

Pocket Guide to South Africa 2016/17
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.

The department manages, protects and conserves South Africa's environment and natural resources with the aim of reducing carbon emissions and atmospheric pollutants, and creating ways of adapting to the effects of climate change.

Pursuing these objectives drives the department's expenditure over the medium term on wildlife conservation, waste recycling, climate change and air quality, strategic oceans management and coastal conservation, and the shift towards a green economy.

It also plays an integral role in the realisation of Outcome 4 (decent employment through inclusive growth) and Outcome 10 (protect and enhance the environmental assets and natural resources) of government's 2014-2019 Medium Term Strategic Framework (MTSF).

Most of the department's work – including the restoration and rehabilitation of degraded ecosystems, the expansion of the conservation estate, and the sustainable management of land use – is implemented through the Expanded Public Works Programme (EPWP). The programme contributes directly to the goal of the National Development Plan to create five million jobs by 2030, and positions the environmental sector as a hub for job creation.

Over the medium term, the department planned to support the enforcement of legislation and regulations governing the international trade in wild animals and plants at ports of entry and exit. Currently, environmental and conservation officials are deployed at only one of the 15 designated ports, OR Tambo International Airport.

It aims to deploy environmental management inspectors, compliance officials and enforcement officials at all designated ports.

Independent statutory organisations such as South African National Parks (SANParks) and the South African National Biodiversity Institute (SANBI) are valuable partners in the country's conservation efforts.

Government is committed to protecting the country's rich biodiversity heritage for the benefit of all, and to create

a prosperous and equitable society that live in harmony with its natural resources and is signatory to the following biodiversity-related multilateral agreements:

- Convention on Biological Diversity
- Cartagena Protocol on Biosafety
- Ramsar Convention
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- Convention to Combat Desertification
- Convention on Migratory Species
- Nagoya Protocol.

The DEA focuses on protecting the environment, reducing carbon emissions, reducing atmospheric pollutants and adapting to the impacts of climate change. Much of the associated work is implemented through the EPWP, including the restoration and rehabilitation of degraded ecosystems, the expansion of the conservation estate, the protection, restoration and rehabilitation of wetlands, the protection of water resources, and the sustainable management of land use.

The EPWP concretely contributes to the national development plan's target of creating over five million jobs by 2030, and positions the environmental sector as a hub of job creation.

The department's other priorities include: wildlife conservation, recycling waste, climate change and air quality, the strategic management of oceans and coastal conservation, and moving towards a green economy. These support Outcome 10 (protect and enhance our environmental assets and natural resources) of government's 2014-2019 MTSF.

South Africa is increasingly becoming a destination for investment in the green economy, and more specifically as a top 10 renewable energy investment destination globally.

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.

Conference of the Parties (CoP)

South Africa hosted COP17 to the CITES in September and October 2016.

By mid-2017, South Africa was implementing the decisions taken at the COP17 of the CITES, which included:

- Provisions to strengthen actions to combat illicit wildlife trafficking, improve protection of entire groups of species, empowering youth and closer engagement with rural communities.
- Provisions to manage the international trade in hunting trophies and the trade in cycads.
- The CITES listing of wild ginger and Temminck's pangolin.
- The transfer of the Cape Mountain Zebra from Appendix I to Appendix II by CITES, which recognises a remarkable conservation success story – where a species has recovered from just less than 100 individual animals in the 1990s to over 5 000 in 2016.
- The decision not to list South Africa's elephant population in Appendix I, that would have introduced a ban on the international commercial trade in wild elephant.

Role players

South African National Biodiversity Institute

SANBI leads and coordinates research, and monitors and reports on the state of biodiversity in South Africa. The institute provides knowledge and information, gives planning and policy advice and pilots best-practice management models in partnership with stakeholders.

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, eco-tourism, fisheries, sources of medicine, energy, food, healthy soils, pollination, carbon sinks, clean air and production of oxygen.

In the 2017/18 financial year, the DEA was expected to launch the Thohoyandou National Botanical Garden in Limpopo as the 11th National Botanical Garden to be managed by SANBI.

South African National Parks

SANParks' primary mandate is to oversee the conservation of South Africa's biodiversity, landscapes and associated heritage assets through a system of national parks.

