



Official Guide to **SOUTH AFRICA** 2021/22

**FORESTRY, FISHERIES AND THE
ENVIRONMENT**

Department of Forestry, Fisheries and the Environment (DFFE)

The DFFE is mandated to give effect to the right of citizens to an environment that is not harmful to their health or wellbeing, and that is protected for the benefit of current and future generations. To this end, the department provides leadership on sustainability in environmental management, conservation and protection for the benefit of South Africans and the global community.

The department's mandate is derived from legislation that includes the:

- Marine Living Resources Act of 1998, which deals with the sustainable long-term use of marine living resources;
- National Environmental Management Act of 1998, which provides for specific legislation on biodiversity and heritage resources, oceans and coasts, climate change and air quality management, and waste and chemicals management;
- National Forests Act of 1998, which promotes the sustainable management and development of forests for the benefit of all, and creates the conditions necessary to restructure forestry in state forests for protection and sustainable use;
- National Veld and Forest Fire Act of 1998, which provides for the prevention and combating of veld, forest and mountain fires across South Africa;
- National Environmental Management: Air Quality Act of 2004, which reforms the law regulating air quality to protect the environment by providing reasonable measures for preventing pollution and ecological degradation, and securing ecologically sustainable development; and provides for national norms and standards that regulate the monitoring of air quality;
- National Environmental Management Amendment Act of 2004, which streamlines the regulation and administration of environmental impact assessment processes;
- National Environmental Management: Biodiversity Act (NEMBA) of 2004, which significantly reforms the laws regulating biodiversity;
- National Environmental Management: Integrated Coastal Management Act of 2008, which promotes the conservation of the coastal environment, and ensures that development practices and the use of natural resources are sustainable;
- National Environmental Management: Waste Act of 2008, which reforms the law regulating waste management to protect health and the environment by providing reasonable measures to prevent pollution; and
- National Environmental Management: Protected Areas Amendment Act of 2009, which provides for the assignment of national parks, special parks and heritage sites in terms of the World Heritage Convention Act of 1999.

Over the medium term, the department planned to continue focusing on supporting an equitable transition to a low-carbon economy and a climate-resilient society, creating an enabling environment for South Africa's transition

to a circular economy, and creating jobs and work opportunities through public employment programmes.

Supporting an equitable transition to a low-carbon economy and a climate-resilient society

The department will prioritise the implementation of the approved low-emissions development and growth strategy over the medium term, and seek to build capacity for the Presidential Climate Change Coordination Commission secretariat. It will also spearhead the development of job resilience plans in the five sectors identified as the most vulnerable to climate change (coal, agriculture, tourism, petrol-based transport and metals).

These initiatives feed into the National Climate Change Bill, which, once promulgated, will serve as the overarching legislative framework for the implementation of climate adaptation and mitigation within provinces and municipalities, and ensure the coordination of climate change interventions across the three spheres of government.

Improved waste management towards a circular economy

Over the medium term, the DFFE aimed to focus on creating an enabling environment to support the transition to a circular economy, which entails a shift from the current – wasteful – economy to a more regenerative, inclusive and equitable one. Accordingly, the department will continue with the implementation of the recycling enterprise support programme and Operation Phakisa initiatives that contribute to job creation in the waste management sector. In addition, it will implement the national waste management strategy, which is aimed at minimising waste and diverting 40% of waste from landfills over the next five years.

In an effort to reduce plastic waste and encourage plastic recycling, over the period ahead, the levy on plastic bags is expected to be extended to all single-use plastics used for retail consumption – including plastic straws, utensils and packaging – to curb their use, encourage reuse and recycling, and divert waste from landfill. In partnership with the Council for Scientific and Industrial Research and the Department of Trade, Industry and Competition, the DFFE will work towards implementing a waste management plan for the tyre industry.

The plan includes establishing sustainable markets for recycled tyre products and developing processing capacity to support the recycling of old tyres in environmentally sustainable ways.

