

World Heritage Sites

Protected
Areas and
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uKHAHLAMBA / DRAKENSBERG PARK SOUTH AFRICA

The uKhahlamba / Drakensberg Park extends along 200 kilometres of a mountain range of spectacular natural beauty, which is also a major centre of endemism with a great diversity of birdlife and plants. Its double escarpment of sheer basalt cliffs and ramparts of golden sandstone rise above high rolling grasslands, rocky gorges and pristine steep-sided valleys. It also harbours in hundreds of caves and rock shelters the largest concentration of early rock art in sub-Saharan Africa. These are outstanding in their quality and diversity of subjects, their depiction of animals and human beings and as a record of the beliefs and way of life over 4,000 years of the Khoisan people who used to inhabit the region.

COUNTRY

South Africa

NAME

uKhahlamba / Drakensberg Park

MIXED NATURAL AND CULTURAL WORLD HERITAGE SERIAL SITE

2000: Inscribed on the World Heritage List under Natural Criteria vii and x + Cultural Criteria i and iii.

STATEMENT OF OUTSTANDING UNIVERSAL VALUE [pending]

The UNESCO World Heritage Committee issued the following statement at the time of inscription:

Statement of Significance

Criterion (i): The rock art of the Drakensberg is the largest and most concentrated group of rock paintings in Africa south of the Sahara and is outstanding both in quality and diversity of subject.

Criterion (iii): The San people lived in the mountainous Drakensberg area for more than four millennia, leaving behind them a corpus of outstanding rock art which throws much light on their way of life and their beliefs.

Natural criteria (vii) and (x): The site has exceptional natural beauty with soaring basaltic buttresses, incisive dramatic cutbacks and golden sandstone ramparts. Rolling high altitude grasslands, the pristine steep-sided river valleys and rocky gorges also contribute to the beauty of the site. The site's diversity of habitats protects a high level of endemic and globally threatened species, especially of birds and plants.

INTERNATIONAL DESIGNATION

1997: Natal Drakensberg Park as a whole designated a Wetland of International Importance under the Ramsar Convention (242,813 ha).

IUCN MANAGEMENT CATEGORY

II National Park, Nature Reserves, State Forests and Game Reserve:

Royal Natal National Park
Loteni Nature Reserve
Kamberg Nature Reserve
Vergelegen Nature Reserve
Rugged Glen Nature Reserve
Giant's Castle Game Reserve

Mkhomazi State Forest
Cathedral Peak State Forest
Garden Castle State Forest
Cobham State Forest
Highmoor State Forest
Monk's Cowl State Forest

Ib Wilderness Areas contained within State Forests:

Mkhomazi Wilderness Area	(in Mkhomazi State Forest)
Mzimkulu Wilderness Area	(in Garden Castle State Forest)
Mdedelelo Wilderness Area	(in Cathedral Peak State Forest)
Mlamboja Wilderness Area	(in Cathedral Peak State Forest)

BIOGEOGRAPHICAL PROVINCE

South African Highlands (3.22.12)

GEOGRAPHICAL LOCATION

The Drakensberg or uKhahlamba Park is part of the 200 km-long crescent-shaped Drakensberg mountain range in Kwazulu-Natal Province along its western border with Lesotho. It lies between 28° 55' to 29° 55'S and 29° 05' to 29° 45'E, with a northern outlier, Royal Natal National Park, between 28°38' to 28°46'S and 28°52' to 29°00'E.

DATES AND HISTORY OF ESTABLISHMENT

The Park is comprised of 12 protected areas established between 1903 and 1973 under four different designations: one National Park, four Nature Reserves, six State Forests, and one Game Reserve.

