



Environmental Management

Environmental management in South Africa is the responsibility of various government institutions. At central government level, the Department of Environmental Affairs and Tourism is the central policy-formulating and co-ordinating body. Other departments involved include Agriculture, Water Affairs and Forestry, Minerals and Energy, and Health.

At regional level, the provincial conservation agencies are major role-players, and independent statutory organisations such as the South African National Parks (SanParks) and National Botanical Institute (NBI) are valuable partners in the country's total conservation effort.

In accordance with the National Environment Management Act, 1998 (Act 107 of 1998), the Committee for Environmental Co-ordination was established to harmonise the work of departments on environmental issues and to co-ordinate environmental implementation and national management plans at provincial level. The Act sets principles for effective management of the environment,

which all organs of the State have to comply with in decision-making. The Act also makes provision for the National Environmental Advisory Forum, where stakeholders and experts advise the Minister of Environmental Affairs and Tourism, Mr Valli Moosa, on environmental management issues.

The National Environmental Management Act, 1998 requires government and provincial departments to compile Environmental Implementation Plans (EIPs) and Environmental Management Plans, providing a legal framework for environmental development. The Department's EIP was completed in 2001. A number of other departments and provincial governments are either completing or have completed their implementation and management plans.

Each province may promulgate its own ordinances dealing with hunting, fishing and the protection of fauna and flora.

State of the environment

Twenty percent of South African households and one-sixth of the global population live in poverty, many without proper housing, water supply, sanitation or waste disposal services. They also have limited access to health care and education.

The greatest challenge for South Africa and the rest of the world is to improve the quality

▶ The livelihood of three of the world's 15 crane species found in South Africa is under threat. According to BirdLife International, the country's national bird, the blue crane, is listed as 'critically endangered' while the grey crowned crane pictured here is listed as 'endangered'. Loss of wetland habitat, intensive agriculture and industrialisation are just some of the factors contributing to the decline in their numbers.

of human life for both present and future generations, without depleting its natural capital. This can only be achieved through a healthy natural environment, which supplies raw materials, absorbs and treats waste products, and maintains water, soil and air quality.

Food security, water provision and climatic stability depend on having properly functioning ecosystems, maintained levels of biodiversity, sustainable rates of resource extraction, and a minimal production of waste and pollution.

To this end, the United Nations (UN) General Assembly Conference on Environment and Development developed and adopted Agenda 21 in 1992 as the global strategy for sustainable development.

South Africa has taken several steps to implement Agenda 21 at national and local level, including reforming environmental policies, ratifying international agreements and participating in many global and regional sustainable development initiatives.

World Summit on Sustainable Development (WSSD)

Johannesburg hosted the WSSD, which took place from August 26 to September 4, 2002.

Representatives of nearly 200 countries with widely divergent positions, attended and in the end there was agreement on a new agenda for practical action: to end poverty and protect the environment.

Important dates

World Wetlands Day: February 2
 National Water Week: March 19 to March 25
 Earth Day: March 20
 World Water Day: March 22
 World Meteorological Day: March 23
 World Environment Day: June 5
 World Desertification Day: June 17
 National Arbor Week: September 1 to September 7
 International Day for the Protection of the Ozone Layer: September 16
 World Tourism Day: September 27
 World Habitat Day: October 4
 National Marine Day: October 20

The agreements reached in Johannesburg set minimum tasks for all governments and peoples in building a better world.

They are a guide to action that will take forward the UN Millennium Summit Declaration's goal of halving world poverty by 2015, and decisions of world bodies taken since the Rio Earth Summit in 1992.

Among the victories of the Summit was the launch of over 300 partnerships including 32 energy initiatives, 21 water programmes and 32 programmes for biodiversity and ecosystem management.

The biggest success was to get the world to turn the UN Millennium Declaration into a concrete set of programmes and to mobilise funds for these programmes. The WSSD focused on the most marginalised sectors of society, including women, youth, indigenous people and people with disabilities.

The Implementation Plan includes programmes to deliver water, energy, health care, agricultural development, a better environment for the world's poor and targets for the reduction of poverty and protection of the environment.

New targets set at the Summit will have enormous impact:

- The number of people without basic sanitation will be halved by 2015. In 2001, the world's leaders agreed to halve the number of people without access to safe drinking water by 2015.
- Biodiversity loss is to be reversed by 2010 and collapsed fish stocks restored by 2015.
- Chemicals with a detrimental health impact will be phased out by 2020.
- Energy services will be extended to 35% of African households over the next 10 years.

Biological diversity

South Africa enjoys the third-highest level of biodiversity in the world. The country's rich natural heritage is vast and staggering in its proportions. For example, over 3 700 marine species occur in South African waters and



Species richness of South African taxa

Taxa	Number of described species in SA	Percentage of earth's species
Mammals	227	5,8
Birds	718	8,0
Amphibians	84	2,1
Reptiles	286	4,6
Freshwater fish	112	1,3
Marine fish	2 150	16
Invertebrates	77 500	5,5
Vascular plants	18 525	7,5

Source: *White Paper on the Conservation and Sustainable use of South Africa's Biological Diversity*

nowhere else in the world. The remarkable richness of South Africa's biodiversity is largely the result of the mix of tropical Mediterranean and temperate climates and habitats occurring in the country. Some 18 000 vascular plant species occur within South Africa's boundaries, of which 80% occur nowhere else.

In addition to South Africa's extraordinarily varied plant life, a wealth of animal life exists in the region. The country hosts an estimated 5,8% of the world's total mammal species, 8% of bird species, 4,6% of the global diversity of reptile species, 16% of the total number of marine fish species in the world, and 5,5% of the world's described insect species. In terms of the number of mammal, bird, reptile and amphibian species, which occur only in this country, South Africa is the 24th-richest country in the world and the fifth-richest in Africa.

South Africa is home to a diversity of spiders – 66 families comprising more than 6 000 species. The country also boasts 175 species of scorpion.

South Africa's marine life is similarly diverse, partly as a result of the extreme contrast between the water masses on the east and west coasts. Three water masses – the cold Benguela Current, the warm Agulhas Current and oceanic water – make the region one of the most oceanographically heterogeneous in the world. According to the *White*

Paper on the Conservation and Sustainable Use of South Africa's Biological Diversity, over 10 000 plant and animal species – almost 15% of the coastal species known world-wide – are found in South African waters, with about 12% of these occurring nowhere else.

The easiest way to describe the country's natural heritage is on the basis of a systematic classification of regions, or biomes. A biome can be defined as a broad ecological unit, representing a major life zone extending over a large area, which contains relatively uniform plant and animal life that is closely connected to environmental conditions, especially climate.

The *White Paper* states that South Africa is one of six countries in the world with an entire plant kingdom within its national confines. Known as the Cape Floral Kingdom, this area has the highest recorded species diversity for any similar-sized temperate or tropical region in the world.

Other biomes in the country are also of global conservation significance; for example, one-third of the world's succulent plant species is found in South Africa.

There are seven major terrestrial biomes, or habitat types, in South Africa. These biomes can, in turn, be divided into 68 vegetation types.

The degree to which each of these biomes is threatened varies, depending on the fertility of the soil, the economic value derived from use of the area, human population pressures, and the extent to which the biome is conserved in protected areas.

Savanna biome

This biome is an area of mixed grassland and trees, and is generally known as bushveld.

In the Northern Cape and Kalahari sections of this biome, the most distinctive trees are the camel thorn (*Acacia erioloba*) and the camphor bush (*Tarchonanthus camphoratus*). In Limpopo (formerly the Northern Province), the portly baobab (*Adansonia digitata*) and the candelabra tree (*Euphorbia ingens*) dominate. The central Bushveld is home to species such

Biodiversity values for the different provinces in South Africa

	Biome	Veld type	Number of species				
			Plant	Mammal	Bird	Amphibian	Reptile
Eastern Cape	7	29	6 164	156	384	51	57
Free State	3	17	2 984	93	334	29	47
Gauteng	2	8	3 303	125	326	25	53
KwaZulu-Natal	4	19	6 141	177	462	68	86
Limpopo	3	14	4 236	239	479	44	89
Mpumalanga	3	15	4 782	160	464	48	82
Northern Cape	6	18	5 067	139	302	29	53
North West	2	11	3 025	138	384	27	59
Western Cape	6	18	8 925	153	305	39	52

Source: Department of Environmental Affairs and Tourism

as the knob thorn (*Acacia nigrescens*), bush-willow (*Combretum spp.*), monkey thorn (*Acacia galpinii*), mopani (*Colophospermum mopane*) and wild fig (*Ficus spp.*) In the valley bushveld of the south, the trees euphorbias and spekboom (*Portulacaria afra*) are predominant.

An abundance of wild fruit trees provide food for many birds and animals in the savanna biome.

Grey louries, hornbills, shrikes, flycatchers and rollers are birds typical of the northern regions. The subtropical and coastal areas are home to Knysna and purple-crested louries and green pigeons. Raptors occur throughout the biome.

The larger mammals include lion, leopard, cheetah, elephant, buffalo, zebra, rhinoceros, giraffe, kudu, oryx, waterbuck, hippopotamus and many others.

Approximately 8,5% of the biome is protected. The Kruger National Park, Kgalagadi Transfrontier Park, Hluhluwe-Umfolozi Park, Greater St Lucia Wetlands Park (GSWLP) and other reserves are located in the savanna biome.

Nama-Karoo biome

This biome includes the Namaland area of Namibia and the Karoo area of South Africa.

Because of low rainfall, rivers are non-

perennial. Cold and frost in winter and high temperatures in summer demand special adaptations from plants. The vegetation of this biome is mainly low shrubland and grass, with trees limited to water courses. The bat-eared fox, black-backed jackal, ostrich, suricate and ground squirrel are typical of the area.

Only 1% of the Nama-Karoo biome falls within officially-protected areas, of which the Karoo and Au-grabies national parks are the largest.

Overgrazing and easily eroded soil surfaces cause this semi-desert to creep slowly in on the neighbouring savanna and grassland biomes.

