

Environment Quarterly

EzemVelo Ngenyanga Ntathu • Mbango wa kotara • Mupo nga Kotara



Report on the status of biological invasions

Green Jobs for a better future



forestry, fisheries & the environment

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



STAY SAFE

PROTECT SOUTH AFRICA

TOGETHER WE CAN BEAT THE CORONAVIRUS

2021

environment CALENDAR



JANUARY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

FEBRUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

MARCH

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

APRIL

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

02 February
02 March
21 March
23 March
22 April

World Wetlands Day
World Wildlife Day
International Day of Forests
World Meteorological Day
Earth Day

MAY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

JUNE

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

JULY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

AUGUST

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

17 May
22 May
05 June
08 June

World Migratory Bird Day
International Day for Biological Diversity
World Environment Day
World Oceans Day

17 June
18 July
31 July
31 Aug - 04 Sep

Desertification and Drought Day
Nelson Mandela Day
World Ranger Day
Arbour Week

SEPTEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

OCTOBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

NOVEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

DECEMBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

16 September
19 September
07 - 11 September
21 November

International Day for the Preservation of the Ozone Layer
International Coastal Clean-up Day
South African National Parks Week
World Fisheries Day

Cover story

6 New support for management of alien invasive species

Features

- 3 Poster: 5 June is World Environment Day
- 4 SA-UNDP celebrate 25 years on Environment Day
- 5 Minister presents 'new deal' for SA's iconic species
- 7 Minister empowers emerging game farmers
- 8 Youth Focus: Youth involvement in the environment
- 9 Responsibility to heal our environment rests on the youth
- 10 Young, black biodiversity professionals at SANBI
- 12 Green Jobs for a better future
- 13 Learners show interest in studying Marine Biology
- 14 Shelling out on World Sea Turtle Day
- 15 SWITCH Business closes its doors
- 16 SA conduct Nationally Determined Contribution for COP26
- 17 Cycling academy for the youth of KwaMashu
- 18 Five misconceptions about South African hunting
- 20 Career Focus: Environmental Management Inspector - Innocent Bopape
- 22 Mapping nature for people and planet



About the back cover image
Doorn River Waterfall, Northern Cape

A waterfall situated a few miles north of Nieuwoudtville on the road to Loeriesfontein, in the Northern Cape (Namaqualand region), South Africa. The river plunges through an opening in the rock down a precipice of approximately 90 metres.

Image by Pixabay



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



From the Editor-in-Chief's Desk



Dear Valued Stakeholder

It's my pleasure to welcome you to our July edition of Environment Quarterly. It really feels like yesterday when 2020 was coming to an end, yet here we are, already seven months into the year. Time is flying by, but we are really excited to share with you the latest news from our Department and some of our entities.

We recently celebrated World Environment on 5 June. This year, Minister Barbara Creecy led the celebrations, which took place under the theme "Ecosystem Restoration". The celebration also marked 25 years of development cooperation on environment, nature, climate and energy between the government

of South Africa through DFFE and the United Nations Development Programme (UNDP).

The marking of 25th anniversary of cooperation between DFFE and UNDP was celebrated under the theme **"Financing the Future of Nature, Climate and the Environment"**.

The Minister also launched the report on The status of biological invasions and their management in South Africa at the Kirstenbosch National Botanical Garden. The latest scientific report from the South African National Biodiversity Institute (SANBI) provides a comprehensive assessment of the status of invaders and is the only country-level assessment worldwide that focuses specifically on biological invasions.

In celebrating the International Day for Biological Diversity on 22 May under the theme **"We're Part of the Solution for Nature"**, Minister Creecy led this year's celebrations by releasing 354 head of game donated or loaned to eight successful emerging game farmers and communities in Groot Marico, North West.

June was celebrated as Youth Month in South Africa and in this issue we share the work and passions of some of the young professionals working in SANBI's Biodiversity and Land Use (BLU) Project and the contribution that they are making in the sector. We also share all the other youth-

focused activities that took place in June, while also acknowledging the role our youth can play in the Green Economy.

Oceans play a major role in our everyday lives and on 8 June the Department led a World Ocean Day celebrations that were observed under the theme: **"Ocean: Life and Livelihood"**. The aim was to inform and remind the public of the impact of human actions on the oceans. Our team in Cape Town led a successful school outreach programme that targeted our learners in that part of the country.

And finally, the Department travelled to all the country's nine provinces as part of our consultations on the Draft Updated Nationally Determined Contributions (NDC) with multi-stakeholder audiences. The updated NDC is to be submitted to the United Nations Framework Convention on Climate Change (UNFCCC) before COP 26. It serves as the cornerstone of the country's climate change response, outlining South Africa's commitment in terms of the UNFCCC and the Paris Agreement. We cover these stakeholder engagements in detail in this issue. We hope you will enjoy the read.

Sustainably Yours,

Albi Modise

Head of Communications & Advocacy

Meet our team

Head of Communications and Advocacy
Albi Modise

Editor-in-Chief
Portia Chipane

Editor
Erica Mathye

Editorial Team
Salome Tsoka
Tshegofatso Ndhlovu

Veronica Mahlaba
Zibuse Ndlovu

Design & Layout
Brian Chapole
Sibusisiwe Nxumalo
Titus Tlowana

Cover Image
Shahieda Davis

Contributors
Bongekile Zikalala
Elizabeth Ntoyi
Gaopalelwe Moroane
Jordan Wallace
Keamogetswe Mogale
Land use project
Leanne Richards
Lehlogonolo Mashego
SANBI Biodiversity
Shahieda Davis
Siyabulela Malo

Photography
Elena Blessing
Getty Images
Jacques Du Toit
Paul Sigutya
Salome Tsoka
Shuttershock
Zibuse Ndlovu

Find more information on: www.environment.gov.za or call 086 111 2468

5 JUNE IS WORLD ENVIRONMENT DAY



#GenerationRestoration

#GoodGreenDeeds

**EVERYONE HAS A ROLE
TO PLAY IN ECOSYSTEM
RESTORATION AND
EACH OF US CAN MAKE A
DIFFERENCE.**



Find us:
Department of Forestry, Fisheries
and the Environment

Watch us:
EnvironmentZA

Follow us:
@EnvironmentZA

Call Centre: +27 86 111 2468 | Website: environment.gov.za



SA-UNDP celebrate 25 years on Environment Day

By Veronica Mahlaba



Above: Anticlockwise: Minister Barbara Creecy meets UNDP Resident Representative in SA, Dr. Ayodele Odusola; Acting CEO of SANParks, Dr Luthando Dziba and CEO of SANBI, Mr Shonisani Munzhedzi.

The year 2021 signifies 25 years of development cooperation on environment, nature, climate and energy between the government of South Africa through the Department of Forestry, Fisheries and the Environment (DFFE) and the United Nations Development Programme (UNDP). It is for this reason that the two jointly celebrated World Environment Day (WED) at South African National Biodiversity Institute (SANBI) on 05 June 2021.

SANBI is a long-standing DFFE-UNDP Implementing Partner. It is the very first UNDP-supported project on the environment in South Africa implemented 25 years ago. The theme for WED was: **Ecosystem Restoration**, while the marking of 25 years of cooperation between DFFE and UNDP was under the theme: **Financing the Future of Nature, Climate and the Environment**.

The Minister of Forestry, Fisheries and the Environment, Ms Barbara Creecy explained that the country is deeply committed to the multilateral system led by the United Nations and firmly believes this to be the only sustainable route to tackling global problems on a united and consistent basis. South Africa is proud to be associated with the UN programmes and the work they continue to do in the country and across the world.

"This year's World Environment Day theme of Ecosystem Restoration is an extremely appropriate way to continue building the foundation for this United Nations' Decade

of Ecosystem Restoration and achieving the Sustainable Development Goals. In the history of humanity, there has never been a more urgent need for all of us to heed this global rallying cry to heal our planet," Minister Creecy said.

