



OFFICIAL GUIDE TO SOUTH AFRICA 2017/18

Environment

The Department of Environmental Affairs (DEA) is mandated to give effect to the right of citizens to an environment that is not harmful to their health or well-being, and to have the environment protected for the benefit of present and future generations. To this end, the department provides leadership in environmental management, conservation and protection towards sustainability for the benefit of South Africans and the global community.

Chapter 5 of the National Development Plan (NDP) emphasises the importance of environmental sustainability for robust socio-economic development.

This is given expression by outcome 4 (decent employment through inclusive growth) and outcome 10 (protect and enhance our environmental assets and natural resources) of government's 2014-2019 Medium Term Strategic Framework.

The mandate of the DEA is closely aligned with these outcomes. As such, the department prioritises the management, protection and conservation of South Africa's environment and natural resources.

Over the medium term, the department plans to focus on enforcing and monitoring compliance with environmental legislation; creating job opportunities through the expanded public works programme; moving towards a green economy; managing waste; managing climate change and air quality; managing oceans and coastal conservation; and transferring the operation of the national zoological gardens to the South African National Biodiversity Institute (SANBI).

In 2018, South Africa was expected to participate in a number of important international fora, including the 13th meeting of the Conference of the Contracting Parties to the Ramsar Convention on Wetlands and the 14th meeting of the Conference of the Parties to the Convention on Biological Diversity, the 9th Meeting of the Parties to the Cartagena Protocol on Biosafety and the 3rd Meeting of the Parties to the Nagoya Protocol on Access and Benefit-sharing.

South Africa hosted the 7th Meeting of Parties to Agreement on African-Eurasian Migratory Waterbirds (AEWA) in Durban from 4 to 8 December 2018, developed under the framework of the Convention on Migratory Species. The theme of the meeting was: "Beyond 2020: Shaping Flyway Conservation for the Future".

AEWA is an intergovernmental treaty dedicated to the conservation of migratory waterbirds and their habitats in Africa, Europe, the Middle East, Central Asia, Greenland and the Canadian Archipelago. Seventy-seven countries and the European Union have signed the environmental treaty.

National Action Programme (NAP) to combat desertification

South Africa, as a Party to the United Nations (UN) Convention to Combat Desertification, reviewed the 2004 NAP to combat desertification, land degradation and to mitigate the effects of drought for South Africa and developed a new NAP for the period 2017 to 2027.

Since approximately 91% of South Africa's landscape is drylands, it makes it susceptible to desertification.

Both desertification and land degradation are intricately linked to food security, poverty, urbanisation, climate change, and biodiversity and therefore are among the most critical environmental challenges in South Africa. The NAP will be a key tool in addressing these threats.

South African National Antarctic Expedition (SANAE)

The SA Agulhas II, dedicated to late singer Miriam Makeba, left for Antarctica on 6 December 2018 to spend 14 months at the South African research base, SANAE IV. On board South Africa's polar research and supply vessel was the 58th scientific expedition team to Antarctica.

South Africa is one of the original 12 signatories of the Antarctic Treaty of 1959 and the first SANAE was undertaken in 1959. The expedition established a permanent presence for South Africa in Antarctica that still exists to date.

The SANAE 58 team will collect long-term data such as sea surface temperature, oxygen and

carbon measurements, which is instrumental to further enhance an understanding of present-day global climate change. South African and international weather forecasts rely heavily on the availability of data inputs from this region and having this continuous data set will enable better prediction of severe weather phenomena in the context of global climate change.

During this voyage, the SA Agulhas II was also expected to play a starring role in the historic, international multi-disciplinary Weddell Sea Expedition. With funding from the Flotilla Foundation, the team of world-leading glaciologists, marine biologists, oceanographers and marine archaeologists was expected to venture into remote regions of the Weddell Sea and uncover vital new scientific data to improve understanding of the area, using that knowledge to contribute towards the protection of the region.

Research would focus on the Larsen C Ice Shelf to provide valuable new insights into the local ecosystem, documenting the rich and little-studied marine environment, surveying the seafloor and under the ice and documenting the little-studied biological systems that lie beneath the ice shelf.

In addition, the expedition was also expected to undertake research to help better understand the oceanography and sea ice conditions of the Weddell Sea and the implications for climate change and global ocean currents.