Grassland biome

This biome is a summer-rainfall area with heavy thunderstorms and hail, and frost in winter. A number of perennial rivers such as the Orange, Vaal, Pongola, Kei and Umzimvubu originate in and flow through the area. Trees are scarce and are mainly found on hills and along river beds. Karee (*Rhus lancea*), wild currant (*Rhus pyroides*), white stinkwood (*Celtis africana*) and several acacia species are the most common.

The grassland biome has been identified as an area with a high percentage of plants indigenous to the country. Eight mammal species endemic to South Africa occur in a



wild state in this biome. Three of these, namely the black wildebeest, blesbok and eland, do not occur outside the grassland biome.

The area is internationally recognised as an area of high species endemism insofar as birds are concerned. Birds commonly found in the area include the black korhaan, blue crane, guinea-fowl and other grassland birds.

Only 1,1% of the grassland biome is officially protected. The wilderness areas of the KwaZulu-Natal Drakensberg are the most significant.

Succulent Karoo biome

One of the natural wonders of South Africa is the annual blossoming of the Namaqualand wild flowers (mainly of the family *Asteraceae*), which transforms the semi-desert of the Northern Cape into a fairyland. After rain, the drab landscape is suddenly covered from horizon to horizon with a multi-coloured carpet (August to October, depending on rainfall).

This is a winter-rainfall area with extremely dry and hot summers. For this reason, succulents with thick, fleshy leaves are plentiful. Trees mostly have white trunks to reflect heat.

In the Richtersveld to the north, the quiver tree (*Aloe dichotoma*) the human-like elephant's trunk (*Pachypodium namaquanum*), many species of aloe and the spekboom (*Portulacaria afra*), very typical of the Little Karoo, are also present. Grass is scarce.

Animal life is similar to that of neighbouring biomes (*Fynbos* and Nama-Karoo).

The Richtersveld, Tankwa-Karoo and Namaqua national parks have improved the conservation status of this biome considerably.

Information

In September 2003, South Africa will host the Fifth World Parks Congress in Durban, KwaZulu-Natal – the single most important event of its kind for dealing with issues of conservation and environmental protection.

The Congress will build on new conservation directions that have emerged from the World Conservation Union's Congress, held in Jordan in 2000.

Fynbos biome

The *Fynbos* biome is one of the six accepted floral kingdoms of the world. This region covers only 0,04% of the land surface of the globe.

Fynbos is found mainly in the Western Cape. It is mainly a winter-rainfall area, and the *fynbos* vegetation is similar to that of Mediterranean regions.

Fynbos is the name given to a group of evergreen plants with small, hard leaves (such as the *Erica* family). It is made up of three groups of plants, namely the proteas, the heathers and the restios, and incorporates a diversity of plant species (more than 8 500 kinds, more than 6 000 of which are endemic).

The *Fynbos* biome is home to the protea, for which South Africa is renowned. The biome also contains flowering plants now regarded as garden plants, such as freesia, tritonia, sparaxis and many others.

Protected areas cover 13,6% of the *Fynbos* biome and include the Cape Peninsula and Agulhas national parks.

The biome is not very rich in bird and mammal life, but includes the grysbok, the geometric tortoise, the Cape sugar-bird and the protea seed-eater, which are endemic to the area. The mountains are the habitat of the leopard, baboon, several types of eagle, honey-badger, caracal and redbuck.

Forest biome

South Africa is poor in forests. The only forests of significance are the Knysna and Tsitsikamma forests in the Western and Eastern Cape.

Other reasonably large forest patches that are officially protected are in the high-rainfall areas of the eastern escarpment and on the eastern seaboard. Forest giants such as yellowwood (*Podocarpus spp.*), ironwood (*Olea capensis*) and lemonwood (*Xymalos monospora*) dominate.

The indigenous forests are a magical world of ferns, lichens and colourful forest birds such as the Knysna lourie, the endangered Cape parrot and the rameron pigeon. Animals

include the endangered samango monkey, the bushpig, the bushbuck and the delicate blue duiker.

Thicket biome

Subtropical thicket is a closed shrubland to low forest, dominated by evergreen succulent trees, shrubs and vines.

It is often impenetrable and has little herbaceous cover. Thicket types contain few endemics, most of which are succulents of Karoo origin.

Preserving genetic diversity

South Africa, with its wide range of natural resources, is an ideal proponent to apply the principle of sustainable use of these resources. In South Africa, both consumptive and non-consumptive ways of utilising resources are applied and this contributes to the national fiscus and to the sustainable development of the country and the upliftment of the people. Consumptive use of wildlife resources plays an important role in the South African economy as is illustrated by the hunting statistics for 1997 when more than R176 million was generated. Both local and foreign hunters contribute to this industry.

There is a wide range of benefits derived from the conservation of biodiversity. A large portion of the South African population is directly dependent on biological resources for subsistence purposes, including the gathering, harvesting or hunting of plants and animals as

a source of food, medicine, shelter and trade. The use of biological resources therefore provides a buffer against poverty as well as a source of economic gain. A number of industries in the country, such as the fishing, hunting, wild flower and wood-harvesting industries are directly dependent on its biological resources.

Local communities benefit in various ways from the trade in biological resources. There is, for example, the Makuleke community in the Kruger National Park who had their land returned to them and is now developing infrastructure for tourists as well as benefiting from consumptive wildlife resource use.

Foreign tourists' arrivals to South Africa have grown by 7,6% in the first four months of 2002 – compared to the same period in 2001 – to 2,1 million. The main attractions are nature-based tourism facilities such as national parks and private game reserves. Two of the three top tourist spots are nature-based, namely Table Mountain and the Kruger National Park.

The commercial value of wildlife has stimulated the sustainable-use industry and has, since 1960, resulted in the establishment of conservancies, game ranches, private nature reserves and collaborative reserves. There are some 9 000 privately owned game ranches in South Africa, expanding at a rate of 300 000 ha per annum. The contribution of these areas in maintaining South Africa's unique biodiversity is incalculable. Its role in the social and economic development of the country is illustrated by the following statistics:

- private and community-managed nature areas cover between 15% and 20% of the respective provincial land surface
- they represent capital investments of approximately R6 billion
- they provide 15 times greater (and more skilled) job opportunities than cattle-farming and result in substantially higher per capita income
- they are key components in the expansion of South Africa's tourism industry.

The following can be used as examples of the success that has been achieved in South

Information

The National Biodiversity Bill and regulations for administering the World Heritage Convention are being drafted and will provide a legal framework for conservation management. Implementation will be guided by a National Biodiversity Strategy and a National Conservation Strategy. Plans are under way for the consolidation and expansion of the system of protected areas by establishing new national parks, incorporating State forests into protected areas and acquiring additional land for current national parks.



Africa in terms of the conservation of endangered species:

White rhinoceros

South Africa hosts the most stable population of the southern white rhinoceros in Africa. Through concerted efforts by conservation agencies such as Ezemvelo KwaZulu-Natal Wildlife and SanParks, the population of this species increased from less than 20 in 1910 to almost 8 000 in 1997 in approximately 60 populations across South Africa. Almost a third of the animals is in private ownership. A significant number of animals have also been relocated to destinations outside the country.

African elephant

In 1910, the elephant population in South Africa was reduced to four remnant populations covering an area of less than 10 000 ha. Due to the efforts of judicious management practices, of among others, SanParks, the number of elephants has increased to more than 11 300 in 1998 in approximately 60 locations throughout the country. A prime example is the management programme in the Kruger National Park where the number of animals has increased drastically and to such an extent that active management of the population is required to reduce the negative impact on the ecosystem.

Cycads

This genus is very popular among collectors and this has caused it to be under severe threat. Through actions such as legislation and the refining of *ex situ* conservation efforts, artificial propagation has been achieved. By mid-2002, more than 200 000 seedlings of endangered species of the genus had been sold to the general public. The threat to the wild populations has largely been reduced.

Cheetah

Through efforts of formal conservation agencies assisted by private individuals, South Africa has managed to breed large numbers of this species in captivity. Relocation of these

animals to protected areas, both within and outside South Africa, is common practice.

Conservation areas

There are a number of management categories of protected areas in South Africa, which conform to the accepted categories of the World Conservation Union (IUCN).

Scientific reserves

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

Wilderness areas

These areas are extensive in size, uninhabited and underdeveloped, and access is strictly controlled since no vehicles are allowed. The highest management priority is the maintenance of the intrinsic wilderness character. Examples of wilderness areas are the Cedarberg Wilderness Area and Dassen Island in the Western Cape, and the Baviaanskloof Wilderness Area in the Eastern Cape.

National parks and equivalent reserves

SanParks manages a system of 20 national parks representative of the country's important ecosystems and unique natural features. Commercial development and tourism (almost two million visitors per year), conservation development and the involvement of local communities are regarded as performance indicators. These areas include national parks proclaimed in terms of the National Parks Act, 1976 (Act 57 of 1976), provincial parks and nature reserves, and indigenous State forests.

Some of these natural and scenic areas are extensive in size, and include large representative areas of at least one of the country's biomes. Since 1994, parks under SanParks have expanded by 166 071 ha.

The national parks are: Kruger National Park, Kalahari Gemsbok National Park (part of

the Kgalagadi Transfrontier Park), Addo Elephant National Park, Bontebok National Park, Mountain Zebra National Park, Golden Gate Highlands National Park, Tsitsikamma National Park, Au-grabies Falls National Park, Karoo National Park, Wilderness National Lakes Area, West Coast National Park, Tankwa-Karoo National Park, Knysna National Lakes Area, Marakele National Park, Richtersveld National Park, Vhembe/Dongola National Park, Vaalbos National Park, Agulhas National Park, Namaqua National Park and Cape Peninsula National Park, which incorporates the Cape of Good Hope, Table Mountain and Silvermine nature reserves.

