

Environment Quarterly

Kwartaalike Omgewingsverslag • Tikologo ka Kotara • Mupo nga Kotara

**30 years of wetland
conservation**

**In the spotlight: Marine
Research Aquarium**



forestry, fisheries
& the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA



Department of Forestry, Fisheries and the Environment

2024

January

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ENVIRONMENT DAYS

2 February	World Wetlands Day
3 March	World Wildlife Day
23 March	World Meteorological Day
22 April	Earth Day
12 May	World Migratory Bird Day
22 May	International Day for Biological Diversity
5 June	World Environment Day
8 June	World Oceans Day
17 June	World Day to Combat Desertification and Drought
31 July	World Ranger Day
16 September	International Day for the Preservation of the Ozone Layer
22 September	World Rhino Day
1-30 September	National Arbor Month
1-31 October	National Transport Month
21 November	World Fisheries Day

PUBLIC HOLIDAYS

1 January	New Year's Day
21 March	Human Rights Day
29 March	Good Friday
1 April	Family Day
27 April	Freedom Day
1 May	Workers' Day
16 June	Youth Day
17 June	Public Holiday
18 July	Nelson Mandela International Day
9 August	National Women's Day
24 September	Heritage Day
25 September	Public Holiday
16 December	Day of Reconciliation
25 December	Christmas Day
26 December	Day of Goodwill



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About the back cover image:

Savanna Biome

The Savanna Biome is the largest Biome in southern Africa, occupying 46% of its area, and over one-third the area of South Africa. It is well developed over the lowveld and Kalahari region of South Africa and is also the dominant vegetation in Botswana, Namibia and Zimbabwe. It is characterized by a grassy ground layer and a distinct upper layer of woody plants. Where this upper layer is near the ground the vegetation may be referred to as Shrubveld, where it is dense as Woodland, and the intermediate stages are locally known as Bushveld.



To use this QR code conveniently you must have a smartphone equipped with a camera and a QR code reader/scanner application feature.



Editorial: The future of our wetlands is in our hands



Dear Valued Stakeholder,

Hello and welcome to the latest edition of the Environment Quarterly. As usual, the team and I are excited to deliver to you a good resource of environment news that drive and inspire change.

As the nation celebrates three decades of democracy, the department also zooms in on some successes, lessons and challenges in the environment sector over the last 30 years. This edition particularly focuses on our wetlands as icons of our biodiversity, helping to sit South Africa as the third most mega-diverse country in the world after Brazil

and Indonesia. According to Census 2022, about 65% of people in South Africa live in urban areas. This prediction is expected to translate to eight out of 10 people living in urban areas by 2050. In urban areas, wetlands improve water quality and serve as reservoirs, containing run-offs from roads, drains, roofs and storm water drains. They also help to reduce and prevent urban flooding, acting as crucial "green lungs" for the cities.

About 30% of land-based carbon is stored in peatlands, making wetlands a powerful tool against climate change. Sadly, South Africa is said to have lost 50% of its wetland area, threatening the existence of wetland species such as reptiles, amphibians, water birds and mammals.

The department has since 2002, established the Working for Wetlands programme to implement wetland restoration and rehabilitation by building concrete, earthen or gabion structures to arrest erosion, trap sediment and re-saturate drained wetland areas and plug artificial drainage channels.

Nature being free to us, requires good management and sound practices. Our behaviour and attitude in relationship to the preservation of natural resources needs to change.

According to the Synthesis Report of South Africa's Democracy in the last 30

years, poor wetlands management, polluted and unhealthy river systems, and varying rainfall patterns contribute to declining water quality and quantity.

The implications of these trends signal imminent threats to water security, which will inevitably lead to increased operational and maintenance costs for water treatment facilities, which will ultimately be passed on to consumers. Poor management of our natural resources leads to a poorer quality of life. In our cover story on page 4, we celebrate milestones achieved by the department in looking after our wetlands and look ahead to interventions for conserving these natural icons.

This is also the last edition with our Director for Corporate Communications Mr Shalen Gajadhar who will be leaving the department on 14 June after nearly 1 year 2 months as Editor-in-Chief of this publication. Mr Gajadhar will be joining the Auditor General South Africa as their Senior Manager: Head of Editorial. We wish him all the best in his future endeavours.

Let's continue to make South Africa great, employing small efforts in our daily lives that add to the bigger picture of conservation of our natural resources.

Until next time,

Editor

Erica

Meet our team

Head of Communications and Advocacy

Peter Mbelengwa

Editor-in-Chief

Shalen Gajadhar

Editor

Erica Mathye

Editorial Team

Dimpho Matlanato
Veronica Mahlaba
Tshegofatso Ndhlovu
Zibuse Ndlovu

Design & Layout

Brian Chapole
Sibusisiwe Nxumalo
Lebohang Makhubela
Dineo Ramogale

Cover Image

Dimpho Matlanato

Photography

Mapato Baloyi
Andrea Bernatzeder
Doug Harebottle
Madimetja Mogotlane
Sakhile Mthembu
Arno Munro
Sibusisiwe Nxumalo

Sandile Shangase
Merle Van Diemel

Contributors

Reshmee Brijjal
Merle Van Diemel
Sharndre Heuvel
Suvarna Parbhoo

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RHINO STATISTICS



In the year **2023**, a total of **499** rhinos were poached in South Africa. This is an increase of **52** in comparison to the **448** rhinos that were poached in **2022**.



406 rhinos were killed on state-owned properties and **93** on privately-owned parks, reserves, and farms.



KRUGER GATE

The Kruger National Park recorded a **37%** decrease from **2022**, with a total of **78** poached in **2023**. No rhinos were poached in any other national parks.



KwaZulu-Natal is the province that is facing the brunt of poaching cases with a total of **307** rhinos poached in the Hluhluwe-iMfolozi Park.



There have been **45** cases of accused rhino poachers/rhino horn traffickers with a conviction rate of **97%**.

