

BAVIAANSKLOOF



A CONSERVATION AND TOURISM JEWEL IN THE EASTERN CAPE

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The Baviaanskloof (Valley of Baboons) forms the core of the Baviaanskloof Conservation Area, a 174 400 ha reserve some 75 km north-west of Port Elizabeth in the Eastern Cape. It is the fifth largest of South Africa's 422 protected areas and straddles two parallel east-west running mountain ranges – the Baviaanskloof Mountains in the north, and the

Kouga Mountains in the south. Its location at the eastern end of the Cape Floral Kingdom, large size and potential for expansion makes it one of the most important reserves in the country, mainly because it has the potential to conserve biological patterns and the ecological and evolutionary processes that sustain them.

The Cape Floral Kingdom has an

exceptionally rich flora, and is also a centre of diversity for many animal groups, and scientists have identified it as one of the world's twenty-five 'biodiversity hotspots' to be given conservation priority. The existing reserve system within the Cape Floral Kingdom is inadequate and conservationists stress that it is essential to conserve the patterns and processes in conser-



Above The northern foothills of the Kouga Mountains. Bitter aloes (*Aloe ferox*) stand out in a rooigras (*Themeda triandra*) grassland. The slopes below this plateau are covered in succulent thicket, whereas the Baviaanskloof Mountains in the background are clad in a variety of fynbos vegetation types. Such is the great ecosystem diversity of the Baviaanskloof Conservation Area. Left The characteristic vegetation of the Cape Floral Kingdom, and the one with most of its species, is fynbos. Typical components of fynbos include proteas, ericas and restios. The brightly-coloured blooms of the narrow-leaf sugarbush (*Protea neriifolia*) occur in the fynbos of the Baviaanskloof Conservation Area.

Photos: R.M. Cowling.

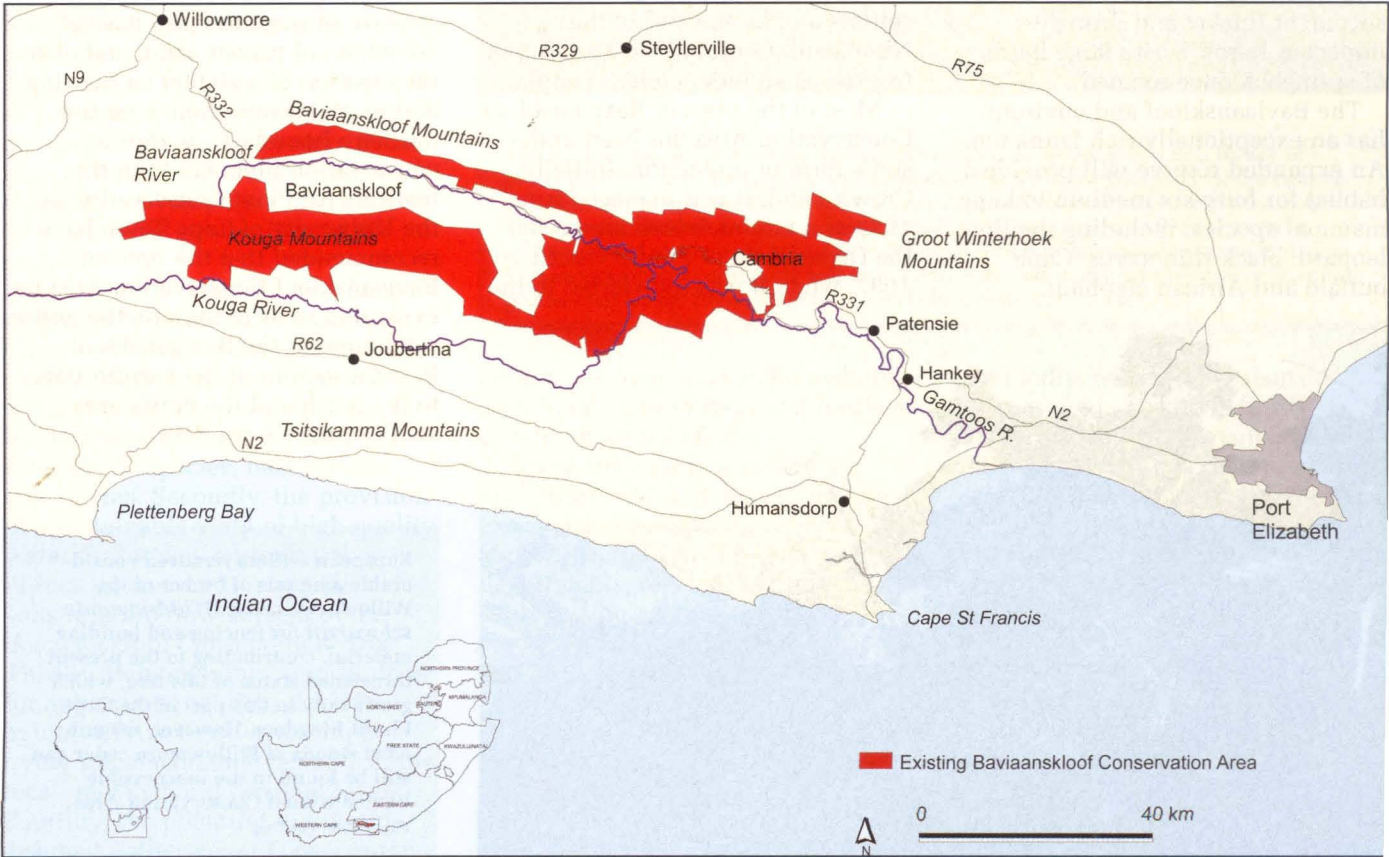
vation areas of over 500 000 ha in order to maintain genetic diversity. The Baviaanskloof Conservation Area was identified as one of three potential 'mega conservation areas' in the Cape Floral Kingdom.