There are currently six Transfrontier Conservation Areas (TFCAs) along borders with neighbouring countries, at various stages of development: Great Limpopo, Kgalagadi, Lubombo, Ais-Ais/Richtersveld, Maloti-Drakensberg and Limpopo-Shashe. These are conservation landmarks, significantly promoting regional integration, greater biodiversity, environmental tourism and economic growth.

Hundreds of wildlife were handed over by the Department of Environmental Affairs and Tourism to the Mozambican Government in 2002 as part of a three-year programme to translocate wildlife from South Africa's Kruger National Park to Mozambique's Limpopo National Park. The more than 400 animals included giraffe, blue wildebeest, warthog, impala, waterbuck and zebras. During 2001, the Department handed over 40 elephants to Mozambique.

The translocation programme forms part of

the development of the Great Limpopo Trans-frontier Park (GLTP), Africa's largest TFCA that will cover South Africa's Kruger National Park, Mozambique's Limpopo National Park and the Gonarezhou National Park in Zimbabwe.

The signing of a trilateral international agreement by the Ministers of Environmental Affairs of Mozambique, South Africa and Zimbabwe in November 2000 paved the way for the establishment of the GLTP, dubbed South Africa's Super Park, stretching over 35 000 km².

From preserving natural assets in the early years, wildlife management in national parks has progressed to the drafting of management plans for each individual park. This includes relevant research, initially limited to developing a database of species. All modern research in national parks has been designed to analyse and interpret functional and dynamic aspects of natural ecosystems. This programme includes annual aerial censuses of large mammal species. Through sophisticated computer systems, researchers keep accurate records of mammal distribution and densities, as well as environmental facts such as veld conditions and water supply.

Geographical information systems and other computer-driven systems are extensively used in national parks. The development of immobilising drugs, improved game-capture techniques and modern equipment have enabled SanParks to launch large game-relocation projects to restock national parks, provincial reserves and private game reserves.

About 15 researchers work full-time in the Kruger National Park on topics ranging from FIV-positive lions to contraception for female elephants. The medicinal value of plants used by traditional healers is also under study. The Park has embarked on a new approach to environmental management, instituting education programmes and development aid in an attempt to reconcile its approach with neighbouring communities.

The Park is a world leader in terms of the research, monitoring and management initiatives being undertaken on bovine tuberculosis.

Fifteen-year concessions to private opera-

Information

In July 2002, KwaZulu-Natal's conservation agency, Ezemvelo KZN Wildlife, formally took responsibility for administering the South African portion of the Maloti-Drakensberg Transfrontier Project to establish a R155 million conservation/ecotourism park with Lesotho.

On 26 July 2002, the World Bank signed the Grant Agreement with South Africa and Lesotho.

The purpose of the project is to protect the exceptional biodiversity of the Maloti-Drakensberg area through conservation, sustainable resource use and development planning.



Park	Date proclaimed	Area in 1994	Area added since 1994 (ha)	Current size (ha)
Addo Elephant	1931	51 309	23 030	74 339
Agulhas	1999	0	5 690	5 690
Augrabies Falls	1966	11 743	29 933	41 676
Bontebok	1931	2 786	0	2 786
Cape Peninsula	1998	0	13 450	13 450
Golden Gate Highlands	1963	11 633	0	11 633
Kalahari Gemsbok (now part of Kgalagadi Transfrontier)	1931	959 103	0	959 103
Karoo	1979	41 047	36 047	77 094
Knysna National Lakes Area	1985	15 000	0	15 000
Kruger	1926	1 962 362	0	1 962 362
Marakele	1993	37 035	13 691	50 726
Mountain Zebra	1937	6 536	18 127	24 633
Richtersveld	1991	162 445	0	162 445
Tankwa-Karoo	1986	27 064	16 835	43 899
Tsitsikamma	1964	63 942	0	63 942
Vaalbos	1986	22 697	0	22 697
Vhembe-Dongola	1998	0	5 356	5 356
West Coast	1985	32 361	3 912	36 273
Wilderness	1985	10 600	0	10 600
Total		3 417 663	166 071	3 583 734

Source: SanParks website

tors to build and run accommodation in national parks were granted in November 2000 as SanParks wants to focus on its core business of conservation. The decision will further improve the financial position of SanParks, which is no longer fully subsidised by government, and create employment in the parks. The granting was a first for SanParks and a radical departure from past policies. Rest camps will remain unaffected for the time being as the new policy involves less than 1%

of the total accommodation in national parks.

South Africa has accepted the duty to make a positive and responsible contribution to the conservation of biodiversity and to the environment on a global scale. This is done through responsible participation in the affairs of the IUCN, Convention on the International Trade in Endangered Species (CITES), Ramsar, the World-wide Fund for Nature, and other agencies. There are other major protected areas proclaimed under other legislative instruments in South Africa, but which are equivalent to the national parks, such as the GSLWP, the Natal Drakensberg Park and the Hluhluwe-Umfolozi Park.

Information

With over 500 bird species, including black coucals, narina trogons, Pel's fishing owls, crowned eagles, black eagles and the African finfoot, the Kruger National Park is a birding paradise. The Park has tapped into its wealth of bird species to boost its income. The Park hosts an annual Big Birding Day, which is becoming a very popular event.

The Park is home to an impressive number of species: 336 trees, 49 fish, 34 amphibians, 114 reptiles and 147 mammals.

National and cultural monuments

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

In May 1997, South Africa ratified the World Heritage Convention. The identification of possible sites in South Africa and the co-ordination of the Convention are the responsibility of the South Africa World Heritage Convention Committee.

The World Heritage Convention Act, 1999 (Act 49 of 1999), allows for cultural and natural sites in South Africa to be granted World Heritage status, and makes the World Heritage Convention law in South Africa. The Convention obliges the South African Government to guarantee its implementation, ensure legal protection and develop management plans and institutional structures for periodic monitoring.

The Act makes the principles of the Convention applicable to South Africa's World Heritage sites and further provides for the adequate protection and conservation of these sites to promote tourism in a culturally and environmentally responsible way.

In December 1999, Robben Island, the GSWLP and the Hominid sites at Swartkrans, Sterkfontein and Kromdraai, which had become known as the Cradle of Humankind, were proclaimed World Heritage sites by the United Nations Educational, Scientific and Cultural Organisation.

The Ukhahlamba-Drakensberg Park was nominated as a mixed site. This was the first mixed (natural and cultural) site to be nominated by South Africa and became the 23rd mixed site of the 630 sites world-wide that have World Heritage Site status.

The Ukhahlamba-Drakensberg Park has a number of outstanding natural features linked to the geomorphic history of the subcontinent, including the high altitude and unique southern African alpine-tundra vegetation and its associated endemic palaeo-invertebrates. In addition to these natural assets and located within its original natural setting and ecosystems is one of the world's greatest rock art collections. The art represents a uniquely coherent tradition that embodies the beliefs and cosmology of a single people now extinct in the region, and is of outstanding cultural value.

The Department is facilitating the preparation of four new nominations: the Cape Floristic Region, Mapungubwe, the Vredefort Dome (a meteorite on the banks of the Vaal River), and Prince Edward and Marion islands. The sites will be considered for inscription in 2003.

Habitat and wildlife management areas

These areas are subject to human intervention, based on research into the requirements of specific species for survival. They include conservancies, provincial, regional or private reserves created for the conservation of species habitats or biotic communities, marshes, lakes, and nesting and feeding areas.

Protected land and seascapes

These areas are products of the harmonious interaction of people and nature, and include natural environments protected in terms of the Environment Conservation Act, 1989; scenic landscapes; and historical urban landscapes.

Sustainable-use areas

These areas emphasise the utilisation of products on a sustainable basis in protected areas such as the Kosi Bay Lake system in KwaZulu-Natal. Nature areas in private ownership are proclaimed and managed to curtail undesirable development in areas with high aesthetic or conservation potential.

Conservancies are formed to involve the ordinary landowner in conservation. One or more landowners can establish a conservancy where conservation principles are integrated with normal farming activities.

Wetlands

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

Wetlands were previously regarded as unproductive and even unhealthy wastelands. Today it is realised that, if well managed, they are essential in meeting the needs of a growing population.



South Africa became a contracting party to the Ramsar Convention in 1975, and the country's Ramsar sites include the Nylsvlei Nature Reserve, Blesbokspruit, Barberspan, Seekoeivlei, the uKhahlamba-Drakensberg Park, Ndumo Game Reserve, the Kosi Bay System, Lake Sibaya, the turtle beaches and coral reefs of Tongaland, the St Lucia System, Wilderness Lakes, De Hoop Vlei, De Mond State Forest, Langebaan, Verlorenvlei and Orange River Mouth Wetland.

The Directorate: Biodiversity Management of the Department of Environmental Affairs and Tourism is responsible for the South African Wetlands Conservation Programme. The Programme has been developed to ensure that South Africa's obligations are met in terms of the Ramsar Convention and the aspects concerning aquatic ecology under the Convention on Biological Diversity.

The Programme is aimed at building on past efforts to protect wetlands in South Africa against degradation and destruction, while striving for the ideal of wise and sustainable use of resources in such a way that the ecological and socio-economic functions of wetlands are sustained for the future.

South Africa is a member of Wetlands International, an international body dedicated to conserving the world's wetlands. In 2001, South Africa, through a partnership initiative between the departments of Water Affairs and Forestry and Environmental Affairs and Tourism, engaged in a programme to rehabilitate and conserve this heritage. It was estimated that in parts of South Africa, up to half the wetlands, and the benefits they provided, had been lost in the past 40 years.

Botanical gardens

The NBI, with its head office at Kirstenbosch National Botanical Garden in Cape Town, is an autonomous State-aided institute, which collects, displays and cultivates plants indigenous to South Africa; undertakes and promotes research into indigenous plants and

related matters; studies and cultivates endangered plant species; promotes utilisation of the economic potential of indigenous plants; and runs environmental education programmes.

The NBI manages eight botanical gardens in five of the nine provinces. The largest, and the site of the Institute's headquarters, is Kirstenbosch on the eastern slopes of Table Mountain in Cape Town. It houses 5 300 indigenous plant species, and was voted one of the top seven botanical gardens in the world at the International Botanical Gardens Congress in 1999.

