

Environment Quarterly

EzemVelo Ngenyanga Ntathu • Mbango wa kotara • Mupo nga Kotara

**Minister Mokonyane's
festive message**
**Countries unite for the
conservation of migratory
water-bird**



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



2018 environment CALENDAR



January

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30	31					

2 February
22 March
23 March
26 March
22 April
9 May
22 May
5 June
6 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 Airbour Day
National Parks Week
World Ozone Day
World Rhino Day
World Fisheries Day

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Guest Editorial: Minister Mokonyane

Minister urges holiday makers to enjoy our coast responsibly



Dear Valued Stakeholder,

The holidays are upon us and I would like to urge all South Africans and holiday makers to enjoy our coastline responsibly while taking into account the duty of care for our coastal environment as prescribed in the environmental legislation. It is our duty to ensure that we do not litter, do not drive on the beach and accord everyone their right to access public coastal property.

The Department of Environmental Affairs is continuing with a coastal awareness programme to remind us all that we are custodians of our valuable coastal resources. The awareness campaign will focus on among others, coastal and marine pollution, public access to the beach and illegal driving on the beach.

Members of the public are encouraged to report illegal beach driving and

private beaches (exclusive use) including any other illegal activities in the coastal areas.

One of the issues that the department has to address every year during the festive season is the illegal limitations on public access to the beach. It is unlawful in terms of the The National Environmental Management: Integrated Coastal Management Act, (ICM Act) to implement measures which prevent public access to the beach, not permitted under that Act. It is only under certain strict circumstances that the public's access to the beach may be limited.

The ICM Act seeks to achieve the realisation of the right of access to our natural heritage and recreational benefits to all and in so doing, support growing tourism, recreational fishing and fair access to amenities. In addition, under the Act, no one may charge a fee (directly or indirectly) in order to access coastal public property, without the permission of the Minister responsible for environmental affairs.

The use of vehicles in the coastal area is generally prohibited. Permits are granted only in exceptional circumstances, for people with physical disabilities for example. The reason for this ban on Off-Road Vehicles (ORVs) in the coastal area is to safeguard and protect our coastal environment. The ban of the ORVs in the coastal area is also aimed at balancing and managing conflict that may arise between ORV users and the general public that access the coast by foot. In the past vehicles destabilised and destroyed vegetated dunes.

The vegetated dunes are important as they absorb the energy generated by waves and storms and protect the area behind them from wave damage and salt intrusion. The vegetated dunes act as a barrier and become the first line of protection for inland areas, homes or property. The dunes also act as a natural sand reservoir in which they supply sand to the beach during periods of erosion. Vegetation helps keep the dunes stable.

The department is also dealing with pollution along the coast from marine litter, including plastic litter, which has become a matter of increasing global and national concern as a source of marine pollution. Plastics are the cause of increasing ocean pollution, which in turn affects marine life, and consequently humans as well. Human health can also be significantly influenced by marine litter in the form of injuries from debris such as broken glass or indirectly by chemicals, toxins or bacteria in the water. In addition, plastics have been found in a wide variety of fish species that we eat.

Globally, plastic production has reached new highs, with over 320 million tons now being produced annually. In the spirit of celebrating the holiday season, I would like to urge all South Africans, industries and organisations to work together in reducing plastic usage in the country.

To the holiday makers and those visiting our coastal areas, I urge you to exercise caution in enjoying our coastal areas and to do so safely and responsibly.

Happy Holidays!

Ms Nomvula Paula Mokonyane
The Minister of Environmental Affairs

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

Deputy Minister Imbizo Focus Week in Pietermaritzburg

Images by Salome Tsoka



Deputy Minister Barbara Thomson sits down with the Dlamini family which is a child headed household, and talks to the eldest which is Queen during her visit to the family's household during the Imbizo Focus Week where she later addressed local community members.



Deputy Minister Barbara Thomson also visited the Ngcobo family who were still reeling from a recent experience with gender-based violence. The Deputy Minister offered them words of courage and wisdom before handing them some groceries to brighten up their holidays.

DEA sends a frank and fearless message to rhino poachers

Images by Veronica Mahlaba and Madimetja Mogotlane

In order to strengthen the fight against rhino poaching, the Department of Environmental Affairs partnered with Leon Schuster's movie, Frank and Fearless to send a frank and fearless message to rhino poachers.

The movie sends a strong message to millions of people in South Africa and abroad about the importance of conserving the rhino, protecting our wildlife and at the same time promoting our country as an exceptional wildlife tourist destination

In the movie, Sonny Frank played by Leon Schuster, and a 10 years old rural boy, Fearless played by Themba Ntuli, set out to kidnap the South-East Asian country Ambassador in an attempt to stop rhino slaughtering. When things go wrong, they fight merciless poachers, who are led by the ranger turned poacher, Dolf, played by Kenneth Nkosi.

The Movie first premiered at the Ster Kinekor, Sandton City on 15 November 2018 and then followed in Durban at the Suncoast Cinecentre on 19 November 2018. The movie will also be open on 95 screens around the country.



Young and old came to support the movie premiere with cast member Themba Ntuli (middle) at Suncoast Casino.



Cast of Frank & Fearless with Drakondale Girls Choir School that provided the theme song for the movie.



Durbanites walking into the cinema to watch Frank & Fearless at Suncoast Casino.



Frank and Fearless character, Alfred Ntombela hugs a baby rhino, Reini whose who also stars in the movie.



Former eThekweni Municipality Speaker, Mr Logie Naidoo and his wife Jeevie chance a selfie with Leon Schuster.

DEA launches Smarthome Awareness Campaign

DEA in partnership with the Green Building Council South Africa and GIZ launched the SMARTHOME Awareness Campaign recently at the Green Building Convention 2018 as part of the work on the Climate Change Flagship Programmes.

WHAT IS A SMARTHOME?

A SMARTHOME is a home that enables you to save money. It is a home that has been designed to help you save water and electricity and is fitted with features and tools that assist you in reducing your usage of these limited resources.

THERE IS ONLY ONE THING BETTER THAN A SMARTHOME, AND THAT IS AN EDGE CERTIFIED SMARTHOME.

EDGE is a green building certification system that gives you peace of mind that your home has been built using some of the best green technology to significantly cut your water and electricity bills. An EDGE certified SMARTHOME is the way to go as it gives you the opportunity to save 20% or more on your water and electricity costs as long as you use the green features in the home correctly. The savings on your electricity and water bills leave you with extra money in your pocket.



WHAT ARE THE BENEFITS OF A SMARTHOME?

Life is getting more expensive and we all want ways to save some money. A SMARTHOME is equipped with the tools that help you save water and electricity. It can help you to save and have more cash in your hands for other things.

Think about it! That smart phone you've been eyeing for months, the pair of shoes that are a little bit out of your wallet's league or even the dream house you've saved in your favourites list on your computer. You can take the first step towards being able to afford these things if you make the right, smart changes in your life. Living in a SMARTHOME can help you save money, upgrade your life or at the very least, be able to invest in the small luxuries.

Going smart and living in a SMARTHOME has got other benefits as well.

You will be kinder to the environment and you will make your contribution towards leaving the planet in a good condition for your children and their children.

WHY GO SMART?

Why should you go smart? With everything getting more expensive, it is time to evaluate your life and see where you can save.

There are many benefits to being smarter in how you use resources like water and electricity. Think about it. The more water and electricity you save, the more moola in your pocket to spend on the important things in life like a holiday or a university savings plan.

For more info: www.smarthome.org.za





SOUTH AFRICA'S COASTLINE IS FOR EVERYONE TO ENJOY!

Did you know?

According to the National Environmental Management Integrated Coastal Management (ICM) Act of 2008, everyone has the right to equitable access to the South African beaches and its public amenities.

The state in its capacity as the public trustee of all coastal public property, has a duty to manage, protect and enhance it in the interest of the whole community, and for the benefit of present and future generations.

In terms of the IMC Act, all people in South Africa have the right of reasonable access to coastal public property and are entitled to use and enjoy coastal public property, provided such use:

- Does not adversely affect the rights of members of the public to use and enjoy the coastal public property.
- Does not hinder the State in the performance of its duty to protect the environment.
- Does not cause an adverse effect to the environment.

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REPUBLIC OF SOUTH AFRICA



Designed by DEA COMMS



Countries unite for the conservation of migratory water-birds

By Veronica Mahlaba

More than 300 international delegates attended the Seventh Session of the Meeting of the Parties to the African-Eurasian Migratory Waterbird Agreement (AEWA MOP7), where intense discussions were held and the conference agreed on measures to tackle threats from climate change and to increase protection of individual species and seabirds.

AEWA MOP7 was held at the Olive Convention Centre in Durban on 04-08 December 2018, under the theme: **Beyond 2020: shaping flyway conservation for the future.** The conference covered a wide variety of topics related to the future conservation and sustainable use of the 254 species of migratory waterbirds covered by the treaty.

Executive Secretary of AEWA, Mr Jacques Trouvilliez stated that the MOP marked a milestone in the history of AEWA because they have adopted a new Strategic Plan and a Plan of Action for Africa for the next decade.

"Parties have done a tremendous job here in Durban to reach consensus on all subjects. With this mandate all countries will be able to work together to ensure a future for waterbirds across a flyway that stretches from the very tip of Africa, across the Middle East to the High Arctic," said Mr Trouvilliez.

The Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) is an intergovernmental

treaty dedicated to the conservation of migratory waterbirds that migrate along the African-Eurasian Flyway. The Agreement covers 254 species of birds ecologically dependent on wetlands for at least part of their annual cycle. The treaty covers 119 Range States from Europe, parts of Asia and Canada, the Middle East and Africa. Currently 77 countries and the European Union (EU) have become a Contracting Party to AEWA.

Parties adopted a number of International Single Species Action and Management Plans (ISSAPs and ISSMPs) while retiring those concerning the Light-bellied Brent Goose and Black-winged Pratincole and extending the duration of the plans for the Great Snipe, Ferruginous Duck, Lesser Flamingo, Eurasian Spoonbill, Black-tailed Godwit, Maccoa Duck, White-winged Flufftail, and Madagascar Pond Heron for a further ten years. The ISSAP for the Lesser White-fronted Goose was extended for another three years until MOP8. New ISSMPs for the Barnacle Goose and Greylag Goose were also adopted.

Among the other Resolutions adopted included one on AEWA's contribution to the Aichi Targets and the Agreement's relevance to the Sustainable Development Goals, strengthening the monitoring of migratory waterbirds, guidance on the implementation of the AEWA Action Plan, climate resilient flyways, financial and institutional arrangements.



About the contributor: Veronica Mahlaba

Veronica Mahlaba is the Senior Communication Officer: Editorial Services at the national Department of Environmental Affairs, serving under the Communications Chief Directorate. 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.



Above: Some of the AEWAs delegates at the KwaMuhle Museum learning about the apartheid history of South Africa.



Above: Dr Claire Wordly of Cambridge University talking to DEAs Director-General, Ms Nosipho Ngcaba about their website that has research content on habitats of different species.



Above: The executives from AEWAs, national, provincial and local government at the official opening of the Seventh Session of the Meeting of the Parties to the African-Eurasian Migratory Waterbird Agreement.

“Among the many threats that waterbirds have to face are the effects of climate change as a key driver of species decline. We are working to make the flyway more resilient to climate change and of course we need everybody on board to fight against these effects not only on the habitats but on the birds’ themselves.” said Mr Trouvilliez.

Addressing the delegates at the opening of the conference, the KwaZulu-Natal MEC for the Department of Economic Development, Tourism and Environmental Affairs, Mr Sihle Zikalala said South Africa is committed to conservation of waterbirds. He assured the delegates that the country remains committed to share its expertise and experience with the rest of the Parties towards the realisation of the important objective of ensuring that migratory birds do not disappear from our skies.

The MEC further highlighted that waterbirds are an important source of revenue for our country. “A 2010 study by the Department of Trade and Industry on Avitourism indicated that the total size of the Avitourism market is between 21 000 and 40 000 visitors annually. The DTI study estimated Avitourists’ total spend to be in the region of R 927 million to R 1.725 billion per year with domestic Avitourism spend accounting for between R 482 million and R 890 million,” MEC Zikalala said.

To wrap up the conference the government offered a choice of four excursions for all participants on day four of the meeting. Delegates experienced the Inanda Heritage Route and KwaMuhle Museum where they learned about the history of South Africa. They also went to Dlinza Forest, SAPPI Stanger Bird Hide and Durban Bay Waterbird to experience different types of waterbird species.

Majestic Waterbirds of South Africa: The Blue Crane, a national icon

By Salome Tsoka

Photograph: Birdlife.org



South Africa has one of the highest levels of biodiversity in the world, which is home to unique and beautiful creatures not found in other parts of the world. The country is home to the majestic blue crane which is endemic only to Southern Africa. Not only is more than 90% of the population found in the country, the blue crane is also a South African national treasure.