1903: A Game Reserve near Giant's Castle established by Gov't Notice 735;

1905: The area declared a Demarcated Forest;

1907: Proclaimed a Game Reserve by Government Notice 356;

1916: The Natal National Park formally established by the Provincial administration;

1922: The first forest reserve in the region proclaimed (Cathkin Forest Reserve);

1927-51: State Forests were demarcated to ensure the protection of water-producing areas;

1947: The northern section renamed Royal Natal National Park after a royal family visit;

1951: Kamberg Nature Reserve proclaimed under the Nature Conservation Ordinance;

1953: Loteni Nature Reserve proclaimed under the Ordinance;

1967: Vergelegen Nature Reserve proclaimed under the Ordinance;

1973: Mdedelelo and Mkhomazi areas within State Forests proclaimed Wilderness Areas;

1979: Mzimkulu and Mlambonja areas within State Forests proclaimed Wilderness Areas;

1992: All State Forest areas in the Drakensberg assigned to the Natal Provincial Administration;

1993: Control of all protected areas in the Drakensberg assigned to the Natal Parks Board;

1993: The uKhahlamba/Drakensberg Park established;

1997: The whole area designated a Ramsar Wetland site;

1998: The Natal Parks Board and Kwazulu Department of Nature Conservation were amalgamated in the Kwazulu-Natal Nature Conservation Service.

LAND TENURE

State owned. Administered by the KwaZulu-Natal Nature Conservation Service (KNNCS).

AREAS

The total area of the Park is 242,813 ha. It comprises the following protected areas:

National Park, Nature Reserves and State Forests (excluding Wilderness Areas): 125,049 ha (51.5%)

Royal Natal National Park	8,094 ha	Mkhomazi State Forest	49,156 ha
Loteni Nature Reserve	3,984 ha	Cathedral Peak State Forest	32,246 ha
Kamberg Nature Reserve	2,980 ha	Garden Castle State Forest	30,766 ha
Vergelegen Nature Reserve	1,159 ha	Cobham State Forest	30,498 ha
Rugged Glen Nature Reserve	762 ha	Highmoor State Forest	28,151 ha
Giant's Castle Game Reserve	34,638 ha	Monk's Cowl State Forest	20,379 ha

Wilderness Areas within State Forests: 117,764 ha (48.5%)

Mkhomazi Wilderness Area	56,155 ha	Mzimkulu Wilderness Area	28,340 ha
Mdedelelo Wilderness Area	27,000 ha	Mlambonja Wilderness Area	6,270 ha

ALTITUDE

1280m to 3446m (Mafadi).

PHYSICAL FEATURES

The Drakensberg Mountains extend 200km along most of the border with Lesotho in a landscape of exceptional natural beauty forming a double rampart of escarpments on the rim of the Lesotho plateau. The higher wall of sheer basalt-capped cliffs which has several peaks over 3,000m, is a barrier of jagged peaks with a great variety of summits and plateaus, cliffs, buttresses and deep valleys between high spurs. A thousand meters lower is a terrace of rolling high-altitude grassy slopes banded with basalt above a second escarpment, the Little Berg, of cream-golden fine-grained sandstone. This falls away in pristine steep-sided river valleys and rocky gorges containing patches of forest, thickets and grassland, waterfalls, cascades and rock pools. The ecological heterogeneity of the region is due to its geologic and geomorphic diversity, its range of altitudes, temperature extremes, high rainfall, and numerous high altitude mountain wetlands: springs, tarns, bogs, marshes and streams. Ten rivers or major streams originate in the Park including the Boesman's, Mkhomaasi and Mzimkhulu rivers and tributaries of the Tugela. The Park which backs onto the headwaters in Lesotho of the Orange river, is one of the country's major water catchments.

Geologically the Drakensberg consists of a number of stepped horizontally bedded strata. This thick succession of layers of sediment is capped by an accumulation of basaltic lava, the upper part of the Karoo Supergroup, which has a composite thickness of up to 7,000m in this area. In the famous Amphitheatre in Royal Natal National Park, the high basalt cliffs form a massive crescent over 600 meters high and 5km long. The range is comparable to the Simien Massif in Ethiopia in its igneous basalts that have been eroded to form precipitous cliffs and deep valleys. The underlying sedimentary rocks formed in a series of depositions in a basin developed during compressional tectonics in the Cape Fold belt to the south and south-east. The sandstone succession is up to 150m thick, accumulated as desert dunes and wadi systems during the arid Late Jurassic period. Its most distinctive feature is the high cliffs of cream to maroon fine-grained sandstone of the Clarens Formation. Thinly-bedded lacustrine and interdune sediments preserve footprints of quadrupedal and bipedal dinosaurs which are exposed in the roofs of caves and overhangs. Large blocks of massive sandstone litter the slopes below the cliffs. Hundreds of caves or overhangs once inhabited by the Khoisan people preserve their rock art. The soils are largely acidic lithosols.

