation that applies to South Africa’s mineral resources and its water resources. The Water Act and the Minerals and Petroleum Resources Development Act both vest South Africa’s mineral

resources and its water resources in the state in the same way that control property vests in the trustees of a trust. That vesting means the state owns these resources on behalf of the people of South Africa.

But no environmental law says that South Africa’s biological resources vest in the state. Indeed, it would be extraordinary, not to mention unlawful, if they did. This is because most of South Africa’s biological resources are **privately owned**.

Moreover, this right of ownership is protected in terms of section 25 of the Constitution. This says that “no one may be deprived of property except in terms of law of general application, and no law may permit arbitrary deprivation of property”.

The state's role as custodian of the environment is better explained as regulator tasked with ensuring that South Africans do not exercise their rights in a way that causes an unacceptable degree of harm to others. *The legal box that best houses this type of custodianship is our law relating to public nuisance.*

Thus, people owe a duty of care to each other to conduct their affairs in such a way as not to cause undue harm. The duty of the state is to take reasonable legislative and other measures to ensure that this is done. This in very simple terms is what custodianship of the environment means.



Indeed, South Africa's national biodiversity management law, the **National Environmental Management Biodiversity Act** or **NEMBA**, says as much. The **misleadingly headed section 3, "State's trusteeship of biological diversity"**, says the state must implement NEMBA to **manage, conserve and sustain** South Africa's biodiversity in order to progressively achieve the environmental right set out in section 24 of the Constitution.

This approach is endorsed in section 28 of NEMA. Section 28 places a duty of care on all landowners and occupiers of land to take reasonable measures to prevent significant pollution or degradation to the environment and where this cannot reasonably be done to minimise and rectify such pollution or degradation of the environment. Section 28(5) and (6) empower The Director General in the Department of Environmental Affairs to investigate such cases of abuse and, where appropriate, to order the owner or occupier to take specific measures to deal with it. *The Director General must have regard to the State's role as a custodian holding the environment in public trust for the people when considering what remedial measures need to be taken.*

Unfortunately, environmental officials do not see it this way.

They are trying to apply property law and the idea advanced by American environmental lawyers that the state owns land in trust for the people of America to South African environmental law. Thus, they believe the state enjoys some kind of proprietary right over the South African environment.



“The sort of due diligence that normally takes place to ensure the compatibility of a new law with existing law never took place.”



Game farmers will remember that the Eastern Cape Parks and Tourism Agency argued in the Medbury case that buffalo in state-owned nature reserves should be treated as public property vesting in the state wherever they may roam. The High Court rejected the notion outright. The question was not dealt with when the matter went on appeal to the Supreme Court of Appeal because the court said it was unnecessary to deal with this issue.

It is unlikely that the Supreme Court of Appeal would have differed from how the High Court considered the issue. I say so because the public trust doctrine classically refers

to things that cannot be owned, like the seashore and the air we breathe. The principle underlying the public trust doctrine is that the state holds these resources (so called ‘**res publica**’) in trust for public use much in the same way it currently exercises statutory control over the country’s mineral or water resources.


I can say this with some confidence because legal interpretation is firmly grounded in the principle that statutes must be interpreted contextually having regard to the law itself, the purpose of the law as well as other legislation.


This is so even when the words to be construed are clear and unambiguous.


Environmental lawyers who call for an extension of the public trust doctrine overlook this cardinal rule of interpretation.

The fact is our courts cannot legitimately extend the public trust doctrine as suggested based on our law as it presently stands.

However, it is also true that parliament can change laws. In fact, the process of changing laws to increase the extent to which government can exercise direct control over the environment is already well underway.

 NEMBA is touted as a biodiversity management law operating within the framework of the principles set out in NEMA. But this is misleading. NEMBA in fact ignores human rights and NEMA by placing all biological resources under direct state-permitting control.

 NEMBA makes it a criminal offence to possess, grow, make use of or trade in any alien species without a permit unless the species has been exempted by the minister.


 It also makes it a criminal offence to make any commercial use of an indigenous species (and this includes South Africa's game species) without a permit.

The general effect of this law, when read with the provincial conservation laws, is to give government the power to make it a criminal offence to possess, use or trade in any biological resource without the permission of the Minister of Environmental Affairs Forestry and Fisheries.

Thus, NEMBA has in fact created the public trust environment that environmental officials and many environmentalists want. *The trouble is that this has been done unlawfully.*


It is normal for a law like NEMBA to be drafted in terms of a policy formally adopted by government. *But this did not happen.* The biodiversity draft white paper proposed the conservationist **nature-first approach** to biodiversity management that is advocated by the International Union for the Conservation of Nature or IUCN. *However*, this approach is incompatible with the **people-first approach** advocated in the Rio Declaration and which was the basis for the white paper on environmental management that was formally adopted.

 The result was that NEMBA became South Africa's principal environmental law and attempts to make a conservation-based biodiversity management law were put on the back burner.

 One would have expected a new white paper process to be conducted before NEMBA was formulated but this never happened. As a result, the sort of due diligence that normally takes place to ensure the compatibility of a new law with existing law never took place. *Environmental officials instead*

successfully campaigned for and got parliament to make a law that they like but which is incompatible with NEMA, the Constitution and international law.


This happened because the government, South Africa's community of conservation scientists, environmental officials and consultants all wanted increased state control. The environmentalists wanted increased state control because they see this as the only way to protect native species and so-called natural ecosystems from human beings. The permit-driven system of management is also highly advantageous to the environmental consulting community as permit applications often have to be accompanied by specialist environmental reports. This viewpoint often takes on an **anti-private enterprise perspective** that aligns with government's Marxist-fuelled belief in state control of all resources.


 *So, a convenient alliance of bootleggers and Baptists has occurred. But it has resulted in an abomination of a law. NEMBA is a square peg in a round hole kind of law.*


It should come as no surprise, therefore, that **attempts to implement the law have been disastrous**. Our legal system is based on the principal of just law-making and the fair implementation of laws. This system requires the government to allow the public to participate in decision-making and to accept that people are innocent until proven or otherwise explain its actions legally and factually.



“This makes the practical task of explaining what custodianship means very difficult. The law is clear enough, but environmental officials are ignoring the law.”

 While NEMBA does not say this, the penal scheme of the law is based upon the idea that government holds all South Africa’s biological resources in public trust. Therefore, it makes it a criminal offence to possess or use those resources without government permission. This effectively makes human existence, let alone our health and wellbeing, a criminal offence unless government says otherwise.

 But this is inherently unconstitutional, which makes it difficult for the environmental authorities to allow proper public participation or to explain their decision-making, as is required by law. This is made worse because these decisions are often based upon the beliefs of officials rather than the law or the principled decision-making process required in terms of NEMA.

 *The situation is essentially one of institutionalised lawlessness, which is why it is easy to show that pretty much everything government has done in terms of NEMBA is unlawful. Even the TOPS lists and regulations were not lawfully promulgated. The same is true of the alien and invasive species lists and regulations and the bioprospecting regulations.*

This problem is not just confined to NEMBA. The environmental planning tool I wrote about in an article published in 2019 is an attempt to bring the kind of state-controlled conservationist planning that has rendered NEMBA unworkable into the broader environmental planning space. The result is that environmental impact approvals under NEMA are now subject to what is essentially an illegitimate biodiversity management scheme implemented in terms of NEMBA.

This makes the practical task of explaining what custodianship means very difficult. **The law is clear enough, but environmental officials are ignoring the law.** They are acting as if they have custodial powers, which they do not in fact have. Unfortunately, the public has allowed this to happen. *Indeed, sometimes conservation organisations have acted to advance the officials’ cause.*

The Constitution should always have the last word on issues such as this. The Constitution says that environmental laws and their implementation must be reasonable. *There is nothing reasonable about NEMBA or our provincial conservation laws for that matter or how they are being implemented.* ■

@ iancox@coxattorneys.co.za

CORONA PANDEMIC & future ecotourism

by Dr Johan van Rensburg • Photos by Annica van Rensburg

*“Post-Corona
pandemic change
is inevitable, but
how we adapt to
it is crucial for
our survival.”*

An 100% off-the-grid eco-house
with eco-pool in the front.

The aftermath of the Corona pandemic will have lasting and profound effects on our future world. We cannot predict the full extent of the global effect on our social behaviour and the economic landscape, but have to accept it will be extensive.

The short- and long-term effect on our industry is a life-changing event for most of us. All facets of the wildlife industry (ranching, tourism and hunting), will require profound changes and adaptations.

The painful admission is to admit that globally this disaster is mostly self-inflicted. It is disingenuous to blame all on the Chinese for their disregard of animal rights and practices. The rest of the world is equally to blame.

We only have to look at
pollution, overpopulation,
habitat destruction,

policies, health standards and civil disobedience to understand the cumulative role in the pandemic.

Before this disaster, international tourism was one of the fastest-growing industries and especially ecotourism expanded more rapidly.

Post-Corona the inevitable change in our economic landscape will be long term if not (semi) permanent. The tourism and ranching industry will be forced to adjust, but possibly even in a larger degree compared to the other industries. With less disposable income, tourism will be under threat.





Dr Johan and Annica van Rensburg

We can safely predict the post-pandemic tourist will become more discerning and demanding. The previous swing towards responsible and/or ecotourism will gather momentum; the tourists want their hard-earned money to be well spent. Social conscience will be an increasing factor because of the role of a human element in causing the pandemic.



The temporary lull in tourism will present us with a valuable opportunity to get our house in order. It will present us with the breathing space to adapt and change our strategies and also approach it with a different state of mind.

International trophy hunting and to a large degree also local hunters will be greatly replaced by tourism and ecotourism in particular. Especially activities such as game viewing, photo safaris, birding, self-drive, camping and cultural events will become more in demand. It is time to change our working module and



Impala (*Aepyceros melampus*).

strategies to prepare us to be able to accommodate these new trends and challenges.

There are two involved parties in this restorative process, the **consumer** and the **service providers**.



CONSUMER

The new future tourist will have increased social awareness about our ecological (tourism) footprint. They will not budge in their expectations for responsible ecotourism. They will insist on receiving ECO when the establishment's marketing claims 'eco', and yes, 'greenwashing' will not be tolerated. The tourist has a predicament: There is NO acceptable standard available to verify the eco-status of the lodges/hotels in South Africa. Some places claim eco only because of a beautiful location, but another one goes full blast with commitment to fulfil all eco-requirements. This lack of transparency, consistency, understanding and no established standards, are confusing for the traveller and harm our credibility locally and internationally.



Lion (*Panthera leo*).

An eco-pool positioned to face the prevailing winds and therefore lowering the ambient temperature.



Photographing African elephant (*Loxodonta africana*).

“We can safely predict the post-pandemic tourist will become more discerning and demanding.”

SERVICE PROVIDER

There are two categories of providers.

Firstly, the impostors using the ‘eco’ logo and claim, but have no desire or plan to be eco-compliant and use the term in marketing for self-enrichment. They feel threatened by the concept of implementing standards and eco-grading.



The *second* group must be the backbone of the industry. They strive to comply, improve and implement eco-standards. A credible eco-grading status can be the most valuable marketing tool for a sustainable business and reputation.

Clearly, the current lack of standards and grading process is frustrating and even disheartening for the serious eco-service provider.

Unfortunately, many service providers are keen to adjust, but lack the knowledge or expertise to make the transition to ecotourism.

“The International Ecotourism Society (TIES) defines responsible tourism or ‘ecotourism’ as ‘responsible travel to natural areas that conserves the environment and improves the well-being of local people.’”

(TIES 1990).



Installation of drop-down light fittings made from reclaimed glass bottle pieces and wires and using LED lights.

“It is essential to have access to the information and guidance and the know-how to make the leap to credible ecotourism.”

SOLUTION

The current challenging times must provide the impetus how to move forward. Now is the opportune time for all the concerned and involved role players to meet collectively and plan to move forward. Here we include hotel/lodge owners, consumer groups, travel advisers and hospitality decision-makers with input from the governing bodies. Any other interested industry body, e.g. Game Ranchers Forum, WRSA, and academic institutions, will be welcome to join forces. The aim will be to establish a workable and sustainable module for ‘eco-grading’ not only for the conscientious traveller and sustainable environment, but also for the benefit of the individual as well as the country’s tourism industry.

African buffalo
(*Syncerus caffer*).





“It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change.”



Eco Explore Africa was established for eco-graded establishments that are verified to be truly ‘eco’; to present sustainable tourism-related information as a community service to assist the prospective traveller to make an informed choice; and to build an eco-minded travellers community platform that puts the consumers (travellers) and service providers in touch and gives comprehensive information on eco-sustainable travel accommodation ethics.

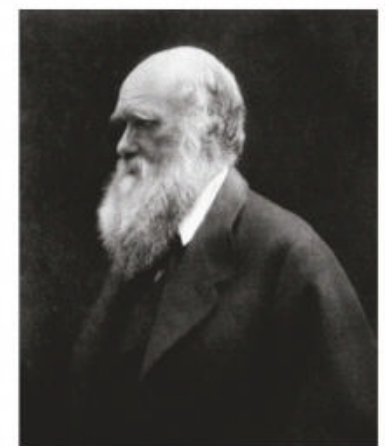
Contact us for more information and assistance:
✉ eea@ecoexplore africa.com

The solution on offer is to unite all the current and future eco-establishments into a working association that promotes and provides support and guidance on sustainable tourism. Eco Explore Africa is in the process of establishing an ecotourism association to provide a link to certified establishments and the tourists. We invite interested parties to contact us at Eco Explore Africa for joining the association – website: <https://ecoexplore africa.com>



Eco Explore Africa can also assist the establishments to achieve and/or assess the required eco-standards. Refer to the article on page 110, *Responsible Tourism – Is Ecotourism Just A Buzzword?* ■

To paraphrase Charles Darwin: “Adapt or perish.”



Charles Darwin
1809 – 1882



Private Game Reserve



Buffalo Kloof Private Game Reserve is located in the scenic **Eastern Cape** province of South Africa. Privately owned and operated by Warne and Wendy Rippon, Buffalo Kloof started in 1999 as a 5 000 hectare family getaway. Slowly but surely, Warne's vision to expand Buffalo Kloof into a bigger reserve with free-ranging animals became a reality, evolving into 20 000 hectares of a veritable Eden of diverse flora, fauna, and ecology featuring four different flora biomes, with no internal fencing.

"We are dedicated to living this dynamic of 'making a difference' every day, and persevering to make the Buffalo Kloof experience an unforgettable one – which our valued international and local guests eagerly return to year after year," says Warne.



Spekboom Camp tree cottages.



Warne and Wendy Rippon. Warne was announced as the overall winner of the WRSA Eastern Cape 2019 Wildlife Rancher of the Year Award. Warne and Wendy were also announced as winners in the category Conservation Rancher of the Year.



Spekboom Camp



A more personalised experience, Buffalo Kloof's accommodation comprises of two lodges.

Spekboom Camp is simplistic yet comfortable. With no fences surrounding the camp, wildlife roams freely through the camp, offering guests a real African experience.

This camp is for exclusive bookings and offers a perfect place for people wanting a private safari. The camp consists of a central living area and individual tree house bedrooms immersed in the bush.

Spekboom Camp comes with a 10-open seater land-cruiser and a tracker, allowing you to take unlimited game drives tailored to your individual preferences (minimum two-night stay).



Scan the QR code or visit [youtube/C99uiQaCtq0](https://youtube.com/C99uiQaCtq0) to watch the video: 'Spekboom Camp at Buffalo Kloof'.

Acacia Lodge



Acacia Lodge is a comfortable and spacious original farm homestead. Both are the perfect **private place for families and friends** to spend a memorable time around the outdoor fire pit or on the veranda overlooking the beautiful Eastern Cape hills. The carbon footprint is minimal.

The lodge has four bedrooms with en suite bathrooms, also including private outdoor showers and underfloor heating.

Many animals including rhino, hippo, giraffe and small grazers can often be seen from the couch on the verandah or from the boma at night.

CONSERVATION | OUR STORY



Buffalo Kloof Private Game Reserve team.

Buffalo Kloof takes their responsibility toward neighbouring communities very seriously and realise that reciprocity has an important and ongoing role to play here too. A good example thereof is the symbiotic relationship with their neighbouring Yendella community. The overall aim is to mentor the community in various aspects of conservation, thereby empowering them to achieve long-term financial self-sustainability.

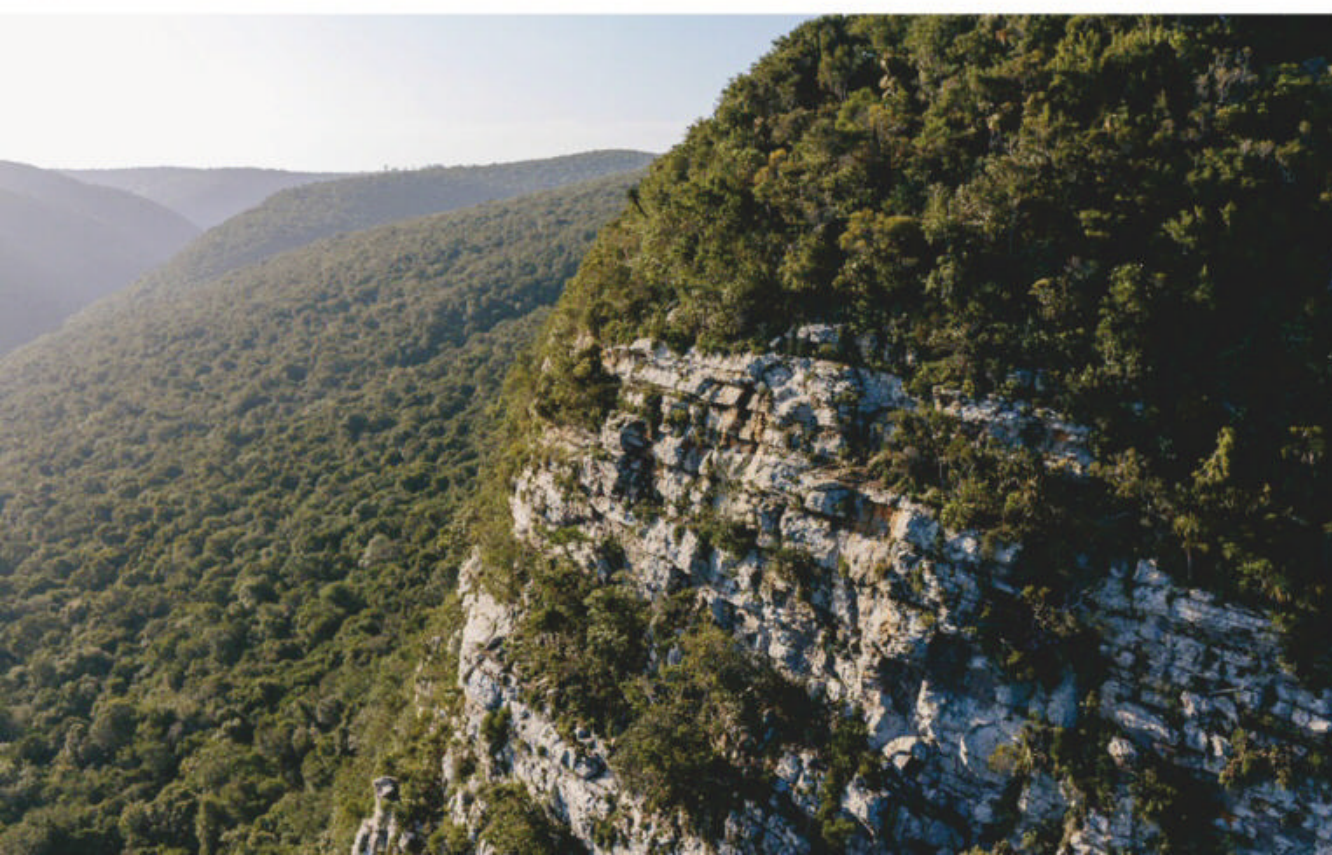
Various Buffalo Kloof-managed initiatives are being implemented.

