



# 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.

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
- 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 Expanded Public Works Programme (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 of government's 2014-2019 Medium Term Strategic Framework (protect and enhance our environmental assets and natural resources).

South Africa hosted the 17th Conference of the Parties (COP 17) to the Convention on International Trade in

Endangered Species of Wild Fauna and Flora (CITES) in September and October 2016.

## 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.

### 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.

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

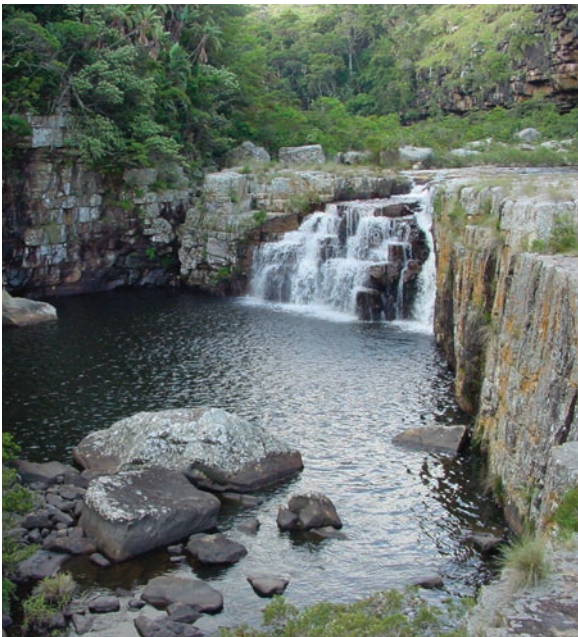
- Kgalagadi Transfrontier Park
- Kruger National Park
- Mapungubwe National Park
- Marakele National Park
- Mokala National Park
- Mountain Zebra National Park
- Namaqua National Park
- Table Mountain National Park (which incorporates the Cape of Good Hope, Table Mountain and Silvermine nature reserves)
- 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 as follows:

- 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 Lephalale, 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
- Kruger-to-Canyons 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. Access is limited to researchers and staff, such as Marion Island and the Prince Edward Islands near Antarctica.

### 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 seven World Heritage sites proclaimed by UNESCO, namely:

- Robben Island
- iSimangaliso Wetlands Park
- the hominid sites at Swartkrans, Sterkfontein and Kromdraai (known as the Cradle of Humankind)
- Ukhahlamba-Drakensberg Park (a natural and cultural site)
- Mapungubwe Heritage Site
- Cape Floral Kingdom
- Richtersveld Cultural and Botanical Landscape
- Vredefort Dome.

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.

### 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.

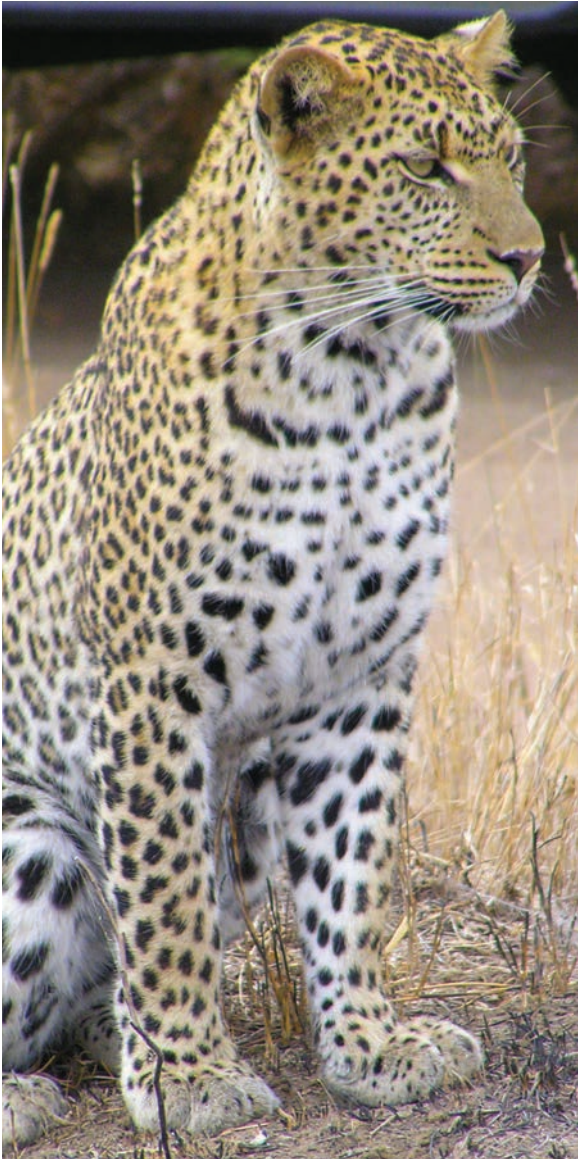
### Marine protected areas (MPAs)

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 Pretoria zoo.

### 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 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.

East London aquarium was 82 years old in 2013, making it South Africa's oldest aquarium.

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 aim 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 strategy has the strategic objective of capitalizing 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.

## Recycling

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 South Africa. 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 1 175 rhinos were poached in South Africa during 2015, a slight decrease on the previous year when a record 1 215 rhinos were illegally killed, according to the International Union for Conservation of Nature Species Survival Commission's African Rhino Specialist Group.

In the first four months of 2016, 363 rhino were poached countrywide. During the same period last year, that national figure was 404. During the same period, the largest number of rhino poached had been in the Kruger National Park, where 232 were poached. A total of 51 rhino were poached in KwaZulu-Natal, 30 in Limpopo, 15 in North West, 14 in Mpumalanga, 13 in the Eastern Cape, five in Northern Cape, and three in the Free State.

The Directorate for Priority Crime Investigation (Hawks) has been working closely with various partners in the prevention, combating and investigation of wildlife trafficking.

Between January and May 2016, a total of 206 alleged poachers were arrested in South Africa. In terms of rhino prosecutions between April 2015 and March 2016, there were 49 finalised cases involving 103 accused.

A total of 80 of these accused were convicted, resulting in a conviction rate of 78%.

## Climate change

South Africa participated in the 21st Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) and 11th Meeting of the Parties service as the Conference of the Parties to the Kyoto Protocol held in Paris, France from 30 November to 12 December 2015.

The conference led to the adoption of consensus of the Paris Agreement and a package of supporting decisions addressing climate action in both the pre- and post-2020 periods.

## 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 Buffelsdraai Landfill Site Community Reforestation Project is another example of the way in which communities are working to restore ecosystems, improve water quality, and mitigate the effects of flooding, to name but a few.