Creating jobs and work opportunities through the expanded public works programme

The DFFE's commitment to job creation is reflected in its medium-term targets of providing full-time jobs and work opportunities through the Expanded Public Works Programme. These jobs and work opportunities will be made available through projects and initiatives that focus on: restoring and rehabilitating

degraded ecosystems (environmental protection and infrastructure programme); expanding the conservation estate (Working for Ecosystems); protecting, restoring and rehabilitating wetlands (Working for Wetlands); protecting water resources (Working for Water); managing sustainable land use (Working for Ecosystems); sustaining production, growth and transformation in the forestry sector (Working for Forests); and addressing the challenges faced by the fisheries sector (Working for Fisheries).

National list of threatened ecosystems

In November 2022, the Ministry of Forestry, Fisheries and the Environment published the revised national list of ecosystems that are threatened and need protection. The revised list has been published in *Government Gazette* 47526 (Notice No.689) on 18 November 2022 in terms of the NEMBA of 2004.

By listing the ecosystems that are threatened or in need of protection, anyone wanting to undertake any activity will require environmental authorisation to do so. The list of ecosystems is used to support decision-making and to inform bioregional planning. The revised national list of ecosystems that are threatened or in need of protection was developed between 2016 and 2020 and incorporates the best available information on terrestrial ecosystem extent and condition, pressures and drivers of change.

A total of 120 of the 456 terrestrial ecosystem types assessed are categorised as threatened. Together these threatened ecosystem types make up approximately 10% of the remaining natural habitat in the country. Of the 120 terrestrial ecosystems 55 are critically endangered, 51 endangered and 14 have been found to be vulnerable.

According to the revised list and maps, the remaining natural extent of threatened terrestrial ecosystems has increased from 8% of the country to 10%, given ongoing habitat loss and threats from invasive species over the past 20 years.

Threatened ecosystem types can be found in all provinces, but are concentrated in the Fynbos biome of the Western Cape and Eastern Cape, KwaZulu-Natal's Indian Ocean Coastal Belt, the Albany Thicket biome of the Eastern Cape, the Highveld Grasslands, and Savanna biome. The list can be accessed on: www.dffe.gov.za/sites/default/files/gazetted_notices/nema_threatenedecosystemslist_g47526gon2747.pdf

Role players

South African National Biodiversity Institute (SANBI)

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. Its mandate is to monitor and report on the status of South Africa's biodiversity; all listed threatened or protected

species, ecosystems and invasive species; and the impact of any genetically modified organism released into the environment.

Over the medium term, the institute aimed to focus on providing biodiversity science and policy advice; maintaining and improving the existing national botanical gardens; and establishing two new national botanical gardens – in Kwelera (Eastern Cape) and Thohoyandou (Limpopo). The Kwelera National Botanical Garden in East London is South Africa's 10th national botanical garden and the first to be established in the Eastern Cape.

The Thohoyandou National Botanical Garden in the Vhembe Biosphere Reserve in Limpopo is South Africa's 11th national botanical garden.

South African National Parks (SANParks)

SANParks was established in terms of the National Environmental Management: Protected Areas Act of 2003. Its mandate is to conserve, protect, control and manage national parks and other defined protected areas and their biodiversity.

The entity plays a significant role in the economy, as the presence of an efficiently managed system of national parks is a key component of the national tourism economy, and acts as a catalyst for local economic development. Through the implementation of the Expanded Public Works Programme, the entity provides significant support to SMMEs, particularly in rural areas.

As a leading conservation authority, SANParks is a public entity under the jurisdiction of the DFFE, where inclusive conservation as opposed to previous policies of exclusion, are central to advancing the policies in line with the National Development Framework for Sustainable Development and the National Development Plan.

SANParks manages a system of 19 functional national parks in seven of the nine provinces of South Africa with a total area of just over four million hectares comprising 67% of the protected areas under state management. The SANParks of today is recognised as a world leader in conservation and protected area management.

The National Environmental Management: Protected Areas Act mandates SANParks to create destinations for nature-based tourism in a manner that is not harmful to the environment. As SANParks is primarily a self-funding entity generating approximately 80% of its operating budget from its ecotourism business; fulfilment of its conservation mandate is heavily reliant on a thriving and sustainable tourism operations.

