



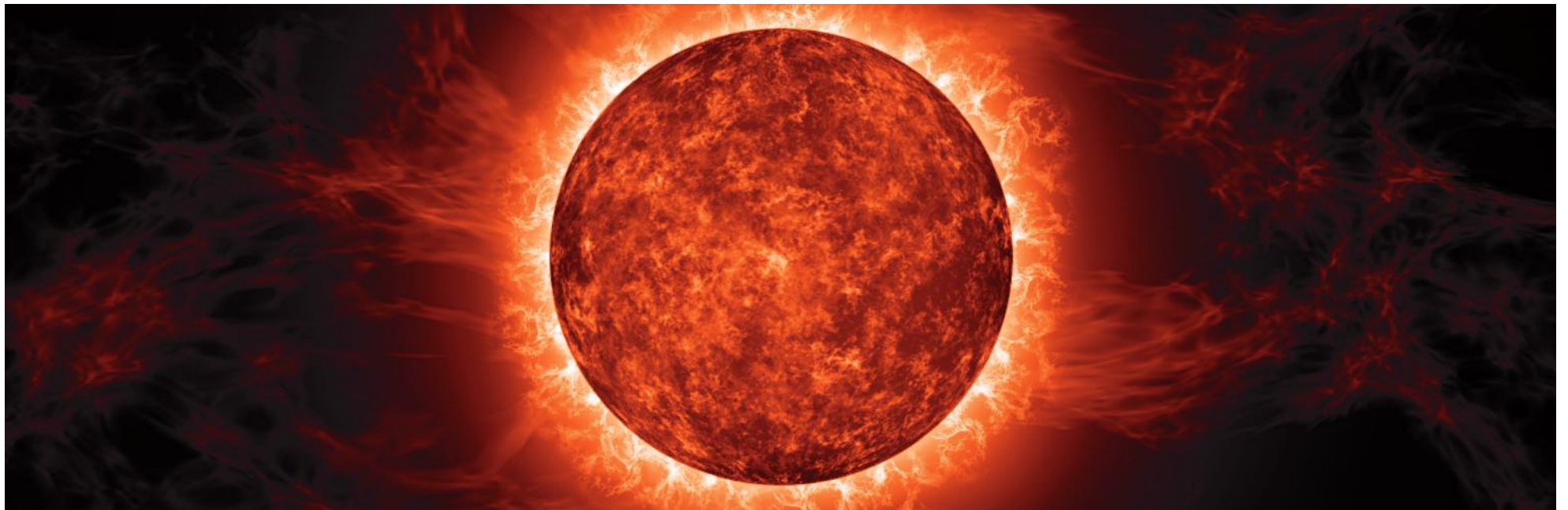
KRUGER2CANYON

NEWS

August 2023

The Farm House, R527, Zandspruit, Hoedspruit, Limpopo email: editor@kruger2canyon.co.za

The world is sinking into the sixth extinction — we can either change now or get used to it



Those who have paid little to no part in the creation of the Climate Crisis will be most impacted by its effects, with the disproportionate impact exacerbating existing inequalities. Image:Canva Pro

Don Pinnock

Let's face up to it and do something about it while we still can. We can do this by protecting and restoring habitats, addressing climate change and combating invasive species, among other things.

The Earth has experienced five mass extinctions in its history, each one causing huge loss of species and altering the course of evolution. Now, many scientists are warning that we're in the midst of a sixth and it's being caused by one species — us.

The way to understand this alarming probability is to measure the decline and loss of the living fabric of the planet — its biodiversity. It is considered a mass extinction because it's happening at a much faster rate than the natural rate of species loss. Right now it's estimated to be 100 to 1000 times higher than the natural rate, and accelerating. We're also losing huge numbers of creatures and plant systems.

The extinction crisis is caused by a variety of human activities, including habitat destruction, overexploitation of natural resources, pollution and climate change. These factors are causing widespread loss of entire ecosystems.

According to the White Paper on Conservation and Sustainable Use of South Africa's Biodiversity tabled in May, of the 23 312 known indigenous living species in SA of all classes, 11 (0,2%) are extinct and almost a quarter (22%) are listed as threatened with extinction, most of these being marine.

For example, deforestation is one of the leading causes of habitat loss. The destruction of forests for agriculture, urban development and logging has destroyed the habitat of countless species and is a major cause of species extinction.

Overfishing is another major contributor. Many fish populations have been depleted because of unsustainable fishing practices, including the use of large trawling nets and longlines. This has not only led to the de-

cline of certain fish populations, but also disrupted entire marine ecosystems.

Man-made destruction

Pollution is also playing a significant role in the sixth extinction. Plastic pollution, for example, is now found in almost every corner of the planet, including remote areas like the Arctic. Huge plastic trash gyres can now be found in most major oceans. This pollution not only harms marine animals that ingest or become entangled in it, but also contaminates the food chain, potentially harming humans who consume seafood.

Climate change is perhaps the most significant threat to biodiversity, causing rapid changes to the environment that many species are unable to adapt to. Rising temperatures, changing rainfall patterns and more frequent and severe weather events are all affecting ecosystems and causing species to go into decline.

The loss of biodiversity has significant implications for humans: we rely on biodiversity for our survival. Ecosystems provide

us with food, water and air, and the loss of biodiversity can disrupt these vital services.

Many of the world's staple crops, such as wheat, rice and corn, rely on pollinators like bees and butterflies. If these continue to decline, it could lead to a decrease in food production and an increase in food prices.

Biodiversity also plays a key role in regulating the earth's climate. Forests, for example, absorb carbon dioxide from the atmosphere and store it in their biomass. If they continue to be destroyed, it will lead to a significant increase in greenhouse gas emissions and contribute to climate change.

In addition to the loss of ecosystem services, the decline of the planet's living fabric has cultural and aesthetic implications. Humans have long relied on nature for inspiration, recreation and spiritual renewal. The loss of biodiversity could rob future generations of these experiences.

Cont. on page 3

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From the editors desk



Well, we are now at the end of August! Only 'yesterday' we were celebrating new year and now summer is on the horizon again! The temperatures are on the rise.

I have had so many letters and calls regarding the building next to our offices and referred to by Jean in a letter to me in last month's edition. The building continues to morph into what seemingly is a very large complex. Apart from that I will choose to refrain from commenting.

There were also continuing questions about the mall development. I have tried to get hold of Mr Rob Hare for the latest update on the mall, but I have yet to receive comment from him. I then asked the Hoedspruit Chamber if they had heard anything, and the response was that Mr Hare stated that as certain negotiations were currently underway, he was "not in a position to say anything more on the mall other than to confirm that it is definitely going ahead". We have spoken to people that are trying to delve into the EIA for the site which might possibly be questionable. If, or when, we get feedback on this, rest assured we will divulge all. I just wish there was some clarity and transparency about this development – I do not think it is fair to the community with the size of the development, to keep it 'secretive'.

Interestingly I was invited to the SOD turning at the Hoedspruit Private Hospital construction site. It was very exciting (and once again a toast to all those that have driven the project forward), with the MEC for Limpopo Department of Health, the Mayor,

and others present. The preparation for the construction is moving on at a pace. It was a pity that the MEC had to over politicise the event (not the platform at all), but why should that be a surprise. What was more of a surprise to me was that I found out that the building contractor for the site is none other than Rob Hare (of our mall debacle fame)!

There's a lot to be said about living in our bubble, but there are concerning issues that really must be dealt with. Is the mall going ahead? When is the water and sewage issue going to be solved? What about the interchange – surely that money could be better spent cleaning up and organising the town? Berlin 39 seems to be going ahead – at what price to a semi-functional (if not dysfunctional) town infrastructure?

And then there is Plastic View – oh my goodness, it seems to get worse by the day ... And nothing is done about it! It seems that it is a den of iniquity, many foreigners, lack of hygiene, prostitution, drugs, alcohol, and the list goes on. What is the solution?

The foreseeable problem that 'sticks out like a sore thumb' is that it is only a matter of time before other squatters try their luck with erecting shacks on open areas, and if there is not timeous intervention then we as a town are facing serious problems. We all need to be on the lookout for suspicious behaviour.

With reference to the Berlin 39 issue, a comment by one of the concerned residents in town stated that, "the municipality and police cannot effectively control 2 000m² of land – how are they going to control 30ha of land of housing and squatting. This will start the decline of Hoedspruit and kill the goose that laid the golden egg"! I believe that most residents in town would to agree with this sentiment..

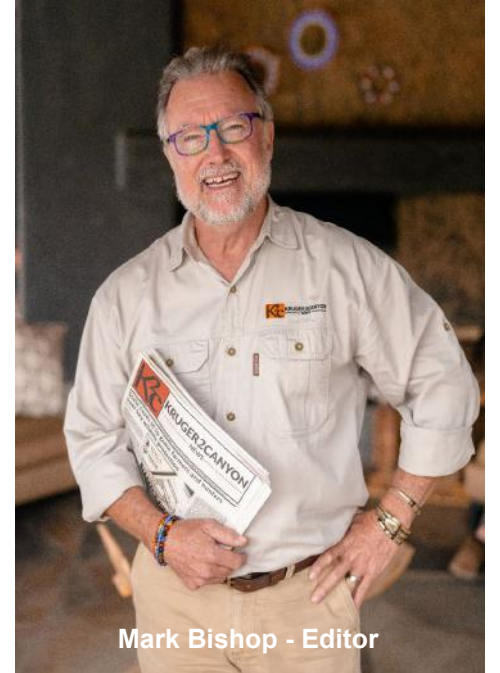
The community must get involved if there are to be any solutions to these issues, and I firmly believe that the forum in which constructive debate and solutions can be found, is through the Hoedspruit Chamber/Sakekamer. Come on people and businesses, sign up to the Chamber/Sakekamer for the future of the town and the sake of our

children.

The Rugby World Cup is upon us – we are all holding thumbs that we are successful in retaining the cup, but it is a tall order. My question is simply, how long can we as South Africans hang our coats on the shoulders of these wonderful rugby warriors to generate unity, hope and passion for an incredible country that is fast sliding into the abyss? As if the pressure is not enough on these guys.

Until next time, stay safe, stay vigilant and let's look after our precious town.

'Go Bokke', we are with you all the way!



Mark Bishop - Editor

(left) Dr Phophi Ramathuba (MEC of Health, Limpopo), with Mayor Tsheko Musolwa and Mr Pieter Scholtz looking on

Hospital SOD turning ceremony (left) from left to right - Raganya Blantina (Maruleng Speaker), Dr Phophi Ramathuba (MEC of Health, Limpopo), Tsheko Musolwa (Maruleng Mayor) and Pieter Scholtz (Promotor and Director of Hoed

One of two garbage dumps at Plastic view seen from the bridge (bottom left)

Images supplied

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Letter to the editor

Dear Editor,

This matter weighs heavily on me and I must divulge.

Here is the concerning issue – I have ascertained that the Berlin 39 development that involved an organisation called Ndani Projects, was supposedly shelved for various reasons. It has ground to a halt and the EIA for that development project has subsequently lapsed.

It has now become apparent (or word has it) that in fact, without further discussion with the community, an organisation called Skotane Developments is picking up the baton and is continuing with that project! This is without any notices being issued or any discussion with the community taking place. This cannot be right and needs to come into the open.

I hope you publish this letter for all the residents of our town to see and read – we need action, not only because of the water, sewage, and other evident issues – but because it

seems that this is yet another underhanded, suspicious continuation of something that was supposed to have stopped!

It seems the municipality, and more specifically the mayor, says one thing but does another.

Regards Anon (for the sake of having stirred the hornet's nest!)

Ed: Thanks for the letter Anon – this is most concerning. I did manage to ask the chamber if they had been advised about it. Lizmari Wolmarans, Chairperson of the Hoedspruit Chamber/Sakekamer has confirmed that she has been in contact with Mr Khoza from Skotane Development's town planning department.

Skotane Developments was originally under contractual obligation to handle a part of the project's planning and impact study phases. Mr Khoza was asked as to whether the development was going ahead? He responded and advised that the project was in fact continuing, and that they were currently busy with the

drafting of the township establishment application to be submitted to the local authority. He advised that the EIA application submitted to LEDET had in fact lapsed, and needed to be re-submitted after addressing the comments received.


When asked about which phase of the project they are on, he replied that they are currently doing specialist studies and yet to start the EIA process.