Women from the community are being trained to sew, knit, crochet and make beadwork products that they can sell to visitors and tourists. The crafting skills they are learning will help them become more financially independent going forward.

Buffalo Kloof pays a monthly rental for a long-term lease of a portion of community-owned land that is not suitable for crops or cattle grazing. Suitable candidates from the community are trained as game rangers – this will enable

them to seek further employment in the game industry. Buffalo Kloof have furthermore installed a borehole at their own cost – using solar-powered panels – to generate energy to pump borehole water for the Yendella community's household use and crop irrigation. For the first time, there is a readily accessible water supply to this community.

The ultimate goal of all these initiatives is to slowly but steadily empower the Yendella community to create a sustainable source of income.



“Buffalo Kloof is very proud to play their part in protecting South Africa’s wildlife as well as South Africa’s heritage for years to come.”

Black Rhino Range Expansion Project

“The key to successfully protecting our endangered animals is to have the land, and without a suitable habitat, we have nothing.

If Africa loses its endangered species and wildlife, it will become a forgotten continent.

It is therefore our duty to protect Africa’s wildlife,” explains Warne.

His passion is to provide a natural area through **range expansion for critically endangered animals to roam free**. Involving and educating the community in the Black Rhino Relocation Project has helped dramatically reduce bushmeat poaching, since the community has come to understand that without the wildlife, Buffalo Kloof cannot be sustained. Protecting their own livelihood means protecting the wildlife that surrounds them.

As part of Buffalo Kloof’s efforts to continuously push the boundaries in conservation, it is a proud custodian to black rhino through conservation-within-the-community partnerships. This project is a joint venture between the Eastern Cape Parks and Tourism Agency, private and communal landowners, facilitated by WWF’s Black Rhino Range Expansion Project.

Black rhinoceros
(*Diceros bicornis*).

“The primary focus is to protect the critically endangered black rhino and assist in creating sustainable new breeding populations.”

Scan the QR code or visit
youtube.com/djbtWiCxNM
to watch the video: ‘Black Rhino Range Expansion Project’.





sustainability, conservation, and the community at Buffalo Kloof. Guests are offered the opportunity to take part in conservation by assisting in a rhino notching. Once a rhino calf reaches a certain age, we notch their ear for identification purposes. Guests are able to assist the wildlife veterinarian to administer medication, monitor the animal under anaesthetic, and name the rhino. These funds enable us to pay for the rhinos to be notched, which helps our rangers identify these animals in the bush. This is crucial for their protection against poachers.

Privately and personally hosted is Buffalo Kloof's uniqueness. There are a variety of options on offer for guests to select from, depending on how they wish to spend their experience and contribute to

Ethical **harvesting** is another option where guests can contribute to the sustainability and management of game on the reserve. This is only offered ethically and responsibly. The funds generated from harvesting



African buffalo
(*Syncerus caffer*)

our fast-breeding animals are used to protect and conserve our natural spaces and endangered species. **Keystone species: elephant, cheetah, leopard and rhino are not harvested.**

Leopard (*Panthera pardus*)
veterinary procedure.





Scan the QR code or visit
youtu.be/eB4RfqUZcLk
to watch the video: 'About
Buffalo Kloof'



Buffalo Kloof is also home to three recently relocated elephant families, one of the families having been relocated from an over-populated elephant reserve. The most recent elephant family arrived from a very poorly managed reserve with no food or water. The elephant families have all adapted and settled very easily.

The Albany thicket together with the savannah type grasslands provide the ideal vegetation for many of the species to be found at Buffalo Kloof. Much effort has been taken to farm the soil via the rehabilitation and optimisation of the land literally from the grassroots level upwards by ongoing phosphating and fertilisation projects. This has allowed the regeneration of grass for all wildlife dependent on it.

buffalokloofsafaris.co.za



Buffalo Kloof is part of the Signature Wildlife Legendary Genetics group, which have each year successfully showcased and sold the finest genetics available from the Eastern Cape region.

Buffalo Kloof is proud to be consistent in their efforts to achieve holistic and innovative game and land stewardship and management. ■

"Our key passion is to provide a natural space for critically endangered animals to thrive and roam free. In order to sustain this model, we offer private safari experiences, ethical harvesting, photographic safaris and an opportunity for guests to understand and contribute to first-hand conservation."



web.facebook.com/buffalokloof/



African bush elephant (*Loxodonta africana*)

Private Rhino Conservation

DIVERSE STRATEGIES
ADOPTED IN RESPONSE
TO THE
POACHING CRISIS

by Hayley S. Clements, Mike Knight,
Pelham Jones, and Dave Balfour
Photos © Quintus Strauss

White rhinoceros or
square-lipped rhinoceros
(*Ceratotherium simum*).

Towards the end of 2018 private landowners in South Africa conserved roughly 40% of white rhinos globally and that figure may be closer to 50% in mid-2020. For the past decade these rhino owners, together with their counterparts in formal state conservation, have battled a ten- to twenty-fold increase in poaching activity. The levels of poaching have been such that scientists have warned of the risks of extinction within decades if current trends are continued.

Despite these concerns, and until recently, there has not been a nationwide assessment of trends in how private rhino owners are responding to the poaching crisis and whether the financial benefits from rhino ecotourism, trophy hunting and live sales remain sufficient to offset increased security costs and financial risks arising from keeping rhino.



Understanding that private landowner involvement in conservation in South Africa has different motivations, and in an attempt to better understand how many rhinos there are in private hands in the country as well as to understand the responses and attitudes of their owners, a countrywide survey of around 300 properties was undertaken in 2015, and repeated in 2018, under the banner of the Private Rhino Owners Association (PROA). This work has provided us with useful insights, some of which have now been published in scientific literature.



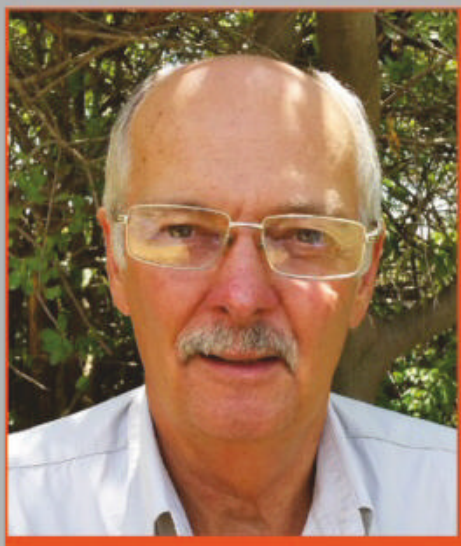
Dr Hayley S. Clements is an interdisciplinary conservation scientist who is interested in applying social-ecological systems thinking to identify resilient and equitable conservation opportunities in a changing world. Her PhD at the University of Cape Town (South Africa) assessed the social-ecological drivers of private land conservation in South Africa.

@ clementsHayley@gmail.com



Dr Mike Knight trained as a wildlife ecologist and has spent most of his career within South African National Parks. Involved in rhino conservation for the past 20 years, Mike has been chairman of the SADC Rhino Management Group (RMG) before and is now chairman of the IUCN SSC African Rhino Specialist Group (AfRSG) since 2011.

@ M.Knight@nmmu.ac.za



Chairman of the Private Rhino Owners Association (PROA), Pelham Jones has over 30 years' conservation experience and is a private reserve and rhino owner. He is a member of the IUCN SSC AfRSG and the SADC RMG. In September 2009, PROA was established under his guidance and today it is recognised as a national body to lobby for and co-ordinate assistance to private reserves faced with poaching pressure.

@ pelham@vibe.co.za



Dr Dave Balfour is an ecologist with 25 years' experience researching, planning, and managing protected areas in South Africa. He is a member of the IUCN SSC AfRSG and the IUCN African Elephant Specialist Group. He is the Chair of the SADC Rhino Management Group (RMG) and a member of the team conducting the current Red List assessment of the African Elephant.

@ environ1@mweb.co.za

Scan the QR code or visit dx.doi.org/10.1111/conl.12741 to access the full report, 'Private rhino conservation: Diverse strategies adopted in response to the poaching crisis', Hayley S. Clements, Mike Knight, Pelham Jones, Dave Balfour. First published: 15 June 2020.





Here we share some of what we have learnt.

Rhino numbers

On the question of how many white rhinos there are in private hands in South Africa and how that compares to the total number in the country, the pattern is clearly illustrated in Figure 1.



Owner responses

The analyses of the survey results showed there are three distinct groups of responses of private rhino owners to the poaching pandemic. Based on the responses we labelled these owners as follows:

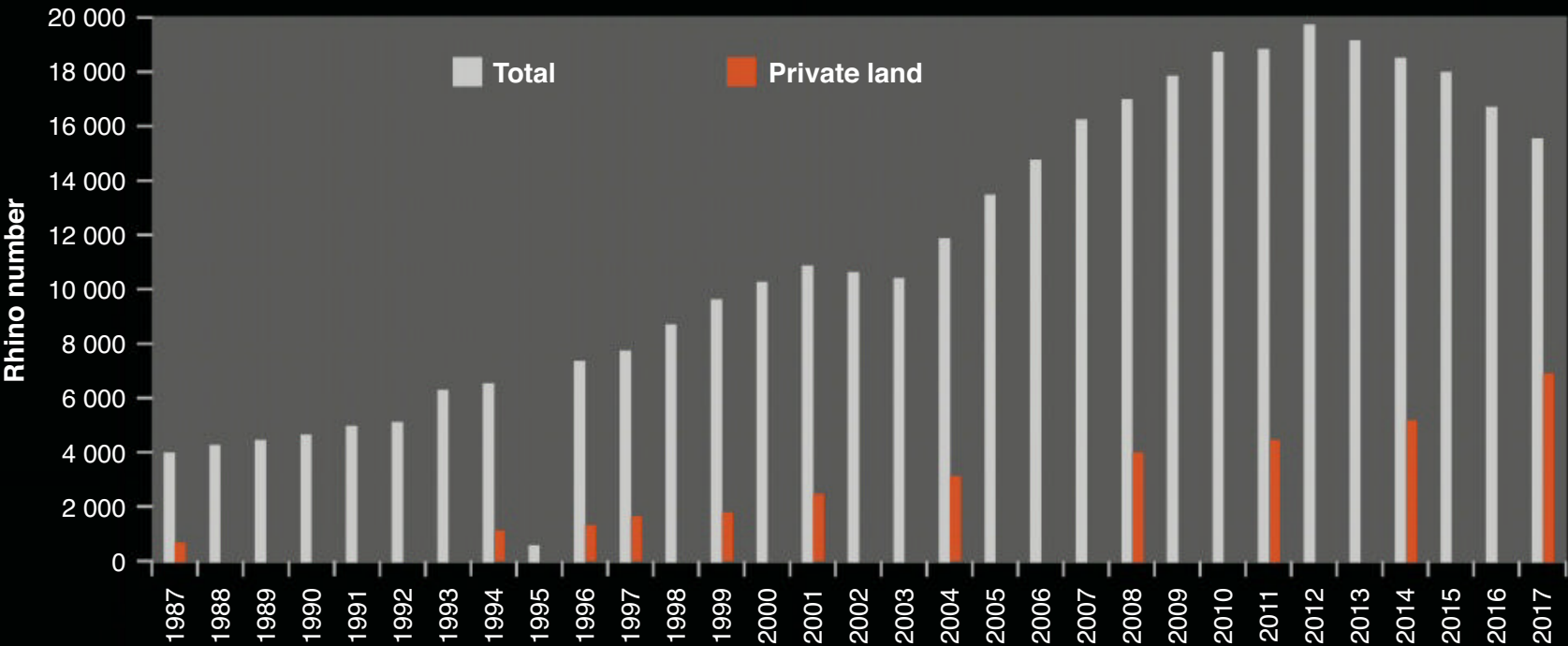
- 1 **'dis-investors'** who are selling their rhino to reduce their risk exposure,
- 2 **'business-as-usual'** group who are seeking to continue operating pretty much as they have been doing,
- 3 **'investors'** who are actively buying rhino and increasing their populations.

The survey shows the largest group is those engaging in business-as-usual, who represent 57% of the total and interestingly they are also largely those pursuing ecotourism. The dis-investors is the second largest group representing 28% of rhino owners and 15% are investing in more rhinos.



All groups had responded by increasing security costs (>ZAR1.5 million/property on average in 2017).

Figure 1



Source: Emslie 2018 and PROA



Dehorning as a costly security measure. Regardless of whether private rhino owners are already opting out, investing or continuing as usual, many are experiencing rising costs. The majority support legalising international horn trade to equilibrate the cost-benefit ratio.

Group attitudes

Most rhino owners support the legalisation of horn trade as well as the intensification of rhino management and many would participate in both these activities (see Table below).

Characteristic	Dis-investors	BAU*	Investors
Average security costs (in 2014 in ZAR1 000)	598	143	366
In support of legal trophy hunting (%)	85	49	93
In support of legal horn trade (%)	93	77	93
In support of intensification (%)	75	69	79
Participate in legal trophy hunting (%)	30	13	33
Would participate in legal horn trade (%)	86	70	100
Would participate in intensification (%)	46	29	60

* BAU – Business-as-Usual

Policy implications

Enabling private rhino ownership has diversified rhino conservation options in South Africa, and Figure 1 suggests a growing reliance on private land for white rhino conservation. However, regardless of whether private rhino owners are already opting out, investing or continuing as usual, many are experiencing rising costs, and there is uncertainty around the resilience of rhino conservation on private land into the future.

The findings of the survey highlight a global need for policies on wildlife to keep pace with dynamic socio-economic changes (e.g. increased illegal trade, changing market dynamics, an increasing anti-hunting lobby, local institutional contexts, global economic shocks such as that caused by the SARS-CoV-2 pandemic), amidst criticism that international policies such as CITES are misaligned with national-level strategies for conserving wildlife.

From this work, we have identified two key policy considerations.

Firstly

Firstly, theory suggests there is a generally positive relationship between the diversity of elements in a system and system resilience. For example, in more diverse ecosystems, it is less likely that disturbance that causes species losses will cause the loss of entire ecosystem functions, due to diversity in species' responses to the disturbance. It can be hypothesised that the involvement of private landowners in rhino conservation increases South Africa's resilience to the poaching crisis (i.e. the country's capacity to conserve rhinos in the face of poaching), and that this increased resilience is achieved by increasing the extent of rhino habitat, doubling the number of rhinos, and through the diverse responses of individual rhino owners to a crisis (in this case poaching),

which may increase the likelihood of at least one response strategy (in this case dis-invest, business-as-usual, invest) contributing to conserving rhinos.

It will however be important to track these insights and to understand how the situation changes over time and with changing circumstances. This means that effective monitoring should be put in place so that decision-makers are in a position to understand these changes.

Secondly

Secondly, with the levels of support for legal trade in rhino horn, there is clearly a need to continuously adapt and align international and national policies to incentivise rhino management in a manner that advances the conservation of the species. Equally it is necessary to seek to avoid introducing perverse policy incentives that lead to forms of rhino management that are detrimental to their conservation, including the complete disinvestment in rhino.

Conclusion

The information received from the survey among private rhino reserves in **2015** and **2018** illustrate the challenges and expectations of private owners. This data in turn is essential when discussing policy both within South Africa and the CITES community. The past assistance by private rhino reserves in supplying this sensitive and confidential data must be recognised. ■

ACKNOWLEDGEMENTS AND DATA

The collection and collation of the PROA members' data was undertaken by Dave Balfour and supported by the Department of Environmental Affairs, South Africa (2015) and the IUCN (2018). Hayley S. Clements was funded by a Claude Leon Postdoctoral Fellowship and a Jennifer Ward Oppenheimer Research Grant. Data can be requested from PROA (not open-access due to data sensitivity). Research was approved by Stellenbosch University Human Research Ethics Committee, reference 11333.

PROA thanks all members that participated in the survey and strongly encourages all owners to participate in future surveys.



✉ info@rhinoalive.com
🌐 www.rhinoalive.com



White rhinoceros
or square-lipped
rhinoceros
(*Ceratotherium
simum*).



MATE CHOICE!

Mate choice, reproductive success and
inbreeding in white rhinoceros: New insights
for conservation management

By Dr Petra Kretzschmar
Photos courtesy Thaba Tholo Game Farm



years ago, William Conway, a pioneer in conservation breeding, noted that breeding farms and ranches will be needed to provide sufficient land for conservation of species (De Wildt et al, 2019). Today, we are in a period of mass extinction. The survival of many species, especially that of large herbivores in Africa, is threatened by poaching, habitat loss and resource competition with livestock. As a consequence, the available land for conservation is scarce and many species are isolated in islands of protected areas, which are only fractions of their historical range (Ripple et al, 2015).

Game farms, which are large enough to sustain herbivore populations such as African rhinos, are therefore becoming more important for the protection of these highly endangered species. Currently they hold nearly half of the South African rhino population and have higher budgets for their protection than state-owned conservation areas. In the near future they may even become the last refuges for the species.

However, **the conservation of isolated rhino populations is challenging**. Currently the poaching crisis is the main threat for the survival of the African rhinos. Every year hundreds of individuals are slaughtered for their horn and the protection against poachers costs a fortune. Yet, there is another threat to the survival of the rhinos that has so far been neglected – the low genetic diversity of the species and the risk of a further reduction in diversity due to inbreeding.

