

Environment Quarterly

EzemVelo Ngenyanga Ntathu • Mbango wa kotara • Mupo nga Kotara



**SA committed to
minimise plastic pollution**

**SA donates six black
rhinos to Chad**



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



2018 environment CALENDAR



January

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2 February
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26 March
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9 May
22 May
5 June
8 June

World Wetlands Day
World Water Day
World Meteorological Day
Earth Hour
Earth Day
World Migratory Bird Day
International Biodiversity Day
World Environment Day
World Oceans' Day

17 June
18 July
31 July
1 September
18 - 22 September
16 September
22 September
21 November

World Day to Combat Desertification
Nelson Mandela Day
World Ranger Day
National Harbour Day
National Parks Week
World Ozone Day
World Rhino Day
World Fisheries Day

Cover story

- 4** SA remains committed to minimise plastic pollution

Features

- 3** DEA Events
- 8** SA donates six black rhinos to Chad
- 10** DEA takes plastic pollution awareness to Durban
- 12** First visuals of the Cape Canyon seabed
- 13** Government & private sector unlock R110 million joint investment to launch game reserve
- 14** SA hosts Interpol pollution crime meeting
- 16** Minister Molewa launches Weather Radar Project
- 18** How to stay safe when using pesticides
- 26** EnviroCareer Focus: Offshore Ecologist
- 27** Illegal abalone worth over R1 million seized at airport
- 28** iSimangaliso Sodwana Bay Festival shining the light on communities and conservation
- 30** SA hosts a successful 4th BRICS Ministerial meeting
- 32** SA home to large populations of Albatrosses
- 34** CSIR launches a bio-refinery facility worth R37, 5 million
- 35** 13087 Young people enrolled for skills development
- 36** Reflecting on 20 years of EIA in South Africa
- 37** DEA celebrates International Biodiversity Day
- 38** Joint wildlife crime initiative shows promise

Regulars

- 20** Pull out poster: Easy Guide to Recycling
- 22** Leadership profile: Mr Sonnyboy Bapela: Chief Director for Compliance
- 23** Research: SA's Research team on Gough Island
- 39** All rise in Court: Disa River wetland to be restored
- 40** Vox pops: What are your Green New Year's Resolutions?



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Guest Editorial: Minister Molewa

Let us join hands to eradicate plastic pollution



Dear Valued Stakeholder,

Eradicating plastics pollution begins with small, individual consumer actions such as avoiding single-use plastic products; and with recycling existing plastic products wherever possible.

As the international community marks World Environment Day (WED), this year's WED theme: Beating Plastic Pollution, urges governments, industries, communities and individuals to come together and explore sustainable alternatives and urgently reduce the production and excessive use of single-use plastic products.

South Africa is committed to minimising plastic pollution and we are looking at introducing a raft of measures to curb plastic pollution. One such measure is phasing out the use of micro-beads in the production of cosmetics.

The Department is in consultation with the cosmetics industry in this regard.

These will be aligned with recommendations of a plastic material flow Study undertaken by the Department. In line with resolutions taken at the UN General Assembly (UNGA) and UN Environmental Assembly (UNEA), the Study showed that only 21% of plastic waste is recycled. The Study recommends among other issues, that plastics must be collected and removed at source.

The Departments of Environmental Affairs (DEA) and Trade and Industry (DTI) as well as the DTI agencies, the South African Bureau of Standards (SABS) and the National Regulator for Compulsory Specifications (NRCS) as well as National Treasury will shortly be reviewing the implementation and impact of our country's plastic bag policies.

Plastic pollution is particularly insidious because once plastics enter into the environment, they do not biodegrade, but simply break down into smaller pieces over time. This has a detrimental effect on our environment, more so once this pollution enters our oceans and endangers marine life and fragile marine ecosystems.

The South African government remains committed to implementing the recommendations of the plastic material flow study. The upcoming launch of the #THUMAMINA/green/good/deeds; for a clean and beautiful South Africa campaign, is response to the Presidential THUMA-MINA Initiative.

This campaign aims to change attitudes and behaviour towards Waste and environment in general and mobilize

every citizen to take responsibility for keeping their communities clean.

The Phakisa waste economy, led by DEA and COGTA, has the potential to address inequality, poverty alleviation and create jobs. In this regard, the Department manages a number of programmes aimed at waste minimization through the 4Rs; recovery, reduce, reuse, and recycling.

One such programme, in line with the objectives of the National Waste Management Strategy (NWMS), is the Recycling Enterprise Support Programme (RESP). Through this, we provide developmental funding for projects in the form of start-up grants. These projects are either start-up or pre-existing enterprises and include Buy-Back Centres, Material Recovery Facilities, Construction & Demolishing solutions as well as plastic palletisation plants.

RESP has been allocated a budget of R194 million over a three-year period and has already made a material impact to the lives of 12 black owned and managed enterprises.

Furthermore, the Department is currently conducting a third periodic review of the National Waste Management Strategy (NWMS). The review will take into consideration our country's commitment to waste minimisation; the further development of the Circular Economy; and overall consider the capacity or resource implications for the implementation of waste management functions.

Our Constitution undertakes all South Africans the right to an environment that is not harmful to their health or wellbeing. Let us join hands in the drive to reduce not just plastic pollution but all forms of pollution.

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Unveiling of the environmentally friendly Biomass Boiler

Flanked by the Executive Vice-President of Unilever SA, Mr Luc-Olivier Marquet, and the Sourcing Unit Director, Mr Phahle Phalane, is the Environmental Affairs Deputy Minister, Ms Barbara Thomson and KZN MEC for Economic Development, Tourism & Environmental Affairs, Mr Sihle Zikalala during the unveiling of the environmentally friendly Biomass Boiler at Unilever SA's Maydon Wharf factory in Durban, on 05 June 2018.

Image by Zibuse Ndlovu



The Ecological Infrastructure for Water Security Project launch

The launch of the Ecological Infrastructure for Water Security Project was attended by Minister of Water and Sanitation, Mr Gugile Nkwinti; Department of Environmental Affairs' Deputy Director General: Biodiversity and Conservation, Mr Shonosani Munzhedzi and Chairperson of the Board at South African National Biodiversity Institute (SANBI), Ms. Nana Magomola who are seen here ready to hand over Spekboom plants to learners from Westpark Primary School to signify the value of plants in making our land, air and water cleaner. The launch occurred at Development Bank of Southern Africa (DBSA) in Midrand, on 31 May 2018.

Image by Veronica Mahlaba

DEA and UNIDO roadshows to encourage the implementation of the Hydrochlorofluorocarbons Phase-out Management Plan (HPMP)

The Department of Environmental Affairs in collaboration with the United Nations Industrial Development Organisation (UNIDO) has embarked on roadshows to engage stakeholders about the implementation of the Hydrochlorofluorocarbons Phase-out Management Plan (HPMP) and Montreal Protocol for South Africa. Above are stakeholders that attended the Durban session on 14 June 2018. HPMP sets out a pathway for phasing-out and subsequent elimination of the hydrofluorocarbons in the various usage types in the foam and refrigeration and air-conditioning sector respectively

Image by Veronica Mahlaba



Deputy Minister's National Imbizo

The Deputy Minister of Environmental Affairs, Ms Barbara Thomson hosted a National Imbizo and also handed over school uniforms to indigent learners from 12 different schools as part of Youth Month celebration in Pietermaritzburg on 18 June 2018.

Image by Veronica Mahlaba

SA remains committed to minimise plastic pollution

By Zibuse Ndlovu

Images by Veronica Mahlaba and Paul Sigutya



Above: Marine pollution is one of the biggest challenges and it threatens fragile ecosystems. South Africa has a number of measures in place to tackle this problem.



Above: The Minister emphasised that the waste sector remained the most important emerging contributor to the generation of jobs in the green economy.

In line with resolutions taken at the UN General Assembly and UN Environmental Assembly respectively, this year the Department of Environmental Affairs (DEA) has conducted a Plastic Material Study in collaboration with industry, the South African Bureau of Standards (SABS), the National Regulator for Compulsory Specifications (NRCS), the National Treasury and the Department of Health.

The Department is also consulting with the cosmetics industry to phase out the use of micro beads in cosmetics. Together with the Department of Trade and Industry (DTI) and its agencies SABS, NRCS and National Treasury, the DEA will also be reviewing the impact of the implementation of the plastic bag policies.

“We will continue to work with the packaging sector (paper, glass, plastic and metal) to increase over

and above 58% the amount of waste diverted from landfill,” said Environmental Affairs Minister, Dr Edna Molewa during the tabling of the Department’s 2018/19 Budget Vote, in Parliament, on 16 May 2018.

In response to the Presidential **THUMAMINA** initiative, the Department will be launching the Keep South Africa Clean campaign; to mobilize every citizen to become environmentally conscious. “We want to see a South Africa free of litter and illegal



About the contributor: Zibuse Ndlovu

Zibuse Ndlovu is the Assistant Director: Editorial Services at the Department of Environmental Affairs, within the Communications Chief Directorate.



Above Waste economy has the potential to address inequality, poverty alleviation and create jobs.



Above: Minister Molewa donated wild animals to the Double Drift Wildlife Economy Project on 07 March 2018 in the Eastern Cape. The project emphasizes the need for transformation of the biodiversity economy sector.

dumping. The main purpose of this campaign is to change attitudes and behaviour towards waste - and enable people to take responsibility for keeping their communities clean."

The National Pollution Laboratory (NPL) operated by the Walter Sisulu University (WSU) has been established and laboratory work will soon be commencing. This will allow for in depth analysis of the samples that could not be done in the field (mobile laboratory).

In addition, South Africa is amongst the countries to have endorsed the UN Environmental Programme's Clean Seas Campaign. The campaign is aimed at stepping up international, regional and national efforts to combat marine litter. "In implementing this campaign; I would like to announce the piloting of the Department's Source to Sea Initiative. It is an ambitious new strategy to investigate, combat pollution in particular plastic pollution

which threatens both freshwater and marine ecosystems."

Government's approach to circular economy is to decouple material and resource efficiency from economic growth while dealing with wasteful patterns of production and consumption. "The Recycling Enterprise Support Programme (RESP) has already made a material impact to the lives of 12 black owned and managed enterprises," said Minister Molewa.

"The primary objective of this programme is to provide developmental funding for projects in the form of start-up grants. These projects are either start-up or pre-existing enterprises establishing Buy-Back Centres, Material Recovery Facilities, Construction & Demolishing solutions and plastic palletisation plants in line with the Operation Phakisa initiatives.

This has been allocated a budget

R 194 million over a three-year period. We are currently reviewing for the third time, the National Waste Management Strategy (NWMS). It will take into consideration our commitments to waste minimisation, the further development of the Circular Economy and consider the capacity or resource implications for the implementation of waste management functions."

"In this sector we are working to formalise the waste pickers. We are also advancing our efforts to implement a Circular Economy approach, which sees the decoupling of material and the development of resource efficiency from economic growth, while dealing with wasteful patterns of production and consumption," she said.

With regards to chemicals, Cabinet has recommended to Parliament that South Africa ratify the Minamata Convention on Mercury and the Kigali Amendment to the Montreal



“In response to the Presidential THUMAMINA initiative, the Department will be launching the Keep South Africa Clean campaign; to mobilize every citizen to become environmentally conscious”

Protocol on the Protection of the Ozone Layer. The Kigali amendment will have co-benefits for mitigating climate change and also ozone-depletion. It is worth noting that we met our targets to reduce our consumption of HCFC's by 20% in the 2017/18 financial year.

Job creation Initiatives

Delivering her address during the DEA's Budget Vote in the National Assembly Deputy Minister, Ms Barbara Thomson said that conservation of the environment should play an important role in improving the lives of all South Africans. "Without the sustainable use of our rich and abundant natural resources, we will decimate our environment – an act that will be to the detriment of humankind," said Ms Thomson.

The government has prioritised attracting investment into the South African economy. From an environmental perspective, it is the Department of Environmental Affairs' mandate to facilitate an economic growth path that is equitable, inclusive, sustainable and environmentally sound. "Without the sustainable use of the country's rich and abundant natural resources, we will decimate the environment – an act that will be to the detriment of humankind," said Ms Thompson.

To address the negative impacts of climate change, particularly the increase extreme weather conditions in the country, the Department has introduced a number of measures to ensure that all people – children, women, the elderly and poor communities – are able to

deal with the impacts of drought, flooding and other extreme weather events on crops and food supplies, infrastructure and livelihoods.