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 TFCA
- Maloti-Drakensberg Transfrontier Conservation and Development Area.

Awelani Community Conservation Area (CCA)

The Awelani CCA is a 1 800 hectare area set aside for conservation by the Mutele Community in Limpopo, including the development of tourism infrastructure.

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 hotspots; 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 different plant species, some 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 United Nations Educational, Scientific and Cultural Organization (UNESCO) in terms of the Man and Biosphere Programme.

Areas of conservation

Protected areas

The National Protected Areas Expansion Strategy aims to achieve the cost-effective expansion of protected areas for improved ecosystem representation, ecological sustainability and resilience to climate change and safeguarding biodiversity-based jobs. The strategy extends to freshwater and marine components and is framed to ensure that the country contributes to its international obligations on the protection of conservation estates.

South Africa is home to more than nine million ha of protected areas network, which includes national parks, nature reserves and world heritage sites. 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.

The quality of South African and international weather forecasts relies on the availability of data inputs from the Gough Island region. Gough Island is a volcanic island rising from the South Atlantic Ocean to heights of over 900 metres above sea level with an area of 91 km².

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 Baviaanskloof 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 one 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 harbours 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 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.
- **ǀKhomani 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 ǀKhomani 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 ǀKhomani Cultural Landscape bears testimony to the way of life that prevailed in the region and shaped the site over thousands of years.

- **Makhonjwa Mountains, also known as the Barberton Greenstone Belt (Mpumalanga).** 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 meteorite impact fallback breccias resulting from the impact of meteorites formed just after the Great Bombardment (over 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.

South Africa had listed the following 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
- Turtle beaches and coral reefs of Tongaland
- Ukhahlamba-Drakensberg Park

- Verlorenvlei Nature Reserve
- Wilderness Lakes
- Dyer, Geyser and Dassen islands
- Kgaswane Mountain Reserve.

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), also known as the Pretoria Zoo, is not only the largest zoo in South Africa and the only one with national status, but is also rated as one of the top zoos in the world. By mid-2022, the 85-hectare zoo housed 3 117 specimens of 209 mammal species, 1 358 specimens of 202 bird species, 3 871 specimens of 190 fish species, 388 specimens of four invertebrate species, 309 specimens of 93 reptile species, and 44 specimens of seven amphibian species.

The highly accredited tourism site, World Atlas, published an article rating the Pretoria Zoo as one of the 10 best ranked zoos in the world, competing with the well-known Bronx Zoo in New York. An Aquarium and Reptile Park also form part of the Zoo facility in Pretoria. The Aquarium is the largest inland marine aquarium in the country. The third largest collection of exotic trees can be found at the Zoo.

Some of the government and private venues include the following:

- Joburg Zoo in Johannesburg, which was founded in 1904, covers 55 ha of land and 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.
- East London Zoo is located in the Queens Park Zoological Gardens in East London, Eastern Cape. It is financed and managed by the Buffalo City Metropolitan Municipality. Apart from the animals, the zoo and gardens contain a treasure trove of flora and fauna, some of which is only found in the Eastern Cape.
- Birds of Eden is the world's largest free flight aviary and bird sanctuary, located near Plettenberg Bay in the Western Cape, South Africa. Its unique two-hectare dome (the world's largest) spans over a gorge of indigenous forest. It is home to over 3 500 birds from over 220 species, with the main focus being African birds.
- Umgeni River Bird Park in Durban, in KwaZulu-Natal, is situated in 3.5 ha of lush tropical landscaping and houses an ever-increasing collection of more than 800 birds from 200 species.
- World of Birds is the largest bird park in Africa and one of the few large bird parks in the world. Over 3 000 birds (and small animals) of 400 different species are uniquely presented in more than 100 spacious landscaped walk through aviaries, allowing you the most intimate closeness with nature.
- The Bushbabies and Monkey Sanctuary, situated in Hartbeespoort Dam provides an environment where monkeys (primates) can be given their freedom in a natural environment. The sanctuary situated in one of the many kloofs (gorges) of the Magaliesberg mountain range provides the perfect environment for Monkeys from around the world.

