



OFFICIAL GUIDE TO  
**South Africa**  
2018/19

**Environment,  
Forestry and  
Fisheries**



Following the reconfiguration of government departments in June 2019, the Department of the Environment, Forestry and Fisheries (DEFF) was established after transferring the functions of forestry and fisheries from the then Department of Agriculture, Forestry and Fisheries (now called Department of Agriculture, Land Reform and Rural Development).

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

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

Government prioritises the management, protection and conservation of South Africa's environment and natural resources.

According to Statistics South Africa's General Household Survey (GHS) of 2018, waste removal problems and littering (42,6%), as well as land degradation and soil erosion (32,7%), were the two environmental problems that concerned the highest percentage of households in 2018.

Strikingly, the percentage of households that considered land degradation and soil erosion a problem increased from 15,6% in 2003 to 34,1% in 2014 before dropping slightly to 32,7% in 2018.

The proportion of households that felt that there were problems with littering and waste removal in their areas also increased notably since 2003 when 28,7% of households regarded this as a problem.

Households that considered air pollution to be a problem decreased from 22,7% in 2003 to 18,9% in 2018. This corresponds with a switch from wood and coal to electricity as a main source of energy.

The GHS of 2018 also showed that waste removal problems and littering (37,0%), land degradation (21,0%) and air pollution (19,8%) were the most common environmental problems in metros.

With the exception of Buffalo City in the Eastern Cape, where land degradation (43,3%) was considered the most important environmental problem, waste removal and littering was considered most important, by some margin, across the other metros.

In Mangaung in the Free State, 64,7% of households considered waste removal and littering a problem.

Water pollution was considered the least common problem across all metropolitan areas except for City of Johannesburg in Gauteng and Cape Town in the Western Cape where air pollution was considered a slightly smaller environmental concern.

The survey also found that during the 12 months preceding the survey, 45,5% of households used pesticides in their dwellings and 10,5% used pesticides in their yards. A further 6,2% used herbicides in their yards or gardens.

## **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.

## **Role players**

### **South African National Biodiversity Institute**

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

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

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

Biodiversity richness is one of South Africa's greatest assets, in terms of landscapes, ecosystems and species – the web of natural life – provides goods and services vital for human well-being and the survival of the planet.

South Africa is one of the 30 driest countries in the world. This phenomena has been intensified by a prolonged drought.

A critical programme aimed at improving the water security is the control of invasive plants in the catchments and wetlands. Recent research estimates that protection and clearing of river catchments can increase South Africa's water supply by as much as one sixth, at a fraction of the cost of projects such as desalination.

The Working for Water Programme has cleared and maintained almost 3.5 million hectares of land. In 2019, work was being intensified in both the key catchment and wetland areas with 190 wetlands scheduled for repair.

Wetlands and estuaries also play a crucial role in flood management. Accordingly, the department is working with other affected departments and entities on a joint Wetlands Framework to improve wetland protection, management and conservation in an integrated manner.

New areas – Dyer, Geyser and Dassen islands in the Western Cape, and Kgaswane Mountain Reserve in North West – have been added to the prestigious Ramsar List of Wetlands of global significance.

## South African National Parks

SANParks is the custodian of 19 national parks located in diverse vegetation types: Desert, Grassland, Forest, Succulent Karoo, Nama Karoo, Fynbos, Savanna, Albany Thicket, Indian Ocean Coastal Bled and Azon. The park system spans seven of South Africa's provinces, consists of over four million hectares (40 000 km<sup>2</sup>) and makes up about 67% of the land under formal conservation in the country.

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

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

The national parks are:

- Addo Elephant National Park
- Agulhas National Park

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

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

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

The seven TFCAs are:

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

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

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

South Africa's biosphere reserves include:

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

## Areas of conservation

### Protected areas

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

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

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

### **Scientific reserves**

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

On 2 September 2019, the SA Agulhas II and the Gough 65 expedition team departed on this year's Relief Voyage to Gough Island. South Africa's use of Gough Island is primarily to operate a full year weather observation station, one of three important weather stations globally.