Role players

South African National Biodiversity Institute

SANBI contributes to South Africa's sustainable development by facilitating access to biodiversity data, generating information and knowledge, building capacity, providing policy advice, showcasing and conserving biodiversity in its national botanical and zoological gardens.

SANBI engages in ecosystem restoration and rehabilitation, leads the human capital development strategy of the sector and manages the National Botanical Gardens as 'windows' to South Africa's biodiversity for enjoyment and education.

South Africa is one of the most biologically diverse countries in the world, after Indonesia and Brazil. The country is surrounded by two oceans, occupies only about 2% of the world's land area, but is home to nearly: 10% of the world's plants; 7% of the reptiles, birds and mammals and 15% of known coastal marine species. The country comprises nine biomes (unique vegetation landscapes), three of which have been declared global biodiversity hotspots.

Biodiversity richness is one of South Africa's greatest assets, in terms of landscapes, ecosystems and species – the web of natural life – provides goods and services vital for human well-being and the survival of the planet. Goods and services such as water purification, grazing, ecotourism, fisheries, sources of medicine, energy, food, healthy soils, pollination, carbon sinks, clean air and production of oxygen.

South African National Parks

SANParks is the custodian of 19 national parks located in diverse vegetation types: Desert, Grassland, Forest, Succulent Karoo, Nama Karoo, Fynbos, Savanna, Albany Thicket, Indian Ocean Coastal Bled and Azon. The park system spans seven of South Africa's provinces, consists of over four million hectares (40 000 km²) and makes up about 67% of the land under formal conservation in the country.

The organisation plays a significant role in the promotion of South Africa's nature-based tourism or ecotourism business, targeted at both international and domestic tourism markets.

Every year, from 14 to 18 September, all South Africans can visit national parks free of charge. The national parks are:

- Addo Elephant National Park
- Agulhas National Park

- Ai-Ais/Richtersveld Transfrontier Park
- Augrabies Falls National Park
- Bontebok National Park
- Camdeboo National Park
- Garden Route (Tsitsikamma, Knysna and Wilderness) National Park
- Golden Gate Highlands National Park
- Karoo National Park
- Kgalagadi Transfrontier Park
- Kruger National Park
- Mapungubwe National Park
- Marakele National Park
- Mokala National Park
- Mountain Zebra National Park
- Namaqua National Park
- Table Mountain National Park (which incorporates the Cape of Good Hope, Table Mountain and Silvermine nature reserves)
- Tankwa Karoo National Park
- West Coast National Park.

SANParks is the leading conservation authority in all national parks around South Africa and responsible for protected land in 19 national parks. A transfrontier conservation area (TFCA) is a cross-border region.

The conservation status of the areas within a TFCA ranges from national parks, private game reserves and communal natural-resource management areas to hunting-concession areas. TFCAs allow tourists easy movement across international boundaries into adjoining conservation areas.

The seven TFCAs are:

- Ai-Ais/Richtersveld
- Kgalagadi Transfrontier Park
- Kavango-Zambezi
- Greater Mapungubwe
- Great Limpopo Transfrontier Park
- Lubombo Transfrontier Conservation and Resource Area
- Maloti-Drakensberg Transfrontier Conservation and Development Area.

A biosphere designation is given by the UN Educational, Scientific and Cultural Organisation (UNESCO) to special landscapes where people are collaborating to ensure their environmental integrity as the basis for their economic development.

Biosphere reserves are nominated by their governments for inclusion in the Man and the Biosphere Programme.

South Africa's biosphere reserves include:

- **Vhembe**, situated in the north-east of Limpopo, which includes the northern part of the Kruger National Park; the Makuleke Wetland, which is protected under the Ramsar Convention; the Soutpansberg and Blouberg biodiversity hot spots; and the Makgabeng Plateau.
- The **Kogelberg Reserve** on the country's southern coast is in the middle of the Cape Floral Region and home to 1 880 different plant species, 77 of which are found only in this region.
- The **Cape West Coast Biosphere Reserve** starts in Cape Town in the southern suburb of Diep River and stretches up the west coast as far as the Berg River, encompassing parts of the Cape Floral Region. The reserve includes the Ramsar-protected Langebaan Lagoon as well as Dassen Island, which is home to several protected bird species.
- The Cape Winelands Biosphere Reserve includes a part of the Cape Floral Region, as well as the wine-growing region.