The other gardens are the Desert Karoo in Worcester, Harold Porter in Betty's Bay, Free State in Bloemfontein, Natal in Pietermaritzburg, Lowveld in Nelspruit, Witwatersrand in Roodepoort and the Pretoria National Botanical Garden. The latter houses the National Herbarium of South Africa, the largest in the southern hemisphere. Here research is conducted on 750 000 specimens of southern African plants, 150 000 tropical African specimens, 50 000 others from around the world and 25 000 cultivated specimens. There are also regional herbaria in Durban and at the Kirstenbosch Research Centre.

The NBI has two main libraries, the Mary Gunn Library in Pretoria and the Harry Molteno Library at Kirstenbosch, which are valuable sources of information on southern African flora and related topics.

Some municipalities have botanical gardens which are not controlled by the NBI. These include The Wilds and Melville Koppies in Johannesburg, and the Municipal Botanical Garden in Durban.

The Johannesburg Botanical Garden owns one of the biggest collections of lithops in the world. These are found only in the southern regions of Africa.

Zoological gardens

The National Zoological Gardens of South Africa in Pretoria, or the Pretoria Zoo, celebra-

ted its centenary in October 1999. It is the only zoo in South Africa with national status and is a member of the American Zoo Association, the World Association of Zoos and Aquariums, the Pan-African Association of Zoological Gardens, Aquaria and Botanical Gardens, the International Union of Zooculturists and the International Association of Zoo Educators.

The Pretoria Zoo, considered to be one of the 10 best in the world, extends over an area of about 80 ha. In 2001, the Zoo attracted 488 168 visitors.

It has breeding centres in Mokopane (formerly Potgietersrus) in Limpopo and Lichtenburg in the North West, where especially endangered animal species are bred.

The Zoo's collection includes 564 specimens of 97 mammal species, 1 158 specimens of 161 bird species, 2 062 specimens of 279 fish species, 50 specimens of 13 invertebrate species, 409 specimens of 106 reptile species and 97 specimens of seven amphibian species. The animal collections at the two game-breeding centres include 1 500 specimens of 62 mammal species and 112 specimens of 27 bird species.

The National Zoological Gardens of South Africa undertook the creation of a zoo and animal park at the Emerald Safari Resort and Casino in Vanderbijlpark. Animal World comprises 314 ha consisting of a game park and zoo, which houses, among others, rhino, buffalo, hippo, wild dog and a variety of bird and animal species. All the animals were provided

by the National Zoo and its two satellite breeding centres. The facility houses 464 individual animals representing mammals, birds, reptiles and amphibia.

The Pretoria Zoo is also the only zoo in Africa and in South Africa to house the enigmatic Komodo dragon. The Komodo dragon was received as a gift from former President Nelson Mandela to the people of South Africa. The reptile is housed in the Zoo's *Monsters and Dragons* display.

Another first for the continent and the country was the arrival of four koalas from Australia. The animals are only the third group to be given to a country outside Australia. The two males and two females are on display at the Zoo's new Australian section. More than 38 000 eucalyptus seedlings were planted to feed these animals.

The Johannesburg Zoological Gardens, covering some 54 ha, has an animal collection, which includes about 300 species represented by some 1 900 specimens. The animals are kept in open-air enclosures separated from the public by dry or water moats. The enclosures include the internationally acclaimed gorilla complex, the pachyderm section and the section for large carnivores.

Of particular interest are the African elephants, golden lion tamarins and sitatunga.

The Johannesburg Zoo has gained international recognition for animal-breeding programmes with numerous species, including the red panda, African wild cats and grysbok.

Breeding centres

There are a number of breeding centres in South Africa. The National Zoological Gardens of South Africa is responsible for the management of the Lichtenburg Game Breeding Centre in the North West, which covers an area of some 6 000 ha, and the Game Breeding Centre near Mokopane in Limpopo, covering an area of 1 500 ha. The main aim of the two centres is to supplement the Zoo's breeding programme for various endangered

Information

The Chelsea Flower Show, annually held in London in May, is the most prestigious event on the international horticultural calendar. In 2002, the Kirstenbosch National Botanical Garden won gold for the 25th time.

The 2002 exhibition was called *African Mosaic*. On the one side, the garden depicted various facets of rural and urban lifestyles in the built landscape while on the other side a mythological 'natural wonder' was centred on the spirit of Modjaji, the Rain Queen.

Exhibitions of the South African winning entry were displayed at a nursery in Gauteng and the Victoria and Alfred Waterfront in Cape Town.



animals, and to supplement the Zoo's own animal collection.

The Lichtenburg Game Breeding Centre houses, among other animals, Père David's deer, pygmy hippopotamus, white rhino, the endangered addax, and scimitar-horned and Arabian oryx. Large herds of impala, springbok, zebra, blesbok and red hartebeest also roam the area.

About 32 ha of the wetland area in the Centre have been developed into a system of dams and pans, which serves as a natural haven for waterbirds such as spoonbills, kingfishers, ibises and herons.

The Mokopane Game Breeding Centre is home to an abundance of exotic and indigenous fauna such as lemurs, rare tsessebe, roan antelope, cheetah and black rhino.

The world-renowned De Wildt Cheetah Breeding and Research Centre, situated near Pretoria, is best known for its highly successful captive-breeding programme. De Wildt also breeds a number of rare and endangered African species, the most spectacular of which is the magnificent king cheetah. It also plays a major role in the breeding of the wild dog.

The Hoedspruit Research and Breeding Centre for Endangered Species in Mpumalanga is another well-known breeding centre. The Centre caters for, among other animals, five species of vulture: Cape griffins, white-backed, hooded, whiteheaded and lappet-faced vultures.

Aquaria

There are well-known aquaria in Pretoria, Port Elizabeth, Cape Town and Durban.

The Aquarium and Reptile Park of the Pretoria Zoo exhibits valuable king penguins. It is the largest inland aquarium in Africa, with the largest collection of freshwater fish. It is also the only aquarium in South Africa that exhibits a large variety of marine fish in artificial sea water.

The Port Elizabeth Oceanarium is the home of seal, dolphin and fish families indigenous to

the Eastern Cape coastline. East London has a smaller aquarium, which is worth visiting.

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 in and around the Cape coast.

Sea World, comprising a dolphinarium and aquarium, is situated on the beach front at Marine Parade in Durban. The aquarium has a shark and reef tank with large turtles and a variety of fish, including kingfish and stingrays.

Snake parks

The Hartbeespoort Dam Snake and Animal Park on the northern shore of the Hartbeespoort Dam near Pretoria has a fine reptile collection.

The Transvaal Snake Park at Midrand, between Pretoria and Johannesburg, houses up to 150 species of snake, and other reptiles and amphibians from southern Africa and elsewhere. The emphasis is on the development of programmes for the breeding of animals in captivity.

In Durban, the Fitzsimons Snake Park houses more than 100 exotic and indigenous species of snake.

The Port Elizabeth Snake Park has a wide variety of South African and foreign reptiles, including boa constrictors, pythons, crocodiles, lizards and deadly venomous snakes such as cobras, mambas and rattlers.

The Aquarium and Reptile Park complex situated at the Pretoria Zoo houses 86 reptile species from all over the world.

Marine resources

South Africa's coastline covers some 3 000 km. Of this, only a very small portion is protected in terms of areas closed to certain activities. Man poses the greatest threat to the marine environment.

The Chief Directorate: Marine and Coastal Management of the Department of Environmental Affairs and Tourism is the central government agency primarily responsible for the administration of marine fisheries in South Africa. This includes marine research, exploitation control, formulating policy advice and managing a fleet of research ships, including the *MV SA Agulhas*. This ship also serves as a replenishment ship for the South African Antarctic base and various Southern Ocean Islands.

In mid-2002, *MV SA Agulhas* assisted with a 24-day rescue mission to Antarctica. [See chapter: *Safety, Security and Defence*.]

The research component of Marine and Coastal Management advises on the utilisation of living marine resources and the conservation of marine ecosystems by interacting with decision-makers, those involved in fishing, interest groups, and local and international scientific communities.

Inland fisheries fall under the jurisdiction of the provincial administrations or the national Department of Agriculture. Some aspects of estuarine research and management as well as all aspects of mariculture (aquaculture in the sea) fall under the control of Marine and Coastal Management.

South Africa's commercial fishery industry is valued at more than R2,5 billion annually and employs 27 000 people directly, while recreational fishing attracts some 750 000 enthusiasts, employs over 130 000 people and generates more than R1,7 billion in revenue to direct and indirect participants each year. The subsistence sector is being evaluated and formalised, but true subsistence fisherfolk are few.

South Africa's most valuable commercial fishery is the demersal fishery, dominated by deep-sea trawling for Cape hake (hake contributes more than 65% of the deep-sea trawl catch).

The inshore trawl fishery operates along the south coast and lands only 6% of the national hake catch but almost all of the sole catch.

The midwater trawl fishery is relatively small

and targets exclusively adult horse mackerel, which are also caught by the inshore and deep-sea trawlers.

The pelagic fishery is South Africa's largest in terms of volume landed. Pelagic catches fluctuate because anchovy dominated the catch from the sixties until 1996, when pilchard reassumed dominance. Used for the manufacture of fish-meal and oil, anchovy was the single most important species for 30 years, after the sixties, when overfishing caused the pilchard stock to collapse. Round herring also makes up a significant part of the pelagic catch, and juvenile horse mackerel and lanternfish occasionally yield a few thousand tons to the purse-seine fishery.

Policy

The primary objectives of the Government's fisheries policy are the upliftment of impoverished coastal communities through improved access to marine resources and the sustainable management of those resources. The Marine Living Resources Act, 1998 (Act 18 of 1998), provides for the conservation of the marine ecosystem, the long-term sustainable utilisation of marine living resources, and the protection of and orderly access to exploitation of certain such resources.

