



## ENVIRONMENT

South Africa is the third most biodiversity-rich country in the world. It has a diversity of landscapes and natural beauty to match the variety in culture and language.

## ENVIRONMENT

In 2009, the Department of Environmental Affairs and Tourism's fisheries responsibilities moved to the Department of Agriculture, Forestry and Fisheries. The tourism component became a separate department.

Government leads protection of the environment by example. At regional level, the provincial conservation agencies are major role players, and 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 total conservation effort.

### Environmental heritage

South Africa has between 250 000 and a million species of organisms, many of which occur nowhere else in the world.

While South Africa occupies about 2% of the world's land area, it is estimated that the country is home to 10% of the world's plants and 7% of the reptiles, birds and mammals.

The southern African coast is home to almost 15% of known coastal marine species, providing a rich source of nutrition and supporting livelihoods of coastal communities.

In terms of the number of endemic species of mammals, birds, reptiles and amphibians, South Africa is ranked as the fifth-rich-

#### Important dates:

World Wetlands Day: 2 February

National Water Week: 19 to 25 March

Earth Day: 20 March

World Water Day: 22 March

World Meteorological Day: 23 March

World Environment Day: 5 June

World Oceans Day: 8 June

World Desertification Day: 17 June

National Arbour Week: 1 to 7 September

International Day for the Protection of the Ozone Layer: 16 September

World Tourism Day: 27 September

World Habitat Day: 4 October

National Marine Day: 20 October



South Africa, as a biodiversity-rich country, is committed to the conservation and sustainable management of biological 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.

est country in Africa and the 24th-richest in the world. It is one of only 17 countries that collectively contains two thirds of the world's biodiversity.

*The National Spatial Biodiversity Assessment* by the Department of Environmental Affairs and Sanbi revealed that 34% of South Africa's ecosystems were threatened, with 5% critically endangered; while 82% of the 120 main rivers were threatened; and 44% critically endangered. Of the 13 groups of estuarine biodiversity, three were in critical danger and 12% of marine biozones were under serious threat.

South Africa's National Biodiversity Strategy and Action Plan aims to guide conservation and the management of biodiversity to ensure sustainable and equitable benefits for all communities.

The country's three globally recognised biodiversity hotspots are the Cape Floral Region, which falls entirely within South African boundaries; the Succulent Karoo, which South Africa shares with Namibia; and Maputaland-Pondoland, which South Africa shares with Mozambique and Swaziland.

The coastline meets the Atlantic, Indian and Southern oceans, which provide exceptional habitats ranging from cool water kelp forests to tropical coral reefs.

The Cape Floral Kingdom has the highest recorded species diversity for any similar-sized temperate or tropical region in the world. It is a world heritage site.

Biodiversity is protected and promoted through institutions and initiatives such as the:

## ENVIRONMENT

*SA Act Now! Combat Climate Change* was the theme chosen to celebrate National Environment Month in June 2009.

South Africa was raising the bar on climate change as a significant element of its development agenda, with the March 2009 Climate Change Summit having laid the foundation for a participatory process to shape the way South Africans respond to climate change.

The Long-Term Mitigation Scenarios on Climate Change was approved by Cabinet in 2008.



- South African Biodiversity Facility
- South African Biosystematics Initiative
- South African Environmental Observation Network
- Biobank South Africa
- Sanbi.

### Biomes

There are eight major terrestrial biomes, or habitat types, in South Africa. These biomes can, in turn, be divided into 70 veld types.

The biomes are the Savanna, Nama-Karoo, Succulent Karoo, Grassland, Fynbos, Forest, Thicket and Desert. The Fynbos Biome is one of only six floral kingdoms worldwide.

### Conservation areas

The Convention on Biological Diversity, to which South Africa is a signatory, requires that 10% of terrestrial and 20% of marine biodiversity be conserved by 2010. There are a number of management categories of protected areas in South Africa, which conform to the accepted categories of the International Union for Conservation of Nature.

South Africa has a long-term strategy to expand the conservation areas under formal protection from 6% to the international standard of 10% of the total area of the country.

The Department of Environmental Affairs has committed significant financial resources towards the expansion of formal protected areas, and increasing the number of national parks and the total formal conservation estate to four million hectares. Since 2004, the department declared four new marine protected areas (MPAs), thus increasing the total coastline under protection to 20%.