- The **Biosphere Reserve**, in the Waterberg in Limpopo is an important catchment area for the Limpopo Basin, with four large rivers originating within its borders – the Lephhalale, Mokolo, Matlabas and Magalakwena rivers.
- The **Kruger-to-Canyons Biosphere Reserve** stretches from the Kruger National Park to the Blyde River Canyon. It is an important conservation area as it covers three biomes.
- The **Gouritz Cluster Biosphere Reserve** is also recognised by the UNESCO in terms of the Man and Biosphere Programme.

The other biosphere reserves in South Africa are:

- Kogelberg Reserve
- Cape West Coast Biosphere Reserve
- Cape Winelands Biosphere Reserve
- Waterberg Biosphere Reserve.

Areas of conservation

Protected areas

South Africa aims to expand the conservation areas under formal protection to the international standard of 10% of the total area of the country. South Africa is home to more than nine million hectares of protected areas network, which includes national parks, nature reserves and world heritage sites, equating to about 8% of the country's land.

These protected areas, among other things, serve as sites for conserving the country's ecosystems, protection of high biodiversity value and provision of ecosystem services.

Most of these protected areas are geographically located in rural areas, forming an integral system with rural communities whose livelihoods and cultures are closely dependent on.

Scientific reserves

Scientific reserves are sensitive and undisturbed areas managed for research, monitoring and the maintenance of genetic sources. These include Marion Island and the Prince Edward Islands near Antarctica. Access is limited to researchers and staff.

Wilderness areas

These areas are extensive, uninhabited and underdeveloped, and access is strictly controlled with no vehicles allowed. The highest management priority is the maintenance of the intrinsic wilderness character.

Wilderness areas include the Cederberg Wilderness Area and Dassen Island in the Western Cape, and the Baviaans-kloof Wilderness Area in the Eastern Cape.

Biomes

The nine major terrestrial biomes or habitat types in South Africa are divided into 70 veld types. The biomes are the Savanna, Nama-Karoo, Succulent Karoo, Grassland, Fynbos, Forest, Albany Thicket, Desert and Indian Ocean Coastal Belt. The Fynbos Biome is one of only six floral kingdoms worldwide.

World Heritage sites

South Africa has 10 World Heritage sites proclaimed by UNESCO, namely:

- **Robben Island** (Western Cape). Robben Island was used at various times between the 17th and 20th centuries as a prison, a hospital for socially unacceptable groups and a military base. Its buildings, particularly those of the late 20th century such as the maximum security prison for political prisoners, witness the triumph of democracy and freedom over oppression and racism. It is most famous for the incarceration of political prisoners, including former President Nelson Mandela, who was imprisoned for 18 of his 27 years in jail.