The Act states that no fishing whatsoever is allowed without a permit. Licences are required for commercial fishing by subsistence and recreational fisherfolk and mariculture entrepreneurs. Commercial fishing is subject to allowable catches or quotas.

The Act also gives powers to fishery control officers to act beyond South African waters, in accordance with international law. Fines of up to R5 million for transgressors are provided for, and any person convicted of an offence could have his or her fishing and transport equipment seized.

The Act provides for the establishment of the Consultative Advisory Forum for Marine Living Resources to advise the Minister of Environmental Affairs and Tourism on matters such as total allowable catch (TAC), resource



management and legislation and administration of the Marine Living Resources Fund (MLRF). Provision is also made for a system whereby fisherfolk are invited to apply for and obtain long-term transferable rights to catch quota species such as hake, abalone and rock lobster. In future, such rights might be extended to species not managed by a quota system, such as some species of line fish.

The MLRF was listed as a public entity in terms of the Public Finance Management Act, 1999 (Act 29 of 1999). It aims to finance activities related to the management of sustainable utilisation and conservation of marine living resources as well as the preservation of marine biodiversity and the minimisation of marine pollution. Other socio-economic objectives include broadening access to resources by restructuring the industry to address historical imbalances and promote economic growth.

The Fund is financed from its own revenue as well as money appropriated by Parliament, in terms of Section 10 of the Marine Living Resources Act, 1998. Own resources are derived mainly from fish levies, fishing permits, harbour fees and the proceeds of the sale of confiscated fish products.

The allocation of long-term fishing rights in South Africa was finalised in 2002.

In the hake trawl sector, the biggest fishery, 73% of all rights holders are majority black-owned concerns. During 2001/02, 51 companies were allocated hake trawl quotas.

South Africa has some of the best fish stocks in the world. For 2002, the Department recorded a TAC of 257 978 t, an increase of 75 978 t from 2001. The TAC for anchovies for 2002 was 259 726 t. This makes the pelagic catch 158% higher than the 1994 figures. This is due largely to sound fisheries management.

The final pelagic TAC for the 2002 pelagic season showed an overwhelming increase of over 80% from December 2001.

The Department embarked on a combined operation called Operation Neptune with the South African Police Service to clamp down on the illegal poaching of abalone. The Operation

was highly successful, leading to the seizure of large amounts of abalone and numerous arrests.

However, despite the efforts of Operation Neptune, abalone resources in South Africa remain under pressure.

Further measures to curtail poaching include the Minister of Environmental Affairs and Tourism requesting the Department of Justice and Constitutional Development to ensure that sentences of persons convicted of poaching abalone are increased significantly.

The Minister has also requested the Department of Justice to consider establishing a specialised court to deal with abalone poaching and related offences.

Two advocates experienced in conducting criminal prosecutions have been appointed to assist the Department. Their primary task is to increase the conviction rate of those who plunder South Africa's valuable fish stocks, with particular emphasis on those charged with offences related to the poaching of abalone.

Since 1977, up to 200 Japanese and Taiwanese fishing vessels were issued with annual fishing permits to catch tuna in South African waters.

The phasing out of the fishing agreement with Japan was announced by the Minister of Environmental Affairs and Tourism in August 2002.

In terms of the agreement, fishing permits for only 50 Japanese vessels would be renewed, which would be valid for a further six months, after which the agreement ends.

The permits would only be issued to Japanese vessels subject to certain conditions. These include that the vessel must carry an observer and must be fitted with Inmarsat C vessel-monitoring equipment that automatically reports the vessel's position to the Department.

The bilateral agreement with Taiwan was also cancelled. Fishing by Taiwan will be stopped by the end of 2002, when the last permits expire.

In return for allowing the two countries to catch South Africa's highly lucrative tuna

resources, the two governments paid annual permit fees of about R9 million.

South Africa has a bilateral agreement with Mozambique where, through joint ventures, Mozambican fisherfolk may benefit from 1 000 t of South African hake in exchange for allowing modest exploitation of prawns in Mozambican waters.

The agreements with foreign countries are subject to occasional renegotiation.

The Maritime Zones Act, 1994 (Act 15 of 1994), gives South Africa the rights over internal and territorial waters, contiguous and exclusive economic zones (EEZs) and the continental shelf of the sea within a specific zone. Around Marion Island there are 213 000 square nautical miles of territorial waters, an additional 234 000 square nautical miles of contiguous zone, 320 000 square nautical miles of EEZ and a further 603 000 square nautical miles of continental shelf.

False Bay in the Western Cape is an example of internal and territorial waters, as are the areas inshore between Cape Deseada north of St Helena Bay and Bird Island in Algoa Bay.

This is where South Africa has total sovereignty, but innocent passage by foreign ships is allowed. In the contiguous zone, South Africa has rights to national legislation regarding customs, immigration, emigration, and sanitary and fiscal matters. In the EEZ and on the continental shelf, South Africa may explore, exploit and protect resources found in the sea.

A partnership between the South African Network for Coastal and Oceanic Research, the National Research Foundation and the Department of Environmental Affairs and Tourism develops, co-ordinates and funds a large and applied research programme to acquire information appropriate for marine and coastal resource management.

Fishery sectors

In pelagic fishery, anchovy and pilchard catches are limited by quota and they, plus catch-

es of round herring, are mainly processed into fishmeal, fish body oil and canned fish.

The major purse-seine fishing areas are near Walker Bay and St Helena Bay, up to 25 km offshore. Because of the high local demand for fishmeal and the small catches of canning fish (for which the biggest market is local), this branch of the industry exports very small quantities at present.

Economically, demersal fishing remains the dominant fishery, with hake constituting on average more than 65% of landings. Hake catches in offshore and midwater trawls, and hake and sole catches in inshore trawls, are however, regulated by quota.

About 90% of the annual catch of commercial rock lobsters is exported. The minimum size of rock lobster is a carapace length of 75 mm.

South Africa's commercial abalone fishery remained relatively stable for many years, at a whole mass quota of some 600 t. Regrettably, environmental changes, as well as a large increase in poaching activity, have lowered stock levels. There are seven fishing zones, with a TAC set for each zone.

The catching of squid (*Loligo vulgaris reynaudii*) by the jigger method off the Cape South Coast began in 1983 and peaked in 1989 at nearly 9 800 t. Important line-fishing species include snoek (*Thyrssites atuni*), kob (*Argyrosomus spp.*), silverfish (*Argyrozona argyazona*), geelbek (*Atractoscion aequidens*), yellowtail (*Seriola lalandi*) and hottentot (*Pachymetopon blochii*).

The South African Bureau of Standards maintains compulsory standards for the seafood-processing industry, while the Fishing Industry Research Institute (part of the Council for Scientific and Industrial Research's FoodTech) conducts research on processing technology. Besides the commercial line-fishers, some 500 000 recreational anglers fish from the shore and small craft. They are barred from selling their catches. In terms of the Marine Living Resources Act, 1998, they have to be registered and licensed. The linefish resources are further protected by size restric-



tions as well as bag limits, and a linefish management protocol has been developed in an attempt to stimulate recovery of the stocks, most of which are overexploited and/or have collapsed. A total ban has been placed on the catching of the great white shark, the Natal wrasse, and the potato and brindle bass.

Other exploited renewable resources along the South African coast include prawns, langoustine (*Nephrops andamanicus*), red crab (*Chaceon spp.*), mullet (*Liza richardsoni*), elephant fish (*Callorhinchus capensis*), oyster (*Crassostrea margaritacea*), mussels (*Donax*, *Mytilus*, *Choromytilus*, *Perna*), red-bait (*Pyura stolonifera*), sea-bird guano gathered from islands and artificial platforms, and several different types of seaweed.

For decades, mariculture in South Africa was confined to oyster-farming at Knysna. However, black mussels (*Mytilus galloprovincialis*) are now grown in Saldanha Bay.

Interest in mariculture has increased in recent years, and permits have been granted for the farming of abalone, prawns and seaweed. There is also serious interest in certain fin fish species.

Since 1998, the number of permitted mariculture establishments has grown from 19 to 40.

As a member of the International Whaling Commission, South Africa has not done any whaling since 1975, and does not regard it as

ethically acceptable to kill whales for commercial purposes. It has agreed to the retention of the moratorium on whaling, which was introduced in 1982. South Africa also voted in favour of establishing the Southern Ocean Whale Sanctuary, which links up with the existing sanctuary in the Indian Ocean to provide protection for whales over a larger area.

Southern Africa has a population of between 1,5 and two million fur seals (*Arctocephalus pusillus*). No sealing has taken place since 1989 because of world-wide opposition to the utilisation of wild mammals in the fur trade and to sealing methods.

Harbours

The Chief Directorate: Marine and Coastal Management supervises harbour facilities and provides marine conservation inspectors at 12 proclaimed fishing harbours. These are Lamberts Bay, the mouth of the Berg River, St Helena Bay, Saldanha Bay, Hout Bay, Kalk Bay, Gordon's Bay, Hermanus, Gans Bay, Struis Bay, Arniston and Still Bay. Other harbours such as Port Nolloth, Cape Town, Mossel Bay, Knysna, Port Elizabeth, East London and Durban are also used. Most of this latter group are controlled by Portnet, a division of Transnet. (See chapter: *Transport*)

Co-operation between the Department of Environmental Affairs and Tourism and the Department of Public Works has resulted in the launch of a Repair and Maintenance Programme for these harbours. An initial amount of R80 million has been set aside for expenditure over the next three years. A further R45 million has been requested to complete the Programme. *Status quo* reports on all 12 harbours were completed towards the end of 2001. The first two contractors responsible for repairs to the slipways and cranes at the Gans Bay and St Helena Bay (Sandy Point) harbours, started work in August 2002.

Preparations for another 12 tenders at these and some other harbours including Lamberts Bay, Laaiplek, Saldanha Bay, Kalk Bay, Hout Bay and Hermanus are under way.