The Prince Edward islands are a recognised biodiversity hotspot and breeding ground for a spectacular array of marine birds and mammals, such as leopard seals, skuas and cormorants. Creatures such as the 14-m long colossal squid, which has never been caught alive, have also been sighted in their waters.

The islands are home to four penguin species, which established their rookeries on the rugged beaches. There are substantial populations of king and macaroni penguins (450 000 and 750 000 respectively), as well as 5% of all the southern rockhopper penguins on Earth, and 0,5% of gentoo penguins.

The southern rockhopper species is endangered, while macaroni penguins are vulnerable and gentoos are near threatened. The king penguin is not under threat.

Other birds found on the islands include five species of albatross, namely the wandering, grey headed, Indian yellow-nosed, dark-mantled and light-mantled sooty varieties. All are in varying degrees of danger. In addition, 14 species of petrels make their home there.

Three species of seal breed on the Prince Edward islands. These are the southern elephant seal and the sub-Antarctic and Antarctic fur seal.

### Scientific reserves

These are sensitive, undisturbed areas managed for research, monitoring and maintenance of genetic sources. Access is limited. Examples are Marion Island and the Prince Edward islands near Antarctica.

### Wilderness areas

These areas are extensive in size, uninhabited, and underdeveloped, and access to them is strictly controlled. Examples are the Cederberg Wilderness Area and Dassen Island in the Western Cape.

### National parks and equivalent reserves

SANParks manages several national parks throughout South Africa, excluding in Gauteng, North West and KwaZulu-Natal. The system of national parks is representative of the country's important ecosystems and unique natural features.

South Africa is in the process of establishing transfrontier conservation areas (TFCAs) in cooperation with its neighbouring countries.

## ENVIRONMENT

The conservation status of the areas within these TFCAs varies from national parks, private game reserves and communal natural-resource management areas to hunting concession areas. Though fences, highways, railway lines or other barriers separate the constituent areas, they are managed jointly for long-term sustainable use of natural resources.

TFCAs aim to facilitate and promote regional peace, cooperation and socio-economic development. The success of TFCAs depends on community involvement. In turn, TFCAs are likely to provide local communities with opportunities to generate revenue.

The seven TFCAs are as follows:

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

The National Environmental Management: Protected Areas Amendment Act, 2004 protects South Africa's biosphere reserves, which are generally formed around existing core conservation areas.

*Boundless Southern Africa* (BSA), the consolidated transfrontier conservation areas' (TFCA) brand was officially launched by nine southern African countries at the Tourism Indaba in Durban in May 2008.

Angola, Botswana, Lesotho, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe unanimously showed their support for the brand as a means of showcasing the TFCAs in the Southern African Development Community region.

A BSA expedition departed from the Tourism Indaba in Durban in May 2009. The four month-long expedition raised awareness about TFCAs as tourist and investment destinations.

The 10 000-kilometre expedition covered the nine countries, seven TFCAs and 30 national parks and nature reserves. It ended at the mouth of the Orange River in the Ai-Ais/Richtersveld TFCA in August 2009.



## National parks of South Africa



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|---|--|
| Addo Elephant National Park                                   | Kruger National Park                   |
| Agulhas National Park   | Mapungubwe National Park               |
| Augrabies Falls National Park                                 | Marakele National Park                 |
| Bontebok National Park  | Mokala National Park                   |
| Camdeboo National Park  | Mountain Zebra National Park           |
| Garden Route (Tsitsikamma, Knysna, Wilderness National Parks) | Namaqua National Park                  |
| Golden Gate Highlands National Park                           | Table Mountain National Park           |
| Karoo National Park   | Tankwa Karoo National Park             |
| Kgalagadi Transfrontier Park                                  | West Coast National Park               |
|   | Ai-Ais/Richtersveld Transfrontier Park |

Source: South African National Parks

Biosphere reserves include outstanding natural beauty and biological diversity, exist in partnership with a range of interested landowners and can incorporate development, as long as it is sustainable, while still protecting terrestrial or coastal ecosystems.

South Africa added a sixth biosphere reserve to its register when the Vhembe region of Limpopo became one of 22 newly proclaimed reserves by the UN Educational, Scientific and Cultural Organisation (Unesco). The 22 new biospheres, located in 17 countries, were added to Unesco's World Network of Biosphere Reserves during

## ENVIRONMENT

the 21st session of the International Coordinating Council of the Man and the Biosphere Programme. The total stands at 553 sites in 107 countries.