She further explained that the restoration of ecosystems means putting efforts to recover degraded or destroyed ecosystems, including conserving remaining intact ecosystems for the continued delivery of valuable services to the people. "It is important to take note that all ecosystems can be restored, be they forests, wetlands or marine."

Present at the celebrations was the UNDP Resident Representative in South Africa, Dr. Ayodele Odusola who highlighted the key results from the 25-year partnership between DFFE and UNDP in South Africa.

Dr Odusola said the 25 year DEFF-UNDP partnership has played an instrumental role in shaping the course of environmental governance and development in South Africa. "In fact, our efforts in developing and delivering Global Environment Facility (GEF) projects has led to South Africa having the most comprehensive GEF portfolio in Africa, and amongst the top globally. To date, UNDP in South Africa has mobilized, on behalf of the government of South Africa, in excess of \$159 million from the GEF alone, including \$2 Billion in co-finance, approximately about R25 billion."

He continued to explain that in the course of 25 years, 26 projects have been implemented, covering large-scale national and regional projects focusing on biodiversity and conservation; climate change including increasing renewable energy access, energy efficiency projects and international waters.

"The results are evident in the impact indicators which range from reduced tonnes of CO2 emissions; hectares of land under improved land practices and increased resilience of protected areas; and megawatts of energy distributed, installed or rehabilitated. In fact, UNDP's efforts in developing and delivering GEF projects has led to UNDP-South Africa having the most comprehensive and voluminous GEF portfolio in sub-Saharan Africa, and amongst the top globally," Dr Odusola said.



About the contributor: Veronica Mahlaba

Ms Veronica Mahlaba is a Senior Communication Officer in the Communications and Advocacy Chief Directorate at the Department of Forestry, Fisheries and the Environment. Ms Mahlaba has experience as a Lecturer in the Media Studies Department at a private college.

Minister presents ‘new deal’ for SA’s iconic species

By Zibuse Ndlovu



Above: Minister Barbara Creecy addresses members of the media at the release of the High Level Panel Report.



Above: Lion on grassland. Image by Elena Blessing from Pexels.

The Minister of Forestry, Fisheries and the Environment, Ms Barbara Creecy released the High Level Panel Report on the management, breeding, hunting, trade and handling of elephant, lion, leopard and rhinoceros on 2 May 2021, in Pretoria.

Speaking at the release, Minister Creecy stressed that the High Level Panel Report provides a platform for not only achieving policy clarity, “but also for the development of a New Deal for people and wildlife in South Africa.”

The appointment of the panel in October 2019, chaired by Ms Pam Yako, came after the hosting of a Colloquium on Captive Lion Breeding in August 2018, which recommended an end to lion breeding in South Africa. It was also in response to the number of emotive and complex conservation and sustainable use issues being raised by the public, particularly those involving keystone species. These included the lion bone trade, hunting of captive-bred lions, the elephant culling debate, the ivory stockpile, and trade in rhinoceros’ horn.

“Implementation of the recommendations by the panel will result in “both protection and enhancement of South Africa’s international reputation, repositioning the country as an even more competitive destination

of choice for ecotourism and responsible hunting,” said Minister Creecy.

She also pointed out that Parliament had earlier requested the Department to initiate a policy and legislative review on the captive lion breeding industry. “The Department subsequently decided to expand the review to include other species that also face significant threats.”

According to the report of the portfolio committee, which was later adopted by Parliament, there was a predominant view that the captive lion breeding industry did not contribute to conservation and was doing damage to South Africa’s conservation and tourism reputation.

Minister Creecy further assured that the recommendations were not against the hunting industry: “Preventing the hunting of captive lions is in the interests of the authentic wild hunting industry, and will boost the hunting economy and our international reputation, and the jobs that this creates,” said the Minister.

The panel comprised conservationists, scientists, community leaders, economists, and experts in trade and industry, the law, welfare, legal and welfare industry, legal, welfare and sustainable agriculture



About the contributor: Zibuse Ndlovu

Zibuse Ndlovu is the Assistant Director in the Communications and Advocacy Chief Directorate at the Department of Forestry, Fisheries and the Environment..

New support for management of alien invasive species

By Shahieda Davids



Above: Minister of Forestry, Fisheries and the Environment Ms Barbara Creecy during the official launch of the Report on The status of biological invasions and their management in South Africa.



Above: SANBI Acting CEO Carmel Mbizvo doing the official welcome to all guests.

Science shows us that one of the key factors driving the accelerated decline of biodiversity is the invasion of alien species which impact on all sectors of society. On Friday 28 May 2021, the Minister of Forestry, Fisheries and the Environment, Ms Barbara Creecy officially launched the **Report on The status of biological invasions and their management in South Africa** at Kirstenbosch National Botanical Garden.

The latest scientific report from the South African National Biodiversity Institute (SANBI) provides a comprehensive assessment of the status of the invaders, and is the only country-level assessment worldwide that focuses specifically on biological invasions. Its arrival was opportune, as the world recently celebrated the International Day of Biological Diversity on 22 May under the theme "We're part of the solution #ForNature".

In South Africa biological invasions impact biodiversity, the economy, human health, well-being, and sustainable development. It is anticipated that this Report offer a solution towards the eradication of biological invasions. Top findings of the Report reveal:

1. The number of alien species that have been established in South Africa has increased by 15% from 1 637 to 1 880, about a third of which are invasive. Formal assessments of the impact of invasive species are underway using a new United Nations scheme that was developed in collaboration with the SANBI and Centre of Excellence for Invasion Biology scientists.

2. The second finding is that invasive trees use up 3 to 5% of South Africa's surface water runoff each year, a serious problem in an already water scarce country which is increasingly prone to drought.
3. The third finding is that invasive trees increase the risk and intensity of veld fires, with 15% more fuel burnt in invaded areas. Consequently, fires burn at a higher temperature and containment measures are more difficult.

This latest scientific assessment finds that there are now at least 1 880 alien species that have established themselves in South Africa, about a third of which have been classified as invasive.

Dr Tsungai Zengeya, lead scientist of the SANBI Report, said estimates suggest the ecological costs of invasive alien plants and animals to be more than R6.5-billion a year. The main costs are associated with a decline in ecosystem services such as water and grazing, and in agriculture.

Accordingly, the Department was developing a new policy on the management of biological invasions, supported by a 10-year National Invasive Species Strategy and Action Plan. The aim of the strategy was to facilitate a more cohesive and collaborative approach by government, industry and the broader community to identify and manage biosecurity risks. The new strategy would be published for public comment and input shortly.



About the contributor: Shahieda Davids

Ms Shahieda Davids is a science writer at the South African National Biodiversity Institute (SANBI) who is very passionate about communicating about the environment.

Minister empowers emerging game farmers

By Salome Tsoka



Above: Minister Creecy hands over the wildlife certificate of acknowledgement to emerging game farmer Mr Andrew Aphane and his family.

In celebration of this year's International Day for Biological Diversity under the theme "We're Part of the Solution for Nature", the Minister of Forestry, Fisheries and the Environment, Ms Barbara Creecy led this year's celebrations by releasing wildlife to an emerging game farmer in Groot Marico, North West on 22 May 2021.

A total of 354 game animals were donated and loaned to eight successful emerging game farmers and communities including owner of Aphane Boerdery, Mr Andrew Aphane as part of the SANParks socio-economic transformation interventions pledged in 2018.

Speaking during the handover ceremony, Minister Creecy emphasised that the release of 14 Zebra, 12 Red Hartebeest, 10 Gemsbok, five Eland and four Giraffe on Mr Aphane's farm was part of the government's commitment to the transformation of the wildlife sector.

"Transformation of the sector will continue to be prioritised, in terms of improved inclusion of marginalised groups, especially communities living with or adjacent to these species, and in the role and influence of traditional leaders and healers in the wildlife sector."