Information

It was announced during September 2002 that Namibia would be granted limited access to South Africa's pelagic fish (anchovy and pilchard) stocks.

The assistance followed an urgent request from the Namibian Minister of Fisheries after a dramatic decline in Namibian pilchard stock.

Scientists from the Department of Environmental Affairs and Tourism attributed the collapse to biological conditions.

Namibia was able to purchase pelagic fish at the full commercial value from South African fishing-rights holders, and allowed to catch the fish using Namibian vessels in South African waters.

The access was only valid until the end of 2002, subject to strict conditions.

The process was closely monitored.

The remainder of the work, including repair works at Gordon's Bay, Struis Bay, Still Bay and Arniston will commence once additional funding is secured.

Conservation challenges

South Africa faces many of the problems experienced by developing countries in which rapid industrialisation, population growth and urbanisation pose a threat to the quality of the environment.

The Department is reforming environmental law to introduce reforms in biodiversity conservation, pollution, waste management and environmental planning.

Climatic and atmospheric change

According to the *State of the Environment Report*, South Africa is sensitive to climatic changes, and contributed about 1,2% to global warming in 1990.

The levels of sulphur dioxide, nitric oxide and ozone are on average within the accepted South African guidelines for human health and the prevention of direct ecosystem damage. The measured concentrations at ground level are not currently indicating an upward trend.

The Report states that there are occasions, especially in the major urban areas, when the concentrations of sulphur dioxide, nitric oxide, ozone and smoke particles could lead to further health problems in people who are already experiencing respiratory problems. No trend is apparent in the number of times these levels are exceeded, but with more people living in urban areas, the impact is likely to increase.

Indoor air quality constitutes a health hazard in poorly-ventilated dwellings without chimneys, where coal, wood, paraffin or dung are used as fuel. The electrification of houses will improve this situation, as will the general improvement in housing design and construction brought about by national housing policy.

According to the Report, susceptible terrestrial and freshwater ecosystems are likely to show adverse effects of acid deposition in a few decades if the current emission rates of sulphur dioxide and nitric oxide are continued or increased.

The Department of Environmental Affairs and Tourism completed a study into South Africa's use of methyl bromide in January 2002.

The Department is currently operating three climatic change projects. A sum of \$5 million has been donated by the United States (US) to South Africa in terms of the US-South African Bilateral Agreement on Climate Change Support. These projects are:

Cities for Climate Protection

This project involves the improvement of management capacity in local government. It will run for three years, with a budget of \$1,2 million to be spent helping local governments to identify and implement actions that meet their objectives as well as address global climate change and will provide models for other local governments.

Demonstration projects linking climate change and sustainable development

Various institutions including educational institutions, private and non-profit organisations implement a number of projects on behalf of the Department country-wide. These projects include the promotion of ecovillages both in urban and rural areas; rural energisation; renewable energy technology such as biomass gasification and ethanol production; community-based greening and waste recycling; low-tech energy solutions such as thermally efficient and renewable energy solutions in housing; clean transport systems; carbon sequestration and conservation; and industrial energy efficiency. Some R12,6 million is being spent on these projects.

Climate change, public awareness and education

The objective of this project is to increase public awareness of global climate change in



South Africa and to assist government in its efforts to educate students on the importance of such change within the country.

Erosion and desertification

Most of South Africa's soils are unstable. The country loses an estimated 500 million t of topsoil annually through erosion caused by water and wind.

Approximately 81% of the total land area of South Africa is farmed. Only 70% of this area is suitable for grazing. Overgrazing and erosion diminish the carrying capacity of the veld and also lead to land degradation. This process has already claimed more than 250 000 ha of land in South Africa.

The Department of Agriculture administers the Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983), in terms of which various measures are implemented to prevent or contain soil erosion.

In January 1995, South Africa signed the Convention to Combat Desertification, which was ratified on 30 September 1997. The main objectives of the Convention include co-operation between governments, organisations and communities to accomplish sustainable development, especially where water resources are scarce. The Convention aims to support member countries in Africa to prevent desertification and all its consequences. These countries support one another at technical and scientific level as they share similar climatic conditions. South Africa also acts as co-ordinator for the Valdivia Group for Desertification. The Group consists of countries in the southern hemisphere, namely Australia, New Zealand, Argentina, Chile, Uruguay, South Africa and Brazil, whose aim it is, *inter alia*, to foster scientific and technological co-operation.

Hazardous waste

The Department of Environmental Affairs and Tourism developed Hazardous Waste Management Guidelines for sector managers

and provinces, which were expected to be published in the second half of 2002.

The Department envisaged publishing a Waste Manifest System in 2002 and was involved in the development of a Health-care Waste Management document on medical waste. This is a joint project with the Department of Health.

Medical waste treatment continues to be inadequate in South African hospitals, principally because non-hazardous items such as food are often mixed with contaminated medical waste. This dramatically increases the volume of medical waste, and makes the cost of safe disposal prohibitive.

Non-hazardous waste

A successful Waste Summit was held in Polokwane (formerly Pietersburg) in Limpopo during September 2001. It formed part of the National Waste Management Strategy and invoked a wide range of stakeholders, including governmental and non-governmental organisations (NGOs), members of civil society, community-based organisations, business and industry representatives, members of the Environmental Portfolio Committee and guests from the US, Botswana, Germany and Denmark. This resulted in the Polokwane Declaration on Waste Management. Its vision is to implement a waste management system which contributes to sustainable development and a measurable improvement in quality of life, by harnessing the energy and commitment of all South Africans for the effective reduction of waste. The Polokwane Declaration outlines the goal of reducing waste generation and disposal by 50% and 25% respectively by 2012 and to develop a plan for zero waste by 2022.

These are ambitious plans but are potentially quite feasible with the introduction of a number of initiatives like eco-industrial parks (there are currently 25 around the world) that function on a zero-waste basis. Here factories are brought together so that they can use each other's waste (by-products) as input or raw materials.

One of the major problems with waste management is the lack of knowledge on how much waste is being produced and by which sectors. Because of this, a Waste Information System was being created, which was expected to be completed by the end of 2002.

Draft tyre regulations have been developed during 2001. The aim is that no tyres should end up in landfill. Instead, tyre collectors will be registered. They will sell scrap tyres to industries that use them in a number of applications, including goods like shoes and even mouse pads. Scrap tyres can be shredded and used in road construction.

Preliminary plans have also been developed in 2001 on the possibilities of greening government. The principal initiative will entail the recycling and minimisation of paper use, starting with the Department of Environmental Affairs and Tourism, and rolling out to the provincial environment departments before extending to other national departments.

An agreement containing new regulations governing plastic shopping bags was signed in September 2002 by the Minister of Environmental Affairs and Tourism and representatives from various labour and business organisations, such as the National Council of Trade Unions and the Plastic Federation of South Africa. The agreement will come into effect in May 2003.

It stipulates that the thickness of plastic bags will remain at 30 microns, but that manufacturers will be able to continue using their existing machinery to make bags of 24 micron thickness for the next five years before having to comply with the 30-micron standard.

An initial proposal to ban all printing of advertising on bags less than 80 microns thick was also discarded. The new agreement states that printing will be allowed on 25% of the surface area if the ink is not environmentally-friendly. In situations where the ink used is acceptable, this area can be increased to 50%.

Water quality management

The management of the quality of the na-

tional water resources of South Africa is the responsibility of the Directorate: Water Quality Management of the Department of Water Affairs and Forestry.

Water quality is changed and affected by both natural processes and human activities. Generally, natural water quality varies from place to place, depending on seasonal changes, climatic changes and with the types of soils, rocks and surfaces through which it moves. A variety of human activities e.g. agricultural activities, urban and industrial development and mining and recreation, also have a significant impact. The key to sustainable water resources is therefore to ensure that the quality of water resources are suitable for their intended uses, while at the same time allowing them to be used and developed to a certain extent. Effective management is the tool through which this is achieved.

Water quality management involves the maintenance of the fitness for use of water resources on a sustained basis, by achieving a balance between socio-economic development and environmental protection. From a regulatory point of view, the business of water quality management entails the ongoing process of planning, development, implementation and administration of water quality management policy, the authorisation of water uses that may have, or may potentially have, an impact on water quality, as well as the monitoring and auditing of the aforementioned. There is also the evolution of the South African society and the imperatives for equity of access to water. These challenges served as the driving force behind the water law reform process, which culminated in the National Water Act, 1998 (Act 36 of 1998).

The Directorate is developing new water quality policies and implementing various regulatory instruments stipulated by the Act to face up to these new challenges.

The National Water Act, 1998 further enables the Department to manage water quality through both source-directed and resource-directed measures. Source-directed measures include the issuing of licences to



water users with a potential impact on the resource.

The Department has adopted a hierarchy of decision-taking with regard to source-directed water quality management:

- pollution prevention: prevent waste production and pollution or degradation of the water resource wherever possible.
- waste minimisation and remediation: if waste production and pollution or degradation of the water resource cannot be avoided, waste production, pollution or degradation of the water resource must be minimised and remedied.
- precautionary principle: if there is no alternative to the disposal of waste and/or the discharge of water containing waste, the precautionary principle applies. In applying this principle, the disposal of waste and/or discharge of water containing waste will only be allowed if the receiving environment has the capacity to assimilate the additional waste load.
- differentiated approach: if the receiving water resource has the capacity to assimilate an additional waste load, i.e. when the requirements of the reserve and the other waste users are not threatened, relaxation from prescribed standards or requirements may be considered. This approach is followed for all potential sources of pollution (as defined by the Act) and not only for hazardous substances.

The receiving water quality objectives will be used in the process to determine the Resource Quality Objectives.

The Act requires that all significant water resources be classified in accordance with the prescribed classification system. Resource quality objectives must then be set based on the class. These include objectives for the instream, riparian habitat and aquatic biota water quality and quantity.