“There is a threat to the survival of the rhinos that has so far been neglected.”



Dr Petra Kretzschmar

Research fields and interests

I am working with free-ranging and captive African and Asian rhinos on private game farms in South Africa as well as in a national wildlife reserve in Asia. My work involves research as well as dialogues with politicians, NGOs and the industry. My research interests include mate choice, territorial behaviour, habitat use, conservation of endangered species, habitat restoration and captive breeding.

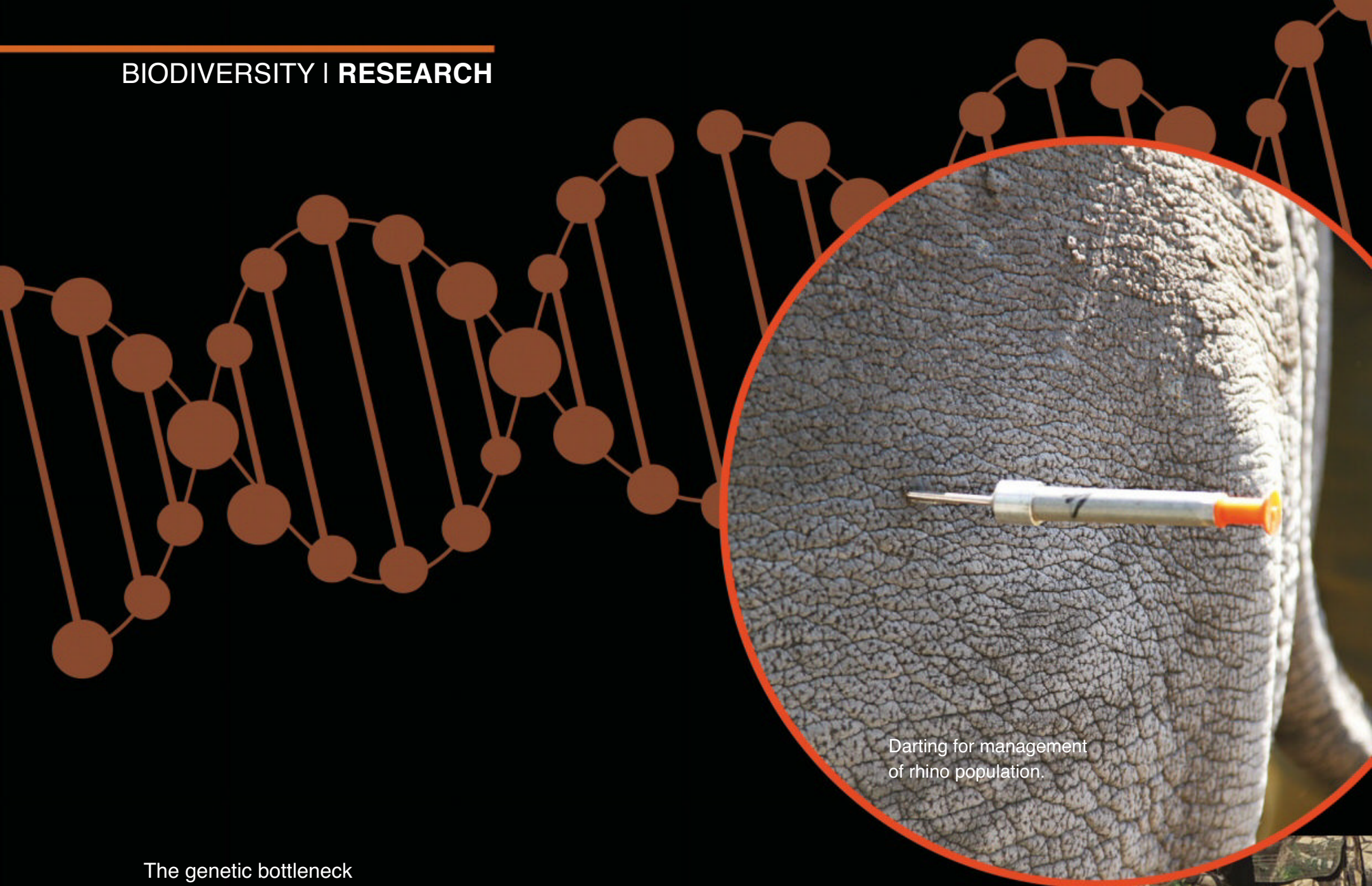
Dr Petra Kretzschmar Scientist at the Leibniz Institute for Zoo and Wildlife Research in the Department of Evolutionary Ecology

Director of the Rhino & Forest Fund

Member of the IUCN Asian Rhino Specialist Group

Sabah Rhino Project Coordinator

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Darting for management of rhino population.

The genetic bottleneck experienced by the white rhinoceros during the colonial period and several population crashes in prehistoric times (Moodley *et al*, 2018) lead to the fact that the white rhinoceros has a much lower genetic variability than any other rhinoceros species (Guerier *et al*, 2012). Inbreeding depression, such as juvenile mortality and abortions, have not been described in white rhinos yet. However, it is likely that a further reduction in the genetic variability of the species will result in reproductive problems, which are known from many other species, including various ungulates (Ralls *et al*, 2008).

In addition to these rather short-term problems, the rhino may also lose its adaptive flexibility (Ralls *et al* 1979; Frankham *et al*, 2002; Giglio *et al*, 2016)

“One of the major challenges for the preservation of the white rhino is therefore to identify the risks that individual rhino populations are facing and to minimise these risks by managing interventions.”

and may thus not be able to adapt to changing environmental variables, such as climate change or new emerging diseases.

This leads me to my study on the mating behaviour of the white rhinoceros at the Thaba Tholo Game Reserve in South Africa.





The aim of this study was to assess the degree of inbreeding in white rhinos. In particular, I wanted to find out whether females are able to choose unrelated males as mating partners, which would enable them to actively avoid inbreeding. Additionally, I wanted to establish whether females mate equally with all territorial males in a population or whether they prefer a territorial owner that is characterised by certain male and habitat characteristics.

“The aim of this study was to assess the degree of inbreeding in white rhinos.”

At that stage we only knew that white rhinoceros have a territorial-based mating system, where adult males that are old and strong enough to defend their own territory, dominate all mating activities. It was also known that young sexually mature males between seven and nine years of age do not defend a territory and do not to participate in breeding (Owen-Smith, 1975; Rachlow *et al*, 1998).

The territorial-based mating system reduces the number of breeding males within a white rhino population to a few individuals. A further preference of individual territorial males as mating partners would lead to an even stronger bias in the breeding sex ratio and could result in a high degree of inbreeding.

To answer these questions, I combined 13 years of field observations with genetic paternity assignments of 104 offspring with known mothers. My study thus represents the largest paternity analysis ever performed for any species of rhinoceros. I collected various data of individual animals, such as the body and horn size of territorial males, the food quality in the male territories and the hormone concentration in their faeces.

Additionally, I assessed the degree of relatedness between males and females to identify whether females avoid close related males as mating partners.

I was lucky that I could compare the influence of the different traits on two different groups of territorial males, which were introduced sequentially – with removal of the first set of males – into the same population of females. This was due to the fact that the white rhino population on Thaba Tholo was managed in such a way that all territorial males were exchanged on a ten-year basis in order to prevent inbreeding.

“The white rhino population on Thaba Tholo was managed in such a way that all territorial males were exchanged on a ten-year basis in order to prevent inbreeding.”



Rhino ear-notching, implanting an identification tag and collection of DNA assist owners to monitor and manage their rhino population.

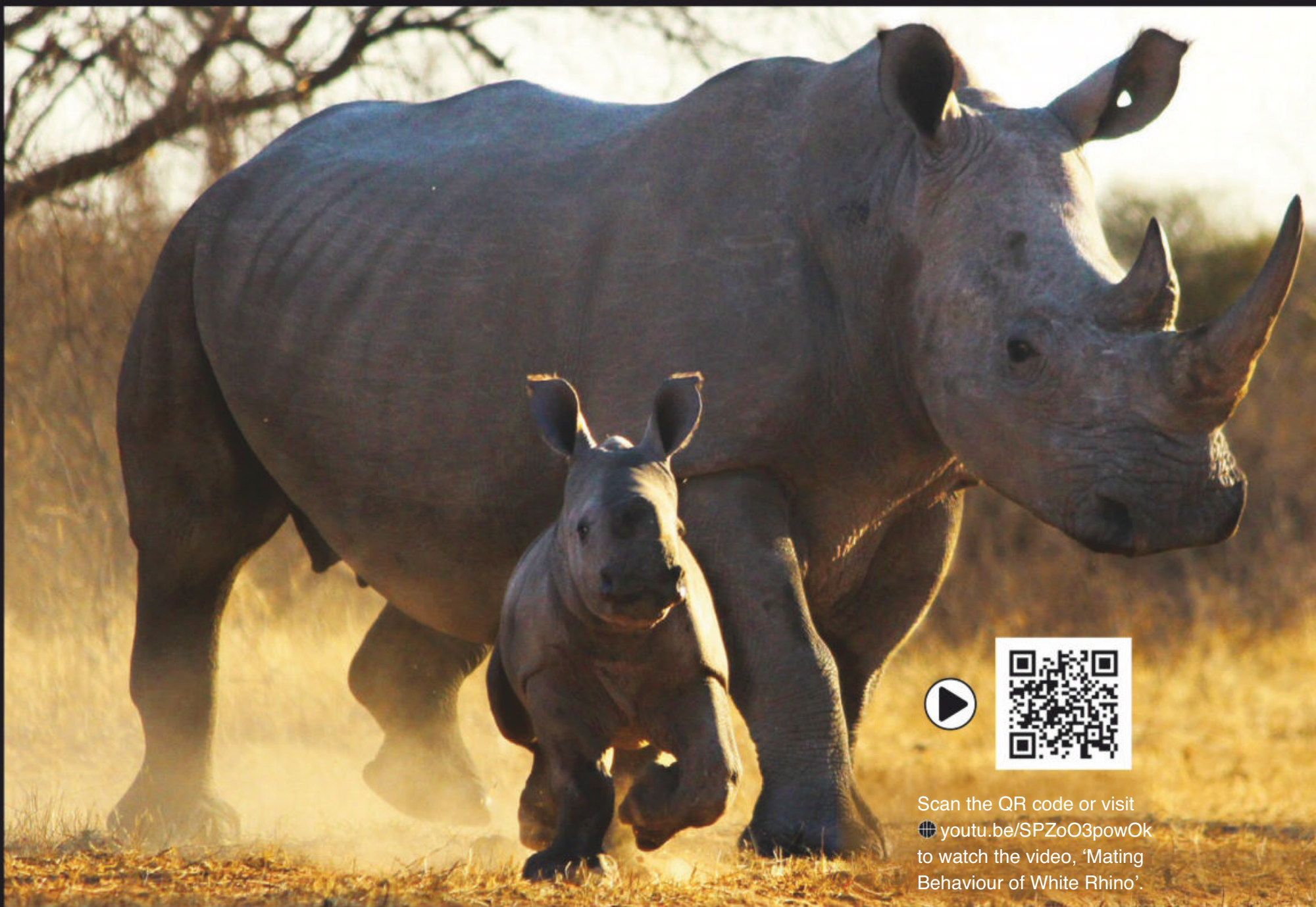


Photo © Robynne Prinsloo

Scan the QR code or visit
youtu.be/SPZoO3powOk
to watch the video, 'Mating
Behaviour of White Rhino'.

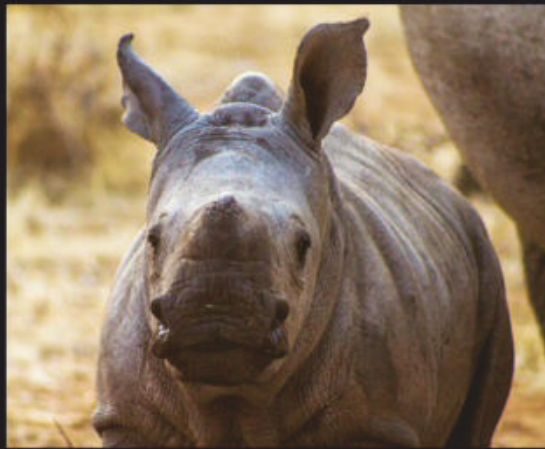
The **results of the study** clearly indicate that the mating behaviour of the white rhinoceros leads to a reduction in the genetic diversity:



- 1** There was a strong skew in the reproductive success among territorial males,
- 2** There was a lack of inbreeding avoidance during mate choice, and
- 3** Half of all females that produced multiple offspring were monogamous and thus mated during consecutive breeding seasons with the same male.

In a natural situation where rhinos can roam freely, this characteristic mating behaviour would not be a problem. Yet, in the current situation where fences and other barriers prevent dispersal and immigration between different rhino populations, it leads to inbreeding and the loss of genetic variability. White rhino therefore need careful management in order to best preserve their already low genetic diversity.

“White rhino need careful management in order to best preserve their already low genetic diversity.”



There are a number of strategies that can be used to increase the genetic variation in isolated rhino populations.

When pedigree information is available, a management option could be to aim to selectively remove monogamous females or males that have sired many offspring. Another option could be to retain individuals with specific rare alleles in the population.

When genetic data is not available, the introduction of individuals from outside of the population is advisable. As mentioned, in the Thaba Tholo population, all territorial males were exchanged every ten years to avoid inbreeding. Nevertheless, I still observed a case of incest, which indicates that the ten-year time period was already too long and should be shortened to six years, the time period when young females reach sexual maturity (Owen-Smith, 1975).

I was not able to identify any environmental factor that clearly influenced the reproductive success in the white rhinoceros.

Nevertheless, knowledge about such traits would help to influence mate preference. For example, the supplement of water or food in certain areas can change the habitat quality (Cinková *et al*, 2017) and thus potentially the reproductive success of individual males.



Calling all private rhino owners! Get involved!

As a follow up of my study, I plan to compare the genetic diversity of several white rhino populations that are kept under different management regimes, such as in intensive breeding camps or in national parks. The idea is to identify the best management measure that helps to prevent the loss of genetic diversity in the species. *For this study I am still looking for samples as well as funding and I highly welcome any kind of support.*

To participate in the follow-up study contact Dr Petra Kretzschmar:
@ kretzschmar@izw-berlin.de

Access the full paper:

🌐 onlinelibrary.wiley.com/doi/full/10.1111/eva.12894



ENDORSEMENT



Dr Michelle Otto



'Spartacus' was rhino calf number 1 000 born at Buffalo Dream Ranch in 2017.

Photos © Quintus Strauss

Dr Michelle Otto, resident veterinarian for John Hume, the largest private rhino farm breeder in the world, Buffalo Dream Ranch.

It is a well-known fact that the southern white rhino have already undergone a genetic bottle neck. Having had their wild number reduced to less than 50 at the onset of the 1900s in a single location, the ability of the southern white rhino to have recovered genetically to several viable populations today is remarkable. Of course, this could not have been accomplished if not for the sustainable conservation programmes that led to the translocation of rhino from this small, isolated population to several other locations such as the Kruger National Park in the 1960s, as well as allowing private land owners to establish their own southern white rhino breeding populations.

This spatial distribution definitely helped relieve pressure on the high degree of inbreeding that must have occurred due to the limited number of individuals left in the wild population in the 1900s. That being said, with the ongoing losses of rhino being poached, as well as loss of present day breeding populations due to disinvestment by rhino custodians as a result of the rising costs of security and the risk involved in taking care of rhino under the current circumstances, proper biological management of the remaining breeding populations is now more vital than ever.

It is our responsibility as rhino custodians to ensure that proper

genetic management is done whenever possible.

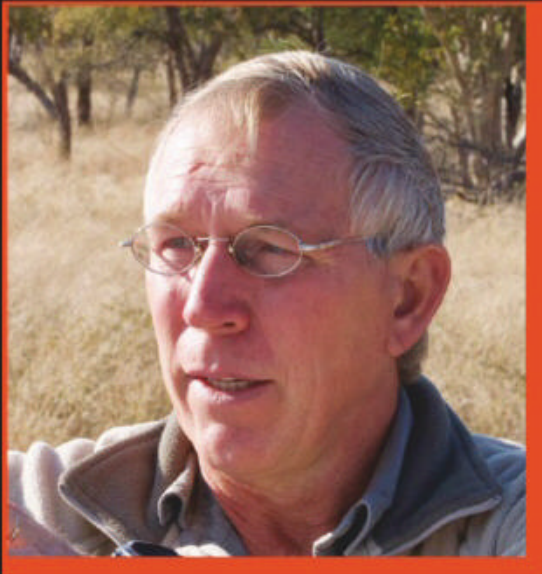
Knowing there is already low genetic diversity in our southern white rhino today, doing more research such as this is important and will become a key component to help rhino custodians make informed decisions and help guide them in the management of their breeding populations. Knowing that rhinos don't have an inbreeding avoidance in mating choice, for example, should motivate us to ensure that we remove progeny timeously from their parents to reduce the risk of further inbreeding if possible. If we as rhino custodians are willing to help one another and share or exchange rhino (or genes) amongst our different breeding herds, we can try and promote genetic variance as well.

We have the ability and knowledge to help this iconic species survive. It falls on us to give them the best chance of recovering from this onslaught and threat of extinction. By working together and making more informed decisions, we can.

Dr Michelle Otto

@ otto.michelle84@gmail.com

ENDORSEMENT



Rubin Els

Rubin Els, former CEO of Thaba Tholo Game Farm.

– stamping her footprint on the African soil. She was relatively inexperienced regarding African bush conditions, and particularly, rhino in the wild. However, when she was thrown into the deep end, it was a sink or swim situation for her, with limited assistance from the Thaba Tholo personnel.

Petra rose to the occasion and did not just manage to survive her first few years in the bush, but continued her research and in so doing, managed to document extremely valuable data.

She collected and processed tons of rhino dung – a seemingly futile exercise at the time, but one that ultimately yielded fantastic results. Many aspects discovered during her research will be of immense practical value to rhino owners, game reserves and the wildlife industry as a whole.

“I am privileged to know Petra as a friend but also as a scientist advisor on all rhino matters at Thaba Tholo. Her research, I believe, will become an invaluable source of information to all rhino owners and keepers.”

Rubin Els

@ info@rhinoalive.com

www.thabatholo.co.za



I have known Dr Petra Kretzschmar since her student days in March 1997. She was awarded an opportunity to do her doctoral thesis on white rhino at the Thaba Tholo Game Ranch by the visionary businessman and conservationist Tilman Ludin.