Lizmari added, that according to Ndani Projects, Skotane Developments were supposed to place an advertisement in the Hoedspruit Herald (not sure why the Kruger2Canyon News was been left out!?) to notify the public of continuation of the project after the EIA period had lapsed. The Editor in Chief of the Herald, confirmed that to her knowledge no such advertisement had been placed. Skotane Developments failed to respond to the request to produce the advertisement.

Ms Wolmarans further explained that due to

undue pressure on Maruleng Municipality to come up with a solution for the need for low cost housing, and their lack of financial capacity to oblige, they had to ask COGHSTA (Cooperative Governance, Human Settlements and Traditional Affairs), to assist with the matter. It cannot be confirmed if the development is going ahead with construction, but according to Leads2Business, Skotane Developments has updated the project in their recent activities. (Look at 12b.co.za/Search/GlobalSearch - type in Hoedspruit for all Hoedspruit tenders)

The community has yet to receive feedback after the 'concerns document' was submitted to Ndani Projects in August 2022 by the Hoedspruit residents and businesses. According to Ndani Projects, a further public participation process is required before the project can continue. I gather that further information will follow.



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The world is sinking into the sixth extinction — we can either change now or get used to it



Climate change concept Image: Canva Pro

Cont. from page 3

There are also implications for human health. Many medicines are derived from plants and animals. As species go extinct, we lose potential sources of new drugs and other medical treatments. The loss of biodiversity can also increase the spread of disease. When ecosystems are disrupted, it can lead to changes in the distribution of species and the emergence of new diseases.

For example, the destruction of rainforests has been linked to the emergence of diseases like Ebola and Zika. Covid-19 is thought to have originated with the consumption in China of a wild-caught animal, probably a pangolin.

The loss of biodiversity can also have economic implications. Many industries, such as tourism and agriculture, rely on intact ecosystems and the services they provide. The loss of biodiversity could lead to significant economic losses in these sectors.

Disturbing forecast

Why is it called the sixth extinction? That's because there have been five previous such events. Here is a brief overview:

Ordovician-Silurian extinction (around 440 million years ago) was the first major extinction event and it's estimated that about 85% of marine species went extinct. It is believed to have been caused by a combination of gla-

ciation and a drop in sea levels.

Late Devonian extinction (about 375 million years ago) was characterised by the estimated loss of about 70% of all species, mainly marine. It is thought to have been caused by a combination of climate change and anoxic events, which occur when oxygen levels in the ocean drop very low.

Permian-Triassic extinction (about 252 million years ago) was the most severe in earth's history, with about 96% of all marine species and 70% of all terrestrial species thought to have gone extinct. It is believed to have been caused by a combination of volcanic activity, which led to a massive release of greenhouse gases, and an asteroid impact.

Triassic-Jurassic extinction (about 201 million years ago) resulted in the loss of perhaps 80% of all species, most being sea creatures. It is thought to have been caused by a combination of volcanic activity and climate change.

Cretaceous-Paleogene extinction (about 66 million years ago) led to the disappearance of the dinosaurs. It is thought to have been caused by an asteroid impact, which led to widespread fires, dust clouds and a cooling of the climate.

Though these events were catastrophic in terms of the loss of biodiversity, they also paved the way for new species to evolve and

thrive. For example, the extinction of the dinosaurs opened up ecological niches that allowed mammals to diversify and eventually dominate the planet.

Urgent redress needed

Preventing the loss of biodiversity is a complex challenge that requires a whole-earth approach. Here are some potential solutions:

Protect and restore habitats: one of the primary drivers of biodiversity loss is habitat destruction and degradation. To prevent this, it's essential to protect and restore habitats such as forests, wetlands and coral reefs.

Address climate change: climate change is another major threat to biodiversity, as it causes shifts in temperature and precipitation patterns that are disrupting ecosystems. Addressing climate change will require a global effort to reduce greenhouse gas emissions, transition to renewable energy sources and improve energy efficiency.

Reduce overexploitation: overusing natural resources in fishing, hunting, harvesting of wild plants and poaching can lead to the depletion of species and ecosystems. To prevent this, it is essential to implement sustainable resource management practices.

Combat invasive species: such species can threaten biodiversity by outcompeting native

species and disrupting ecosystems. To prevent this, it's important to implement stricter biosecurity regulations.

Raise awareness and promote education: raising awareness about the importance of biodiversity can help build public support for conservation efforts. This can involve public outreach campaigns, educational programmes in schools and universities and engaging with local communities to build support for conservation initiatives.

Support conservation research and innovation: research and innovation can help develop new approaches and technologies to address biodiversity loss.

Ultimately, preventing the loss of the earth's biodiversity will require a global effort and a long-term commitment to conservation. While the challenges are significant, there is reason for hope.

Many governments, organisations and individuals around the world are already taking action to address biodiversity loss and there is growing awareness of the importance of biodiversity conservation for both ecological and human wellbeing.

By working together and taking action at local, national and global levels, we can help ensure that future generations inherit a planet rich in ecological diversity.

This article was previously published in the Daily Maverick



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Report raises alarm over state of provincial nature reserves

Paul Geiss – GroundUp

Protected areas critical to the country’s biodiversity and conservation efforts are being badly mismanaged, says the Endangered Wildlife Trust.

For a long time there has been grave concern among conservationists over declining standards in South Africa’s provincial nature reserves. Now a recent report by the Endangered Wildlife Trust (EWT) says many provincial reserves are in a shocking state, compromising the long-term survival of wildlife and ecosystems. If biodiversity is to be conserved, it will require urgent management interventions.

The newly approved White Paper on Conservation and Sustainable Use of South Africa’s Biodiversity has as its goal “an inclusive, transformed society living in harmony with nature, where biodiversity conservation and sustainable use ensure healthy ecosystems, with improved benefits that are fairly and equitably shared for present and future generations”.

But it is inconceivable how such goals can be accomplished given the current state of collapse in many provincial reserves.

Protected land accounts for 112 807km² of South Africa’s mainland. Provincial reserves account for 44,5% of this, and the EWT says they are not fulfilling their conservation objectives.

The report found cases where 80 – 90% of park funding was allocated to salaries, leading to a lack of spending on essential maintenance. There has also been a significant loss of institutional knowledge since an assessment was done in 2010. Experienced staff have left only to be replaced by less capable appointees or not replaced at all.

In some provinces, half the unfilled vacancies were in scientific support roles, making it difficult to record data on species declines or to provide science-based solutions to managers.

Prov	Provincial Reserve	METT Score (%)	Challenges
LP	Hans Merensky Nature Reserve	63.6	Sable population is not doing well. Reserves with roan antelope are not managed well.
NW	Pilanesberg Game Reserve	48.5	Budget goes to staff and officials – no budget for operational activities. Infrastructure problems – poor road conditions affect tourism.
FS	Sandveld Nature Reserve	83.3	Need to formally declare the parts of the reserve that are not declared and improve the management of the important biodiversity.
WC	Hottentots Holland Nature Reserve	66.7%	Vulnerable due to human settlements in and around the area. Boundary not correctly demarcated in the mountainous terrain.
NC	Gamsberg Area	86.1	Three cases of succulent plant poaching per week on average.
KZN	Ndumo Game Reserve	50.0	Cultivation is encroaching on the reserve. Hippo and crocodile populations are declining (which is the reason for proclamation). Riverine habitat has been over-harvested.
KZN	General KZN Reserves		Grasslands are used for communal grazing. Invasive species (plants and animals) are a massive threat. Smaller reserves abandoned; no staff left. More than half a billion Rand needed to fix fencing or they will become communal rangelands (87% of PAs already have livestock in them). Rhino poaching. Lack of law enforcement staff; the number of PAs with rhinos has decreased.

Table 1

A sample of provincial reserves showing their Management Effectiveness Tracking Tool (METT) score which is based on a survey devised by the WWF to assess how effectively wild areas are being managed. It consists of a series of questions given to the managers of protected land. Each answer is given a score so that the results can be compared over time to see if management standards are improving or declining.

At Songimvelo Nature Reserve in Mpumalanga, home to 28 animals of conservation concern, the researchers found part of the reserve abandoned, its rhino population being poached, vehicles no longer operational, and cattle invading the land because

fences have not been maintained.

Rhino, hippo and crocodile populations were found to be declining in many reserves due to poaching. Ntsikeni Vlei Nature Reserve (a Ramsar site) in KZN was found to be losing three to four wildebeest a week to poachers.

Fencing neglect is often the first visible sign that management is failing. There are many reports of domestic livestock entering reserves and people living nearby have even planted crops in some reserves.

Problems also arise when animals are able to easily leave protected areas. Where predators such as lion and hyena interact with local communities they are often killed by angry residents before reserve manage-

ment can react.

In some locations, a vicious circle has arisen where the poorly-maintained tourism infrastructure has caused visitor numbers to decline, resulting in the closure of a potential revenue stream that could have been used to maintain both the tourism facilities and park boundary fences.

The EWT report identified KwaZulu-Natal as the province of most concern. Hluhluwe-iMfolozi Park was the protected area in most urgent need of support and attention. The park recently made headlines regarding several incidents directly related to poor management. This includes the poaching of 275 rhino in the first half of 2022, and human-wildlife conflicts resulting from de-

graded fences.

In 2020, the entire board of the Ezemvelo KZN Wildlife conservation agency was suspended, after the well documented political appointment of an inexperienced ANC youth league official as director of the underperforming nature conservation agency.

There is concern that provincial reserves will become what the EWT terms “paper parks”, existing as conservation protection areas on paper only.

Although many are under-resourced financially and lack adequate capacity, they retain the potential to play a meaningful role in the conservation of valuable habitats.

Although it often presents a disturbing picture, the EWT report does highlight the opportunities and practical actions – from recruiting experienced staff to innovative funding models – that could still turn the provincial reserves around. Under-resourced reserves could establish strategic partnerships and outsource critical services to bodies with a proven conservation track record – NGOs, the private sector or research institutions.

Conservationists are looking to the Department of Forestry, Fisheries and the Environment for leadership in the financing and upskilling of reserve management to ensure that the department’s own stated aims can be delivered.

The EWT report concludes: “There is a strong need for provincial reserves to be managed by entities with a conservation or ecological mandate, with appropriate expertise in this area, and with the support of financial and infrastructure experts, and not the other way around”.

Unless this type of management is established, South Africa’s protected areas will fail to meet their conservation mandates. If that happens, the Biodiversity White Paper will be dead.

Original article published by GroundUp:
<https://www.groundup.org.za/article/report-raises-alarm-over-state-of-provincial-nature-reserves/>

Previously published by Conservation Action Trust: www.conservationaction.co.za



In one park in KwaZulu-Natal, 275 rhinos were poached in the first half of 2022.

Image: Michael Lorentz





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N'TSIRI, GREATER KRUGER, BIG 5 R 5 700 000
Beds 3 | Bath 2 | Floor size: 120 m²

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Yvette Thompson - 083 655 7176 Ref: 2174061



APARTMENT IN HOEDSPRUIT R 670 000
Bedroom 1 | Bathroom 1 | Floor: 69 m²

This apartment is a great investment property, with a reliable tenant in place. It has an open plan living area and kitchen, as well as bathroom on the lower level and an upstairs bedroom. Municipal water supply and pre-paid electricity. Communal pool and braai facilities.

Michelle Severin - 083 469 3821 Ref: 2156206



BLYDE WILDLIFE ESTATE R 4 324 000
Bedrooms 3 | Bathrooms 3 | Floor size: 360 m²

This home is privately situated and overlooks the wilderness area. The layout includes open plan kitchen, living and dining room as well as a separate scullery and a separate laundry. The living area and bedrooms all lead out to the large, covered patio with pool and elevated views.

Jason Jones - 083 267 4794 Ref: 2143428



MAFUNYANE, KARONGWE R 14 000 000
Bedrooms 4 | Bathrooms 4 | Traverse: 8,000 ha

This property is stunning and has a wow factor that will take your breath away! Very exclusive, modern bush home, overlooking a seasonal river bed, located in a Big 5 reserve with 8,000 ha traverse. Sold furnished & including game viewer.

