World Heritage Sites

Protected Areas and World Heritage

CAPE FLORAL REGION PROTECTED AREAS
SOUTH AFRICA

The Cape Floral Region is of outstanding and universal value for the biological and ecological processes of its distinctive and beautiful Fynbos vegetation. It is one of the world's 18 hot-spots for biodiversity, a Global Centre of Plant Diversity, an Endemic Bird Area and a Global 200 EcoRegion. This archipelago of eight sites surpasses all other Mediterranean climatic regions in density of species, and range of unusual reproductive traits and plant adaptations. Its 9,000 plant species (containing 20% of Africa's flora) and 1,435 threatened southern African plant species springs from a wide spectrum of elevations, soils, climatic conditions and the survival in isolation of relict species both plant and animal.

COUNTRY
South Africa

NAME
Cape Floral Region Protected Areas

NATURAL WORLD HERITAGE SERIAL SITE
2004: Inscribed on the World Heritage List under Natural Criteria ix and x.

STATEMENT OF OUTSTANDING UNIVERSAL VALUE
The UNESCO World Heritage Committee adopted the following Statement of Outstanding Universal Value at the time of inscription:

Brief Synthesis
The Cape Floral Region has been recognised as one of the most special places for plants—in terms of diversity, density and number of endemic species—in the world. Covering less than 0.5% of the area of Africa but home to nearly 20% of the continent's flora, this extraordinary assemblage of plant life and its associated fauna is represented by a series of eight protected areas covering an area of 553,000 ha. These protected areas also conserve the outstanding ecological, biological and evolutionary processes associated with the beautiful and distinctive Fynbos vegetation, unique to the Cape Floral Region.

Criterion (ix): The property is considered of outstanding universal value for representing ongoing ecological and biological processes associated with the evolution of the unique Fynbos biome. These processes are represented generally within the Cape Floral Region and captured in the eight protected areas. Of particular scientific interest are the plant reproductive strategies including the adaptive responses to fire of the flora and the patterns of seed dispersal by insects. The pollination biology and nutrient cycling are other distinctive ecological processes found in the site. The Cape Floral Region forms a centre of active speciation where interesting patterns of endemism and adaptive radiation are found in the flora.

Criterion (x): The Cape Floral Region is one of the richest areas for plants than for any similar sized area in the world. It represents less than 0.5% of the area of Africa but is home to nearly 20% of the continent's flora. The outstanding diversity, density and endemism of the flora are among the highest worldwide. Some 69% of the estimated 9,000 plant species in the region are endemic, with some 1,435 species identified as threatened. The Cape Floral Region has been identified as one of the world's 18 biodiversity hot spots.

Integrity

The Cape Floral Region Protected Areas currently comprises a serial property of eight protected areas covering a total area of 553,000 ha, and includes a buffer zone of 1,315,000 ha designed to facilitate functional connectivity and mitigate the effects of global climate change and other anthropogenic influences. At the time of inscription six of the protected areas were surrounded by other conservation lands, while the Boland Mountain Complex was surrounded by mostly rural land uses. The area facing the greatest external pressures is the Cape Peninsula National Park, and progress for increased protection through public awareness and social programmes to combat poverty, mountain catchment areas and stewardship programmes is being made. The collection of eight protected areas, all of which have management plans, adds up in a synergistic manner to present the biological richness and evolutionary story of the Cape Floral Region.

Protection and Management Requirements

The property is legally protected and managed by three authorities (South African National Parks, Western Cape Nature Conservation Board and Eastern Cape Parks Board), which, with the national Department of Environmental Affairs and Tourism, make up the "Cape Floral Region Protected Areas World Heritage Property Joint Management Committee". Knowledge management systems are being expanded to better advise planning and management decision-making, thereby facilitating the efficient use of limited, but increasing resources related to the management of fire and alien invasive plants in particular.

There is currently a process underway to achieve the proclamation of the serial property as a World Heritage Site in terms of the World Heritage Convention Act (Act No. 49 of 1999). Once the serial property is proclaimed as a World Heritage Site its status will automatically be recognized as a protected area and thus enjoy protection in terms of the following key environmental laws: National Environmental Management Act (Act No. 107 of 1998), the Physical Planning Act (Act No. 88 of 1967), National Environmental Management Biodiversity Act (Act No 10 of 2004) and National Environmental Management: Protected Areas (Act 57 of 2003). In terms of these pieces of legislation, mining or prospecting is completely prohibited in a World Heritage Site and all developments are subjected to environmental impact assessments.