CLIMATE

The climate of the Drakensberg is dominated by the influence of subtropical anticyclones so it is one of the best watered, least drought-prone areas of southern Africa, where precipitation exceeds evaporation. In winter, the subsidence of cold air causes atmospheric stability and a distinct dry season. In summer, the subsidence inversion may rise above the escarpment resulting in an influx of humid air from the Indian Ocean on southeasterly winds. Precipitation is often in the form of thunderstorms. The annual precipitation is between $\pm 1,000$ and 2,000 mm on the escarpment. Precipitation between November to March accounts for 70% of the annual total, the winter months account for less than 10%. It is estimated that the abundant rainfall will be supplying 70% of the region's water needs by 2030.

The mean annual temperature of the Drakensberg is about 16°C, but both seasonal and diurnal variations are considerable. The highest temperatures (up to 35°C) occur during summer on north-facing slopes at lower latitudes, while the lowest temperatures (down to -20°C) occur during winter nights on the summit plateau. Frost is common in winter with about 180 days between mid April and October at higher elevations, but the local topography controls its distribution and intensity. It also occurs lower down when cold air from the high plateaus drains into lower valleys.

VEGETATION

The vegetation reflects the effects of climate and fire and the varied topography, elevation, geology, soils, drainage and slopes. It is largely grassland which occurs in three main belts: the low altitude montane belt (1,300-1,800m) to the foot of the basalt cliffs: mainly grassland with *Podocarpus latifolius* forest in sheltered areas and *Protea* parkland on spurs; the mid altitude sub-alpine belt (1,800-2,800m) grassy, with *Passerina-Phillipia-Widdringtonia* fynbos and *Helichrysum* and *Senecio* species; and a high island of Afro-alpine moorland (2,800-3,500m) with *Erica-Helichrysum* climax heath (Killick, 1990, 1997). The grassland is a dense sour Alti-Mountain grassland. The vegetation of the high-altitude wetlands is almost unique and supports 36 endemics and a high diversity of restricted species. Scrub and small trees grow in areas protected from fire.

Within the Park 2,153 species of plants have been described, including 1,993 species of angiosperms, 5 gymnosperms, 70 ferns and 85 mosses. The two outstanding features are the high percentages of

Compositae (285 species) and of monocotyledons (five families), which together comprise over 55% of the flora. Among these, 109 are internationally threatened and 109 nationally threatened. There is a large number of endemic species, including *Protea nubigena* and the Drakensberg cycad *Encephalartos ghellinckii* (VU). Of 394 species in the Drakensberg Afro-alpine zone, at least 247 species occur in the Park, of which some 98 species are endemic or near-endemic. The percentage of endemism of the whole flora is 29.5%.

FAUNA

The fauna includes a total of 48 mammal, 299 bird, 48 reptile, 26 frog and 8 fish species. Few mammals are included on the international list of threatened species, but 11 species are listed in the Red Data Book for South Africa and seven are listed under CITES Appendices I or II.

The 48 mammal species include Chacma baboon *Papio cynocephalus ursinus*, brown hyena *Hyaena brunnea*, blackbacked jackal *Canis mesomelas*, ardwolf *Proteles cristatus*, serval *Leptailurus serval*, small grey mongoose *Herpestes pulverulentus* and the largest populations of African clawless otter *Aonyx capensis* and spotted-necked otter *Lutra maculicollis* in KwaZulu-Natal, and possibly, South Africa (Rowe-Rowe *et al.*, 1994). There are 16 species of rodents, 11 of which are endemic to South Africa. The Park is the only protected area in Kwazulu-Natal known to have populations of Sclater's golden mole *Chlorotalpa sclateri*, Cape mole rat *Georychus capensis* and Sloggett's vlei rat *Otomys sloggetti*, also whitetailed mouse *Mystromys albicaudatus* (EN). Large populations of 11 antelope species occur. They include an estimated population of 1,500-2,000 of the endemic grey rhebok *Pelea capreolus*, approximately 2,000 eland *Tragalaphus oryx*, bushbuck *T. scriptus*, 1,000 southern reedbuck *Redunca arundinum*; also blue duiker *Philantomba monticola*, klipspringer *Oreotragus oreotragus* and oribi *Ourebia ourebi*.