At that stage, Petra was enthusiastically focused on – and had a dogged determination towards





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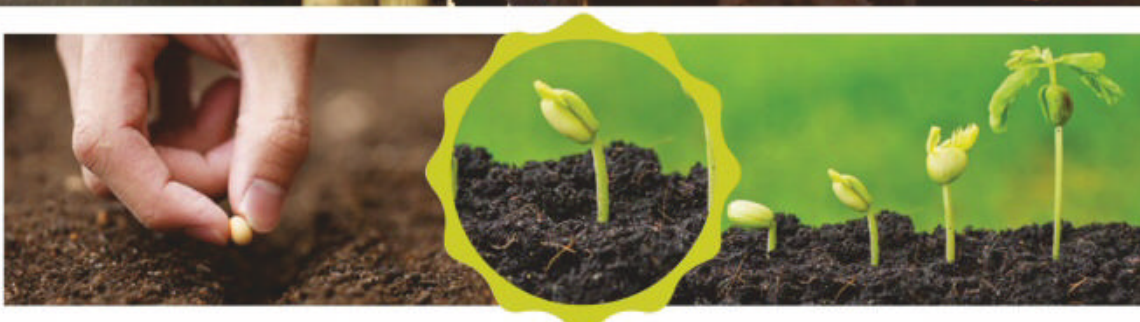




Photo © Gudkov Andrey

Holistic Management Solutions

An interview with Allan Savory



Allan Savory

Allan Savory was born in 1935 in the then Rhodesia. He is an ecologist, environmentalist and global consultant, the pioneer of Holistic Management, a process that helps ranchers and farmers to better manage resources by planning for and integrating all social, economic and environmental factors. He is president and co-founder of The Savory Institute ("SI"), which focuses on holistic management through special projects around the world.

"My earliest observation was that the healthiest land was where we had the most intact wildlife populations with large herds of buffalo and elephant and many lions and other predators."

Our executive team posed some questions to Allan about his work and what it means for conservation today.

Q Could you give us some background on your first holistic management breakthrough in Zimbabwe?

A Allan Savory: There was no single 'aha' moment. From my earliest concerns about the environmental degradation in the Northern Rhodesian Game Department in the 1950s until we broke through in 1984 with Holistic Management, it was a struggle until we could ensure consistent results, but I was determined to solve the problem of seemingly inevitable desertification.

My earliest observation was that the healthiest land was where we had the most intact wildlife populations with large herds of buffalo and elephant and many lions and other predators. I learned much from a 'drought' in the Limpopo basin and Tuli Circle in the early 1960s. As the research officer responsible, I watched some 50 000 head of

“Desertification is a fancy word for land that is turning to desert.”



Scan the QR code or visit
www.youtube.com/watch?v=vpTHi7O66pl to watch
 the video: ‘How to green the
 world’s deserts and reverse
 climate change | Allan Savory’.
 Produced by TED Talks.

game die because of ‘drought’, but the International Red Cross was collecting money in Bulawayo for flood victims in Mozambique. It did not make sense that the drought in the upper Limpopo in South Africa, Botswana and Rhodesia produced the floods in Mozambique. From that, I was able to develop the concept of effective versus non-effective rainfall, so vital to understanding global desertification. Only now, almost 50 years later, is this beginning to be taught in universities.

Q What does ranching for profit mean to you?

A Allan Savory: This was a derivation of my work in about 1982, before Holistic Management. While it helped some ranchers, I wouldn’t recommend it to anyone concerned with the future of wildlife; it doesn’t address the cause of flawed management and policies.



“I was able to develop the concept of effective versus non-effective rainfall, so vital to understanding global desertification. Only now, almost 50 years later, is this beginning to be taught in universities.”

Photo © Gudkov Andrey.



The Zambezi National Park river bank destruction and loss of biodiversity on what were stable banks covered with vegetation in my youth. The Zambezi National Park is a national park located upstream from the Victoria Falls on the Zambezi River in Zimbabwe. It was split off from the Victoria Falls National Park in 1979 and is 56 000 hectares (140 000 acres) in size.

Q What is the significance of your studies in terms of the management of natural veld conditions?

A Allan Savory: What we call ‘veld’ occurs in brittle environments, regions with long dry periods, and where grass provides most of the soil cover – about two thirds of the world’s land. In all environments, soil, soil life and plant and animal life co-evolved; in the brittle environments, this included much higher numbers of large grazing animals and their predators than we can even imagine today. When a high percentage of the soil between grass plants becomes bare, the available rainfall loses effectiveness – the beginning of desertification. In perennially humid environments, soil remains covered between plants despite bad management, but not so in the vast brittle environments, including southern Africa. Contrary to our beliefs, too few animals are a major reason here for bare soil between plants and subsequent desertification.

“The significance of my work is greater understanding of the role of large grazing animals and their predators in the world’s brittle environments.”

In the veld, only three things have been found to lead to millions of hectares of largely bare soil between plants. The first is ‘partial rest’, resulting from too few large grazing animals spread out and unbunched. The second is overgrazing of plants by too few animals, with insufficient movement. The third is burning, which always exposes soil. All three have been standard practices worldwide, and so the extent of global desertification and increasing frequency and severity of droughts and floods is not mysterious. Tragically, burning has been the standard answer to dying grasslands, to provide a green flush of grass for wildlife.

Partial rest is a counter-intuitive concept. Picture the boundary of a national park in the USA. On one

side of the fence, all livestock has been removed for some 80 years, with vast sums of money spent on soil conservation, even restricting people to walking on paths to protect the algae crusting the soil. This is supported by most people and institutions. On the other side, we have ignorance, greed and stupidity with people overgrazing and overstocking, mainly sheep and cattle, with no soil erosion control. The outcome is the same because the main influence on the land is rest – total on the park side (no animals or their trampling, dunging, urinating and grazing), partial on the native community side (overgrazing of plants and too few animals scattered too widely to impact the land and trample the soil or lay down litter to cover soil). Both result

in severe desertification and loss of biodiversity. The significance of my work is greater understanding of the role of large grazing animals and their predators in the world's brittle environments.

Q How will the Savory Institute take your work into the future?

A Allan Savory: Through a global network of locally led and managed Holistic Management hubs connected through SI as one node in this network. There are currently about 30 such hubs, from Patagonia to Canada, South Africa to Sweden, Turkey and Australia, with more forming as I write. Millions of hectares of land are now being managed holistically on six continents. The first of these global hubs was the Africa Centre for Holistic Management near the Victoria Falls and the first South Africa hub has formed in the Cape. Michigan State University in the USA is the first university-led hub.

“Reductionist land management cannot continue as it is; it needs to be holistic.”

Reductionist land management cannot continue as it is; it needs to be holistic. Leadership in counter-intuitive thinking can only come from ordinary people, and never from any organisation or institution, and that is now happening with the Holistic Management hub movement. Farmers, ranchers, pastoralists, researchers and people in government agencies are all collaborating. Millions of people worried about the quality of their food are joining in. More recently, the fashion industry seeing their role

in ensuring that natural fibres are produced in a truly regenerative manner – regenerating the soil, soil life, biodiversity and communities and economies. This is not unlike the wildlife ranching industry that did not arise from any leadership from any institutions but by ordinary people seeing that it made sense.

Q How do you view current global conservation initiatives, and which are likely to succeed?

A Allan Savory: Leaving nature to restore biodiversity is the most powerful action we can take in humid or near-perennially humid environments. This is why we find the ruins of past civilisations in these regions under recovered forests. No matter how damaged the land, it recovered when rested.

The same conservation aimed at restoring biodiversity in brittle environments where there are prolonged periods of dryness every year is simply not working. This is why we find the ruins of past civilisations in desert sands in these regions. If such conservation was working, we would not be witnessing the worst loss of biodiversity and land degradation in the national parks and teak forests where I live.

Thankfully, we can rectify all of this and regenerate our grasslands, savannahs and deciduous dry forests as soon as the public insists on holistic management and policy. Almost all of the knowledge required is available in our communities, universities, farmers, ranchers etc.

We continue to lose biodiversity and increase desertification through flawed reductionist management at all levels.



Zambezi National Park severe loss of biodiversity and wildlife habitat destruction.



Zambezi National Park habitat destruction and consequent loss of biodiversity.



An example of ‘partial rest’, which is a counter-intuitive concept that results in severe desertification and loss of biodiversity.

NUTRITION



Dimbangombe stabilising river banks and improving wildlife habitat.



Dimbangombe Africa Centre for Holistic Management (Zimbabwe) river bank stability with regeneration of habitat for most wildlife. Some larger animals (buffalo and elephant) are shared with surrounding parks. This habitat improvement brought about by increasing animal numbers (using a land management herd of 500 cattle) and not by resting or reducing use.



Allan Savory at the Dimbangombe College of Wildlife, Agriculture and Conservation Management – an accredited college by Zimbabwe’s Ministry of Education located just outside the Victoria Falls in Zimbabwe. It is situated on a 19 500-acre (79km²) property and mainly used for research and training. It was established by Allan Savory’s Africa Centre for Holistic Management (ACHM) in 1998.

Q Can you describe the difference between reductionist and holistic management since this would seem to be the crux of the matter?

A Allan Savory: Management occurs at two levels: grassroots and policy, leading to laws and regulations that dictate management practices. The principle is the same at both levels. No management situation can avoid a web of great social/cultural, environmental and economic complexity. When we manage anything we do so by taking actions to achieve objectives – but before we take any action we need a reason, or context, for that action.

Even in cases where whole teams of highly trained specialists develop policy, and even when they are all fully aware that the policy will have social, environmental and economic consequences, the entire focus is reduced to the problem at hand, which is why conventional management is reductionist. It results in unintended consequences. For example, policies of governments, and environmental and development organisations, increases conflict. They fail to address the fact that people have different objectives.

The first two steps in Holistic Management are incredibly important because they help prevent conflicts.

“The first two steps in Holistic Management are incredibly important because they help prevent conflicts.”

We do always have a reason of context for our actions. Think about this and you realise it is always things like – to meet a need, desire, make a profit or to deal with a problem. And that is too simplistic for management in a holistic world.

1 First, you establish what is being managed: ranch, farm, national park, ocean fishery or tropical forest? Development project or policy? Who makes the management decisions or develops the policy or project, and for whom? In doing this, we identify who have veto power: those who can just say no, and those who can mobilise public opinion. And we identify those who influence, or are influenced by, the management or policy, whose support we need.



African bush elephant (*Loxodonta africana*), Lower Zambezi National Park.

Photo © Gudkov Andrey.

2 Second, we gather together the managers, including those with veto power and those public opinion influencers to develop what is known as a holistic context. It's new: the idea of one single holistic context for any management or policy.

The holistic context is a deeply thought out and agreed statement of how people want their lives to be: based on their culture and values. How they want their lives to be is then tied to their life-supporting environment: not as it is today but in the healthy condition it will have to be hundreds of years from now, for their descendants to be living similar lives.

“The people who develop the holistic context have to be in total agreement on the context before any objectives or actions are considered.”

Throughout this process there is no discussion of objectives, problems or actions. The people who develop the holistic context have to be in total agreement on the context

before any objectives or actions are considered. Only in the light of that holistic context can any idea or solution be judged wise or unwise. Achieving total agreement on the holistic context without any compromise resolves or prevents conflict. This I have experienced even in cases of severe and angry disagreement where people began by stating emphatically that agreement in their community was impossible.

Over many years of helping people to develop their own holistic context I have yet to find disagreement. What a poacher wants and what the head of the WWF wants do not greatly differ. The holistic context is 0% how to achieve the ideal desired and 100% what people want.

Once you develop the holistic context you then get on with managing much as you do today. You still have objectives to meet, profits to make, problems to deal with, etc. You consider many factors, such as past experience, research results, expert opinion, cash flow, profitability or friends' advice. But before any decision is finalised, ask yourself if your actions

are socially, environmentally and economically in context, your own holistic context?

This also involves using the latest science; but, when new actions affect the environment, no matter the backing by research, we assume we could be wrong and establish a feedback loop and monitoring to make the management proactive rather than adaptive or reactive, as practised for centuries.

That, briefly, is Holistic Management. It is rapidly teachable and, in more than half a century of training people – from those with doctorates to non-literate villagers – I have never yet found that ignorance blocks learning. I have often seen how our knowledge, beliefs and egos block learning. And that starts with me. My years of struggle to develop a management process that would produce consistently sound results were almost entirely due to what I knew from university training. It stopped me seeing the obvious. I had to learn to set ego aside – to strive for something beyond any concern for self and be willing to acknowledge mistakes.

“The best hope future generations have of saving elephant, rhino and other animals in the wild is with the full support of the people living among them.”



Q What would you do differently today, as a game rancher? What advice would you offer game ranchers in southern Africa?

A Allan Savory: Archie Mossman and Ray Dassman (both US Fullbright Scholars at the time) and I were involved at the infancy of today's game ranching. I'm aware of the original concept we envisioned of ranching game *in situ* in the wild, and how it has shifted to largely managing captive populations in fenced areas. I am also aware and appreciate the fact that it has become the enormous industry that has saved, for the moment, many animals on large areas of land in southern Africa.

My main advice would be, first, to avoid the path of concentrating on increasing income per animal rather than income per area of land. This has been the tragedy of cattle

ranching; it is not wise to go down the same path now that we know better. Millions of rand has been spent on cattle industry breeding and feeding programmes; it has done little for the industry, while the few ranches managing holistically have made enormous strides, as Dr Andre Mentz has pointed out in his writings. Cattle ranchers who practise Holistic Management are seeing dramatic increases in profitability, and documented regeneration of the land and biodiversity; so, too, can wildlife ranchers.

Second, wildlife ranchers would be wise to act decisively to prevent unethical hunting behaviour or anything but the highest standards of humane animal respect and treatment. There is a large and expanding resistance to red meat and trophy and safari hunting. This growing movement is led by hundreds of wealthy celebrities;



Photo © Gudkov Andrey.

the flames of this revolt are being fanned by the cattle industry and some in the wildlife ranching industry. I provided the keynote talk at this year's World Meat Conference in Uruguay and made this point to that industry. They are building opposition to killing animals or eating meat when nothing but large grazing animals are going to enable us to reverse global desertification and seriously address climate change.

"I would urge all wildlife ranchers to shift from reductionist management to Holistic Management."

Finally, I would urge all wildlife ranchers to shift from reductionist management to Holistic Management. It enables you to solve the issues above rapidly and

profitably, and to bring all of the public into supporting your industry. The best hope future generations have of saving elephant, rhino and other animals in the wild is with the full support of the people living among them.

One way to speed up such a movement would be for wildlife ranchers to develop a Holistic Management hub, joining the network of hubs around the world, a place where all can learn together rapidly and benefit the entire industry and all wildlife ranchers. The Savory Institute will provide all the assistance it can, including training materials and network connections with others struggling with related issues. ■

For more information and reference sources:

1. Read the third edition of Allan Savory's book *Holistic Management: A Commonsense Revolution to Restore Our Environment*. Island Press 2016. Available from Amazon or from The Savory Institute.
2. Visit the SI website with a mass of self-help learning/training materials: savory.global





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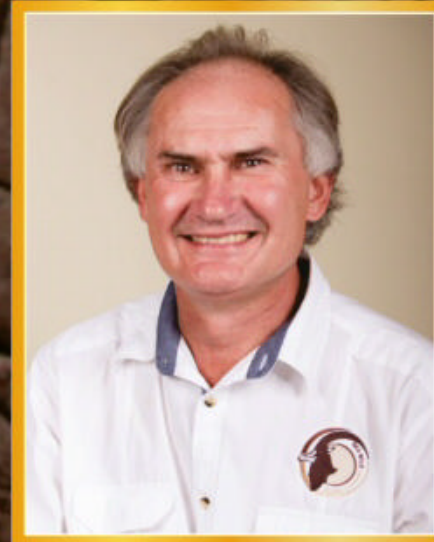


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Earth's Environmental Path

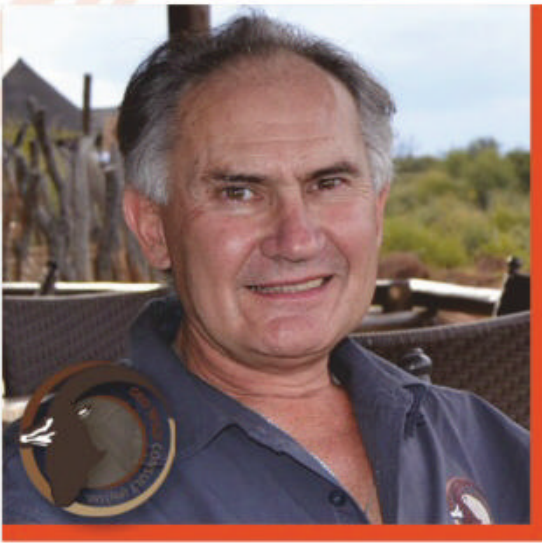
by Deon Furstenburg



"The Blue Marble" is a famous photograph of the Earth taken on 7 December 1972 by the crew of the Apollo 17 spacecraft en route to the moon at a distance of about 29 000 kilometres (18 000 mi). It shows Africa, Antarctica, and the Arabian Peninsula. Image courtesy of NASA/Apollo 17 crew.

Earth's path of change since its origin follows a sequence of natural climatic and atmospheric oscillations, altering between warm/hot and cool/cold, and carbon dioxide fluctuations. These changes result from a complex mixture of natural solar and galactic forces from beyond, as well as from ever changing forces from Earth itself, affecting life, natural habitats, animal speciation and animal distribution (called phylobiogeography). Man co-exists since the beginning and throughout a series of recently developed glacial and inter-glacial cycles and adds additional impact and effects to the natural processes of dynamic change. The greater of man's influence being to the detriment of present global life.

"In order for man to manage and sustain ecosystems, biodiversity, wildlife and game practices, and agriculture and livestock practices, it is imperative to have some understanding and knowledge of natural dynamics and the main forces behind them."



Deon Furstenburg

Specialist Wildlife Scientist, Consultant & Lecturer (Ecology, Zoology, Game Production). SACNASP registered (Pr.Sci.Nat. 115086). M.Sc. Wildlife Management (Pta. 1992), awarded Captain Jack Scott Memorial Medal: S.A. National Academy Science & Art. Three years in Kruger National Park, 24 years with Agricultural Research Council and five years Director Geo Wild Consult. Scientific expertise totals 39 years. Ph.D. dissertation completed in 2002 (not examined).

Science on world and quantum physics, Paleoclimatology, Paleo-environments and the consequential effects on past and present life, had exploded in magnitude building holistic understandings of Earth, nature and life and the forces involved. Despite former arguments, general consensus among scientists at present is that Earth's state of solid-mass manifested between 4,4 and 4,7 billion years (Ba) before present (BP), formed by the cooling of former gas volumes and space-dust derived from a gigantic space-explosion presumably at about 12 Ba BP.