These long necked and silver-blue-grey feathered beauties are the national birds of South Africa. Standing over a metre high, for Xhosa men, the tall, ground-dwelling birds hold significant cultural meaning. Blue Crane feathers are highly coveted and respected as they are used to showcase and identify brave and worthy men in the tribe during a hero ceremony, called ukundzabela organised by the Chief

Found in the open grasslands and upland habitats like the Karoo, KwaZulu-Natal grasslands and highvelds with low shrubby bushes where it feeds, blue cranes are

gentle and social birds. Cranes often engage in what has been described as dancing behaviour which includes a series of bowing, jumping, running and wing flapping movements. At the end of the breeding season, flocks would form groups with their young and move away from breeding sites. During the winter season, flocks of up to 300 cranes can be seen feeding together in wet habitats such as shallow dams and ponds.

However, over the past two decades the birds have seen a decline as a result of a loss to their natural biodiversity, habitat loss due to human population growth, direct and indirect poisoning as well as power-line collision.

The blue crane is now listed on the Red List of the International Union for the Conservation of Nature as vulnerable with only an estimated 25 000 blue cranes left in the country. These vulnerable birds are also one of the birds in which the African-Eurasian Migratory Waterbird Agreement (AEWA) agreement applies.

AEWA, an intergovernmental treaty dedicated to the conservation of migratory waterbirds and their habitats across Africa, Europe, the Middle East, Central Asia, Greenland and the Canadian Archipelago works together with the international conservation community to find ways to conserve and manage the migration of birds.

This year, the Department of Environmental Affairs on behalf of South Africa were the proud hosts of AEWA's 7th Session Meeting of the Parties (MOP7) which took place from 4 to 8 December 2018 in Durban.

Meeting under the theme "Beyond 2020: Shaping flyway conservation for the future", this will be the last time parties meet before 2020 in which they will be evaluating the results from the 2009-2018 Strategic Plan against the Aichi Biodiversity Targets. The parties will also look into developing a new strategic plan for 2019-2027.

Source: <https://www.sanbi.org/animal-of-the-week/blue-crane/>

Source: https://www.sa-venues.com/wildlife/birds_blue_crane.htm

Source: <https://www.unep-aewa.org/en/meeting/7th-session-meeting-parties-aewa>



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.

African Penguin (*Spheniscus Demersus*)

By AB Makhado and RJM Crawford
Photograph by: sancob.co.za

Global Red List status: Endangered
National Red List status: Endangered

Endemic to Namibia and South Africa

Proposed:

- Closing purse-seine fishing around major colonies;
- Establishing a new colony on the south coast closer to the present distribution of food;
- Improving breeding habitat through nest boxes;
- Limiting mortality inflicted by seals near

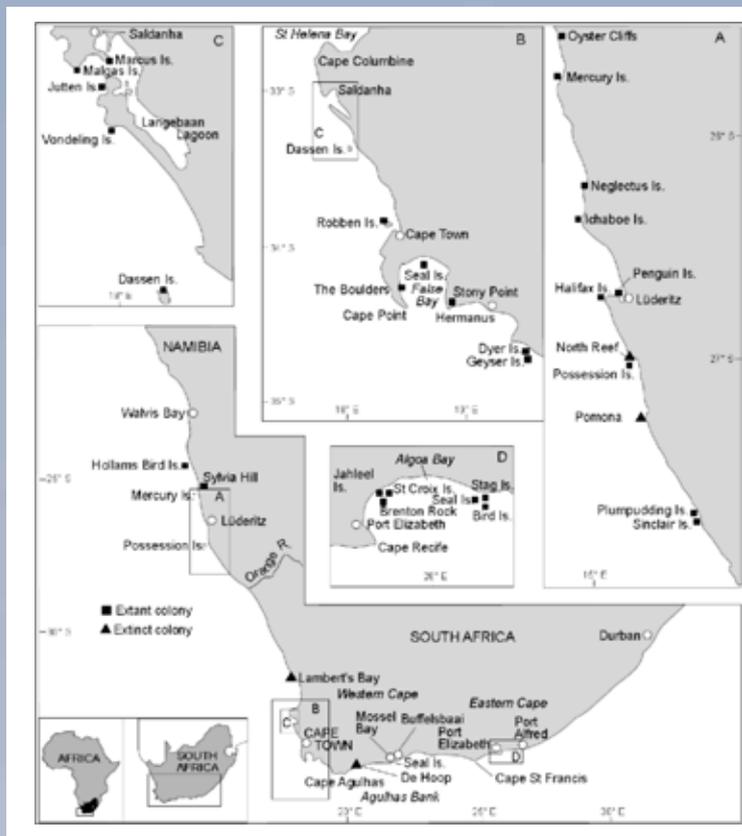


Figure 1: Breeding localities of the African Penguin in South Africa and Namibia.

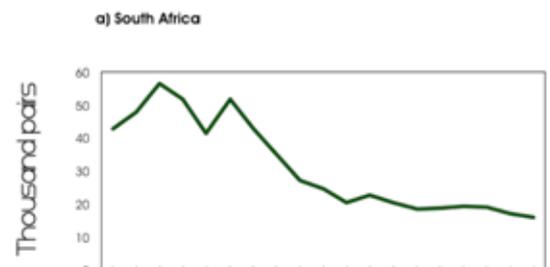
Protected by: Sea Birds and Seals Protection Act (No. 46 of 1973); Threatened or Protected Species regulations of the National Environmental Management: Biodiversity Act (No. 10 of 2004).

Management plan: African Penguin Biodiversity Management Plan 2013.

Some conservation measures:

Applied:

- Most breeding localities (Fig. 1) are within national parks or nature reserves;
- Oiled and injured birds are rescued and rehabilitated;
- Orphaned chicks are reared and returned to wild;
- Disease control.



Population trend: African Penguins continued to decline in South Africa from > 50,000 pairs in 2002 to c. 16,000 pairs in 2017, although the rate of decline has slowed in recent years (Fig. 2a). A large decrease in the Eastern Cape in the early 2000s (Fig. 2b) was followed by a collapse to the north of Cape Town during the mid-2000s (Fig. 2c) when adult survival fell. This was thought to be attributable to food scarcity because the distributions of main prey species (sardine and anchovy) shifted southwards and eastwards. Numbers between Cape Point and Cape Agulhas have increased (Fig. 2d).

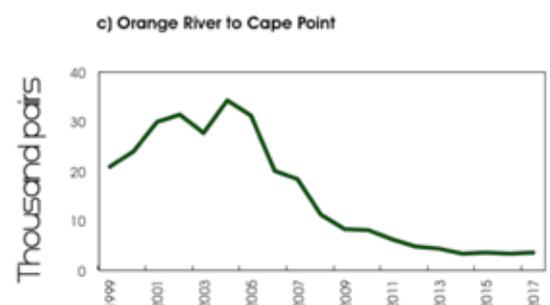
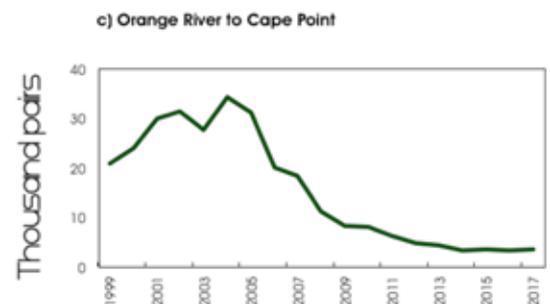


Figure 2: Trends in numbers of African Penguin breeding pairs for South Africa (a) and for three subareas in South Africa (b-d) for 1999-2017.



Seabird populations decrease in SA's Northern Cape

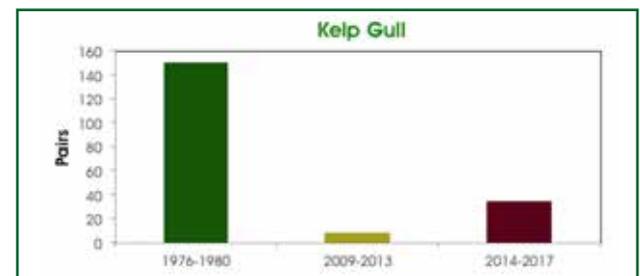
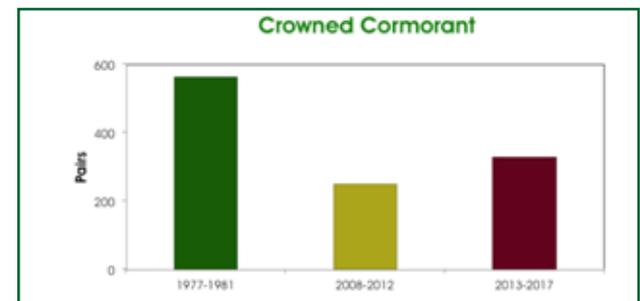
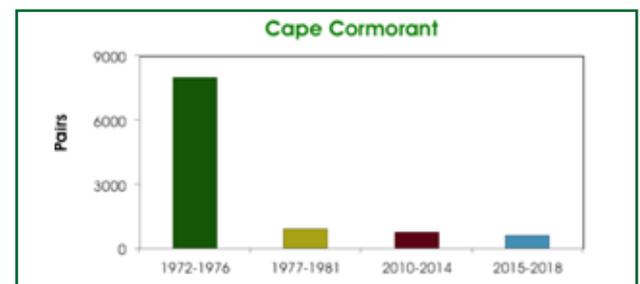
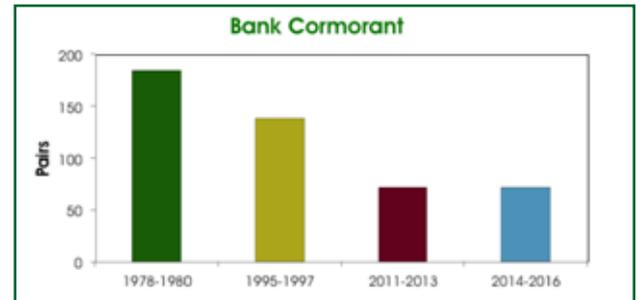
By AB Makhado, BM Dyer, L Upfold and RJM Crawford
Photograph by Birdlife.org

Breeding by seabirds has been recorded at 28 localities along the coast of South Africa's Northern Cape Province, which stretches from the mouth of the Orange River (28° 35'S) to the border with the Western Cape (31° 06'S), about 7 km south of the mouth of the dry Brak River (Fig. 1).



Above: Localities where seabirds have bred coastally in South Africa's Northern Cape Province.

Recent surveys, conducted similarly to earlier surveys, showed substantial decreases of all eight seabird species that have bred coastally in the Northern Cape. Numbers of four cormorant species, Kelp Gulls and Damara Terns estimated to have bred in different periods are illustrated in Fig. 2.



Above: Numbers of Bank, Cape, Crowned and White-breasted Cormorants, Kelp Gulls and Damara Terns estimated to have bred coastally in the Northern Cape Province at different periods since the late 1970s/early 1980s.



Above: The bank cormorant, also known as Wahlberg's cormorant.



Above: The Cape cormorant or Cape shag is a bird endemic to the southwestern coasts of Africa.



Above: The crowned cormorant is endemic to the waters of the cold Benguela Current of southern Africa.



Above: The white-breasted cormorant is much like the widespread great cormorant.

The number of Bank Cormorants breeding in the Northern Cape decreased by > 50% after the late 1970s/early 1980s. Three of the five colonies that were extant in that period are now extinct and a fourth has decreased. The only stable colony is at Boegoeberg (Fig. 3). The number of Cape cormorants breeding in the province decreased by > 90% since the mid-1970s.

Crowned and White-breasted Cormorants and Kelp Gulls decreased after initial estimates of their abundance and then increased again, but not to their original levels. Some cormorants and gulls breed in a wide variety of environments, including on small boats lying idle in harbours (Fig. 4). A disadvantage of the latter is that they may lose their offspring if breeding is in progress when boats are required for use.



Above: Bank Cormorants breeding at Boegoeberg stack in November 2017

It was estimated that 25–27 pairs of Damara Terns bred in the Northern Cape until 2007 (Braby 2011) but this decreased to just four pairs in the summer of 2017/18. Although further surveys are required to confirm the recent estimate, it is thought unlikely that more than ten pairs remain in the Northern Cape. The eggs of Damara Terns are laid in land surface and are cryptic so as to avoid detection by predators (Fig. 5).

In the late 1980s, about 700 pairs of Hartlaub's Gulls bred in the Orange River estuary. However, the number that now breeds in the Northern Cape is thought to be between 110 and 240 pairs and small dams are also used (Fig. 6). Thirteen pairs of Caspian Tern bred in or near the Orange River estuary in the early 1980s. However, although the species may still be seen in the estuary, there have been no subsequent records of Caspian Terns breeding in the Northern Cape.