- **iSimangaliso Wetlands Park** (KwaZulu-Natal). It was formerly called the Greater St Lucia Wetland Park. The ongoing fluvial, marine and aeolian processes in the site have produced a variety of landforms, including coral reefs, long sandy beaches, coastal dunes, lake systems, swamps, and extensive reed and papyrus wetlands. The interplay of the park's environmental heterogeneity with major floods and coastal storms and a transitional geographic location between subtropical and tropical Africa has resulted in exceptional species diversity and ongoing speciation. The mosaic of landforms and habitat types creates breathtaking scenic vistas. The site contains critical habitats for a range of species from Africa's marine, wetland and savannah environments.
- **Cradle of Humankind** (Gauteng). The Taung Skull Fossil Site, part of the extension to the site inscribed in 1999, is the place where in 1924 the celebrated Taung Skull – a specimen of the species *Australopithecus africanus* – was found. Makapan Valley, also in the site, features in its many archaeological caves traces of human occupation and evolution dating back some 3.3 million years. The area contains essential elements that define the origin and evolution of humanity. Fossils found there have enabled the identification of several specimens of early hominids, more particularly of *Paranthropus*, dating back between 4.5 million and 2.5 million years, as well as evidence of the domestication of fire 1.8 million to 1 million years ago. It includes the hominid fossil sites at Swartkrans, Sterkfontein and Kromdraai.
- **Ukhahlamba-Drakensberg Park** (KwaZulu-Natal). The park has outstanding natural beauty, Africa's highest mountain range south of Kilimanjaro, and the largest and most concentrated series of rock art paintings in Africa. The site harbors endangered species such as the Cape vulture (*Gyps coprotheres*) and the bearded vulture (*Gypaetus barbatus*).
- **Mapungubwe Heritage Site** (Limpopo). Mapungubwe is an open, expansive savannah landscape at the confluence of the Limpopo and Shashe rivers. Mapungubwe developed into the largest kingdom in the sub-continent before it was abandoned in the 14th century. What survives are the almost untouched remains of the palace sites and also the entire settlement area dependent upon them, as well as two earlier capital sites, the whole presenting an unrivalled picture of the development of social and political structures over some 400 years.
- **Cape Floral Kingdom** (Western Cape). It is one of the world's great centres of terrestrial biodiversity. The extended property includes national parks, nature reserves, wilderness areas, State forests and mountain catchment areas. These elements add a significant number of endemic species associated with the Fynbos vegetation, a fine-leaved sclerophyllic shrubland adapted to both a Mediterranean climate and periodic fires, which is unique to the Cape Floral Region.
- **Richtersveld Cultural and Botanical Landscape** (Northern Cape). The 160 000 hectares (ha) of dramatic mountainous desert constitutes a cultural landscape.
- **Vredefort Dome** (Gauteng). This is a representative part of a larger meteorite impact structure or astrobleme. Dating back to over two million years, it is the oldest astrobleme yet found on Earth. With a radius of 190 km, it is also the largest and the most deeply eroded. Vredefort Dome bears witness to the world's greatest known single energy release event, which had devastating global effects including, according to some scientists, major evolutionary changes. It provides critical evidence of the Earth's geological history and is crucial to understanding of the evolution of the planet. Despite the importance of impact sites to the planet's history, geological activity on the Earth's surface has led to the disappearance of evidence from most of them, and Vredefort is the only example to provide a full geological profile of an astrobleme below the crater floor.
- **!Khomani Cultural Landscape**. (Located at the border with Botswana and Namibia in

the northern part of the country, coinciding with the Kalahari Gemsbok National). The large expanse of sand contains evidence of human occupation from the Stone Age to the present and is associated with the culture of the formerly nomadic #Khomani San people and the strategies that allowed them to adapt to harsh desert conditions. They developed a specific ethnobotanical knowledge, cultural practices and a worldview related to the geographical features of their environment. The #Khomani Cultural Landscape bears testimony to the way of life that prevailed in the region and shaped the site over thousands of years.

- **Makhonjwa Mountains, known as the Barberton Greenstone Belt.** One of the world's oldest geological structures, the Makhonjwa Mountains in Barberton, Mpumalanga represent the best-preserved succession of volcanic and sedimentary rock dating back 3.6 to 3.25 billion years, when the first continents were starting to form on the primitive Earth. It features meteor-impact fallback breccias resulting from the impact of meteorites formed just after the Great Bombardment (4.6 to 3.8 billion years ago).

In addition to sites inscribed on the World Heritage list, member states can maintain a list of tentative sites that they may consider for nomination. Nominations for the World Heritage list are only accepted if the site was previously listed on the tentative list. As of 2016, South Africa had listed seven properties on its tentative list:

- Succulent Karoo Protected Areas
- Liberation Heritage Route
- Early Farmsteads of the Cape Winelands
- The Emergence of Modern Humans: The Pleistocene occupation sites of South Africa
- Human Rights, Liberation Struggle and Reconciliation: Nelson Mandela Legacy Sites.

Wetlands

Wetlands support a range of specialised plant, insect and mammal life and also supply food, grazing, building and craft material to people. They are able to improve water quality, reduce flood impacts, control erosion and sustain river flows.

South Africa's Ramsar sites include:

- Barberspan
- Blesbokspruit Nylsvley Nature Reserve
- De Hoop Vlei
- De Mond (Heuningnes Estuary)
- Kosi Bay
- Langebaan
- Makuleke Wetlands
- Ndumo Game Reserve
- Ntsikeni Nature Reserve
- Nylsvley Nature Reserve
- Orange River Mouth Wetland
- Prince Edward Islands in Antarctica
- Seekoeivlei
- St Lucia
- the turtle beaches and coral reefs of Tongaland
- Ukhahlamba-Drakensberg Park
- Verlorenvlei Nature Reserve
- Wilderness Lakes.

Marine protected areas (MPAs)

Government shares joint responsibility for South Africa's MPAs with SANParks and Ezemvelo KwaZulu-Natal Wildlife.