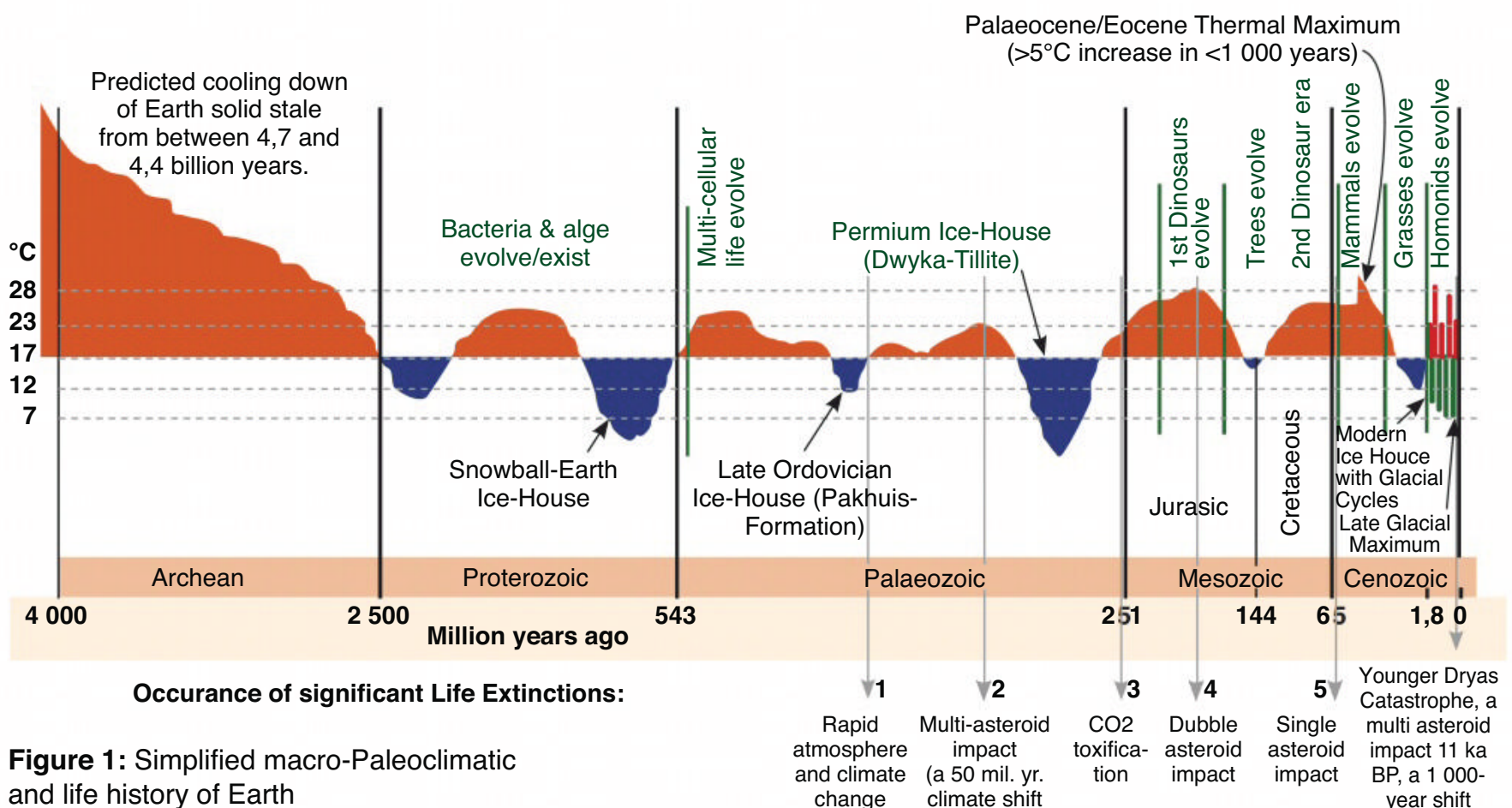
Earth's Historic Path

Ever since the gigantic 'Big Bang' explosion, a continued process of cooling of Earth's inner core are in process. Since forming of the outer mantel and first pockets of the crust and much later the super continents of Pangaea and Gondwana until the continents as known today (by tectonic movement), Earth's outer surface experienced a sequence of alternating warmer/hotter 'hot-houses' and cooler/cold 'ice-houses'. These climatic eras/time periods (some with specific referral names, such as Snowball-earth, Pakhuis-formation, Dwyka-Tillite, Younger Dryas Catastrophe, etc.) were entwined with various meaningful and disastrous events in time of co-evolution of all life forms, and are still changing life as we know it today – the impact of current global warming. *What are the main macro-driving forces behind this?*



Female lion (*Panthera leo*).

Photo © Johan Swanepoel



Controlling life

All life forms are primarily controlled by temperature, water, gasses, acidity and chemical composition of soil (plants), and secondary by co-inhabitant interaction and completion, and other lesser environmental effects. The ultimate temperature for maximum life on Earth is noted as 17°C, ranging between >17-28°C for warmer times and <17-4°C for colder times. Extremes of some bacterial and virus life forms at ranges beyond also exist. Since 2,75 Ma BP a series of Glacial and Inter-Glacial cycles emerged and vastly affected modern life and environments as we know them today. Take special note that the major of modern game animals originated between 1,5 and 4 Ma BP. The Last Glacial Maximum (LGM) was only 18 Ka BP, though followed by a rapid and doomed event, the Younger Dryas Catastrophe (YDC) around

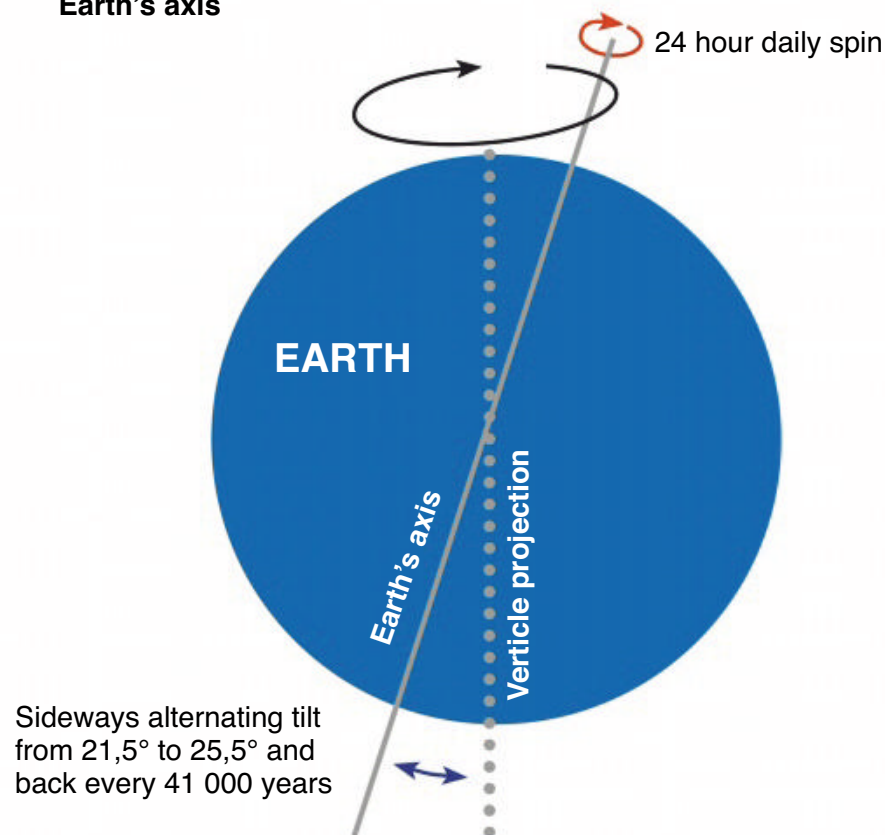
11 Ka BP and caused by a multiple asteroid fall hitting Earth in Australia, the Mediterranean and Greenland. The greatest extinction of modern large grazer species occurred in these times between 9 and 18 Ka BP. Hereafter another recent cool time, the Little Ice Age (LIA), followed between 800 years and 1,2 Ka BP.

Of greater importance than temperature and rainfall are the atmospheric parts per million (ppm) CO₂ concentration. When CO₂ is low (around 175 ppm), Earth's habitats are dominated by grasses and little tree and bush cover, and when it is high (around 275 ppm and more), habitats are dominated by trees, shrubs and little grass. Furthermore, when the environment is dry/low rainfall, the grasses are mostly of low productive C₃ species and succulent CAM plants, and during moist/high rainfall periods the grasses are switched to

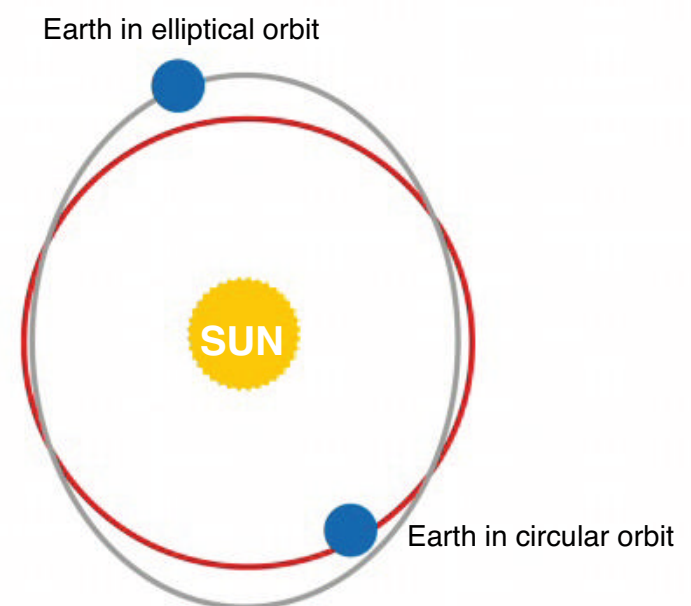
high-productive C₄ species. Glacial periods are known for low CO₂ and low rainfall, and Inter-Glacial for high CO₂ and greater rainfall, and intermediate periods of transversion in-between.

Glacial periods in general have lower sea levels by as much as 140 m (in relation to present) enlarging lowland land surface areas, and mostly creating fertile soils supporting production of nutritious grasses. Since 1,4 Ma BP, a total of 24 periods of low sea levels had been identified and their effects on wildlife and speciation being further researched. The southern Cape enlarge by 7,8 M ha land surface (called the Palaeo-Agulhas Plain) during a glacial sea level drop of 140 m, and with consequential migration of wild animals to the new habitat and forth.

23 700-year wobbling cycle of Earth's axis



Earth's orbit around the Sun changes shape between elliptical and circular every 100 000+ years



(Zachos & Berger 2004, Ruddiman 2008)

Figure 2: Earth's change affecting the amount of sunray-radiation received, which directly affects ground temperature.

Macro-climate cycles

The single parameter having the most direct effect on temperature is Earth's position (tilt and distance) in relation to the Sun. Earth's position determines the amount of sun energy received per land-surface area at any given time. Sun energy in collaboration with gravity (also from the moon and to some extent other solar passing bodies) is the greatest parameter affecting sea-current flow and consequently rainfall. In December 2012 the nine well-known planets of the Milky Way aligned temporarily and the event of increased combined kinetic energy upon Earth resulted a significant increase in the number of cyclone occurrences from September 2012 until March 2013.

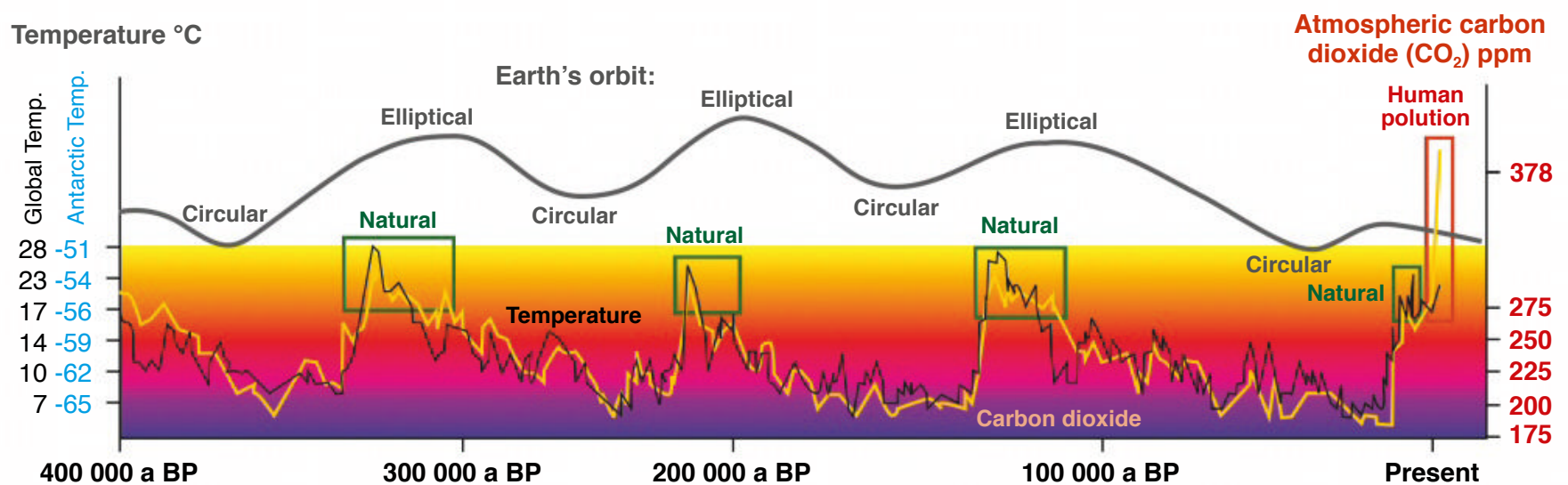
The Earth spins around its axis at 24-hour daily intervals, though its axis is not balanced but follow a 23 700-year cyclic wobble changing Earth-surface sunlight by 22% affecting global climate and habitats at the same frequency (known as 'Precession Cycle', Climate Cycle 3). This also forms the precision of two 'equinoxes' and two 'solstices', four equal periods of 5 925 years each

Figure 3: Planets and orbits affecting Earth's climate cycles.

(Climate Cycle 4) of different climate and habitat change. Planet Sa.A.Mi. passes the proximity of Earth's orbit once every 3 600 years and enters through the asteroid belt with potential collision of varying magnitude of unknown force also affecting climate (Climate Cycle 5).

Beyond the above, the Earth's axis lies at a tilt that changes between 21,5° and 25,5° every 41 000 years

(known as 'Obliquity Cycle'), affecting climate, including the occurrence of 'Glacial-Inter-Glacials' (Climate Cycle 2). Also affecting 'Glacial-Inter-Glacials' is the shape of the Earth's orbit changing between circular (cold periods associated with grasslands) and elliptical (warm periods associated with woody vegetation) every 100 000 to 400 000 years (Climate Cycle 1).



(Zachos & Berger 2004, Ruddiman 2008)

Figure 4: Temperature and atmospheric CO₂ levels during the last four Glacials (period of low temperature) and Inter-Glacials (period of high temperature) cycle in correlation with the change of the shape of the Earth's orbit as measured from the Vostok ice drill cores in Antarctica and from sedimentary pollen in Europe and New Zealand.

PRESENT DAY RAINFALL

Studies from Gertenbach (1980) in the Kruger National Park and Furstenburg (1919) in the southern Eastern Cape reveal a sequence of three (possible four) rainfall-related climatic cycles, when comparing 142 years' annual precipitation data since 1878 to present. Definite oscillations of rainy cycles of varying dry and wet periods were identified:

Rainfall Cycle 1 (15-23 years)

Repeated unstable short-term oscillations of alternating drier and wetter periods ranging from 5-12 years each, thus forming a total full cycle of repetition of between 15 and 23 years affecting fodder production and frequent animal migrations, e.g. the past springbok 'treks' (migrations) and the Kaokoveld (desert) elephants, and more. Occurrences of single season events of extreme dry and wet years are most common within the durations of Cycle 1.

Rainfall Cycle 2 (35-40 years)

Fairly stable medium-term oscillations of drier and wetter periods alternating as a 35- to 40-year repeated cycle.

Rainfall Cycle 3 (80-85 years)

A longer-term cycle repeating every 80 to 85 years and expected to be of relative high stability. When plotted graphically (Figure 5), Cycle 3 most clearly has the greatest effect on the climate we experience. Seven of 10 (70%) recorded real events of severe droughts and flooding since 1878 coincided with the amplitudes of Cycle 3.

Male lion (*Panthera leo*).
Photo © Johan Swanepoel

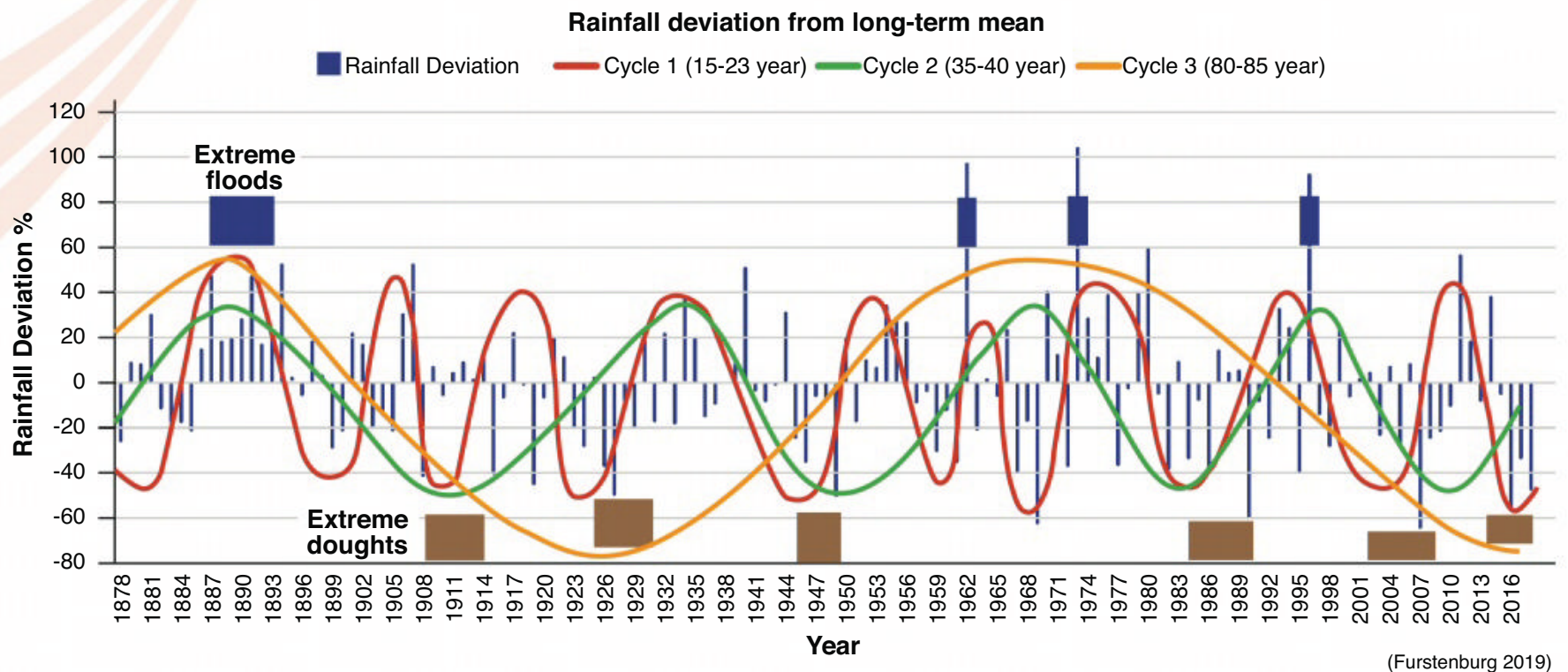


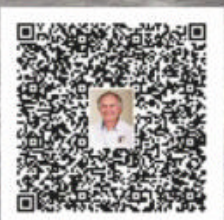
Figure 5: 142 years' measure of annual rainfall deviation from the long-term mean, illustrating three cycles of repeatability, since 1878 in the southern Eastern Cape, with periods and events of history recording extreme flooding and extreme droughts indicated.