"The wildlife industry may not realise its full potential if majority of the population of this country remain in the economic fringes with no meaningful participation in this industry. There are a number aspirant game farmers who intend to participate in this industry and that is why interventions such as this one become very critical in bridging the historic gaps," Minister Creecy said.

Minister Creecy pointed out that the release of the animals to emerging game farmers came after the release of the High Level Panel (HLP) that reviewed policies, regulatory measures, practices and policy positions related to hunting, trade, captive keeping, management and handling of elephant, lion, leopard and rhinoceros earlier in May.

The report focused on providing policy certainty, reducing bureaucracy and red tape issues. It also emphasised the need to better balance the country's economic, social, cultural and natural heritage needs, including re-imagining the role of protected areas, both state and others, in contributing to ecologically sustainable rural development.

The biodiversity economy is an important contributor to job creation and currently sustains over 418 000 jobs with over 256 000 of those coming from extractive use of biodiversity such as hunting of wild animals, fishing and wild harvesting plant species for bioprospecting and biotrade and traditional medicines. Owner of Aphane Boerdery, Mr Andrew Aphane emphasised how this wildlife donation was important to the Groot Marico region.

"We understand the role of biodiversity economy towards the country's GDP. Groot Marico is currently sitting at a 40% unemployment rate and we can't go on like this. The people in this region depend on farming and game ranching for employment. As such, your support to this farm means a lot because we are currently employing 13 people and through your support, we hope to expand more," Mr Aphane said.

The SanParks wildlife economy strategy aims to redress the exclusion of black communities from the game farming industry. Acting SanParks CEO Dr Luthando Dziba said the aim is to contribute to viable economic enterprises by ensuring that the farmers supported become successful and encourage other farmers to join the wildlife economy. "We want to see a thriving wildlife economy business in the future and see this farm contributing to the success of other game farmers in future," Dr Dziba said.



Youth involvement in the environment

By Keamogetswe Mogale

Images by Salome Tsoka and Paul Sigutya



Above: Youth researchers from the Working for Water programme which is led by the department are instrumental in the removal and management of alien invasive species.



Above: Sharpeville youth during the Good Green Deeds clean-up campaign.

The environment is the air, water and land which people, animals and plants live. It has brought life to many flora and fauna. The very same flora and fauna that has brought beauty to the world.

The increase in population has caused urbanisation, increase in industries and agricultural use. As a result, the environment is suffering because not only the indigenous flora and fauna are removed from their habitats but also pollution arises for those previous stated land uses. One of the ways that can be used to recover areas that have been damaged is through Restoration.

This year, the theme for World Environmental Day, 5 June was Ecosystem Restoration. Ecosystem restoration is the process of reversing the damage done to ecosystems so that they can regain their ecological function. Restoring the environment not only assists the environment but increases the availability of good and services and improving the well-being for humans. Sustainable development and the fourth industrial revolution (4IR) may potentially be useful tools that can drive the movement of restoring the environment. Restoration assists in the reduction of negative impacts onto the environment, which aims at achieving the sustainable development goals (SDGs), which ultimately deal with so many aspects of the environment.

Technology is making waves in different aspects of the world and development, it is time it became incorporated in environmental management measures and green investments. 4IR may be reducing jobs for a lot of people but it is making groundbreaking ways at

tackling environmental problems such as developing technology to deal with monitoring air quality.

South Africa`s youth are vocal and passionate individuals, who stand firmly in what they believe in. It is time the youth got involved in helping the environment from experiencing more adverse impacts since they make up a third of South Africa`s population (17.84 million), were 9.04 million are men and 8.80 million are women. Their assistance in recovering the environment will help the environment together while incorporating modernized ways.

Ways the youth can further be involved in the restoration:

- Planting indigenous species;
- Removing invasive species;
- Participating in clean-ups;
- Reduce, Reuse & Recycle; and
- Environmental education.

Restoring our ecosystem is a crucial role that everyone should work towards, to live in harmony with nature. Living sustainably is the present and future.



About the contributor: Keamogetswe Mogale

Ms Keamogetswe Mogale is an Environmental Sciences student at Tshwane University of Technology (TUT). A Secretary of TUT Green Arcadia, which is a green initiative that promotes green living in and around TUT campuses. And an active member of TUT Eco-campus.

Responsibility to heal our environment rests on the youth

By Lehlogonolo Mashego

Image by Zibuse Ndlovu

The physical environment plays a crucial role in enhancing human livelihoods and providing basic components for the functionality of a nation. The state of our environment is directly driven by humans and our activities.

The state of our environment also reflects on measures followed to protect, conserve and manage the environment along with its resources. South Africa as a nation is greatly progressive with strong environmental legislation to help curb associated impacts on the physical environment.

Our developing nation necessitates the sustainable management of the environment in order to further mitigate socio-economic and socio-political aspects associated with the mismanagement of our physical environment and resources by humans.

The discussion of involving our youth in environmental management has become more imperative in addressing the underlying environmental issues in a sustainable manner. Moreover, the integration of the youth in such solutions has been critical in driving innovation and instilling environmental consciousness amongst future green leaders.

The youth constitute a large percentage of the total world population, having the power to influence and further drive implementation and dialogues for future generations. There is a need to close-off existing disconnects between different role players in environmental management and promote diverse interaction crucial for the implementation of strategies.

What the youth can do:

- Enter the space of green professionals and research.
- Advocate for environmental protection and resource management.
- Dialogues on sustainable practices in the workplace and home environments.
- Implementation of pro-environmental behaviours in immediate environments.
- Develop green technologies and solutions.
- Continuous training and research to ensure that one is up to date with the recent trends, studies and technologies.
- Build and join communities that advocate for sustainable living and environmental management, collective action is far more impactful.

What industry can do:

- Inclusion of the youth in planning.
- Training and developmental opportunities for the youth.
- Transformation and sustainable practice migration.
- Implementation of an environmental and waste management policy within the office.
- Enforce more interaction between youth, industry and government.

What government can do:

- Inclusion of youth in policy development, strategic planning and implementation.
- Training and developmental opportunities for the youth.
- Grant the youth more seating in running campaigns that advocate for environmental management and protection.
- Implement more stringent consequences to the environmental impact.
- Monitoring developmental activities and alignment to meeting the sustainable development goals.
- Interaction of Reclaimers in the Municipal System.
- Enforce more interaction between the youth, industry and government

About the contributor: Lehlogonolo Mashego

Ms Lehlogonolo Mashego is an Environmental Consultant from GCS Water and Environment Consultants (Pty) Ltd. She is a committee member of IAASA – Gauteng Branch and leads the division for students and young professionals, and further serves under the National Sub-Committee for the Youth.



Young, black biodiversity professionals at SANBI

By SANBI Biodiversity and Land Use Project

June is National Youth Month and we are excited to share the work and passions of some of the young professionals working in the South African National Biodiversity Institute's (SANBI's) Biodiversity and Land Use (BLU) Project and the contribution that they are making in the sector.

The five year BLU project is being implemented by SANBI, with funding from the Global Environmental Facility through the United Nations Development Programme. The project is in the last few months of implementation and will conclude at the end of August 2021. Here are the outstanding young professionals contributing towards the success of the project.



Sagwata Manyike has been managing the Planning and Land Use Management component of the project, based in Pretoria. With a Master's degree in Town and Regional Planning Manyike has spent the past five years overseeing the development of Spatial Development Frameworks and Land Use Schemes in the BLU's target districts to ensure that they have incorporated biodiversity.

Mthobisi Nzimande joined the BLU project in July of 2017 where he supports the development of biodiversity products and tools, integrating biodiversity priorities into planning, projects and programmes including the biodiversity protocols developed in support of DFFE's National Environmental Impact Assessment (EIA) screening tool. Nzimande has been able to mainstream the most up-to-date biodiversity information into land use decision making processes relating to the National Environmental Management Act 107 of 1998 (NEMA) process.