South Africa's MPAs include the:

- Aliwal Shoal, KwaZulu-Natal
- Betty's Bay, Western Cape
- Bird Island, Eastern Cape
- De Hoop, Western Cape
- Dwesa-Cwebe, Eastern Cape
- False Bay, Western Cape
- Goukamma, Western Cape
- Hluleka, Eastern Cape
- iSimangaliso, KwaZulu-Natal
- Langebaan Lagoon, Sixteen Mile Beach, Malgas Island, Marcus Island, Jutten Island, Western Cape
- Pondoland, Eastern Cape.
- Robberg, Western Cape
- Sardinia Bay, Eastern Cape
- Stilbaai, Western Cape
- Table Mountain, Western Cape
- Trafalgar, KwaZulu-Natal
- Tsitsikamma, Western Cape.

Zoological gardens

The National Zoological Gardens (NZG) of South Africa, also known as the Pretoria Zoo, is the largest zoo in the country and the only one with national status. It is home to approximately 5 000 different mammals, birds, fish, reptiles, amphibians and invertebrates, comprising around 600 species and subspecies.

One of its unique features is that it has the largest inland aquarium in Africa, which also has a marine fish component. It is also the only zoo in South Africa that is home to Koalas, Okapi, Komodo Dragons and Forest buffalo, to name but a few.

A business transfer agreement between the Department of Science and Technology, DEA, National Research Foundation (NRF) and SANBI was signed in 2017 to enable the transfer of the NZG in Pretoria from the NRF to the SANBI with effect from 1 April 2018.

The Joburg Zoo, which was founded in 1904, is situated in Johannesburg and covers 55 ha of land. It houses over 320 species of animals.

Mitchell Park Zoo in Durban, which was named after Sir Charles Bullen Hugh Mitchell, is the country's second oldest zoo after the NZG in Pretoria.

Conservation centres

There are a number of game-breeding centres in South Africa. The NZG of South Africa is responsible for the management of the **Mokopane Biodiversity Conservation Centre (MBCC)**, covering 1 394 ha.

The MBCC is home to an abundance of exotic and indigenous fauna such as lemur, the rare tsessebe, roan antelope and black rhino. In 2007, it was proclaimed as a protected area as a Fossil Hominid Site of South Africa: Mokopan Valley.

The **Ann van Dyk Cheetah Centre**, formerly known as the De Wildt Cheetah Centre, is a breeding sanctuary for cheetahs and other endangered animals situated in Hartbeespoort.

In 1986, the centre achieved success when the cheetah was removed from the South African endangered species list. Other creatures being housed at the centre include African wild dogs, brown hyenas, servals, suni antelopes, riverine rabbits and a population of vultures.

The **Hoedspruit Endangered Species Centre (HESC)** in Limpopo focuses on the breeding and conservation of a variety of animal species, including African wild cat, ground hornbill, sable

antelope, lion, cheetah and rhino. The HESC works closely with advisory committees of the Pretoria Zoo and the University of Pretoria.

The African lion (*Panthera leo*) is included in Appendix II to the Convention on International Trade in Endangered Species of Wild Fauna and Flora; meaning it is not threatened with extinction. South Africa is one of only seven countries in the world that has substantial lion populations. By mid-2018, there were over 3 500 African lions in the wild in South Africa. Approximately 7 000 lions are kept in around 260 captive breeding facilities in South Africa.

Aquariums and oceanariums

There are aquariums in Pretoria, Port Elizabeth, Cape Town, Durban and East London. The Aquarium and Reptile Park of the NZG of South Africa in Pretoria is the largest inland aquarium in Africa.

The Port Elizabeth Oceanarium's exhibits include an underwater observation area, a dolphin research centre, various smaller tanks containing 40 different species of bony fish and two larger tanks that display sharks and stingrays.

Officially opened on 2 December 1931, the East London Aquarium is the oldest public aquarium in Southern Africa.

At the Two Oceans Aquarium situated at the Victoria and Alfred Waterfront, Cape Town, more than 3 000 specimens represent some 300 species of fish, invertebrates, mammals, birds and plants supported by the waters along the Cape coast.

The aquarium at uShaka Marine World in Durban incorporates both fresh and sea-water species.

Snake and reptile parks

The Port Elizabeth Snake Park at Bayworld has a wide variety of South African and foreign reptiles. The Aquarium and Reptile Park at the NZG in Pretoria houses 80 reptile species from all over the world.