For more information visit:

www.dffe.gov.za

Environmental crimes hotline:

Tel: 0800 205 005



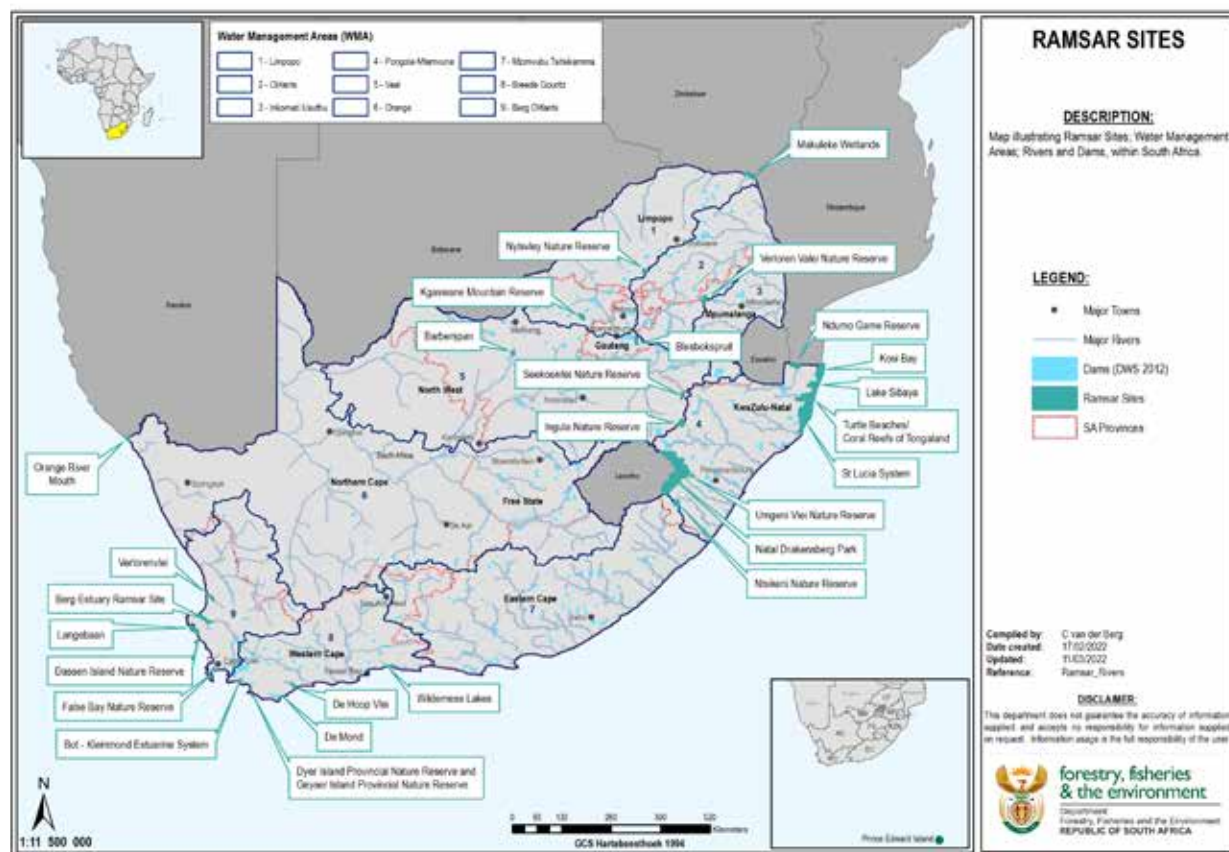
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Wetlands: icons of biodiversity

By Erica Mathye



This year, South Africa celebrates 30 Years of Democracy, and along with it, the biologically diverse natural assets such as wetlands that occur on our soil.

As we celebrate the successes of the last three decades, we gear up for the work ahead to conserve our natural heritage, including restoration and rehabilitation work on our wetlands.

Human impact as well as urbanisation and industrialisation have wiped out the majority of our wetlands. Governments, individuals and corporates around the world are turning the tide and rethinking our relationship with nature, particularly wetlands.

Icons of nature

Aptly named as natural food and water sources, wetlands host numerous benefits for life on earth, including acting as buffers against climate change, which is the biggest global threat to human life today. Some of the benefits derived from rehabilitated wetlands include:

- Improved livelihoods,
- Protection of agricultural resources,
- Enhanced biodiversity, and,
- Cleaner water.

Wetlands are not called biologically diverse wonderlands for nothing. These dynamic water lands are home to many of our plants and animals including frogs, birds, water lillies, snakes and even crocodiles.

The Isimagaliso Wetland Park is the biggest wetland in South Africa with an area of 3, 280 square kilometres. Although wetlands are typically wet, some can be dry, depending on the season. According to the National Biodiversity Assessment that was released in 2019, our Strategic Water Source Areas (SWSAs) are in need of additional management and protection. SWSA are areas that supply a disproportionate quantity of water in relation to their size. The SWSAs for surface water cover only 10% of South Africa's extent but account for 50% of the mean annual runoff.

Working for Wetlands

In 2002, a national wetland rehabilitation programme, known as Working for Wetlands was established. The good news is that wetland degradation is not necessarily permanent, and that it is possible to reinstate at least some ecosystem services through rehabilitation. Over the years, the Department has recruited beneficiaries from local communities to work on restoring and rehabilitating wetland areas in the country through the Working for Wetlands programme.

In this issue of the Environment Quarterly, we speak to Mr Stanley Tshitwamulomoni, who is the Director for Strategic Water Sources and Wetlands within the DFFE, about related threats to wetlands which result in diminishing food and water sources. Mr Tshitwamulomoni also brings to light some government and human interventions necessary to keep these natural sources alive for future generations.

THREATS TO WETLANDS

Habitat Loss and Degradation

Urbanisation, agriculture, and infrastructure development often lead to the draining, filling, or conversion of wetlands for human activities. This diminishes the habitat available for various species dependent on wetlands and disrupts the delicate ecological balance.

Pollution

Wetlands are vulnerable to pollution from various sources such as agricultural runoff, industrial discharge, and urban sewage. Pollutants like nutrients, heavy metals, and chemicals degrade water quality, harm wildlife, and compromise the ecosystem's ability to function properly.

Invasive Species

The introduction of non-native species can outcompete native flora and fauna, alter nutrient cycling, and disrupt ecosystem dynamics. Invasive species often thrive in wetland environments, where they can spread rapidly and outcompete indigenous species, leading to loss of biodiversity.

Climate Change

Rising temperatures, altered precipitation patterns, and sea-level rise associated with climate change pose significant threats to wetlands. These changes can disrupt hydrological cycles, alter water levels, and increase the frequency and intensity of extreme weather events, leading to habitat loss and degradation.