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 km<sup>2</sup>.

### **Wilderness areas**

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

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

### **Biomes**

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

### **World Heritage sites**

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

- **Robben Island** (Western Cape). Robben Island was used at various times between the 17th and 20th centuries as

a prison, a hospital for socially unacceptable groups and a military base. Its buildings, particularly those of the late 20th century such as the maximum security prison for political prisoners, witness the triumph of democracy and freedom over oppression and racism. It is most famous for the incarceration of political prisoners, including former President Nelson Mandela, who was imprisoned for 18 of his 27 years in jail.

- **iSimangaliso Wetlands Park** (KwaZulu-Natal). It was formerly called the Greater St Lucia Wetland Park. The ongoing fluvial, marine and aeolian processes in the site have produced a variety of landforms, including coral reefs, long sandy beaches, coastal dunes, lake systems, swamps, and extensive reed and papyrus wetlands. The interplay of the park's environmental heterogeneity with major floods and coastal storms and a transitional geographic location between subtropical and tropical Africa has resulted in exceptional species diversity and ongoing speciation. The mosaic of landforms and habitat types creates breathtaking scenic vistas. The site contains critical habitats for a range of species from Africa's marine, wetland and savannah environments.
- **Cradle of Humankind** (Gauteng). The Taung Skull Fossil Site, part of the extension to the site inscribed in 1999, is the place where in 1924 the celebrated Taung Skull – a specimen of the species *Australopithecus africanus* – was found. Makapan Valley, also in the site, features in its many archaeological caves traces of human occupation and evolution dating back some 3.3 million years. The area contains essential elements that define the origin and evolution of humanity. Fossils found there have enabled the identification of several specimens of early hominids, more particularly of *Paranthropus*, dating back between 4.5 million and 2.5 million years, as well as evidence of the domestication of fire 1.8 million to 1 million years ago. It includes the hominid fossil sites at Swartkrans, Sterkfontein and Kromdraai.
- **Ukhahlamba-Drakensberg Park** (KwaZulu-Natal). The park has outstanding natural beauty, Africa's highest mountain range south of Kilimanjaro, and the largest and most concentrated series of rock art paintings in Africa.



The site 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 hectares (ha) of dramatic mountainous desert constitutes a cultural landscape.
- **Vredefort Dome** (Gauteng). This is a representative part of a larger meteorite impact structure or astrobleme. Dating back to over two million years, it is the oldest astrobleme yet found on Earth. With a radius of 190 km, it is also the largest and the most deeply eroded. Vredefort Dome bears witness to the world's greatest known single energy release event, which had devastating global effects including, according to some scientists, major evolutionary changes. It provides critical evidence of the Earth's geological history and is crucial to understanding of the evolution of the planet. Despite the importance of impact sites to the planet's history, geological activity on the Earth's surface has led to the disappearance of evidence from most of them, and Vredefort is the only example to provide a full geological profile of an astrobleme below the crater floor.
- **!Khomani Cultural Landscape**. (Located at the border with Botswana and Namibia in the northern part of the country, coinciding with the Kalahari Gemsbok National).

The large expanse of sand contains evidence of human occupation from the Stone Age to the present and is associated with the culture of the formerly nomadic 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, known as the Barberton Greenstone Belt.** One of the world's oldest geological structures, the Makhonjwa Mountains in Barberton, Mpumalanga represent the best-preserved succession of volcanic and sedimentary rock dating back 3.6 to 3.25 billion years, when the first continents were starting to form on the primitive Earth. It features meteor-impact fallback breccias resulting from the impact of meteorites formed just after the Great Bombardment (4.6 to 3.8 billion years ago).