During the SONA in February, President Ramaphosa highlighted a number of actions and commitments to create jobs and address the plight of youth. The Department continues to create work opportunities through the number of environmental programmes being rolled-out. Amongst the highlights achieved in the past financial year include:

- The creation of 71 948 work opportunities and 28 243 Full Time Equivalents (FTEs) created with more than 60% of these participants being young people and women.
- 140 wetlands have been rehabilitated as part of the Working for Water effort to achieve the goal of land degradation neutrality in South Africa.
- Placing 56 660 hectares of land under rehabilitation and/or restoration
- Providing initial treatment to 171 198 hectares of land invaded by invasive alien plants and undertaking follow-up treatment on 601 944 hectares of land.

The department works with all provinces, municipalities, Community Based Organizations, Traditional Authorities and public entities to implement environmental programmes.

Biodiversity Economy

South Africa has a multi-faceted approach to the management of its rich natural heritage; one that focuses on an inclusive, value-chain approach to the development of the biodiversity economy.

Our communities are the primary custodians of our country's biodiversity. Strategic investments will ultimately enhance our domestic industrialization processes as we produce final high value products for the global market.

In line with the President' investment drive, we will be launching the Biodiversity Economy Investment Catalogue, that profiles investment ready biodiversity economy projects. Over the past year we have also

identified 2 000 000 hectares of land suitable for biodiversity economy activities, and updated our National Biodiversity Economy Strategy to include specific, measurable and achievable targets.

The National Environmental Management: Biodiversity Act (NEMBA) has also been amended to specifically address the Bio prospecting and Bio Trade Sectors.

In the past year 292 permanent jobs have been created in the Bio trade and Bio prospecting sector, and 989 in wildlife economy pilot projects such as Balepye, Double Drift and Mfolozi Big Five.

Our plans for the 2018/2019 financial year include increasing the supply of indigenous species by adding at least 500 hectares of land to be cultivated with high value species.

This will be complemented by ongoing implementation of a game donation and custodianship policy framework.

The South African National Parks (SANParks) remains the jewel in our conservation crown; continuing to attract record numbers of visitors. A total of 77 340 people visited the various parks for free during SANParks week in the last financial year. The number of participants in our Environmental Education Programmes last financial year was 208 495.

Looking to the year ahead, SANParks has initiated a 5-year new Revenue Generation Framework. It identifies projects to be initiated, ranging from new infrastructure plans and new PPP arrangements to improving tourism products.

The Richtersveld Park Management Plan has been completed, while the Kruger Park Management Plan is undergoing a final review process. In support of the transformation of the wildlife sector, five buffalos were donated to the Matsila Community Trust in May 2017 and 65 different types of plain game were donated to the Komani San Community Property Association late last year. A technical site inspection has also been done for a game donation to the Motlhabatse Community Property Association.



June is Environment Month

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Beat Plastic Pollution

If you can't reuse it, refuse it!



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**WORLD
 ENVIRONMENT
 DAY**



SA donates six black rhinos to Chad

By Veronica Mahlaba and Madimetja Mogotlane

The Minister of Environmental Affairs, Dr Edna Molewa and the Ambassador of the Republic of Chad to South Africa, His Excellency, Mr Sagour Youssouf Mahamat Itno witnessed the loading of six black rhino from the Addo Elephant National Park, Eastern Cape to Chad on 03 May 2018.

Minister Molewa said the day was a great leap forward for conservation on the African continent, and heralds a glorious new era of cooperation between our two countries. "In years to come, the peoples of our two countries will look back on this occasion that marks the return of the black rhino to Chad for the first time in 46 years as having been a fundamental building block of Africa's Renaissance. It has been a long journey, and one that certainly hasn't been without its challenges," said the Minister.

The translocation of black rhino was achieved through a collaboration between the Department of Environmental Affairs (DEA), the government of Chad, South African National Parks (SANParks) and the African Parks Foundation.

"In years to come, the peoples of our two countries will look back on this occasion that marks the return of the black rhino to Chad for the first time in 46 years as having been a fundamental building block of Africa's Renaissance."

In October 2017, the Minister Molewa and the former Minister of Environment and Fisheries of the Republic of Chad, Dr Ahmat Mbodou Mahamat, signed a Memorandum of Understanding in the field of Biodiversity Conservation and Management in Pretoria.

The Ministers had also signed a memorandum that allows for the translocation of six black rhino from South Africa to Chad as part of an initiative to reintroduce rhino to the African country.

After travelling a long distance, the six black rhino arrived safely in Chad from the Addo Elephant National Park under the watchful eyes of the SANParks and African Parks Foundation veterinarians who made sure that their welfare is well-managed. Their arrival on 04 May 2018 in Zakouma National Park culminated with wild celebration amongst the Chad people that have last witnessed the existence of the endangered species in the early 1970s.

Chad was historically home to at least two rhinoceros species. The northern white rhinoceros and the western black rhinoceros lived in Zakouma up to 1972 when the rhino became locally extinct because of poaching. The MOU on the re-introduction of black rhino in Chad seeks to re-establish a rhinoceros population in Chad as part of the broader biodiversity initiatives between South Africa and Chad.

The extinction of rhinos in Zakouma was the results of the onslaught that ravaged the country in the 1970s, however the hopeful story about their revival was achieved when the



About the contributors: Veronica Mahlaba and Madimetja Mogotlane

Veronica Mahlaba is the Senior Communication Officer, Editorial Services at the national Department of Environmental Affairs. Ms Mahlaba has experience as a Lecturer in the Media Studies Department at a private college. She has worked as writer for a metropolitan municipality and she is a keen photographer.

Madimetja Mogotlane is a Senior Communications Officer, Internal Communications and Events in the Chief Directorate: Communications at the Department of Environmental Affairs.



Above: Minister Molewa and CEO of SANParks, Mr Fundisile Mketeni being interviewed by the media at the loading of rhinos at Addo Elephant National Park, Eastern Cape.



Above: One of the rhino that was translocated from Addo Elephant National Park is kept in a boma to acclimatise to wildlife conditions in Chad.

park was transformed into a secure and flourishing park after African Parks Foundation, in partnership with the government of Chad, assumed management in 2010.

Current Chad Minister of Environment, Water and Fisheries, Mr Siddick Abdelkarim Haggar lauded the reintroduction of rhinos as a great step towards the conservation collaboration between Chad and South Africa, and also pleaded with the Chadians to take care of the rare species in their country.

“Despite the corporations between South Africa and Chad, we are intensifying the relationship between the two countries that was realised by the reintroduction of the rhinos in the country. This is the fruitful development and progress regarding the conservation policy.

I would like to also tell you that the reintroduction of rhinos would not have been achieved with the reintroduction only, but it also needs follow up and security for the country. So I would like you to work with the government in order to ensure the safety and the developments of our rhinos,” he said.

Also speaking on this auspicious occasion, the Ambassador of Chad to South Africa, His Excellency, Mr Sagour Youssouf Mahamat Itno expressed that it had been the two governments that decided to protect the biodiversity of Chad. “The signing of the custodianship agreement in 2013 by former President Jacob Zuma and President Idris Deby to translocate and reintroduce black rhinoceros to Chad will bring about

socio-economic development for our country,” said the Ambassador.

Security issues were of great concern during the talks of having the rhino translocated to Chad. The Ambassador explained that the park has a huge team of rangers now. “For security purposes the rangers have been trained very well and we have aerial surveillance measures prepared to secure the animals. We want to make sure that there is no poaching and we want to have these animals for a long time for benefit of people of Chad.”

Upon arriving in Chad, the rhinos were each kept in separate bomas in the national park to acclimatise to the wildlife conditions in Chad, and were later released after two weeks to roam freely around the park.



Above: SANParks staff member trying calmly get the rhino to enter into the container for travelling purposes at the Addo Elephant National Park.



Above: The rhino container was loaded on the plane to Chad.

DEA takes plastic pollution awareness to Durban

By Gaopalelwe Moroane and Tshego Letshwiti

Image by Floyd Chauke



Above: The Department of Environmental Affairs' flagship vessel, the SA Agulhas II.

As part of this year's World Oceans Day celebrations, the Department of Environmental Affairs (DEA) held exhibitions at the Durban Harbour and aboard the DEAs research vessel, the SA Agulhas II from 08- 09 June 2018.

The event this year was observed under the theme: Preventing plastic pollution and encouraging solutions for a healthy ocean. Research conducted in 2015 found that between 90 000 and 250 000 tonnes of litter enters South Africa's oceans every year, the Department of Environmental Affairs is using the occasion of World Oceans Day to draw attention to the issue of marine pollution.

"It is important to remember that we need to tackle the problem of marine litter at source," says Dr

Molewa; adding: "Plastic products end up polluting our environment and oceans, endangering marine life and threatening human health. As consumers, we need to take steps at home, in the workplace, and in our everyday lives to limit the amount of plastic we use and how we dispose of it."

Oceans make up 80% of the earth's surface, and are the planet's life support system. With an estimated 300 million tonnes of plastics entering the world's oceans every year, there is an urgent need to tackle and eradicate the problem. Litter harms marine life in a number of ways. Physical harm is caused when animals become entangled in plastic or discarded fishing lines, or the rubbish could be mistaken for food and eaten leading to death.

Members of the public who participated in the World Oceans Day celebrations were given the opportunity to sign a pledge which to do their bit to stop Plastic pollution in order to keep the oceans healthy for current and future generations.

Also as part of the celebrations, the DEA took school learners from Durban and students from KZN Maritime schools on exhibition tours to teach them about the many opportunities and wonders of the oceans. These exhibitions by our partners were made up of displays by amongst others, Wild Oceans South Africa, AMSOL, eThekweni Municipality, SKA and the Kwa-Zulu Natal Sharks Board.

Over 2000 people were hosted aboard the vessel on 08-09 June 2018 and were given the opportunity to explore the ship and the

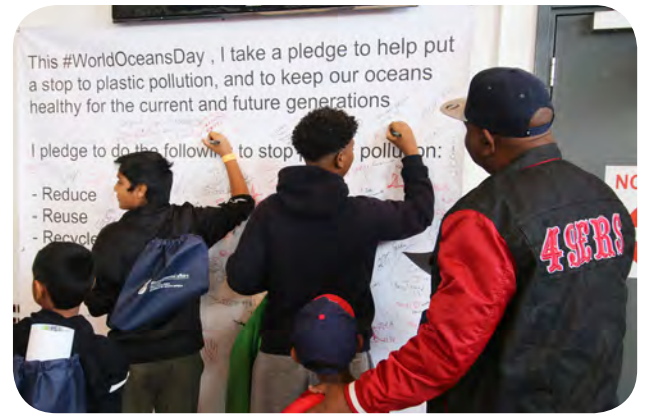
About the contributors: Gaopalelwe Moroane and Tshego Letshwiti

Gaopalelwe is an Assistant Director: Internal and External Communications in the Chief Directorate: Communications of the Department of Environmental Affairs. She joined the department in 2012 as an intern after completing her studies at Rhodes University

Ms Tshego Letshwiti is an Assistant Director within the Internal and External Communications Sub-Directorate at the Department of Environmental Affairs, in Cape Town. She joined the Department in February 2014 after working in print and broadcast Media. She holds a BA Honours Degree in Journalism from the University of Johannesburg.



Above: Over 2000 people were hosted aboard the vessel on 08-09 June 2018 and were given the opportunity to explore the ship and the Department's work in the oceans and coastal environment.



Above: Members of the public sign their pledge to do their bit to stop plastic pollution.

Department's work in the oceans and coastal environment.

The SA Agulhas II is a state of the art South African owned polar research and supply vessel which was a first of its kind acquired by the Department in 2012.

Visitors from different communities in and around Durban enjoyed guided tours of the vessel, from its state of the art laboratories to the lounge area which is dedicated to the very popular bridge where navigation of the vessel takes place.

Also as part of the tour, members of the public were guided through the scientific labs on board. Guided by our dedicated scientists and technicians, members of the public saw how the different tools and instruments on boarded operate. Some of the tools on display include the Ski-monkey which is a deep sea camera system which allows to get video/pictures footage of the sea floor and the Conductivity Temperature Depth (CTD) which is used to measure salinity, temperature oxygen, and depth of the water column.

Quick facts about the SA Agulhas II

- She was built in 2012 and II was designed to be an ice-breaking scientific research vessel and to supply South African research stations in the Antarctic and to Marion and Gough Islands.
- She was built by STX Finland in Rauma, Finland, to replace the aging SA Agulhas, which was retired from South African National Antarctic Programme (SANAP) duty.
- The SA Agulhas II is dedicated to the late songstress Miriam Makeba and has a lounge aboard the vessel named after her.
- The vessel has a length of 134 metres and weighs over 12,000 tons. It can accommodate 100 passengers.
- Every year, she travels to Marion, Gough Islands and Antarctica with a host of researchers from DEA and various institutions to do research on sea surface temperature, oxygen and carbon measurements which are key in enhancing our understanding of global climate change.