Overexploitation

Unsustainable harvesting of resources such as timber, peat, fish, and wildlife from wetland ecosystems can deplete populations, disturb habitats, and impair the ecological functions of wetlands. Overexploitation can also disrupt the traditional livelihoods of local communities dependent on wetland resources.

ACTIONS TO ELIMINATE THREATS TO WETLANDS

Conservation and Restoration

Governments and communities can establish protected areas, conservation easements, and restoration projects to safeguard and restore wetland habitats. This includes re-establishing natural hydrological patterns, controlling invasive species, and replanting native vegetation.

Regulatory Measures

Implementing and enforcing laws and regulations to control pollution, prevent habitat destruction, and manage wetland use sustainably are crucial. This may involve zoning regulations, pollution control measures, and permits for wetland alteration activities.

Public Awareness and Education

Increasing public awareness about the importance of wetlands and their conservation is essential. Educational programmes, outreach initiatives, and campaigns can help foster a sense of stewardship and encourage individuals to adopt practices that protect wetlands.

International Cooperation

Collaboration between governments, NGOs, and international organisations is vital for addressing transboundary issues affecting wetlands. Joint initiatives for research, monitoring, and conservation can help tackle threats that extend beyond national boundaries.

Sustainable Management Practices

Encouraging sustainable land-use practices such as agroforestry, sustainable agriculture, and eco-tourism can minimize negative impacts on wetlands while providing economic benefits to local communities. Sustainable management approaches should prioritise the long-term health and resilience of wetland ecosystems.



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through rehabilitation.

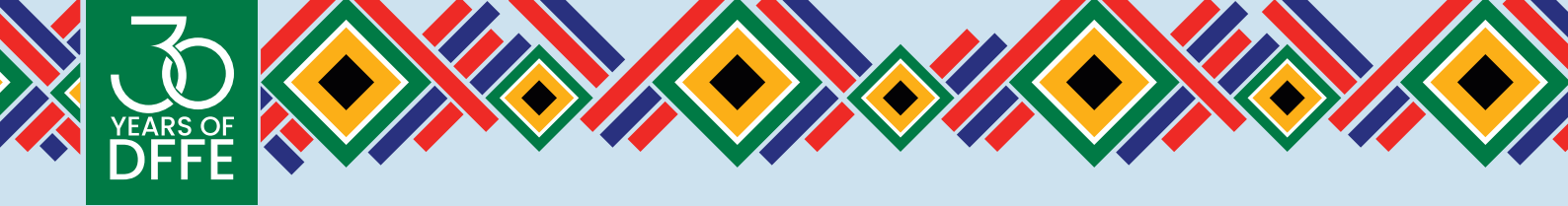


Above: The Director: Strategic Water Sources and Wetlands, Mr Stanley Tshitwamulomoni.



About the contributor: Erica Mathye

Ms Erica Mathye is the Deputy Director: Editorial Services in the Chief Directorate: Communications at the Department of Forestry, Fisheries and the Environment. Prior to joining the Department, she worked as a reporter and Chief Copy Editor for a number of magazines.



Marine Research Aquarium soars higher

By Bilqees Davids and Andrea Bernatzeder



Nestled along the captivating Cape Town coastline, the Sea Point Marine Research Aquarium has left an indelible mark on its surroundings.

The public aquarium was built in the 1930s on the land that originally located the Queens Beach Train Station (circa 1910), the end of the line of the train line between Sea Point and Cape Town. The public aquarium was designed by JZS Stekhoven and built by C Church, serving as a hub for scientific exploration and education, drawing both locals and visitors alike.

Today, 85 years later, the Marine Research Aquarium continues its research function alongside the bustling Sea Point Promenade, frequented by families, skateboarders, and cyclists during leisurely afternoons and provides a picturesque backdrop to the aquarium's historic charm.

In its early days (1939-1970s), the aquarium pursued a partial self-sustaining model, relying on profits generated from public viewings. This led to the inclusion of species chosen not only for their research contributions but also for their entertainment value.

However, in contrast to its current exclusive focus on scientifically significant species, the initial strategy aimed for a broader collection to captivate the public, aligning with dual objectives of education



Above: Plaque on wall commemorating the old Queens Beach Train Stations.

and entertainment. The public aquarium was closed in the 1970s, due to severe structural damage. In 1997, the Sea Point Aquarium underwent upgrades and expansion spearheaded by the

then Department of Environmental Affairs and Tourism (now Department of Forestry, Fisheries and the Environment) and currently stands as a modern research station comprising of purpose-built wet and dry laboratories, temperature-controlled facilities, and a phytoplankton culture laboratory. With its comprehensive facilities and commitment to cutting-edge research practices, the aquarium continues to contribute significantly to advancing marine research in South Africa. Serving as a collaborative research hub, the aquarium engages with higher education institutions, conservation bodies, and fellow research institutes, covering a wide spectrum of research endeavours.



Above: The current Marine Research Aquarium, 2023.

While the Marine Research Aquarium still serves broader research that includes fisheries and aquaculture, over the last 10 years the research focus at the facility has increasingly been dominated by aquaculture in order to help facilitate the growth of the technology driven sector. The research undertaken by the DFFE is aligned to the Aquaculture Research and Technology Development Programme (ARTDP), launched by the DFFE in 2012, marking a significant stride in the strategic framework for aquaculture research in the country. The strategy is structured around two key focus areas: industry diversification and competitiveness, and sustainable production.

Noteworthy is the emphasis on collaboration between DFFE researchers and universities, facilitating a broad spectrum of research projects aimed at addressing key challenges and opportunities within the aquaculture sector including not only direct research but capacity development, networking and knowledge transfer. Some current projects under the ARTDP encompass diverse areas such as investigating the reproductive cycle of the clam *Venerupis corrugatus* to inform development of culture technology, influence of culture methods on mussel farming in various areas within Saldanha Bay and testing of cost-effective ingredients as fishmeal replacements in catfish and tilapia diets.

The facility has led to development of culture technology of indigenous sea urchins (*Tripneustes gratilla*), contributes towards identification of Harmful Algal Blooms, and pioneers research into aquatic diseases as well as the refinement of Integrated Multi Trophic Aquaculture. These projects underscore the programme's dedication to driving innovation, enhancing competitiveness, and promoting sustainability within the South African aquaculture industry.