The greatest challenges facing the property at this time are invasive species and fire. Longer-term threats include climate change and development pressures caused by a growing population, particularly in the Cape Peninsula. Invasive species are being dealt with through manual control programmes that have been used as a reference for other parts of the world, and all of the sites are managed in accordance with agreed management plans.

INTERNATIONAL DESIGNATIONS

1975: De Hoop Vlei designated a Wetland of International Importance under the Ramsar Convention, extended 1986 (750 ha).

1998: Kogelberg in the Boland Complex recognised as a Biosphere Reserve under the UNESCO Man and Biosphere Programme (103,629 ha).

IUCN MANAGEMENT CATEGORIES

(Sites listed from west to east)

Cape Peninsula National Park	II National Park
Cederberg Wilderness Area	Ib Wilderness Area
Groot Winterhoek Wilderness Area	Ib Wilderness Area
Boland Mountain Complex:	
Kogelberg State Forest	II National Park
Limietberg Nature Reserve (State Forest)	II National Park
Hottentots Holland Nature Reserve	II National Park
Jonkershoek State Forest (Nature Reserve)	IV Habitat/Species Management Area
Assegaaibosch Nature Reserve	Unassigned
De Hoop Nature Reserve	II National Park
Boesmansbos State Forest (Wilderness Area)	IV State Forest IV State Forest
Swartberg Nature Reserve Complex:	
Groot Swartberg State Forest / Nature Reserve	IV Habitat/Species Management Area
Swartberg East State Forest / Nature Reserve	IV Habitat/Species Management Area
Gamkapoort Nature Reserve	II National Park

Baviaanskloof Protected Area, comprising:

Baviaanskloof Nature Reserve	IV Habitat/Species Management Area
Baviaanskloof State Forest	IV Habitat/Species Management Area
Baviaanskloof Conservation Area	Unassigned

BIOGEOGRAPHICAL PROVINCE

Cape Sclerophyll (3.11.6)

GEOGRAPHICAL LOCATION

The Cape Floral Region is located in southwest and southern South Africa between the coast and the Cederberg and Swartberg Mountain ranges, mostly in Western Cape Province. It comprises eight sites over an area about 850 km long by an average of 110 km wide between approximately 32° 36'S to 34° 30'S and 18°18'E to 25° 50'E. In relation to Cape Town, Cape Peninsula National Park extends from the city 50 km south, Cederberg Wilderness Area, from 140 to 220 km north-northeast, Groot Winterhoek Wilderness Area, 70-150 km north-northeast, the Boland Mountain Complex between 40 and 80 km northeast to east, De Hoop Nature Reserve, 120 to 220 km east-southeast, Boosmansbos Wilderness Area,180 to 260 km east and the Swartberg Complex, 260 to 450 km east-northeast. Baviaanskloof Protected Area is 600 km east, 75 km west-northwest of Port Elizabeth in Eastern Cape Province.

Cape Peninsula National Park	33°57'25" S / 18°28'30" E -- 34°21'40" S / 18°26'10" E
Cederberg Wilderness Area	32°36'20" S / 19°08'17" E -- 32°07'10" S / 19°02'05" E
Groot Winterhoek Wilderness Area	33°10'52" S / 19°05'50" E -- 32°59'05" S / 19°09'15" E
Boland Mountain Complex	34°20'25" S / 18°46'10" E -- 33°25'00" S / 19°05'00" E
De Hoop Nature Reserve	34°30'12" S / 20°27'07" E -- 34°22'40" S / 20°36'13" E
Boesmansbos Wilderness Area	33°58'56" S / 20°48'00" E -- 33°52'46" S / 20°56'12" E
Swartberg Complex	33°24'19" S / 20°35'30" E -- 33°22'40" S / 24°50'55" E

DATES AND HISTORY OF ESTABLISHMENT

Each Reserve within the Cape Floral Region has had a long history of increasing protection of differing types before final gazettement. Key events are given below:

1973: The Cederberg Wilderness Area established under Forest Act 122;

1975: De Hoop *vlei* designated a Ramsar Wetland site, expanded in 1986;

1978: Boesmansbos Wilderness Area established under Forest Act 122;

1978-80: The Swartberg complex of three reserves established. These are Groot Swartberg and Swartberg East State Forest/Nature Reserves and (1980) Gamkapoort Nature Reserve;

1984: The Groot Winterhoek Wilderness Area established under Forest Act 122;