Above: A Damara Tern egg at Oubeep Soutpan in November 2017

Likely drivers of the decreases include reduced availability of food and the loss of suitable breeding sites. Habitat has been lost through altering the Orange River estuary and modification of, or disturbance at, some pans and islands. The decreases have contributed to a worsening conservation status of several of the seabirds, some of which are endemic to southern Africa.

In South Africa, the Damara Tern is regarded as Critically Endangered, both the Bank and the Cape Cormorant are Endangered, the Caspian Tern is Vulnerable and the Crowned Cormorant is Near Threatened (Taylor et al. 2015). The same classifications apply globally, except that the Damara Tern is Vulnerable and the Caspian Tern of Least Concern (BirdLife International 2017). In order to conserve remnant populations it will be necessary to prevent further loss of breeding habitat, restore some former habitats and provide suitable, alternative habitat.

Source:

BirdLife International. 2017. IUCN Red List for birds. Downloaded from <http://www.birdlife.org> on 09/12/2017.

Braby J. 2011. The biology and conservation of the Damara Tern in Namibia. PhD thesis, University of Cape Town.

Taylor MR, Wanless RM, Peacock, F. (eds) 2015. The Eskom Red Data Book of Birds of South Africa, Lesotho and Swaziland. BirdLife South Africa, Johannesburg.

Authors: RJM Crawford, AB Makhado, BM Dyer

Photographs: RJM Crawford



Africa's only gannet, the Cape Gannet

By: AB Makhado, BM Dyer, L Upfold and RJM Crawford
Photograph: RJM Crawford

GANNETS (SULIDAE)

Africa's only gannet, the Cape Gannet is endemic to the Benguela upwelling ecosystem off south-western Africa. **Cape Gannet *Morus capensis***

2015 National Red List status: Vulnerable
2017 Global Red List status: Endangered

In South Africa the Cape Gannet breeds at three localities: Bird Island (Lambert's Bay) and Malgas Island in the Western Cape and Bird Island (Algoa Bay) in the Eastern Cape (Fig. 2).



Above: Map showing the locations of South Africa's three Cape Gannet colonies.

Protected by:

Sea Birds and Seals Protection Act (No. 46 of 1973); Threatened or Protected Species regulations of the National Environmental Management: Biodiversity Act (No. 10 of 2004).

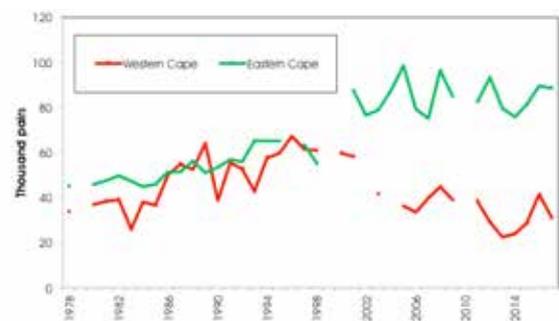
Conservation measures:

- All colonies are protected by CapeNature and SANParks;
- Long-line fishing permits include conditions to limit the by-catch of birds;
- Mortality inflicted by seals near colonies is controlled through removal of damage-causing animals.

Population trend: The overall population declined from about 250,000 pairs in the 1950s and 1960s to 133,000 pairs in 2017. This was mainly the result of a decrease in Namibia's gannet population of > 90% following the collapse of the sardine resource there in the 1970s. Lipid-rich sardine and anchovy are favoured prey of the Cape Gannet.

Whereas Namibia held > 80% of the global Cape Gannet population in 1956; 90% of the population was in South Africa in 2017. However, numbers in South Africa, after increasing between 1956 and 2000, have subsequently decreased. Breaking it down by region, numbers in the Western Cape have decreased since 2000 while in the Eastern Cape the numbers have fluctuated about a stable level (Fig. 3). These changes accord with an eastward shift of mature sardine and anchovy off South Africa since the late 1990s, resulting in reduced availability of these prey species to the west coast gannet colonies.

In 2017, the Cape Gannet was re-classified as Endangered by IUCN and the Algoa Bay colony held two thirds of the overall population. The main present threat to the species is a scarcity of prey off Namibia and western South Africa.



Above: Numbers of Cape gannets breeding in South Africa, 1978–2017.

Further information:

Crawford RJM, Makhado AB, Whittington PA, Randall RM, Oosthuizen WH, Waller LJ. 2015. A changing distribution of seabirds in South Africa – the possible impact of climate and its consequences. *Frontiers in Ecology and Evolution* 3: 10, 1–10.



Swift - Greater Crested Tern

(*Sterna Bergii*)

By: AB Makhado, BM Dyer, L Upfold and RJM Crawford
Photograph: Birdlife.org

The swift tern occurs around some coastlines of the south-east Atlantic, Indian and western Pacific oceans. The nominate race *S. b. bergii* is confined to the Benguela upwelling ecosystem off south-western Africa, where it breeds at 22 localities in Namibia and South Africa. Approximately 80% of the South African population breeds in the Western Cape during late summer and autumn, and the remainder breed in Algoa Bay in the Eastern Cape.

Conservation measures:

Applied:

Colonies at major islands are protected by CapeNature or SANParks.

Population and trend:

Numbers of swift terns breeding in South Africa increased rapidly after the recent turn of the century. Less than 5,000 pairs bred annually from 1984–1999, whereas c. 10,000 pairs bred in most years from 2004–2017 (Fig. 1). After 2005, numbers in the north of the Western Cape decreased markedly and most birds now breed in the southwest sector of this province.

Several factors may have contributed to the increase of swift terns including good recruitment to the mature population and an increase in the proportion of mature birds breeding. Furthermore, the increase commenced at about the same time as a large increase in the combined biomass of sardine and anchovy, their main prey in South Africa.

The low fidelity that swift terns in southern Africa often show to breeding localities allowed the population to track shifts in the distributions of their main prey species, anchovy and sardine, since the late 1990s. Thus large numbers of swift terns shifted their breeding from the north to the south of the Western Cape in response to the south- and east-ward shifts of their prey. The population consequently avoided the large decreases incurred by

two other seabirds on the west coast of South Africa, the African penguin *Spheniscus demersus* and the Cape cormorant *Phalacrocorax capensis*, which feed on the same prey but are much less able to shift their breeding localities.

A recent outbreak of avian influenza may affect the population, but the severity of this outbreak has not yet been ascertained



Above: Trends in numbers of swift terns breeding in South Africa, 1984–2017.



Above: The greater crested tern, also called crested tern or swift tern



The small, elusive White-winged Flufftail

By: AB Makhado, BM Dyer, L Upfold and RJM Crawford
Photograph: unep-aewa.org

Species: White-winged Flufftail
Scientific name: *Sarothrura ayresi*
Status: Critically Endangered

Population: The White-winged Flufftail is listed regionally as Critically Endangered, one step away from extinction in the red data listing hierarchy. The global population is possibly numbering fewer than 250 individual birds.

Introduction: The White-winged Flufftail *Sarothrura ayresi* is a small, elusive bird species. First described in 1877 from Potchefstroom by naturalist Thomas Ayres (hence the scientific name, *ayresi*), the knowledge gained about this bird has in the ensuing 141 years been minimal. The White-winged Flufftail is a member of the rail family. Within this grouping are the flufftails, of which there are nine species, occurring only in continental Africa and Madagascar.

The species has been regularly recorded in eastern South Africa from November to March. In South Africa the species is known from approximately 15 high-altitude wetlands, although several of the records are vague. It then breeds in the northern hemisphere (almost 4 000 km north) in high-altitude marshes of Ethiopia, during July and August. Prior to the recent discovery of breeding in South Africa, the only known breeding site was Berga wetland in Ethiopia.

Threats: Destruction and degradation of the species' high altitude grassland habitat have resulted in a situation where its survival in the wild is uncertain. Ethiopian wetlands are threatened by overgrazing and grass-cutting and this may explain why the White-winged Flufftail is not known to breed at other sites that could, potentially, provide suitable habitat, but where overgrazing has

eliminated suitable nest-building habitat. Things are not looking too rosy for the White-winged Flufftail in South Africa, with its wetland habitat threatened by mining, pollution from industrial effluents, incorrect management practices (fire and grazing regimes), domestic and commercial sewage, agricultural runoff, afforestation, damming, draining and invasive alien species.

Interventions: The implementation of a conservation plan (International White-winged Flufftail Single Species Action Plan) through the collaborative efforts of two governments, South Africa's Department of Environmental Affairs and Ethiopian Wildlife Conservation Authority, as well as NGO partners BirdLife South Africa, Middelpunt Wetland Trust and the Ethiopian Wildlife and Natural History Society (The BirdLife Partner in Ethiopia) is being undertaken under the auspices of the White-winged Flufftail International Working Group, African Eurasian Waterbird Agreement (AEWA).

The successful conservation of this species is dependent on a better understanding of the birds' biology and movements. A national White-winged Flufftail working group, chaired by the Department of Environmental Affairs, oversee the research and conservation undertaken in South Africa. A recent scientific study has showed that South African and Ethiopian birds are genetically similar, with only three minor sequence variations between the two populations (Dalton et al. 2018, *African Journal of Ecology* 56: 28-37).

BirdLife South Africa (through the support of the Department of Environmental Affairs, Eskom's Ingula Partnership and Airports

Company South Africa) developed a novel technique using remote photography as a survey method (Colyn et al. 2017, *Ostrich* 88: 235-245; Colyn et al. 2018, Bird Conservation International accepted). This method is the first non-invasive and accurate method of obtaining fine scale data for these rare and elusive railids (i.e. ground-dwelling wetland birds such as rails, crakes and flufftails). The study yielded the first footage of the White-winged Flufftail and shed light on facets of the species ecology and behaviour that had not been able to be studied previously. In the summer of 2017/18 the study yielded the first breeding records for the species for the southern hemisphere, correcting the long-held belief that the species bred exclusively in Ethiopia and was a non-breeding visitor to South Africa.

A first draft of White-winged Flufftail Habitat Management Plans for high-altitude South African sites have just been completed by BirdLife South Africa. A minimum of five sites where the species has been recorded before, are now included within formally protected areas (i.e. nature reserves and biodiversity stewardship protected environments). In Ethiopia, essential work with the community at the main breeding site over the past 20 years, reinforces the ongoing protection of the habitat from grazing during the breeding season.



Air quality managers strengthened for effective implementation of Act

By Veronica Mahlaba



Above: Deputy Minister Barbara Thomson official opened the 13th Annual Air Quality Governance Lekgotla.



Above: The Mitta Seperepere Convention Centre in Kimberly, Northern Cape was packed with air quality managers from across the country.

The Department of Environmental Affairs (DEA) hosted the 13th Annual Air Quality Governance Lekgotla to provide the necessary guidance and support to authorities towards the effective implementation of the National Environmental Management: Air Quality Act (39) of 2004 (AQA). The Lekgotla took place from 1 – 3 October 2018 at Mitta Seperepere Convention Centre in Kimberly, Northern Cape.

All government air quality managers, through the knowledge of what can and should be done gained during the Lekgotla. They were inspired to build, strengthen and fine tune their air quality management interventions towards the implementation of the AQA to contribute to a better life for all. The Annual Air Quality Governance Lekgotla provides Air Quality Officers from all spheres of government with a unique opportunity to discuss and debate ways and means of addressing the various governance challenges and discuss plans for the year ahead.

Speaking at the Lekgotla the Deputy Minister of Environmental Affairs, Ms Barbara Thomson stated that under the late Minister Molewa, the department has witnessed an unrelenting effort to address

the consequences of apartheid's poor environmental planning on historically marginalised communities and put our country on the path to sustainable development that benefits all South Africans.

"Next year marks 25 years since the attainment of our democratic dispensation. This is quite a significant milestone which will allow us to look back at what we have achieved since the democratic government took the reins of power. You must also be brutally honest and undertake collective self-examination with a view of ensuring self-correction with respect to areas where your efforts have fallen short," Deputy Minister Thomson said.

Deputy Director-General: Climate Change, Air Quality and Sustainable Development, Dr Tsakani Ngomane explained that the purpose of the Annual Air Quality Governance Lekgotla is to provide a platform for all Air Quality Officers and officials involved in air quality management to network and foster friendly relations between each other; assist and support one another.

"It is to inform and consult one another on matters of common interest. To co-ordinate their actions

and legislation with one another. A platform to discuss and agree regarding standard methods, practices and procedures; and discuss and agree on common or emerging challenges and the possible solutions to these challenges," said Dr Ngomane.

The National Air Quality Officer, Dr Thuli Khumalo stated that the State of Air Report is important as it enables the people of South Africa to make an assessment of the air quality on the basis of their right to an environment (air in this case) that is not harmful to their health and well-being. "The Report generates the necessary passion for all people to jointly improve or preserve the state of air quality where need be. It enables the government to first know what we are managing and to assess the efficacy of our interventions and improve as necessary, among others," she explained.