A total of 299 species of birds is recorded, 37% of the non-marine bird fauna of South Africa. 10 species are internationally threatened and 18 are listed in the Red Book for South Africa. The Park lies in one of the world's Endemic Bird Areas: 43 species are endemic, among them species of restricted range such as the whitewinged crane *Sarothrura ayresi* (EN), Cape eagle-owl *Bubo capensis*, ground woodpecker *Geocolaptes olivaceus*, buff-streaked chat *Oenanthe bifasciata*, yellow-tufted pipit *Anthus crenatus*, Cape rock thrush *Monticola rupestris*, sentinel rock thrush *Monticola explorator*, Drakensberg prinia *Prinia hypoxantha* and, in woodland, Gurney's sugarbird *Promerops gurneyi*. High altitude species are yellowbreasted pipit *Anthus chloris* (VU), mountain pipit *Anthus hoeschi*, Drakensberg rockjumper *Chaetops auranticus* and Drakensberg siskin *Serinus symonsi*; on alpine heath there are grey tit *Parus afer*, sicklewing chat *Cercomela sinuata* and Layard's warbler *Sylvia layardi*. Recorded on cliffs are Cape vulture *Gyps coprotheres* (VU: 215 breeding pairs), lammergeyer *Gypaetus barbatus*, lanner falcon *Falco biarmicus*, jackal buzzard *Buteo rufufuscus* and black stork *Ciconia nigra* (10-15 pairs); Grasslands with marshes support black-headed heron *Ardea melanocephala*, blue crane *Grus paradisea* (VU), wattled crane *G. carunculatus* (VU), southern bald ibis *Geronticus calvus* (VU: 60-100 pairs), Denham's bustard *Neotis denhami*, black harrier *Circus maurus* (VU), African marsh harrier *C. ranivorus*, lesser kestrel *Falco naumanni* (VU), white stork *Ciconia ciconia* and corncrake *Crex crex*. Forests and gully thickets have chorister robin-chat *Cossypha dichroa*, bush blackcap *Lioptilus nigricapillus*, African scrub warbler *Bradypterus barratti* and forest canary *Serinus scotops*.

Eight species of fish have been recorded, including two introduced alien species of salmonidae and the rare endemic Drakensberg minnow *Oreodaimon zuathlambae*, Maloti redbfin *Pseudobarbus quathlambae* (EN) and rock catfish *Austroglanis sclateri*. The Park contains 26 species and subspecies of amphibians - 21% of the national total of 124. Rare species include the long-toed tree frog *Leptopelis xenodactylus* (EN), Hewitt's moss frog *Anhydrophryne hewitti* and Natal and Hewitt's ghost frogs *Heleophryne natalensis* and *H. hewitti* (EN). Of even more interest are several species limited to the very high altitudes and low temperatures: large-mouthed frog *Amietia vertebralis*, Drakensberg river frog *Amietia dracomontana* (VU), Drakensberg stream frog *Strongylopus hymenopus* (VU), Karoo toad *Vandijkophrynus gariiepensis* (VU) and small dainty frog *Cacosternum parvum* (VU). There are 23 lizard species including the Nile water monitor *Varanus niloticus* and three endemic species: Lang's crag lizard *Cordylus langi*, *Tropodosaura cottrelli* and *T. essexi*; also the spiny crag lizard *Cordylus spinosus* and Drakensberg dwarf chameleon *Bradypodion dracomontanum*. There are 25 species of snakes, one being endemic, the cream-spotted mountain snake *Montaspis gilvamaculata*. The invertebrate fauna of the Park is less well known but includes many species endemic to the region. This fauna includes for example 21 species of millipedes, 32 craneflies, 21 danceflies, 4 lacewings, 44 dragonflies (28% of the country's total), one being endemic, and 74 species of butterfly (11.7% of the country's total) (Mittermeier *et al.*, 2005).