1987: Baviaanskloof Protected Area proclaimed a Wilderness Area: comprised of Baviaanskloof Nature Reserve, State Forest and Conservation Area;

1984-92: The five independently established components of the Boland Complex separately proclaimed. These are the Kogelberg and Limietberg State Forests, the Hottentots Holland, Jonkershoek and Assegaaibosch Nature Reserves;

1990: De Hoop Nature Reserve proclaimed under Nature Conservation Ordinance 19 of 1974; the De Hoop Marine Protected Area gazetted under the Sea Fisheries Act 12/1988;

1998: Kogelberg in the Boland Complex designated a UNESCO Biosphere Reserve;

1998: Cape Peninsula National Park established by Government Notice 18916 under the National Parks Act 57 of 1976 and the Cape Nature Conservation Ordinance 19 of 1974.

LAND TENURE

State, and the local authorities which own 60% of Cape Peninsula National Park. All seven areas are now administered by the Department of Environmental Affairs and Tourism (DEAT) which delegates part of its authority to the three management agencies in charge of the different components, South African National Parks (SANParks) for Cape Peninsula National Park, CapeNature for the five western parks and the Eastern Cape Parks Board for Baaviansklоof (UNESCO, 2009).

AREAS

The total area of the eight sites is 553,000 ha (5,530 sq.km) - nearly 6% of the Cape Floristic Region of 90,000 sq.km. Surrounding protected lands total over 13,150 sq.km and the overall total of protected land is 18,680 sq.km. The areas of each World Heritage site given in the nomination document are:

Site	Core area	Buffer area
Cape Peninsula National Park	17,000 ha	21,787 ha
Cederberg Wilderness Area	64,000 ha	467,000 ha
Groot Winterhoek Wilderness Area	6,000 ha	410,000 ha
Boland Mountain Complex	113,000 ha	285,000 ha
De Hoop Nature Reserve	32,000 ha	50,300 ha
Boesmansbos Wilderness Area	15,000 ha	72,000 ha
Swartberg Complex	112,000 ha	60,000 ha
Baviaanskloof Protected Areas	174,000 ha	0 ha

ALTITUDE

Sea level to 2,077m (Groot Winterhoek Peak).

PHYSICAL FEATURES

The Cape Floral Region lies between the Ocean and the L-shaped mountain chains that parallel the coast. The Cederberg, Groot Winterhoek, Cape Peninsula and north half of the Boland Mountain Complex just east of Capetown lie in north-south ranges running parallel to the Atlantic Ocean. The east half of Boland, Boesmansbos, the long Swartberg mountains and Baviaanskloof run from 200 to 600 kilometers east of Capetown parallel to the Indian Ocean. DeHoop Nature Reserve is in the Agulhas Plain on the southern coast. Together the eight sites represent the eight phytogeographic centres of the Region in nearly 6% of its area; of which, with surrounding protected lands, they cover nearly 21%.

The highest ranges of the Cape fold mountain belt, reaching over 2000m high, are formed of the rugged highly sculptured Table Mountain and Witteberg Groups of barren quartzitic sandstone intermixed with Bokkeveld Group shales and overlying the sometimes exposed eroded Cape Granite. These form a scenic backdrop to the entire region, with beautiful mountain passes, and along the Oliphants River, rapids, cascades and pools. The predominant soils, derived from the sandstone, are shallow, sandy, nutrient-poor and acidic, characteristic of *fynbos* (fine-leaved bush) areas. Soils are skeletal at high elevations. Valley soils are richer clays derived from the intermixed shales. The same is found in a more complex jumble in Boland Mountain and less complex in the Boesmansbos and Swartberg mountains and those surrounding the Baviaanskoof valley. *Renosterveld* flatland soils are slightly richer than the predominant *fynbos* type. Recent coastal sands are highly alkaline. This range of differing altitudes, bedrock types and soils produces marked local differences in plant species. The climatic, topographic and pedological diversity of the Cape Peninsula make it the most diverse of all these areas.

CLIMATE

The Region has a semi-Mediterranean climate of cool wet winters and hot dry summers in the west with somewhat rainier summers in the east. Rainfall varies markedly with topography: between 300-500mm in the lowlands and 1000-3300mm in the mountains where clouds and fog can persist and snow falls in winter. Temperatures range from below freezing to above 40°C in the northern Cederberg and 45°C in the Swartberg. Coastal areas near the oceans are more temperate. Winters are influenced by

depressions from the prevailing circumpolar westerlies. Coastal winds can be strong, and in winter hot dusty bergwinds occasionally blow from the interior, aggravating the natural fires which occur at 10 to 20 year intervals. This produces a mosaic of climatic and microclimatic zones which contribute to the complexity and diversity of the flora.