Environmental Manger from Coega Development Corporation, Ms Andrea Shirley who reported on the state of air quality management in the Nelson Mandela Municipality and the Eastern Cape said she was pleased to be part of the Lekgotla as it is a good networking opportunity.



About the contributor: Veronica Mahlaba

Veronica Mahlaba is the Senior Communication Officer: Editorial Services at the national Department of Environmental Affairs, serving under the Communications Chief Directorate. 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.

Youth encouraged to take good care of the environment

By Koketso Modiba



Above: Learners and teachers from Mahlale Secondary School receiving R24 500 voucher worth of gardening tools.



Above: Hananani Primary school teachers and learners accepting 200 pairs of school shoes, courtesy of the Department of Environmental Affairs.

The Department of Environmental Affairs together with the Mpumalanga Provincial Department of Agriculture, Rural Development, Land and Environmental Affairs, and the Bohlabela District hosted a climate change and biodiversity prize-giving ceremony at the Pilgrims Rest Environmental Centre in Lydenburg, Mpumalanga, on 19 October 2018. The purpose of the event was to raise awareness on biodiversity.

Leading to the event various primary and secondary schools in the Bohlabela District participated in a schools competition organised by the Department of Environmental Affairs. Each school was tasked with performing different activities such as poetry, singing, drama, presentations and debate which are in line with the theme: Biodiversity contribution in our daily lives.

For their effort in raising biodiversity awareness through debate, Mahlale Secondary School were the recipient of R24 500 voucher worth of gardening tools. The Department of

“There will be no agriculture if we do not take good care of the environment, there will be no economy in South Africa if we do not take care of agriculture.”

Environmental Affairs also donated 200 pairs of school shoes to Hananani Primary school. This is after the Department of Environmental Affairs identified this school as were most of their learners who come from disadvantaged backgrounds are.

Ms Tinyiko Tshabalala from the Department of Environmental Affairs said they are very happy with the quality of the presentations, especially the primary school kids.

“When a young kid who is about nine or ten years old knows so much about the environment we are happy because we know that we are raising environmental champions,” she said.

Mr Vusi Mthombeni, a teacher at Hananani Primary school said they appreciate the goodwill showed by the Department. “We feel very honoured as most of our kids come to school barefooted and as a school we really appreciate it and the Department of Environmental Affairs should keep on doing the great job to other schools as well. At Hananani Primary school we will always remember that the Department of Environmental Affairs exists in South Africa,” he said.

Corroborating his appreciation, Mr Harry Ndlovu, the District Director of the Bohlabela District said without a good environment, there would not be agricultural activities in the country.

“There will be no agriculture if we do not take good care of the environment, there will be no economy in South Africa if we do not take care of agriculture. Let us take care of the environment. Food security will only come if we take care of this soil,” he said.



About the contributor: Koketso Modiba

Koketso Modiba is a Branding, Corporate Image and Exhibitions Intern in the Corporate Communication Directorate. Mr Modiba possess a B-tech in Public Relations Management and he also held a position as a Communication Trainee at Odi District Hospital.

School kids shine at recycling awards

By Salome Tsoka

The Department of Environmental Affairs and Coca Cola Beverages South Africa (CCBSA) gathered at the Environment House in Pretoria on 6 December 2018 to celebrate the annual CCBSA School Recycling Awards which seeks to not only raise awareness about waste management and recycling in schools but also represent one of the ways CCBSA is taking an active stand and responsibility on post-consumer waste.

Every year, CCBSA looks forward to engaging primary and high school students in issues surrounding pollution, and to empower them by inspiring change through recycling plastic.

The general consensus at this year's Schools Recycling Programme (SRP) was that waste was not a burden, but an opportunity.



Above: The learners collected waste material like metal, paper and plastic and made new products such as art pieces, toys and clothing. The intention behind the programme is to create a generation of South Africans committed to reduce, reuse and recycling their litter and waste in order to create a cleaner South Africa.



Above: Ms Tshidi Ramogase, Vice-chair of Public Affairs and Communications Director at CCBSA said that The Schools Recycling Programme is part of CCBSA's commitment to creating a waste-free South Africa and in line with Coca-Cola's global commitment of a World Without Waste (WWW) by 2030. This year, the programme recovered 2 324 tonnes of recyclable material, which is almost double the amount of 1 168 tonnes collected last year.



Above: Deputy Minister Barbara Thomson said: "The increased level of participation from our schools and learners in the schools recycling programme is very encouraging and demonstrates an ever increasing awareness among young people of our shared responsibility to look after our environment."



Above: Deputy Minister Barbara Thomson said: "Through this competition you learned teamwork and the ability to apply what is learned in the classroom to real-world problems. I would like to congratulate all the award winners and participants. Remember all of you are winners because through your efforts you have made a difference to our environment."



Above: Waste recycling businesses such as PETCO and EXTRUPET also recognised recycling businesses that made a difference in their communities. The School Recycling Programme has over the past seven years created 78 jobs for young people as Recycling Representatives, with 24 of the young people finding permanent employment and 36 collectors trained and supported.



WE RECYCLE!





HOW SOUTH AFRICAN MARINE PROTECTED AREAS BENEFIT PEOPLE



WHAT ARE MPAS?

A Marine Protected Area (MPA) is a part of our coastline or our ocean that is specially protected, for the benefit of people and nature. They help manage part of the marine environment to promote fisheries sustainability, keep marine ecosystems working properly, and protect the range of species living there, helping people to benefit from the marine environment.

South Africa has a rich heritage of coastal and ocean ecosystems. While our land-based heritage is well protected through various national and other parks, many important marine areas have not been formally protected. However, this is changing as the Department of Environmental Affairs is in the process of declaring **new Marine Protected Areas**.

These MPAs will protect our **ocean heritage** for future generations and **support fisheries sustainability**, risk management, adaptation to climate change and **tourism**.

MPAs are so much more than simply **ocean National Parks** because of their role in **fisheries sustainability**. The returns on having well designed and properly run MPAs can be measured in their **economic, environmental and social benefits**.

This fact sheet explains the role of MPAs in meeting our Ocean economy and Sustainable Development Goals. MPAs help **safeguard** the marine environment and the services provided by **healthy oceans** including food, climate resilience, medicines and other benefits.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

SANBI

Biodiversity for Life

South African National Biodiversity Institute





FISH FOREVER

MPAs support fisheries sustainability by **protecting breeding and nursery areas**, providing areas for resources to **recover from overuse** and through spillover or **flow of benefits** to adjacent areas. In an increasingly industrialised ocean, MPAs help maintain **food and job security** provided by the fisheries sector.



MPAs provide current and future generations with economic opportunities

Recovery of fisheries resources

Letting life bounce back & seeding new life: many of our fish stocks are severely over-exploited after years of heavy fishing. MPAs allow ecosystems and the animals and plants living in them to recover. MPAs provide **safe spaces** in which fish can **breed undisturbed**, and can protect spawning and nursery areas that let young fish mature into adulthood, without the pressure of fishing.



Left: Fish found nowhere else on earth! A red roman in the De Hoop MPA
Right: Essential Fish Habitat in the proposed uThukela MPA



MPA establishment is Essential to Maintain Eco-certification of the South African deep-sea trawl fishery – Vital to food and job security provided by this sector

- Current worth of fishery: **R4 Billion**
- 92% of employees are previously disadvantaged with 70% of processing jobs held by **women** and 40% being women who are sole breadwinners in **single-parent families**
- Analysis shows that loss of certification will decrease the Net Present Value (NPV) of the fishery by 35–40% over a 5-year period, with a potential loss of about 12,000 jobs
- Loss of eco-certification will cause loss of access to lucrative international markets and negative impacts on the domestic market

BIGGER, BETTER, AND MORE ABUNDANT

In many fish species, the older and bigger the females get, the more **fertile and productive** they become. This is different to humans and most mammals, whose breeding ability declines after a certain age. Where fish are allowed to mature undisturbed in a no-take area, **the returns increase exponentially** as their number of offspring increases.



These young fish can move outside the no-take area into exploited areas. This flow of benefits is known as the **“spillover effect”** where fish populations build up inside the MPA and eggs and young from the large breeding adults can **restock fishing grounds**.

One study in the Tsitsikamma no-take MPA in the late 1980s found that red roman fish numbers were 42 times higher in the protected area when compared to nearby unprotected fishing grounds. This was after just two decades of protection allowed the species to recover. Such gains can be undone in a matter of months, if fishing starts again. Another study adjacent to the Goukamma MPA showed increases in fish catch rates without disadvantaging fishers. These are examples of some of the benefits of no-take zones of MPAs to sustaining fisheries.



STREAMLINING DECISION MAKING TO UNLOCK THE OCEAN ECONOMY

MPAs can help streamline **environmental authorisations** and represent a **practical solution** for managing Ecologically and Biologically Significant Areas (**EBSAs**). By setting aside areas of representative habitat types, other areas can be freed up for development. The protected areas also provide reference areas against which environmental impacts of activities can be measured. MPAs create **certainty for development planning**.



Co-existence of ocean industries, fisheries and protection is feasible through Marine Spatial Planning and effective design of Marine Protected Areas

BIO-DISCOVERY AND BENEFITS FOR THE BIO-ECONOMY

Marine species may produce powerful medicines and other compounds and services that have yet to be discovered. These provide **untapped possibilities for the bio-economy**.



One of our South African seaslug species, the silver seaslug *Leminda millecra*, produces a compound that fights against **oesophageal cancer**.

The most powerful compound ever tested against cancer comes from a deep water creature found only in the Agulhas ecoregion of South Africa.



JOB CREATION & SUPPLEMENTARY LIVELIHOODS

MPAs can provide important alternative sources of **income and livelihoods** for many people. Jobs associated with the marine wildlife economy, such as tour guiding, scuba diving, shark cage diving, turtle, bird and whale watching are all possible close to protected areas. Local communities can take advantage of the opportunities from tourists who come to otherwise unknown areas, because they are protected. This allows for entrepreneurial enterprises such as family-run restaurants, curio and craft sales, local produce sales and 'home-stay' type accommodation. MPAs also **create jobs** linked directly to the MPA, including tour guides, field rangers, park managers, gate staff, hospitality staff, maintenance staff and in-house educators.



ADAPTATION TO CLIMATE CHANGE

MPAs help maintain **resilience** in ecosystems under stress from climate change. Resilience in ecosystems contributes to resilience for people living in coastal communities. MPAs help maintain genetic diversity, critical for species to **adapt** to climate and other changes.

Coastal protection

Healthy shorelines **protect and buffer coastal communities and infrastructure** from extreme weather, tsunamis and sea-level rise. Protection of healthy shorelines now yields **future benefits** and safeguards the social and economic wellbeing of coastal communities.



Benchmark for measuring change

MPAs help us to understand what a healthy ecosystem should look like. We can use this information to **measure change** in unprotected areas. These scientific baselines,

enable us to measure the impacts of climate change, invasive alien species, or pressure from fishing, mining and other activities outside the MPA. They are **living laboratories**.

MPAS INCREASE TOURISM REVENUE

MPAs attract local and international tourists. The estimated value of South African marine ecotourism is **R428 million** in direct value, and at least **R2,130 billion** in overall value to the economy. The African penguin colony at Simonstown and the coral reefs of Sodwana Bay attract thousands of visitors every day. South Africa's oceans have species that occur nowhere else on earth and offer incredible encounters with seabirds, turtles, sharks, rays and other animals that **local and international tourists** want to experience. South Africa's seascapes include beautiful coasts, reefs, underwater forests, important cultural and historic sites and even sub-marine canyons home to 'Pre-historic' coelacanths.



Left: Rangers doing monitoring work in the Aliwal Shoal MPA
Right: Officer in the Trafalgar MPA

In addition to contributing to food and job security, climate resilience and tourism development, MPAs have additional benefits to people. These include **educational, cultural, historical and spiritual benefits**.

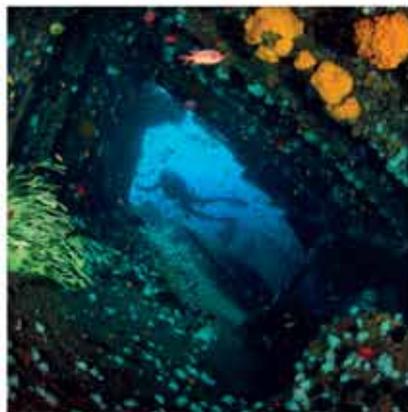
Outdoor Classrooms

MPAs are wonderful resources for education and provide **learning opportunities** for people of all ages. They give children and adults a chance to explore and enjoy our ocean heritage, learning about South Africa's unique environment while having fun in nature.