Thobile Nyati joined the project with experience working as an environmental officer at provincial level, working on licensing and compliance monitoring for waste-related activities. She holds an MSc degree in Environmental Management and has been involved in monitoring development projects to ensure compliance with the conditions of Environmental Authorisations. Nyati reflects 'There can be a certain level of expectation placed on secondments, that requires them to show a lot of independence and innovation.'

Mxolisi Ngubane was seconded to the uMgungundlovu District Municipality with the aim of supporting local municipalities to incorporate spatial biodiversity information into their planning tools. With a BSc Honours degree in Environmental Management he observed that the planning tools developed showed a marked improvement in biodiversity content. Ngubane has since taken the skills he learned to a new position as a land-use advisor under the Department of Forestry, Fisheries and the Environment, based in another district municipality.



Rosina Millicent Masango joined DARDLEA as an intern before joining the BLU Project in 2017. She has obtained her BTech in Nature Conservation while working on the project. She promotes the mainstreaming of biodiversity priorities through EIA, engagement with government authorities and independent Environmental Assessment Practitioners through facilitating forums at Ehlanzeni District and promotion of cooperation. Masango provided inputs into the development of Ehlanzeni Clearance of Indigenous Vegetation Guideline.

Cebolenkosi Zuma joined the project in March 2019 as a Groen Sebenza intern focusing on Biodiversity Stewardship, based in Pretoria. She holds a Bachelor of Arts degree in Geography and Environmental Management. Her work involves supporting the biodiversity stewardship team in convening the multi-stakeholder community of practice, undertaking policy advice, stakeholder communication and management.

Thato Maila joined the BLU project through the Groen Sebenza Internship Programme after completing her Honours degree in Spatial Planning. She now holds an MSc in Urban and Regional Planning. Maila's work involves mainstreaming biodiversity into environmental management and spatial development and supporting the development of environmental management and spatial development tools and related capacity development interventions. Maila reflects 'Internships are a great opportunity to learn, test your skills, and grow personally.'

The BLU project also employed 14 research assistants as part of the Presidential Employment Stimulus (PES) Programme. SANBI was awarded R71 million from the Department of Fisheries, Forestry and Environment's (DFFE) allocation of the PES Programme aimed at stimulating the economy and creating jobs in the environmental sector. The aim was to contribute towards the development of the next generation of black biodiversity professionals and to empower communities through the creation of job opportunities which supports a post COVID-19 economic recovery. This investment provided a great opportunity for research assistants to be introduced to the sector. Read about the research assistants' journeys below:



Dr Mariam Adeoba, SANBI Research Assistant

'The research assistant position at SANBI benefitted my career by allowing me to gain valuable knowledge and work experience and has given me much-needed confidence to find my own path, build myself and my portfolio within the environmental industry. Thank you for the literal life changing opportunity.'

Minehle Ngubane, SANBI Research Assistant

'This position was a beneficial experience which allowed me to gain experience and insight in different working environments. I was placed at GDARD with the biodiversity stewardship team. I gained skills in the field by completing different methods of vegetation monitoring, mapping, and veld condition assessments.'

Mpho Mohlakoana, Research Assistant: Gauteng Department of Agriculture and Rural Development

'It was a great privilege working with SANBI as a research assistant. This opportunity gave me a better sense of what research involves so early in my academic career. It gave me confidence to pursue my studies and conduct research related to natural resources. I feel more confident and empowered for the next steps to further my research.'

Nombulelo Ntongolo, SANBI Research Assistant

'My position at SANBI as research assistant benefitted my career by providing a great way to learn and advance my research techniques and obtain experience that will make me find employment in the field of my interest. It was a great privilege to work in an environment that promoted cross-disciplinary thinking, research, building trust with partners, thus making it easy to approach and collaborate with experts.'

Philisa Dunyana, SANBI Research Assistant

In celebrating youth month in June and youth day on 16 June 2021, we focus on and appreciate these young vibrant youth making their mark in SANBI and the broader environmental sector. We salute you and thank you for being ambassadors who ensure that we sustain our natural environment for future generations.

About The Biodiversity and Land Use (BLU) Project

The BLU Project was initiated in 2015 to support municipalities in effectively regulating land use to ensure that biodiversity continues to provide essential ecosystem services to municipal residents. The South African National Biodiversity Institute (SANBI) is currently implementing the project, together with its partners, with funding from the Global Environment Facility (GEF) through the United Nations Development Programme (UNDP). The overarching objective of the project is to minimise the multiple threats to biodiversity by increasing the capabilities of authorities and land owners to regulate land use and manage biodiversity in threatened ecosystems at the municipal scale.

Green Jobs for a better future

By Leanne Richards

On 16 June 1976, South African youth took to the streets to protest against oppression and fight for liberation. Forty five years later, as the country celebrates Youth Month, it is important to reflect on the critical role that youth continue to play in the South African economy and in driving and advancing our country's transition towards a low carbon, resource efficient and inclusive economy.

One consequence of the COVID-19 pandemic is the exacerbation of the already high rate of unemployment in the country. Statistics South Africa reported that 46% of the total youth between the ages of 15 – 34 years are currently unemployed as of the first quarter in 2021.

With the intention to revitalise the South African economy, the Government of South Africa published its Economic Reconstruction and Recovery Plan (ERRP) in October 2020. The Green Economy has been identified as one of nine priority focus areas for rebuilding, and indeed advancing our economy. The Green Economy is a means of implementation to transform an energy, carbon intensive economy to one which is low carbon, inclusive and resource efficient.

During April and June 2021, the Department of Forestry, Fisheries and the Environment in partnership with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the United Nations Environment Programme (UNEP) and the International Training Centre of the International Labour Organization (ITCILO) hosted a five part dialogue series on Green Jobs for a better future (For more information on the series: <https://greendialoguesouthafrica.org>).

Being cognizant of the role that youth play as drivers of change, the Green Jobs Dialogue sessions were specifically structured to provide a focus on youth through engagement on: the policy environment, capacity needs, opportunities for Green Jobs in the Agriculture and Eco-Tourism sectors, and the support needed to advance entrepreneurs in the low carbon economy space.

A transition towards a low carbon economy will provide several opportunities through the

creation of new jobs, access to new markets, increased research and innovation, building of new skill sets and value chain beneficiation. It is important that the country prepares itself to ensure that there is an adequately capacitated workforce which will be ready to support the country in its transition.

Green jobs cannot advance without green skills. If we want to transition our existing brownfield industries to green field industries, in the medium to long term, it is critical to ensure that gaps in skill sets are addressed. The Green Jobs Dialogue highlighted that youth in South Africa continue to struggle with access to basic resource support. Business development acumen skills and mentorship are critical elements in ensuring the success of entrepreneurship.

The Green Jobs Dialogue provided all participants with a platform to deliberate on concrete actions which need to be undertaken in building an adequately skilled workforce in advancing the uptake of green jobs in South Africa. South Africa is endowed with a youthful population who have the potential to advance the transition to a low carbon, inclusive economy through innovation, technology uptake and resource efficiency.



Above: Sectors which have the potential to advance the Country's transition towards a low carbon economy. Adapted from the Green Economy Inventory for South Africa (2017).

Short introductory video clips were prepared for each session to set the context for discussions. These clips can be accessed at the following links:

- Session 1: <https://www.youtube.com/watch?v=UWbV2kQLbQQ>
- Session 2: <https://www.youtube.com/watch?v=qdHW90gL2H8>
- Session 3: <https://www.youtube.com/watch?v=GplaR69iPXE>
- Session 4: <https://www.youtube.com/watch?v=hBJMthvHXkM>
- Session 5: <https://www.youtube.com/watch?v=mbEL7XEYOaw>



About the contributor: Leanne Richards

Ms Leanne Richards works in the Directorate: Sustainable Programmes and Projects. She holds a Master's Degree from the University of Pretoria. She has been working in the environment sector since 2007 and is passionate about supporting initiatives which advance South Africa's transition towards a low carbon, inclusive and resource efficient economy.