Rob Severin - 083 469 3820 Ref: 2107650



GUERNSEY AREA Price on Application
Bedrooms 18 | Bathrooms 15 | Floor size: 1235 m²

This property is home to a well-known restaurant and pub, guest accommodation, as well as several home rentals and accommodation rentals. It is ± 4 hectares in size and borders the Timbavati and is 500 meters from the gate and 11 km from the Eastgate Airport. Income via various rental options.

Rob Severin - 083 469 3820 Ref: 2149661



MODITLO WILDLIFE ESTATE, BIG 4 R 5 500 000
Beds 3 | Baths 2 | Floor: 242 m²

The house is set amongst large Jackalberry trees, on the bank of a dry riverbed. The seamless flow from indoor to outdoor living is evident in the dining and lounge areas, which lead to a covered patio. From the pool deck and boma one can take in the beautiful views. Backup inverter is installed.

Yvette Thompson - 083 655 7176 Ref: 2173366



ELEPHANT ROCK ECO ESTATE R 650 000
Stand size: 2,400 m²

This elevated bushveld stand features lovely trees and views over the lowveld. The stand is located in the first phase of the development. Elephant Rock Eco Estate is 240 hectares in size with 125 stands. The estate is located approximately 30 minutes out of Hoedspruit on the R530.

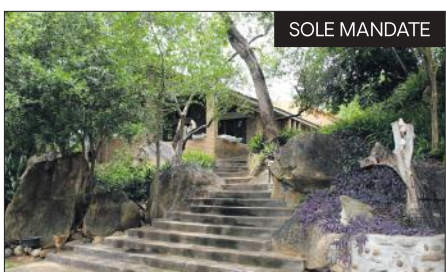
Michelle Severin - 083 469 3821 Ref: 2152428



NDLOVUMZI R 5 200 000
Bedrooms 8 | Bathrooms 8 | Floor size: 480 m²

Set on 21 hectares and overlooking the Olifants River, this property offers four separate residential dwellings, the main unit has two downstairs bedrooms and three on the upper landing. There are three additional chalets, each of these overlooking the Olifants River

Jason Jones - 083 267 4794 Ref: 2151582



NDLOVUMZI R 4 458 000
Bedrooms 4 | Bathrooms 4 | Floor size: 300 m²

This tranquil home's is situated overlooking the Olifants River and is surrounded by large riverine trees and rocky outcrops. The open plan living, dining and newly fitted kitchen are all under high vaulted ceilings that make this home light and bright and there is also a separate scullery.

Jason Jones - 083 267 4794 Ref: 2152063



COMMERCIAL LODGE R 11 000 000
Beds 8 | Baths 8 | Floor: 980 m² | Land size: 21 ha

This lodge consists of a main owner's house, central lodge area and 5 luxury treetop chalets. Sold as a going concern; this lodge has bounced back after Covid and has great potential. There are future bookings and well-trained staff. Movable items and furniture included, as well as a bakkie.

Rob Severin - 083 469 3820 Ref: 2160187



KHAYA NDLOVU GAME RESERVE, BIG 4 R 3 250 000
Stand size: 1 ha

This beautiful river site is the ideal blank canvas for you to design and build your dream bush home. The stand is set between large riverine trees on the edge of the seasonal Sandspruit river, in the exclusive Khaya Ndlovu, a low density residential reserve with only 35 stands on 1,307 ha.

Yvette Thompson - 083 655 7176 Ref: 2154781



RAPTOR'S VIEW WILDLIFE ESTATE R 6 000 000
Beds 4 | Baths 3 | Floor size: 312 m²

This immaculate property is privately located in the third phase of this sought after estate. It has a comfortable living area with lounge, dining room and large kitchen. The large covered patio with pool and mountain views is great for entertaining. It has a boma area with pizza oven to the side.

Michelle Severin - 083 469 3821 Ref: 2155933



RAPTOR'S VIEW WILDLIFE ESTATE R 4 700 000
Beds 5 | Baths 4 | Floor size: 374 m²

This house is the ideal family home in the most wonderful location. Set on the dry river bed, in the shade of a massive Jackalberry Tree. The open plan living area is made up of a kitchen with pantry, dining area and lounge. Leading off the passage, you'll find a study, laundry and storeroom.

Michelle Severin - 083 469 3821 Ref: 2171702



LISSATABA R 4 900 000
Bedrooms 5 | Bathrooms 5.5 | Floor size: 500 m²

The main building has an open plan kitchen, dining and two lounge areas, pantry, scullery, guest toilet and main en-suite bedroom. The double storey guest unit is privately located and it has 4 en-suite bedrooms. The large patio and pool deck lets you enjoy the mountain views.

Jason Jones - 083 267 4794 Ref: 2170282



PRIVATE CAMP IN BIG 5 RESERVE R 9 900 000
Beds 10 | Baths 10 | Floor: 650 m²

This 68 hectare farm is fenced within a Big 5 game reserve. There are 4 bedrooms inside the main house, which has a kitchen, scullery, laundry, office, dining room, lounge and walk in safe. The other 6 bedrooms are located in the separate chalets spaced within the garden for privacy.

Rob Severin - 083 469 3820 Ref: 2107053



MODITLO WILDLIFE ESTATE, BIG 4 R 6 350 000
Beds 3 | Baths 3.5 | Floor: 325 m²

This modern home boasts luxury, comfort and top-of-line finishes. In addition to the bushveld surroundings the home offers great outdoor spaces featuring bedroom patios, pool & covered patio with built-in braai. A double garage and back-up water storage adds to the convenience.

Yvette Thompson - 083 655 7176 Ref: 2157623

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Spotlight: The Nourish Eco Village – fighting poaching by fighting poverty



SCAN ME

Happy children
Image: nto my wild Africa

There is a lot of excitement under way in the Nourish Eco Village. Situated 40km from Hoedspruit on the Orpen Road, the village is set to be replicated in the Serville B community. This is on the road to Gowrie Gate, Sabi Sand Private Game Reserve, and close to the villages of Utah and Dixie.

The Eco Village holistic model was the brainchild of Sarah Bergs who founded Nourish NPO in 2011 as a platform to link conservation with community issues and ideals. The concept was to find integrated sustainable solutions to issues plaguing conservation such as poverty, low levels of education, food insecurity and unemployment. This is Nourish's focus – projects that empower communities and preserve wildlife.

The flagship Eco Village at Sigagule Village (on the Orpen road) is a delivery platform for on-site projects for the local community, as well as an outreach into the neighbouring communities. It is here that over a ten year period the holistic programming model for *Cradle to Career Pathways to Change* has been meticulously developed and refined. The Nourish Pillars and Projects include three essential cornerstones,

education, enterprise and tourism.

Education

The Nourish Eco Village supports education from early childhood development (ECD) to high school level through various initiatives. The first is the **ECD Creche**. This serves 60 children. RISE Educare is the heart of early childhood education, and it extends its impact by supporting six additional creches in the community. This support entails infrastructure improvement, teacher training, establishment of vegetable gardens, provision of food supplies, and creation of play areas.

Then there is the **Green Kidz Club**. This is after school care catering daily to 70 - 100 primary and secondary school learners. Green Kidz offers a dynamic space for learning and growth. It encompasses a library, environmental education programs, scouting activities, homework support, English literacy classes, creative development opportunities, animal kindness lessons, and sports activities. Moreover, Green Kidz extends its reach to seven different community-based schools by providing environmental education and organising enriching conservation based field trips.

Lastly, there is the **Food Security Program**. Nourish Eco Village provides approximately 4 400 meals per month, feeding around 140 children, teachers and staff each day. This program relies, in part, on produce grown at the on-site working farm, fostering sustainability and self-sufficiency.

Enterprise

The Eco Village empowers the community through various training and workshops, thereby fostering skill development, entrepreneurship, and economic growth. The **training and workshops** at the Eco Village offers a range of workshops, including permaculture farming and green building, skills development for young adults (computer literacy and financial education), hospitality training, and more.

The **Micro-Enterprise Development** is an initiative that nurtures local artisans and crafters, with emphasis on recycled materials. The SEDIWA Hub serves as a sales platform for these entrepreneurs, featuring a craft shop, sewing centre, and coffee shop.

The **working farm and indigenous farming** in the village is a sustainable working farm with an emphasis on indigenous farming. The produce supports the feeding pro-

gram but has also transformed into an agribusiness offering products for sale, thereby contributing to local economic growth.

Tourism

Located on the same premises, Shik Shack is part of the Nourish Sustainability Model. **Shik Shack Backpackers and Tours** caters for tourists visiting the Eco Village, who then have the opportunity to experience authentic rural South African life. This innovative approach channels tourism revenue into the local communities, promoting mutual growth and understanding.

Nourish believes that the conservation landscape and wildlife cannot exist in isolation from the communities and people that live on their boundaries. Nourish's founder had a vision of connecting communities to conservation through this holistic Eco Village model. Her dream for the last ten years has been to replicate it in other vulnerable communities that border on protected areas throughout southern Africa.

Thanks to a wonderful collaborative relationship with Thornybush Community NPO and Andersen Foundation, USA, that dream of replication is now happening with a Green Kidz Library, Grannies' Kitchen and Playground all under construction at Serville B.

Nourish Eco Village on Orpen Road is open to the public. Come and enjoy a cup of coffee, visit the craft shop and see the projects in action. Contact us at info@nourishecovillage.com or visit nourishecovillage.com for further information. To donate to keep these meaningful projects alive please scan the QR Code.

Veggie Diva's roasted butternut and herby rice salad

This recipe serves 4 as a main.

The rice salad is a healthy delicious dish with many layers of flavours. It can be served warm or eaten cold as leftovers. A perfect summer lunch dish. If you feel you need a meaty addition to the salad you can add strips of flash fried chicken or beef.

Ingredients

350g brown basmati rice
Water for cooking the rice
Olive oil
5 tablespoons butter
5 garlic cloves peeled and thinly sliced
1 x red onion thinly sliced
1 x butternut peeled and chopped into small cubes
½ tsp cinnamon
½ tsp ginger
½ head broccoli cut into small florets.
Handful of parsley roughly chopped
Handful coriander roughly chopped
Handful rocket roughly chopped
4 stems celery finely sliced
100g shaved almonds
Salt and pepper

Method

Heat your oven to 180°C.
Cover your brown basmati rice with water and a good pinch of salt and cook for 30 – 40 minutes until tender.
Pour a couple of 'glugs' of olive oil over the cubed butternut stir until well coated. Add a good grind of salt and pepper and the cinnamon and ginger. Roast in the oven for 20 -30 minutes until well cooked and the edges turning slightly brown.
Gently fry the sliced onion in a couple of spoons of olive oil for 10 minutes until transparent, add the garlic slices and the broccoli and toss for 5 minutes until the garlic is cooked. Season and set aside.
Once the rice is cooked drain well, melt the butter in the same rice pot and add the herbs, the celery and the rice back into the pot. Stir over a low heat for a one minutes until the rice is well coated in the herby butter. Season well.
Gently toast the almonds until golden brown. Combine all the ingredients except the almonds, and warm through.
Sprinkle the almonds on top and serve immediately.



Roasted butternut and herby rice (above)
Image: Supplied

Picky view - The Hogfather



Sumptuous eggs Benedict on wilted spinach (above), French toasted coissant with bacon, banana & maple syrup (above right), fully loaded brakfast (below right) and the gratinated bruschetta (bottom right)

By AE

Hello all of you wonderful people in 'The Hoed'. I'm back, for how long I cannot say, but I'm excited that summer is on its way, and we are now back to checking out the culinary offerings in Hoedies.

Back in the driving seat we did something different this month and went for breakfast! Isn't that a pleasant change?

Off we went to The Hogfather Pub & Porkery, to sample their offerings.

We were very warmly greeted and took our seats on the expansive deck. Sadly the only issue from my perspective is the view that now greets the patrons of looking on to the backside of a development of what looks like a prison! Horror of horrors it turns out to be like a 'mini mall', but where is the aesthetics in the design. It's a shocker and I feel for the owners because that wonderful view of the mountains from the deck has been spoilt and destroyed – forever, courtesy of the monstrosity being built.

We settled in and the beverages were quickly delivered, the iced coffee took the prize – it was delectable – the others had the norm, orange juice, tea and red cappuccino. There could have been a cow's milk alternative – you should work on that.