In tandem with its research initiatives, the DFFE is actively engaged in implementing aquaculture projects aimed at fostering sectoral development in South Africa. These projects, executed in alignment with the National Aquaculture Strategic Framework (NASF), are designed to empower local communities through skills development, technology transfer, and job creation.

Notably, the Department's internship programme provides opportunities for unemployed graduates to gain hands-on experience and mentorship within the aquaculture field and aquaculture research, contributing to both individual growth and community development.

The facility serves as a hub for over 40 research projects and capacity development of approximately 25 students per year in their Diploma, Masters and PhD studies in collaboration with various universities nationally. Through these concerted efforts, the DFFE endeavours to stimulate local economies and foster sustainable growth within the aquaculture sector, ultimately contributing to the socio-economic development of South Africa.

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- *Chief Directorate: Aquaculture and Economic Development, Fisheries Branch, Department of Agriculture, Forestry and Fisheries. (2012). Aquaculture Yearbook 2012. Department of Agriculture, Forestry and Fisheries.*
- *Lennox, L. E. (2021). Blue, Green and Everything In-between: The History of the Cape Aquaria c.1902 - 1995.*
- *Richmond, A. (Ed.). (2019). Handbook of Microalgal Culture: Biotechnology and Applied Phycology. Wiley-Blackwell.*

For more information on the aquaculture research undertaken by DFFE, go to our YouTube Page. @EnvironmentZA.

A tribute: Sea Urchins

Poem by McKayla Erasmus

Sea urchins are street merchants
traders by nature
they'll take what you give,
the ocean's best sieve,
Honestly, it's
a pretty good wager
And it works in our favour.

Kelp and Ulva they consume,
like tasty little sweets
and the larvae
choose microalgae
as their only treats.

Wildly cautious
their tubed feet walk,
across the seabed
A few feet stalk.

Be careful!
When you handle them,
they aren't really poisonous.
Be careful!
When you stand on them,
some are extremely venomous.

Spiky outer-coating
Delicious centre -piece
and when it's time for spawning
from the gonads, eggs release.

Rocky seabeds
Rainbow coral reefs
in seagrass forests
They are the chiefs.

Supplying nutrients
to most all predators
almost like
A natural creditor.



Biodiversity Indaba ignites a call for action

By Dimpho Matlanato



Above: Minister of Forestry, Fisheries and the Environment, Ms Barbara Creecy, the President of the Republic of South Africa, His Excellency, Mr Cyril Ramaphosa and Gauteng Premier Mr Panyaza Lesufi at the inaugural Biodiversity Economy and Investment Indaba.



Above: The Indaba had over 1000 participants, inclusive of: Presidency, national, provincial and local spheres of government, public entities, Non-Government Organisations, academia, traditional leaders, traditional health practitioners.

In a landmark gathering in Boksburg, Gauteng, Minister of Forestry, Fisheries and the Environment, Ms Barbara Creecy led the inaugural Biodiversity Economy and Investment Indaba on 25-27 March 2024, uniting stakeholders under the rallying theme of: **Collective Action for Thriving People and Nature**, igniting a call to action for sustainable growth and environmental stewardship.

The Indaba was well timed, taking place just after Cabinet noted the review of the National Biodiversity Economy Strategy (NBES), which was at the centre of discussions at the indaba. The NBES is aimed at leveraging the biodiversity economy to promote conservation, and species and ecosystems management. The strategy will also promote growth and transformation in the biodiversity sector.

"Consistent with the policy context of the White Paper, the revised NBES was founded on the key pillars of conservation, sustainable use and beneficiation of biodiversity business value chains, and transformation, with the goal of promoting sustainable and inclusive socioeconomic development," Minister Barbara Creecy said in her keynote address at the indaba on 25 March 2024. "We have been working hard during the sixth administration to provide policy certainty and a strong policy base for biodiversity conservation,

sustainable use and equitable growth in the biodiversity economy. The development, consultation on, and finalisation of the White Paper on Conservation and Sustainable Use of South Africa's biodiversity was key to this," added Minister Creecy.

In his address, the President of the Republic of South Africa, His Excellency, Mr Cyril Ramaphosa highlighted the importance of transformation within the sector in order to grow employment opportunities.

"Job creation must be at the centre of our efforts. As with our mineral resources, we cannot simply be mere exporters of raw materials so that jobs and industries can be created elsewhere. Jobs and opportunities must remain here, in South Africa, in our communities. This is what the revised Biodiversity Economy Strategy aims to address," said President Ramaphosa.

The Indaba mobilised investment for the biodiversity sector and associated value chains and showcased market-ready biodiversity products and services from the biodiversity economy value chains through exhibitions for business-to-business trading, networking and sustainable partnerships.



About the contributor: Dimpho Matlanato

Dimpho Matlanato is an intern in the Chief Directorate: Communications. She holds a BA Degree in Journalism from the University of Johannesburg.

Indigenous medicine earns entrepreneurs a solid income

By Dimpho Matlanato



Above: The Devil's Claw Agricultural Cooperative Limited harvests and produces medicinal products from the Devil's Claw and Cancer Bush plants, which are said to treat a variety of illnesses.

Take us through the background of the business, when and why was it founded?

The Devil's Claw Agricultural Cooperative Limited is based in Dr Ruth Segomotsi Mompati District Municipality, North West. It is a family business founded in 2003 when the traditional chief realised his community was hungry, without jobs, and granted us the permit to harvest Sengaparile (devil's claw) and use it to make something that would put food on our tables.

What is the function of the business?

As a cooperative, we plant and harvest devil's claw. We also have a project on 40 hectares of land reinforced with a plant called 'tissue culture' at the Agriculture Research council (ARC). Our only challenge is that the devil's claw plant takes time to reproduce but with backup from the ARC, reproduction is quicker.

What are some benefits derived from your products?

Sengaparile can assist in the treatment of arthritis, abdominal pains, kidney failure, liver, high blood pressure and can also assist people who are struggling to conceive. We also have the Cancer Bush plant which can be used as a treatment for cancer including breast cancer, kidney cancer, colon cancer, and can also be used to treat symptoms of HIV/AIDS. Cancer bush is also known to reduce the risk of acquiring sugar diabetes by 25%.

What is the impact of the business on the economy?

The market is still relatively small and the business is still growing, but we hope to employ harvesters soon. By growing as a business we aim to support more families in our community.