However, the Cape Floristic Region is highly sensitive to climate change and may lose much of its northern limits over the next few decades, with powerful effects on its unique vegetation (Hoffman *et al.*, 2009). Its mountains lack permanent snow providing little altitudinal retreat for existing high montane species, and there is little space for any retreat south. Fires and droughts will increasingly affect short-lived and sensitive species (IPCC, 2003).

VEGETATION

The Cape Floral Region has been called the world's hottest hot-spot for plant diversity and endemism and it has recently been designated one of the IUCN Global Centres of Plant Diversity. Although the smallest of the world's six principal floristic regions and in a temperate zone, it has by far the highest species density and species rarity of any Mediterranean-type climatic region. In less than 0.38% of the area of Africa it has nearly 20% of its flora and five of the continent's twelve endemic families. In less than 4% of the area of southern Africa it has nearly 44% of the subcontinental flora of 20,367 species. 70% of its vascular plant species do not occur naturally anywhere else in the world, but many are threatened. Within its 90,000 sq.km area there are 8,996 plant species and 988 genera, roughly half of all genera in South Africa. 31.9% of its species are endemic. These include five endemic and two sub-endemic families and 1,435 (70%) of all southern African threatened species. There is also a very high species-to-genus ratio of 9:1, and species-to-family ratio of 52:1. Within the Region, the southwest has the most diverse flora, and of these species the Cape Peninsula has almost half, with 25% of the flora of the whole Region. This pattern of species richness is exceptional for this climatic type, not only in a single habitat but over changes of taxa with changes in habitat (*beta* diversity) and in changes of taxa in similar habitats over changes in geographic area (*gamma* diversity).

There are some 6,191 endemic species in the Region. The Cape Peninsula has 2,285 species of plants, 90 being endemic to the peninsula, the Cederberg has 1,778, including the local cedar *Widdringtonia cedarbergensis* (EN). Boland Mountain Complex has 1,600 plant species, 150 being endemic. None of the sites has less than 1,100 species. This richness is due to the wide variety of macrohabitats and microhabitat mosaics resulting from the range of elevations, soils and climatic conditions, including the co-existence of winter-rainfall species with summer-rainfall species from further east. The flora also has concentrations of relict endemics and massive still-active speciation due to its isolation in an area of very long established climatic stability which has generated most of the enormous diversity. The flora of each nominated area is sufficiently distinct to justify representation of the region by several sites, each of which is large enough to preserve the genetic viability of its type and to accommodate large-scale natural processes such as fire and drought. Eight Phytogeographic Centres of endemism have been distinguished in the Cape Floral Region; also 88 of 102 Broad Habitat Units defined for the country,15 of which are protected within the nominated sites:

Southwestern	Boland Mountain Complex / Cape Peninsula National Park
Northwestern	Cederberg Wilderness / Groot Winterhoek Wilderness Areas
Agulhas Plain	De Hoop Nature Reserve
Langeberg	Boesmansbos Wilderness Area
Karoo Mountain	Swartberg Complex
Little Karoo	Swartberg Complex
Southeastern	Baviaanskloof
Albany	Baviaanskloof

The distinctive flora of the Cape Floral Region, comprising 80% of its floristic richness, is a sclerophyllous shrubland known as *fynbos* (fine bush), a fine-leaved vegetation adapted to both the Mediterranean type of climate and to periodic fires. It is defined by location or by dominant species such

as coastal, mountain or grassy or proteoid fynbos. Its four main components are heaths, the Proteaceae, reedlike Restionaceae and geophytes (bulb-plants) including many Iridaceae. It grows on the predominant coarsely sandy, acidic nutrient-poor soils, and on alkaline marine sands and slightly richer alluvial soils of the *renosterveld,* poor in Protoaceae but rich in Asteraceae, There are pockets of evergreen forest in fire-protected gorges and on deeper soils; in the east are valley thicket and succulent thicket, which are less fire-dependent, and in the drier north, low succulent Karoo shrubland which has an unparalleled diversity of species. The flora includes spectacular proteas, irises, gladioli, perlargoniums, a wide array of flowering succulents, mainly Aizoaceae, many Orchidaceae and useful species of the Fabaceae. The native flora has relatively few trees but patches of indigenous forest remain in mountain valleys where they are protected from fire although the native trees grow too slowly for cultivation.