Of most importance are the times of simultaneous confluence of the amplitudes of two or three of the cycles superimposing the effects of each other (Figure 5). Depending on whether the confluence occurs in the upper or the lower amplitude, abnormal wet or dry seasons could be experienced. To the contrary, the further apart the amplitudes of the three cycles, pulling against each other, the more lenient the combined effect, and the more average or marginal the ambient rainfall. Over and above, the possibility of an ever-larger rainfall cycle of approximately 150 years can be postulated. Available rainfall data in South Africa unfortunately does not allow such analysis yet.

In the next two editions of **PRIVATE GAME**, we'll feature Part 2 – Climatic effects on South Africa's vegetation, and Part 3 – Climatic effects on South Africa's game species.

For more information, contact Deon:

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Heiko Meier

Pecan (*Carya illinoensis*). A good nut size can be achieved if irrigation water is sufficient during the nut expansion stage.

PECAN ENVIRONMENT



Soil and water requirements for pecans

by Heiko Meier



Large native pecan tree in Western Texas.

Pecan trees grow on deep river bottom soils and are indigenous in riverine forests on the banks of rivers flowing through the central and southern United States and the northern parts of Mexico. They have strong root systems with a taproot that anchors the big tree and can reach down to the permanent water table to insure survival of the tree during periods of drought.

Feeder roots develop in the upper 300-400 mm of the orchard floor where most of the nutrient and water uptake take place.

For maximum root development and nutrient uptake, the soil should not be waterlogged or too dry.

In an ideal situation soil should consist of 50% minerals and organic matter, 25% water and 25% air. This ratio can only be achieved when the soil is well drained and the irrigation system is capable of supplying water as required.

◁ For maximum root development and nutrient uptake, the soil should not be waterlogged or too dry. ▷



► Good water supply is necessary during December and January – the peak demand period in South Africa.



► Flood irrigating young pecan trees.

► A laser-levelled orchard floor.



The annual water requirement for pecan trees is about the same as for lucerne but the seasonal water requirement varies. In the dry western interior of South Africa, the peak water requirement for mature trees can be as high as 800 litres per tree per day and the irrigation system should be designed to supply that amount at peak demand. The annual irrigation requirement for pecans will vary between 500 mm and 1 500 mm depending on climate and rainfall.

There are many different pressurised irrigation systems that can be used to irrigate pecans. Permanent systems include micro sprinklers, drip irrigation, impact sprinklers, wobblers, floppies and others. It is important that an irrigation system is designed in such a way that the peak water requirement of mature trees can be reached.

◀ It is important that an irrigation system is designed in such a way that the peak water requirement of mature trees can be reached. ▶

Flood-irrigated land should be laser levelled before planting. Laser levelling ensures that water can be applied evenly along the tree row without over or under irrigating. Many of our Western irrigation schemes are designed for flood irrigation and with today's rising cost of electricity, flood irrigation can be an extremely cost-effective way to water pecan trees.



► Install a proper irrigation system before planting the trees.



► Micro sprinkler with insect guard.



With sufficient soil depth, more than 70% of the trees' water absorption will take place in the top 300-400 mm of the soil profile and within a radius of 2 m from the tree stem. An irrigation system that supplies most of the water along the tree row is therefore more efficient than a system that irrigates the full surface of the orchard floor.

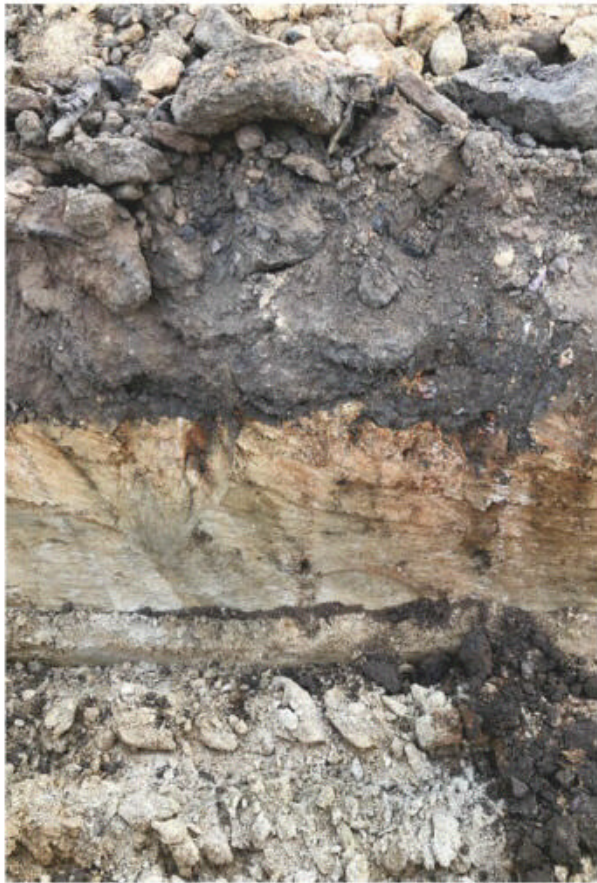
Sandy soil needs regular short irrigation cycles, whereas clay soils have a better water holding capacity and need longer intervals between irrigation cycles. The topsoil dries out quicker than the subsoil and therefore the irrigation system should be designed to supply regular short irrigation cycles to keep the topsoil moist, followed by a longer cycle to replenish the subsoil as needed. Deep, well-drained soil is more forgiving for over irrigation than shallow or poorly drained soil and will allow for additional water to wash down any sodium that may build up in the topsoil. Higher levels of organic matter and mulching will improve the water holding capacity and drainage of all soils.



► Impact sprinklers.



► Mulching will improve water retention, water holding capacity and drainage over time.



► Compaction layers in the soil.

Deep, well-drained soil with no compaction or restrictive layer is ideal for pecan production.

Deep ripping on the tree row and drilling of the planting holes with a soil auger will be sufficient soil preparation for these soils.

To determine the suitability of soil for pecan production, it is important to dig enough profile holes before soil preparation begins. Most soils have some restrictive layers that need to be addressed before planting. Deep ripping with a large tractor or bulldozer will break up physical or chemical compaction layers but will not mix or blend clay and sand layers within the profile. Alluvial soil with different sand and clay layers needs to be mixed to improve drainage and to allow roots to move through the soil profile.

Dolerite gravel or fine shale, like the Augrabies formations, are well drained and can be planted with pecans provided that the soil is deep ripped or excavated before planting. Tree size will be smaller in gravel soils and therefore trees can be planted closer together to increase yield.

◁ Deep, well-drained soil with no compaction or restrictive layer is ideal for pecan production. ▷



► Three-year-old flood-irrigated trees, Upington.



► Six-year-old flood-irrigated trees.



► Micro irrigated orchards in Cullinan.



► Fourteen-year-old flood-irrigated trees.



► The Orange River is South Africa's largest river and has one of the best pecan climates in the country.



► Flood-irrigated orchards along the Fish River.

◁ A ridge can be used to improve drainage, decrease compaction, and increase the volume of healthy topsoil on the tree row. ▷

A ridge can be used to improve drainage, decrease compaction, and increase the volume of healthy topsoil on the tree row.

Where the soil volume is limited, large ridges can be an option for pecan production, but ridging will also limit the potential for mechanical harvesting and is not advised for large commercial orchards.

Pecans require a major capital investment in land, water, and planting material. A good water supply is crucial and thorough planning of a well-designed irrigation system are needed to meet the peak demand of mature pecan trees. Proper soil preparation is vital before trees are planted and the quality of planting material will make all the difference for the final success. ■

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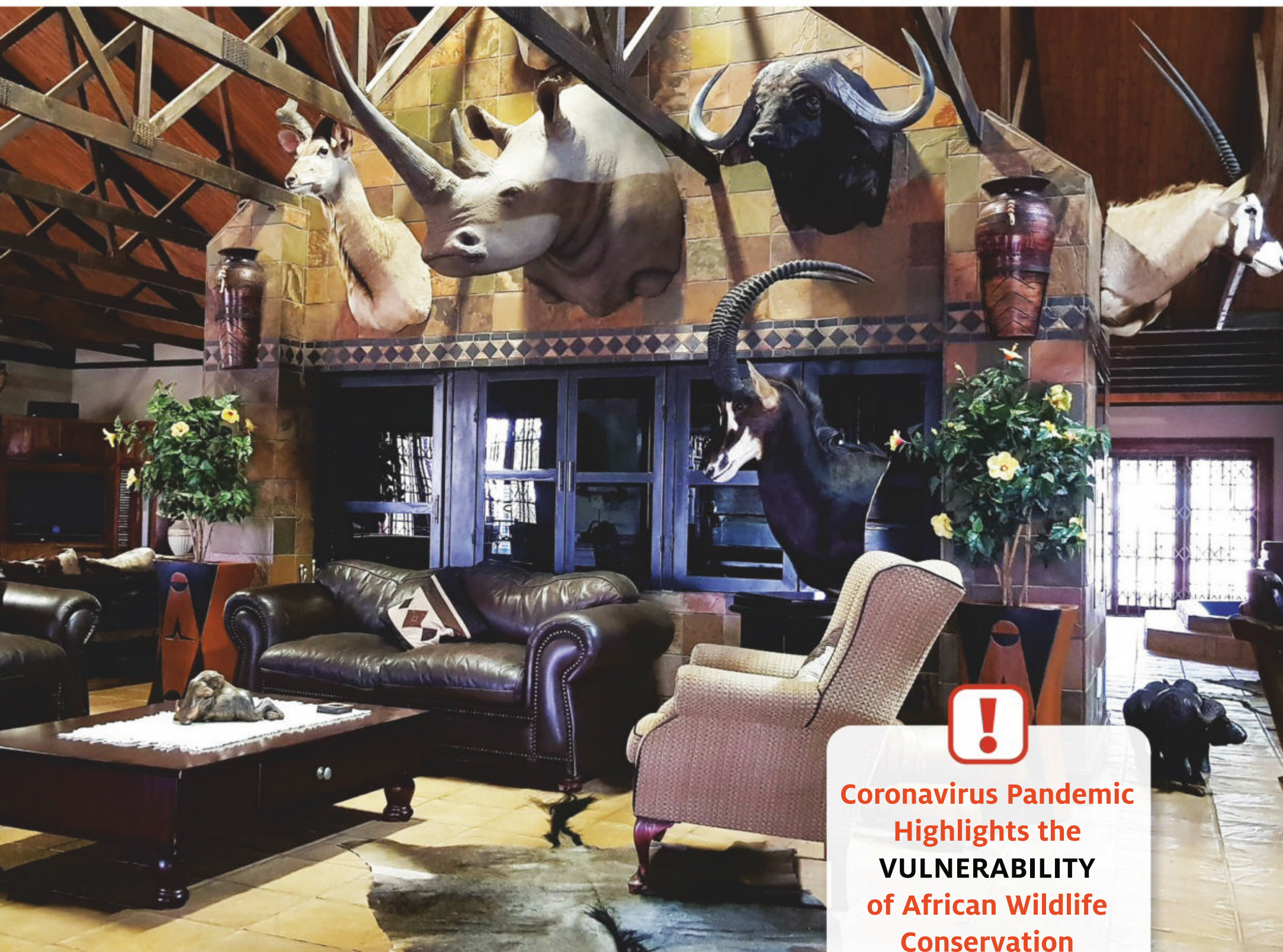
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FUNDING CONSERVATION

**Diversifying conservation funding will
increase resilience to future shocks**

by Catherine E. Semcer,
research fellow with the
Property and Environment
Research Center (PERC).
Photos courtesy of
Sangoma Safaris.



**Coronavirus Pandemic
Highlights the
VULNERABILITY
of African Wildlife
Conservation**



Catherine E. Semcer

We can now add Covid-19 to the list of threats facing African wildlife. The international travel bans aiming to contain the virus are having negative impacts on tourism in Africa, where the hunting and photo-tourism industries provide a chief motivation for wildlife conservation and much of the funding that sustains it. The extent of the damage to conservation efforts will not be known until after the current crisis has passed, but there is no

question that the resiliency of African conservation programmes is now being tested.

South Africa provides an illustration of what may unfold across the region. As of 20 March, South Africa has joined other nations, like Kenya, in banning people entering the country from regions with known Covid-19 cases, including the United States. As Africa's second-largest tourism market, popular with photo-tourists and hunters alike, South Africa illustrates the challenges that other conservation systems on the continent will face as the pandemic unfurls, as well as the risks of relying too heavily on tourism to support conservation efforts.

The closure of South Africa to American arrivals is significant. Historically, the United States has been South Africa's largest source of tourists. **Hunting and photo-tourism** are key drivers of visitation, with **80%** of all international visitors to South Africa engaging in some form of **wildlife-based recreation**.

“To pass future tests, funding for conservation must diversify so that the contributions of healthy ecosystems to African economies can continue.”

Scan the QR code or visit
youtu.be/WX-kDFCy5dE
 to watch the video:
 ‘Sangoma Safaris’.





Photographic and game viewing safaris can be highly rewarding add-ons to hunting safaris.



The global demand for wildlife-based recreation has created an intimate link between tourism and conservation funding, especially in South Africa. The country's principal wildlife and public lands management authority, South Africa National Parks, is structured as a parastatal and is responsible for raising its own operating revenue. In 2018, tourism-related fees generated 84% of the agency's funding. Most of these fees are collected either as park entrance fees or through the government's sale of permissions for trophy hunting and other purposes on private lands, which form the bulk of South Africa's wildlife estate.



Private game ranches and wildlife conservancies in South Africa cover 50 million acres, an area more than five times the size of the country's national park system. These private lands are critical nodes in the country's tourism economy and wildlife conservation programmes, with a reported 43% of international tourists visiting these areas while on holiday.

Tourism to private wildlife areas adds hundreds of millions of dollars to South Africa's economy via direct sales alone. Wider economic impact is generated through the jobs private wildlife areas have created. These economic contributions, combined with the fact that wildlife conservation has historically been more profitable

for landowners than conventional agriculture, have created a powerful economic incentive in South Africa to conserve large areas of habitat and recover species like the southern white rhino.

The ability of this tourism-based model to continue conserving South Africa's wildlife, however, is now in question. The shutdown of travel between the United States and South Africa in response to the Covid-19 pandemic came as South Africa's

“While photo-tourism is important, hunting is critical to supporting South Africa's wildlife estate.”

tourist season was about to begin and followed a string of US hunting trade shows that saw South African hunting operators collectively invest hundreds of thousands of dollars in cash and services to book American clients for the months ahead.

With the country under national lockdown, the clients who booked hunts just weeks ago had to cancel or postpone their planned trips to South Africa. This will prove damaging to wildlife conservation in South Africa.



African buffalo (*Syncerus caffer*). Sangoma Safaris owns its own hunting area that spans more than 15 000 acres (8 000 hectares).

Industry leaders estimate that American hunters comprise 45% of the foreign consumer market for South African hunts, and, according to industry figures, hunting-tourism revenues contribute twice what photo-tourism revenues do to the operation of South Africa's private wildlife areas. And since hunting revenue also makes up more than 50% of total revenues for private wildlife conservation areas, the financial impact of decreased American hunter visitation will be substantial.

"Hunting employs an estimated 17 000 people in South Africa."



Industry leaders that **PERC** has spoken with expressed deep concern over the ramifications of South Africa experiencing a lost tourist season due to the Covid-19 pandemic, as well as long-term impacts stemming from a related global economic downturn.

Hunting employs an estimated 17 000 people in South Africa, and there are reports that hunting

operators already had to lay off staff as clients cancel. Often, hunting operation staff are drawn from the rural communities surrounding wildlife areas. As layoffs mount, industry leaders are concerned that economic desperation may lead to increases in widespread poaching, both for food and for species like rhino, whose horns fetch high prices on the black market.

A local trophy hunter with a Nile crocodile (*Crocodylus niloticus*).



Decreased cash flow could also mean that hunting operators are unable to pay the landowners whose land they have leased for hunting. These leases have historically created an incentive to manage marginal ranchland for wildlife instead of cattle. Should the incentive decrease due to a decline in the hunting market, landowners may be encouraged to return their lands to cattle production to meet growing demands for beef in China and elsewhere.



In conversations with **PERC**, South African wildlife industry leaders have also expressed concern about the long-term effects of the pandemic on their business since it has created widespread volatility in financial markets. It is now uncertain that a sufficient number of potential clients will have the wherewithal to book hunting safaris any time soon, which average a total cost of US\$26 000.



A foreign bow hunter with a common warthog (*Phacochoerus africanus*).

The current crisis brings into focus the fragility of South Africa's tourism-centric wildlife conservation model, one shared with other nations like Kenya. Relying on tourism to underwrite and incentivise conservation, leaves conservation vulnerable to social, political and economic shocks like the current one. To reduce this vulnerability, conservation models in South Africa and elsewhere must modernise with a focus on increasing redundancy and resiliency so that conservation programmes are not dependent on any single source of financing.