Conservation centres

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. 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.

Aquariums and oceanariums

There are aquariums in Pretoria, Gqeberha (formerly 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 Gqeberha 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 seawater species.

Snake and reptile parks

The Bayworld Snake Park in Gqeberha is home to a wide variety of South African and foreign reptiles. The Aquarium and Reptile Park at the NZG in Pretoria also houses a wide variety of 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 primarily aims to conserve and breed endangered reptiles. Located outside Hoedspruit, it offers a close-up look at many local as well as exotic snakes, crocodiles and lizards.

The Croc City Crocodile and Reptile Park breeds crocodiles on a farm in Nietgedacht, Chartwell and other resident reptiles.

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.

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%).

Poaching

Fighting poaching, particularly rhino poaching in the Kruger National Park and abalone poaching in Western Cape, remains a top priority. Strategies to combat wildlife crime involve the technological improvement of early warning systems and risk assessments, better coordination with law-enforcement agencies, and the deployment of additional rangers.

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.

Climate change

Severe weather events, a phenomena associated with global warming, are a reminder that climate change is already part of our lived reality.

The Sixth Assessment report of the Intergovernmental Panel on Climate Change says that by 2030, 50% of the world's population will live in coastal areas that are exposed to floods, storms and tsunamis intensifying the vulnerability of communities living in conditions of poverty.

In the face of this reality, the importance of early warning systems and effective rapid response to disasters cannot be over emphasised.

Over the next three years, the DFFE will be investing over R100 million to upgrade and modernise weather stations to bring radar and forecasting in line with modern very short-term prediction standards.

Green economy

Through South Africa's Green Economy Strategy, the DFFE 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.

Forestry

In terms of Forestry South Africa, which represents the forestry industry, the South African forestry landscape is a tapestry of commercial timber plantations – or tree farms – interwoven by natural spaces of unplanted land to enhance and conserve biodiversity, grasslands, wetlands and indigenous forests.

With some 80% of the country's timber plantations certified by the Forest Stewardship Council, South Africa has one of highest degree of forest certification in the world. South Africans can be proud of their Forestry Industry as one that is environmentally, socially and economically responsible.

National Arbor Week and Month

National Arbor Week, which is celebrated annually in September, serves to promote awareness for the need to plant and maintain indigenous trees throughout South Africa. The theme for the year 2022 was "Forests and sustainable production and consumption". The theme was adopted from the United Nations Collaborative Partnership on Forests and was used for the International Day of Forests commemoration this year. The 2022 theme aimed to highlight key areas of forestry and tree planting in terms of their role in creating and sustaining healthy and resilient communities, through health benefits that are derived in forests that include nutritious foods, medicine, fresh air, clean water and place for recreation.

The following four tree species were selected as trees of the year for 2022:

- Common Tree: *Dais cotinifolia L* – Pompon tree.
- Tree for Promotion: *Peltophorum africanum* – African Black wattle.
- Tree for Appreciation 1: *Aloidendron dichotomum* – Quiver tree.
- Tree for Appreciation 2: *Aloidendron pillansii* – Giant Quiver Tree.

Woodlands

Woodlands include those types ranging from wooded grasslands (between 5% and 10% tree canopy cover) to dense thickets (areas with over 75% tree canopy cover but which do not meet the other criteria required to be defined as natural forest).

The woodland, also known as savannas, constitute a forest resource of major importance in South Africa. Several protected tree species of the savanna, such as camel thorn and leadwood, contribute substantially to the lucrative braai wood market, and guidelines have been set for licensing processes to assist with the control of their use. Kathu Forest in the Northern Cape is the first woodland area to be declared protected woodland under the National Forests Act of 1998.

The woodlands are a valuable source of fuel, building material, craft timber and a variety of nontimber products. These include fruit, fodder, medicinal compounds, honey, meat and mushrooms. They form the backbone of the livelihoods of millions of people. The wood processing sector comprises board manufacturers and manufacturers of wood-based products.