Four other characteristics of global scientific interest are the responses of the plants of the region to 1) fire, 2) seed dispersal by ants and termites (myrmecochory), 3) the high level (83%) of plant pollination by insects, mainly beetles and flies and 4) its Gondwanaland floristic relicts which allow the reconstruction of very ancient floral communities. Adaptation to fire include geophytes which sprout from underground and seed storage both underground and in the canopy, some species requiring fire for germination. Ants take the seeds to eat the lipid deposits; about 28% of the Region's flora including over half of the Proteaceae is dispersed by them. Most of the shrubs so dispersed are both endemic and threatened species but the latter lack a way of regenerating after fire. Pollination and nutrient-cycling by termites, and termite-mound communities, mainly in the *renosterveld* flatlands, are notable. The region also has very high levels of plants pollinated by mammals and birds.

FAUNA

The Cape Faunal Centre is a distinct zoogeographic zone that coincides roughly with the Floral Region as far as the eastern end of Western Cape Province. In general the fauna is less remarkable than the flora, except for a distinctive relict invertebrate fauna of an exceptionally high level of endemism which persists in upper forest streams, riverine forests and caves, especially in the Cape Peninsula National Park and the Cederberg and Groot Winterhoek mountains. Characteristic rare relict species are the velvet worms *Peripatopsis leonina* (CR), *P.alba* (VU) and *P.clavigera* (VU).This has changed little since the era of Gondwanaland and is the oldest and least disturbed fauna on the continent. It is notable that the relict palaeogenic species are limited to the same areas as hot-spots for rare plants. Kogelberg Nature Reserve in Boland Mountain has 150 endemic species and is a UNESCO Biosphere Reserve. De Hoop Reserve along the coast includes a Ramsar-designated coastal *vlei* (seasonal lake) and has 260 bird species. The large Baviaanskloof Reserve is a good example of the Region's faunal diversity, with 310 bird species, 58 mammals, 56 reptiles, 17 amphibians, 15 fish and 55 butterflies, several species being endemic.

Particularly in the foothills and mountains, larger mammals such as chacma baboon *Papio ursinus,* honey-badger *Mellivora capensis*, Cape clawless otter *Aonyx capensis,* leopard *Panthera pardus,* aardvark *Orycteropus afer,* eland *Taurotragus oryx*, the regional endemic bontebok *Damaliscus dorcas dorcas* and diverse mustelids and viverrids occur. There are also Cape horseshoe bat *Rhinolophus capensis*, spectacled dormouse *Graphiuris ocularis*, the regionally endemic Cape gerbil *Gerbilliscus afra* and several threatened amphibians. The region is an Endemic Bird Area with, on the coast, jackass penguin *Spheniscus demersens* (VU), blue crane *Grus paradisea* (VU), Cape vulture *Gyps coprotheres* (VU), black eagle *Aquila verreauxii,* martial eagle *Polemaetus bellicosus*, fish eagle *Haliaeetus vocifer*, black harrier *Circus maurus* (VU), lanner falcon *Falco biarmicus,* lesser kestrel *F. naumanni* (VU) and Knysna scrub-warbler *Bradypterus sylvaticus* (VU). Near-threatened species include Cape cormorant *Phalacrocorax capensis* and African oystercatcher *Haematopus moquini*. There are also *fynbos* endemics such as the orange-breasted sunbird *Nectarinia violacea,* Cape siskin *Serinus totta* and Protea canary *Serinus leucopterus.* South African amphibian species indigenous to the Region and endemic to it are 44 and 24 respectively, of which 5 are threatened. Endemic reptiles indigenous to the Region and endemic to it number 142 and 27, of which 5 are also threatened, notably the Table Mountain ghost frog *Heleophryne rosei* (CR), Cape mountain toad *Capensibufo rosei* (VU), Cape

clawed toad *Xenopus gilli* (EN) and geometric tortoise *Psammobates geometricus* (EN). There are also the butterflies red hill copper *Aloeides egerides* (VU) and *Thestor yildizae* (VU).