Preservation of Culture and History

Our coastlines have cultural and historic meaning for many South Africans – MPAs can help look after these special places, such as archaeological sites, traditional fishing areas and can help support age-old cultural practices.



Where MPAs allow some fishing or harvesting of species such as mussels, people gain a valuable **source of protein**, more importantly this allows communities to continue with the historical subsistence practices that maintain their **cultural heritage**.

Sites of historic significance

Wrecks and other sites of archaeological and historical interest help diversify tourism opportunities and development. The wreck of the Produce within the Aliwal Shoal MPA is a popular dive site.

Spiritual spaces

The sea is a place of **cleansing and spiritual renewal for many South Africans**. A powerful spiritual connection to our ocean enhances our lives and sustains us emotionally.



In the Helderberg MPA, a church member receives baptism

INCREASING OCEAN PROTECTION

South Africa is in the process of declaring several new MPAs to advance protection from 0.4% to 5% of our marine environment. This network represents the diversity of South Africa's marine ecoregions and ecosystem types.

These new MPAs will:

- Protect offshore ecosystems for the first time, some of these contain Critically Endangered habitats and species.



- Help overexploited species to recover and improve fishery yields.
- Manage Ecologically and Biologically Significant Areas (EBSAs), Sensitive habitats such as coral and sponge grounds and Essential Fish Habitats.
- Improve protection of well-known animals such as whales and dolphins, sharks, turtles and seabirds to ensure their survival and enhance tourism opportunities.
- Streamline environmental decision making, support the ocean economy and contribute to Sustainable Development Goals.

FUTURE FRIENDLY OCEAN MANAGEMENT

MPAs provide opportunities for future generations by supporting sustainable development and ensuring the ocean continues to provide benefits.

Our children need us to protect our oceans – by protecting our oceans today we are providing current and future generations with food, climate resilience, job opportunities, medical breakthroughs and spiritual connections. By protecting ocean ecosystems we are protecting ourselves, and giving the people of South Africa options for the future.

HOW MPAS CONTRIBUTE TO SUSTAINABLE DEVELOPMENT GOALS

The new MPA network helps South Africa progress towards the **Sustainable Development Goals (SDG)** and the Convention on Biological Diversity (CBD) target of **10% protection by 2020**.

14.1	14.2	14.3	14.4	14.5	14.6	14.7
<p>SDG 14 TARGETS:</p>						
<p>By 2025, prevent and significantly reduce marine pollution of all kinds</p>	<p>By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts</p>	<p>Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation on all levels</p>	<p>By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices</p>	<p>By 2020, conserve at least 10 per cent of coastal and marine areas</p>	<p>By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing</p>	<p>By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources</p>

Leadership Profile:

Ms Vanessa Bendeman

Chief Director for Corporate Legal Support and Litigation

By Veronica Mahlaba

MBendeman joined DEA in 2007 as the Director for Corporate Legal Support and Appeals. Her Chief Directorate: Corporate Legal Support and Litigation are responsible for providing corporate legal advice to the entire Department to ensure good governance and compliance with all relevant legislation. "My Chief Directorate also manages all civil litigation; the vetting of contracts and ensuring that we comply with our constitutional mandate," she explained.

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

I love being a lawyer and being able to interpret and implement legislation in such a manner that promotes efficiency in the Department. I am passionate about the protection of our environment and strive to make a difference by promoting compliance with our environmental legislation.

What, in your opinion, makes a good leader?

A good leader is someone who can lead with a firm but gentle hand. I believe that good leaders are respected but not feared. They are able to inspire their staff to achieve excellence by leading from the front.

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

We are a high performing and fast paced Department which is very challenging because there is no time to stop and pause. We are much output driven and it feels like we are always running. It is rewarding

when we are able to reflect on our achievements which makes all the hard work worth it.

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

During the period when I worked as a State Prosecutor, I was able to provide numerous victims of crime with the closure that they needed. It was a very rewarding experience for me to be in a position to directly make a difference in the protection of our citizens.

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

Enjoy being young and having the freedom to travel and explore different countries and cultures. Do not be afraid of new challenges or pushing the boundaries for yourself.

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

There is no substitute for hard work and being meticulous. Law is extremely interesting and in order to become a successful attorney and manager, we should push ourselves to always grow and want to learn more.

Being a lawyer offers a wide spectrum of opportunities in different sectors and a person should follow a path that supports their strengths and their passion.

Quick facts:

Home town: Durban, KZN

Role model: My mom.

Favourite quote/motto:

My favorite quote is by the legendary Brazilian footballer Pele: "Success is no accident. It is hard work, perseverance, learning, studying, sacrifice and most of all, love of what you are doing or learning to do."

Hobbies: Cooking and reading.

I am currently reading: An autobiographical book by Malala Yousafza called "I am Malala" which is the story of the girl who stood up for education and was shot by the Taliban.



Climate change threatens the future of biodiversity

By Salome Tsoka

Herbalist and traditional healer, Mr Ephraim Mabena, from Mamelodi has toiled the land above Section H which forms part of the Magaliesberg Mountain for more than 17 years. Today, that land has become the Mothong African Heritage Trust, a sacred ground for some of the country's biodiversity.

However, he tells us that climate change threatens it and some of its indigenous medicinal plants. "The effects of climate change on this mountain has led to the deaths and extinction of some indigenous medicinal plants. Trees that would bear wild fruit now rot before the fruits have matured," Mr Mabena says.

According to the Gauteng Department of Agriculture and Rural Development (GDARD) spokesperson, Mr Andile Gumede, the South African National Biodiversity Institute (SANBI) projected changes in rainfall and temperature patterns for South Africa which affects general plants including medicinal plants.

"SANBI foresee the shifting of the savanna biome encroaching into the grasslands biome. This means that savanna habitat will be increased, and grassland biome will be lost, inevitably negatively affecting the ecology of biodiversity and indeed

medicinal plant species in both these biomes," Mr Gumede said.

The Mothong African Heritage Trust is home to a bird sanctuary, numerous indigenous medicinal plants and is also a small haven for small animals such as bush pigs, porcupines, rabbits, baboons, jackals and snakes.

Mr Mabena says the mountain holds a lot of medicinal indigenous plants including various aloe species, ummilo, a tree whose fruit is used to treat colds and flu; umdladlathi, which eases the pain in swollen ankle and knee joints and wild dagga, which is said to be effective in the treatment of various cancers.

However, Mr Mabena says that climate change is changing even the indigenous clock of nature. "Places like these are sacred, especially in African culture where we learn that if a specific tree is blooming in March, then we know that it is time for harvesting or for planting. Now if these trees are affected by climate change, we are losing that indigenous calendar," Mr Mabena said.

He also adds that the effects of climate change are like a ripple effect affecting the whole ecosystem and biodiversity of an area.

"Plants that produce seeds or fruits no

longer produce those seeds and fruit anymore. This then affects the insects which feed off these plants and the birds which feed off of those insects. Insects and birds that relied on those particular trees are now forced to migrate.

"But you also need to remember that when fruit bearing trees start rotting before their fruit is ripe, this attracts other pest like flies which often lay eggs and spread their infestation to other parts of the land," Mr Mabena said.

Mr Gumede said GDARD has not conducted specific research on the effects of climate change on medicinal plants but literature from other countries such as Pakistan and India suggests that climate change has an impact on several medicinal plants.

"They found that climate change negatively affected chemical composition, distribution and abundance, reproduction success, flowering phenology and ultimately the survival of medicinal plant species. If this has been positively observed elsewhere it can then be assumed that such climatic changes as projected will have similar effect to medicinal plant species in South Africa," he said.



Bioprospecting key to sustainable youth development

By Salome Tsoka



Above: Ms Nomsa Ngwenya explains the benefits of her products made from the moringa plant.

According to Statistics SA's quarterly labour force survey, more than 430 000 people were unemployed last year and an estimated 58% of them were between the ages of 15 and 34 years old. Organic farmer and business woman Ms Nomsa Ngwenya would have been one of them had she not been inspired to join the agricultural sector right after graduating. Today, her multi-million rand NTL Baraka Eco-Farming and Tourism business is proof that bioprospecting may be the key to sustainable youth development.

Bioprospecting in South Africa provides numerous opportunities for the unemployed to explore ways to use the country's mega diversity in a sustainable way for commercial gain. Ms Ngwenya's NTL Baraka Eco-Farming and Tourism is a 42 hectare farm in Tzaneen, Limpopo which uses the land to produce organic tomatoes, cucumbers, dry beans and potatoes. Their biggest product is

"Bioprospecting in South Africa provides numerous opportunities for the unemployed to explore ways to use the country's mega diversity in a sustainable way for commercial gain"

the moringa plant which has helped the farm penetrate the European market with clients in France, Italy, Germany, Spain, Switzerland, Brazil, Qatar, Slovenia, the Netherlands and United States of America.

Ms Ngwenya says her hardworking parents and lecturers encouraged her to go beyond her studies where she found her feet in agriculture.

"I remember before my father died in 1999, he came to visit me at the University of Limpopo. He wanted to know my plans after graduation and

when I mentioned job hunting, he was very disappointed. That made me think of creating employment opportunities.

"One of my professors also had started farming immediately after graduating and this inspired me to also go the agricultural route," she said.

Now, Ms Ngwenya is training her daughters to take over the bioprospecting business once she's gone.

"I have two daughters. My eldest daughter studied microbiology at the University of Limpopo and like me, she thought of looking for a job after graduation but I convinced her to stay with me. I knew I needed someone with her skills to analyse our products in future."

"I feel if they understand what I'm doing in terms of the farming, market

penetration and complying with what the market needs, then they'll be able to continue when I'm gone," Ms Ngwenya said.

Ms Ngwenya's bioprospecting journey started slowly in 2002 where she started farming tomatoes and cucumbers which she supplied to some Pick n Pay outlets in Pretoria. Her business only started to grow after she was introduced to the moringa plant in 2007.

Over the years, this tropical plant's popularity has grown with many describing it as a superfood, which is rich Vitamins A, C, and E as well as calcium, potassium, and protein. Its healing properties are also said to cure and be preventative measures for digestive problems, diabetes, heart and liver diseases.

NTL Baraka Eco-Farming and Tourism now employs 25 permanent employees and also hires an additional 15 casual employees during the planting and harvesting seasons. Ms Ngwenya says she currently works with ten farmers in the region who help her grow the moringa plant which is the farm's most popular plant.

"We currently have an agreement with ten farmers who grow the moringa tree for us. We work on their land and help them grow the moringa quantities that are required. We buy moringa from the farmers and ensure that they learn the proper way they can access the market.

"The farmers grow other plants as well but because of the area, sometimes these crops would fail. We have a lot of drought and too much sunlight, so together we needed a tree that would grow and provide a micro climate to help the other plants survive the heat," Ms Ngwenya said. Ms Ngwenya attributes much of

her success to various companies and government departments including the Department of Rural Development which assisted her acquire land and the Department of Agriculture, Forestry and Fisheries' LandCare programme that taught her how to care for the environment and to use agricultural natural resources in a sustainable manner. She also received support from the University of Limpopo and CBI, a European company that helped her penetrate the European market.

Ms Ngwenya says one of her biggest clients is Naturex, a company in France which produces healthy food and smoothies infused with the moringa plant. She also adds that she is still working on growing her local market by trying to introduce and produce healthy products like iced tea and moringa pesto for the South African public.

Ms Ngwenya says she always envisioned that her multimillion rand business would one day be big. She tells us that through her experience with other commercial farmers, she learnt that the only way she could make her farming a legacy for her children was if she made it a business.

"I figured the farm would be a legacy if I treated it as a business. So whoever will carry on after me will continue to build the business, help create jobs, help sustain the environment and make sure that people are out of hunger completely," she said.

Ms Ngwenya is also a champion for alleviating poverty and says that creating a world that has no poverty with the youth being employed is her ultimate goal.

"I see myself as an advocate for alleviating poverty especially when the young women working at the



Above: Ms Nomsa Ngwenya shows off the various foods and products she makes from the moringa plant.

farm come to me and thank me for how I have helped them achieve their own dreams," she said.

Ms Ngwenya says she hopes that in time, her products would have entered the South African market as they have the European market.

"In ten years I want us to have penetrated the South African market like we've done with the European

market. I'm looking at this farm and this moringa plant as a means for government to achieve their sustainable developmental goals as well to ensure that people have jobs. I want my business to grow both locally and internationally so that I can inspire young people to be more involved in the agricultural and bioprospecting sector," Ms Ngwenya said.