The Department of Water Affairs and Forestry, in partnership with the Department of Environmental Affairs and Tourism, contributed to the completion of the Integrated Pollution Control and Waste Management

Policy and the National Waste Management Strategy. It focused specifically on its water quality responsibilities within an integrated pollution-control policy model. (See chapter: *Water Affairs and Forestry*)

Air pollution

Durban South, KwaZulu-Natal, is the second largest industrial area in South Africa and home to several fuel refineries, a pulp and paper mill, sugar refineries and a number of smaller industries.

It was announced in the 2000/01 annual review that the Minister of Environmental Affairs and Tourism had unveiled a multipoint plan aimed at addressing Durban South's air pollution problems and health hazards. By the end of March 2002, these plans were about to be implemented.

The number of monitoring instruments is being increased. These will improve the accurate measurement of various types of air pollutants, including fugitive emissions from oil storage tanks, such as benzene and toluene.

Once the nature of the pollution has been quantified, steps to reduce dangerous gases can be implemented by the end of the reporting period and a multistakeholder steering committee set up to discuss the implementation of a broad health study to finalise the terms of reference.

The health assessment will investigate the possible links between existing illnesses in communities living around Durban South and the pollution levels in the area.

The first phase of a study on the feasibility of phasing out coal and heavy furnace oil usage in the area by replacing it with a cleaner burning fuel like methane-rich gas has been completed.

There is a need for further studies into the socio-economic impact, though some of the industries in Durban South claim their financial survival might be threatened by the change. The departments of Trade and Industry and of Environmental Affairs and Tourism are working together on the possibil-

ity of offering economic incentives for industries to switch over to cleaner fuel usage and/or technologies.

The focus on Durban South is increasingly being seen as a potential model for cleaning other air pollution hotspots around the country, including the Vaal Triangle, the Witbank-Middelburg area and Milnerton near Cape Town.

Vehicle emissions have until now, not been viewed as a serious pollution issue in South Africa.

As the number of motor vehicles on the country's roads increases, they play a growing role in the country's air pollution challenge.

The Department is developing a strategy to deal with vehicle emissions. Current laws governing pollution from vehicles are inadequate.

According to the UN, the transportation sector world-wide now accounts for as much as 73% of global carbon emissions. Vehicles emit huge quantities of carbon monoxide, nitrogen oxides and volatile hydrocarbons.

Most of the petrol used in South Africa contains lead, another serious health risk, particularly for children, as it can hamper their mental development.

Nitrous dioxide harms the health of people with cardiac and respiratory weaknesses.

Oxides of nitrogen combined with water vapour create acid rain. Carbon monoxide can kill in a matter of minutes, if large enough quantities are inhaled and hydrocarbons harm human health as well as the environment.

Information

The National Assembly approved accession to the Kyoto Protocol of the United Nations Framework Convention on Climate Change in March 2002. The accession to the Protocol demonstrates South Africa's political commitment to further enhance the effectiveness of environmental legislation.

The Kyoto Protocol is a legally binding instrument whereby developed countries undertake to reduce greenhouse gas emissions by at least 5% of their 1990 levels. One of the Protocol's features is the incorporation of market-based mechanisms designed to allow developed countries to achieve their required emission reductions at the least possible cost.

Revised guidelines to limit levels of sulphur dioxide in the atmosphere were promulgated in December 2001. This tightening of guidelines will bring them in line with World Health Organisation standards. These guidelines will be converted into legally enforceable regulations once the new law on air pollution is passed. A process to set standards for all other important pollutants is under way.

Law reform is progressing well, with the Draft Air Quality Bill close to completion. The Bill, which falls within the parameters of the *White Paper on Integrated Pollution and Waste Management*, was expected to be ready for public comment late in 2002.

Marine pollution

More than 80% of marine pollution originates from land-based sources such as pipeline discharges, rivers and stormwater run-off.

There are many places where water or water containing waste is being discharged into the sea. Forty sea outfalls are formalised through exemptions issued by the Department of Water Affairs and Forestry in terms of the Water Act, 1956 (Act 54 of 1956).

A legal vacuum was created by the repeal of the Water Act, 1956 and the correct exclusion of the marine environment from the definition of the water resource in the National Water Act, 1998. The Department continues to control the discharges of water containing waste through sea outfalls in the interim by using Section 1(h).

The same principles used for the issuing of other water-use licences apply to licences for sea outfalls. Such effluents include both raw and treated sewage, industrial effluents or a mixture of the two. In the past, many of these discharges were made in the surf zone, or even onto the shore, but the current tendency is to extend the pipelines further offshore. Permit conditions generally include the monitoring of adverse effects of such discharges on the marine environment.

An increasing source of concern is non-point source pollution, especially that coming



from the burgeoning informal settlements that form part of many coastal cities. Such pollution is generally the result of inadequate sanitation and other infrastructure, and is very difficult to control or monitor.

Shipping also contributes significantly to marine pollution, particularly with regard to specific types of pollutants. For example, of the estimated 6,1 million metric tonnes of oil entering the oceans every year, some 45% is the result of shipping activities.

The balance comes from industrial discharges, urban run-off and oil exploration and production – the latter only 2%. Of the pollution emanating from shipping activities, the majority comes from vessel operations, with only 12% from tanker accidents. Nevertheless, due to the notorious sea conditions along its coastline, South Africa has experienced a number of major oil spills, and, as a consequence, has a well-developed response capability. This includes contingency plans, salvage tugs, dispersant spraying vessels, a reconnaissance aircraft, and a stockpile of oil spill response equipment.

Other pollutants linked to the operational activities of ships include sewage and garbage, ballast water discharges, air pollution and cargoes, which reach the sea as a result of accidents. Sewage, garbage and air pollution are regulated by annexes to MARPOL, an international convention controlling pollution from ships, to which South Africa is a party. New regulations to control ballast water discharges are being developed. The major concern is the translocation of alien species, including pathogens, which may have not only ecological, but also social (public health) and economic consequences. South Africa is involved in an international project aimed at implementing international guidelines on ballast water management in developing countries.

Cargoes range from foodstuffs such as rice and maize, to crude oil, toxic waste and plutonium. Another potential source of marine pollution is the dumping of waste at sea. This activity is regulated under the Dumping at Sea Control Act, 1980 (Act 73 of 1980), and, since

1995, excludes industrial waste. The main categories of waste that are dumped in South Africa are dredged material from the ports, obsolete vessels and, occasionally, spoiled cargoes.

Coastal management

The Department of Environmental Affairs and Tourism's Subdirectorate: Coastal Zone Management is the lead agent for coastal management. This requires empowering coastal users, decision-makers and the people to sustain and manage the coastal zone and its resources appropriately.

The *White Paper on Coastal Management* was launched in June 2000. According to the White Paper, the coast has been a driving force in the national economy. Its products account for about 35% of the country's national gross domestic product (GDP) and has enormous future development potential.

A number of far-reaching initiatives were undertaken. These include the

- ruling by the Port Elizabeth High Court in favour of the banning of private 4x4 vehicles on South African beaches. The regulation came into effect in January 2002.
- removal/bulldozing of illegal cottages on the Wild Coast.
- declaration of a Whale Sanctuary in Hermanus.
- restructuring of the fishing rights dispensation to control the exploitation of coastal and marine resources.

These measures will supplement the illustrious programme of action already anticipated in the *White Paper*. Elements of this programme and projects include the following:

- diversifying coastal economies and optimising benefits for local coastal communities
- promoting coastal tourism, leisure and recreational development
- establishing 'one-stop-shops' for development approvals
- improving public access to the coast and coastal resources

- developing ports and harbours
- improving co-ordination and integration of coastal and marine resource management
- improving co-ordination of monitoring and managing coastal pollution
- rehabilitating degraded coastal areas and resources.

The Working for Coast Programme was launched in October 2000. In a short time it has achieved a lot in terms of upgrading the environment and positively affecting the lives of people living along the coast. The Programme has created more than 1 500 jobs.

More than 55 teams of workers have been formed along South Africa's coast with many of them having started their own small businesses. To celebrate the achievements of the Programme, an award ceremony was held in July 2002. Among the recipients of the awards were the:

- Hluleka team from the Wild Coast for restoring dunes and hiking trails on the coast (Tourism Award)
- Mngazana team for the rehabilitation of mangrove swamps on the Umgazana River estuary and planting about 20 000 trees (Environment Award)
- Kommetjie team for exceptional work in impacting on local environment, including clean-ups on Robben Island (Outstanding Site Award).

Several merit awards were awarded to individuals in recognition of the key role they play in ensuring the success of the Working for Coast Programme.

Information

The Department of Environmental Affairs and Tourism celebrated National Environment Week under the theme *Clean up South Africa for a Better Life*.

In June 2002, the three winners of South Africa's Cleanest Town Competition were announced at World Environment Day celebrations in Qumbe, Eastern Cape.

The Nelson Mandela Metro in the Eastern Cape was awarded the title of South Africa's cleanest metro.

KwaZulu-Natal's Newcastle Transitional Local Council (TLC) was named the cleanest TLC in the country while Klein Karoo was voted the cleanest District Council.

They each received funding for environmental projects worth R1 million.

Chemicals

Although relatively small by international standards, the chemical industry is a significant player in the South African economy, contributing about 5% to GDP and providing employment to about 200 000 people. The industry produces 1 301 t of primary and secondary process chemicals annually, making it the largest of its kind in Africa.

Several steps have been taken to align current legislation with the Constitution, 1996 (Act 108 of 1996), and with global chemicals management:

- A special unit has been set up in the Department of Environmental Affairs and Tourism to implement a system aimed at preventing major industrial accidents as well as systems for emergency preparedness and response.
- The Minister has initiated an integrated safety, health and environment approach for the management of chemicals in South Africa. This government-level initiative, funded by the UN Institute for Training and Research, will involve a multistakeholder forum, including labour representatives and aims to integrate legislation. At present, the laws governing chemicals are fragmented.

The Department has also initiated a national chemical profile report. This baseline study was expected to be finalised by July 2002 and will provide an overview of South Africa's chemical industry, forming the basis of a system of national co-ordination.