Above: DEA's Science Manager Mithuzuzeli Gulekana, demonstrates how the Conductivity Temperature Depth (CTD) functions. It is used to measure salinity, temperature oxygen, and depth of the water column.



Above: The Ski-monkey is a deep sea camera system which allows one to get videos/pictures footage of the sea floor. Laurene Snyders a Scientific technician from DEA elaborates on its functions.



Above: One of the areas visitors get to see during the SA Agulhas II Open is the Bridge, where navigation of the vessel takes place.

First visuals of Cape Canyon seabed

By Gaopalelwe Moroane



Above: Images showing the diverse habitats and associated benthic communities observed within the different functional units of the Cape Canyon.

The Department of Environmental Affairs (DEA) Oceans and Coastal Research scientists conducted the final phase of the three-year multi-institutional scientific program on the Cape Canyon on 5-29 March 2018. The Cape Canyon is situated along the Southern Benguela on the West Coast of South Africa. The DEA led collaborative research project was conducted in partnership with the South African Earth Observation Network (SAEON), South African National Biodiversity (SANBI), Council of GeoScience, Nelson Mandela University (NMU), and was the first known multi-disciplinary study on the Cape Canyon.

The overarching aim of this expedition was to document and explore some of the uncharted areas of largest known submarine canyon off the South African west coast- the Cape Canyon. To this end the team returned with the first visuals of the rocky habitats of Cape Canyon seafloor, and in doing so advance the knowledge of deep-sea research in the country.

The Cape Canyon is situated along the South-Eastern Atlantic, where the head cuts the continental shelf off St Helena Bay and the feature continues to extend offshore to 3000 m.

The west coast not only includes the Cape Canyon, but the region is also home to Langebaan Lagoon Robben and Dassen Island. The cruise covered an area of over 100 x 300 km² where information on the biodiversity, oceanography and geology was collected throughout the operational area.

The Cape Canyon is one of two submarine canyons off the west coast of South Africa, and displays interesting pelagic and benthic features. The area is documented to be important for pelagic fish, foraging marine mammals and several threatened seabird species. The canyon, the surrounding mud belts, and the rocky shelf edge are habitats of limited extent and are considered Critically Endangered.

The findings from the cruise confirm that the Cape Canyon is an

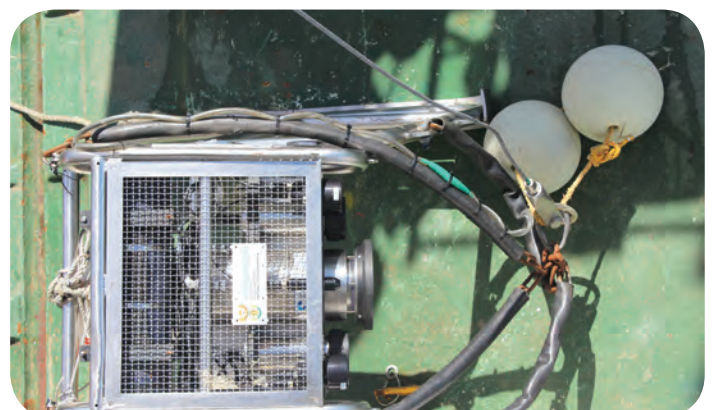
ecological hotspot that host fragile habitat-forming species, known to be vulnerable and instrumental in the life history of commercial resources.

The broad project objective was to collect basic physical, chemical, biological and oceanographic data that will enable the understanding of the environment of the canyon and assess the spatial distribution of benthic species within and around this geo-physical feature.

"Submarine canyons fall within the category of threatened benthic habitats and are furthermore are classified as Vulnerable Marine Ecosystems," said Chief Researcher, Ms Zoleka Filander. "They also function as tunnels that transport organic-rich sediment to offshore areas and are documented to host high levels of biodiversity. We therefore thought it important to study this area in order to improve the knowledge-base of South African canyons, which will ultimately assist with protecting and conserving the crucial ecological services the feature provides".



Above: Leg 1 participants of the third Cape Canyon science expedition.



Above: Ski-monkey camera system used by the biodiversity team to conduct a camera tow to gather in-situ footage of the seabed and organisms on the seabed along to Cape Canyon.

Government & private sector unlock R110 million joint investment to launch game reserve

By Zibuse Ndlovu



Above: Mkhambathini Local Municipality Deputy Mayor, Cllr Lindiwe Lembethe, Environmental Affairs Deputy Minister, Ms Barbara Thomson, Mr Welcome Maphanga, Chairperson of Mayibuye Community Trust, and Chief Sikhosphi Mdluli.

Environmental Affairs Deputy Minister, Ms Barbara Thomson, handed over the Mayibuye Game Reserve (MGR) Wildlife Economy project worth R10 million in Pietermaritzburg, KwaZulu-Natal on 12 April 2018.

The project has unlocked R110 million private investment for the development of the eco-estate, with a total of 76 job opportunities created, and 15 Field Rangers having been trained and employed through the project.

Speaking at the event, Deputy Minister said Mayibuye Game Reserve was a success story in the making that will fundamentally transform the rural economic landscape in the area. "It is a consequence of our commitment as government and relevant stakeholders to work together to ensure a thriving, inclusive and sustainable wildlife economy for the well-being of all South Africans.

The biodiversity economy (in this case the wildlife and bio-prospecting sector) has not reached its full potential in terms of contributing towards livelihoods and the economy of the country as it remains largely unrecognised, underdeveloped and untransformed. This project is a pioneer in leading this sector to its full potential," said Ms Thomson.

The project was funded and implemented through the Department of Environmental Affairs' Extended Public Works Programme (EPWP), with an aim to guide the sustainable growth and provide a basis for addressing constraints to the growth of environmental sectors.

"The beneficiary communities will have a 51% shareholding in the company that is rolling out this exciting new development that will be a game changer for land reform in our country," said Ms Thomson.

The Deputy Minister further explained that this will be done through creating opportunities, ensuring a conducive environment for business to operate, developing and implementing support mechanism that will see meaningful participation of previously disadvantaged individuals including communities in the mainstream economy.

"To give you some perspective of the enormous potential of the South African wildlife sector, I have been informed that the sector currently employs approximately 100 000 people across the value chain. The sector's value chain is centred on game and wildlife farming/ranching activities that relate to the stocking, trading, breeding, and hunting of

game, and all the services and goods required to support this value chain. The key drivers of this value chain include domestic hunters, international hunters and a growing retail market demand for wildlife products," said Deputy Minister.

The Mayibuye Game Reserve is located in the Umkhambathini Local Municipality area. The local community, the Ximba people, were awarded a land restitution claim in terms of a settlement agreement in April 2007.

Ms Tholi Ndwandwe is one of the beneficiaries of the project, she said she was overjoyed with the launch. "This is a confirmation that as community members we will now be able to participate in the wildlife economy," said Ms Ndwandwe.

Deputy Secretary of the Mayibuye Community Trust, Ms Sibenzile Ndokweni said many lives have been changed through the Mayibuye Project. "Families, widows, and child-headed households are now able to put food on the table. We are also learning a lot from the trainings on game reserve management and wildlife economy provided by the Department of Environmental Affairs," said Ms Ndokweni.

SA hosts Interpol pollution crime meeting

By Eleanor Momberg



Above: Delegates from different countries participated in this year's pollution crime meeting held at Kruger National Park to discuss challenges linked to pollution crime, and opportunities in achieving effective Enforcement against pollution crime.

Environmental crime is no longer an emerging threat to the global economy, but stands side by side with the other categories of crime, says the Deputy Director-General: Legal, Authorisations, Compliance and Enforcement, Mr Ishaam Abader.

Delivering the opening address at the INTERPOL pollution crime meeting at Skukuza on 22 May 2018, Mr Abader told delegates that the costs of environmental crime are estimated to be in the region of \$250 billion annually, which is considerably greater than the amount of money spent by international agencies in efforts to combat it.

Some environmental crime syndicates are among the most profitable criminal organisations in the world. The most common crimes against the environment are connected with the unlawful exploitation of wild fauna and flora; pollution; waste disposal and its trade.

"By sector, the amounts are staggering with illegal wildlife trade estimated at 7-23 billion USD. Forestry

crimes (including corporate crimes and illegal logging), accounts for approximately 51-152 billion USD. Illegal fisheries account for an estimated 11-24 billion USD, illegal mining around 12-48 billion USD and waste accounts for 10-12 billion USD, per year," he said.

The Department of Environmental Affairs had, from 22 to 24 May 2018, hosted INTERPOL's 23rd Pollution Crime Working Group (PCWG) and Environmental Compliance and Enforcement Committee (ECEC) Advisory Board (AB) meetings at Skukuza in the Kruger National Park. This was the first time the PCWG had met in South Africa.

The PCWG network meets annually to discuss new and growing global concerns relating to pollution crime, share best practice in dealing with existing and emerging pollution threats, plan joint operations and also to develop strategies going forward.

The ECEC was established by in 1992 to identify the various problems that arise in connection with environmental crime investigations

and find possible solutions. It is comprised of executive level officials and decision makers from INTERPOL member countries who assist INTERPOL in identifying emerging patterns and trends in the field of environmental crime and in building law enforcement responses to address the identified threats.

At the 3rd Environmental Compliance and Enforcement meeting in Edinburgh in November 2017, members took stock of progress made in the fight against environmental crime; identified further strategies to address key challenges and identified areas to harness the critical global support required to ensure the future security and sustainability of the environment. Environmental crime is being dealt with at the highest levels of government across the world, with numerous resolutions and commitments being made, as part of the collaborative international effort.

Minister of Environmental Affairs, Dr Edna Molewa, said during her budget vote in Parliament on 17 May 2018 that the Department was



About the contributor: Eleanor Momberg

Eleanor Momberg is a Specialist Writer in the Department of Environmental Affairs. Ms Momberg was a member of the South African delegation, which attended the CITES 16th Conference of Parties in Bangkok.

conducting source apportionment studies in both the Vaal Triangle Airshed and Highveld Priority Areas to determine the contributors to air quality in these areas. The health impact study has subsequently been completed, and the studies would be utilised in the review of air quality management plans.

The Minister said government had agreed on requirements to implement offset projects in partnership with industry with a view towards resolving evident air pollution problems in these areas, .

Marine pollution remains one of the biggest challenges being faced today and threatens our fragile ecosystems. South Africa has a number of measures in place to tackle this problem. The National Pollution Laboratory (NPL) operated by the Walter Sisulu University (WSU) has been established and laboratory work will soon be commencing. This will allow for in-depth analysis of the samples that could not be done in the field (mobile laboratory).

In addition, South Africa is amongst the countries to have endorsed the UN Environmental Programme's Clean Seas Campaign. The campaign is aimed at stepping up international, regional and national efforts to combat marine litter.

The Minister also announced the piloting of the Department's Source to Sea Initiative. "It is an ambitious new strategy to investigate, combat pollution in particular plastic pollution which threatens both freshwater and marine ecosystems," said the Minister.

The Pollution Crime Working Group, together with the Wildlife Crime Working Group (WCWG); the Fisheries (FCWG) and the newly established Forestry Crime Working Group, support the ECEC AB and are responsible for the operational and tactical responses within INTERPOL in relation to environmental crime. These working groups focus specifically on how to tackle crime in these areas.

The Skukuza meeting concluded with the launch of "Operation 30 Days at Sea", which is directed at enforcing environmental legislation on particularly industries impacting our oceans. The global operation

will be country-led and involve environmental and enforcement agencies worldwide.

Among the outcomes recorded during the 2017 operation were: Criminal Cases uncovered 1.03 million tons of waste which resulted in the following:

- 228 violations
- 142 illegal shipments
- 86 illegal waste sites
- 126 reported individuals
- 78 reported companies
- 413 administrative violations which dealt with 0.52 million tons of waste

The marine pollution enforcement project targeting illegal disposal and trade in waste and illegal discharges from vessels is being supported by the Norwegian Agency for Development Cooperation (NORAD).

The objective of "30 Days at Sea", which is set to take place in June 2018, is to enhance the cooperation between law enforcement agencies through increased capacity by targeting criminals and criminal networks that are committing violations likely to cause pollution. Criminal groups involved in pollution offences often base various aspects of their criminal activities in a number of different countries, prioritizing those with weak legal regimes or lacking enforcement capacities. They act both domestically and transnationally, on the local, regional and international scales, which requires an international coordinated enforcement response.

The project targets coastal countries and will bring together relevant law enforcement authorities including the police, port authorities, coast guards, customs, and marine and environmental agencies.