Then came the food. The order was eggs benedict with mushroom and not ham, on

wilted spinach and drenched in hollandaise sauce; a fully loaded breakfast of scrambled eggs, chipolatas, crispy bacon, mushrooms, balsamic seared tomatoes and English spinach with ciabatta slices. Then there was gratinated bruschetta, with tomato, basil pesto, and gratinated cheese with mushroom. The other mouth-watering order was the French toasted croissant with bacon, banana, and maple syrup.

The food was presented beautifully, clearly freshly prepared to perfection, and absolutely scrumptious.

Look at the pictures and see for yourself – this venue has to be on your hitlist for a gastronomic happening. We could not fault a thing – and that is so unusual in the restaurant environment. I will definitely come back and recommend you get there too. Well done, to all the Hogfather!



This month's trivia questions:

1. Female bathing caps were originally invented to prevent what?
2. Name Australia's highest mainland mountain?
3. What colour is malachite?
4. In The film Reservoir Dogs what song was discussed at the start?
5. Who was the Beatles original bass player?
6. Which native Indian tribe never signed a peace treaty US government?
7. Shovelhead, Knucklehead, Panhead are types of what?
8. Murphy's Oil soap is most often used to clean what animal?
9. In Singapore you can be publicly caned for failing to do what?
10. What flavour sweet was created for Ronald Regan?
11. The lemniscate is the correct name for what symbol?
12. Corduroy literally translated means what?
13. What was Napoleons mothers' name?
14. Terry Bollea became famous under what name?
15. Which breed of dog suffers the most from gout?
16. What country has the world's oldest national anthem?
17. William Blake, Winston Churchill, and John Lennon had what common link?
18. What domesticated pet is never mentioned in the Bible?
19. What used to be known as 'Arabian Wine'?
20. What does the blue (black) and white checker boxes in the BMW logo represent?
21. Where are the Luxembourg Gardens found?
22. What book in the Bible states: "For the love of money is the root of all kinds of evils"?

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RUGBY WORLD CUP SCHEDULE



POOL A NEW ZEALAND FRANCE ITALY URUGUAY NAMIBIA	POOL B SOUTH AFRICA IRELAND SCOTLAND TONGA ROMANIA	POOL C WALES AUSTRALIA FIJI GEORGIA PORTUGAL	POOL D ENGLAND JAPAN ARGENTINA SAMOA CHILE
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FRIDAY	8	SEPTEMBER	21:15	FRANCE	VS	NEW ZEALAND
SATURDAY	9	SEPTEMBER	13:00	ITALY	VS	NAMIBIA
			15:30	IRELAND	VS	ROMANIA
			18:00	AUSTRALIA	VS	GEORGIA
			21:00	ENGLAND	VS	ARGENTINA
SUNDAY	10	SEPTEMBER	13:00	JAPAN	VS	CHILE
			17:45	SOUTH AFRICA	VS	SCOTLAND
			21:00	WALES	VS	FIJI
THURSDAY	14	SEPTEMBER	21:00	FRANCE	VS	URUGUAY
FRIDAY	15	SEPTEMBER	21:00	NEW ZEALAND	VS	NAMIBIA
SATURDAY	16	SEPTEMBER	15:00	SAMOA	VS	CHILE
			17:45	WALES	VS	PORTUGAL
			21:00	IRELAND	VS	TONGA
SUNDAY	17	SEPTEMBER	15:00	SOUTH AFRICA	VS	ROMANIA
			17:45	AUSTRALIA	VS	FIJI
			21:00	ENGLAND	VS	JAPAN
WEDNESDAY	20	SEPTEMBER	17:45	ITALY	VS	URUGUAY
THURSDAY	21	SEPTEMBER	21:00	FRANCE	VS	NAMIBIA
FRIDAY	22	SEPTEMBER	17:45	ARGENTINA	VS	SAMOA
SATURDAY	23	SEPTEMBER	14:00	GEORGIA	VS	PORTUGAL
			17:45	ENGLAND	VS	CHILE
			21:00	SOUTH AFRICA	VS	IRELAND
SUNDAY	24	SEPTEMBER	17:45	SCOTLAND	VS	TONGA
			21:00	WALES	VS	AUSTRALIA
WEDNESDAY	27	SEPTEMBER	17:45	URUGUAY	VS	NAMIBIA
THURSDAY	28	SEPTEMBER	21:00	JAPAN	VS	SAMOA
FRIDAY	29	SEPTEMBER	21:00	NEW ZEALAND	VS	ITALY
SATURDAY	30	SEPTEMBER	15:00	ARGENTINA	VS	CHILE
			17:45	FIJI	VS	GEORGIA
			21:00	SCOTLAND	VS	ROMANIA
SUNDAY	1	OCTOBER	17:45	AUSTRALIA	VS	PORTUGAL
			21:00	SOUTH AFRICA	VS	TONGA
THURSDAY	5	OCTOBER	21:00	NEW ZEALAND	VS	URUGUAY
FRIDAY	6	OCTOBER	21:00	FRANCE	VS	ITALY
SATURDAY	7	OCTOBER	15:00	WALES	VS	GEORGIA
			17:45	ENGLAND	VS	SAMOA
			21:00	IRELAND	VS	SCOTLAND
SUNDAY	8	OCTOBER	13:00	JAPAN	VS	ARGENTINA
			17:45	TONGA	VS	ROMANIA
			21:00	FIJI	VS	PORTUGAL
SATURDAY	14	OCTOBER	17:00	QF1 WINNER POOL C	VS	RUNNER-UP POOL D
			21:00	QF2 WINNER POOL B	VS	RUNNER-UP POOL A
SUNDAY	15	OCTOBER	17:00	QF3 WINNER POOL D	VS	RUNNER-UP POOL C
			21:00	QF4 WINNER POOL A	VS	RUNNER-UP POOL B
FRIDAY	20	OCTOBER	21:00	SF1 WINNER QF 1	VS	WINNER QF 2
SATURDAY	21	OCTOBER	21:00	SF2 WINNER QF 3	VS	WINNER QF 4
FRIDAY	27	OCTOBER	21:00	LOSER SF 1	VS	LOSER SF 2
SATURDAY	28	OCTOBER	21:00	WINNER SF 1	VS	WINNER SF 2

World rankings
at the time of going to print

IRELAND	1	ENGLAND	6	GEORGIA	11	PORTUGAL	16
SOUTH AFRICA	2	ARGENTINA	7	SAMOA	12	URUGUAY	17
FRANCE	3	AUSTRALIA	8	ITALY	13	ROMANIA	19
NEW ZEALAND	4	FIJI	9	JAPAN	14	NAMIBIA	21
SCOTLAND	5	WALES	10	TONGA	15	CHILE	22



Beware the bilharzia lurgy!

There seems to have been numerous cases of bilharzia (schistosomiasis) in Hoedspruit.

The disease is caused by blood flukes (trematode worms) of the genus *Schistosoma*, that occupy freshwater environments. It is important to be aware of this condition as it can affect anyone coming into contact with contaminated water, in which certain types of snails that carry schistosomes are living.

Freshwater becomes contaminated by *Schistosoma* eggs when water becomes contaminated with urine or faeces containing the parasites from infected animals or humans. The parasites are capable of entering the human body through the skin. This usually happens whilst a person is in contact with contaminated water. The parasites can then travel through the bloodstream and can migrate to various organs, including the liver and intestines.

Common symptoms are a rash and itchy skin, a cough, stomach pain, fever and

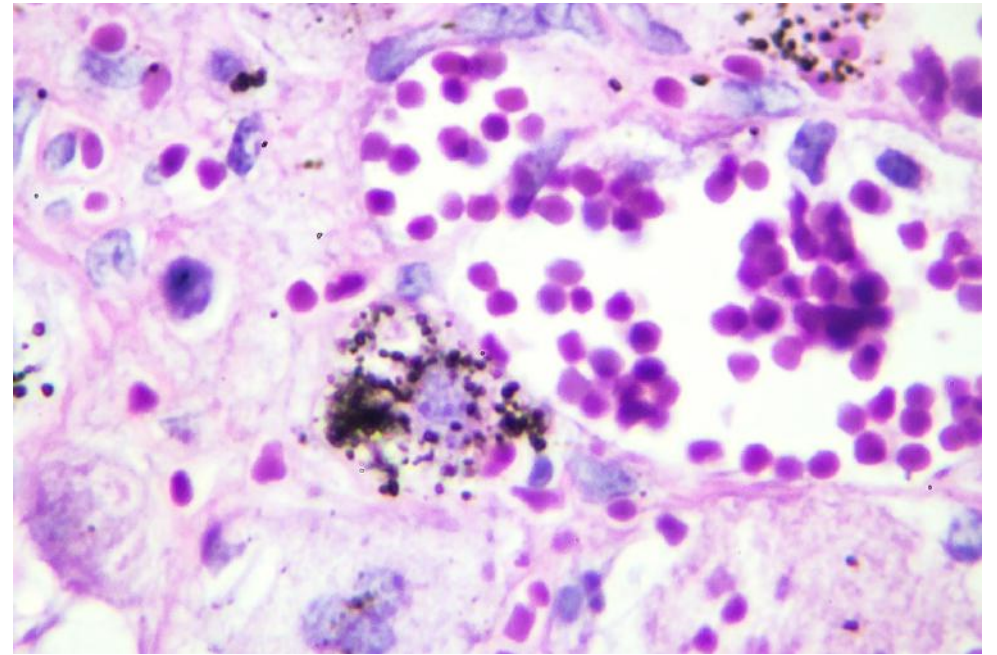
chills, headache, joint pain, and muscle aches.

If you suspect anyone to have been exposed to contaminated water, and they are experiencing any of the above symptoms, seek prompt medical attention. Without treatment the disease can persist for years.

Bilharzia can be diagnosed through medical tests. It can be effectively treated with medication. A course of medication, usually over a couple of days, can clear the infection and help prevent further complications.

Avoiding contact with potentially contaminated water sources, can also help reduce the risk of contracting this disease. Encourage good hygiene practices and ensure that you and your family avoid swimming or playing in water that might be contaminated.

If you have any concerns or questions about bilharzia, do not hesitate to reach out to your healthcare practitioners.



Bilharzia (schistosomiasis) human pathology sample under a microscope

Tackling cholera at the source



Concept illustration and photo showing cholera bacteria in a water drop from the tap
Image: Canva Pro

Chetan Mistry, Strategy and Marketing Manager, Xylem Africa

Cholera used to be a killer of epidemic proportions. In 1817, a cholera outbreak in India continued for almost a decade, killing hundreds of thousands of people. In the mid-1800s, over 15 000 people died from the disease in Saudi Arabia, and a massive outbreak in Russia during the same period would eventually claim over a million lives.

Even though cholera was partially identified more than 2 000 years ago, it began thriving in the modern era. Dense population levels and inadequate sanitation create colossal breeding grounds for the disease, a highly contagious bacteria that infects our small intestine with toxins.

Things started to change in the 20th century as municipal wastewater facilities and improved sewage systems made piped clean water a reality for most people. Today, we continue to bring that clean water to everyone because it helps eliminate dangerous diseases and improve people's lives.

So, it's saddening to see that cholera has reared its head again in South Africa and families are experiencing a traumatic and

painful loss of loved ones. This is a critical concern, and while it's crucial to hold authorities responsible for this dramatic step back in modern hygiene, that won't directly help those exposed to this disease.

How can South Africa reverse the Cholera outbreak and prevent it from re-emerging? The answers lie with our wastewater treatment sites.

How to Fix Wastewater

South Africa's wastewater sites are in trouble. According to a 2022 report from the Department of Water and Sanitation, 105 out of 115 local wastewater treatment systems (over 80 percent) are in a critical state. These sites often discharge raw or partially untreated sewage into our river systems, exposing the most vulnerable and impoverished to polluted water.

Banishing this disease back to the previous century will take time and effort. But there are interventions at wastewater sites that can change the picture quickly. We can generally group these problems into six areas: old infrastructure, complex management systems, load shedding, depleted budgets, and lack of skills.

Community knowledge old and ageing infrastructure, such as pumps and pipes, can severely limit a site's capacity, not to mention proper maintenance. Breakdowns lead to less capacity, creating a vicious cycle. Such legacy equipment can be revitalised with modern integrations, such as 'Internet of Things' sensors or modernised with new age solutions/products geared for optimisation and greater monitoring and control, and ad-hoc hi-tech assessment solutions, such as sonic leak detection balls that identify problems long before they emerge.