Fisheries

The fishing sector remains a significant contributor to food security and the economy. Stabilising the sub-sector through the allocation of longer-term fishing rights is critical to attracting investment into the industry.

The transformation of the South African fishing industry is a constitutional and legislative imperative. The Fishing Rights Allocation Process (FRAP) and the management of commercial fishing rights are an important site for industry transformation.

The DFFE received a total of 2 473 applications for the allocation of commercial fishing rights in accordance with the FRAP 2021/22, in terms of Section 18 of the Marine Living Resources Act (MLRA) of 1998, in the following sectors:

- Hake deep sea trawl
- Hake longline
- South coast rock lobster
- Small pelagic (sardine and anchovy)
- KwaZulu-Natal crustacean trawl
- Demersal shark
- Squid
- Tuna pole-line
- Traditional linefish.

The allocation of rights in terms of the FRAP 2021/22 was finalised during

February 2022, and aggrieved parties were then entitled to submit their appeals against the decisions of the delegated authorities in relation to the FRAP 2021/22 to the Minister, in terms of Section 80 of the MLRA of 1998. The closing date for lodging appeals against FRAP 2021/22 was extended to 29 July 2022.

The department received a total of 1 213 appeals across the aforementioned nine fishing sectors, via the department's online appeal system. The department's Directorate: Appeals and Legal Review (Cape Town), is responsible for the administration and processing of the FRAP 2021/22 appeals. In addition, an Appeal Advisory Team (AAT) has been appointed through the Office of the State Attorney to advise the Forestry, Fisheries and the Environment Minister Barbara Creecy on the FRAP 2021/22 appeals.

For the sake of efficiency, expedience and to ensure a fair and proper process and outcome, the Appeals Directorate is administering these 1 213 appeals on a sector-by-sector basis, in phases, as follows: phase one of the appeal process relates to the demersal shark sector, the KwaZulu-Natal crustacean trawl sector and miscellaneous issues arising (non-compliant and late appeals); phase two of the appeal process relates to south coast rock lobster sector and in the tuna pole line sector; phase three of the appeal process relates to the traditional line fish and squid sectors; phase four relates to the Hake Deep Sea Trawl and Hake Longline sectors; and phase five of appeal process relates to the small pelagic sector (sardine and anchovy).

By 2 December 2022, Minister Creecy had completed phase 1 of the appeal process and by mid-December, was steeped in phase 2 of the appeal process. The department endeavoured to complete phase 2 of the appeal process (relating to the south coast rock lobster appeals and the tuna pole line appeals) by the end of February 2023. By mid-December, the processing and administration of appeals in phases 3 and 4 of the process had commenced.

The department was expected, on an ongoing basis, to publish progress in relation to each phase of the appeals process on its website. The entire appeal process is expected to be completed before the end of 2023.

World Fisheries Day is celebrated every year on 21st November throughout the world by fishing communities, non-government officials, fishing associations and government departments. The day helps to highlight the critical importance of fish and the lives they sustain, both in and out of water.

Aquaculture

South Africa is a maritime nation with jurisdiction over one of the largest exclusive economic zones in the world. Its oceans represent a significant asset for current and future generations, with enormous economic potential, in aquaculture, bioprospecting, marine ecotourism, extractive industries, and less obvious benefits of healthy ecosystem services such as climate regulation, carbon storage and waste absorption.

The growing ocean economy had by mid-2021 contributed R41 billion to South

Africa's gross domestic product, creating jobs in six focus areas including marine transport and manufacturing, offshore oil and gas exploration, aquaculture; small harbours development, coastal and marine tourism, marine protection services and ocean governance.

By mid-2021, consultations on the Aquaculture Development Bill were being finalised to be tabled in Parliament. The National Freshwater (inland) Wild Capture Fisheries Policy was also developed. The Oceans Economy Programme includes a specific focus on marine protection and ocean governance while the Marine Spatial Planning Act of 2018 provides for the development and implementation of a shared marine spatial planning system to facilitate responsible use of the oceans, and to conserve the oceans for present and future generations.