The Hartbeespoort Dam Snake and Animal Park near Pretoria features one of the finest reptile collections in southern Africa.

The Pure Venom Reptile Farm is one of the largest of South Africa's reptile parks. It is situated inland from Shelly Beach, on KwaZulu-Natal's South Coast. The Croc River Enviro Park in Nelspruit, Mpumalanga is the largest facility of its type in Africa.

Khamai Reptile Centre's primary aims are conservation, breeding of endangered reptiles and education. Located outside Hoedspruit, it offers a close-up look at many local as well as exotic snakes, crocodiles and lizards.

Protecting environmental resources

Private sector involvement

More than 400 organisations in South Africa concentrate on conservation, wildlife and the general environment, while more than 30 botanical and horticultural organisations concentrate on the conservation of the country's fauna and flora. These include the:

- BirdLife South Africa
- Botanical Society of South Africa
- Centre for Rehabilitation of Wildlife
- Conservation International
- Delta Environmental Centre
- Dolphin Action Protection Group
- EcoLink
- Endangered Wildlife Trust
- Ezemvelo KZN Wildlife

- Green Trust
- Keep South Africa Beautiful
- KwaZulu-Natal Sharks Board
- National Conservancy Association of South Africa
- Peace Parks Foundation
- Southern African Foundation for the Conservation of Coastal Birds
- Trees and Food for Africa
- Wildlife and Environment Society of South Africa
- World Wildlife Fund of South Africa.

Biodiversity

South Africa is home to some 24 000 species, around 7% of the world's vertebrate species, and 5,5% of the world's known insect species (only about half of the latter have been described).

In terms of the number of endemic species of mammals, birds, reptiles and amphibians found in South Africa, the country ranks as the fifth richest in Africa and the 24th richest in the world.

Marine biodiversity is also high, with more than 11 000 species found in South African waters, which is about 15% of global species. More than 25% of these species (or 3 496 species) are endemic to South Africa, many of which are threatened, especially in river ecosystems (82%) and estuaries (77%).

Operation Phakisa, which was launched in 2014, is a new approach to enable government to implement its policies and programmes better, faster and more effectively.

By mid-2018, the DEA had registered notable progress with regards to Operation Phakisa Oceans Economy; Chemicals and Waste Phakisa, and Operation Phakisa Biodiversity Economy.

Rhino poaching

Rhino poaching is one of the national priority crimes in South Africa and the DEA continues to follow a multi-disciplinary approach in collaboration with the Justice, Crime Prevention and Security Cluster departments and agencies such as the departments of Defence; Justice and Constitutional Development; Correctional Services; and State Security; Directorate for Priority Crime Investigation (Hawks) and the South African Police Service.

SANParks, South African Revenue Service, Asset Forfeiture Unit, National Prosecuting Authority and all provincial conservation authorities also continue to provide the necessary support required in this endeavour.

In 2017, the domestic sale of rhino horn became legal following a Constitutional Court order that upheld a 2015 High Court decision lifting the 2009 moratorium. The domestic sale of rhino horn is conducted subject to the issuing of relevant permits in terms of the National Environmental Management: Biodiversity Act (NEMBA) of 2004, its regulations and applicable provincial legislation.

Section 57(1) of the NEMBA of 2004 provides that a person may not carry out a restricted activity involving specimen of a listed threatened or protected species without a permit.

In order for the selling/buying permits to be considered, there are key requirements that must be met, such as documentary proof of legal possession, no criminal record under the NEMBA of 2004, rhino horn registered on national database and a DNA certificate.

A total of 1 028 rhino were poached between 1 January and 31 December 2017 compared to 1 054 in the same period for 2016, representing a decrease of 26 animals.

As a result of the DEA's anti-poaching strategy in the Kruger National Park, there has been a marked decrease in the number of poacher activities in the park, with a total of 2 662 recorded in 2017 compared with 2 883 in 2016. This represents a percentage decrease of 7,6%.

Whilst there has been a decrease in the number of rhino killed for their horns in the Kruger

National Park, the number of rhino poached increased in KwaZulu-Natal, Northern Cape, Mpumalanga, Free State and North West.

The DEA also reported that in 2017, a total of 67 elephants were poached in the Kruger National Park and one in KwaZulu-Natal.

In the reporting period, a total of 502 alleged rhino poachers and 16 alleged traffickers were arrested nationally bringing the total figure to 518. This represents a decrease from 2016 when a total of 680 poachers and traffickers were arrested.