Decentralised Treatment

Effluent is a key component for the spread of cholera, therefore collecting and treating it quickly and efficiently will minimise the spread. Small package treatment plants can be used closer to the source of effluent to prevent further spreading. Furthermore, clean water can be treated with UV or Ozone or a combination of both e.g., tankers equipped with UV units will disinfect and therefore provide safe drinking water. Disinfection at the point of consumption will minimise further contaminations. The same principle can be applied to other water sources for example, rivers.

Complex management systems

Water and wastewater treatment systems are complex and have many variables, making manual management very technical and challenging. Water data systems simplify management through historical data for trending and current data for real-time AI-enhanced analysis that delivers network optimisation, scenario planning and better decision making. These systems work on devices such as phones and tablets and can send immediate alerts to authorities.

Load shedding

Power is crucial to wastewater treatment sites. Loss of power causes devastating knock-on effects, including sewage spillages. Sites can invest in backup power solutions and reduce their energy reliance with more efficient equipment. For example, variable frequency drive pumps and new-generation aeration blowers reliably deliver

energy savings of 60 percent and higher.

Depleted budgets

Money is tight, and improving water systems can be expensive. Yet there are some cost-effective interventions. Municipalities can increase revenue through improved metering systems coupled with automated meter readings and proactive condition assessments for detecting leaks and ensuring infrastructure integrity to reduce and prevent non-revenue water. Having a digital approach, municipalities can analyse historical data to discover efficiencies and avoid expensive repairs through preventative maintenance.

Lack of skills

Treating water is technical, and smaller sites (in particular), might struggle for access to enough experts. Water solutions partners can help provide those skills directly and pass knowledge to the site employees. Leading water solutions providers such as Xylem also fund university students' education, ensuring the next generation is ready to step up.

Community knowledge

Wastewater treatment sites are the primary defence against water-borne diseases. But communities can do a lot as well. On the macro scale, they can look after water areas such as rivers and wetlands, and help reduce pollution. On the micro level, they can make direct interventions such as washing hands, boiling water, and using chlorine tablets. It's imperative to work with local communities and share knowledge.

Cholera outbreaks are a symptom of failing wastewater treatment facilities, and the long-term solution is to turn these sites around. We can do this by combining modern innovations in water systems with experience and established infrastructure. South Africans deserve clean and safe water—let's work together to deliver this fundamental right.

Xylem (XYL) is a leading global water technology company committed to solving critical water and infrastructure challenges with innovation, www.xylem.com

Trivia answers:

1. Clogged up drains
2. Mount Kosciuszko
3. Green
4. Like a Virgin by Madonna
5. Stuart Sutcliffe
6. Seminoles
7. Harley Davidson motorbikes
8. Elephants
9. Flush the toilet after use
10. Blueberry jelly babies
11. Infinity
12. Cord for Kings
13. Letizia
14. Hulk Hogan
15. Dalmatian
16. Netherlands
17. They were all ordained druids
18. Cats
19. Coffee
20. A spinning propeller blade
21. Paris
22. Timothy 6:10

A first for South Africa as UP veterinary team performs beak transplant on vulture



The vulture with its new beak (above), Orthopaedic screws were used to secure the new beak to the broken beak underneath (above right), Still in theatre (below) and Prof Katja Koeppel with the vulture after performing the successful procedure (bottom). Images supplied

University of Pretoria

What do you do when a vulture with a crushed beak needs a new beak and two attempts to fit an acrylic beak fail? You improvise and use the beak of a deceased vulture, successfully enabling the injured bird to feed again.

In another first for South Africa, this remarkable procedure was recently performed on an African white-backed vulture (*Gyps africanus*) by a University of Pretoria (UP) team led by Professor Katja Koeppel, a veterinary wildlife specialist in UP's Faculty of Veterinary Science at the Onderstepoort campus.

The beak of the female white-backed vulture, an endangered species, was crushed when it was hit by a car in March this year. The bird also presented with a serious head injury, causing blindness in the right eye. The vulture was taken in by the non-profit conservation organisation VulPro, and was hand-fed as it was not able to feed independently at the time.

VulPro CEO Kerri Wolter then brought the bird to UP's Faculty of Veterinary Science, where Prof Koeppel, together with wildlife veterinarians Dr Jennie Hewlett and Dr Bart Gazendam, veterinary nurse, Sr Murendeni Lalamani and a few stu-

dents, attempted on two occasions to fit the bird with prosthetic acrylic beaks and wires. However, the vets found that the prosthetic became unstable once the vulture tried to feed on a carcass.

Following a more innovative approach, Prof Koeppel then decided to use an intact beak from a deceased vulture; this would provide the correct shape for tearing meat. Fortunately, a matching piece of beak was obtained from a dead white-backed vulture which was stored in a freezer for research purposes. Prof Koeppel and the team were able to perform the ground-breaking procedure in May, which involved using six orthopaedic screws to attach the beak, thus saving the bird's life.

Remarkable.

"The vulture has shown tremendous improvement," Wolter said. "She is doing fine and is eating well with the new beak. The crushed beak, which is made of keratin, will continue to grow back fully underneath the bit bolted onto it, but it will probably take a few years. The transplanted beak will then be taken off."

The vulture will be staying at VulPro and be monitored on a continuous basis. Unfortunately, the blindness caused by the head injury means that she will not be

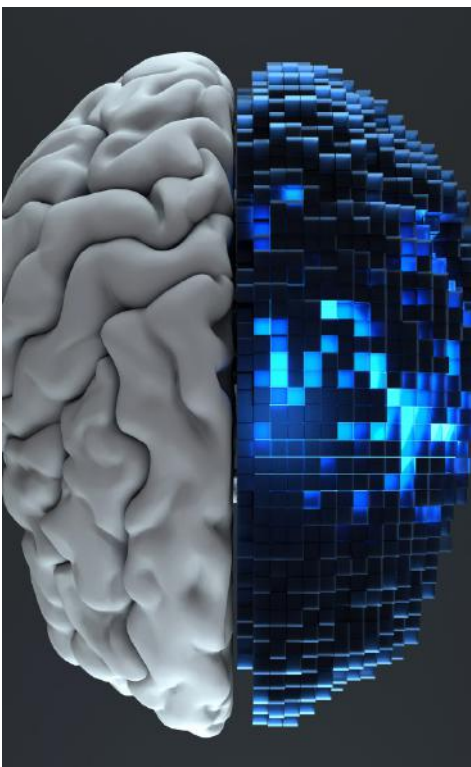


able to rely on her otherwise excellent sight any longer, and will not be released back into the wild.

** The white-backed vulture is the most common and widespread vulture species in sub-Saharan Africa but is listed as an endangered species because of its decreasing population. These scavengers are vital to our ecosystem as they feed primarily on the carcasses of dead animals, thus clearing the landscape of carrion and helping to curb the spread of dangerous diseases and bacteria.



How can AI be helpful to the common population



AI can be incredibly helpful to the common population in numerous meaningful ways. Here are some examples:

Personalized Services: AI can provide personalized recommendations for various services, such as shopping, entertainment, and healthcare. By analysing user behaviour and preferences, AI algorithms can tailor experiences to suit individual needs and tastes.

Healthcare and Diagnostics: AI can assist in medical diagnostics by analyzing vast amounts of patient data and identifying patterns that might be missed by human doctors. AI-powered tools can help with early disease detection, personalized treatment plans, and drug development.

Education: AI can revolutionize education by offering personalized learning experiences to students. Adaptive learning platforms can identify individual strengths and weaknesses and adjust the curriculum accordingly to enhance learning outcomes.

Customer Support: AI-powered chatbots and virtual assistants can provide 24/7 customer support, helping users with common

queries and troubleshooting issues. This can significantly improve customer satisfaction and reduce response times.

Environmental Monitoring: AI can aid in environmental conservation efforts by analyzing satellite imagery, tracking wildlife, and monitoring changes in ecosystems. It can also help predict natural disasters and plan responses accordingly.

Accessibility: AI can make technology more accessible for people with disabilities. For example, AI-driven speech recognition can enable hands-free communication, and computer vision can assist with navigation for visually impaired individuals.

Fraud Detection and Security: AI can enhance security measures by identifying fraudulent activities in financial transactions, online accounts, and other digital systems, protecting individuals from cyber threats.

Transportation and Traffic Management: AI can optimize traffic flow, reduce congestion, and improve transportation efficiency. Self-driving cars, which rely on AI, have the potential to make roads safer and more ac-

cessible.

Language Translation: AI-driven translation tools can break down language barriers, facilitating communication and fostering cross-cultural understanding.

Mental Health Support: AI can be used to provide mental health support by monitoring behavioral patterns and offering timely interventions or suggestions for users who might be experiencing stress, anxiety, or depression.

It is important to note that while AI holds great potential, it also comes with ethical challenges and concerns about privacy, biases, and the potential for misuse. Ensuring that AI technologies are developed and deployed responsibly and ethically is crucial to harnessing their benefits for the common population in a meaningful way.

*Credit: ChatGPT, chat.openai.com
ChatGPT is an artificial intelligence chatbot developed by OpenAI based on the company's Generative Pre-trained Transformer series of large language models.
Image: Canva Pro*

Starlink – a revolution in global connectivity with satellite internet



Mark Bishop

SpaceX's Starlink Project promises high-speed internet access to remote areas

When one mentions the name Elon Musk, one might think of the car manufacturer Tesla, or SpaceX or even Twitter. You may even think of him being the richest person in the world. But there is another realm in which he operates, and that is Starlink.

In an era where staying connected is a necessity, the digital divide between urban and remote areas has become increasingly evident. However, a solution to this challenge might be on the horizon, and its name is Starlink.

Spearheaded by SpaceX, the private aerospace manufacturer and space transportation company founded by Elon Musk, the Starlink project aims to revolutionize global connectivity by providing high-speed internet access to even the most remote corners of the Earth.

The development of the network began in 2015, and the prototype satellite was launched in 2018. Since then, SpaceX has deployed thousands of satellites to their 'constellation' (low Earth orbit satellites) across multiple launches. Recently another 52 satellites were positioned into orbit.

The Constellation above: a brief overview

Starlink envisions a constellation of low Earth orbit (LEO) satellites working in unison to provide internet coverage worldwide. The concept is ambitious yet simple: launch a large number of small satellites into orbit, creating a network that can deliver internet access to regions where traditional infrastructure is impractical or economically unfeasible. Unlike traditional geostationary satellites that orbit much higher and have higher latency, the LEO satellites deployed by Starlink are positioned at altitudes of around 550 kilometres to 1 200 kilometres (up to 60 times closer to the Earth's surface than traditional satellites, per the company's claims), significantly reducing latency and improving connection speeds.

Closing the digital divide

One of the primary goals of the Starlink project is to bridge the digital divide that has persisted for years. While urban areas enjoy high-speed internet access, rural and remote regions often suffer from limited or no connectivity options. Starlink's potential to provide high-speed internet to these underserved areas could be a game-changer, enabling access to educational resources,

telemedicine, e-commerce, and communication tools that are essential for modern life.

Revolutionizing connectivity

Traditional internet infrastructure, such as fibre-optic cables and cell towers, can be challenging to deploy in remote areas due to geographical barriers and high costs. Starlink's satellite-based approach has the advantage of bypassing these obstacles, offering a relatively quick and cost-effective solution. Users would only need a satellite dish and a modem to connect to the Starlink network, making it feasible for individuals, communities, and businesses to access high-speed internet without the need for extensive infrastructure development.

Global impact

The implications of Starlink's success extends beyond individual users. Industries such as agriculture, mining, and research that rely on real-time data transfer can greatly benefit from improved connectivity. Emergency services and disaster response teams operating in remote locations could also leverage Starlink's capabilities to enhance their effectiveness. Furthermore, regions without reliable internet access could experience economic growth through increased participation in the digital economy.

Challenges and concerns

Despite its potential, the Starlink project is not without challenges. Critics have raised concerns about the visual impact of thousands of satellites cluttering the night sky, potentially interfering with astronomical observations and stargazing. The International Astronomical Union released an alarm-sounding statement of unforeseen circumstances for astronomical observers and stargazers. "We do not yet understand the impact of thousands of these visible satellites scattered across the night sky and despite their good intentions, these satellite constellations may threaten both," the statement reads.