How do you feel about being part of the 2024 Biodiversity Economy Indaba?

We are excited to have made connections for positive outcomes. We are hopeful this will bring investors our way. The devil's claw is a gem, and the purpose is to distribute it across the country because this plant can benefit individuals, communities and pharmacies. We appreciate the opportunity to participate in this Indaba.



Above: Ms Dikeledi Gaobonwe from Devil's Claw Agricultural Cooperative Limited and Mr William Mekgwe at the 2024 inaugural Biodiversity Economy and Investment Indaba.



Facts: Trees and Forestry

Trees are some of the oldest living organisms on earth, for example, a live oak can live up to be over

500 years

The age of a tree can be determined by the number of growth rings. The size of the growth ring is determined in part by environmental conditions such as temperature and water availability.

Different parts of the tree grow at different times of the year. A typical pattern is for most of the foliage growth to occur in the spring, followed by trunk growth in the summer and root growth in the autumn and winter. Not all trees follow the same pattern.



forestry, fisheries
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Forestry is a big contributor to the GDP

By Madimetja Mogotlane

The Department of Forestry, Fisheries and the Environment is the custodian of South Africa's Forest resources, which cover over 38 million hectares equating to about 31.1% of the country's land surface area. Forest products contribute about R36.34 billion to the economy and according to a study conducted by Forestry South Africa, Forestry is responsible for 9.8% of the country's agricultural Gross Domestic Product (GDP) and 4.9% of the country's manufacturing GDP.

The Environment Quarterly team visited Phiphidi Forest Plantation in Venda to get a closer look at this plantation's daily activities and the work of foresters and how they respond to veld fires on the plantation. We speak to plantation manager, Mr Siyabonga Mtshutshwana.

What are some of the functions performed on this plantation?

Here in Phiphidi, we plant trees, manage them, and take care of them until maturity before harvesting them.

After harvesting, the trees are stacked into sizes, we treat them and sell them to the surrounding communities who use them for fencing, and roofing. Harvesting was done by Forestry Service Aid, but due to declining numbers, it has now become a tender process. After bidding, businesses will come

and harvest in the compartment, pay via our revenue service and then sell to their markets.

Before harvesting, there are information sessions conducted for our bidders. We used to be categorised as commercial forestry but have since changed to State Forest Management. We regard ourselves as commercial forestry because we plant trees (pine and gum) for commercial purposes.

How do you generate income?

We accumulate revenue from the trees we sell.

How does the plantation benefit the locals?

We have four plantation substations with the role to supply Phiphidi with trees. Due to us now having the Expanded Public Works Programme (EPWP), we are able to employ people around plantations to manage the trees. The Working on Fire team assists with awareness campaigns and tree-slashing.

In 2023/2024, we employed 123 EPWP workers around different plantations in Phiphidi to do fire prevention and weed control.

What are some of the activities carried out in the plantation?

We have areas such as fire protection and civic culture activities, road maintenance, and tree-



planting. The people we employ from EPWP and Working on Fire maintain all the plantations. The key area for Working on Fire is to protect our plantations against fire, assist with fire belts to prevent fires from coming onto the plantation, and also assist with fuel reduction in the compartment.

Because EPWP workers are not trained to fight fires, they assist where possible using the knowledge we have provided to them during our internal training on the workings of the operation. Their key functions include road maintenance during the slashing of trees and weed control in the compartment.



Above: Mr Tshiedzumba Mbambadzeni who is a Jigsaw Operator at Phiphidi Forest Plantation cuts a tree that will be carved to be sold.



Above: Fieldworkers at Phiphidi Forest Plantation slash weed to make way for new trees to be planted.



Above: Mr Siyabonga Mtshutshwana is one of the Plantation Managers at Phiphidi.



About the contributor: Madimetja Mogotlane

Madimetja Mogotlane is a Senior Communications Officer, Internal Communications and Events in the Chief Directorate: Communication Services. Mr Mogotlane is a former intern in Media Liaison at the department and has journalistic experience.

R1.5 billion set aside to tackle biological invasions

By Zibuse Ndlovu and Dimpho Matlanato



Above: South African National Biodiversity Institute (SANBI) Board Chair, Prof Edward Nesamvuni and SANBI CEO, Mr Shonisani Munzhedzi hand over the Biological Invasions Report to Minister Barbara Creecy.

“We have invested over R1.5 billion to combat biological invasions from 2020 to 2022. This initiative specifically targets priority areas such as strategic water source areas, protected areas, and biodiversity hotspots,” said Minister of Forestry, Fisheries, and the Environment, Ms Barbara Creecy during the launch of the latest biological invasions status report, at the South African National Biodiversity Institute (SANBI), on 08 March 2024.

Speaking at the launch, Minister Creecy applauded the successful efforts of various non-governmental organisations in raising over R180 million from the private sector to fund the control of invasive freshwater fishes and alien plants in the water catchments around Cape Town. “These interventions have created much-needed employment especially in rural areas. This model could be replicated across other catchments and priority areas,” said Minister Creecy.

The ‘National Status of Biological Invasions and their Management in South Africa’ third edition report paints a sobering picture of the multitude of alien species that have taken root in, and threaten South Africa’s biodiversity ecosystem, altering native habitats, outcompeting indigenous species, and disrupting essential

ecological processes. “These invaders, introduced through human activities such as trade and travel, have demonstrated their ability to spread rapidly and wreak havoc on our fragile ecosystems. It is essential to recognise that the impacts of biological invasions extend beyond the realm of biodiversity alone. They have far-reaching consequences on our economy, agriculture, water resources and public health. Invasive species can devastate agricultural lands, leading to reduced crop yields and increased production costs,” said Minister Creecy.

Moreover, invasive species are devastating the unique and sensitive biodiversity of the Prince Edward Islands. “For the first time, this report provides a separate assessment of the status of biological invasions and their management on the islands.

Although these islands are part of South Africa, their remote location and unique biodiversity warrant a separate assessment. Biological invasions are the main threat to biodiversity on the islands. The findings show that there are 44 alien species on Marion Island, over half of which are invasive, while there are eight alien species present on Prince Edward Islands, all of which are invasive,” said Minister Creecy.