In South Africa, the operation will be undertaken under the auspices of Initiative 5 of Operation Phakisa which focuses specifically on coordinated and integrated compliance and enforcement in the oceans and coastal environment. The integrated enforcement teams of Phakisa will therefore partner with INTERPOL for the period of this operation and focus on combatting marine pollution and targeting priority threats.

Mr Abader, a member of the ECEC Advisory Board, said addressing environmental crime is by no means easy. "This is arguably more evident

in the pollution crime area of work where these challenges are, in my view, most problematic," he said

Mr Davyth Stewart, Coordinator, INTERPOL Environmental Security Programme said: "If we are going to address global pollution crime we are going to have to unite law enforcement at both land and sea." The environment provides a foundation for sustainability and environmental crimes are unlike any other, as they have a more profound additional cost: namely, the impact on the environment and associated cost to future generations.

Mr Abader said one could argue the economic consequences of environmental crime, but added this distracted from the more fundamental, global problem: that it impacts the very foundation of sustainability. "Environmental crimes are unlike any other as they have a more profound additional cost: namely, the impact on the environment and associated cost to future generations. The environment provides a foundation for sustainable development from its contribution to health care, food security and economic opportunities. Ecosystems provide clean water, air and a supply of food which impacts physical and mental wellbeing while resources from nature also provide jobs, contribute to livelihoods, and revenue streams for governments," he said.

Mr Abader said the importance of environmental security was understated, with an increase in transnational crimes that include hazardous and chemical products, forest products and illegal animal trafficking.

"Beyond immediate impacts on the environment, the illegal trade in natural resources is depriving developing economies of billions of dollars in lost revenues just to line the pockets of criminals," he said. "Sustainable development, livelihoods, good governance and the rule of law are all being threatened by the increasing rate of expansion of criminal activities."

Among the matters discussed at the Skukuza meeting include an African perspective on addressing pollution crime, planning for an operation to tackle marine pollution, fraud in the biofuel and carbon emission trade and the prosecution of pollution-related crimes.

Minister Molewa launches Weather Radar Project

By Veronica Mahlaba



Above: Minister Molewa and North West University's Vice Chancellor, Prof Dan Kgwadi unveiling the plaque for the NWU Lekwena Weather Radar.

It was a cheerful occasion when Minister Edna Molewa launched the North West University (NWU) Lekwena Weather Radar Project on 22 March 2018 in Potchefstroom.

The research community has limited access to real-time weather information, which has hindered the development of solutions and research around weather-based decision support systems. To contribute to this development, the NWU with support from the Water Research Commission and the National Research Foundation have funded the acquisition, installation and upgrade of the weather radar, situated just outside Potchefstroom on the Lekwena Wildlife Estate.

Minister Molewa said the initiative will indisputably advance the quality of life of many South Africans. "Every day we see communities and businesses grappling with environmental challenges due to unusual, extreme, or changing climate and weather conditions. Decision-makers,

resource managers, business and policy leaders, educators, and citizens are increasingly requiring information to help them understand and address climate-related

challenges and opportunities," said Minister Molewa.

South Africa is not resistant to climate risks such as droughts, floods and other severe weather conditions. They have become more frequent and extreme, as the world's climate has changed drastically. Through the Lekwena Weather Radar, the government will be able to anticipate natural hazards and take decisions to reduce their impact upfront due to early projections. As a result, ordinary citizens will receive early warnings thus enhancement of safety.

Other benefits include increasing business profitability and tackling the challenges of public health such as waterborne diseases caused by extreme weather conditions and climate variability. The programme is also directed at improving productivity, strengthening national economies, protecting the environment and providing a more secure basis for future planning on hourly to multi-decade timescales.

Minister Molewa further explained that one cannot provide appropriate adaptation responses without the necessary climate data or information to inform us of what the climate risk is, or to guide us

toward appropriate planning and adaptation responses. This requires reliable infrastructure.

"Weather radars therefore provide agriculture alerts and flood warnings through the monitoring of rainfall intensity. They are also used regularly for recreational planning, and other weather-impacted activities," she explained.

To further give an overview of the radar research, Dr Roelof Burger from NWU stated that through the infrastructure that was developed in the project they are capable of observing thunderstorms in real time. "We will generate statistics that can forecast where the storm is moving to in the future. We believe that we can be able to get the right information to convince relevant people to change their actions and hopefully change the outcome of that day," Dr Burger said.

Lastly Minister Molewa said that through a programme like this one, she is hopeful that the people will be better prepared for future extreme weather events, thus ensuring a reduction in loss of life and infrastructure, and contributing to the country's progress towards a climate-resilient nation.

Did you know?

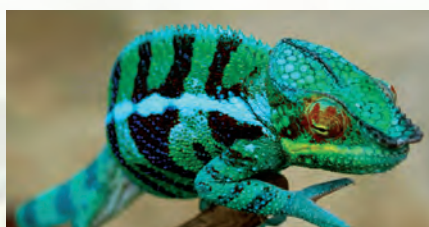
A permit is required to utilise a Category 2 Listed Invasive Reptile Species, in terms of the NATIONAL ENVIRONMENTAL MANAGEMENT BIODIVERSITY ACT, 2004 (ACT NO. 10 OF 2004); ALIEN AND INVASIVE SPECIES REGULATIONS, 2014 (AS AMENDED)



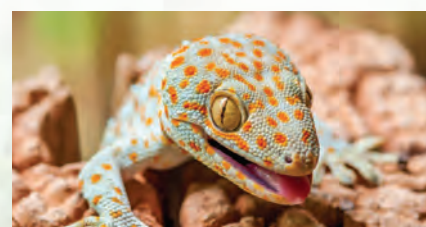
Soft-shell terrapins (*Apalone species*)



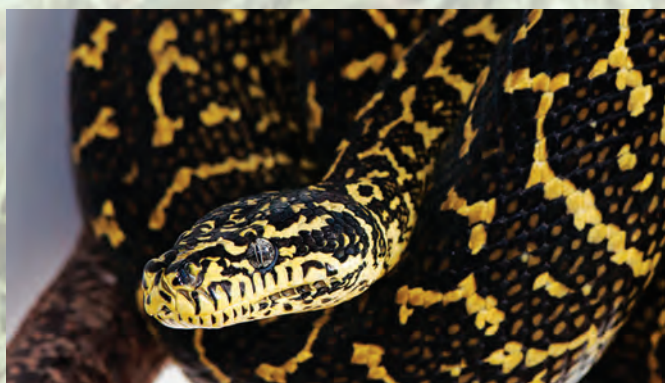
Oustalet's chameleon
(*Furcifer oustaleti*)



Panther chameleon
(*Furcifer pardalis*)



Tokay gecko
(*Gekko gekko*)



Carpet/diamond Python
(*Morella spilota*)



Burmese python
(*Python bivittatus*)

Should you need to conduct any restricted activities involving a Category 2 listed invasive species, please apply for a permit.

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REPUBLIC OF SOUTH AFRICA



How to stay safe when using pesticides

By Mohammad Talip



Above: Pesticides users should always wear protective gear when using hazardous chemicals.



Above: Inadequate absorbent materials used at herbicide storage area. Inadequate labelling. Poor housekeeping.

Pesticides users should always wear protective gear when using hazardous chemicals," advised the Natural Resource Management: Bio Control: Deputy Director, Ms Debbie Muir. According Ms Muir, the Department's Natural Resource Management (NRM) programme uses herbicide groups B, G, O and C2. "These groups denote what compounds are used, herbicides are, by nature, hazardous. Therefore measures are taken to mitigate risk of poisoning by, amongst other means, providing personal protective equipment (PPE) and selecting the least hazardous pesticide," said Ms Muir.

Natural Resource Management (NRM) is a Chief directorate within the Environmental Programmes branch. "The use of pesticides within these programmes is integral to the functioning of NRM because the mandate of the Chief Directorate is to control Invasive Alien Species (IAS) while addressing unemployment. As part of the strategy to control IAS,

10% of the NRM budget is spent on pesticides annually – amounting to approximately R140m," said Ms Muir.

The pesticides that NRM uses are mostly herbicides, with a smaller amount of avicides, which is a

“World Health Organisation’s requirements that pesticide application is only to be performed by trained pesticide applicators, is seldom adhered to in the agriculture sector.”

substance that is used to kill birds. These pesticides are used on a daily basis to control invasive alien species. The NRM has been using herbicides since its inception in 1995 whereas avicides and pesticides

began to be used in 2013 when the non-plant invasives programmes were started.

The herbicides used in NRM are mostly class II, III and IV (The World Health Organisation (WHO) classification are classifications of pesticides according to their hazard and risk.). The classes are as follows:

- WHO group II – moderately hazardous
- WHO group III – Slightly hazardous
- WHO group IV – unlikely to present acute hazard

The Hazard Resistance Action Committee (HRAC), which is a classification of a herbicide according to its active ingredient, site of action and chemical family, classifies their herbicides into groups.

The risk mitigating process also includes a process called Hazard Identification and Risk Assessment (HIRA) which includes Safe Work Procedures that help to address



About the contributor: Mohammad Talip

Mr Mohammad Talip is appointed as the Deputy Director: Health and Safety within the CD: IMSC. His scope of work entails the development, management and implementation of Occupational Health and Safety (OHS) Management systems to mitigate, reduce and manage Occupational OHS risk, within the Branch: Environmental Programmes.



Above: Inadequate absorbent materials used at herbicide storage area.



Above: Legally sold pesticides should be in their original container with a label and / or safety information insert on it.

the HIRA. (These tools have been developed in partnership with the University of Cape Town's Occupational Health Institute.) "This risk assessment serves a dual purpose of not only providing information pertaining to the successful registration, but also providing safety information to affected persons with respect to the safe handling and precautionary measures to be adhered to when handling these pesticides," said Ms Muir.

Based on previous studies concentrating on safe work procedures (the use of PPE, reading instructions, not eating, drinking or smoking during application, washing hands and washing clothes separately) a common trend of unsafe use of pesticides in these countries has been identified. This is associated with the lack of knowledge, more found amongst the primary education level.

"In light of this, it is recommended that pesticide users, with limited formal education, are adequately informed of pesticide risk and that safe work practices are implemented to eliminate or reduce risk. This information should be communicated by industry in the form of comprehensive, structured and simplified safety data sheets," advised Ms Muir.

Communicating Safety Information

"Generally in South Africa, legally sold pesticides should be in their original container with a label and / or safety information insert on it. This information is communicated through hazard and precautionary statements, pictograms and colour

codes found on the labels. The challenge is that these labels, can be overloaded, complex and too technical, resulting in users not reading the labels. To add to these challenges, labels are not always available in the users' preferred language," said Ms Muir.

Trained pesticide applicators

World Health Organisation's requirements that pesticide application is only to be performed by trained pesticide applicators, is seldom adhered to in the agriculture sector. This could be attributed to a high labour turnover due to seasonal work and providing training to new workers could be costly; and not always reasonably practical to implement. This practice, however, means that untrained users, with little formal education, will not understand complex and technical safety data sheets.



Above: Personal Protective Equipment (PPE) includes clothing and devices that protect the body from contact with chemicals such as pesticides.

This means that their risk of exposure to health effects associated with the use of pesticides, will increase.

Recommendations to practitioners:

1. Only use trained pesticide / herbicide applicators;
2. All users of pesticides and/or herbicides must be trained on the Department's Environmental Programmes internal "Herbicide Policy and Standards" requirements, which focusses on the following:
 - i. health effects on users and children when exposed;
 - ii. the use of recommended personal protective equipment;
 - iii. safe work instructions on exposure reduction methods, not eating, drinking or smoking during application, washing hands and washing clothes separately;
 - iv. safe disposal of expired pesticides;
 - v. safe disposal containers;
 - vi. procedures to address accidental spillage.
3. Simplify the layout and prioritise Hazard Identification and Risk Assessment, with specific relevant to:
 - I. risk associate with pesticides;
 - II. how pesticides / herbicides can enter the body;
 - III. body mapping of exposure;
 - IV. exposure reduction methods

Users' knowledge, pertaining to the hazards and risk associated with pesticide / herbicides use are important for the prevention of acute and chronic poisoning.

Easy Guide to Recycling

Why do we recycle?

Conservation and sustainability is using the waste for the maximum benefit to a reduced and degraded natural resource all the time.

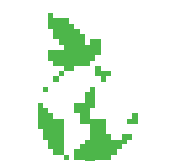
To save health & improve our environment, we need to recycle and not use health land for waste as we can use for other things (agriculture, housing etc).

Contribute towards reducing a carbon footprint to global warming (CO₂ gas).

Saves energy: The production of some products from recycled materials uses far less energy than the production of the same product from new materials.

Reduce pollution which could have resulted in the dump site if the waste is.