BIOPROSPECTING ECONOMY LIVING TREASURES



Climate change adaptation projects

By Mpfunzeni Tshindane

The South African National Biodiversity Institute (SANBI) is South Africa's National Implementing Entity (NIE) of the Adaptation Fund. SANBI has two projects that are currently under implementation namely:

- Building resilience in the greater uMngeni catchment project - (US\$ 7,495,055) which aims to increase resilience of vulnerable communities in the uMgungundlovu District of KwaZulu Natal.
- Taking adaptation to the ground: A Small Grants Facility for enabling local level responses to climate change" which is being implemented in the Mopani and Namakwa Districts in the Northern Cape and Limpopo Province - (US\$2,442,682). The project seeks to provide small grants that enable vulnerable communities to directly implement local adaptation responses.

In the implementation of the Small Grants Facility project, local government officials from the Mopani and Namakwa District Municipalities have been instrumental in identifying 12 vulnerable communities and organisations that require tangible adaptation interventions. To date, more than 1500 direct beneficiaries have benefited through the project's investments in livelihood, agricultural and settlement interventions. In the uMngeni Resilience Project (URP), SANBI has partnered with the uMgungundlovu District Municipality. Interventions being implemented in the URP project include climate smart agriculture, climate resilient livelihoods, early warning systems, and climate proofing households and infrastructure in rural settlements.

Ms Suzan Mathipa is one of the Small Grants Facility's project beneficiaries in the community of Mamanyuha in the Mopani District. Following the establishment of a climate smart food garden in the community, Vho Suzan said that she is happy to see vegetables growing in dry conditions following several seasons of declining yields before the project's interventions.

Ms Lungeleni Sibiya from Swayimane area in the uMgungundlovu District is a small scale farmer who is one of the project beneficiaries in the URP. Due to changes in rainfall intensities in the area, her production levels for beans and amadumbe had been affected. Through the project's interventions, she has been able to increase her production levels. This is helping Mrs Sibiya and other beneficiaries in the area to provide food for their families while selling their excess produce.

Both projects are in their third year of implementation. They are illustrating how the building of partnerships with municipalities and local communities empowers rural communities, and facilitates the robust and effective implementation of climate change adaptation responses.

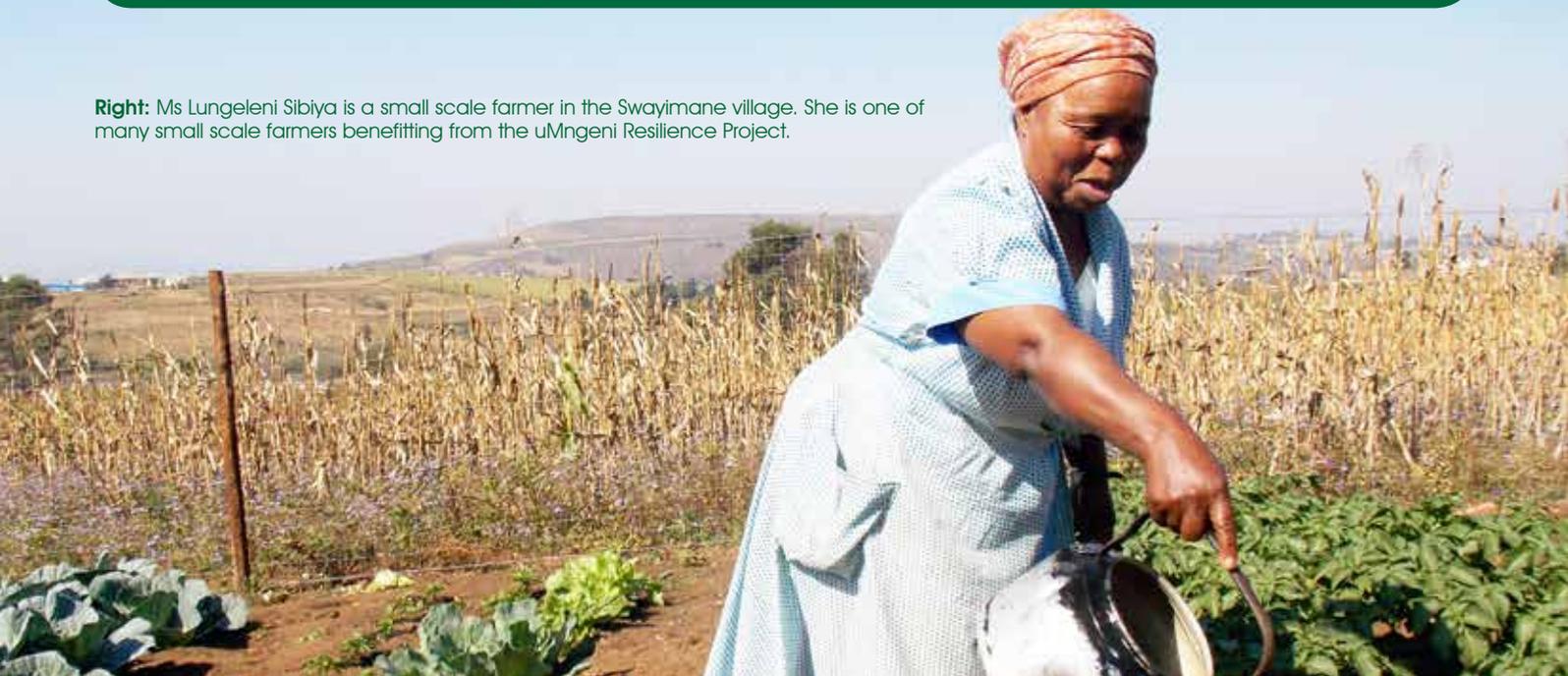
The overall design and implementation of the Small Grants Facility project has empowered the Mopani District Municipality to conduct local Vulnerability Assessments and support local responses to climate change adaptation interventions. This partnership continues to inform the District's processes of developing the next 5-year Integrated Development Plan" mentioned Mr Ntshavheni Mudau (Environment, Air Quality and Waste Management Manager in Mopani).



About the contributor: Mpfunzeni Tshindane

Mr Mpfunzeni Tshindane is a Project Coordinator for SANBI's Green Climate Fund programme of work under the Climate Funds Division. Mpfunzeni is also responsible for supporting the implementation of the Adaptation Fund's Small Grants Facility project in the Mopani and Namakwa District

Right: Ms Lungeleni Sibiya is a small scale farmer in the Swayimane village. She is one of many small scale farmers benefitting from the uMngeni Resilience Project.



Cabinet approves a network of 20 new Marine Protected Areas

By Tshego Letshwiti

Pictures by Steve Benjamin, ACEP Imidia Project, Peter Chadwick



Above: The Red Roman Fish which only occurs in South Africa.



Above: MPA Tourism Activities.



Above: Amathole Offshore MPA includes a high diversity of lace corals.

After a four-year process, Cabinet has approved a network of 20 Marine Protected Areas (MPAs) that are representative of South Africa's rich coastal and ocean biodiversity. This will increase the ocean protection within the South African Exclusive Economic Zone (EEZ) from 0.4% to 5%.

"This network of 20 MPAs, approved by Cabinet in October 2018, will considerably advance South Africa's efforts to protect our ocean heritage for future generations. They will contribute to fisheries sustainability, advance marine ecotourism, and will help maintain resilience in ecosystems that are under stress from climate change", said the Acting Minister of Environmental Affairs, Mr Derek Hanekom.

MPAs are more than just ocean National Parks because of their role in fisheries sustainability. The returns on having well designed and properly run MPAs can be measured in their economic, environmental and social benefits. They help meet the Ocean Economy and Sustainable Development Goals and help safeguard the marine environment and the services provided by healthy oceans including food, climate resilience, medicines and other benefits.

"South Africa's ocean space, which is one of the most varied in the world, is highly productive with rich biodiversity providing living and non-living resources that contribute significantly to the country's economy and to job creation. As we grow and intensify the ocean economy, it is essential to provide the necessary protection to a representative sample of marine ecosystems, thereby ensuring their resilience to human use and impact, and to the impacts associated with climate change," said Minister Hanekom.

The MPAs provide safe spaces in which fish can breed undisturbed and they are essential to maintaining eco-certification of the South African deep-sea trawl fishery. This certification process assesses whether habitat and nursery areas for the hake fishery, are adequately protected. MPAs also contribute to growing South Africa's marine eco-tourism sector by providing undisturbed natural habitat for various animals.

An adequate network of MPAs will also present the basis for ongoing resilience to the impact of climate change. Oceans are an essential component of the climate system, absorbing and transferring heat, and regulating the exchange of carbon dioxide (CO₂) with the atmosphere. With increasing CO₂ levels, and rising ocean temperatures, this regulatory

capacity is at risk. The network of MPAs will assist in building ecological resilience, and therefore social and economic resilience in the growing ocean economy.

Extensive consultation and negotiation with all stakeholders took place, which sought to ensure that the network is aligned with relevant policies and priorities for fisheries, aquaculture, tourism, as well as marine mining and oil exploration, while also protecting ecologically important areas.

In terms of the tourism industry, MPAs attract local and international tourists and the estimated value of South African marine ecotourism is R428 million in direct value, and at least R2, 130 billion in overall value to the economy. South Africa's oceans have species that exist nowhere else on earth and offer incredible encounters with seabirds, turtles, sharks, rays and other animals that local and international tourists want to experience.

"The efforts to increase the protection of marine ecosystems is within this global and national context. MPAs are important in maintaining ecosystem functioning and structure as well as protecting biological diversity. The approved 20 new MPAs are a significant step towards meeting the global 2020 target," added Minister Hanekom.



About the contributor: Tshego Letshwiti

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.

Restoring Sentinel Hiking Trail

By Nomvuyo Mlotshwa



Above: Participants rehabilitating gabions on the Sentinel Hiking Trail.



Above: Project participants rehabilitating the 4.5 kilometres of block paving on access road to the Sentinel Hiking Trail.

South Africa is adorned with fascinating sceneries of mountains, beaches, rivers and plains that attract flocks of visitors to the country. The acclaimed Tugela Falls, the world's second tallest waterfall is such place.

This renowned tourism destination is located in the Northern Drakensberg and the spectacular trail to the Tugela Falls at the top of Mont-Aux-Sources starts at the Sentinel Car Park. Hikers are also assured of other spectacular sights, such as Devil's Tooth, the Maluti Mountains, Drakensberg Amphitheatre, Broom Hill and the Mahai Waterfall. The sharp eyed botanists will be pleased to see the shy *Protea nubigena* which only grows on the slopes of the Sentinel.

The Department of Environmental Affairs (DEA) through the Environmental Protection and Infrastructure Programmes (EPIP) invested 20 million rands in conserving the country's natural resources and cultural heritage by upgrading the access road to the Sentinel Hiking Trail in QwaQwa, located in the Maluti-A-phofung municipality.

The EPIP seeks to capacitate unemployed communities by providing job opportunities, practical training and personal development skills that will equip participants to

contribute to the development of the country, thus training interventions such as how to start a business, leadership skills, financial management, occupational health and safety and first aid training was offered to participants.

This exceptional project is set to run for 4 years and 8 months, and currently 177 participants are employed with 44% of participants being women and 56% youth. The project supervisor, Mr Malefetsane Zondo, a 51 year old father of six, acclaimed the project. "This project has improved lives of people in the community and reduced poverty. With the income earned from it I have managed to build a three room house and can buy groceries for my family. Not only did I learn handyman skills like paving but working as a supervisor to so many workers, I have also gained valuable leadership skills."

Twenty local emerging SMME entrepreneurs have thus far been used by the project to provide services such as the transportation of participants to and from the project site, supplying building material and equipment, facilitating training and medical testing of participants, connecting electrical works, conducting audits and the occupational health and safety measures in the project.

Project participants are substantially primed to be skilled artisans and therefore have attained expertise such as bricklaying and building as they were actively involved in the construction of the tourist information centre, construction of block paving on the hiking trail, installation of the clear-view fence and its earth works, rehabilitation of old gabions and construction of new gabions. "This project really empowered us as women to be independent, now I know how to paint and to pack gabion stones. It also helped to reduced crime in the community," said the 35 year old project participant, Ms Maletsatsi Mofokeng.

"This has been a demanding and ambitious project as it involved working on difficult terrain to the site and having to brave extreme weather conditions at times when it is snowing and heavy rains," said Mr Rawlings who is the project manager. He continued saying, "The steep and narrow hiking trail also gives us limited working space. However participants are much willing and humble to learn, they climb the mountain during all these seasons". As such 4.5 kilometres of existing block paving, chain ladders and gabions were rehabilitated, the old fence was removed and a borehole was installed for the 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.

Cleaning-up the Hennops River in Gauteng

By Kabelo Phakoe

The DEA's General Waste Directorate worked together with the FRESH NGO in a project to restore the Hennops River from the 19th - 28th of October 2018.

The Hennops River cuts across the Cities of Ekurhuleni, Johannesburg and Tshwane, and unfortunately about 100km of the river is polluted and the water is contaminated to a point it has accumulated a foul smell sludge that looks pitch black.