SpaceX has taken steps to mitigate this by developing sunshades to reduce satellite reflectivity and working with astronomers to address their concerns. "The Starlink teams have worked closely with leading astronomers around the world to better understand the specifics of their observations and engineering changes we can make to reduce satellite brightness," the company website reads.

Another concern is the issue of space de-

bris. As more satellites are launched into orbit, the risk of collisions and the generation of space debris increases. SpaceX has stated its commitment to sustainable practices and has equipped Starlink satellites with propulsion systems to guide them safely out of orbit at the end of their operational lives.

Starlink satellite in space near Earth (above), Starlink "light chain" seen from Earth (middle) and part of a Starlink device (below).

Images: Canva Pro and meteorologiaenred



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Looking ahead

As of August 2023, SpaceX has launched numerous batches of Starlink satellites and initiated a public beta testing phase, receiving positive feedback on the service's speeds and reliability. Starlink can now boast over 4 600 functional satellites orbiting the earth! The project is gradually expanding its coverage, with plans to reach a global audience in the coming years. There's still a way to go - Starlink will likely need at least 10 000 satellites in orbit before it can claim to offer full service to most of the globe (and SpaceX has shown signs that it wants as many as 42 000 satellites in the constellation).

Starlink represents a bold step toward achieving worldwide internet coverage, par-

ticularly in areas that have long been overlooked by traditional infrastructure. While challenges persist, the potential benefits of this project are immense, touching various aspects of human life and the global economy. As the constellation above us continues to grow and evolve, the dream of universal connectivity draws closer to becoming a reality.

In a world where being connected means access to opportunities, knowledge, and growth, Starlink's mission to provide high-speed internet to all corners of the globe could reshape the way we communicate, learn, and innovate. With technological advancements like this, the future looks brighter for bridging the digital divide and creating a more connected and inclusive world.

One of the more pressing concerns going forward however, will be the cost issue. Considering \$120 per month for a connection with a download speed averaging of 67 Mbps might deter those seeking that convenience and certainly the poorer sect.

Madagascar – a bucket list birding destination



Madagascar flufftail (above) - eBird Alan Fieldus and the red owl (above right) - eBird John C. Mittermeier

Mike Meidlinger

Shrouded in fame and mystery, the enigmatic island of Madagascar and its infamous flora and fauna has permeated the dreams of many a naturalist and wildlife enthusiast over the decades. This Indian Ocean nation is easy to reach with a relatively cheap and short three-and-a-half-hour flight from OR Tambo in Johannesburg, via a daily shuttle operated by AirLink.

On flying over the dry and desolate landscape, having passed over the tropical ocean atoll of Europa Island, the first thing that strikes one is the absolute barren nature of the country, which has suffered unfathomable deforestation since the arrival of French colonists in the mid-1800's.

One thing that is immediately clear is that whatever wildlife remains, has most certainly got several threats facing it, and that the human pressures of population growth, resource use and deforestation are imminent and substantial threats to all that survive in the last vestiges of what natural habitats remain.

Constant wildfires, in the pursuit of generating charcoal, the major energy source for the poor and impoverished here, threaten all but the most remote of woodlands and forests. The evidence of this is stark and obvious when flying over the desolate landscape.

Landing in Antananarivo, a hustling and bustling third world city, reminiscent of those found on the Indian subcontinent, the first major step is to get out of the town. This is such an environment, it's a whole adventure in its own right.

Deteriorating roads and constant traffic means that travel by road is slow at the best of times. Whilst being preferable, air travel is notoriously unpredictable with flight cancellations and uncertainty until the moment of departure. This is the norm facing travellers to or within the country.

A lake within a short distance of the Ivato International Airport offers the first chance at some good birding opportunities that include the endemic Meller's duck, Malagasy pond heron, Malagasy kingfisher, dimorphic egret as well as more widespread species like squacco heron, western cattle egret, common myna, Madagascar wagtail and the Madagascar mannikin.

In order to reach the best wildlife viewing areas, which are notably spread apart from each other, takes considerable effort but is well worth it. Here amazing species cling on to existence in the few pockets of forest and within the 14 proclaimed national parks.

Deforestation, the constant burning of

dry grassland to regenerate grass for the local staple food source, a hefty, lean, and tough bovine breed, known emphatically and 'salivatorally' as zebu. Constant resource use and land degradation has left much of the country as a semi-arid, grassland-dominated wasteland. This is very far removed from lush tropical rainforest paradise that it once was and should be a fact that is not lost on local conservationists and concerned citizens alike.

Birding in this type of habitat has its limitations, and species diversity is low with pied crow, Madagascar lark, Madagascar cisticola, yellow-billed kite and Namaqua dove making up the bulk of all avian movements, while transiting through these vast swathes of land reminiscent of the South African highveld.

Vegetated patches in this environment hold little diversity with oriental magpie robin, common jery and both local nectarivores in the shape of Soumanga and Malagasy green sunbirds. Efforts in the north of the island to curb the burning and chopping of vegetation has been hampered by influxes of migrants from the south, who having used up all the available resources where they originate from and are stretching ever further to 'untouched' areas.

In terms of protected areas that do remain, and seem, for the time being, to be rather stable, the closest and one of the best lies a mere 200km from Antananarivo. The journey to reach the forests of Andisibe, also known as Perinet, plus the nearby Mantadia and Laroka Forests takes a challenging four to five hours drive due to the notoriously bad road conditions.

In terms of roads, decades of neglect along with a seemingly endless stream of annual cyclones have taken their toll on the infrastructure, and eroded sections, potholes, and uneven conditions commonly slow progress; and that's not to mention busy traffic at times.

Once entering the forests however, a primal realm is there to be discovered. Huge 30m tall trees, climbing epiphytes, lianas and a host of tropical flowers immediately act as a stark and contrasting reminder of what should be. It is here in these nearest forests to the main city that one can experience specials like the eagle-sized cuckoo roller, the ground-dwelling blue, red-capped and red-breasted couas, nut-hatch and Chaberts vangas, all of which are readily sought after. Other gems are a host of the stunning endemic ground roller family that include the pitta-like rufous-headed, scaly and short-legged ground rollers, just to name a few. Jery's like the green, striped-throated, and dark, offer an equivalent to our old-world warblers. The common newtonia seems like a replica

of out African burnt-necked eremomela. Common sunbird-osity, a small yellowish passerine, flits around in the vast treetops, not unlike the collared sunbirds of the Lowveld; and the Madagascar bulbul is an ever-present species with its huge variety of squeaking, whistling, trilling and other complex vocalizations.

Near to Andisibe lies the Laroka Forest, another isolated island for the last remaining tropical forest species, which extends high up a steep slope. Once committed, the 30 - 40-minute climb to the top offers visitors the closest chance to the big city, for the mythical helmet vanga, and despite the effort needed to get there, it is well worth it. Other species here include a number of ground rollers, the velvet asity, Madagascar flufftail and more.

To the west of the country lies Ankarafantsika National Park. The dry forest park spans over 100 000 hectares. The beautiful Cocqueurel's sifaka, a cream and burgundy-coloured Lemur, as well as both common brown lemur, sportive lemur and at least two species of the nocturnal bushbaby-like mouse lemurs, occur in this dense habitat, next to the visitors' centre.

A short boat journey on Lake Ravelobe offers a good chance to see the single pair of Madagascar fish eagle that call this waterbody home. A bird with only 60 individuals remaining in the wild, constant habitat destruction and fishing pressures on lakes and dams has led to this species demise, as it competes with the impoverished human population for both space and resources.

Other birds around the lake, along a well set out series of forest trails, include Schlegel's asity, white-breasted mesite, as well as both Van Dam's and the incredible crow-sized sickle-billed vangas. These are amongst more widespread species like blue, white-headed, and rufous vanga, rainforest scops owl, long billed bernieria, Malagasy paradise flycatcher and the beautiful and shy Madagascar crested ibis.

Several hours of driving to the west of Ankarafantsika National Park takes one to the port city and hub of Mahajanga. This estuary-based town at the delta of the Besiboka River (what used to be the Zambezi before the island split from mainland Africa through the actions of continental drift) hold a number of fantastic birds for those that wish – the rare species such as Madagascar sacred ibis.

For the adventurous and intrepid birder, the north-west of the island holds several true gems. The infamous lakes and forests around the high-lying Bemanevika region hold a series of truly unique and special species. That said however, getting there takes some serious commitment and often over twenty hours by car and a final link

using local motorbikes from the nearest hub of Bealanana 35km away.

Having reached the Peregrine Fund Camp, a research base for scientists studying this remote region, the birding is spectacular amidst the rolling hillsides, forest patches and firebrick-riddled grasslands. Top specials include the recently rediscovered Madagascar pochard, which leapt back into life from presumed extinction in 2009! A viewing platform to watch the majority of the global 76 individuals has been built on this favoured lake, surrounded by primary rainforest.

A paddle boat excursion amongst the birds as well as Meller's duck, Madagascar grebe and others, can be arranged on this most frequently used lake. It offers a view of this critically endangered bird like no other, and truly is a highlight when visiting this site.

Other species that are of top quality in the greater area include the equally rediscovered Madagascar serpent eagle. This is the main reason for having the research base here, as well as having one of the only sites in the world for the enigmatic slender-billed flufftail and Madagascar red owl. Other good species here include many local endemics like Madagascar stonechat, Madagascar white-eye, Madagascar flufftail, Madagascar rail, Malagasy harrier, and Madagascar partridge - as well as Crossley's blue and Tylas vangas, as well as the curious greenbul-like spectacled tetraka.

Further north lies another serpent eagle hotspot at the Masoala Peninsula, which is also another favoured haunt of the legendary helmet vanga, and the newly re-found dusky tetraka. There is much more on offer, but this site is hard to reach. This is largely due to unpredictable flight schedules, riddled with constant cancellations and changes, and thus it can take some considerable effort to reach the best habitat in terms of personal flexibility and having time available for short-notice changes.

There is much still to be discovered in the north-east and the remote nature of this part of Madagascar is perhaps one factor which protects the last of what remains here. Having said this, there are still species left to discover in these far-flung regions, leaving much scope for those willing to put the effort into getting there.

Back to the major tourist-visited areas, and south of Antananarivo lies the similarly forested Ranomafana National Park, which lays host to many of the species already mentioned, as well as the Madagascar wood-rail, Madagascar owl, velvet asity and white-throated oxylabes.

Served by flights almost daily from the capital, further south lies Berenty, the home of the world-famous ring-tail Lemur, as well as a host of dry habitat-loving bird species. Tulear (Toliara) with its spiny desert-like vegetation is host to great species, like the long-tailed ground roller, giant coua, red-shouldered vanga and the Madagascar sandgrouse. Kirindy Private Reserve holds the best chance to glimpse the rare and enigmatic fossa, as well as a few lemurs - or at least it did, until recent fires have been noted within the forest. It is hoped these animals remain and persist despite this constant disturbance by locals, seeking to scratch out an existence in a tough and impoverished nation.

Even though travel can be difficult, having enough time available Madagascar offers a wealth of fantastic wildlife to view and birding opportunities while there is enough habitat to support this amount of life and variety. With pressures ever increasing, the window for viewing some of these enigmatic and highly prized natural wonders is surely closing fast, with perhaps as much as fifty, or as little as fifteen years remaining, before many of these wonders would have disappeared for ever.

How do the butterflies let us know that winter is over?

Steve Woodhall

Southern Africa is a summer rainfall country outside the karoo and fynbos areas. As spring approaches, the days get longer, and the intertropical convergence zone moves south. Moist maritime air moves further inland and 'line squalls' (summer thunderstorms) start to occur. The winter rainfall area often sees its heaviest rains at this time of the year, and some of the weather systems penetrate higher lying areas to the north. Trees begin to put on new foliage and grasses sprout new growth. Forbs (herbaceous flowering plants) and geophytes appear from the soil in which their rootstocks and bulbs have been hidden – often carpeting the veld with flowers - and flowers attract pollinators.

Woodland and forest butterflies that have been holed up in sheltered places during the winter months become more active. Males occupy territories and seek mates, and females seek fresh plant growth on which to lay eggs.

Many grassland species of butterflies can time their spring emergence to coincide with nutritious spring plant mass. The fire-dominated nature of our grasslands has led many to evolve ways of escaping the flames. One way is to spend the larval and pupal stages inside buried ants' nests.