Create jobs: The involvement of people in the value chain creates additional job opportunities.



Waste

Waste Segregation
Waste Segregation includes all materials and refers to the generated waste and is a household activity, segregated household waste.

Waste has been a major environmental issue since the industrial revolution. Besides the waste in home, school and other places, there are also hospitals, industries, and other sources. How do we manage these things and they all get end up as waste. And where does the waste end up?

How can you contribute towards recycling?

1. Separate recyclable waste from the other waste that is not to be recycled in your household. The benefits of separating recyclable waste from other waste is to be sorted for recycling.

• Recycle paper, news & old newspapers (not a coat of paint or oil by other waste), therefore:

- Can fetch a higher price when being sold.
- Will not be burned by power plants (most land and end up being shipped to landfill).

• The collection of the waste is easier and efficient.

- Avoids health & environmental problems like a recycling facility and the other waste for other waste management to the landfill.

2. Buy products made from recycled material. This will increase the sustainability of the recycling sector.



How should you separate your waste?

Place all waste listed under "required" into the bin marked "Required".

• Place the rest of the waste in the other bin marked "Other Waste".

• Place both your bins outside for collection on the designated day (usually, the municipality will be with more information on the website).



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Waste Segregation

Waste segregation means dividing dry and wet. Dry waste includes food and related products, glass. Wet waste, typically organic waste usually generated by eating establishments, is in weight due to moisture. Waste can also be divided on basis of flammable or non-flammable waste.

Waste segregation is important for everywhere including residential, commercial and public. It is important for those from whom waste is generated to ensure that the waste is properly managed.

What is the difference between trash and garbage?

Trash: Solid waste from places like your attic, backyard or studio. Trash items include paper and card boxes and the like.

Garbage: This is waste from kitchen and bedrooms. They also include waste from cooking food and from food storage facilities.

Which waste is required for recycling?

REQUIRED

Please put in the "Recyclables" bin.

- Paper (newspapers, magazines, newspapers)
- Glass (bottles - please crushed)
- Plastic (plastic containers - bottles)
- Metal (food and drink cans)
- Tins/Pails (all metal containers e.g. milk and juice tins)
- Polyethylene/Plastic

Notes:

- Remove all caps and lids
- Empty all contents and rinse (bottles and jars)
- Flatten all plastic and paper containers/bags
- Ensure that items are not broken

Which waste is NOT required for recycling?

NOT REQUIRED

Please put in the "Other Waste" bin

- Chemicals (solvents, paint, acetone)
- Organic (food leftovers, vegetable and fruit peels, garden waste)
- Clothing
- Disposable nappies
- E-waste (e.g. cell phones)
- Batteries

Notes:

- Some of the waste types listed above are recyclable, but are not collected for this project.

Waste?

Waste is a problem for everyone. It is important to ensure that the waste is properly managed.



Leadership Profile:

Mr Sonnyboy Bapela Chief Director for Compliance

By Veronica Mahlaba

Mr Sonnyboy Bapela is a Chief Director: Compliance. He joined the DEA in 2007. His Chief Directorate is responsible for monitoring compliance with various environmental legislation. Monitoring is done through strategic inspections and reactive inspection. It is also responsible for conducting awareness campaigns and compliance promotion.

He is responsible for two directorates in the DEA namely: Compliance Environmental Impact and Pollution which also include Oceans and Coasts, and also Compliance Biodiversity.

Environmental compliance means conforming to environmental laws, regulations, standards and other requirements such as permits/licenses to operate. Environmental concerns have led to a significant increase in the number and scope of compliance imperatives globally. Environmental Management Inspectorate (EMIs) are working hard to achieve their environmental objectives by systematically assuring that compliance is achieved.

Compliance monitoring programmes are regarded as an important tool for assessing compliance. In addition to inspections to evaluate compliance, EMIs conduct inspections in response to complaints and sometimes as part of the consent renewal process, such as provisional licenses.

What drives your passion in the job you do in the department?

The protection of the environment.

What, in your opinion, makes a good leader?

A good leader must be able to listen to his subordinates and provide direction in relation to their work.

What do you find most challenging and rewarding about working for the Department of Environmental Affairs?

Working with the regulated community. I find it rewarding when members of the public are prepared to work with the department in improving protection of the environment.

What do you consider to be your single greatest achievement in your career life thus far?

The discovery of illegal medical waste in 2009 which led to the arrest of several senior officials from Wasteman.

If you could give your 20-year old self any advice, what would it be?

I will advise him that he should not be afraid to fail life. He must be very focused in whatever he embarks upon.

He must however remain humble and must be willing to learn more about life and work.

What would your advice be to those who want to follow the same career path as you?

They need to work hard.

Quick facts:

Home town: Mamelodi

Role model: Nelson Mandela

Favourite quote/motto: There is no easy way to freedom

Hobbies: Golf

I am currently reading: The Tipping Point by Malcolm Gladwell

Do you use Facebook or Twitter? No



Research Profile:

SA's research team on Gough Island

By Dr Alan Boyd

Images by Millicent Makoala

Every year, a small team of scientists and technicians are placed on Gough Island for a period of 13 months to man the weather station there and to undertake biological research, mainly on seabirds and marine mammals.

They are mostly South African, but also include international researchers, as Gough Island is British territory. The new team (and their supplies for a year) are taken there by the SA Agulhas II in September and the old team return home in late-September/early October, 3-4 weeks later.

South African research on Gough Island (and during the voyage to the area) has a history of over 60 years. Projects are currently motivated for and approved as part of the South African National Antarctic Programme (SANAP) process, the same process applies to research conducted at our Prince Edward islands and in Antarctica, but all research on Gough

Island also requires approval by the British Administration. Most of the work has varying degrees of international participation.

Gough Island has populations of sub-Antarctic fur seals as well as Southern Elephant seals and these are the only two seal species which breed on the Island, or are found there in significant numbers.

The main objective of current work is to have a better understanding of the role these seals play in the ecosystem and their vulnerabilities to change. The population of sub-Antarctic fur seals is the same species as at Marion Island, but Gough has 50 % of the global population and Marion Island only 10%. Thus work on Marion and Gough provide complementary aspects of the same broader assessment, and this would also apply to other species and other groupings of islands.

Regarding seabirds, Gough Island is a very important Island for many

species, some of which are endemic or have almost the entire global population on the Island. Much of the seabird research focusses on the various albatrosses. The chicks of the Yellow-nosed and particularly the Tristan Albatross are vulnerable to predation by mice, introduced to the Island a long time back. Similar problems are experienced on other Islands including South Africa's Marion Island (but not Prince Edward Island).

Seabird research in the takeover period emphasizes surveys which require the availability of helicopters, multi-person surveys as well as training of new staff by experts. Although only two species of seabirds are surveyed for their entire population on the Island annually, namely the Tristan Albatross and the Southern Giant Petrel, systematic and quantitative measurements are made for six other species for a portion of their population each year. Parameters studied include productivity, which



About the contributor: Dr Alan Boyd

Dr Alan Boyd is the Director of Biodiversity and Coastal Research in the Department of Environmental Affairs, and participated in the 2017 Voyage of the SA Agulhas II to the Island.

is a combination of the number of eggs laid, those which hatch, and those young which fledge, in relation to the adult population. Regarding links between South Africa's Prince Edward Islands and the (British) Tristan Archipelago and Gough Island, two species, the Sooty Albatross and Southern Giant Petrel, as well as several species of burrowing Petrel breed on both Island groups.

If the internationally proposed work on mice eradication goes ahead as planned on Gough Island in winter 2019, it will be very important to continue the current seabird work. Only by doing this will we be able to assess the success of mice eradication measures in terms of improved seabird productivity and other impacts on various species. There is also another alien invasive species on the Island, and that is the small plant *Sagina procumbens* around the area of the base, and it is also being combatted.

The other research and monitoring undertaken on these trips comprises of weather observations and oceanographic measurements along the ships track, which goes westwards from Cape Town to Tristan da Cunha, then south to Gough Island and then, after dropping of

scientists on the Island, further south into the sub-antarctic region, where weather buoys are deployed before the ship returns along the same track. Sea surface temperatures range from 15-20 degrees centigrade between Cape Town and Tristan da Cunha, falling to 10 degrees at Gough Island and then less than 5 degrees in the rougher sub-Antarctic seas.

However due to technology, the voyage yields information far beyond the ships track or the period of the voyage. This is because some of the oceanographic and weather instruments drift with the currents in whole southern ocean and report back data by satellite, and keep doing so over a period of months to years. These data are used for both short-term weather forecasts as well as helping understand longer-term changes in the global ocean currents and climate change.

The importance of weather measurements on Gough Island itself is a consequence of its location in the direct path of many developing weather systems and the fact that observations are made daily every few hours throughout the year. Bearing in mind that the SA Agulhas II is only in the area for less than a month a year. Therefore data

collected by the meteorological station on the Island is required input for Global weather forecast models, so they can accurately produce forecasts for South Africa and the Met Area 7 for which SA is mandated to be responsible by the World Meteorological Organisation (WMO).

Although consideration is being given to shifting the Met station to Tristan da Cunha (with its permanent settlement and due to the costs of the base on Gough Island borne by South Africa), there are many potential complications which could compromise the suitability of the data collected.

In addition the presence of the weather station on Gough Island has, according to Professor Peter Ryan, "facilitated (biodiversity) research at the Island, and for some groups of organisms, more is known about their status at Gough than the northern Islands". Therefore any change in the status of the Meteorological Station on Gough would impact the viability of other long-term research, mainly biological research, which provides information relevant to the overall conservation management in Southern Ocean.



Above: Weather balloons are released twice daily by the SA Meteorological Team to gather detailed information from the lower to the upper atmosphere, vital for global weather forecasts.





Above: In the wet hydrological laboratory of the SA Agulhas II, taking water samples which measure the oxygen content of the ocean.



Above: Looking down over pristine Gough Island vegetation towards the heli-deck and the South African Base and beyond that the South Atlantic towards Antarctica.



Above: Tristan da Cunha, at more than 1300 miles away from its neighbours, is the world's most isolated human settlement. (Note Gough Island, only 255 miles away, is a manned base, not a settlement).



Above: Having fun and staying fit on the heli-deck of the SA Agulhas II, with the coastal cliffs of Tristan da Cunha in the background.



Above: A nesting Atlantic yellow-nosed Albatross.





Above: Ms Zoleka Filander, from the Department's Branch: Oceans and Coasts.

Offshore Ecologist

By Gaopalelwe Moroane

Every year on the 08 June we celebrate United Nations' (UN) World Oceans Day. The day is celebrated globally by communities, agencies, organizations, governments, academia, schools as well as institutions of higher education to pave a better future for Planet Earth's citizens to have a sustainable and better future.

In light of this we conversed with Offshore Ecologist, Ms Zoleka Filander, from the Department's Branch: Oceans and Coasts about her career to get an idea of what it involves and how, should one have interest, one can pursue a similar career path.

What education requirements, college degrees, licenses are needed for your career?

In any field of research, a three year degree is the first step in providing the fundamentals needed in the discipline. Further to that a one year Honors degree introduces you to the research methods, which will assist one in constructing an experimental or applied research question. My appointment with the Department of Environmental Affairs required an Honors degree in Marine Sciences, and to be registered with the South African Council for Natural Science.

I however also had a Masters degree (which was an advantage) when I was appointed by the department. This qualification focused on Marine Taxonomy (the classification and naming of species), and such a 2 year degree (if undertaken full-

time) expands on the research skills introduced through the Honors degree.

How long have you been working as an Offshore Ecologist?

I have been working in this post with the department for the past 4 years; since 2014.

What inspired you to venture into this career path?

Funny enough, I ended up in the career by pure chance, it wasn't something I was aware of as a person who comes from a rural, landlocked town in

KwaZulu-Natal. I initially wanted to be a medical doctor, this of course is the only science career most rural black women know about and aspire to undertake. I however didn't get in to medical school, so I resorted to Biological Science after

I was told that I would most likely be accepted to study Medical Sciences the following year. I fortunately didn't get accepted in Medical School, and ended up completing my 3-year undergraduate. Once I had completed this degree pursued an Honors degree. This is when I fell in love with the dynamics of the ocean space.

After completing my Honors degree, I packed my bag and took a bus to Cape Town, with nothing but hope and a dream to complete a Masters degree- which I did. Soon after, I got appointed by the department. Moral to the story, it's okay if your career trajectory is not as straight forward and a bit bumpy.

What are the duties that are most often and expected of you and how do you manage keeping abreast of them?

My role in the department as an Offshore Benthic Ecologist, is to develop projects which feed into the better management of marine resources, conduct such research at sea (which involves weeks on cruises), analyze and interpret the data, and later provide advice to other stakeholders.