Shocks to the global economy like the Covid-19 pandemic affect every sector. Dispersing the impacts among multiple sectors that offer potential conservation funding can help cushion the blow to wildlife-centred businesses. This may be especially true if there are links to markets for critical natural resources, like water, and financial tools likely to be at the front end of any economic recovery, like carbon credits. This means building out the wildlife industry to create a larger conservation sector where owners of private wildlife areas can tap into other, profitable conservation activities, which may include carbon storage, sustainable forestry, water funds, and the provision of other goods and services desired by other business sectors.



“Success will require creating an enabling environment for both entrepreneurs and investors.”



Martin Schoeman, owner of Sangoma Safaris.



With control of 16% of South Africa's land area, the country's wildlife sector is in a position to move in this direction. Success will require creating an enabling environment for both entrepreneurs and investors by improving the security of property rights, increasing the amount of data relevant to potential investors, and aggressively promoting conservation investment opportunities in South Africa through the Corporate Council on Africa and at other bilateral and multilateral business forums.

International non-governmental organisations can also help by providing landowners with technical assistance to help them identify opportunities for increased entrepreneurship and diversification, cover the costs associated with entering new markets, and help reduce any associated risks.

The crisis brought on by the Covid-19 pandemic, and its impact on the tourism industry, give us the opportunity to see the vulnerabilities of conservation models more clearly. Conservationists should use this opportunity to build more resilient systems in South Africa and around the world by expanding the reach of sectors other than tourism and deepening the integration of conservation into larger economies. In doing so, we can reduce the risk of shocks that threaten our ability to conserve healthy ecosystems, and we can help those ecosystems reinforce the health of our economies. ■

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🌐 www.sangomasafaris.co.za



A NEW legal environment

Game meat phased approach

by Dr Maretha van der Merwe

In our article published in *Wildlife Ranching*, issue 5 2019*, the article ‘Legal Labelling – How legal is my “game boerewors”?’ stated: “The current challenge for the game meat industry in legal compliance lies in the lack of a game regulation.” The actively debated challenges of the game meat industry and inputs with notes of concern from competitors in the meat market on the lack of game regulations promulgated, are due to be changed. A final draft document, i.e. the Game Meat Regulations**, was submitted to the Minister for signature and needs to be gazetted.



**Dr Maretha van der Merwe,
a Deputy Director in the
Health Department and
also the Chairperson of the
Tshwane Meat Forum in
Gauteng, South Africa.**

The game meat industry has been developed over a period of more than 30 years and has been discovered, developed and also abused by numerous entrepreneurs, meat processors and retailers, being an affordable, readily available, complete protein food with excellent shelf life abilities.

Unfortunately, the game rancher was never the producer but in actual fact the provision and availability of game meat came from the hunting outfitters and professional hunters who were in the position to buy a live animal and sell the cape or trophy to the customer and were then left with tonnes of meat. As there is always a market for protein food, a flourishing offset market was established and currently a vast number of red meat processors utilise it (in lower and higher percentages) in their products. Sampling of these identified products with the verifying laboratory reports are currently recorded at the Tshwane Meat Forum. Gelatine produced from game hides and game meat in *wors*, salamis and other sausages available on the market are thus not mere speculation.

Failure by the Department of Land Reform and Rural Development to finalise and publish the Game Regulations from 2004 to date is partially to blame for this uncontrolled and unregulated but strong, lucrative and escalating industry. When government departments fail to communicate with one another, are faced with an absence or nonexistence of human resources, necessary competencies, technical and other equipment, applicable budget allocation and to top all, with no management dedication or support, we realise that a sick culture has spread like an epidemic in our lovely country and by not facing it and not declaring it, we will not reach the turning point.



The draft Regulations are briefly discussed below in **eight phases** that will clearly demonstrate the intended application of ‘**Farm to Fork**’ or from the game ranch to the consumer’s plate:

➡ **Phase 1 – On game farm**

Animal health status on farm should be recorded and available on request. Only healthy animals may be hunted or culled for consumption. Animals from quarantine farms and where notifiable and controlled disease outbreaks have occurred may not be hunted or culled for consumption. Potable water (complying with SANS 241) must be available on farm and with annual lab test results to the effect. Training of all workers in correct harvesting and dressing techniques must be conducted, including principles of hygiene practices. The ‘trained person’ on farm means a person registered by the PEO under regulation 102 who is or accompanies a harvester and verifies proper shooting, bleeding times, hygienic harvesting and transportation procedures as prescribed, as well as identifying abnormal conditions in live and harvested game and deviations from procedures and in such cases alerting the registered inspector at the depot or game abattoir. A trained person will have similar qualifications to a game meat examiner. A registered inspector may also perform the responsibilities of a trained person.

➡ **Phase 2 – Hunting/culling**

Shooting must be carried out by or under the monitoring of a registered inspector or a trained person where applicable. Shooting must be done humanely and the placement of the shot must be such that it is reliably expected to cause immediate death. Thoracic and abdominal shots must be avoided and game carcasses with such wounds must be marked for attention of the registered inspector. In cases of trophy animals being hunted, where head and neck shots are undesirable, a thoracic shot to the heart is accepted provided that the carcass is marked for special attention of the registered inspector at the depot or abattoir. Game animals wounded during harvesting must be shot dead before making the bleeding incision – preferably with head shots but in cases of trophy animals heart shots will be acceptable on condition that the veterinarian at the abattoir is alerted.

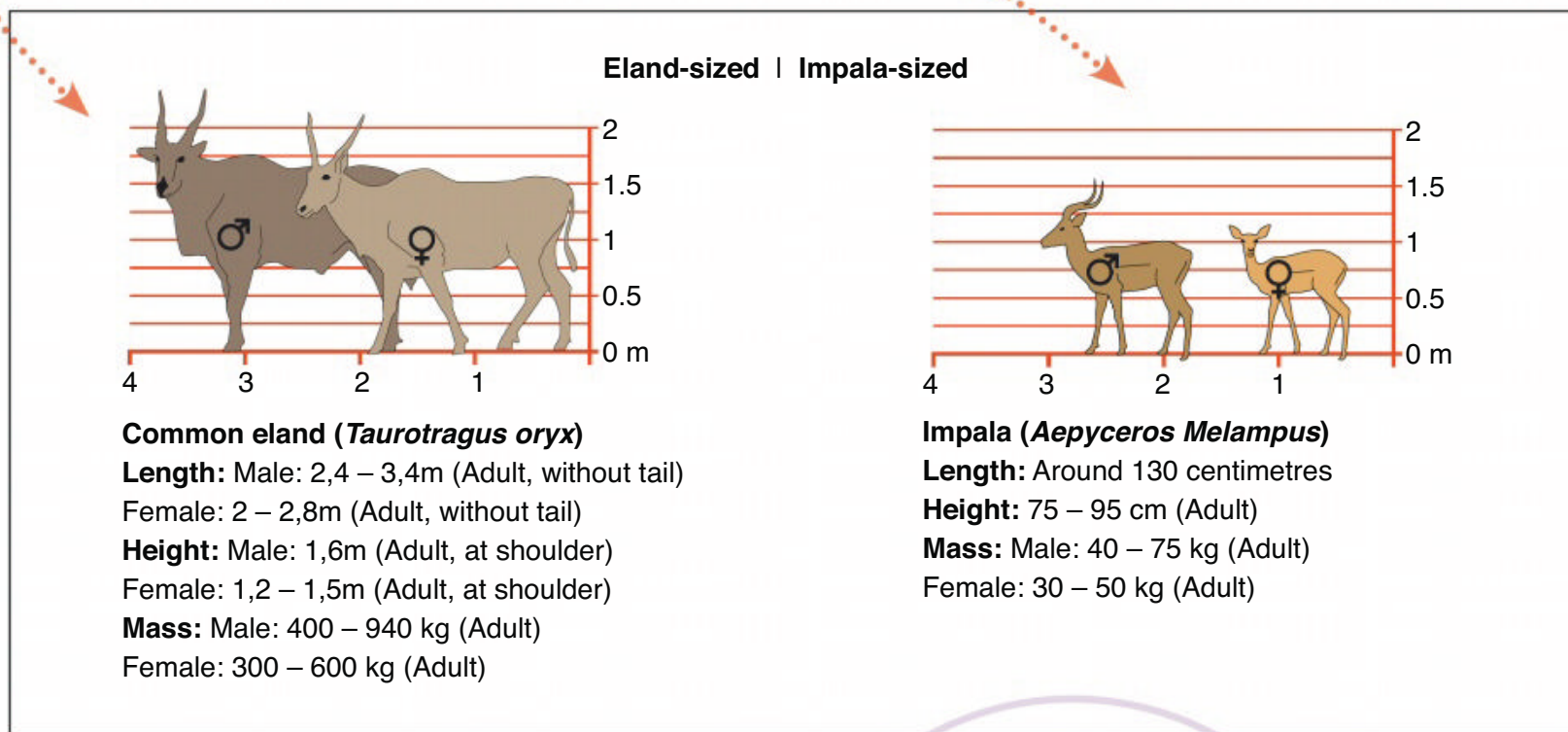
Phase 3 – Bleeding and evisceration

Game must be bled within 10 minutes of being shot dead.

Bleeding must be done by means of severing the jugular vein and carotid artery on either side of the neck (throat slitting).

Every harvested game animal must be bled with a clean and sterilised knife. All trophy game animals harvested with the intention of the meat entering the commercial food chain must be bled by sticking a clean and sterilised knife through the heart from the lowest ventral point of the thorax:

- **Eland-sized** animals must be bled hanging or in a downward position.
- **Impala-sized** animals must be bled hanging.



Phase 4 – Meat inspection at hunting/culling

Only rural abattoirs are exempted from independent meat inspection, meaning that the trained person (who could be one of the workers or the owner of the farm) on farm can conduct the first inspection on the eviscerated material and red offal. The final inspection is to be conducted after dressing. This could in effect mean that the final inspection and stamp of approval will be done at the abattoir or depot.

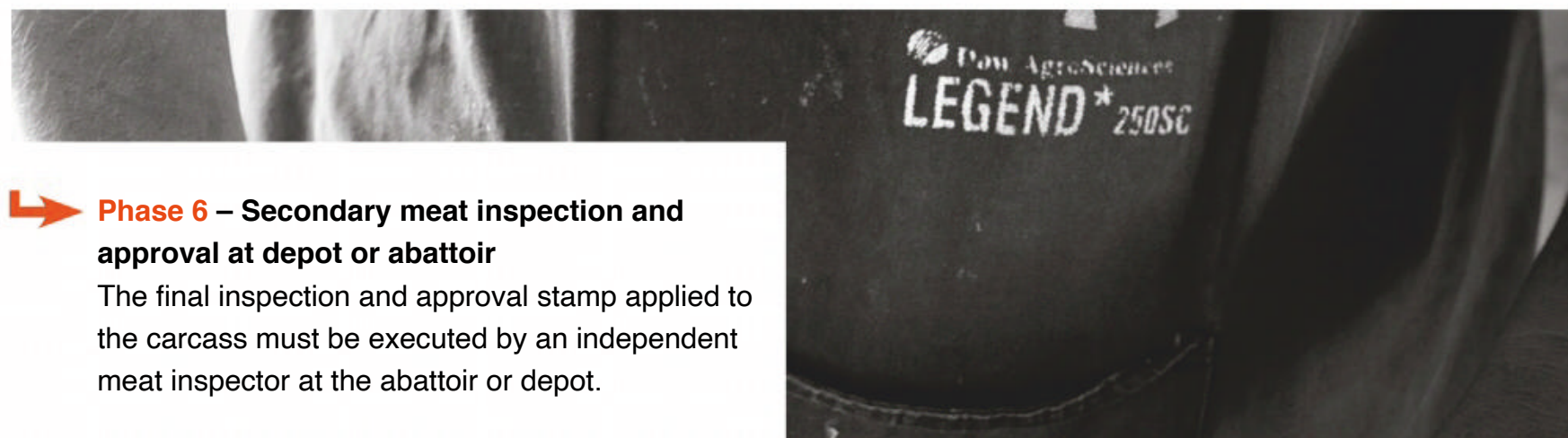


The approval stamp, in at least two of the official languages, for game carcasses with purple ink and marked on all four quarters – size of stamp 60mm and wording 8mm.

Phase 5 – Cold chain and transport

Partially dressed game carcasses and offal must be chilled within 12 hours of the kill but when the ambient temperature is more than 15°C, it must be chilled within four hours of the kill. A core temperature of 7°C must be accomplished within 24 hours after chilling commences.

GAME MEAT



➔ **Phase 6 – Secondary meat inspection and approval at depot or abattoir**

The final inspection and approval stamp applied to the carcass must be executed by an independent meat inspector at the abattoir or depot.



➔ **Phase 7 – Meat processing**

Although cutting plants are incorporated into the Game Regulations it is important to note that the mandate is with the Department of Health to regulate, with the exception of export plants, where the abattoir is linked to the cutting plant.

➔ **Phase 8 – Retail and own consumption**

Game meat not from an approved abattoir with meat inspection may not be sold for commercial use. Butcheries are not allowed to process game meat on behalf of a hunter and accept meat as partial payment or utilise the hunted meat in meat products sold on such premises.



An owner, manager or person in charge of a game farm may not within a 14-day period slaughter more than two category B (size of an eland) animals and six category C (size of an impala) game animals for own consumption. Any other person (defined in the Regulation) may only slaughter one category B and four category C animals in a 14-day period. Meat from game animals slaughtered for own consumption may not be sold to any person, including indirect sale through the offering of the meat to paying guests at a game lodge or similar arrangements.

In addition, the draft Game Regulations also govern export of game meat and with specific requirements that must be adhered to.

Only high-throughput abattoirs may export game meat and low-throughput abattoirs on condition that it complies with all the requirements as for a high-throughput abattoir.

Self-regulating powers to the respective industries should and could be the answer but when farmers and feedlot owners refuse to adhere to a 30-day ban on movement of animals and auctions prohibited, we wonder if self-regulating is indeed the solution (refer to the FMD outbreak in Limpopo on 1 November 2019).

“Gazetted soon”... this was fruitlessly declared many times over for the Game Meat Regulations but as a proposed solution, please note that, with a team effort between the Department of Health, SA Veterinary Council, Department of Agriculture, Land Reform and Rural Development with Veterinary Public Health, Red Meat Producers Organisation, Department of Trade and Industry, metropolitan municipalities, retailers and meat processors/



manufacturers, respective game rancher organisations, local hunters forums and organisations for outfitters and professional hunters, **we will kill the virus (stop the epidemic) and reach a stage where we are producing proudly and safe “SA Game Meat” to supplement and provide protein to poverty-stricken populations and communities.**

Game meat export is attainable! It is therefore envisaged that unless game farmers/ranchers actively take ownership of this well proven healthy, nutritious and unadulterated protein food as their own, we will continue to see game meat labelled as only a cheap, unhygienic by-product of hunting. ■



Look out for the series to be published in *PRIVATE GAME* magazine on the practical process to be demonstrated (with pictures) by a well-known game ranch management team to obtain the required Rural Game Abattoir approval and certificate of acceptability (CoA) as required by the Department of Health’s Foodstuffs, Cosmetics and Disinfectant Act 54 of 1972, read with Regulations R638 and R146, for handling requirements and labelling compliance.

*To access the published game-meat article, scan the QR codes to download the *PRIVATE GAME* magazine APP, or visit:

iOS APP:

● apps.apple.com/us/app/private-game/id1025720301?ls=1



Android APP:

● play.google.com/store/apps/details?id=com.audiencemedia.app849



Web APP:

● privategame.zinioapps.com



**Draft Game Regulations is available on the website ● www.daff.gov.za





Price: R297 at Exclusive Books

South Africa's Survival Guide to Climate Change

The authors Kings and Wild, journalists with extensive experience in environmental issues, deal with the global causes and consequences of climate change but also highlight the role South Africa plays and the effects the country is experiencing right now. The book provides well-researched background as well as solutions. The information is of vital importance to all citizens, including game farmers whose ecosystems are being adversely affected.

South Africa's situation and consequences

In 2019, SA experienced temperatures on average 2°C hotter than those recorded since 1900, which is twice the global average increase. According to the UN climate change body (IPCC), the difference between a 1,5° and 2°C increase is that the first is bad and the second very bad. SA is already feeling these very bad effects. Warming of our adjacent oceans means that much of our rain is not falling on land but lost over the sea. The rain that does fall on land is either sparse or so heavy that it is washing away topsoil and flowing away so rapidly that it doesn't get a chance to top up boreholes, dams and aquifers. This is affecting agriculture and reducing crop yields. While humans can make plans to collect and save water for towns and agriculture (as in Cape Town for example), ecosystems, especially in the interior, are becoming increasingly dry and the Karoo is continuing its expansion.



A wildfire rips through dry fynbos on the Cape Peninsula, South Africa.
Photo © Cathy Withers-Clarke.

Temperature extremes (very hot and very cold) are causing an impact on natural ecosystems and agriculture. Wildfire incidents are increasing due to hotter, drier summers and the increase in violent storms is impacting on human activities, including agriculture, as well as on wildlife. Ocean current warming caused by massive carbon emissions is causing rising sea levels and erosion and threatening the future of coastal towns. The authors give detailed examples of how three South African cities, Cape Town, Johannesburg and Tzaneen, are being affected by climate change. Most of it is bad news.

The scenarios we face as humans are:

*“We do something now
and mitigate the changes,
we act late and pay the price,
or we elect populist ‘strong men
with too easy solutions’ who want
to downplay the problems ...
and face an apocalypse.”*

“Our main power lies in pressuring governments and industries to make changes that they are reluctant to do.”

A coal-fired power station.
Photo © Therina Groenewald

“Global warming is the fault of the US, Europe and China” (Isn’t it?)

While industrialised nations are the main carbon emitters on the planet, looking at the G20 Bloc of the largest economies in the world, **the South African power sector is the worst polluter**, a quarter more than the next villain on the list (Australia), producing more than double the amount of carbon per unit of energy produced by other G20 Bloc members. Eskom and Sasol represent the major carbon emitters, a hangover from the apartheid era, which was focused on using coal to produce cheap and dirty power. The new government is now tasked with trying to force reductions but has been hampered by industry and unions citing job and economic losses should emissions be reduced. Emission tax and environmental laws insisting that the “polluter pays” are in place in SA but these penalties are deemed by environmentalists as “paltry” and unlikely to produce any significant compliance. On the positive side, the SA government spends a hefty budget on climate change research and is able to monitor and advise the authorities.