Hilltops and prominent shrubs provide 'lekking' spots for territorial males. Spring (effectively early September to November) is a great time to visit these places to watch the high activity.

Overwintering adults waking up – mother-of-pearls and diadems in the family Nymphalidae



Above image - Common mother-of-pearl, *Protophormora parhassus*

These big beauties are noted for their ability to find a roosting place among the large leaves of forest trees. They usually emerge from the chrysalis in March or April and start overwintering as adults. On warmer days they may venture out to feed on nectar from winter-flowering plants, but they always return to the same roosting spot for the night and stay there during the cooler days.

As the days get warmer, more of them get active and start vying for mates. A for-

est glade with up to a dozen of them doing their aerial displays is an enchanting sight, as the sun flashes on their iridescent wings. They perch high up on the side of the trees between sallies.



Above images – Variable diadem, *Hypolimnastheon wahlbergi* forms *mima* and *wahlbergi*

This species can often be found in the same roosting places as the mothers-of-pearl. Like that butterfly it's a large insect, with a wingspan as much as 90mm in the females. There are two forms, both of which mimic a different species of distasteful butterfly. The *wahlbergi* mimic the southern friar, and the *mima* the layman.



Above image – Southern friar, *Amauris niavius dominicanus*



Above image – Layman, *Amauris albimaculata albimaculata*

The distasteful species possess chemical defences that deter predators like birds. They can withstand a peck from a bird that's strong enough to release some bodily fluids and spit it out, fast.

Springtime grassland butterflies – giant cupids: genus *Lepidochrysoptis* (family Lycaenidae)

Grasslands, or grassy areas in savanna, are home to some of the most beautiful springtime butterflies especially the giant cupids.



Above image - Patrician giant cupid, *Lepidochrysoptis patricia* male

This is found widely in grassland or grassy savanna across the eastern side of South Africa. The female lays eggs on several species of herbs – *Salvia* and bird's brandy *Lantana rugosa* are usual – and the young larva begins life feeding on the floral ovaries. When half grown it hunches itself up and emits a chemical that mimics the brood pheromone of sugar ants (*Camponotus* sp). Fooled, the ants carry the larvae down into their nests where the larvae repay the hospitality by eating the ants' brood. This is a carnivorous butterfly!



Above image – Sabie giant cupid *Lepidochrysoptis irvingi*

This is another carnivore, but a rare one. It's only found in the moist grasslands around Sabie and Graskop in Mpumalanga, and it flies in spring when the larval hostplant *Ocimum* is flowering. This one was photographed near Mac Mac Pools. The plant is probably cat's whiskers (*Ocimum obovatum*) or a close relative, and it's the one used by the females to lay eggs.

Hilltoppers – Hutchinson's highflier (*Lycaenidae*) and citrus swallowtail (*Papilionidae*)

Hilltopping is a well-known butterfly mate location behaviour, for low density species that would struggle to find a mate by random flight. Males ascend to the heights where females instinctively know they can

be found.



Above image - Citrus swallowtail *Papilio demodocus demodocus*

These large butterflies are found just about everywhere in sub-Saharan Africa, wherever their larval hostplant *Citrus* or its relatives grow. In spring they are one of the few swallowtails to be found on hilltops in southern Africa, as the males fly to the highest point and play 'king of the castle'. They are found at other times of year in many other habitats, but when you see one on a hilltop, it's a good sign that spring is here.



Above image - Hutchinson's highflier, *Aphnaeus hutchinsonii*

These butterflies are icons amongst butterfly folk visiting Africa. Just about any book covering African butterflies will have at least one photo. Although it is widespread, it is not common anywhere, and to find one can take a bit of effort. The host plants include the stately wild syringa (*Burkea africana*) where the larvae live inside tunnels under the bark, among their host ants (they don't feed off the ants, but they gain protection from their presence). The males ascend to hilltops in savanna country where they engage in territorial behaviour, chasing off rivals and waiting for the heavier, lower flying females to come to the lekking zone. They fly in spring and early summer, only after the first rains. When a male perches on a shrub or tree on a bushveld hilltop, and the sun catches his reflective silvery-pearly white underside spots, he flashes like a beacon that can be seen from hundreds of meters away.

Steve Woodhall is a butterfly enthusiast, photographer, and author. Ex-President of the Lepidopterists Society of Africa. Check out his latest book and app on the following link: <https://www.penguinrandomhouse.co.za/book/field-guide-butterflies-south-africa>






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The mighty Spekboom (*Portulacaria afra*) nature's climate champion

Mark Bishop

The Spekboom (*Portulacaria afra*), a succulent plant native to South Africa, holds cultural and ecological significance for various communities, and has emerged as an unexpected hero on the global stage.

In the midst of escalating concerns about climate change and the urgent need for sustainable solutions, this humble South African plant, has garnered international attention for its remarkable ability to combat carbon emissions and its potential to reshape the landscape of environmental conservation.

Native to the arid regions of South Africa, from the Little Karoo eastwards through the Eastern Cape to KwaZulu-Natal, and northwards along the Lebombo Mountains to the Mpumalanga Lowveld, Limpopo, Sekhukhuneland and Venda. The Spekboom tree is a succulent with small, round green leaves (and contrasting red stem), that store water, enabling it to survive in harsh and dry conditions.

The plant's name, 'Spekboom', translates directly from the Afrikaans to 'bacon tree' in English. Its succulent leaves are enjoyed by both humans and animals – especially elephants, black rhino and kudu.

It is usually found in rocky places and grows prolifically in parts of the Eastern Cape. It is most attractive when in full bloom with masses of soft pink nectar-rich flowers flourishing at the ends of the branchlets. After flowering, tiny papery three-winged fruits populate the unassuming plant. A tree in full bloom can be something quite unique to see. The trees can live up to 200 years old!

Carbon-capturing champion

One of the most remarkable features of the Spekboom tree is its unparalleled ability to sequester carbon dioxide from the atmosphere. In fact, it is estimated that a single hectare of Spekboom thicket can capture as much as 4,2 tons of carbon dioxide annually! This astounding carbon sequestration capacity has earned the tree the title of 'climate change warrior'.

Researchers and environmentalists are particularly excited about the potential of

the tree to mitigate carbon emissions on a large scale. By planting and nurturing these trees, both individuals and organizations can make a tangible impact on the fight against climate change. Some regions have already initiated reforestation projects using Spekboom to restore degraded land and counteract carbon emissions.

Restoring ecosystems and biodiversity

Beyond its carbon-capturing prowess, the Spekboom tree plays a vital role in preserving biodiversity and restoring ecosystems. The plant's ability to thrive in diverse environments makes it a valuable component of habitat restoration projects. Its presence supports a variety of animal species, providing food and shelter in areas where resources might be scarce.

A global movement

The newfound recognition of the Spekboom's environmental benefits has spurred a global movement to plant and conserve these trees. From local communities in South Africa to international conservation organizations, efforts to propagate Spekboom are gaining momentum.

The plant's low maintenance requirements and adaptability to different climates make it an accessible option for individuals and groups looking to contribute to sustainability.

Challenges and considerations

While the Spekboom tree holds great promise, there are considerations that must be addressed.

Careful planning is required to ensure that its introduction doesn't lead to the displacement of native plant species. Moreover, the effectiveness of carbon sequestration can vary based on factors such as soil conditions and climate, necessitating a comprehensive approach to its deployment.

Cultural interactions

The plant is renowned for its various traditional uses. For centuries, local communities have harnessed its versatile properties for both practical and cultural purposes.

Traditionally, the Spekboom has been used as a vital source of food and water during times of scarcity. Its leaves are rich in mois-



Spekboom cuttings being propagated

Image : Canva Pro-Carl Fourie

ture and nutrients, making them a survival food for both humans and livestock. Additionally, the leaves are often consumed for their medicinal properties, as they are believed to possess anti-inflammatory and anti-microbial qualities, from treating sore throat and mouth infections, to relief from bites and sunburn, to helping increase breastfeeding mothers' milk supply.

Culturally, the Spekboom holds significance as a protective charm against evil spirits and bad luck. It's also used in traditional rituals and ceremonies, symbolizing resilience, and adaptability due to its ability to regenerate from cuttings and its capacity to withstand harsh conditions.

The Spekboom's wood has been employed for crafting tools, utensils, and even fences due to its sturdy nature.

Indigenous groups such as the Khoisan have utilized Spekboom for centuries due to its edible leaves, water-storing capabilities, and medicinal properties. Its high vitamin C content made it valuable in their diets, while its water-retention abilities aided survival in the arid environment.

Communities near the Eastern Cape have embraced the plant in reforestation efforts, and projects like the 'Million Trees' initia-

tive have planted Spekboom to combat desertification. Additionally, farmers have employed Spekboom as fodder for livestock during droughts.

Looking forward

As the global community intensifies its efforts to combat climate change, the Spekboom tree stands as a symbol of nature's resilience and ingenuity. Its ability to sequester carbon and support ecosystems serves as a beacon of hope in a time of environmental uncertainty. However, the journey ahead requires collaborative action, responsible stewardship, and an unwavering commitment to preserving the planet for future generations.

In the face of mounting environmental challenges, the Spekboom tree's story reminds us that even the simplest of organisms can wield tremendous power in the fight for a sustainable future. Its appeal goes far beyond its palatable foliage.

Whether it's in the arid landscapes of South Africa or the reforestation initiatives across the globe, the Spekboom's legacy will undoubtedly continue to grow as a testament to the potential of nature to heal itself and inspire humanity.

When do predators hunt ?

The vast majority of predators hunt on dark nights when their superb nocturnal eyesight capabilities (they can see in 1/8th of the light needed by humans) gives them the competitive edge over their prey. Although they can be active on bright moonlit nights if hungry, they usually move around for territorial patrolling purposes with a lot more vocalisations occurring. It is simply too bright for any serious hunting to take place – even humans can see pretty well on these nights when the moon casts shadows. Losing the 'cover of darkness' advantage, many predators (particularly lions) will just laze about in the hope that something may stumble upon them. On dark nights they become active earlier, hunt with conviction, and hardly vocalise.

Cheetahs, essentially diurnal predators, do not often hunt at night but have been recorded as doing so on bright moonlit nights, especially in areas lacking big populations of their more powerful enemies, namely lion, leopard, and spotted hyena. In areas where there are healthy populations of these big predators, cheetah are highly susceptible not only to having the kill stolen but to being killed themselves when hunt-

ing at night. Alternatively, in areas where the competition has been eliminated, this may be a viable option without the threat of daytime heat stress. I have seen cheetah kills at dusk but never at night, although at dawn I have come across fresh kills indicating that they may be active and risk hunting in the first hour before sunrise when there is sufficient light to hunt at speed.

Cheetah and wild dog generally hunt during the day to avoid competition with the other large predators that are primarily nocturnal. They have adapted their hunting techniques accordingly, both running the prey down rather than stalking and pouncing. It certainly helps to see where you are running, so it makes sense that these techniques are adapted to daytime hunting. Heat stress and exhaustion are limiting factors and these predators are therefore active early morning and late afternoon. It must be said, however, that all predators are opportunistic – even the nocturnal cats will hunt during the day should an opportunity present itself, if they are hungry, if the weather is cool to allow them to move around after sunrise, and in areas where they are not persecuted by humans.

Do predators have den sites?

Yes, although differentiation between breeding dens and refuge dens must be made. All predators will make use of a secure area to birth their litter and keep it safe for a period of weeks until the babies are able to follow the mother. The den-site may be changed regularly during this period should the mother feel that security is an issue or if parasites infest the site. The cats do not excavate or utilise burrows but rather use thickets, fallen trees, exposed root systems and crevices within rocky areas as dens. Dogs and hyenas, on the other hand, will use existing burrows or they will dig their own in sandbanks or termite mounds. The same breeding dens, if available and if the animals are left undisturbed, are often reused year after year. Because most species tend to breed more frequently during the rains (wild dogs marginally so), one drawback of underground dens is that the burrows are prone to flooding and the pups then drown.