Apart from these responsibilities, I also have to communicate my research findings on different platforms in various ways. Further to the above, I am required to transfer my skills to the next generation of scientists.

What advice would you give to someone who is interested in pursuing a career in marine science?

As challenging as it will be to further your post-graduate studies, do it because you won't regret such a decision. Such an educational experience opens a new dimension with better opportunities.

A degree gives you the opportunity to apply, but extra skills get you the job. So volunteer, get your divers license and if you can't swim- learn now.

Empower yourself, because only then will the world be your oyster.

Remember you are the only person who can determine your future.

Work hard towards your goal and never give up on yourself.

Illegal abalone worth over R1 million seized at airport

By Tshego Letshwiti

Photos by Paul Sigutya & Kagiso Letsebe



Above: Counterfeit goods and medicines were confiscated during dog searches at the airport.



Above: A SARS Customs official inspects confiscated goods from a passenger's luggage at the Cape Town International Airport.

The Department of Environmental Affairs' (DEA) Oceans and Coast Enforcement team, working together with officials from different departments, seized 69 bags of illegal abalone worth over R1 million during a joint search operation initiative called "Bark & Bite" conducted in Cape Town, on 01-02 March 2018.

The "Bark & Bite" operation focussed on goods control in Cape Town in order to ensure compliance to relevant legislation and governance with regards to importation and exportation of goods as well as the prevention of illegal trade, or smuggling of illegal goods and substances.

The team also seized uncut crystal methamphetamine (Tik) with an estimated value of R30 million from a truck travelling along the N1. The DEA team was working alongside SARS Customs, K9 and Marine Units, SANParks, South African Police Service (SAPS) Department of Home Affairs (DHA) and the Department of Agriculture Forestry and Fisheries (DAFF).

Environmental Management Inspector, Mr Mzondeleli Dlulane explained the Department's role in the operation. "As the lead Department of Operation Phakisa, we made it

possible for all role players to come together and join forces during the operation. The Environmental Affairs' Minister, Dr Edna Molewa wrote to different MECs, HODs, Ministers and CEOs of SOEs in order to secure full time participation of their officials in Initiative 5 of Phakisa. The outcomes of the operation are a result of the successful coordination by all involved in ensuring the protection of our coastal environment, the oceans, and ensuring security within South Africa's border posts," said Mr Dlulane.

During the 48 hour operation, a full rummage on aircraft also took place at the Cape Town International Airport where detector dog searches were conducted with, luggage, cargo, passengers, aircraft and crew.

Commander in the Training Division at the SARS K9 Unit, Mr Lungisa Qanda detailed how the searches are conducted. He oversees the training of the dogs and their handlers that conduct the searches. "We search bags that are coming into the airport, passengers are requested to line up with their luggage as they get of the aircraft and then step aside as our dogs sniff the bags. If there is anything that is prohibited, the dog will indicate by sitting down which means that is a positive indication, the bag is then searched. Our dogs are not trained to

search humans but rather luggage, parcels or cargo according to the law," explained Commander Qanda.

Some of the activities during the two day operation included harbour gate checks, where members conducted stop and search operations such as tailboard inspections, verification of commodities, documentation verification, stop and searches and detentions. Coastal Patrols were also conducted where rummages, documentation verification, selected risk cargo examinations and detector dog searches.



Above: Officials from different departments search the luggage of a passenger.

iSimangaliso Sodwana Bay Festival

Shining the light on communities and conservation

By Debbie Cooper and Lindy Duffield



Above: Mr Jurgen Jacob with the learners he teaches to surf.



Above: Sodwana Bay Aerial View.

The annual iSimangaliso Sodwana Bay Festival event that began on 23 April to 01 May 2018 delivered an outstanding photography submitted for the renowned competition. Based at one of the world heritage site's jewels, the world class coral reefs and scuba diving destination plays host to visitors from all over South Africa and beyond, seeking a long weekend of sun, water and exquisite marine life. iSimangaliso's Marketing and Brand Manager, Ms Lindy Duffield said this year a new strong focus was placed on community involvement and delivered a very clear conservation message.

Together with festival organiser and headline sponsor Sabrina Hindley of SUBMERGE Magazine and the marketing team, they came up with several inclusive concepts to involve community members residing adjacent to the Park.

"We believe that both the community drive component and the screening of the documentary A Plastic Ocean delivered a huge punch of fun,

learning and eye-opening wonder at the possibilities of having such a destination on our doorstep. This message reinforces why we should all ensure the preservation of such a unique part of our heritage. The community drive was well received, a huge success and a highlight thanks to the phenomenal facilitators and the participation of the hilarious South African acting duo Spinach and Popeye!" Ms Duffield said.

To ensure that a strong and relevant conservation message was delivered at the festival, iSimangaliso teamed up with Nature, Environment, Wildlife Filmmakers (NEWF) and Jackson Hole, WILD, international wildlife filmmakers, to bring community cinema to Sodwana Bay.

Heralded as the most important film of our time by Sir David Attenborough, A Plastic Ocean was screened at both the Kid's Club and the awards evening with both screenings followed by a beach clean-up for the Jackson Hole WILD cleaning and screening initiative.

The documentary A Plastic Ocean struck a chord with all who watched, highlighting the plight of our ocean and marine wildlife that is being systematically destroyed by plastic waste in their delicate environment. "A Big Blue underwater photographic light was auctioned at the event.

The highest bidder was Louis Olivier from Pisces Diving, who said that watching the documentary had such an impact on him that he decided to continue to draw attention to this plight by offering the light up at the next event to the person who collects the most plastic. To me, this is the power of the movie, enabling a wave of change," Ms Duffield said.

The festival activities commenced with the community drive. Headed up by Ms Slindile Msweli from iSimangaliso. The objective was to introduce community groups and other people involved with services to the Park and to the activities of scuba divers to create a better understanding of the ocean and the purpose of conserving it. The programme included introductory

About the contributors: Debbie Cooper and Lindy Duffield

Debbie Cooper is the Executive Assistant to the CEO, iSimangaliso Wetland Park Authority. Apart from being executive assistant, she does content writing and photography for the Park's internal communications such as newflashes, Park notices and social media platforms.

Lindy Duffield is Marketing and Brand Manager at iSimangaliso Wetland Park Authority. She heads up the marketing division of the Authority. She develops and identifies marketing strategies, creatively develops marketing campaign, raises conservation awareness and profile the park brand through park sporting events and hosting media.



Above: Learners taking in surfing lessons at Sodwana Bay.

swimming lessons focusing on safety in the water and snorkelling and hosted 41 swimmers between the ages of 15-40 years over two days. Participants were invited from the Coast Care Unit of Katanga Services, Katanga Gate Management, Moses Zikhali High School, Mpiyakhe High School, Nhlambanyathi High School, licensed activity operators and Small Steps Surfing Academy. Participants were sponsored swimming gear including costumes, swimming goggles and caps.

From the group of introductory swimmers, 10 people were selected to participate in a Discover Scuba Diving course (DSD), which included a pool training session followed by a boat trip into the ocean to experience a dive.

"All agreed that this was an extremely special experience and most expressed they would definitely pursue a career in diving should an opportunity arise," said Ms Msweli.

The pool venue was offered by Sodwana Bay Lodge Scuba Centre, with swimming lessons facilitated by swimming instructor Colleen Bernard of Amanzi Scuba and Swim Centre and swimming gear sponsored by Adi – Head Swimming. PADI sponsored the diving course, co-ordinated by Anders Heergaard, PADI's regional manager for Southern Africa.

A further group of 12 people were hosted on an Emergency First Response course by Quintin de Boer, sponsored by NAUI. These included participants from We Gym Mbazwana, Black Diving Forum – Sodwana Bay, Ufudu Tours and other Sodwana business owners.

Festival catering was sourced from community entrepreneurs and included Mr Jeffrey Zikhali and Ms

Thandazile Mathenjwa of Sikhukhuku Catering who are both beneficiaries on the iSimangaliso Rural Enterprise Programme and Prisca Zikhali who was mentored by Coral Divers to provide the catering service at the main festival zone.

The community drive was further highlighted by the attendance of celebrated SABC TV comedians Mr Kere Nyawo and Mr Thulani Didi more fondly known as Spinach and Popeye who participated in the programmes on offer. Bringing great excitement and entertainment to the event and Sodwana Bay community. Spinach and Popeye were brought to the festival by Red Crush Media with the main objective of their attendance to shoot a pilot episode for an adventure conservation comedy series proposed for SABC TV.

"The duo was in awe with the sense of place and freshness of the air in Sodwana Bay," says iSimangaliso's Thandi Shabalala, who hosted the crew.

A successful photography competition included entries from visitors from Portugal, currently residing in Maputo, Mozambique, as well as an entrant all the way from the Dominican Republic. The images were judged by professional photographers Fiona Ayerst and Allen Walker and included exceptional imagery highlighting the diversity of the Sodwana Bay reefs. Photographers and festival-goers benefitted from micro seminars held by industry professionals.

The Kids Club programme took place over the four



days of the festival and included participation from Sodwana Bay holiday makers, residents and children from the Small Steps Surfing Academy which brings youngsters from the surrounding community to the beach to learn the basics of surfing to enable them to build confidence through sports in the water, while also learning about conservation. The Kids Club programme focussed on fun activities that communicated ocean and conservation awareness and included iSimangaliso's environmental education and a trip to the Sharklife museum.

As always, an event such as this is impossible without generous sponsors and iSimangaliso wishes to thank partners SUBMERGE Magazine and Nauticam, as well as everyone who became involved and made significant contributions towards the community drive activities, Kids Club, prizes for the photography competition (with the main prize secured from SA Airlink offering tickets to Madagascar and accommodation at Sakatia Lodge) and accommodation and venues for the activities, presenters and judges.



Above: Children learning about marine life conservation at Sodwana Bay.

SA hosts a successful 4th BRICS Ministerial meeting

By Madimetja Mogotlane



Above: BRICS Ministers of Environment held hands as a symbol of the successful 4th BRICS Ministers of Environment meeting.



Above: Minister of Environmental Affairs Edna Molewa with Dr Harsh Vardan, India's Minister of Environment, Forest and Climate Change, Earth Sciences, Science and Technology.

South Africa held a successful 4th BRICS Ministers of Environment meeting in Fairmont Zimbali resort, Durban. The two days meeting was held from 17 to 18 May 2018 under the theme: Strengthening cooperation amongst Brics on Circular Economy in the context of the Sustainable Consumption and Production.

During the meeting, BRICS Ministers of Environment reiterated their commitment to the importance of 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs), which clearly articulate international development priorities and global development cooperation towards the ultimate goal of eradicating poverty by 2030.

Through adopting the SDGs, the global community has undertaken significant commitments towards sustainability, development, and prosperity that is shared and equitable, leaving no one behind. The means and mechanisms are of critical importance in the implementation of SDGs and the BRICS countries hereby call for early implementation of the Global commitments towards Technology Facilitation Mechanism and Financing for Development. The Ministers also welcomed various

partnerships for the implementation of the 2030 Agenda for Sustainable Development and call for good governance to enhance implementation actions to integrate sustainable development at the heart of social and economic development policies in relation to Sustainable Consumption and Production (SCP).

With respect to Climate Change, BRICS countries welcomed the progress towards finalizing the Work Programme under the Paris Agreement and express their willingness to continue working constructively with other Parties to conclude its related negotiations at the UN Climate Change Conference (UNFCCC) Katowice in December 2018. The Ministers reaffirmed their commitments to the Paris Agreement and urge developed countries to continue taking the lead and support developing countries, including the transfer of needed technology, which is one of the most critical enablers for climate action.

The Ministers also reiterated the call to enhance cooperation and collaboration amongst BRICS countries in the field of biodiversity conservation, sustainable use and equitable access and benefit sharing of biological resources, and also

undertake to promote cooperation in biodiversity-related international conventions and fora including on endangered species.

Following the successful 4th BRICS meeting, Ministers converged at the Southern Sun Elangeni & Maharani hotel, Durban on 19 until 20 May for the 26th BASIC Ministerial Meeting on Climate Change.

The meeting was chaired by the Minister of Environmental Affairs, Dr Edna Molewa and attended by Mr Xie Zhenhua, Special Representative for Climate Change of China, Dr Harsh Vardan, Minister of Environment, Forest and Climate Change, Earth Sciences, Science and Technology of India and Ambassador J. Antonio Marcondes, Undersecretary General for the Environment, Energy and Science and Technology of the Ministry of Foreign Affairs of Brazil, Mr. Michal Kurtyka, incoming COP President of COP 24, was invited and welcomed as a special guest to attend the meeting.