The Baviaanskloof Conservation Area ranges from the karroid plains to the north, to the impressive peaks and ridges formed by the sandstones of the Cape Folded Belt, and includes the deep valleys formed by eroded fault basins, and the elevated rocky plateaux of the ancient African Land Surface. This complex topography and the region's location on the boundary of several climatic regimes, has resulted in an extremely varied climate, and a spectacular diversity of ecosystems.

At a preliminary 1 161 species (encompassing a high number of genera and families and thus a wide range of genetic diversity), the Baviaanskloof flora ranks as one of the richest in the eastern Cape Floral Kingdom. By global standards, the incidence of rare and endemic plant species in the reserve is exceptionally high. The proposed expanded reserve (see below) will include twelve major vegetation types, representing six of South Africa's seven biomes. Thus, diversity at the ecosystem scale is extraordinarily high and is paralleled in southern Africa only by that of the proposed Greater Addo



Succulent thicket, a vegetation that is characteristic of the Thicket Biome, is well represented in the Baviaanskloof Conservation Area, occupying the relatively fertile, deep soils of the lower slopes and valley walls. The dynamics of the palatable vegetation was controlled by large browsing mammals, including African elephant and black rhinoceros, long since extirpated from the reserve. Photo: R.M. Cowling.





Gladiolus geardii, a relatively rare bulb confined to shady sites and streambanks in the Baviaanskloof, Kouga, Elandsberg and Groot Winterhoek Mountains of the Eastern Cape, growing alongside the Outeniqua yellowwood (*Podocarpus falcatus*) on the banks of the Witte River in the eastern Baviaanskloof Conservation Area. Photo: R.M. Cowling.

National Park. Within the boundaries of this single conservation area will be included an almost complete spectrum of biological processes characteristic of the diverse southern African region. Thus, fire-driven fynbos exists alongside megaherbivore-maintained succulent thicket and drought-impacted Karoo where large herds of springbok once roamed.

The Baviaanskloof and environs has an exceptionally rich fauna too. An expanded reserve will provide a habitat for forty-six medium to large mammal species, including the lion, leopard, black rhinoceros, Cape buffalo and African elephant.

The diversity of birds, reptiles, amphibians, fish and invertebrates is remarkably high, in global and national terms, and a number of regional and Baviaanskloof endemics or near-endemics are present. An expanded Baviaanskloof Conservation Area will also conserve a large number of ecological and evolutionary processes, including pollination, plant-herbivore relationships, ecological diversification of plant lineages, predator-prey relationships, faunal seasonal migration, hydrological regimes and resilience to climate change.

As the meeting place of the diverse cultures of the San (hunter-gatherers), the Khoekhoen (herders), possibly the Bantu-speaking groups (agro-pastoralists), and the settlers of European descent, the Baviaanskloof Conservation Area and environs has a very rich cultural history and prehistory. There is much evidence of early (pre-European) human occupation in the area, this in the form of bone artefacts, floral and faunal remains and a wealth of rock art. Europeans first settled in the area in the Eighteenth Century. Their main farming activity was pastoralism but commercial crops were cultivated where arable soil was present, for example, in the upper Baviaanskloof and in the Gamtoos River valley. The San were gradually displaced by the Khoekhoen and the European settlers and by the end of the Nineteenth Century they had ceased to exist as an independent people.