Biological invasions on the Prince Edward Islands are being addressed through effective biosecurity and on-island management. “The house mouse is the most harmful alien species on Marion Island. The mice feed on plants, invertebrates, and endangered seabirds. They also affect ecosystem processes such as sediment movement rates and nutrient cycling. Bold plans to eradicate the house mouse from Marion Island have been developed and are due to be implemented in 2027. The eradication of mice from Marion Island is essential if its unique biodiversity is to be preserved,” said Minister Creecy.

Minister Creecy further stressed that early detection and rapid response systems should be strengthened to identify and eradicate invaders before they become established. “We must continue investing in research and innovation, supporting studies that enhance our understanding of invasive species dynamics to improve management strategies,” said Minister Creecy.

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Chair of the SANBI Board, Professor Edward Nesamvuni one of the scientists who compiled and developed the biological invasions third edition report emphasised a coordinated and collaborative approach. “Our ability to deal with biological invasions will require a collective effort, involving governments, scientific institutions, civil society and individuals alike. We must prioritise the conservation of our native biodiversity and work towards building resilience in the face of these threats,” said Prof. Nesamvuni.



Above: Minister Barbara Creecy with SANBI officials and scientists who compiled and developed the 3rd National Status of Biological Invasions and their Management Report. The report will play a role in aligning South Africa with international efforts to address the negative impacts of invasive species while supporting the implementation of the White Paper on Conservation and Sustainable use of South Africa's Biodiversity.

Discovering the Wonders of Wetlands and Waterbirds with BIRDIE

By Zimkita Mavumengwana

Over the last ten years, people have been working hard to collect data about our environment, especially in places affected by human activities like wetlands. But there's a challenge – how do we turn all this information into something useful to aid in decision-

making? That's where the South African Biodiversity Data Pipeline for Wetlands and Waterbirds, or 'BIRDIE platform,' comes in. It's a platform to help make smart informed decisions about wetlands. You can check it out at <http://birdie.sanbi.org.za>



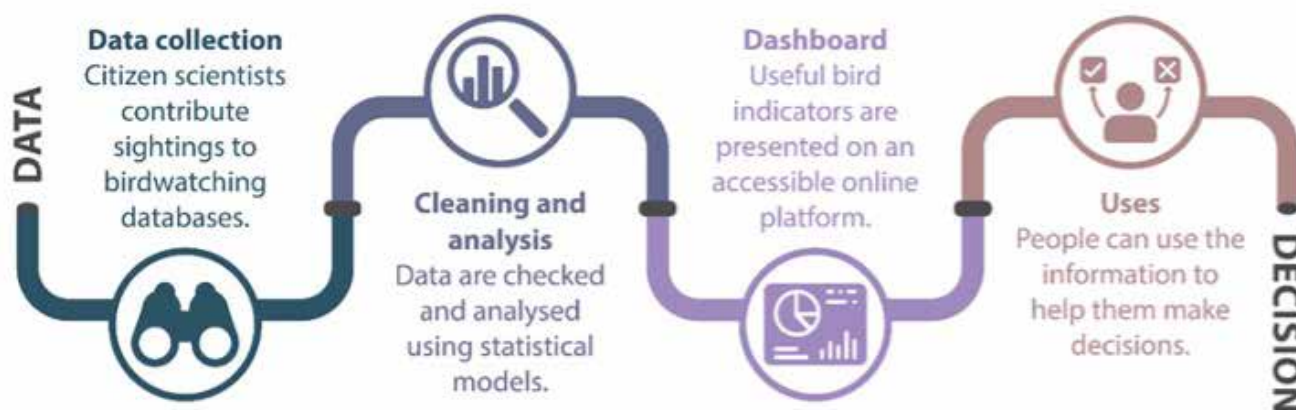
Above: Lesser Flamingos at Kamfers Dam © Doug Harebottle.

What BIRDIE does:

BIRDIE's main goal is to help us make smart decisions about wetlands and the birds that live there. It takes information from people who watch birds and turns it into helpful insights. BIRDIE is like a superhero for decision-makers, providing them with the information they need to take care of our important wetland areas. It's also a way to show how much we can learn from people who love watching birds.

How BIRDIE works:

Imagine BIRDIE as a friendly online place that anyone can visit. It gives you the latest details about where different birds are, how many there are, and how many different kinds there are at different wetland spots. This information isn't just for scientists – it's for everyone! People who take care of wetlands, like managers and those who make decisions about them, can use BIRDIE to understand what's happening. It's like a bird encyclopedia that's also useful for planning birdwatching trips.



Where BIRDIE Gets its Information:

BIRDIE gets its superpowers from regular people who love birds. There are two big groups of bird data it uses: one that counts waterbirds, called Coordinated Waterbird Counts (CWAC), and another that maps where birds are, known as the South African Bird Atlas Project (SABAP2). These groups have been collecting bird data for a long time, and BIRDIE uses that data to help us understand more about our feathery friends.



The BIRDIE platform also considers environmental factors and additional contextual information such as temperature and rainfall.

Why bird data matters:

Birds living in wetlands have interesting lives – some stay in one place, while others travel a lot. The data collected by BIRDIE helps us figure out what they are up to over a long time. It's like a bird history book! BIRDIE uses clever maths to turn this data into easy-to-understand facts like where birds live, how many there are, and how different they are from each other.

How BIRDIE makes a difference:

BIRDIE isn't just for experts. It's useful for everyone, from people who love watching birds to those who make decisions about wetlands every day. Bird lovers can use BIRDIE to plan exciting birdwatching trips and learn more about wetlands and waterbirds. People who report on environmental agreements find BIRDIE helpful because it fits with global agreements on nature. Scientists use BIRDIE to help decide which bird species are at risk of

disappearing, guiding policies and efforts to keep them safe. And those in charge of taking care of wetlands can use BIRDIE's information to make smart decisions every day.

Thanks to teamwork:

BIRDIE didn't become a superhero on its own. From September 2020 to February 2024, a group of people worked together to make it happen. The JRS Biodiversity Foundation funded the project, and the South African National Biodiversity Institute (SANBI) led the way. The University of Cape Town played a big role, hosting the bird data and creating the website for users. Other important partners, like Sol Plaatje University and the Royal Belgian Institute of Natural Sciences, brought their expertise to the project. Thanks also go to the Department of Forestry, Fisheries and the Environment (DFFE), BirdLife South Africa, and many others who helped make BIRDIE a reality.