BASIC Ministers reiterated that the global effort against climate change is an irreversible process that cannot be postponed. Ministers called for the widest possible cooperation by all countries and other stakeholders to protect global climate for our present and future generations.




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SA home to large populations of Albatrosses

By Gaopalelwe Moroane



Above: Albatross Valley at Prince Edward Islands.

South Africa hosts large and important populations of albatrosses and petrels at its Prince Edward Islands, which are located in the southwest Indian Ocean,” said South African National Parks (SANParks), Managing Executive: Conservation Services, Dr Luthando Dziba. Dr Dziba was addressing the 6th Session of the Meeting of the Parties to the Agreement on the Conservation of Albatrosses and Petrels (ACAP), held on 07 May 2018, in Skukuza, Kruger National Park.

“These islands hold, for example, about half the global population of Wandering Albatrosses and a quarter of Indian Yellow-nosed Albatrosses,” said Dr Dziba.

Dr Dziba pointed out that waters around South Africa’s coasts are important feeding grounds for several albatrosses, petrels and other birds that migrate into the region.

These birds range well beyond South Africa’s territorial waters where they are at risk to fishing activities on the high seas and in the waters of other states, particularly as

by-catch in long-line and demersal-trawl fisheries. Other threats to albatrosses and petrels include predation by introduced animals, disease and global change.

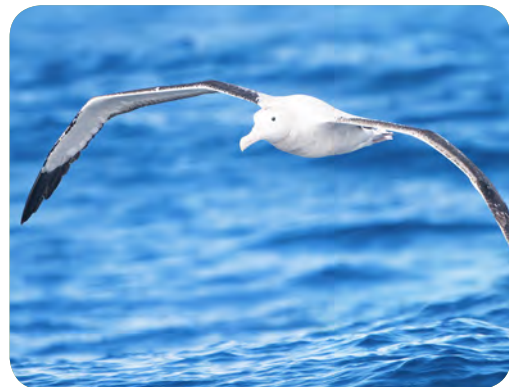
Many of the world’s albatrosses and petrels have a poor conservation status and are listed as Threatened in terms of criteria of the International Union for Conservation of Nature (IUCN). This status has resulted from a variety of factors, including deterioration of their breeding habitats, disease, targeted hunting and the unfortunate by-catch and mortality of seabirds in fisheries.

South Africa has substantially reduced the by-catch of seabirds in its pelagic long-line fisheries, from 1.6 birds per 1,000 hooks at the turn of the century to fewer than 0.5 birds per 1,000 hooks at present. However, South Africa readily acknowledges that it has further work to undertake in the conservation of these seabirds.

Because many of the albatrosses and petrels migrate large distances, it is not possible for States acting in isolation to secure their conservation. ACAP therefore provides a



Above: Wandering Albatross.



Above: Marion Island Light-Mantled Sooty Albatross.



Above: Sooty Albatross.

mechanism to improve the conservation status of wide-ranging albatrosses and petrels at a global scale through ensuring international collaboration. The agreement came into force in February 2004 and currently has 13 member countries, including South Africa and covers 31 species of albatrosses, petrels and shearwaters.

House mice have been introduced to Marion Island and continues to impact negatively on these seabirds. Disease in penguins has been reported at the island and there have been recent indications of an altered availability of food for some birds at the island.

During his address Dziba expressed South Africa's gratitude for the wonderful generosity of the ACAP States and organisations, and all the hard work that the ACAP Secretariat have contributed to ensuring the success of the Agreement from its infancy to a stage where it has now been in operation for 14 years and has made substantial progress.



Above: Indian yellow-nosed Albatross.

"South Africa hopes that other range states for albatrosses and petrels will soon join the Agreement and that, in collaboration with other organisations, the Agreement will shortly make significant progress with regard to the understanding and addressing the threats to albatross and petrels on the High Seas," he added.

CSIR launches a bio-refinery facility worth R37,5 million

By Reyhana Mahomed

A R37.5 million Bio-refinery Industry Development Facility has been established at the Council for Scientific and Industrial Research (CSIR) in Durban that is set to extract maximum value from biomass waste. The facility, launched by the Minister of Science and Technology, Ms Mmamoloko Kubayi-Ngubane, is part of the Department of Science and Technology's Industry Innovation Partnership Fund and will support innovation in a range of industries, including forestry, agro processing and other biomass-based industries. The facility was launched on 20 March 2018 in Durban.

The initial focus of the facility is the forestry sector, which is under financial strain globally. Biorefinery in South Africa's pulp and paper industry is practiced on a very limited scale. Wood, pulp and paper waste ends up in landfill sites or is burnt, stockpiled or even pumped out to sea. The potential to extract value from it is not realised, resulting in lost opportunities for the country's economy.

Additionally, the country is running out of landfill space. High-value speciality chemicals can be extracted from sawmill and dust shavings, while mill sludge can be converted into nanocrystalline cellulose, biopolymers and biogas.

The facility holds massive potential to be of service to other sectors, for example, exploring the use of chicken feathers in high-value products. Small quantities of waste chicken feathers are processed into feed for livestock, but the majority of the waste is traditionally disposed of by burning or landfilling. However, this facility is already demonstrating that keratin can be successfully extracted from the poultry by-product to be used in high-value applications, such as nanostructured materials for biomedical applications.

The new facility is accessible to large industry and small, medium and micro-sized enterprises for their research and development, analytical and pilot scale testing, evaluation, processing and development of technologies for processing biomass.



Above: Minister of Science and Technology, Ms Mmamoloko Kubayi-Ngubane delivered the keynote address at the launch on 20 March 2018 in Durban.



Above: Minister of Science and Technology, Ms Mmamoloko Kubayi-Ngubane delivered the keynote address at the launch on 20 March 2018 in Durban.



About the contributor: Reyhana Mahomed

Reyhana Mahomed is a Communications Manager at the Council for Scientific and Industrial Research (CSIR): Natural Resources and the Environment. Before joining the CSIR, Ms Mahomed was a Deputy Director in the Department of Environmental Affairs' Chief Directorate: Communications.

13087 Young people enrolled for skills development

By Nomvuyo Mlotshwa



Above: First day in class - all smiles from a group of young people during the orientation day at Pyramid Beauty School.



Above: Gauteng Hair and Beauty project participants during practicals.

The Department of Environmental Affairs (DEA) is stepping up against the widespread scourge of youth unemployment. DEA is pioneering the mass training programme implemented through the Environmental Protection and Infrastructure Programmes (EPIP), this initiative is aimed at enriching young people nationally with skills development projects and has since its commencement in March 2018 recruited 14076 participants with 13087 being youth in 135 projects run throughout the country.

The mass training programme seeks to extend opportunities to the disadvantaged youth that lack essential skills required by hiring institutions for formal employment. This programme has a flexible approach rendering wide range of skills programmes and national certificates embracing the diverse educational faculties and industries. Project participants spend the majority of the project time attending classes for theoretical training and the relevant practical training.

In the implementation of the programme, the Department has appointed Post Bank as the institution that will facilitate the payment of participants' monthly stipend.

The programme is targeted at young people from impoverished

communities, underprivileged, and lacking skills and as such the Department works closely with local municipalities. Participants are sourced from municipal databases for the unemployed having considered the entry requirements for each training intervention. Consequently, it supports local governments to achieve objectives of the National Development Plan by addressing municipal employment issues according to specific skills needed by their particular communities, while also considering the scarce skills necessary in the country.

Amongst many interventions implemented nationally, in Gauteng, the Hair and Beauty project has registered 102 participants with Pyramid Beauty School to undertake vocational and accredited theory training majoring in Beauty and Cosmetology modules. As part of the implementation of the programme, workplace practicals in body massage, facial massage, facial treatment, nail manicure and pedicure services, make-up application, eyelash tinting, eyebrow shaping and waxing hair removal. Learners that will be declared competent in the end of the course will obtain the accredited Further Education and Training Certificate in Beauty and Nail Technology NQF 4.

Based on the skills that participants would have acquired, prospects

to enter the job market are increased with also an opportunity for the participants to look into the entrepreneurial ventures that will enable them to further create more employment opportunities. Ms Celiwe Mnyandu, a Gauteng Hair and Beauty project participant attests to the project objective saying, "This course is adding a good and positive impact in my life, being a Beauty Therapist has always been my passion. With my two friends we want to start a professional business, we already offer piecework on weekends and our area is perfect for this business as there is a B&B five houses away from home."

One hundred of the Gauteng Hair and Beauty project participants are women between the age of 18 and 35 years afforded exposure to the beauty therapy field while earning a stipend of R2 287.00 per month which is in line with the Expanded Public Works Programme (EPWP) for a fixed period of 12 months. Inclusive of the training and associated supporting resources on average the enrolment of each participant in the project costs up to R79 143.31 per annum. "I believe this project will help our community, less girls will fall pregnant and it will eliminate the idea of depending on 'blessers' as no one can take your education away from you," says 26 year old Thandeka Ntloko, Gauteng Hair and Beauty project.



About the contributor: Nomvuyo Mlotshwa

Nomvuyo Mlotshwa is the Assistant Director: Programme Publicity and Liaison. She is responsible for managing and promoting the brand of the Environmental Protection and Infrastructure Programmes. She is passionate about community outreach and stakeholder liaison.

Reflecting on 20 years of EIA in South Africa

By Veronica Mahlaba



Above: Deputy Director-General: Legal Authorisations and Compliance Inspectorate, Mr Ishaam Abader (centre) and Mr Sabelo Malaza (far left) with invited guest speakers at EIA's 20 years celebration.

The Department of Environmental Affairs celebrated 20 years of Environmental Impact Assessment (EIA) on 16 May 2018. The celebrations happened concurrently with the 38th Annual Conference of the International Association for Impact Assessment (IAIA) held from 16 - 19 May 2018 at the Durban International Convention Centre.

Chief Directorate: Integrated Environmental Authorisations: Mr Sabelo Malaza said the hosting of the IAIA conference came at a time where the country was celebrating 20 years since it first adopted the Environmental Impact Assessment as a tool for sustainable development. "The purpose of the day was to take time and reflect on how we have journeyed, take stock of the challenges and collectively map a way forward as a sector," Mr Malaza said.

To realise the reality of sustainable development, the Constitution of the Republic of South Africa, 1996 (Section 24), states that the citizens of South Africa have the right to have the environment protected and to live in an environment that is not harmful to human health or well-being. The National Environmental Management Act, of 1998 (NEMA) further strengthens this right hence the Environmental Impact Assessments

was developed as one of the legal instruments to ensure that this right is adhered to, and is well detailed in the EIA Regulations as amended.

The National Environment Management Act, 1998 (Act No. 107 of 1998) (NEMA) introduced the environmental impact management regime, in particular the Environmental Impact Assessment process. The EIA process is a tool which requires the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves the present and future generations. The EIA is South Africa's key regulatory instrument to mitigate and/or manage the impacts of new developments and activities that are considered to potentially impact on the right to an environment that is not harmful to health and well-being.

Over the past 20 years, many improvements were effected to the EIA process; whilst over time, activities requiring environmental authorisation where also refined. "For example, the promulgation of EIA Regulations on 08 December 2014 which came with time-frames for the applicant / Environmental Assessment Practitioners for which prior to 2014 never existed. Also in place are the listing notices, containing identified activities. As it is currently, many activities that required environmental

authorisation have been excluded whilst new activities have recently been included in the listing notices. Overall, EIA in South Africa is marginally effective and it should not be discarded as an instrument as there is currently no other alternative replacement available," explained Mr Malaza.

Guest speakers from academia, environmental law space as well as non-governmental organisations were invited to share how they have viewed the progress thus far from their different vintage points. From government, the speaker gave a reflection on the progress and challenges flowing from commitments made at the 10 years of celebrating EIAs. From competent authorities' perspective and developers' perspective the speaker gave the 20 years of EIA's from the proponent/applicant point of view including their challenges and successes. Another speaker was there to give his views of Environmental Assessment Practitioners and Academia's perspective. The last speaker gave an overview on civil society and public domain.

"We wanted a 360 degree assessment from all stakeholders to ensure that as we plan for the next 10 years, we have a shared position on what the challenges are and the means recommended to deal with them," Mr Malaza said.

As part of the IAIA conference, there was also a meeting on the harmonisation of environmental impact assessments in the Southern African Development Community (SADC) region. The objective of the meeting was to develop a common process at SADC level that will aid the process of assessing and reviewing EIA applications traversing country boundaries; to discuss mechanisms to prioritise projects that are of strategic significance and means to prioritise and expedite finalisation of EIA decisions. Furthermore to make recommendations for approval at country level as possible ratification on the SADC level."

DEA celebrates International Biodiversity Day

By Salome Tsoka



Above: Working on Fire explaining how they fight fires to protect biodiversity.