Refuge dens are generally only used by foxes, jackals, brown hyenas, aardwolf and smaller predators and these animals can be found at their dens on a daily basis. Springhare burrow-systems serve these carniv-

vores well as tunnels and inner chambers are small enough only for pups, ensuring security against most mammalian predators. The front feet of all, especially the bat-eared fox, are well adapted for digging – the soil being expelled at a hectic rate between or next to the hind legs. Genets will make use of cavities in trees or rocks. The big cats, wild dog and spotted hyena do not have refuge dens and they rest in different places every day.

Excerpts from 'Beat about the Bush - Mammals and Birds' by Trevor Carnaby, published by Jacana Media, 2nd Edition reprint 2018



Refuge burrow
Image : Canva Pro Earthmandala

What a cycling day that was – The K2C Cycle Tour



Participants crossing the finish line (top) and others making their way en-route (right). Riders relaxing (above)

Lovele Henderson

...and we saw four of the big five including a leopard in a tree with a kill!

The new K2C Cycle Tour, started in the Timbavati at dawn on the 15 July, and traversed on exclusive private roads through Thornybush and Kapama, and ended back at the Timbavati hanger at dusk. It was a sublime success. Someone was overheard saying that “the route was absolutely on the money - don’t change it”.

On day, the Rotary Team had an early, dark start, working from 04:00 setting everything up the before dawn start to the tour. All the ambient fires had to be lit, and because the start of the tour was in big 5 country no banners, and start/finish arches were left out in the open overnight. The hyenas and elephant were sure to get them!

An excited young rider arriving on the morning yelled that as she came around the corner in the middle of the veld, she saw the burning braziers and the lit-up hanger, which was a scene of sheer magic. It was rather lovely when all the riders had arrived in their stylish designer dung beetle riding jerseys and jackets, as they hovered around the fires having pancakes and coffee before being rallied to rollcall by their peloton leaders. The four pelotons set off at 10-minute intervals to the sound of the kudu horn.

Once the riders were on their way the organization for lunch and dinner got under way. The water points which were

so luxuriously run by the Thornybush lodges, and the delicious eggy breakfast supplied by Haenertsburg Rotary Club, had started long before dawn to ensure that they were all set up and ready as the riders approached for their carbo drives. “The food was world class - brekkers and supper(s) - not to mention the amazing people preparing and serving it all up.”

The whole effort of organizing an event of this magnitude is concentrated on the logistics and attention to detail. “It was a fantastic K2C this year. The effort and organisation that went into this event was incredible and it really showed. The day ran seamlessly, and it was by far the best event I have ever been a part of - safety and back-up – seamless,” was a riders comment. Everyone was of the opinion that the guides and support riders were exceptional, and that they definitely made the experience well worth the sore bums.

“I hope that all those involved know just how much their effort is appreciated and noted, it was a privilege to be a part of such an incredible endeavour, and I will continue to have K2C on my calendar as long as my legs will allow. The prizes were also great,” said a happy competitor. Another went on to say “many thanks for an epic experience. It was world class and certainly a highlight in my life”.

In the words of the riders who participated, we will definitely hold the event in July next year. Watch this space.

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Air Force Base Hoedspruit	015 799 2911
Africa Safe -T	010 590 6313
Ambulance AFB	015 799 2065
Alcoholics Narcotics Anonymous	082 258 4602
Ambulance Airforce Base	015 799 2065
Ambulance Services Limpopo	015 793 1581
Ambulance Tintswalo	101 77
Ambulance Services Swift	060 528 2784
Farm watch/ Plaaswag	072 310 0032
Fire Brigade AFB	015 799 2172
Fire Brigade Maruleng	015 793 0536
Fire Dpt Hoedspruit	015 793 0728
GKEPF Greater Kruger Enviro Protection Foundation	065 743 2224

Hoedspruit Clinic	015 793 2342
Hoedspruit Medical Rescue	072 170 0864
Hoedspruit Paws	078 431 3161
Hoedspruit Town Watch	072 812 2172
	082 683 2835
	072 310 0032

Hoedspruit Farm Watch	015 799 2065
Hospital AFB Drakensig	013 759 0645
Hospital Nelspruit Mediclinic	013 795 5000
Hospital Tintswalo	015 383 9400
Hospital Sekororo Gvt-The Oaks	015 305 8536
Hospital Tzaneen Mediclinic	015 793 2409
Maruleng Municipality	072 170 0864
Medical Rescue	084 770 1743
Med Centre Emergency No	015 793 2585
Protrack	082 565 8253
SAPS Station Commander	101 111
SAPS General	015 799 4000
SAPS	071 519 7044
SPCA Phalaborwa	082 940 0651
Victim Support Unit	

MEDICAL & VETERINARY SERVICES

Counselling Ronelle Joubert	082 787 4471
DR Van Eeden (Dentist)	015 793 1876
DR D Verhagen	015 793 0606
DR A Polley	015 793 0606
DR Shivambu	087 260 1537
DR Werner Muller (Dentist)	015 793 1894
Hlokomela	072 698 6538
Hoedspruit Clinic	015 793 2342
Hoeds Wildlife Est Pharmacy	015 793 1427
J Coetzee (Clinical Psychologist)	015 781 0012
Kyk Oogkundiges (Optometrist)	060 548 5387
Med Centre (Dentists)	015 793 0845
ProVet Veterinary Hospital	015 793 0797

REAL ESTATE & PROPERTY

Century 21	015 793 1534
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TOURISM & THINGS TO DO

Eastgate Airport	015 793 3681
Hds Endangered Species Centre	015 793 1633
Jabulani Elephant Interaction	015 793 1265
K2C Biosphere Region	015 817 1838
Sky-Way Trails	013 737 8374



Southern Cross Schools

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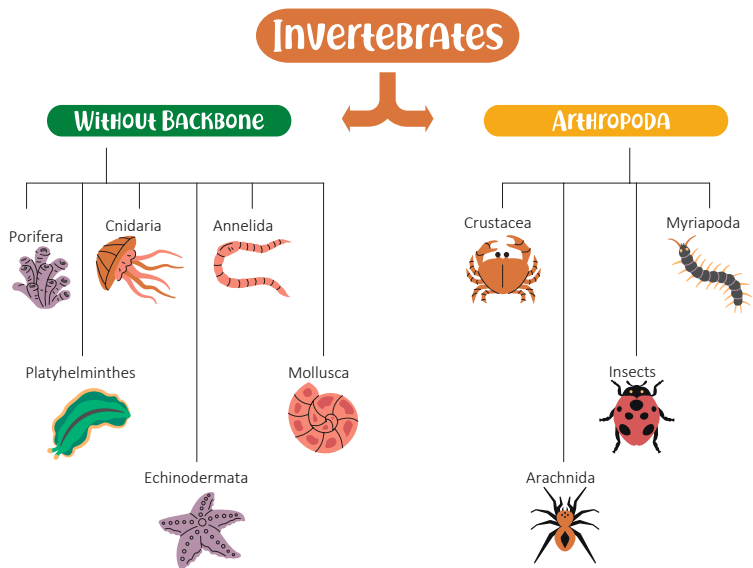
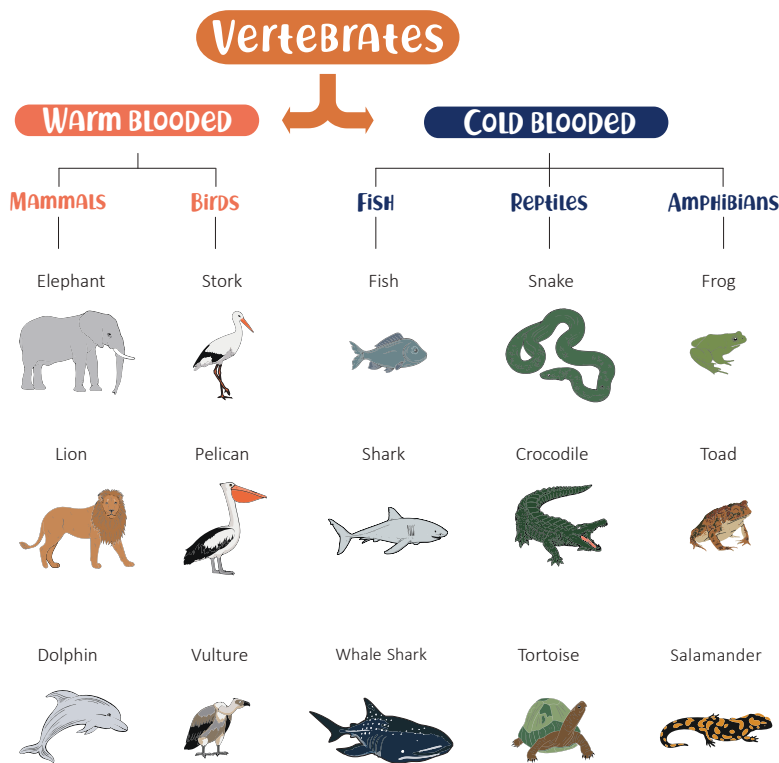
See you at the market

LOVE THE HOED GEAR



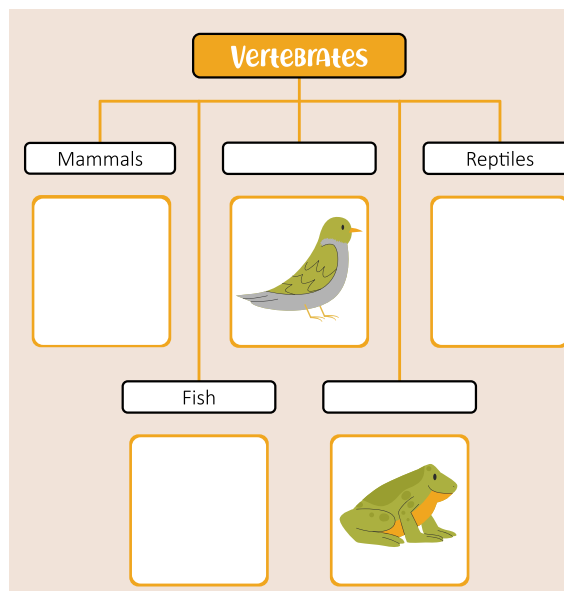
Junior FGASA & Kids In The Wild

Vertebrates AND Invertebrates... WHAT IS THE DIFFERENCE?

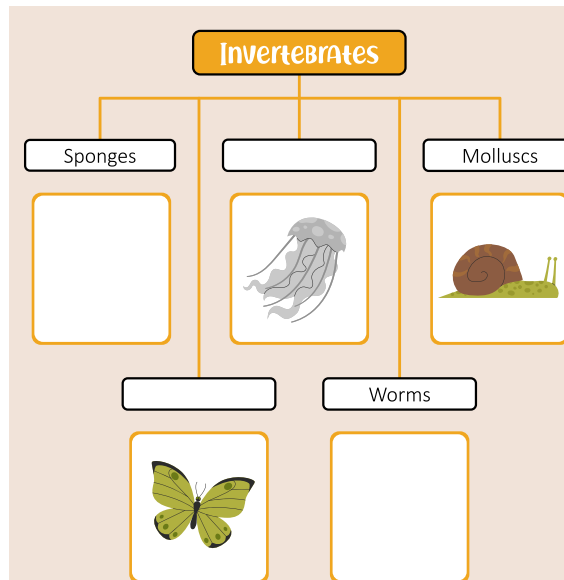


Complete the Below:

Vertebrates and Invertebrates are very different creatures!



Vertebrates are special animals with a backbone inside their bodies. This bony backbone helps protect their important nerves. Vertebrates come in all shapes and sizes, like fish that swim in water, frogs that can hop on land, and even furry mammals like cats and dogs.



Invertebrates are incredible creatures that don't have a backbone like we do. Instead, they come in all sorts of shapes and sizes. Imagine tiny insects like ants and butterflies, slimy snails, and squishy jellyfish in the ocean. Invertebrates live in many environments, from the soil in your garden to the deepest parts of the ocean.



If you love the wilderness, and are passionate about conservation, then we have the perfect thing for you. Junior FGASA in partnership with Kids In The Wild bring you the new and improved Pangolin Course. The Pangolin Course includes an a once off membership with Junior FGASA, a fantastic learner manual and workbook as well as the option to do on demand lectures with Kids in the Wild - an interactive platform to reconnect with nature and the incredible wilderness that surrounds us on a daily basis. Kids In The Wild will also offers live lectures as well as on-demand courses that encompass many different modules, games, quizzes, homework and so much more. Sign up today!

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