Learners show interest in studying Marine Biology

By Siyabulela Malo



Above: DFFE's Marine Mammal Researcher, Mduduzi Seakamela.



Above: St. Boniface High School learners paying during the World Ocean Day virtual classroom.

The Department of Forestry, Fisheries (DFFE) and the Environment led a World Ocean Day Virtual Classroom session at the National Sea Rescue Institute (NSRI) Station in Hermanus in Cape Town on Tuesday, 8 June 2021.

Hosted by Oceanographer, Mr Mthuthuzeli Gulekana, the session involved seven schools namely; AJ Mvelase Senior Secondary in Lamontville (Durban) Umlazi Commercial School (Durban), Solomon Mahlangu High School (Kariega), George Randall High School (East London), St. Boniface High School (Kimberly), Qhayiya High School and Hawston Secondary School (both in Hermanus).

The panel of experts included DFFE's Benthic Scientist, Zoleka Filander, Marine Mammal Researcher, Mduduzi Seakamela, Shark Lady Adventures' Kim Maclean and Stephen Mabungane, who does shark dissections.

Speaking during her session, live from the OceanX vessel, which is currently in the North Atlantic Ocean, Filander shared the life of marine species and the value of ocean resources including the contribution they make to the country's economy at large.

"I hope you can see yourselves working in the oceans space because the ocean needs young people like yourselves," she said, encouraging participating learners to join the marine science space.

Mduduzi Seakamela continued his presentation on the life of the different types of whales found in the waters and the effect these sea beasts have on the country's tourism industry with many visitors coming into South Africa from around the world to catch a sight of these dancing whales.

In the large township of Umlazi in Durban, learners took part in a shark dissection exercise led by Stephen

Mabungane with the purpose of familiarising learners with sharks, their organs, and the different types of sharks in the ocean.

Mabungane also emphasised the importance of avoiding litter so it does not end up in the ocean where it can be consumed by sharks, leading to deaths and species decline. Different kinds of sharks can be found in South Africa. Mabungane also mentioned the importance of sharks in the ecosystem.

Chief Executive Officer of Shark Lady Adventures Kim Maclean emphasised the importance of refraining from littering in the marine environment, adding that because of increasing plastic pollution on a daily basis, marine species consume the littered waste and such actions lead to the deaths of marine species.

Deon Langenhoven from the NSRI which works together with the South African Whale Disentanglement network also gave a presentation on how the NSRI works to free whales that are found entangled in nets and ropes in the ocean.

This year's World Ocean Day was observed under the theme: **"Ocean: Life and Livelihood."** In a statement released by the Department on the day, Minister Creecy said, "As we grow our ocean economy, we also have to be cognisant of the impact of increasing human activity on the health of our oceans.

It is essential that we manage our footprint and impact and put in place measures to protect our ocean and coastal ecosystems and biodiversity within the context of sustainable development. It is for this reason that South Africa's Oceans Economy programme includes a specific priority and focus on marine protection and ocean governance."



About the contributor: Siyabulela Malo

Mr Siyabulela Malo is a Media Relations & Editorial Services Intern in the Directorate : Communication Services in Cape Town. He holds a BA Communications Management Degree from the University of Fort Hare.

Shelling out on World Sea Turtle Day

By Gaopalelwe Moroane



South Africa participated in the 20th Anniversary of the Indian Ocean and South-East Asia (IOSEA) Memorandum of Understanding signing celebration and World Sea Turtle Day on 16 June 2021, in Ushaka Marine World in Durban.

The Department of Forestry, Fisheries, and the Environment contributed to the virtual celebrations by sharing the work done by the Department and South Africa to protect and conserve sea turtles.

The Department also partnered with uShaka Marine World to host 10 learners from Intakemazolo Combined School for a tour around the aquarium as well as a close-up session to meet the sea turtles that are currently being rehabilitated at Ushaka Sea World.

South Africa and IOSEA

South Africa is one of the 131 Member States that are signatory to the Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or Bonn Convention).

The Convention is an environmental treaty under the support of the United Nations Environment Programme. It is concerned with the conservation of wildlife and their habitats on a global scale and aims to conserve terrestrial, aquatic and avian migratory species throughout their range.

South Africa has made great strides in monitoring and protecting sea turtles. Some of the work includes amongst others, the rehabilitated sea turtle tagging project as well as the Sea Turtle Monitoring Programme.

Isimangaliso Wetland Park turtle nesting sites

Every year from around October to March, the Loggerhead and Leatherback turtles can be found nesting along the beaches of Kwa-Zulu Natal with the bulk of nesting for the western Indian Ocean populations taking place between Cape Vidal and South African/Mozambican border in the iSimangaliso Wetland Park. For this reason, Isimangaliso has been classified as

Marine Protected Area, a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site as well as one of the designated Ramsar Sites which are wetlands of international importance. iSimangaliso is also one of the IOSEA Network Sites of Importance.

Ezemvelo KZN Wildlife Turtle Monitoring Programme

The Ezemvelo KZN Wildlife has been protecting and monitoring marginal populations of nesting leatherback and loggerhead turtles for the past 55 years through their turtle monitoring programme in Isimangaliso.

Ezemvelo's Coastal and Marine Ecologist's Santosh Bachoo said the monitoring started after it was discovered that turtles coming into Isimangaliso to nest were being poached and killed.

The sea turtle tagging project was initiated as a research project under the department's Ocean and Coasts Research branch to investigate post-release survival and behaviour of captive marine turtles. The first satellite tags were deployed in December 2015 on two Hawksbill turtles that had been rehabilitated by Two Oceans Aquarium.

Since then, an additional 12 tags have been deployed on rehabilitated turtles from Bayworld Aquarium, Ushaka and Two Oceans Aquarium. "We [the Department] have partnered with several rehabilitation facilities to have them rehabilitate stranded turtles to a point where they are healthy enough to be released back into the ocean," explains DFFE's Marine Biodiversity Research Scientist, Ms Sarika Singh.



Above: The sea turtle tagging project was initiated as a research project under the department's Ocean and Coasts Research branch to investigate post-release survival and behaviour of captive marine turtles.



About the contributor: Gaopalelwe Moroane

Ms Gaopalelwe Moroane is the Assistant Director in the Chief Directorate: Communications at the Department of Environment, Forestry and Fisheries, in Cape Town. She joined the department in 2012 as an intern after completing her studies at Rhodes University.

SWITCH Business closes its doors

By Elizabeth Ntoyi



Above: The European Union Ambassador to South Africa Dr Riina Kionka commended the milestones achieved by the business component of the SAG Programme.

Above: United Nations Resident Coordinator to South Africa Nardos Bekele-Thomas, applauded the work undertaken by the SAG Programme.

For nearly a decade, the SWITCH Africa Green (SAG) Programme has been working to support African countries in their transition to an inclusive green economy and in promoting a shift to sustainable consumption and production practices in addressing resource efficiency.

In the month of June which is also celebrated as Environment Month in South Africa, members of the European Union in partnership with the Department of Forestry, Fisheries and the Environment and the United Nations Environment Programme hosted an event to officially close the business component of the SAG on 04 June 2021.

The event aimed at reflecting on the achievements and lessons learnt from the Programme. Beneficiaries were awarded with certificates based on the successful conduct of the work which was undertaken through the SAG Programme.

Phase 1 of the programme commenced in 2013 with implementation in Burkina Faso, Ghana, Kenya, Mauritius, South Africa, and Uganda. Phase 2 commenced in 2018 with Ethiopia joining the programme as the seventh country.

During Phase 1 and with specific reference to the green business development component, eight organisations were awarded grant financing for a total of USD 1,933,555.

- **Fairtrade Label South Africa** – aimed at promoting sustainable consumption & production in South African agriculture through policy advocacy, public and private consumer education and the creation of Fairtrade certified value chains.
- **Fundacion Sustalde** - aimed at implementation of green certification schemes in agri-food industry in liaison with smallholder farmers.
- **Renewable Energy and Energy Efficiency Partnership** - aimed at resource efficiency in agricultural processing systems.