In the 2016/17 financial year, SANParks received 6,7 million visitors into its 19 parks, generating approximately R2,6 billion. To ensure that national parks are accessible to all South African citizens, over 91 000 people were granted free access to national parks during the 2016/17 financial year.

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 20 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 Lephalele, 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.

iSimangaliso Wetland Park

The Lake St Lucia System is the most important estuary and a key nursery for fish on the southeast African coast.

The iSimangaliso Wetland Park covers 332 000 ha and comprises 9% of South Africa's coastline. It includes five ecosystems (marine, coastal dunes, lake systems, wetlands and woodlands). The species lists for the park are the longest in the region.

Of the species listed in the park, 56 are endemic to KwaZulu-Natal, 108 to South Africa and 467 are listed as threatened and endangered in South Africa. The park also has four Ramsar sites.

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.

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 eight World Heritage sites proclaimed by UNESCO, namely:

- **Robben Island** (Western Cape). Most famous for the incarceration of political prisoners, including Nelson Mandela, the first democratically elected President of South Africa, who was imprisoned for 18 of his 27 years in jail.
- **iSimangaliso Wetlands Park** (KwaZulu-Natal). Formerly called the Greater St Lucia Wetland Park, it has both one of the largest estuary systems in Africa and the continent's southernmost coral reefs.
- **Cradle of Humankind** (Gauteng). 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.
- **Mapungubwe Heritage Site** (Limpopo). A "place of the stone of wisdom", was South Africa's first kingdom and developed into the subcontinent's largest realm, lasting for 400 years before it was abandoned in the 14th century. Its highly sophisticated people traded gold and ivory with China, India and Egypt.
- **Cape Floral Kingdom** (Western Cape). It makes up only 0.04% of the world's land area, yet contains an astonishing 3% of its plant species, making it one of the richest areas for plants in the world and one of the globe's 18 biodiversity hotspots.
- **Richtersveld Cultural and Botanical Landscape** (Northern Cape). It covers 160 000 hectares (ha) of

dramatic mountainous desert in the north-west part of South Africa

- **Vredefort Dome.** Some two billion years ago, a meteorite 10 km in diameter hit the earth about 100 km southwest of Johannesburg, creating an enormous impact crater.

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:

- The !Xam Khomani Heartland
- The Barberton Mountain Land, Barberton Greenstone Belt or Makhonjwa Mountains
- 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.

In support of growing the eco-tourism and wildlife use sector, South Africa had by May 2017 submitted applications to UNESCO to consider:

- designating the Garden Route as a Biosphere Reserve
- listing the Khomani Cultural Landscape and the Barberton Makhonjwa Mountains on the World Heritage List, in June 2017 and October 2018 respectively.

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 in Pretoria is the largest zoo in the country and the only one with national status.

The Johannesburg Zoological Gardens' core business is the accommodation, enrichment, husbandry and medical care of wild animals. The Endangered Wildlife Trust is a major partner.

Mitchell Park Zoo in Durban is the country's second oldest zoo after the NZG in Pretoria.

Breeding centres

There are a number of game-breeding centres in South Africa. The NZG of South Africa is responsible for the management

of the Lichtenburg Biodiversity Conservation Centre, which covers an area of some 6 000 ha, and the Mokopane Biodiversity Conservation Centre, covering 1 333 ha.

The Lichtenburg Biodiversity Conservation Centre houses, among other animals, Père David's deer, which is extinct in the wild, pygmy hippopotamus, white rhino, the endangered addax, and scimitar-horned and Arabian oryx.

The Mokopane Biodiversity Conservation Centre is home to an abundance of exotic and indigenous fauna such as lemur, the rare tsessebe, roan antelope and black rhino.

The De Wildt Cheetah and Wildlife Centre, situated near Pretoria, is best known for its highly successful captive-breeding programme that contributed to the cheetah being removed from the endangered list in the *South African Red Data Book – Terrestrial Mammals* in 1986. The De Wildt Vulture Unit is a rehabilitation and holding facility for injured, poisoned and disabled vultures.

The Hoedspruit Endangered Species Centre in Limpopo was initially established as a breeding programme for the then endangered cheetah. It caters for, among other animals, five species of vulture: Cape griffins as well as white-backed, hooded, whiteheaded and lappet-faced vultures. The centre is also known for its wild-dog breeding programme.