How you can help:

Given the importance of BIRDIE and how it contributes to the overall conservation of wetlands and waterbirds, it is essential that the CWAC and SABAP2 datasets keep growing to ensure that BIRDIE provides the best possible information to its users. Make sure you contribute to the CWAC and SABAP2 datasets – visit their websites to find out more. Let's keep our wetlands and waterbirds thriving!

Visit CWAC here: <https://cwac.birdmap.africa/>

Visit SABAP2 here: <https://sabap2.birdmap.africa/>

Visit the BIRDIE platform at:

<https://biodiversityadvisor.sanbi.org/> to keep checking how your contributions are feeding the site and species models!

BIRDIE is an innovative data pipeline pulling automatically from several datasets, with much statistical analyses and modelling in the background. Please do report errors or ideas for improvement using the feedback button.



Waste as a valuable resource for future energy

By Veronica Mahlaba



Above: DFFE's Director-General, Ms Nomfundo Tshabalala did a walkabout and engaged with exhibitors on what they are doing in their line of work to contribute to innovative ways of efficiently managing waste.



Above: The Department's Deputy Director-General: Chemicals and Waste Management, Ms Mamogala Musekene contributed to shifting our mindset from viewing waste as a liability to embracing it as a valuable resource of efficiently managing waste.

In partnership with Mogale City, the Department of Forestry, Fisheries and the Environment (DFFE) hosted the Waste to Energy and Circular Economy Workshop which sought to unite several stakeholders to explore innovative solutions to one of the most pressing challenges of efficient management of waste, while harnessing its potential to generate energy.

The two day workshop was held from 7 – 8 March 2024. The workshop's purpose was to bring experts, policy makers, industrialists, researchers, business, non-governmental organisations, civil organisations, representative of waste pickers, engineers, scientists, product developers and technology inventors to exchange information with the sole purpose of promoting waste to energy, circular economy and to engage about sustainable and safer ways of managing infectious waste to prevent the spread of diseases.

The Department's Director-General, Ms Nomfundo Tshabalala expressed that the gathering represents not just a meeting of minds, but a collective commitment to sustainability and progress.

"The world is grappling with a dual crisis – the escalating volume of waste and the urgent need for clean energy. Traditional waste management practices have proven inadequate, often leading to environmental degradation, pollution, and climate change. However, amidst these challenges lies an opportunity which is the transformation of waste into a valuable resource through the marvel of technology," the Director-General detailed.

Ms Tshabalala further explained that waste to energy is not merely a concept. It is a pathway to a cleaner, more sustainable future. It involves the conversion of various forms of waste; be it organic, municipal, agricultural, or industrial, into usable energy, such as electricity, heat, or fuel. This process not only reduces the burden on landfills but also mitigates greenhouse gas emissions and contributes to the circular economy.

Once the Workshop was officially opened, it was divided into three commissions to assist in tackling the different issues that impact waste management. The focus areas were Commission 1 – Waste to energy; Commission 2 – Circular economy and Commission 3 – Management of infectious waste.

The following factors were points of discussion:

- Legislation and policy governing waste to energy and circular economy space.
- Lessons learnt both internationally and locally relating to waste to energy and circular economy projects.
- Technologies and alternative waste technologies.
- Business and funding perspectives in energy and the circular economy.
- Sustainable and sound management of management of infectious waste.
- Scenario planning to deal with wastes coming from disease outbreak of animals.



About the contributor: Veronica Mahlaba

Ms Veronica Mahlaba is a Senior Communication Officer in the Chief Directorate: Communications at the Department of Forestry, Fisheries and the Environment.

Minister Creedy releases rhino poaching statistics for 2023



Left: Minister of Forestry, Fisheries and the Environment, Ms Barbara Creedy held a media briefing on 27 February 2024 in St Lucia, KwaZulu-Natal to release the national rhino poaching statistics for the year 2023. The Minister was joined by the Chief Executive Officer of Ezemvelo KZN Wildlife, Mr Sihle Mkhize and the Chief Executive Officer of iSimangaliso Wetland Park Authority, Mr Sibusiso Bukhosini. **By Tshegofatso Ndhlovu**

DFFE Director-General meets with German Parliamentary delegation



Left: The German Parliamentary delegation met with officials from the Department of Forestry, Fisheries, and the Environment in Pretoria, on 04 March 2024. The Republic of South Africa and the Federal Republic of Germany have been cooperating on environmental issues for many years through projects supported by the International Climate Initiative of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, and through the strategic environmental dialogue. **By Zibuse Ndlovu**

Deputy Minister Sotyu hands over Mabama Forestry Plantation



Left: There was beating of the drums, dance and ululation when Deputy Minister Makhotso Sotyu handed over Mabama forestry plantation to the Mashamba Traditional Council in Makhado Local Municipality, Limpopo on 14 May 2024. The plantation with predominantly eucalyptus, plays a vital role in sustainable forestry management and is essential for the transformation agenda that is emphasised in the Commercial Forestry Sector Masterplan. **Image by Veronica Mahlaba**



Black entrepreneurs exhibit at hunting expo

Left: The DDG: Biodiversity and Conservation, Ms Flora Mogohloa joined a number of DFFE-supported emerging black entrepreneurs for a 3-day hunting expo in Midrand, recently. The entrepreneurs range from professional hunters, game and cattle farmers as well as shoe-makers (using the skin of captured game). **Image supplied**

Cabinet slam breaks on captive lion breeding

By Tshegofatso Ndhlovu



Above: Minister Creecy was joined by Chairperson of the Ministerial Task Team on Voluntary Exit Options, Mr Kamalassen Chetty.

Minister of Forestry, Fisheries, and the Environment, Ms Barbara Creecy hosted a media briefing to release the report of the Ministerial Task Team On Voluntary Exit Options And Pathways From Captive Lion Industry in Parliament, Cape Town, on 3 April 2024.

Chaired by Mr Kamalassen Chetty, the Ministerial Task Team was established in 2022 by Minister Creecy with the aim of identifying and recommending win-win voluntary exit options and pathways from the captive lion industry. The key focus areas of the task team included the undertaking of a process of engagement with key stakeholders in the captive lion industry, relevant issuing authorities and any vulnerable workers while planning and overseeing an audit of existing captive and captive-bred facilities to confirm the number of lions, their age and sex, stockpiles of lion parts and derivatives, the practices and uses within that facility, number, level of employment and skills of workers and potential

other land use options within the biodiversity economy.