- **Proudly South African** – aimed at developing standards for enhancing capacity for eco-labelling of agricultural products.
- **National Cleaner Production Centre** – aimed at supporting micro, small and medium enterprises to move towards resource efficiency and green business development through building their capacity in industrial symbiosis.
- **Living Lands** - aimed at bringing a wide variety of people in the Kouga and Kromme catchments together to collaborate in addressing the sustainable development challenges in their landscape and effect a shift to more sustainable production and consumption through eco-entrepreneurship practices.
- **Conservation South Africa** – aimed at building market readiness for sustainable red meat production in high biodiversity communal rangelands; engaging market players and consumers to support traceable, sustainable livestock production from communal farmers through sourcing policies, pricing, and marketing.
- **SEED** – aimed at accelerating green business development through capacity development for entrepreneurs.

Phase 2 supported three organizations with grant financing for a total of USD 4,500,000.

- Clay Brick Association of South Africa - aimed at promotion of inclusive sustainable practices in the South African clay brick sector and developing a portal dashboard for sustainability monitoring and reporting for reducing carbon emissions and resource efficiency through business operations.
- Solidaridad Network SA Trust - aimed at assisting smallholder farmers to access markets for agricultural commodities.
- Fetola Foundation - aimed at determining the feasibility of production and uptake of biofuels in the aviation industry.



About the contributor: Elizabeth Ntoyi

Ms Elizabeth Ntoyi is the Control Environmental Officer in the Chief Directorate: International Governance and Resource Mobilization. She holds an Honours Degree in Environmental Management from the University of South African and she is currently pursuing her Master's Degree in Development Practice with the University of Pretoria.

SA conduct Nationally Determined Contribution for COP26

By Veronica Mahlaba, Salome Tsoka and Tshegofatso Ndhlovu



Above: The Chief Director for International Climate Change Relations and Negotiations, Mr Maesela Kekana presents key issues and developments in Climate Change negotiations in Mpumalanga.



Above: The Director for Climate Change Development and International Mechanisms, Mr Mkhuthazi Steleki gave a presentation on the updating of South Africa's NDC in Limpopo.

In May 2021, the Department of Forestry, Fisheries and the Environment travelled to all the country's nine provinces for the Draft Updated Nationally Determined Contributions with multi-stakeholder audiences to be submitted to the United Nations Framework Convention on Climate Change (UNFCCC) before COP 26. The draft updated NDC serves as the cornerstone of the country's climate change response, outlining South Africa's commitment in terms of the UNFCCC and the Paris Agreement.

The adoption of the Paris Agreement (PA) in 2015, at the UNFCCC COP21, provides the overarching global goal and framework for international climate action in the post-2020 period. The main aim of the PA is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius (Article 2(a) of the Paris Agreement).

Speaking at the NDC launch during a virtual stakeholder session in March, the Minister of Forestry, Fisheries and the Environment, Ms Barbara Creecy explained that this is a continuation of the stakeholder consultation process involving all parties including those in business, labour, civil society, the agricultural and energy sectors that will play a key role in implementing the NDC in partnership with government.

"After the consultation process, the updated NDC will be revised, submitted to Cabinet for approval and then to the UNFCCC before COP26," Minister Creecy said.

The Department's Chief Director for International Climate Change Relations and Negotiations, Mr Maesela Kekana delivered the high level presentation on South Africa's Updated NDC and highlighted some of the country's mitigation and adaptation strategies. "The proposed reduction in greenhouse gas emissions (GHG) will be in a range from 398-510Mt CO₂-eq

in 2025 and in a range from 398-440 Mt CO₂-eq in 2030. The 2025 target range will allow time to fully implement the national mitigation system, including those elements contained in the Climate Change Bill. It will also allow space for the implementation of IRP 2019 and other key policies and measures, as well as the national recovery from COVID 19."

"The 2030 target range (398 - 440 Mt CO₂-eq) is consistent with South Africa's fair share, and also an ambitious improvement on our current NDC target. The upper range of the proposed 2030 target range represents a 28% reduction in GHG emissions from the 2015 NDC targets," Mr Kekana said.

Giving a presentation on the updating of South Africa's NDC during the Limpopo edition of the NDC, DFFE Director for Climate Change Development and International Mechanisms, Mr Mkhuthazi Steleki said stakeholders who attend the NDC should look at it as a tool that can be used beyond their respective provinces.

All parties to the UNFCCC are updating their NDCs in the run-up to the COP26 to be held in Glasgow, Scotland, in November 2021.



Above: Members of the audience present at the various NDC consultations included representatives from youth organisations, farming communities, government and environmental groups.

Cycling academy for the youth of KwaMashu

By Tshegofatso Ndhlovu

Every year during the month of June, South Africa celebrates Youth Month. A month that aims to commemorate the Soweto Uprising of June 1976 where many young South Africans lost their lives to the apartheid regime while protesting against Bantu Education.

In celebration of Youth Month, the Department of Forestry, Fisheries and the Environment (DFFE) in collaboration with eThekweni Municipality and the Federal Republic of Germany through its Ministry for Economic Development (BMZ) launched the GO! Durban Cycle Academy Bike Park in KwaMashu, Durban on 19 June 2021.

Founded in 2016, the GO! Durban Cycle Academy Programme provides free cycling training, academic support and life skills development to approximately 400 youth in communities around eThekweni Municipality every week. In the five years of its existence, the programme has achieved great success growing from one bike park in eNanda, to a total of four bike parks within the city including KwaDabeka, Chesterville and KwaMashu.

Delivering a keynote address, the Deputy Director-General for Climate Change and Air Quality, Dr Thulie Khumalo said that there is more to the cycling academy than just teaching the youth how to cycle.

"It is true that when people hear of the name cycling academy, they are immediately inclined to think that the only activity the academy undertakes is the teaching of riding bicycles but looking at the work that the various cycling academies have undertaken, it is evident that the impact is much more far reaching," said Dr Khumalo.

Since the Department's last visit to the bike park in October 2020, the park has been upgraded to suit the needs of the young participants of the programme. The upgrades include new bathroom facilities, space for the participants to study and complete their school work and a world-class velosolutions asphalt pump track which provides an ideal training ground for youth with varying skill sets, from young cyclists who are learning to ride, to the more advanced riders who are training to compete in professional events.

"This cycling academy contributes to one of our key mandates at KfW German Development Bank which is the responsibility for Air, Planet and Climate and also provides a glimpse into what a carbon-neutral future in South Africa could look like," said the Director for KfW German Development Bank, Ms Silke Stadtmann.

Ms Stadtmann went on to add that KfW has proudly supported the DFFE and the eThekweni Municipality in their mission to advance Non-Motorised Transport (NMT) by granting funding towards the construction and maintenance of walkways, bicycle lanes and parking facilities in various cities around the country.

Part of the event proceedings was the introduction of the Bicycle-Share Pilot Programme which will see 50 community members identified through a rigorous selection process receive helmets, reflective vests and bicycles that are fitted with innovative tracking units that will enable GO! Durban to collect valuable data that will allow the city to plan for better active mobility in the future.



About the contributor: Tshegofatso Ndhlovu

Mr Tshegofatso Ndhlovu is an Intern in the Chief Directorate: Communications. He holds a diploma in Journalism from The Tshwane University of Technology. He is an avid Tennis Player who looks up to the Williams Sisters.

Below: Representatives from the DFFE, eThekweni Municipality, KfW German Development Bank and local ward councillors were all excited for the launch of the bike park in KwaMashu.



Five misconceptions about South African hunting

By Jordan Wallace
Images by Shutterstock

Whether you agree with it or not, hunting is a part of South Africa's landscape. Without giving people an alternative land-use option, such as sustainable hunting that is less destructive to the vegetation, our habitats that harbor our biodiversity remain at risk. Keep an open mind about this contentious issue, the future of our wildlife – our heritage – may depend on it.