Most of the present Baviaanskloof Conservation Area has been under some form of protection. Initially Crown Land, it was managed from 1923 as a mountain catchment by the Department of Forestry until 1987, when it was transferred to the

Cape Province Nature Conservation authority. Since 1994 it has been managed by the Eastern Cape government's conservation department. Between 1987 and 1995, over 15 000 ha of land was purchased with private funds and added to the Baviaanskloof Conservation Area. Notwithstanding a significant and progressive decrease in human and financial resources in the 1990s, basic management activities are being maintained and a number of notable conservation and tourism developments have taken place. These include the re-introduction of a number of large herbivores (Cape buffalo, Cape mountain zebra, eland, red hartebeest), an alien vegetation eradication programme and the development and operation of six tourist camps.

Since the existing Baviaanskloof Conservation Area was planned for water catchment protection, it is not effective in conserving the full range of biodiversity patterns and processes in the region. Entire ecosystems are excluded and key ecological and evolutionary processes cannot be sustained within the present reserve, for example, the seasonal altitudinal migrations of large herbivores. In 1997 the first steps were taken to address these issues with the compilation of a proposal by the management authority to consolidate the western sector of the reserve, through the purchase of 56 000 ha of private land, and also the creation of a 20 000 ha hunting and tourism conservancy on the northern boundary. In addition, conservation planners from the Institute for Plant Conservation at the University of Cape Town have recommended that the present Baviaanskloof Conservation Area be expanded so as to include the entire catchment of the Baviaanskloof River, a section of the karroid flats to the north and the entire area south to the Kouga River.



European settlers removed considerable amounts of timber of the Willowmore cedar (*Widdringtonia schwarzii*) for fencing and building material, contributing to the present threatened status of this tree, which grows only in this part of the Cape Floral Kingdom. However, magnificent stands of Willowmore cedar can still be found in the inaccessible Baviaanskloof Conservation Area.

Photo: R.M. Cowling.

There are, however, a number of threats to the future status and effectiveness of the existing and an expanded Baviaanskloof Conservation Area. Environmental threats include overstocking with domestic ungulates (mainly goats) leading to accelerated erosion and increased siltation of river systems responsible for providing clean water to communities beyond the Baviaanskloof Conservation Area, the introduction of non-indigenous game species, the transformation of river courses, invasion by alien plants (especially black wattle), uncontrolled tourist activities and lack of resources to rehabilitate disused roads and old agricultural lands. Institutional and policy threats include a lack of progress by the provincial government to develop and manage the reserve, a serious lack of human and financial resources by the provincial conservation authority, a lack of high-level support for the proposal to consolidate and expand the western sector of the Baviaanskloof Conservation Area and deterioration of the reserve's roads, communications, buildings and fences. Socio-economic threats include a proposal to purchase land in the upper Baviaanskloof for the settlement of landless people (thereby foreclosing the opportunity to consolidate the western sector), the increasing unsuitability of the Baviaanskloof for viable commercial agriculture leading to increasing rural poverty and reliance on welfare grants and pensions, an increase in the number of potentially inappropriate private developments on the borders of the reserve and the absence of plans for economic development alternatives to commercial pastoralism in the region.

In contrast to the above, a consolidated and expanded Baviaanskloof Conservation Area will provide a number of noteworthy opportunities. Firstly, the conservation of biodiversity, including a high diversity of species, habitats and ecosystems. Secondly, the provision of a sustainable yield of high quality water for human, agricultural, industrial and environmental consumption downstream of the Baviaanskloof Conservation Area. Thirdly, wide-ranging opportunities for appropriate tourism developments, with extensive accompanying socio-economic benefits at the local, regional and national levels. Fourthly, the potential to link this reserve to other major conservation



The boundaries of the existing Baviaanskloof Conservation Area are a legacy of protection for water catchment. Consequently, the northern boundary of the reserve coincides with the crest line of the Baviaanskloof Mountains as the northern slopes of this range yielded too little water for inclusion. However, an effective reserve system should encompass boundaries between different biological systems and span long environmental gradients and now there is a need to extend the reserve from the protea-clad slopes to the karroid plains below. Photo: R.M. Cowling.

areas in the region, thereby realizing additional conservation and tourism development benefits.

Given the significance of the opportunities listed above, the onus is now on the relevant government authorities (politicians, government departments, regional planners, conservation agencies), working together with local communities and development agencies, conservation planners, ecologists, resource economists and private landowners, to realize the vision of a biologically, economically and socially viable Baviaanskloof Conservation Area. The promotion of this reserve

as a biodiversity and tourism development priority is firmly in line with regional, provincial and national government policies, strategies and priorities. ♾

Acknowledgement

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Further reading

Boshoff, A. F., Cowling, R.M. & Kerley, G.I.H. 2000. *The Baviaanskloof Conservation Area: a conservation and tourism development priority*. Terrestrial Ecology Research Unit Report no. 27.