Within this 100km the river comprises of wetlands and a biodiversity corridor that connects nature reserves. Also along this river is various formal and informal settlements which do not receive waste removal services and have turned to the river as a dumping side hoping that as soon as they toss the waste in the river it will float away and they will not have to deal with it.

The objective of the project was to remove and recycle the huge

amounts of waste from the river, in addition to that the community around the hotspots areas were educated about better waste management practices.

After thorough consultation with the community leaders and other stakeholders, clean-up campaigns were conducted throughout the river stream in the three municipalities to clean the solid waste and this involved representatives from the different municipalities and community leaders.

The community pointed out that they are aware of the waste and illegal dumping issue and are not happy about the current conditions that they live in however they have no other option as they do not receive waste removal services. To clean the sludge in the river, effective micro-organisms were introduced in the river. Effective micro-organisms (EM) are biological treatments developed

from multicultural anaerobic and aerobic beneficial microorganisms, the EM uses naturally occurring microorganisms which are able to purify and revive the river water.

This improves the water quality and restore aquatic habitats and ecosystems. Importantly, part of this project is to create sustainable waste management opportunities, as such waste pickers from all the areas where clean ups were conducted benefitted from the collected material and were also part of the clean ups.

The project has produced good results, about 5cm visibility has been achieved on the water and the fish eagles seems to be flying back to the river towards the Witwatersrand stream. There is still a lot of work to be done however the private-public-partnership will afford us a good chance to win the battle against pollution.



About the contributor: Kabelo Phakoe

Mr Kabelo Phakoe is in the Directorate: General Waste. He holds an Honours Degree in Geography from University of the Witwatersrand.



South Africa needs to ban microplastics by 2021

By Salome Tsoka



Above: Delegates from the Department of Health, Department of Trade and Industry, Plastics SA and UNISA gathered at the dialogue.



Above: A close up of a sample of micro plastics and microbeads.

The war on plastic is one that is fast gaining momentum as more world leaders call for immediate action to ban this non-biodegradable material. According to Dr Yazeed Peterson, Director of Marine and Coastal Pollution Management, the country is under global pressure, especially from Commonwealth countries to ban microplastics by 2021.

This was shared during the Microplastics and Microbeads in the Environment Dialogue at the Sheraton Hotel in Pretoria on 22 November 2018. The Department of Environmental Affairs (DEA) partnered with the Water Research Commission (WRC) to discuss ways key stakeholders could work together to tackle the challenges of marine pollution, plastic pollution, microbeads and micro plastics in the environment.

According to Dr Peterson, the Department is working to alleviate the challenge of marine pollution through the Source to Sea Campaign which was launched in November in order to tackle the problem at the source and along communities situated near rivers to prevent litter from reaching the ocean.

"DEA Source to Sea Initiative will be targeting informal settlements and un-serviced areas. Awareness is also key part to this initiative in order to educate people who live away from

the ocean about how their waste can reach the ocean," he said.

One of the other challenges discussed during the dialogue was how microplastics may be affecting the quality of drinking water. Dr Stanley Liphadzi from the WRC highlighted how he and his team were looking into this and he says solutions need to be found soon.

"We can't look at water security and water quality without looking at microplastic issues. Discussions today will help us deal with microplastic and microbeads issues that are known and unknown. When people read about this they get scared. We need to provide answers as the science sector," Dr Liphadzi said.

Dr Henry Roman from the Department of Science and Technology (DST) highlighted that microbeads were mostly found in cosmetic products, many of which have been banned many countries around the world.

"We don't know extent of the microplastics problem in our country so we need to look at the research and evidence before we conclude. We have to ask ourselves where the real problem lies and I believe we need to manage the waste properly.

We need to unlock the waste recycling economy in South Africa and conscientise people. We need to be innovative and come up with solutions to tackle the microbeads

and microplastics challenges in the environment," Dr Roman said.

According to Mr Peter Manyara from the International Union for Conservation of Nature (IUCN) an estimated 60-80% of waste debris found in the ocean are plastic.

He also added that plastic degrades overtime and forms microplastics, the country is currently dealing with a microplastic problem that is generations old.

"Microplastics are of greater concern to our health at the moment because these contain chemicals which find their way into our water and food," Mr Manyara said.

He also says that it is difficult to capture microbeads in our sewage management system because they are too small.

"Microbeads are small enough to wash down the drain but not big enough to be managed in our sewage management system. Most of these are found in cosmetic products and are added intentionally. I believe these can be phased out and eradicated from cosmetic products and alternatives be used," he said.

Participants from the dialogue included scientists, researcher and industry representatives from the Department of Health, Department of Trade and Industry, Plastics SA North West University and UNISA.



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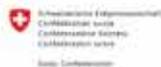
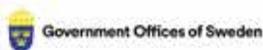
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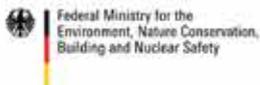
The South African Government is pleased to announce that the 2018 PAGE Ministerial Conference will be hosted in South Africa. The conference will bring together stakeholders from across the world, providing participants with a platform to discuss actions and interventions that will advance the global agenda of inclusive growth and a low carbon, climate resilient economic pathway.



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Designed by DEA Comms

DEA officials collect over 3 000 kilos litter during Marine Week



By Siziphiwe Maxengana and Benedict Mlaba

Every second week of October, the Department of Environmental Affairs (DEA) drives the annual National Marine Week (NMW) awareness campaign. This year, the NMW took place in Pietermaritzburg, KwaZulu-Natal and commenced from the 08 - 12 October 2018, under the theme **Nature knows no waste**.

The main objective of the NMW campaign is to tackle marine pollution by informing and educating the general public about the risks and negative effects that land pollution has on our oceans. It has been discovered that most of the litter that pollute the oceans comes from the daily activities which are conducted on land, and through the rivers and streams, the litter ends up in the oceans.

As part of the awareness campaign, DEA partnered with other environmental entities such as the Wildlife and Environment Society of South Africa (WESSA), Virtual State, KwaZulu-Natal Economic Development, Tourism and Environmental Affairs (KZN EDTEA), Duzi Umngeni Conservation Trust (DUCT), Umsunduzi Municipality and Wild Oceans South Africa, which assisted in the clean-ups of the Caluza area and Umsunduzi River. The total

amount of litter that was collected throughout the week was 3568.75 kilograms.

The NMW programme for the week included river and community clean-ups as well as outreach campaigns to raise awareness and educate the youth on how to better conserve the environment. The clean-up yielded more positive results as two senior citizens who make a living by recycling glass bottles collected a substantial amount of bottles during the clean-up.

Ms Tholani Mthethwa who is 74 years old and Ms Thandiwe Majikijela who is 73 years old, formed a partnership years ago to collect and sell used glass bottles to a local recycling organisation. According to Ms Tholani Mthethwa, they are able to support their families with the income they generate through their recycling business, "as bread winners, we have about 10 grandchildren between us and they rely on us on a monthly basis. Therefore, the money that we make out of the bottles we collect goes a long way in assisting us in providing for our families," she said. Close to 400 learners from schools located within the

About the contributors: *Siziphiwe Maxengana and Benedict Mlaba*

Siziphiwe Maxengana is an intern: Internal and External Communication in the Directorate: Communication Services in Cape Town. She holds a BA Communications Management Degree and has passion for writing.

Benedict Mlaba is an intern: Internal and External Communications in the Directorate: Communication Services in Cape Town. He holds a BA Communications Science Degree.

Pietermaritzburg region participated in the outreach campaign. The programme for the outreach included presentations from DEA officials in the Oceans and Coasts branch, who spoke on environmental issues, educating the learners about plastic and marine pollution and the dire impact that pollution is imposing on the oceans and ecosystems, as well as the various careers that exist within the environmental sector. Amongst the presenters was Mr Steven Mabungana, an educational shark dissector from Durban, KwaZulu-Natal. The aim of the shark dissection was to show the learners a practical example of the impact of plastic pollution on marine life.

It was a fun and fascinating day for the learners as they also participated in games and songs with the aim of instilling the “recover, reduce, re-use, re-cycle” message in their young minds.

Deputy Director General Ms Judy Beaumont hailed the NMW programme as a huge success and encouraged South Africans to conserve the environment. “It’s important that everyone makes an effort to clean around them and recycle. Let’s look after our oceans let’s celebrate the opportunities and also take responsibilities for our ocean,” said Ms Beaumont.



Above: Mr Jabu Nhleko, Chief Director of Oceans and Coastal Research, Mr Ashley Naidoo, Mr Mduduzi Seakamela weighing litter during the clean-up.



Above: Senior citizens, Ms Tholani Mthethwa and Ms Thandiwe Majikijela push trolleys filled with collected glass bottles for recycling.



Above: Mr Steven Mabungana showing learners the impact that pollution has on ocean life.



Above: The general public collecting litter in Umsunduzi River.

Humble fly takes on Brazilian weed threatening water quality

By Claire Keeton
Images by Michael Pinyana



Above: Mr Ahmed Kahn releases fly larvae into the Nahoon River.

A submerged weed choking dams and rivers in four provinces met its match this week with the release of its natural enemy: a tiny fly from Argentina.

Brazilian waterweed is taking over rivers and dams in the Eastern Cape, Western Cape, KwaZulu-Natal and Gauteng, where the fast-growing plant threatens indigenous species, water quality and water sports.

About half of the Midmar Dam in the KZN midlands, where the world's biggest open-water swimming event takes place, will disappear under dense mats of the weed by 2030 without intervention, say scientists.

This is the first time in the world an insect (*Hydrellia egeriae*) has been used to control Brazilian waterweed (*Egeria densa*), said entomologist Professor Julie Coetzee, Deputy Director of the Centre for Biological Control at Rhodes University.

On Friday, tanks containing about 10,000 hand-reared larvae were tipped into the Nahoon River in East London by Mr Ahmed Kahn, a Director of Natural Resources in the Department of Environmental Affairs.

The Kouga River and dam, which feed drought-stricken Port Elizabeth, the Bushmans River near Estcourt and the Liesbeek River in Cape Town are among the water sources where the fly will soon be released.

Invading submerged weeds are spreading after success in controlling four of the big five invasive "floating weeds" in SA using biological agents, with hyacinth the exception. Bugs such as weevils have reduced hyacinth at some dams, but high levels of human and agricultural pollution feed the fast-spreading surface weed.

The Brazilian waterweed was probably imported for aquariums, said Rosali Smith, the scientist who has studied the plant and its enemy for three years - testing them and getting permission for the fly's release into the wild.

The plant, which can grow from a small fragment, was often used in fish tanks and school biology experiments and could spread easily by "hitchhiking". Smith said: "Fishermen catch it on their hooks or boats or boots, and, without knowing, spread it to the next dam."

Pulling out the plant does not work because every piece can become a new problem. Biological control takes less effort, costs less, lasts longer

and is less toxic than chemicals. The only registered herbicide against this weed would kill other indigenous species.

Before a living agent can be released it must go through stringent tests to make sure it attacks only the target plant and not, for example, an indigenous submerged weed or a waterblommetjie.

Mr Philip Ivey, Chairman of the Biological Control Release Application Review Committee for SA, said: "We cannot release an insect if there is a remote chance it will attack an indigenous plant or agriculturally important plant or crop."

Brazilian waterweed is a huge problem in places such as California and is one of New Zealand's top three aquatic invaders. New Zealand scientists have been liaising with the centre about the fly's release and will be monitoring its impact.

"This is not a short-term solution. It will take at least eight months to show results and can take years to be successful," said Smith.

The researchers also released 200 sap-sucking bugs against the water hyacinth in the Nahoon River on Friday.



About the contributor: Claire Keeton

Claire Keeton is a Senior Lifestyle, Adventure Travel & Environmental writer at Sunday Times.

Practice Proper Nappy Disposal

HELP US SAVE OUR FRESH WATER RESOURCES

DO:



Remove soiled nappy



Close and fold the nappy to contain the mess



Put in refuse bin for waste collection

DON'T:



Do not flush



Do not bury



Do not throw in rivers or streams

Save our water. Save mzansi!

HUGGIES



environmental affairs
Department of
Water and Sanitation



DEA hosts National Ozone Unit and Customs Twinning Workshop

By Veronica Mahlaba



The Department of Environmental Affairs partnered with the United Nations Environment Programme (UNEP), OzonAction to host the National Ozone Unit and Customs Twinning Workshop and Border Dialogues for countries of the Southern African Development Community (SADC) region – Africa Anglophone Network. The Workshop was held on 24-26 October 2018 in Johannesburg.

The Workshop was to assist Article 5 countries to address the issues of monitoring of trade and prevention of illegal trade in ozone depleting substances. The Workshop promoted cooperation at the national level between National Ozone Officers and customs and enforcement agencies to improve implementation of the national license and quota systems for Ozone Depleting Substances (ODS) and Hydrofluorocarbons (HFCs) and strengthen the cooperation between countries on cross-border trade in these substances.