The key recommendations of the Task Team were that Government approve:

- The engagement of voluntary exit candidates to finalise the pathways and exit terms.
- The acquisition and incineration of lion bone stockpiles contingent upon sterilisation of lions and compliance with the voluntary exit principles.
- The issuing of a short-term directive to ensure consistent application of animal well-being is assured through issuing of permits and conducting oversights.
- The prohibition of captive lion breeding in the medium term to safeguard benefits of voluntary exit options.



About the contributor: Tshegofatso Ndhlovu

Mr Tshegofatso Ndhlovu is a Senior Communications Officer in the Communications and Advocacy Chief Directorate. He holds an Advanced Diploma in Journalism from the Tshwane University of Technology and is an avid sports fan with his favourites being Tennis and Formula 1.

Climate Change Roundtable enhances private sector reporting

By Veronica Mahlaba



Above: A panel discussion on Approaches to Sustainability: Private Sector Best Practices with representatives from Vodacom, Standard Bank, KPMG South Africa and the Gautrain.

The Department of Forestry, Fisheries and the Environment together with Global Reporting Initiative, and the Shared Value Africa Initiative held roundtable discussions on **Enhancing Private Sector Contribution And Reporting On Sustainable Development Goals (SDGs)** at the Johannesburg Stock Exchange on 09 April 2024. The discussion sought to raise awareness among South African private sector stakeholders about their vital role in achieving the SDGs and the importance of transparency in sustainable development.

Deputy Director-General: Climate Change and Air Quality, Mr Maesela Kekana, stated that it has been the vision of the Department to convene this event to discuss issues of SDG 12.6, which refers specifically to sustainability reporting to broaden participation from several sectors towards enhancing the depth and scope of environment, social and governance (ESG) reporting in South Africa.

"As part of responsible corporate citizenship in South Africa, it is becoming imperative for companies to adopt sustainable practices and integrate sustainability information into their reporting to promote transparency and accountability, necessary for achieving the 2030 Agenda on Sustainable Development," explained Mr Kekana.

The discussions were based on the following key principles:

- **Recognition of the Private Sector's Significance:** Acknowledging the crucial role of the private sector as a driving force behind economic development and its potential to contribute significantly to achieving the SDGs.
- **Importance of Transparency:** Emphasising the importance of transparency in corporate reporting, which serves as a catalyst for sustainable practices and informed decision-making.
- **Public-Private Collaboration:** Promoting comprehensive public-private partnerships to address complex development challenges effectively.
- **Need for Accelerated Progress:** Recognising the urgency of accelerating progress towards the SDGs, with a particular focus on the South African context.



Above: Deputy Director-General for Climate Change and Air Quality, Mr Maesela Kekana setting the scene on the day's discussions.

2024 Good Green Deeds Easter Activation



Over the Easter Weekend, officials from the Department of Forestry, Fisheries and the Environment were all over the country, promoting the Good Green Deeds Awareness Campaign to people on the move between 29 March – 01 April 2024. The awareness campaign encouraged motorists travelling along major national roads to stop littering whilst travelling and to take care of the environment.



Above: Many travellers along Engen Cato Ridge in KwaZulu-Natal expressed appreciation for receiving refuse bags to use inside their vehicles to collect and throw away waste when they reach their destinations. **Image by Veronica Mahlaba**



Above: Young children enjoy interacting with Billy Bin at Shell Ultra City in Middleburg, Mpumalanga. They appreciated receiving lunch boxes for packing nutritious, tasty lunches that will fuel active, waste-free and healthy lifestyles at school. **Image by Mapato Baloyi**



Above: DFFE official, Ms Dimakatso Tsutsubi encouraging motorists at Shell Ultra City in Harrismith to continue spreading the Good Green Deeds message after the Easter Weekend to keep South Africa clean and litter-free. **Image by Sandile Shangase**



Above: Ms Omphemetse Modise and Ms Tinyiko Tshabalala from the department ensuring that travellers learn the value of Reduce, Reuse, Recycle, Recover to manage waste at the Shell Petro Port in Bloemfontein. **Image by Sakhile Mthembu**



Above: Our waste mascot, Billy Bin making sure that our waste management message reaches a receptive ear in Kimberley, Shell Ultra City N12. **Image by Sibusisiwe Nxumalo**



Above: The Mabaso family were travelling from Fourways to Elim, Limpopo Province and made a stop at our exhibition store at Sasol Zebediela. **Image by Madimetja Mogotlane**



Above: The Shell garage in Knysna, Western Cape was a buzz where Ms Phumeza Simelane was at work encouraging holiday travellers to keep our roads clean. **Image by Merle Van Diemel**



Above: Even in the windy and cloudy weather, our DFFE team stationed at BP Garage in Colchester, Eastern Cape continued pushing the message of a litter-free South Africa. **Image by Arno Munro**



Above: Enviro Hero and DFFE Mascot, Billy Bin was a fan-favourite at Engen Garage in the Cape Town Winelands, Western Cape aiding in the fight against waste pollution. **Image by Tshagofatso Ndhlovu**



Above: The DFFE's Ms Linda Donkrag engaging people from all walks of life including truck driver's at Astron Energy Garage in Motherwell, Gqeberha. **Image by Merle Van Diemel**

**Minister of Forestry, Fisheries
and the Environment**

Ms Barbara Creecy
Private Bag 313
Pretoria, 0001
Environment House
473 Steve Biko Road
Arcadia Ext 6
Pretoria
Tel: (012) 399 8743

**Deputy Minister Forestry, Fisheries
and the Environment**

Ms Makhotso Magdeline Sotyu
Private Bag X313
Pretoria, 0001
Environment House
473 Steve Biko Road
Arcadia Ext 6
Pretoria
Tel: (012) 399 8854

**Director-General of Forestry,
Fisheries and the Environment**

Ms Nomfundo Tshabalala
Private Bag X447, Pretoria, 0001
Environment House
473 Steve Biko Road
Arcadia Ext 6
Pretoria
Tel: (012) 399 9008
E-mail: dg@dfre.gov.za

Call Centre: 086 111 2468 • callcentre@dfre.gov.za
Website: www.dfre.gov.za



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For any enquiries or contributions, please contact:
Ms Erica Mathye, Tel: 012 399 8976 email: EMathye@dfre.gov.za