In addition to sites inscribed on the World Heritage list, member states can maintain a list of tentative sites that they may consider for nomination. Nominations for the World Heritage list are only accepted if the site was previously listed on the tentative list. 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)** of South Africa, also known as the Pretoria Zoo, is the largest zoo in the country and

the only one with national status. It is home to approximately 5 000 different mammals, birds, fish, reptiles, amphibians and invertebrates, comprising around 600 species and subspecies.

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

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 hectares 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

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

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

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

## 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.

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.

## Monitoring climate change and air quality

To contribute towards a reduction in air pollution, government plans to increase the number of government-owned air quality monitoring stations reporting to the South African air quality information system from 117 in 2018/19 to 125 in 2021/22.

A substantial budget will also enable the department to roll out the Let's Respond toolkit to a projected 40 municipalities to integrate their climate change responses into the department's planning documents.

This entails reviewing the developmental plans of municipalities and guiding them to be responsive to climate change, with particular focus on the effects of climate change on vulnerable communities and sustainable economic development.

## Green economy

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

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

## Forestry

Forestry is one of the sectors that have a huge potential in job creation whilst ensuring the sustainable use of natural resources.

The forestry, timber, pulp, paper and furniture sector not only has the potential to create more jobs and growth in marginalised areas of South Africa.



It is also emerging as a sustainable future sector incorporating bio-refinery and transformative technologies.

The forest-based industries are no longer limited to traditional wood-processing, furniture, pulp and paper. Through nano-technology and other scientific advances, they have now progressed to providing raw material for the clothing and textiles, pharmaceuticals, rheology and food-processing sector.

The forestry industry is at continuous risks from fire, pests' diseases and drought.

In an effort to address the issue of competing land use between agriculture and forestry, the department developed a strategy on agro-forestry.

Agro-forestry is a practice that integrates forestry and agriculture on the same piece of land with socio-economic and environmental benefits. This strategy was expected to ensure household food security and increase the country's fibre.

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. Every Arbor Week celebration highlights two specific trees – one common and one rare species. The theme for the 2019 Arbor Week Campaign was: "Forests and Sustainable Cities".

In 2018, the then Ministry of Agriculture, Forestry and Fisheries decided to extend Arbor Week to Arbor Month, with the campaign celebrated from 1 to 30 September annually.

The following tree species were selected as trees of the year in 2019:

- *Sclerocarya birrea*: Marula Maroela. This tree has been selected from the list of common species.
- *Philenoptera violacea*: Apple-leaf, Appelblaar. This tree has been selected from the list of rare/uncommon species.

## 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. It is the most accessible forest resource for poor communities

and contributes in the region of R2 000 to R5 000 to poor households annually. While natural forests cover less than one million ha of land in total, and plantation forestry covers less than 1,3 million ha and the woodlands collectively cover about 29 million ha to 46 million ha.

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 non-timber 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

In September 2019, Cabinet decided to extend the time frames for dealing with the fishing rights in 12 commercial fishing sectors, which will expire on 31 December 2020.

The 12 sectors that are due for allocation in terms of Section 18 of the Marine Living Resources Act of 1998 are: KZN Prawn Trawl; Demersal Shark; Tune-Pole Line; Hake Handline; Line Fish; White Mussels; Oysters; Squid; Small Pelagics (Pilchard and Anchovy); Hake Deepsea Trawl; Hake Longline; and South Coast Rock Lobster.

The Fishing Rights Allocation Process has been extended until 31 December 2021. During this time, the DEFF is expected to conduct socio-economic impact analysis studies on the General Policy on the Allocation of Commercial Fishing Rights, as well as the 12 sector-specific policies.

## Aquaculture

In South Africa, marine and freshwater aquaculture presents a good opportunity to diversify fish production to satisfy local demand; contribute to food security and nutrition, job creation, economic development and rural development, and improve export opportunities.

The sector also presents an opportunity to bring in the youth, women and historically disadvantaged people into the sector.

Aquaculture incorporates the breeding, trading or rearing of aquatic organisms in a controlled or selected aquatic environment for recreational, commercial or subsistence purposes. It is divided into fresh-water culture and mariculture.