So, it’s government’s job to do something

In the chapter “Maak ’n plan”, the authors explain that collective and individual action are needed to address the problem of carbon emissions. But we can’t avoid the fact that carbon emissions are driven by individuals’ consumption; it’s a fact that the rich consume more than the poor and middle class, and cause more wastage. The authors admit that reducing individual carbon footprints is probably not enough to make rapid and meaningful changes, but our main power lies in pressuring governments and industries to make changes that they are reluctant to do, citing economic growth, jobs and competitiveness as excuses. Pressure can be put on business since by law, companies must prevent or mitigate damage to the environment. In “Vote with your money”, the book explains how disinvesting in defaulting companies can bring about change and even put pressure on otherwise recalcitrant governments.



African buffalo (*Syncerus caffer*).
Photo © Volodymyr Burdiak

Apart from reducing our individual carbon footprints, we need to practice mitigation of climate change effects: with climate change, despite heavy rainfall in some areas of South Africa, the overall picture will be one of water scarcity – water collection, conservation and protection from all types of pollution including plastics are vital for survival. South Africa has various environmental laws that can be used to hold authorities, private companies and individuals responsible, but few citizens are aware of them. Briefly, the National Environmental Act or NEMA is the umbrella act under which environmental issues reside.

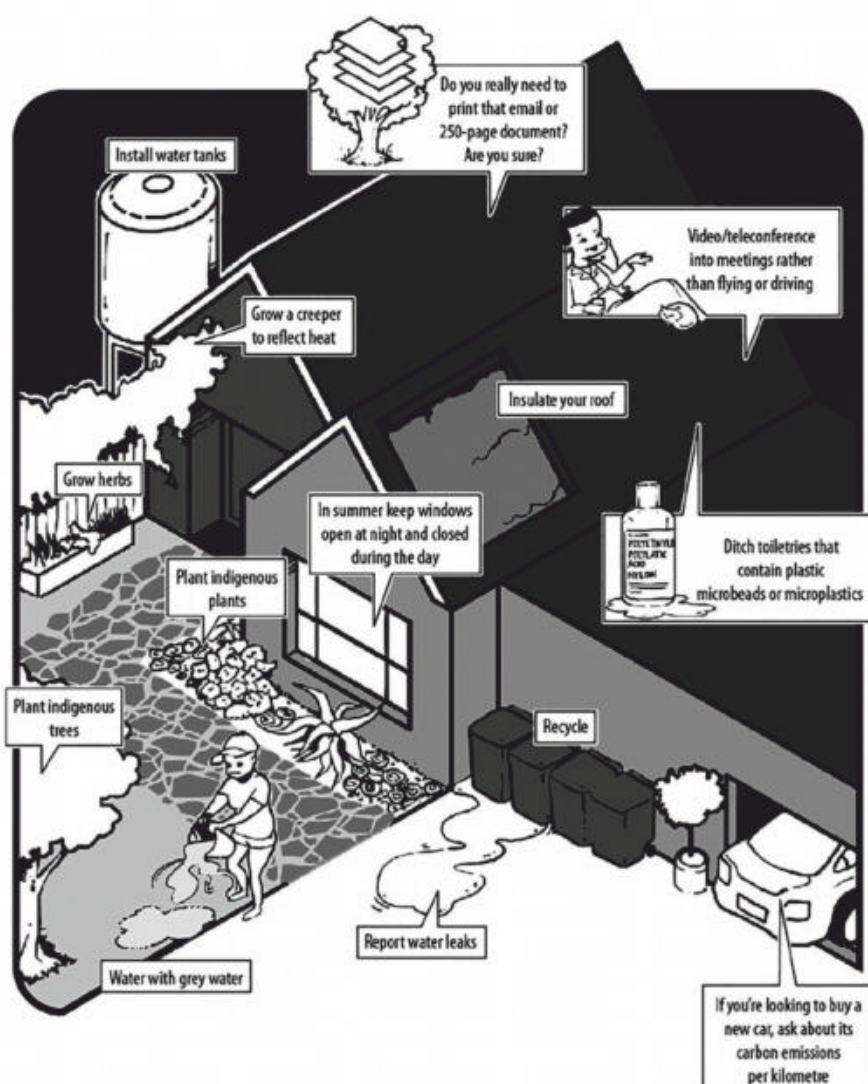
NEMA is further strengthened by several specific acts (Protected Areas, Biodiversity, Air Quality, Coastal Management, Waste, Water, Environmental Conservation and World Heritage Acts). The Climate Change Bill, the Environmental Management Inspectorate (Green Scorpions) and the Promotion of Access to Information Acts supply further strength.



The authors outline the procedure to follow when witnessing an environmental violation (as advised by the Centre for Environmental Rights). In short, take a witness along, take photos, make detailed notes of location and date and then report this to the relevant parties and authorities.

On agricultural matters the authors present the opposing arguments on mechanised farming with GMOs and organic farming, in a balanced way, pointing out that a) humans have modified almost everything in agriculture and b) that GMOs might be the solution to surviving climate change with drought and heat adapted crop varieties. Big farming will be more effective producing grains but small-scale organic vegetable production, they argue, may provide better nutrition and may reduce meat consumption, which contributes to deforestation, extinction of species and climate change acceleration. Other means of mitigating climate change are reducing food waste and eradicating alien vegetation, which impacts on natural vegetation, topsoil and water.

This review doesn't cover all the interesting chapters in this book, but in summary the book is an easily readable, convincing and balanced account of the subject. It is a valuable resource for those concerned about climate change but needs to be read from cover to cover by everyone because our future safety depends on us making a difference – right now. ■



Illustrator © Robert Dersley

Responsible Tourism

Is Ecotourism just a Buzzword?

by Dr Johan van Rensburg
Photographs by Annica van Rensburg

Ecotourism – quo vadis?

Establishments' grading to be determined based on an 'eco' merit and demerit points calculation system.

Eco-architecture will improve credibility.



Dr Johan and Annica van Rensburg

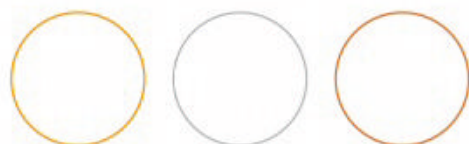
Breakthrough or disaster?

Internationally tourists are becoming more and more concerned about protecting the ecology, environment and protecting the Earth.

When eco-certification for international and local ecotourist establishments and lodges was proposed, it seemed an excellent idea.

However, this long overdue initiative soon presented us (both service providers and consumers) with a minefield of problems, dilemmas, as well as misuse of the word 'eco' that has confused the public.

The first and foremost problem was to find a workable and practical definition for 'ecotourism'.



The International Ecotourism Society (TIES) defines ecotourism as "responsible travel

to natural areas that conserves the environment and improves the wellbeing of local people" (TIES 1990).

This definition is a compromise to appease most of the involved bodies and institutions to find a common consensus. The result is that with good word choices and manipulations as many as possible institutions can and will qualify to be eco-compliant. It has potentially resulted in the opposite of what eco-compliance intended – the effect is potentially quantity versus quality. The current definition is so vague that practically anyone could stretch their credentials to be certified and called an 'eco-establishment'.

*Is this really what we want
to achieve?*



Lion (*Panthera leo*).

*“Just having a lodge
with a good view
doesn’t guarantee you
‘eco’-status.”*

Controversies on ‘eco’

A further problem is the fact that many certifying institutions are commercially motivated. They rely on high certification fees for registration and annual re-registration. Many smaller players that would qualify as an eco-establishment cannot financially afford to be verified and certified, and therefore they are not recognised and thus excluded.

*How do we
implement a fair
scoring system
to be eco-certified?*

*Moreover, what
constitutes a qualifying
scoring system?*

Those are questions currently undefined and open the possibility for abuse and misuse of the term ‘eco’.

The grey areas of the current definition of ‘eco’ are:

1 Will an establishment that uses only underground (borehole) water and natural (solar, wind) energy score more points because they are situated in a remote area compared to those on the grid?

2 Some establishments are in remote rural areas and forced to use local workers, but how far can the definition push the boundaries to be seen as local (the country, district, town or the village)?

“Our challenge is to educate the public to distinguish the ‘real’ eco from the imposters and prevent establishments from misusing the ‘eco’-title.”



Eco, full-eco, eco-friendly, ‘greenwash’ – what’s the difference?

Facilities that tick the above boxes are per definition regarded as ‘eco’ but are they truly eco?

The opposite argument is seldomly heard, as there are no demerit points for eco-negative activities and practices, such as:

- 1. Waste and ash disposal policy.
- 2. Single-use plastic.
- 3. Non-eco-friendly soaps, shampoos and bathroom amenities in disposable, single-use containers.
- 4. Non-eco-friendly disinfectants and insect repellents that harm the environment.
- 5. Not being water-wise and wasting water.
- 6. We can also include contamination of water, as well as air pollution.

Currently, as per definition, an establishment can qualify as truly ‘eco’ if they score three good eco-points, but they might fail on three other eco-negative activities.

Can they still realistically call themselves an eco-establishment?

It’s not just about what is visible at the reception. What happens in the ‘backyard’ should be taken into account when giving ‘eco’ demerit points.

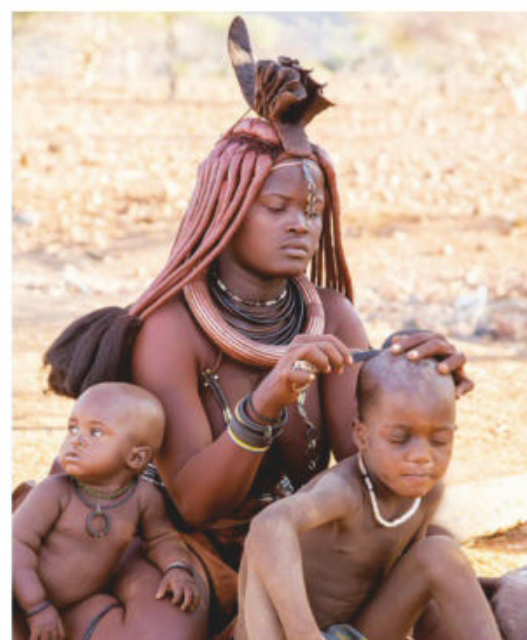




Low-cost but highly effective eco-footprint.



The three levels of eco-certification.



Cultural tours to benefit local community.

Eco Explore Africa's eco-grading for responsible tourism

We, Eco Explore Africa, therefore propose the following measures to improve eco-certification of an establishment:

1. Voluntary but approved/verified certification.
2. Strict and comprehensive qualifying criteria, including demerit points, totalling a certification score.
3. Three levels of eco-certification: **Gold, Silver and Bronze.**
 - a. Fully eco (Gold/Evergreen)
 - b. Eco-compliant (Silver/Green)
 - c. Eco-friendly (Bronze/Perennial)
4. Certification (eco-emblem) indicating the level of compliance.
5. Establishments' (three-level) grading is determined based on Eco Explore Africa's 'eco'-merit and demerit points calculation system.
6. Certification must be affordable and accessible to everyone – from small to more prominent establishments.
7. A particular weighted score should be recognised for establishments that are actively involved in uplifting a local community, improving living standards and education. Also, for establishments that create a positive impact on the local ecosystem and preserving the environment.
8. An online platform for comprehensive information on verified and graded/certified eco-establishments.
9. To make certification affordable, the grading certification model can be a formula-calculated fee structure based on the following: The number of rooms in the establishment and the fees charged per room/person to determine a fair certification fee. For example, a lodge with 10 units charging R20 000 p.p./night will pay a different fee compared to a lodge with 10 units charging R700 p.p./night. (This can be calculated by an accountant or actuary).

"Make it affordable for all to be included; not 'if you can pay me, you can get it'."



Guided walks and environmental educational activities.

Eco Explore Africa – who we are and what we are about

Dr Johan van Rensburg is a retired gynaecologist and reproductive specialist, wildlife photographer and seasoned traveller, and now full-time involved in ecotourism and conservation.

Annica van Rensburg has over 20 years of experience in the hospitality industry and is a conservation photographer. Go to lovenaturephix.com to see her work.

Recently they've had enough of city life and retreated to an eco-friendly game farm in Limpopo.

Eco Explore Africa was established for eco-graded establishments that are verified to be truly 'eco'; to present sustainable tourism-related information as a community service to assist the prospective traveller to make an informed choice; and to build an eco-minded travellers community platform that puts the consumers (travellers) and service providers in touch and gives comprehensive information on eco-sustainable travel accommodation ethics. ■



For further information on
eco-grading, please contact
Eco Explore Africa on
@ eea@ecoexploreafrika.com



Johan's 'Game Meat Marinade'



Annica and Johan van Rensburg

A djusting from -30 to +30 degrees Celsius was not the real challenge, but there were other tests, such as balancing a clumsy three-legged pot on a firepit, and making fire without using a whole packet of firelighters.

It comes naturally to South Africans, but to me, coming from Estonia, cooking outdoors over the fire was radically different from our stirring the stew on the stove.

I got to understand that the word 'braai' is not just about cooking steaks over the coals, but it's an essential social part of South Africans' lifestyle.

Now, things what I don't want to miss is the 'bush': the francolins' high-pitched shrill, which apparently sounds like 'beer and cognac', but more like 'braai and wine' to me; the mournful calls of the jackals; the vast sky; and the smell of the crackling firewood while sipping South African wine.

Marrying a South African man, I had to learn three things fast: how to drive off-road – Land Cruisers (you get the hint), making a fire, and how to marinate meat.

Over the years, Johan and I have built up a collection of recipes that we have tried, experimented with and even argued about.

Our recipes don't have 'not-to-deviate-from' measurements. They're about ideas, fun and flavours – recipes that are flexible to the individual's taste and to which you can add a pinch more of this or that.

This marinade for game meat is a perfect example of a recipe Johan has tweaked over the years.

Annica



RECIPE - GAME MEAT MARINADE

Ingredients

1/5 tablespoon juniper berries
 1 1/2 tablespoon allspice berries
 1 tablespoon whole cloves
 6 bay leaves
 1 tablespoon coriander seeds
 1 tablespoon cumin seeds (or powdered)
 1/2 cinnamon stick (1 teaspoon powdered)
 Pinch of cayenne pepper

300ml red wine
 3 heaped tablespoons
 peanut butter (optional)
 1 tablespoon olive oil
 Juice of 1 lemon



Method





- 1 Grind all the dry ingredients (herbs and spices) with a mortar and pestle.
- 2 Melt the peanut butter in 100ml heated red wine. Once dissolved, remove from the heat and add the rest of the ingredients.
- 3 Add the game meat and marinade overnight or for at least four hours.



We marinated wildebeest meat, made sosaties, and added capsicums, white wine and cinnamon-soaked peaches.

“I got to understand that the word ‘braai’ is not just turning steaks over the coals, but it's an essential social event part of South Africans lifestyle.”

Annica says

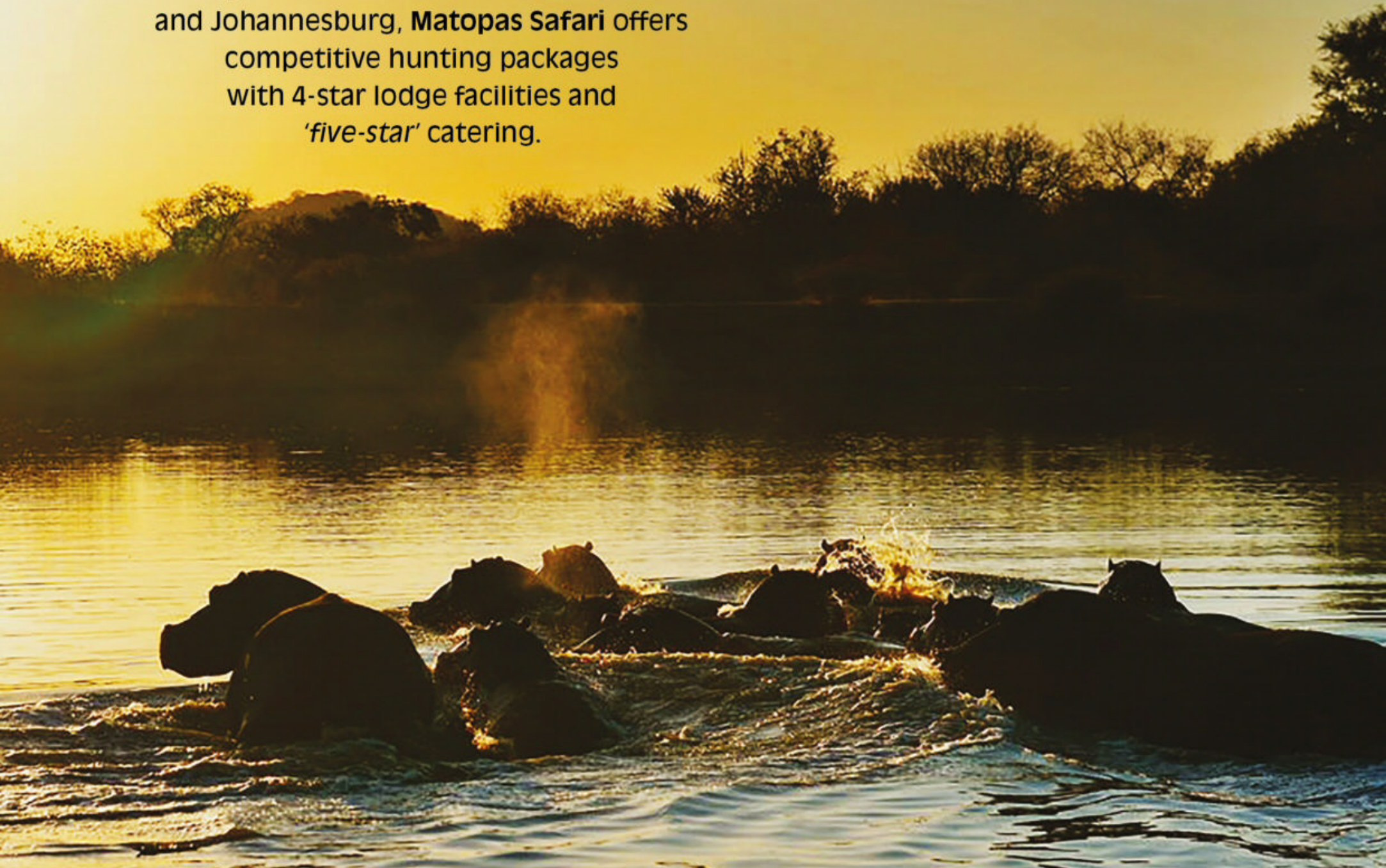
-  When camping, the dry ingredients can be ready-made beforehand and stored in a container, ready to make a marinade when needed.
-  The marinade can be made in bigger quantity and kept in an airtight container in the freezer for future use.
-  You can change the quantity of spices according to your taste.
-  This marinade works with any game meat.



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