Above: Environmental Management Inspector, Ms Trudell Potgieter from DEA shows TUT students how illicit trading threatens biodiversity.

The Department of Environmental Affairs (DEA) joined the City of Tshwane on 22 May 2018 to celebrate International Biodiversity Day at Fountains Valley in Pretoria.

Students from Saulridge Secondary School, Phelindaba High School, Trans Orange School for Deaf and Tshwane University of Technology (TUT) spent the day learning about the importance of biodiversity from invited guests as well as through the various exhibitions on the day.

MMC for Economic Development and Spatial Planning, Mr Randall Williams emphasized how this year's celebrations were themed Celebrating 25 Years of Action for Biodiversity to highlight the 25th anniversary and the progress made in the conservation of biodiversity both locally and internationally.

"The day aims to increase understanding and awareness of biodiversity issues as well as promoting active citizenship in the protection of biodiversity, in other

words natural environment, plant and animal life," Mr Williams said.

Assistant Director in the Environmental Management Inspectorate, Mr Ederich Grieb also educated students about the importance of biodiversity in the country.

"Section 24 of the constitution says that everyone has the right to an environment that is not harmful to them or to future generations and needs to be protected by legislative measures. And my main function at the department of environmental affairs is to ensure the enforcement of that legislation," Mr Grieb said.

Mr Grieb informed the students about the dangers of invasive species such as eucalyptus and blue gum on the country's biodiversity.

"Alien and invasive vegetation like eucalyptus and blue gum trees go deep into the soil and extract ground water that we can utilise. One eucalyptus tree is said to use approximately 800 litres of water per day," he said.

He further explained how the illicit trading of rhino horns in the country was a great threat to not only the country's biodiversity but to the rhino species as well.

"Rhino poaching is a great threat to our environment at this stage and as environmental management inspectors at DEA we try to protect our natural resources. The biodiversity act makes clear provision for the protection of our wildlife and our environment for future generations," said Mr Grieb.

Mr Williams further encouraged all students to learn about biodiversity and how they too can protect their environment.

"I would like to encourage everyone in attendance today to learn and equip oneself about biodiversity issues from the exhibitions, commit oneself far beyond today's event to doing your part in the protection of biodiversity and lastly share the information with others as we all strive towards a sustainable future," Mr Williams said.



About the contributor: By Salome Tsoka

Salome Tsoka holds a BA Degree in Journalism from the University of Johannesburg and has been writing for as long as she can remember. She is an intern in the Chief Directorate: Communications and has a unique passion for writing captivating stories.

Joint wildlife crime initiative shows promise

By Salome Tsoka



Above: Representatives from DEA, WWF, US Embassy and Silver Fox Forensics showing off some of the awareness material.

The Department of Environmental Affairs' (DEA) Environmental Management Inspectorate (EMIs) received awareness material that promises to boost the Department's efforts in combating wildlife crime in the country.

The representatives from World Wide Fund for Nature (WWF), US Embassy (the US Bureau of International Narcotics and Law Enforcement Affairs) and Silver Fox Forensics handed over the material to the DEA on 02 May 2018, in Pretoria.

The joint initiative with the World Wide Fund for Nature (WWF), US Embassy (the US Bureau of International Narcotics and Law Enforcement Affairs) and Silver Fox Forensics led to the development of an e-learning platform, newly developed curricula, course materials and training programmes relating to wildlife identification and legislation comprises of booklets, brochures, manuals and videos.

DEA's Deputy Director: Capacity Development in Environmental Management Inspectorate (EMI), Mr Jacques Du Toit highlighted the difficulties which EMIs often faced when encountering a wildlife crime scene.

"EMIs and port officials face daily challenges in detecting international wildlife trafficking activities, not only due to the range of smuggling techniques employed but also due to the difficulty in identifying derivatives linked to listed endangered species. Detailed investigation, proper processing of crime scenes and collection of evidence is essential if we are to fight this global epidemic crime."

"What makes this project so wonderful is the diverse range of material created, each individually addressing either a specific sector involved in combatting the crime, and or a critical process to be followed to support successful prosecution," Mr DuToit said.

The e-learning programme provides a safe and secure way to learn and share knowledge relating to wildlife trafficking for key stakeholders. The initiative created a greater co-ordination between conservation and law enforcement agencies in South Africa and other key countries through pilot wildlife trafficking training programmes.

Silver Fox Forensic's collaborated with former traditional healer Ms Princess Nomvulelo Ncube, who indicated that the awareness booklets would

foster better working relations between the government and the muthi trading public.

"With my experience I believe that when people see these booklets and see these videos they will now actually believe that conservation is not uncommon. It's more like democracy, it's for the people by the people. We don't only conserve nature for the sake of nature, we also conserve it to make sure people can use these natural resources for many years to come. I believe that when they see themselves in these books and hear their own stories and see what others are doing that they will want to help more. After seeing all this they will believe that the government actually cares and understands their industry. I believe that they will want to work more with the government in partnership," Ms Ncube said.

The awareness booklets on muthi trade were translated into seven of the country's official languages including English, isiZulu, isiXhosa, Xitsonga, Sepedi, Afrikaans and Sotho. The awareness videos and booklets focusing on wildlife crime and muthi trading will be made available at all national airports and points of entry around the country, as well as used during awareness raising programmes.

Disa River wetland to be restored

By Lize Redelinghuis



Above : An aerial view showing the recent infilling of the Disa River floodplain as part of the Beach Club housing development.

Retrospectivity of Acts and accurate use of technical terms

City Of Cape Town (Applicant) v Really Useful Investments 219 (Pty) Ltd (Respondent) (Case No. 21106/2014) High Court of South Africa - Western Cape Division (Delivered on 2 February 2018)

The respondent unlawfully dumped filling material in a wetland and floodplain adjacent to the Disa River since March 2011. The City of Cape Town issued it with a directive in May 2011 (ECA Directive), ordering it to cease the further dumping into the floodplain and to conduct certain rehabilitation and remediation measures.

The Respondent then stockpiled the filling material on the visible wetland edge between the 1:50 and 1:100 year flood line located within the floodplain. The applicant demanded that the filling material be removed from site completely, while the respondent argued that the ECA directive only require the removal of

filling material from the wetland area. The applicant requested the Court to declare that, (amongst others), the respondent's conduct in placing filling material within the 1:100 year flood line is in contravention of the Stormwater Management Bylaw of 2005. The respondent opposed the application and alleged the following:

1. Obtained consent for development activities on the property that indirectly include the infilling activities, from the City of Cape Town's predecessor, the Western
2. Cape Regional Services Council (RSC), in 1994. It further argued that this consent is deemed to be consent of the kind contemplated in section 5 of the applicant's Stormwater Management Bylaw of 2005. Therefore, they were undertaking a lawful activity The Respondent disputed the extent of the ECA directive – whether it was intended to apply only to the wetland adjacent to the river, or also the floodplain.

Judgment

The Court confirmed that the respondents contravened the applicant's Stormwater Management Bylaw of 2005 as well as section 31A of ECA due to the fact that the infilling of the floodplain resulted in the environment being seriously damaged and such increased the flood risk.

The respondent obtained consent for development activities on the property that indirectly include the infilling activities, from the City of Cape Town's predecessor, the Western Cape Regional Services Council (RSC), in 1994 and argued that this consent is deemed to be sufficient consent. However, the Court found that that consent was given under a different statutory regime and, therefore, cannot be seen as consent obtained under section 5 of the applicant's Stormwater Management Bylaw of 2005.

Although the respondent did not dispute the validity of the ECA directive, it disputed the extent of the ECA directive – whether it was intended to apply only to the wetland adjacent to the river, or also the floodplain. The Court confirmed that the point of departure must be the language of the ECA directive itself, wherein a clear distinction between the wetland and the floodplain is made. The Court concluded that the ECA directive is applicable to the floodplain and that this word intends to refer to the area up to 1:100 year flood line. The respondent failed to comply with the ECA directive up to that flood line and the applicant is entitled to the relief sought.

Vox Pops

DEA staff members

Why must we recycle plastic?



1

1. Ms Mikateko Sithole

Climate Change and Air Quality

Research intern: Strategic environmental intelligence.

Plastic is a material that is non-biodegradable and takes many years to decompose, and that makes it take up a lot of space in landfill sites. Plastic is also one of the largest contributors to waste in the country. However, despite the fact that it is a waste, it can also be recycled to make products that can be sold to generate a sustainable income.



2

2. Mr Abel Nkuna

Strategic Management

Plastic should be recycled because this can conserve energy and natural resources. It can also lead to a reduced amount of plastic waste that ends up in the air, in landfill sites, in our oceans and in every other aspect of our natural environment. The recycling of plastic can lead to an overall reduction in greenhouse gases and pollutions.



3

3. Ms Phuti Makagbo

Chemicals and Waste Management

Plastic should be recycled as it is dangerous to the environment because it does not decay like other waste. People often manage it carelessly by littering which then results in it being blown away by the wind. Littered plastic is especially dangerous because it can wind up in the sea where

it can further harm marine animals and life.



4

3. Ms Santhuri Naidoo

Biodiversity and Conservation

Plastic is dangerous because it is not biodegradable and as a result it is a threat to marine and terrestrial biodiversity. Take sea turtles as a perfect example. Jelly fish is their favourite food of choice, but plastic in water looks exactly like jelly fish and instead of ingesting jelly fish the turtle ingests copious amounts of plastics, leading to high numbers of turtle deaths all over the world threatening their very existence. However, public awareness around plastic pollution has reached far and wide for example, many restaurants especially those on the coastal areas of SA have become straw free in a campaign to reduce plastic pollution in the oceans.



5

4. Ms Wendy Tripe

Biodiversity and Conservation

Plastic should be recycled because it's not biodegradable when it reaches the soil, no matter how many years you can bury it. It can be ingested by marines and birds, so that can lead to agony as they end up suffocating, resulting to death.

That's why our government came with a policy that we must buy plastic so that we can reuse and recycle, by doing so it helps to mitigate the littering of plastics and that can be beneficial as it prevents animals from dying because when they die the food chain gets disrupted. Plastic bags, bottles and other disposable items are the most common littered objects polluting and destroying entire ecosystems that are vital for the planet.

Vox Pops continued

Members of the public



1

1. Mr Hedley Judd

One of the main reasons why plastic should be recycled is that it is not biodegradable in our life span and probably in the next couple of generations. So if one looks at the plastic islands that are floating in the sea, that's a classic example of an accumulation of waste that has not been processed and is creating a large hazard to our sea life and the oceans are the life of our planet.



2

2. Mr Khothatso Moloi

The two biggest reasons for me is firstly, what plastic waste does to the environment is horrible if left unattended. It doesn't decompose and it's just like tyres. Secondly, for economic growth, plastic waste is a resource that if we use in terms of recycling to make new products we can create jobs and we can cre-

ate business opportunities. So this is almost like gold that is above the ground. It is a resource that is on the surface that we can convert into a useful product.



3

3. Mr Corrie Taljaard

I've just returned from China last month and it's just amazing as to how far they've gone in just a short time space. I could see there's a sense of consciousness as to how they see their environment now. They have managed to internalise waste recycling by separating their plastics, paper and biodegradable waste and I've noticed a vast difference in the streets because they are so clean. Our own internalising of waste recycling in our homes is a contributing factor to the plastic waste that ends up in landfills.



4

4. Mr Koos Phalane

Plastic should be recycled so that it does not fill our landfills as it is hazardous to our environment and the animals. By recycling, it will lessen the chances of being thrown away after use. The advantage of recycling plastic is that it helps to make use of used up plastics in a different form or to give the old plastic a new life.



5

5. France Madiga

We must recycle plastic as it is a resourceful item. It can help to bring about new things that are made of plastic such as PVC Boots and so on. The companies such as Plastic SA get to save the production money as the recycled plastic would be used to reform new ones.

We must also bear in mind that by recycling plastic we help our animals from the danger they face, because if they ingest plastics the chances of surviving after that are very low, especially for the aquatic ones.



6

6. Dr Bheki Mncube

We produce a great quantity of plastic every year globally, of which flow into already polluted oceans. Plastic remains a key material in the global economy, but low rates of collection, reuse and recycling, emissions of microplastic from product wear and tear, and often insufficient disposal measures are leading to far-reaching environmental, health, social and economic impacts.

The costs of inaction are unacceptably high. Globally there is a growing recognition of the need to address marine litter and rethink our approach to plastics and plastic packaging within the economy. Measures that enable a transition to a circular economy can avoid waste and reduce marine litter, and contribute to keeping plastics and their value in the economy.

**BEAT
PLASTIC
POLLUTION**

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