According to UNEP the recent revelations that emissions of CFC-11 have climbed 25 percent since 2012, suggesting illicit manufacturing in violation of the Protocol have again raised the issue of the link with illegal trade in CFCs. There is growing evidence of an increasing illegal trade in HFCs and seizures of HCFCs continue to be made around the world. Recently, a number of countries have been experiencing misdeclaration of mislabelled refrigerant.

Regional Network Coordinator
Ozone Action Programme –

Anglophone Africa, Mr Patrick Salifu said they organise the meeting to encourage the dialogue between SADC countries in the control and monitoring of ODS trade. "At the end of the Workshop all the members have agreed to strengthen their collaboration, cooperation and border dialogues among the country revenue authorities," explained Mr Salifu.

DEAs Director: Hazardous Chemicals Management, Ms Margaret Molefe expressed gratitude for South Africa to be chosen to host this important event. According to her it encourages and strengthens the working relationship between the two Ministries of Environment and Customs, in controlling trade of ozone depleting substances. "I am pleased that, as the outcome of this Workshop, we have made commitments to address the three major challenges we are confronted with which are affecting our national compliance to the Montreal Protocol obligation and opens our countries to be the dumping ground for prohibited chemical substances," she said.

Three major challenges include Data discrepancies. They noticed the serious data discrepancies in their Article 7 Data Reporting to the Ozone and Multilateral Fund (MLF) Secretariats. "With the Bilateral we had, the lack of knowledge of the source of data for the imported ODSs and poor alignment of NOU and Customs data were the main challenges. We have now made commitment to record all the

imports and exports quantities and the countries where the import and export comes from and to cooperatively work together as NOU and CUSTOMS to verify documents for the data discrepancies at the borders," said Ms Molefe.

With regards to Illegal ODS imports and exports they have noted that they as member countries have not joined the iPICs for notification of the illegal or suspected imports and exports of ODSs and are also not reporting such encounters. "We are now making commitment to join and to report the illegal and suspected trades of ODSs substances. Also to notify ourselves for any suspicions."

Lastly, Joint trainings of Customs and NOUs in respective countries, and in their borders and strengthen South-South Cooperation's. "We are committing to strengthening our controls and intensifying the training within our nations and South-South Cooperation's as well as Border-Border cooperation within our region. We have committed to initiate this Regional South-South NOU - Customs Twinning Training as early as March 2019," Ms Molefe explained.

From Mauritius, Ozone Unit Officer, Mr Girish Munhurrum said the Workshop was very good and informative. "We have learned how to better cooperate with customs to track illegal trade of ODS. We also learned how to improve our reporting system and avoid discrepancies when we submit to Ozone Secretariat and Multilateral Fund. When I get home I will do a presentation for our national unit.

DEA responds to plight of undergraduate students

By Madimetja Mogotlane



Above: Some of the students from various universities who cannot graduate because of lack of learning experience are delighted to be part of the DEA work integrated learning programme.

The Department of Environmental Affairs through Work Integrated Learning programme has partnered with three universities to equip undergraduate students who cannot graduate without practical work experience. The programme is aimed at assisting graduates with workplace experience for 2 years.

To respond to the plight of the students who are excluded from graduating, the Directorate: Sector Education and Training has placed more than 100 former higher learning institutions graduates to acquire a workplace experience that will aid them to graduate from their respective higher learning institutions while they also assist them acquire the scientific, management and technical skills that is required at provincial and municipal levels.

The programme which will run for the next two years will also see students being guided by workplace supervisors and mentors to understand how the environmental, scientific and technical principles work to improve sustainable systems to solve environmental issues. The remaining Work Integrated Learning will be deployed to service the DEA public entities, provincial and local municipalities that have expressed an interest in the WIL programme.

The Directorate: Sector Education and Training Deputy Director, Mr Malose Thole has expressed his delight in the integration of the students in the workplace and said this will plug the gap in the environment sector.

“The WIL programme will force students to be productive and to do real work that translates into social and economic values. The students will learn from real-life situations which will be effectively and authentically assessed by university-based educators. The benefits of this experience would escalate to the creation of value-adding and character-building of future-fit graduates, ready for the workplace. Thus, WIL will benefit students in many ways including, for an example, sharpening their interpersonal relations, practical knowledge of policy formulation and analysis, writing skills, awareness of workplace culture, mastery of job knowledge and skills, project management, coping in a rapidly changing world of work, enhanced employment prospects, developing interactive attributes, and building a network of contacts,” he said.

The students will have the opportunity to establish themselves in the workplace, obtain contacts

for graduate employment and employment references in the chosen career. This experience will provide a head-start in salary and a position for permanent employment after graduation for many students. Mr Thole further said the WIL is a recruitment pathway for students to accomplish their career dreams.

“Employers participate in WIL programs for different reasons. For some employers, WIL is a recruitment pathway; an opportunity to closely examine the skills and suitability of students before they graduate. For others, it may provide an enthusiastic, short term ‘employee’ who can undertake projects or tasks which might not otherwise get done while providing existing employees opportunities to learn valuable mentoring and management skills. Some employers are enthused by raw talent, research skills, and fresh ideas and approaches that students bring to the workplace.

For DEA, the experience would go beyond altruistic outcomes; the students would be positioned to contribute to the sector and address the shortages of environmental management, scientific and technical skills much needed in the country”, he said.



About the contributor: Madimetja Mogotlane

Madimetja Mogotlane is a Senior Communications Officer, Internal Communications and Events in the Chief Directorate: Communications at the Department of Environmental Affairs. Mr Mogotlane is a former intern in Media Liaison at the Department and has journalistic experience.

SOUTH AFRICA'S COASTLINE IS FOR EVERYONE TO ENJOY!

Vehicle access on the coast zone is only permissible to exempted personnel and permit holders in terms of 4X4 Off Road Vehicular (ORV) Regulations.

Members of the public are encouraged to report illegal beach driving, private beaches (exclusive use) and any other illegal activities on the coast.

ORV transgressions penalties

- Driving on beaches is only allowed to permit holders.
- Offenders can be fined up to R500 000 (five hundred thousand rands) or up to 2 years imprisonment, or both.



Designed by DEA Comms

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REPUBLIC OF SOUTH AFRICA



Mining and Environmental Justice Community Network of South Africa Vs Minister of Environmental Affairs (50779/2017)

By Lize Redelinghuis

Pictures by: <https://cer.org.za>



Above: Mabola protected environment.



Above: Mabola Protected Environment near Wakkerstroom in Mpumalanga Province.

The Applicants lodged this application to have the decisions of Ministers of Environmental Affairs and Mineral Resources to grant permission for coal mining activities of Atha-Africa Ventures (Pty) Ltd (Atha) in a protected wetland area, which forms part of the Mabola Protected Environment (MPE) reviewed and set aside. The grounds of review, in principle, relate to the Ministers failure to adhere to sections 3 & 4 of the Promotion of Administrative Justice Act 3 of 2000 (PAJA).

The Court reviewed and set aside the decisions of the Ministers of Environmental Affairs and Mineral Resources to allow mining in a protected area, and remitted Atha's application in terms of section 48 of NEMPAA for reconsideration to these Ministers. When reconsidering, the Ministers must adhere to sections 3 and 4 of PAJA, take into account the relevant principles in section 2 of NEMA and the interests of local communities, and defer any decision until statutory appeal processes are concluded.

The court interpreted section 48 of NEMPA without reading in "exceptional circumstances". Section 48(1)(b) and (4) should thus be interpreted to mean that, despite the fact that all necessary authorisations were obtained to conduct lawful mining, if the land is in a protected environment in terms of NEMPAA, written permission of both Ministers must be obtained to do so. The importance of public participation was also confirmed. Nowhere in the permission letter signed by the Ministers was it stated that the departure from the procedural requirements was motivated, considered or concurred to. The Court found that their behaviour resulted in an unjustifiable and unreasonable departure from the procedural

requirements of PAJA, leading to unfair administrative action, which should be reviewed and set aside on this ground alone.

Decision-making authorities should apply the precautionary principle (risk-averse and cautious approach) when dealing with sensitive ecosystems, such as wetlands. The Ministers simply relied upon the mitigation and management of environmental impacts, such as acid mine drainage, according to the requirements of other competent authorities (the DWS). Financial provision for rehabilitation purposes were also not distinctively and independently assessed by the Ministers.

Furthermore, when the decisions were taken, statutory appeal procedures related to authorisations granted to Atha were pending. Until all internal remedies have been exhausted in respect of these authorisations, their existence, nature and any conditions thereof would not have been determined.

The Court further confirmed that "a failure to take South Africa's international responsibilities relating to the environment into account and a failure to take into account that the use and exploitation of non-renewable natural resources must take place in a responsible and equitable manner would not satisfy the 'higher level of scrutiny' necessary when considering whether mining activities should be permitted in a protected environment or not". Such failure constitutes a failure by the state as trustee of vulnerable environments. It's a present moral duty to avoid causing harm to the environment when thinking of the tomorrows of unborn people.

Vox Pops

DEA staff members

Salome Tsoka and Veronica Mahlaba

What are your green New Year Resolutions?



1

1. Ms Thambisa Mdluli

Chemical and Waste Management

As a woman, I would like to be more knowledgeable about the disposal of waste such as sanitary pads. As such, next year I would like to join my directorate's team as they execute projects like the household hazardous waste management project. I believe knowing more about this waste will help me understand how I can better reduce its effects on the environment.



2

2. Mr Selby Lukhele

Air Quality Management

Last year, I ran 42 km at the Soweto Marathon and I plan on running the Comrades next year. My green New Year resolution is to encourage runners at these races to not to carelessly litter with their plastic water cups after using them but to rather use their closest rubbish bins.



3

3. Mr Thabiso Masuku

Office of the COO

My green new year resolution is to encourage more people, especially my family and friends to recycle their waste. I believe that, it is important for people to actively look after the environment in which they live.

4. Ms Leah Ditshego

Biodiversity and Conservation



4

4. Mr Fhumulani Tshamano

TOPS and CITES

Next year I plan on reducing my carbon footprint by walking to work more often. I also plan on requesting for biodegradable packaging such as glass, degradable paper instead of plastic containers whenever I order take out or do my groceries. I will also start to properly separate waste at my home to make it easier for recycling.

For my next year's green new year resolution, I plan to minimise my use of plastic by purchasing products that either use recyclable or no plastic. I also plan to cut down on my usage of plastic refuse bags for waste by using reusable trash bins. These will be some of the ways I'll be reducing the amount of plastic that end up at landfill sites.



6



5



Vox Pops continued

Members of the public



1. Amdemichael Mulugeta

Ethiopia

As I am from Wetlands International, I would like to work with the government to ensure that minimal water flow to sustain the wetlands. Ensure that we integrate the wetland agenda to the national policy and strategy to create a conducive environment for water-birds so they keep coming to Ethiopia National Park.

environmental protection agencies to improve the management of waste that is affecting our nature. e that we can convert into a useful product.



3. Mr Florian Keil

Germany

I want to reduce the amount of plastic I buy at supermarkets, instead use bags that are made out of material for shopping. I want to avoid to buy packed fruits and vegetables but make a choice of buying locally produced products.

This will ensure that transport costs are not too high and also buy things that I need close by so I don't add on carbon dioxide emissions. I want to lead by an example as the citizen of this world. Let us have an environment that doesn't have much effect on migratory water-birds, what lives in the oceans and on wetlands plastic waste that ends up in landfills.



4. Mr Nuha Jammeh

Gambia

I would like to improve certain things in my line of work. I want to plant more trees, ensure that mangroves are rehabilitated. Try to get protected areas to be extended and to forge relationships to rescue Bijoli Islands in Gambia.



6. Mr Sergio Rejado Albaina

Spain

I want to reduce the number of clothes I buy and try to make my life lighter. Also eat less meat. Some of the stress to the environment is caused by the mass production of meat.



2. Ms Dr Nela Miauta

Romania

I want to continue to recycle waste as it is one of the important ways to protect the environment. In my capacity I would like to involve local authorities and national;



5. Ms Elisabeth Schneeweiss

Austria

I want to use less plastic bags because of the waste impact it has in our oceans. It results in environment degradation. I want to save water as much as I can. We have water but the world is experiencing droughts. It would be great if people can close their taps and take shorter showers.



6. Dr Bheki Mncube

South Africa

I want to encourage my company to use less paper and recycle more. The world we live in today is much more reliant on computers and digital technology. It is easy to go a day without using a notebook or even a piece of paper. The less paper you use, the less paper needs to be produced and the more trees that get to fill our forests.



Image by: Africa Geographic
<https://www.africageographic.com>

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