South Africa has signed the Stockholm Convention on Persistent Organic Pollutants and the Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Recycling

Almost every type of paper produced in South Africa has a recycled content. Each ton of waste paper recycled saves about 17 pine trees, and a ton of recycled paper saves 3 m³ of landfill space, meaning that South Africa



saves 10 million trees annually.

South Africa follows the US and Japan as the best collectors of used metal beverage cans in the world. The recovery rate of steel beverage cans sold in South Africa has grown to 63%.

A major role in this regard has been played by the Collect-a-Can project, which was founded in 1993 to reduce litter and optimise the recovery of steel beverage cans. In the process, informal employment has been created for an estimated 30 000 people.

In comparison with other countries, South Africa has a high returnable glass-container market: 33% of all glass containers produced are returnable or reusable, and these are also recycled.

Urban conservation

Rapid urbanisation and its concomitant environmental impact is posing serious challenges for South African planners and environmentalists.

Up to 16 000 ha of farmland is lost to urban development each year. Low-density urban sprawl and the rapid growth of informal settlements contribute to increasing competition between urban land-users for diminishing space and resources.

Information

Eight beaches along the South African coast were awarded the internationally renowned Blue Flag for excellence in beach management on National Marine Day on 18 October 2002.

The beaches accredited are Humewood Beach, Nelson Mandela Metropole (Eastern Cape); Margate Main Beach, South Beach, Durban; Willard Beach, Ballito; Ramsgate Beach and Marina Beach, San Lameer (KwaZulu-Natal); and the Lookout and Grotto Beaches in the Western Cape.

Blue Flag is a well-known environmental and tourism campaign in Europe, providing local and foreign visitors with proof that the awarded beaches they visit adhere to international safety, cleanliness and other tourist standards. The Campaign, started in France in 1985, is currently active in 23 countries.

It is the second year South Africa participated. South Africa is still the only country outside Europe to be granted the right to implement the campaign.

As a result, informal settlements frequently develop on marginal and environmentally sensitive land, posing serious threats to human well-being and to ecosystems.

Environmentally-friendly use and development of land can be promoted through official planning processes such as integrated development plans and land development objectives.

New planning and environmental legislation better provide for environmental concerns in urban planning and development. Regulations making environmental impact assessments compulsory for certain planned developments were promulgated in September 1997.

Environmental injustices

The Thor Chemicals situation in the KwaZulu-Natal Midlands that resulted in the mercury poisoning and death of a number of workers, as well as poisoned communities, poisoned livestock, damaged environment and contaminated groundwater, is in the process of being resolved.

The Department of Environmental Affairs and Tourism has addressed the requirements of the Davis Commission for dealing with the problems of the remaining mercury waste and hoped to start operations to resolve the problems in May 2002.

South Africa is participating in the technical committee of the UN Environment Programme-initiated intergovernmental Mercury Assessment. This will feed into the process the Department is undertaking with Thor Chemicals. This committee will also assess the environmental and health impacts of lead and cadmium.

Asbestos is another of the environmental injustice issues that received attention from the Department in 2001/02. The Department is co-ordinating the implementation of the Asbestos Summit resolutions and the Cabinet decision on asbestos management.

The highlights include:

- the closure of the last of South Africa's asbestos mines

- a feasibility study by the departments of Environmental Affairs and Tourism and Trade and Industry on the socio-economic implications of phasing out asbestos completely in all applications (principally housing materials), which was expected to be completed by June 2002
- an out-of-court agreement proposal in the United Kingdom to resolve the case of affected victims in South Africa
- the publishing of asbestos regulations for occupational safety by the Department of Labour
- the Department of Minerals and Energy's rehabilitation of asbestos mines.

International co-operation

South Africa is a signatory to a variety of international agreements dealing with environmental issues.

United Nations Framework Convention on Climate Change (UNFCCC)

South Africa ratified the UNFCCC in 1997. The Convention is a global commitment to take collective responsibility for climate change and is a mandate for action to address the problem.

The Convention was signed at the Rio Earth Summit in 1992 by Heads of State and other senior representatives from 154 countries (and the European Community) and came into effect on 21 March 1994. As of mid-1998, some 175 States had ratified or acceded to the Convention.

The objective of the Convention is to stabilise greenhouse gas concentrations in the atmosphere at levels that will not have an adverse effect on the climate.

The Convention aims to control the rate of approach to these levels over a period of time in order to:

- allow ecosystems to adapt naturally to climate change

- ensure that food production is not threatened
- enable economic development to proceed in a sustainable manner.

The Convention is guided by four main principles. These are:

- intergenerational equity
- recognition of the specific needs and circumstances of developing countries
- the precautionary principle
- sustainable development and the need for global co-operation and an open international economic system that will lead to sustainable economic growth.

All countries that have ratified the Convention are required to:

- develop, update and publish national inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases (the greenhouse gases exclude those listed in the Montreal Protocol)
- formulate, implement and update national and regional programmes containing measures to mitigate climate change
- promote and co-operate in the development and transfer of technology that controls, reduces or prevents anthropogenic emissions of greenhouse gases
- promote sustainable management, conservation and enhancement of sinks and reservoirs or greenhouse gases
- co-operate in preparing for the adaptation to the impacts of climate change
- take climate change considerations into account where feasible, in relevant social, economic and environmental policies and actions with a view to minimising adverse effects to the economy, public health and the quality of the environment
- promote and co-operate in research
- promote and co-operate in the timely and transparent exchange of information, including scientific, technological, socio-economic and legal information
- promote and co-operate in education, training and public awareness and encourage the widest participation in this process and report to the Conference of the Parties (COP).



Convention on International Trade in Endangered Species

CITES, also known as the Washington Convention, was negotiated in 1973 when it was realised that international trade in wildlife and wildlife products could lead to the over-exploitation of certain species, thereby threatening them with extinction. CITES came into force in South Africa on 13 October 1975. South Africa, together with the other 149 member countries, act by regulating and monitoring international trade in species, which are or may be affected by this trade.

South Africa views the African elephant, with populations of more than 200 000 in southern African countries, as not endangered. The immediate effect of the decision is that South Africa will be able to sell elephant hides and leather goods, as well as trade in live animals.

All four Southern African Development Community countries (Botswana, Namibia, Zimbabwe and South Africa) withdrew their proposals to sell ivory stocks. South Africa now has an Appendix II listing and a zero quota for ivory. This means that at future COPs, South Africa will not have to campaign for a downlisting but rather an amendment to request a quota.

The issue at stake for South Africa is not just ivory. It is about the sustainable use of natural resources and its use for poverty alleviation in rural areas.

The agreement on the downlisting of the African elephant will be restricted to the stockpile in the Kruger National Park.

In October 2001, the Department of Environmental Affairs and Tourism invited interested South African citizens and registered South African NGOs to register with the Department to assist in its preparation for the 12th COP of CITES. The meeting took place in Chile in November 2002.

During this meeting, South Africa submitted three proposals aimed at ensuring the sustainability of its wild fauna and flora. These proposals included among other things, the:

- amendment of the annotation to the

Appendix II listing of the South African population of African elephant to allow the initial sale of the Kruger National Park ivory stockpile (of 30 t), 18 months after the adoption of the proposal, and a subsequent annual quota of 2 t

- transfer of the South African population of Cape Parrot from Appendix II (species not necessarily in danger of extinction but which could become so if trade in them were not strictly regulated) to Appendix I (species threatened with extinction that are or could be affected by trade)
- transfer of *Aloe thornicroftii* from Appendix I to Appendix II.

Montreal Protocol

South Africa, as a signatory to the Montreal Protocol, has a national obligation to implement the requirements of the Montreal Protocol to safeguard the ozone layer from complete depletion. If this is not done, the long-term negative implications for the whole world will be such that life on earth will be threatened.

To date, South Africa has phased out CFCs, halons, methyl chloroform and carbon tetrachloride – the only developed country in the world that has achieved so much in line with the phase-out schedule for developed countries. It is a known fact that although South Africa is classified as a developing country, its consumption of these substances is equal to some of the developed countries. It is for this reason that South Africa did not hesitate to comply with the requirements of the Protocol, more especially because it is also a signatory. To demonstrate South Africa's commitment towards phasing out ODSs, the following control measures constitute the overall position of South Africa on the Montreal Protocol:

- working groups were constituted under a neutral chairmanship to assist the government to implement the Protocol
- regulated ODSs can only be imported or exported after applying for an import/export permit through the Department of

Trade and Industry under their Import and Export Control Act, 1963 (Act 45 of 1963),

- as a disincentive for the use of regulated ODSs, they could only be imported after an environmental levy of R5 per kg of CFC was paid
- dissemination of information to interested and affected parties
- Africa Networking Meetings, as arranged by the UN Environment Programme, are attended where views, experiences and problems are shared towards improvement and co-operation within the region.

Obligations include:

- ensuring that South Africa, as a party to the Protocol, protects human health and the environment against adverse effects resulting in or likely to result from human activities, which modify or are likely to modify the ozone layer
- ensuring the protection of the ozone layer by taking precautionary measures to control equitably total global emissions of substances that deplete the ozone layer with the ultimate objective of totally eliminating them
- reporting and sending data to the Ozone Secretariat on production, imports, exports and consumption of regulated ODSs as collected from dealers and relevant departments

- representing the country affected and interested parties in meetings or COPs to ensure that their interest and that of South Africa is catered for.

Private-sector involvement

Numerous private bodies are involved in conservation activities. There are more than 400 organisations concentrating on conservation, wildlife and the general environment, and more than 30 botanical and horticultural organisations in the country. Among these are:

- BirdLife South Africa
- Wildlife and Environment Society
- WWF South Africa
- The Green Trust
- Earthlife Africa
- Endangered Wildlife Trust
- Wilderness Trust of Southern Africa
- Environmental Justice Networking Forum
- Dolphin Action Protection Group
- Keep South Africa Beautiful
- Trees and Food for Africa
- South African National Foundation for the Conservation of Coastal Birds
- Rhino and Elephant Foundation
- EcoLink.



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