1. Trophy hunting is wasteful

The majority of hunters in South Africa are meat hunters. They are primarily hunting for the pot (venison). Horns are occasionally kept as a memento but are not the purpose of the hunt. However, there are some hunters, mostly foreign, who hunt solely for the collection of the horns because often their countries do not permit meat imports. However, this 'trophy' hunting is not wasteful as the meat is used by the hunting lodge staff, their families, the surrounding communities, or sold as venison. Hunters are also accompanied, by law, with a registered Professional Hunter and trackers, who have the knowledge, ability, skill, and experience to ensure a legal hunt.

2. Hunters weaken the genetic stock by removing the best individuals

Game ranchers spend exorbitant amounts to introduce good genetics into their populations by purchasing animals at auctions. The rancher is unlikely to allow their pricey new bull Eland (*Taurotragus oryx*) to be hunted until they are certain that it has received adequate time to spread its genetics throughout

the herd. If done correctly, the demand that trophy hunters place on game ranchers may lead to the preservation of such genetic traits and diversity within a species, and not to its decline. Furthermore, the majority of game ranchers are ecologically knowledgeable and understand the importance of genetic reservoirs and maintaining breeding stocks. It is in their interest to increase the quality of the herd.



Above: Cape eland are the largest plains game animal that can be hunted in South Africa. They occur in the bushveld, eastern Free State, and Kalahari regions to which we offer hunting safaris.

3. Hunters should take photos instead

This hinges on the misconception that all hunting farms could convert to an eco-tourism model involving photographic safaris. Whilst the conversion may work for some, it is often not feasible. The unfortunate reality is that most hunting farms are poorly suited for photographic safaris as they often cannot stock the 'Big Five' game and are distant from decent



About the contributor: Jordan Wallace

Mr Jordan Wallace is a Resource Auditor: Sustainable Wildlife Economies Project at the South African National Biodiversity Institute. He completed his Bachelor of Arts degree in Geography at Stellenbosch University. He is passionate about ethology and the evolution of various adaptive traits. As a budding conservationist he seeks to gain a deeper understanding of the wildlife economy and its contribution to sustainable land management.

transport infrastructure, do not have iconic features or landscapes (such as waterfalls, mountains), or do not have the amenities required to compete with the luxury eco-tourism lodges. And conservation is expensive. Certainly in some cases, if it wasn't for hunting, many of these farms would be converted to livestock farms, mines, or other agro-industrial practices that remove top soil, vegetation, and degrade natural habitats, eroding the biodiversity of the area. Furthermore, private lands are fenced to delineate properties, prevent stock theft, or prohibit dangerous animals roaming in public.

As populations naturally increase, their numbers need to be controlled to prevent overgrazing. This is critical as overstocking has disastrous effects on soil and vegetation. Hunting can therefore promote the preservation of natural habitats, increase productivity, and thus the associated ecological functioning.

4. Hunters cause wildlife numbers to decline

As hunters kill animals, it is understandable to assume that they cause the decline of wildlife numbers. However, the reality is far more complex. The logic is as follows: people want to hunt animals, game farmers breed those animals at a considerable expense trusting that someday it will pay off when the animal is hunted; with the net effect being that animal numbers increase. As an example: Cape mountain zebra (*Equus zebra zebra*), Black wildebeest (*Connochaetes gnou*), Sable antelope (*Hippotragus niger*), Roan antelope (*Hippotragus equinus*), Blesbok (*Damaliscus pygargus phillipsi*) and Bontebok (*Damaliscus pygargus*), to name a few, owe their survival as a species, largely, to private game farmers.

Their populations were reduced to critically low numbers in the 1950s and are now thriving because public and private ranches have bred up their numbers, with the justification of the steep input costs being the high price a prospective hunter would pay

to hunt one. Harvesting a few individuals a year, whilst breeding a herd, has a net gain in population of these species.

5. Trophy hunting is synonymous with canned hunting

This misconception has drawn the ire of many a hunter who would shudder to be painted with the same brush. Differentiating between 'fair chase hunting' and 'canned hunting' is important. Most hunters practice 'fair chase' hunting where professional hunters, along with their clients, hunt a wilderness area where wild animals have sufficient space and natural habitat to evade the hunter. These hunts usually take 2 to 5 days and often involve walking from sunrise to sunset with no success. In contrast, canned hunting takes place in a confined space, often from the back of a bakkie, where the captive bred animal has no chance of escape. This method of hunting can take as little as 10 minutes.

Canned hunts are illegal in South Africa and widely regarded by the industry as unethical and counterproductive.



Above: Thanks to a couple of farmers in the Free State province that came up with a conservation strategy, today more than 18 000 of black wildebeest occur throughout South Africa and are categorized by the IUCN as Least Concerned (LC).



Environmental Management Inspector - Innocent Bopape

By Bongekile Zikalala
Images by Jacques Du Toit



Above: Environmental Management Inspector - Innocent Sibongile Bopape

What is your current position and how long have you been in this position?

I am an Environmental Officer Control A (Criminal Enforcement) within the Sector Enforcement Chief Directorate under the Branch Regulatory Compliance and Sector Monitoring. I have been in this position for four and a half years.

How and why did you become Environmental Management Inspector?

I worked as a Police Officer for 12 years making a difference in people's lives, which included a period of nine years where I was an investigator. In 2015, I saw an Environmental Officer post advertised by the Limpopo Department of Economic Development, Environment and Tourism. At the time, I was in possession of a B-Tech Degree in policing and I was studying for an LLB degree which I completed in 2018.

I met all the requirements for the position even though I did not have the Environmental Management Inspector (EMI) Basic Training (which is a requirement for one to be designated as an EMI) but I knew that with my experience would be able to make a difference in protecting the environment. I applied for the post, and I was appointed. After my appointment, I attended the EMI Basic Training as required and was designated as an EMI Grade 2.

As an EMI, can you give an overview of the duties, functions and responsibilities of your work?

- To monitor and enforce compliance with specific pieces of national environmental legislation National

Environmental Management Act, 1998 (NEMA) and Specific Environmental Management Acts (SEMA's).

- To conduct investigations on any act or omission on a reasonable suspicion of the breach of the legislation.
- These above mentioned functions involve duties such as:
 - On-site inspections and investigations,
 - Attending environmental crime scenes,
 - Taking samples and ensuring that evidence is handled properly, submitted to the laboratory and/or stored immediately after the crime scene attendance.

As EMIs we inspect, investigate, question or interrogate, search, seize and arrest any person who is reasonably suspected of having committed an offence in terms of environmental law. We can also issue written notices to enforce the law and where necessary, we register criminal cases with the South African Police Service (SAPS).



Above: EMI's together with the NPA at a health care risk waste facility



About the contributor: Bongekile Zikalala

Ms Bongekile Zikalala is a Control Environmental Officer in the Regulatory Compliance and Sector Monitoring Branch, responsible for EMI capacity development and support at the Department of Forestry, Fisheries and the Environment.

My core function is criminal investigations into "Brown" (Environmental Impact and Pollution) cases. I conduct on-site investigations, attend to crime scenes, taking samples to prove pollution, gather admissible evidence, question and interrogate suspects and witnesses and building a case docket that will ensure a successful prosecution.



Above: A photo taken in Phillippi shows the illegal infilling of a wetland with soil in order to create farming area.

What is a typical day for you as an EMI?

As an EMI criminal investigator, I spend a lot of time in the field, conducting criminal investigations in accordance with the Criminal Procedure Act, NEMA and other SEMA legislation which includes conducting on-site investigations and ensuring that evidence and samples are managed or handled properly and submitted to the relevant laboratory immediately after the crime scene is processed.

I also interview witnesses and obtain statements on a daily basis. When necessary, I register case dockets with SAPS, drafting legal documents such as: Section 205 application, search and seizure warrants, serve summonses and support prosecutors in drafting charge sheets, as well as preparing witnesses to testify in court.

What is the most rewarding thing about your work as an EMI?