The Hoedspruit Research and Breeding Programme includes the rare black-footed cat, vulnerable African wild cat, ground hornbills (in cooperation with the NZG in Pretoria), bald ibis and the endangered blue crane.

Elephant, white rhino, buffalo, caracal, sable antelope, bushbuck and tsessebe have also been cared for and rehabilitated there.

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%).

The DEA's 14-year National Biodiversity Economy Strategy aims to increase the biodiversity contribution to Gross Domestic Product between now and 2030 while conserving the country's ecosystem. It focuses on enhancing growth in both the wildlife and tourism sectors by facilitating the entry of previously disadvantaged individuals.

This objective of the strategy is to capitalize on the conservation successes of the country to contribute towards the socio-economic development of communities. A key component is to make communities owners of wildlife.

In 2016, jointly with the Department of Tourism, the DEA co-hosted a Biodiversity Economy Operation Phakisa Delivery Lab to accelerate the economic growth and job creation opportunities in the biotechnology and biodiversity conservation sectors, in particular through the eco-tourism and wildlife sectors.

The Biodiversity Economy implementation plans target the creation of 100 000 jobs and support for 4 000 new small, medium and micro enterprises by 2030.

Recycling

The Waste Management Bureau, which was established in April 2016, works to reduce waste through recycling. The bureau monitors recycling plans, and provides specialist services to government and recycling companies.

By the end of 2016, the bureau was planning to introduce the recycling enterprise support programme, which will provide support services, training and advice to transporters, storage depot operators and tyre recyclers. Substantial funding was expected to be allocated over the medium term to the plastics programme, which will promote waste minimisation, create awareness in the plastics industry, expand collector networks and support rural collection by building the capacity of small, medium and micro enterprises. 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.

Rhino poaching

A total of 1 054 rhino were poached in 2016, compared to 1 175 in the same period for 2015, representing a decline of 10.3%.

Specifically for the Kruger National Park, a total of 662 rhino carcasses were found in 2016 compared to 826 in 2015. This represents a reduction of 19.85% in 2016. This is despite a continued increase in the number of illegal incursions into the Kruger National Park.

During 2016, the SAPS reported that a total of 680 poachers and traffickers were arrested for rhino-related poaching offences nationally. This is a marked increase (over double) in arrests from 317 in 2015. Of this number, 417 were arrested both within and outside the Kruger National Park.

A total of 148 firearms were seized inside the park in 2016, and six just outside the park.

During 2016, 11 rhino were internally translocated away from boundaries in the KNP for security reasons, thereby complimenting the internal movements that started during 2014. (So far, evaluations on the translocations show that young cows and sub-adult males tend to integrate easily into existing rhino populations.)

During 2016, a total of 106 rhino were translocated to private rhino strongholds, following suitability assessments

conducted by SANParks. Overall, translocations have been successful and no translocated rhino were poached.

During September 2016, a rhino survey using the scientifically accepted block count method recorded that a total of 6 649 – 7 830 white rhino lived in Kruger National Park. This is lower than the 8 365 – 9 337 that lived in the Kruger National Park during 2015. A total of between 349 and 465 black rhino lived in the Kruger National Park in 2016 compared to between 313 and 453 in 2015.

Through the People and Parks Window of the Environment Programme, government has created 1 585 408 job opportunities.

Collaboration with the Government of Mozambique continues to improve and the partnership has been greatly successful in the past year. Over 30% of the families from eight villages have been relocated.

Climate change

Over the medium term, the DEA was expected to roll-out the Let's Respond toolkit, which provides a process map for a projected 40 municipalities to integrate their climate change responses into the department's planning documents.

By mid-2017, South Africa was planning to phase down Hydro-fluorocarbons, in terms of obligations in the 2016 Kigali Amendment to the 1986 Montreal Protocol on Substances that Deplete the Ozone Layer.

Based on a study, the DEA planned to manage the public health and environmental impacts of mercury pollution, in terms of obligations in the Minamata Convention on Mercury that South Africa signed in 2015.

The DEA is managing the phasing out of the import and export of hazardous chemicals and waste, in terms of obligations in the Basel, Rotterdam and Stockholm Conventions.

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.

Pollution

The department plans to increase the number of government-owned air quality monitoring stations reporting to the South African air quality information system, from 115 in 2016/17 to 125 in 2019/20, in an attempt to reduce air pollution.