For the Kruger National Park, the number of arrests of alleged poachers stood at 446 in 2017, comprising 189 arrests inside the Kruger National Park and 257 adjacent to the park. This represents an increase compared to 2016 when a total of 417 were arrested inside and adjacent to the Kruger National Park.

A total of 220 weapons were seized in rhino-related incidents both inside and outside the Kruger National Park in 2017. During 2017, a total of 21 SANParks officials were arrested for poaching-related offences.

Recycling

The **Waste Management Bureau**, which was established in 2016 in terms of the National Environmental Management: Waste Management Act of 2014, is tasked with promoting and facilitating the minimisation, reuse, recycling and recovery of waste by providing specialist advice and support for the development of integrated waste management plans for industry and municipalities.

The bureau is also tasked with monitoring the implementation of industry waste management plans, and managing the disbursement of revenue generated from charges for waste management.

The **National Regulator for Compulsory Specifications** also receives funding to implement compulsory specifications for plastic bags.

The **National Recycling Forum** is a non-profit organisation created to promote the recovery and recycling of recyclable materials in South Africa.

Collect-a-Can, one of the oldest recycling initiatives in South Africa, has been instrumental in creating a culture of recycling in the country. It has obtained local and international acclaim for its contribution towards protecting the environment, as well as its significant contribution to job creation and poverty alleviation.

Climate change

South Africa continues to play an active role on the international stage through participation in a number of key multilateral environmental agreements.

In addition to finalizing the National Climate Change Adaptation Strategy, the country has developed a draft Climate Change Bill to provide effective national response for both mitigation and adaptation action.

By mid-2018, Phase One of the Greenhouse Gas Emission Reduction System was being implemented, with carbon budgets already allocated to most of the significant emitters.

The country was also working towards Phase Two, which would support its transition to a low carbon economy and society.

As part of efforts to combat climate change, the South African Weather Service recently adopted the approach of building "a WeatherSMART nation".

This aims to enhance the early warning system to ensure that climate and weather data, products and applications are available to all South Africans.

The year 2018 marked 20 years since the adoption of the Environmental Impact Assessment as a tool to advance sustainable development.

Green economy

Through South Africa's Green Economy Strategy, the DEA continues to promote equitable, inclusive and sustainable economic growth and social development. The strategy has eight key pillars, namely:

- Green buildings and the built environment;
- Sustainable transport and infrastructure;
- Clean energy and energy efficiency;
- Natural resource conservation and management;
- Sustainable waste management;
- Water management;
- Sustainable consumption and production; and
- Agriculture food production and forestry.

Regarding green buildings and the built environment, the department was implementing energy efficiency and sustainable infrastructure projects as part of its Green Cities Programme.

The Green Fund was established in 2010 to provide catalytic finance for investment in initiatives that support South Africa's transition towards a green economy. The fund focuses on innovative projects that require financing to cover funding gaps.

Drawing investment from the private sector is one of the key mandates of the fund. As investments begin to show favourable returns, it is expected that private sector investors will invest without any State involvement.

Managing climate change and air quality

To manage climate change and air quality effectively, the DEA aims to increase the number of government-owned air quality monitoring stations reporting to the South African Air Quality Information System from 116 in 2017/18 to 125 in 2020/21.

Other activities include rolling out the Let's Respond toolkit in 40 municipalities to provide a process map for integrating responses to climate change into municipalities' integrated development plans.

South Africa, as a party to the Vienna Convention for the protection of Ozone Layer and the Montreal Protocol on Substances that deplete the ozone layer, is on course to reduce its consumption of Hydrochlorofluorocarbons (HCFC). The country met the 2017/18 target to reduce HCFC consumption by 20%.

Managing oceans and coastal conservation

The DEA continues to support annual research voyages to Antarctica, Marion Island and Gough Island. Servicing the contract with African Marine Solutions for the manning and operation of 2 research vessels, SA Agulhas II and SA Algoa, is one of the major cost drivers in the Oceans and Coasts programme.

Implementing the Oceans Economy Strategy forms part of Operation Phakisa, a fast results delivery programme launched by government in 2014.

The strategy includes activities in marine transport and manufacturing, offshore oil and gas exploration, aquaculture, marine protection services, ocean governance, small harbours, and coastal and marine tourism.