The other biosphere reserves are:

- Kogelberg Reserve
- Cape West Coast Biosphere Reserve
- Cape Winelands Biosphere Reserve
- Waterberg Biosphere Reserve
- Kruger-to-Canyons Biosphere Reserve.

### National and cultural monuments

These are natural or cultural features, or both, and may include botanical gardens, zoological gardens, natural heritage sites and sites of conservation significance.

### World heritage sites

By August 2009, there were 890 world heritage sites. A total of 176 were natural sites, 689 were cultural sites and 25 were mixed sites.

South Africa's world heritage sites are:

- Robben Island
- iSimangaliso Wetlands Park
- Cradle of Humankind
- Ukhahlamba-Drakensberg Park
- Mapungubwe
- Cape Floral Region
- Vredefort Dome
- Richtersveld Cultural and Botanical Landscape.

Makapan Valley in Limpopo and the Taung Cave in North West were declared extensions of the Cradle of Humankind.

### Habitat and wildlife management areas

These areas include conservancies; provincial, regional or private reserves created for the conservation of species, habitats or biotic communities; marshes; lakes; and nesting and feeding areas.



The new Garden Route National Park (GRNP) was gazetted in March 2009. The park will comprise some 121 000 ha, including the existing national parks of Wilderness, Tsitsikamma and Knysna as well as about 52 500 ha of newly proclaimed land. The individual parks will retain their identity and become camps in the GRNP. The establishment of the GRNP is part of a long-term strategy to expand the protected areas in South Africa under formal protection from 6% to 10% of the total area of the country.

The Garden Route is one of the most important conservation areas in South Africa. South African National Parks is the second-largest employer in the region and its total economic contribution to the region is estimated to be almost R95 million per year.



## Sustainable-use areas

These areas emphasise the sustainable use of products in protected areas such as the Kosi Bay Lake System in KwaZulu-Natal.

## Wetlands

Wetlands include a wide range of inland and coastal habitats – from mountain bogs, fens and midland marshes to swamp forests and estuaries, linked by green corridors of streambank wetlands.

Many wetland plants have great medicinal value. In South Africa, traditional medicine is the preferred primary healthcare choice for about 70% of people. Wetlands provide some of the 19 500 tons of medicinal plant material, which are used by some 28 million South Africans every year.

The Working for Wetlands Programme focuses on wetland restoration, while maximising employment creation, support for small, medium and micro-enterprises and skills transfer.

Sanbi also manages the Working for Wetlands Programme, with its offices based at the Pretoria National Botanical Garden. Working for Wetlands rehabilitated 91 wetlands, employed 1 710 people and provided 28 547 training days.

## Botanical gardens

Sanbi manages eight national botanical gardens in five of South Africa's nine provinces. The gardens collectively attract over

## ENVIRONMENT

1,25 million visitors a year, are signatories to the International Agenda for Botanic Gardens in Conservation and founding members of the African Botanic Gardens Network.

The largest garden is Kirstenbosch, situated on the eastern slopes of Table Mountain in Cape Town.

The other gardens in the national network are the Karoo Desert in Worcester, Harold Porter in Betty's Bay, Free State in Bloemfontein, KwaZulu-Natal in Pietermaritzburg, Lowveld in Nelspruit, Walter Sisulu in Roodepoort/Mogale City, the Pretoria National Botanical Garden and Hantam in the Northern Cape.

The Pretoria National Botanical Garden houses the National Herbarium of South Africa, the largest in the southern hemisphere.

### Zoos

There are a number of zoological gardens in South Africa. The 85-ha National Zoological Gardens (NZG) of South Africa in Pretoria is one of the world's 10 best. It attracts more than 600 000 visitors annually. The national zoo is responsible for the biodiversity conservation centres in Lichtenburg and Mokopane, and the satellite zoo and animal park at the Emerald Animal World complex in Vanderbijlpark.

The NZG is a national research facility, which presents an opportunity for the zoo to reposition itself as one of the world leaders in breeding and researching endangered species.

### Marine protected areas

The MPAs are modelled on the success of the iSimangaliso Wetlands Park – with strict zoning of both marine and coastal protected areas. The four MPAs are Aliwal Shoal on the south coast of KwaZulu-Natal, the coastal and marine environment next to Pondoland in the Eastern Cape, Bird Island at Algoa Bay and the Cape Peninsula in the Western Cape.