To know that I am protecting people's right to an environment that is not harmful to their health and well-being. And that I am protecting the environment not just for myself but for the benefit of the current and future generations.

The most motivating and rewarding thing is to see our environmental cases being taken serious and get convictions against environmental perpetrators where they get punished at the end of the day.

What set of skills are most important for a position in this field of work?

Communication and interview skills, critical thinking and problem-solving, knowledge of law, computer literacy, report writing, honesty and ethics.

What collaborative projects have you worked on that have been particularly interesting?

Operation: INTERPOL 30 days at Sea is one of the interesting projects that I have worked on. It includes law enforcement, maritime security, and environmental

protection agencies from across the world, who, together take concerted action against pollution offences leading to marine pollution, committed on land, in inland waters, and at sea. In particular, the operation articulates three sets of operational targets to address these criminal activities, namely:

Target 1:

Pollution from vessels and offshore installations e.g. Discharge of pollutants from offshore installations

Target 2:

Land-Based and River Pollution Impacting the Marine Environment e.g. Illegal discharges of plastic, oil, waste, and other pollutants into rivers and other inland waters.

Target 3:

Waste trafficking through Ports e.g. Illegal import / export of plastic. In South Africa, we focussed on certain ports such as Cape Town, Port Elizabeth, and Durban. Several vessels were inspected and enforcement action was taken against those found in non-compliance with the applicable legislation. Amongst other regulating authorities were Department of Forestry, Fisheries and the Environment (DFFE), Provincial Department of Environmental Affairs, Local Municipalities, Customs, SAMSA, SAPS, DMR, DWS, and Immigration.

What do you find the most challenging in your work? How those challenges can be mitigated?

Every case has its own merits, so each case has its own unique challenges. However, with the support and guidance from our experienced supervisors, I do not feel that much pressure.

Do you have any advice for someone interested in becoming an EMI?

Most of the things sound or look difficult until you do it. One must have a passion for the job. Be willing to work extended hours without remuneration, under pressure and not forgetting that honesty is the best policy. Be consistent with professionalism, courtesy, and reliability. One must be trained and designated as an EMI. You have to be procedurally fair in dealing with environmental matters and protect the image of the EMIs.



Above: EMI's with Mr David Jordan from the UK Interpol before a medical waste investigation

Mapping nature for people and planet

By Jordan Wallace

Images by Getty Images and Paul Sigutya



Above: DFFE's Working for Water (WfW) programme clears mountain catchments and riparian zones of invasive alien plants.



Above: Virtually all South African cities remain under a form of green apartheid.

A hundred years ago, nobody would have imagined a technologically advanced world where we can map nature using satellite data, drones and phone apps to find out the exact location of a species in a region. In the fourth industrial revolution, technology has totally revolutionised our ability to map nature for biodiversity conservation, monitoring and management as well as climate change.

The United Nations Development Programme (UNDP) and its partner organisations brought together change makers and policy makers in science, government, business, institutions of higher learning and civil society for a three-day international consultative workshop based around the topic of using geospatial data to map our declining biodiversity which is closely tied to human pressure and activity.

The participants shared examples from around the world in how using spatial data has improved biodiversity and nature in world regions.

Main causes of biodiversity loss

- **Habitat loss and destruction:** linked to human induced pressures on land.
- **Alterations in ecosystem composition:** Assemblages of species and their interactions with their ecosystems is critical for not only saving the species, but also for their successful future evolution.
- **Invasive Alien Species:** replace and often result in the extinction of native species.
- **Over exploitation:** Over-hunting, over-fishing or over-collecting of a species can quickly lead to its decline.
- **Pollution and contamination:** Biological systems respond slowly to changes in their surrounding

environment. Pollution and contamination cause irreversible damage to species.

- **Global climate change:** Species and populations may be lost permanently, if they are not provided with enough time to adapt to changing climatic conditions.

What are nature-based solutions?

These are actions to protect, sustainably manage and restore natural or modified ecosystems to directly address societal challenges in an efficient and adaptive manner, while ensuring human well-being and producing biodiversity benefits.

Participants identified the following nature-based solutions as important for South Africa:

1. Urban greening
2. Water security
3. Invasive alien species
4. Protection of threatened ecosystems
5. Ecosystem conservation and restoration
6. Climate change mitigation
7. Climate change adaptation

What is mapping?

Nature is important for humans and it can teach us a lot about life. The mapping of nature involves using spatial data to determine where biodiversity and ecosystem services are located, how human pressures impact nature and the potential impact of conservation actions. Spatial data can show the exact location of threatened species and protected areas in a region.

South Africa is the world-leader in scientific innovation. With our biodiversity under threat and the world facing immense social and economic challenges, there has

never been a more opportune time to try and conserve our biodiversity and follow the example of countries such as Uganda, Colombia and Costa Rica in using innovation to transform our decision making.

Using spatial data for action

Remote sensing provides powerful data that can be used to implement global commitments to halt biodiversity loss, combat climate change, and foster sustainable development.

Satellite data provide a bird's eye, yet incredibly detailed view of the Earth's surface in real-time, while drones and mobile apps enable local communities and indigenous peoples to map their knowledge of local ecosystems. Spatial data empowers governments to make well-informed decisions to ensure that nature is not left behind in the information age. Through a partnership between the UNDP and UN Environment, the UN Biodiversity Lab will work closely with national governments to provide every country with the best available spatial data to make informed conservation decisions.

Mapping nature for sustainable development

Spatial data allows us to know where to take action. It can unify different national priorities into a single framework.

Mapping Essential Life Support Areas

We use cutting-edge science to help you identify areas where nature-based actions can safeguard nature, while achieving climate and sustainable development goals in your country. Map of nature-based actions for nature, climate and sustainable development.

How can we identify the best places for action?

- What is most important in your national context? What are your societal goals and targets?
- What are economic or political constraints?
- How do priorities overlap?

The National Biodiversity Strategy and Action Plan (2015-2025) has been identified as one of the policy documents that can guide action on nature, climate and sustainable development in South Africa.

There is a need to evaluate these documents to identify all nature-based targets that will provide us with a foundation to start the policy hackathon.

NASA satellites and sensors for biodiversity

Biodiversity can be monitored by a range of aircraft or satellites that detect the physical characteristics of the Earth by measuring its reflected and emitted radiation including the Landsat constellation, MODIS and ASTER. To learn more about the different types of satellites and sensors, the pros and cons and the functions, you can visit the Learning for Nature page:

www.learningfornature.org

International policy framework

At the global level, there exists a powerful international policy framework for action on biodiversity, climate change, and sustainable development. This list is not comprehensive but intended to highlight some of the critical agreements that shape global and national action.

The United Nation's 2030 Agenda for Sustainable Development, adopted in 2015 by UN member states, sets includes 17 Sustainable Development Goals to ensure human well-being and planetary health with "no-one left behind." The 2030 Agenda approaches social, economic, and environmental sustainability as indivisible.

"The National Biodiversity Strategy" and Action Plan (2015-2025) has been identified as one of the policy documents that can guide action on nature, climate and sustainable development in South Africa."

The Convention on Biological Diversity, with 196 Parties, sets global priorities for biodiversity conservation and sustainable use of nature. Its main objectives are the conservation of biological diversity, sustainable use of the components of biological diversity, and fair and equitable sharing of the benefits arising out of the utilization of genetic resources. Parties to the convention produce national reports to provide information on measures taken for the implementation of the Convention and the effectiveness of these measures. The latest report, the sixth national report (6NR), was due 31 December 2018.

The UN Framework Convention on Climate Change, with 197 Parties, as well as its landmark 2015 Paris Agreement, set global targets for mitigating and adapting to climate change.

The UN Convention to Combat Desertification is the sole legally binding international agreement linking environment and development to sustainable land management.



Above: One of the Planetary Emergencies is Plastic and Pollution



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@environment.gov.za

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



PLEASE RECYCLE THIS PUBLICATION



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