CONSERVATION VALUE

The Park is within the Drakensberg Centre of Endemism, an outstanding centre of plant diversity, the species richness of which results from being on the interface between Cape and subtropical biota. Endemic plant species in the Park total 247. Past speciation, the impacts of major past erosion and uplift and occurrences of dispersal and establishment have resulted in a wide diversity of habitats. These range from mountains and summit plateaus which include the unique alpine tundra and *Erica-Helichrysum* heath, steep mid-altitude slopes with a wide variety of *fynbos* scrub, grassland and woodland communities down to lower valleys with various grassland and forest types. The region has played an important role in the distribution of ancient invertebrate lineages and is a refuge for some relict palaeogenic taxa, particularly invertebrate groups. The hundreds of caves and rock shelters harbor the largest, finest and most diverse concentration of early rock art in sub-Saharan Africa, depicting the beliefs and way of life of the Khoisan people over 4,000 years. The Park lies within a Conservation International-designated Conservation Hotspot, a WWF Global 200 Eco-region, is in one of the world's Endemic Bird Areas and is designated a Ramsar wetland site.

CULTURAL HERITAGE

The Drakensberg region is one of the most important archaeological areas in South Africa. Sites from the Early, Middle and Late Stone Ages and the Late Iron Age are present, indicating that this region may have been occupied by man over the last million years. The first evidence of human occupation of the area dates from the Middle Stone Age, 20,000 years ago, but it was the Late Stone Age Khoisan people who inhabited the area from about 8000 years ago who left the most striking art. The population of the Park area was probably never more than a thousand, and therefore had little significant impact on the vegetation or wildlife population (Wright, 1971). These Bushmen were hunter-gatherers, often living in caves and rock shelters, now adorned with thousands of rock paintings. These date from 2-3,000 years ago up to the 19th century when they were added to by Bantu settlers. Several caves containing important Khoisan rock art were declared National Monuments: Battle Cave, Main Caves, Game Pass Cave 1 and Kanti Cave 1.

The settlement of Iron Age farmers in the foothill areas east of the main escarpment may possibly date from the 1200s, or earlier. These people brought cattle and sheep into the region. However by the late 17th century there were African cattle-herders living in permanent settlements in areas adjacent to the northern and central Drakensberg in places. The use of the Park by the Khoisan and Iron Age agriculturists has probably contributed to the diversity of habitats. The people living in the area to the north were known as the Zizi and to the south, the Tholo. During the 19th century the relations between these people and the Khoisan were complex. From 1816, under the leadership of Shaka, the rise of Zulu military power in Zululand far to the north-east brought an end to peace in the region as successive waves of refugees displaced by the Zulu army (*impis*) settled towards the Drakensberg, in turn attacking those already there. They named the mountains the Barrier of Spears, uKhahlamba.

The white settlers (*voortrekkers*) arrived in late 1837. Many turned to livestock farming and hunted down the wild game. This brought them into conflict with the native hunter-gatherer people of the area who were partly dependent on hunting. These then raided the livestock and the Natal colonial authorities organised their containment and pursuit. By 1871 the last of the Lesotho Khoisan were destroyed and from then on were no longer found in the Drakensberg as a viable community.

LOCAL HUMAN POPULATION

No private persons now occupy the Park except staff employed by the KNNCS. In the north the protected area is divided by the Mweni Tribal Area, where the tribe is beginning to run ecotourism programs compatible with the government's. The nature-based tourism plan for the Park is based on the principles of integrated environmental management. It will provide sustainable access to the Park's resources while protecting the most fragile. It aims to ensure the equitable distribution of benefits to the communities of the region. However, their present poverty has led to over-harvesting of natural resources such as medicinal plants.