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The Cederberg range has the armadillo spiny-tailed *Cordylus cataphractus* (VU) and Mclachlan's spiny-tailed lizards *C. mclachlani* (VU); and in the mountains, as well as raptors, there are the Cape sugar bird *Promerops cafer,* Knysna woodpecker *Campethera notata* and Cape rockjumper *Chaetops frenatus*. The Cedarberg range is exceptional in the fish of the Oliphants river system in which eight out of ten species are endemic, the most in any river south of the Zambezi: one species is critically endangered, the Twee river redfin *Barbus erubescens* (CR); five are endangered and two are vulnerable: spotted rock catfish *Austroglanis barnardi* (EN), Clanwilliam redfin *Barbus calidus* (EN), Clanwilliam sandfish *Labio seeberi* (EN), fiery redfin *Pseudobarbus phlegethon* (EN), and sawfin *Barbus serra* (EN); and Clanwilliam yellowfish *Barbus capensis* (VU) and Clanwilliam rock catfish *A. gilli* (VU),. The Kogelberg has the Berg River redfin *Pseudobarbus burgi* (EN), and Boesmansbos the Tradou and slender redfins *Pseudobarbus burchelli* (CR) and *P. tenuis* (EN) and Cape whitefish *Barbus andrewi* (VU). The slender redfin is also found in the Swartberg. Baaviaanskloof has Eastern Cape redfin *Pseudobarbus afer* (EN) and smallscale redfin *P. asper* (VU). Other fish species indigenous and endemic to the Region number 19 and 16 respectively, of which 14 are threatened.

In the De Hoop reserve the endemic Cape mountain zebra *Equus zebra zebra* (VU) is an important source for reintroduction of these animals to other reserves. The fauna in the Swartberg protected areas reflects their location close to the fynbos-Karoo interface with species such as grysbok *Raphicerus melanotis*, grey rhebuck *Pelea capreolus* and klipspringer *Oreotragus oreotragus*, steenbok *Raphicerus campestris* and grey duiker *Sylvicapra grimmia*, as well as karoo species not usually found in mountain fynbos such as springbok *Antidorcas marsupialus*. It also has the rare white-tailed mouse *Mystromys albicaudatus* (EN) and relict stag beetle *Colophon montisatris* (CR); the beetles *Colophon barnardii* (VU) and *C. thunbergii* (VU) occur in Boesmansbos.

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Further east, nearer the more sub-tropical faunal region, kudu *Tragelaphus strepsiceros* and the mountain zebra (VU) occur in Baviaanskloof which also has the rare Smith's dwarf chameleon *Bradypodion taeniabronchum* (EN). The rare micro frog *Microbatrachella capensis* (CR) is found in the Hottentots Holland Reserve.

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CONSERVATION VALUE

The Cape Floral Region is one of the 25 world areas designated by Conservation International as a Conservation Hotspot for biodiversity. It is a World Centre of Plant Diversity, a Global 200 EcoRegion, an Endemic Bird Area and contains both a Ramsar wetland and an MAB Biosphere Reserve. It surpasses all other Mediterranean-climate regions in species denseness and diversity. The sites form an archipelago of outstanding value for the biological and ecological processes of the distinctive and scenic *Fynbos* biome. It owes its diversity to an unusual range of elevations, soils, climatic conditions and the survival in isolation of relict species. Within the 90,000 sq.km area there are 9,000 plant species and 1,435 threatened plant species. The Cape Faunal Centre coincides roughly with the Region and contains a distinctive relictual fauna and 112 species of animals listed in South Africa's Red Data Book. The natural beauty of the coastal areas, including the striking inselberg of Table Mountain, is very high.

CULTURAL HERITAGE

Artifacts and fossils show that the region was occupied by humans at least 250,000 years ago. Stone tools from the Early Stone Age and hundreds of later shell middens have been found. 20,000 years ago it was inhabited by Khoisan hunter-gatherers who left striking rock art some 5,000 years old. These were displaced 2,000 years ago by Khoikhoi pastoralists. Both cultures practiced controlled burning of the country. In 1488 the Portugese Bartholomew Dias named the Cape of Good Hope and in 1652 the Dutch East India Company established a post. Settlement previously limited by the infertility of the area became feasible after suitable European crops were introduced by the colonists who cleared much of the lowlands for farming. The region is rich in rock art and historic buildings.

LOCAL HUMAN POPULATIONS

The population of the greater Cape Town area increased from about half a million in the mid 1960s to some 3.5 million in 2003 and is expected to reach 6.2 million by 2020. Except for the Cape Peninsula adjoining the metropolis, most of the nominated sites are nearly empty of people and buffered by lightly populated reserves, the mountains being almost unencroached on. But the high numbers neighboring the Cape Peninsula National Park have necessitated social programs to combat poverty and enlist conservation awareness through volunteer group work.