VISITORS AND VISITOR FACILITIES

Ecotourism is one of the Park's most attractive development opportunities because nature conservation preserves sensitive natural environments. Both ecotourism and conservation are labour intensive can therefore provide employment and other benefits to nearby rural communities. There are 15 entrance gates to the Park. Members of the public enter either as day or overnight visitors using caravan and camping areas, caves and mountain huts. The Park can currently accommodate 2,000 people per night

in ten centres. Tendele in Royal Natal National Park and Giant's Castle both have lodges and multi-person chalets. In addition, almost 2,200 beds are provided by nearby private enterprise outside the Park. The number of visitors rose between 224,000 in 1994-95 to 288,200 in 1996-97. Activities permitted are: day-walks and overnight hiking, the use of chalets and mountain huts, camping and caravanning, game and plant viewing, bird watching, mountaineering, rock and ice climbing, paragliding, interpretation, recreation, education and religious worship. Access to these is provided by the Nature Conservation Service and private operators by vehicles and horses via wilderness trails, guided walks, and day and overnight hiking. As the Drakensberg is prone to heavy winter snowfalls and summer floods with landslides on mountain slopes, a mountain rescue service has been established.

SCIENTIFIC RESEARCH AND FACILITIES

There is a research station at Cathedral Peak run by the Council for Scientific and Industrial Research. A large number and wide range of projects have been researched over the past 25 years, and a high level of monitoring continues. Knowledge of many taxonomic groups in the Park is poor, particularly of the lower plant and invertebrate groups. Palynological studies on wetland deposits in areas surrounding the Drakensberg show evidence of significant changes in plant communities in response to cyclic climate change during the Quaternary period. The Late Pleistocene Hypothermal resulted in a regional desiccation and lowering of temperatures by up to 6°C which led to a spread of *fynbos* vegetation typical of high altitudes to distant river valley areas as much as 900m lower. The effect of vegetation change on faunal populations during these climatic changes has been documented from fossils at numerous sites around the Drakensberg. Research, particularly into the rock art, has been undertaken by several archaeologists in the last few decades. The history of this research is compiled in Mazel (1989).

MANAGEMENT

The laws that establish the Drakensberg Park as a conservation unit are the KwaZulu-Natal Nature Conservation Management Act 9 of 1997 as amended and the Republic of South Africa National Forest Act 84 of 1998. All components of the Park are defined as protected areas by this legislation and listed in a schedule in the Act. The control and management of State Forests proclaimed under the National Forest Act 84 of 1998 lies with the Minister of Water Affairs and Forestry. The KNNCS is seeking re-assignment of the control and management for the State Forest areas of the Park. Other legislation under which the Park is protected are: The Water Act 54 of 1956 as amended, the National Water Act 36 of 1998, the National Monuments Act 28 of 1969, the Environment Conservation Act 73 of 1989 as amended, the KwaZulu-Natal Heritage Act 10 of 1997, and the National Environmental Management Act 107 of 1998.

The Park's management is delegated by the Provincial Administration to the KwaZulu-Natal Nature Conservation Service. Plans for component areas have been revised, adopted or newly completed. Drakensberg is one of the Special Case Areas, where restrictions on development preserve those unique and sensitive features which make the region a special area. The first phase of a study of these has been completed, drawing on the provisions of the UNESCO Seville Strategy for the designation of Biosphere Reserves. This recognised the need for a planning framework to co-ordinate sustainable development based on the area's boundaries, identifying sub-regions and zones of preferred, non-preferred or prohibited land uses.

The KwaZulu-Natal Nature Conservation Service has instituted a comprehensive community conservation programme for the whole Park. Partnership forums with all communities and interest groups have been established. An integrated conservation and development program known as the Partners in Mountain Conservation has been running for several years. Sustainable use of certain products is permitted. These include harvesting of various grass and sedge species for the construction of buildings, thatching and handicrafts, the collection of seed of medicinal plants, the removal of certain surplus herbivores for translocation to other conservation areas or private game ranches, the collection of biological material for scientific research, fishing, fly fishing for trout in dams and rivers and the removal of timber of alien species for fuelwood.