VISITORS AND VISITOR FACILITIES

The Cape is a popular tourist destination, both nationally and internationally, especially the Cape Peninsula which received in 2001-2 over a million fee-paying visitors and a million others. Flower, whale and penguin viewing are among the attractions beyond the range of recreational activities usual in mountain and remote country. Other reserve visitation varies between 58,500 a year in the Boland Mountain reserves near Capetown, to 18,000 a year in Cederberg and De Hoop and 1,130 in Boesmansbos. Infrastructure and reserve facilities are excellent and effective methods are used to control visitor numbers when necessary. The communications departments of the reserves have a broad range of outreach and educational programmes, information pamphlets, maps, brochures, and advertising campaigns both in the reserves and in travel magazines. Promotion uses other media outlets, meetings and discussions between reserve managers and neighbours in both provinces.

SCIENTIFIC RESEARCH AND FACILITIES

This is one of the most intensely researched floral regions in the world. The nomination's bibliography lists 290 publications on the flora, fauna and culture of southwest Africa. Three local universities and the National Botanical Institute sponsor constant research. The Western Cape Nature Conservation Board (WCNCB) uses GIS recording in the State of Biodiversity database to capture, store, retrieve and process biological data on species distribution and populations, alien plant eradication, fire mapping, water quality and other ecological processes, all centrally stored at the Scientific Services Headquarters at Jonkershoek. Predictive models forecasting the potential effects of climate change on each area have been prepared. The Eastern Cape is also developing an information system. The eight areas contribute to national monitoring exercises such as the Protea Atlas Project, the South African Bird-ringing Project, the Birds in Reserves Project, Frog Atlas Project, the Nest Record Card Scheme, the Information System for Endangered Plants and the WCNCB Provincial Fire Records database.

The 200 hectare Kirstenbosch National Botanical Garden and Institute near Cape Town have very good visitor and research facilities and are an integral and biodiverse part of the Cape Peninsula National Park, focussing on research and public education about the *fynbos*. Uniquely, the Botanic Garden is therefore included within the natural World Heritage site.

MANAGEMENT

Most of the nominated sites are in remote country, buffered by adjacent reserves and exist within a well developed legal framework. They are part of the region-wide conservation framework, the Cape Action for People and the Environment (CAPE) Project, established with help from the GEF in 2000. This works with national, provincial and local authorities and private landowners to promote the protection of biodiversity by integrating social, financial and conservation initiatives. Acts and legal instruments affecting the area include the World Heritage Convention Act, National Environmental Management Act, Environment Conservation Act, National Water Act, Conservation of Agricultural Resources Act, Mountain Catchment Areas Act, National Heritage Resources Act, National Forests Act, National Veld and Forest Fire Act, the Sea-shore Act, the Marine Living Resources Act, Wetlands Conservation Bill, the Biodiversity White Paper and the National Coastal Management Bill.

All the areas are now administered by the Department of Environmental Affairs and Tourism (DEAT) which delegates part of its authority to three management agencies: South African National Parks, CapeNature and the Eastern Cape Parks Board (UNESCO, 2009). The Chief Executive Officers of each

form a Joint Management Committee, with a representative of DEAT. For the six western areas the management plans are standardized and completed. The Cape Peninsula National Park which is 60% owned by local authorities, is managed by South African National Parks and has its own management policy and Strategic Management Plan. Baviaanskloof, is administered by the Eastern Cape Parks Board and its management plan is already in operation. For funding, a partnership exists between SANParks, CapeNature, the Eastern Cape Parks Board, CAPE, and the South African National Biodiversity Institute. A single coordinating authority is to be in place by 2012. Several adjoining properties have been acquired which will then be formally included in the site at that time (IUCN, 2008). The staffs of the various reserves are increasingly responsible for the participation of local communities, stakeholders and landowners in dealing with local problems and in improving participation in co-operative projects to promote more environmentally responsible farming and conservation such as leopard management in the Cederberg. Monitoring regimes using indicator species now regularly examine the condition of rare plants, infestation by alien species, wildfires, water quality, erosion, land use, tourist visitation and facilities as part of the national monitoring programs administered by NGOs and university research units. They will also monitor the local effect of climate change.

CapeNature has developed a Working on Fire Programme to manage fires, and has trained and equipped 1,056 fire-fighting recruits since 2004, though this number is still less than adequate. Part of the program is the FireWise SA public awareness campaign, paralleling programs to raise awareness of conservation and protection of natural heritage, on Table Mountain National Park in particular. Fire management policies are now flexible enough to vary with species, frequency and intensity and are no longer subject to standard regimes. Since 1995 the Working for Water Programme has dealt with alien plant infestation and has been a major source of support for Park management. It uses local labour to control invasive plant species and alleviate poverty. The parallel Working for Wetlands programme also eradicates alien plants. CapeNature has an Invasive Alien Plant Strategy which pinpoints localities in need (IUCN, 2008).