In June 2001 the National Environment Secretariat of Lesotho and the KwaZulu-Natal Nature Conservation Service with help from the GEF and World Bank established the Drakensberg-Maloti Transfrontier Conservation and Development Area, in the Giant's Castle Declaration. This area totals 8,113 square kilometres, 5170 sq.km. in Lesotho which includes over 80% of the Afro-alpine zone of southern Africa, and 2,943 sq.km. (36.3%) in South Africa. It endorsed the concept of a protected area combining the Lesotho Maloti Highlands and the Drakensberg Mountains. It also recognised the

importance of a Transboundary Peace Park linking the Sehlabathebe National Park (and eventually the contiguous Sehlabathebe and Mohotlong Range Management Areas) in Lesotho with Drakensberg Park. Project Coordinating Committees in both KwaZulu-Natal and Lesotho are cooperating in a bioregional planning process, led by a Bilateral Steering Committee which meets twice a year.

MANAGEMENT CONSTRAINTS

Threats to the integrity of the Park are related to land claims in certain areas, invasive alien plants, soil erosion and tourist impacts on the vulnerable alpine trails, caves and rock art. It is estimated that the total area of the Park transformed by alien plant infestation and infrastructural developments is approximately 1.4% of the area (3,452 ha). Other threats come from arson and fires, which lead to soil erosion, poaching and hunting with dogs, cross-border trafficking in drugs, fire-arms and cattle rustling, and from reductions in funding. The lack of formal protection of the mountain ecosystem over the border in Lesotho exacerbates these threats and could endanger tourists along the border.

Alien invasive plants are considered the most serious threat but the area currently affected is limited. The principal trouble is posed by black wattle *Acacia mearnsi*, silver wattle *A. dealbata*, patula pine *Pinus patula*, American bramble *Rubus cuneifolius*, grey poplar *Populus canescens* and *Cotoneaster* spp. As part of the South African Working for Water campaign, areas within the mountain catchments of the Drakensberg have been cleared, or are in the process of being cleared of major infestations of the alien trees. Controlled burning is also part of the routine maintenance. At lower elevations overgrazing pressure is heavy. From time to time there are requests from local communities to graze domestic stock inside the Park or to establish water supply schemes and from developers wishing to establish resorts. For claims to land in the Park to be successful claimants must prove prior ownership or occupation and intend to restore the land.

There are several threats to the rock art. The main causes of deterioration to the paintings are the irreversible processes of natural weathering of both rock and paint; and vandalism (Ward, 1997). Research is being done on weathering to determine ways to reduce or eliminate these natural threats. In addition, smoke from campers fires in painted rock shelters, blackens the walls and ceilings, and visitors often wet paintings to bring out the colours, even using carbonated drinks that are even more destructive. However, the risk of these activities has been reduced as the location of most painted sites no longer appears on maps available to the public. Access to the entire region and camping in painted caves is strictly controlled and a few sites (Main Caves, Game Pass and Battle Cave) have been fenced. However, access to them is permitted in the company of a guide. A rock art interpretative centre has also been planned.

STAFF

All major decisions are taken by the KwaZulu-Natal Nature Conservation Board. The Park is administered by a Chief Conservator and a staff of 604 permanent and part-time employees in three divisions; conservation (with four sub-directorates), scientific services (with three sub-directorates) and administration (with three sub-directorates). There are three administrative centres: at Royal Natal National Park at the northern end of the Park with five management stations, at Giant's Castle Game Reserve in the central region with six management stations, and in the southern region at Himeville outside the Park, with four management stations within the Park. In addition to conservation, staff undertake construction, planning, public relations, secretarial services, accounting and accommodation bookings. Staff stationed in reserves are responsible for implementing wildlife management programs, for the management of visitor facilities for the provision of environmental awareness programmes, and for research and monitoring projects.

BUDGET

The KwaZulu-Natal Nature Conservation Service is a semi-autonomous and non-profit making organisation, funded by the KwaZulu-Natal Provincial Legislature (60% of total funding). It earned R131, 613, 712 during 1998/99 financial year.

ADDRESSES

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The Director, KwaZulu-Natal Nature Conservation Service, P.O.Box 662,3200, Pietermaritzburg, South Africa

The Chief Conservator, KwaZulu-Natal Nature Conservation Service: P.O. Box 13053, S. Africa.

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