MANAGEMENT CONSTRAINTS

Some 26% of the indigenous vegetation has been transformed, mostly by farming, alien grasses and forestry in lowland and coastal areas, also near Cape Town and Port Elizabeth, by urbanisation. The main threats to the region include a rapid and ongoing invasion by alien vegetation, changes in the occurrence and management of fires and the uncontrolled exploitation of floral and marine resources which are pushing many species close to extinction. Species that depend on seed dispersal by ants and termites are under threat. The main problems are aggressively invasive species and the resulting intensity of wildfires. The risk of man-caused fires is increasing with urbanisation. Introduced resinous fast-burning trees such as pines, acacias and eucalypts notably increase fire intensities, erosion and soil loss, and fire control can be complicated by the splintered nature of land ownership, especially in Cape Peninsula National Park where urban encroachment and the risk of fire are constant. In 2000 a fire there burnt some 40% of the Park and in 2006, there was local plant extinction over 56% of a burn in the Boland Mountain Complex.

Invasion by alien plants is increasing as the climate changes, and the planting of freely hybridising non-native proteas threaten the genetic purity of native species. The alien plants have a higher water need and can out-compete indigenous flora, seriously threatening their diversity. Coastal dunes and mountain catchments have been the worst affected. Initial clearance of alien vegetation in 2005/2006 was 112,000 ha, and for 2006-2007 was 3,746 ha with 2,707 ha in follow-up clearing. The Working for Wetlands programme with Table Mountain National Park undertook initial clearance of 85% of that National Park. The Working for Water Programme also deals with this threat, and the media, and public workshops have been successfully used to address many of the problems. But management of the invasion is fragmented, and more coordination across the region is needed (IUCN, 2008).

There is also the increasing pressure from nature-based tourism, and in a few places, as in the Cape Peninsula National Park, from marginal agriculture and urban development. De Hoop also borders a military test range. Other challenges include illegal or excessive water-abstraction, game-poaching, harvesting of wildflowers or firewood and marine pollution on the coasts of the De Hoop and Kogelberg

protected areas. Invasive fauna are less threatening, but alien bass and trout have nearly extinguished several local fish, and the Argentine ant could displace the native seed-dispersing species. Floods occasionally threaten Baviaanskloof and global warming has already begun to affect the Western Cape.

STAFF

Each reserve has at least one Resident Manager and highly qualified staff who are employed in planning and management, research and development, reinforced by in-house training and continued higher study. Total staff numbers differ with situation: Cape Peninsula National Park employs 207, two of the Boland Mountain reserves, 75, Baviaanskloof, 75. De Hoop, 35, Swartberg, 30, Boesmansbos 12. The staffs of the various reserves are responsible for environmental management, environmental awareness and information, visitor facilities, marketing and communication, general administration. Increasingly important are participation with neighboring farmers, communities and stakeholders in dealing with problems and opportunities for increasing sustainable practices. Ground staff are also often supplemented by large subcontracted groups in the Working for Water Program clearing alien species.

BUDGET

The Western Cape Nature Conservation Board administers 70 reserves and annually receives about R50 million (US$6,100,000) directly from government and R50 million through the Working for Water Programme. In 2002-3 its Nature Reserves and related services received R56,517,000 (US$7,700,000). The 2000/3 budget for Cape Peninsula National Park was R40 million (US$ 5,800,000) from grants, entry fees and concessions. In 2001 Baviaanskloof received one million dollars. Funds for the management of the protected areas are distributed through both national and provincial funds. A decline in government funding is slowly being balanced by an increase in fees from nature-tourism. Specific projects have been funded by the Global Environment Facility, the Norwegian government, the Critical Ecosystems Partnership Fund and conservation NGOs. The GEF through the World Bank and UNDP, with the Critical Ecosystem Partnership Fund are investing US$20 million in the whole Cape Floral Region between 2005 and 2009 to support management of the protected areas (IUCN, 2008). Although the provincial treasury allocated US$8.35million for 2008/09 and US$2.5million for 2009-10, funding is still needed to control invasive species and deal with the impacts of wildfires (UNESCO, 2009).

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Website Cape Peninsula National Park: http://www.cpnp.co.za/

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