# T H E BAVIAANSKLOOF MEGA-RESERVE

André Boshoff

FROM CONCEPT TO IMPLEMENTATION

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# EXECUTIVE SUMMARY English

The Baviaanskloof - "Valley of Baboons" - lies between the parallel east-west running Baviaanskloof and Kouga mountain ranges in the western region of South Africa's Eastern Cape Province. The eastern-most point of the valley is some 95 km NW of the coastal city of Port Elizabeth. The Baviaanskloof area includes a cluster of formal protected areas managed by Eastern Cape Parks (ECP), of which the most well-known is the 199 896 ha Baviaanskloof Nature Reserve, and land that is used almost exclusively for stock farming. Irrigated crops are produced alongside some of the major rivers, most notably the Gamtoos River.

The Baviaanskloof area is one of outstanding natural beauty, owing to its spectacular land forms, clad in a diverse array of plants and inhabited by a large variety of animals. This rich biodiversity, which has been internationally recognised by the awarding of prestigious World Heritage Site status to the Baviaanskloof Nature Reserve in 2004, provides a number of opportunities for local and regional economic development, mainly through nature-based tourism activities. The area, which also contains a remarkable variety of pre-historical and historical sites and artefacts, fulfils a critically important role as a water catchment, to supplement the growing water needs of the agricultural sector and urban growth in downstream areas to the east and south-east.

There are, however, a number of pressures that need to be addressed if the full potential of the area to achieve biodiversity conservation, maximum provision of water, and improvement of rural livelihoods is to be realised. These pressures derive from a range of environmental, institutional and socio-economic issues.

As a means of fulfilling the potential of the area, institutional arrangements, mainly in the form of a Baviaanskloof Mega-reserve Project Management Unit (PMU) (contracted to the Eastern Cape's Department of Economic Development and Environmental Affairs (DEDEA)), were put in place for the planning and establishment of a Baviaanskloof Mega-reserve. Briefly, the envisaged mega-reserve will comprise the cluster of state-owned protected areas within a network of private and communal land, with an eventual size of around 500 000 ha. Private landowners who volunteer to become part of the mega-reserve will align their land-use activities with the principles and practices of biodiversity conservation. To guide this initiative, a Conservation Strategy, based on a set of principles and underpinned by a vision and specific set of objectives, has been compiled.

The Mega-reserve Project is planned to operate in a collaborative and co-ordinated manner with all stakeholders, and to achieve full integration with other local and regional planning and development initiatives. An extensive Stakeholder Engagement Programme has already achieved a high level of support for the project. For the project's vision and objectives to be achieved, an individual and collective sense of pride in and "ownership" of the area, and a strong commitment by all stakeholders to act in its best interests, are required and good progress has been made in this regard.

A wide range of implementation projects, of which some are mentioned here, have been completed or are in progress. Over 1000 stakeholder interactions have taken place and an innovative Proud

Partner Programme, currently adding 160 000 ha to the mega-reserve, is operating. Wilderness trails for key decision makers are being run and tourism routes in the area are being advertised through the Open Africa initiative. A range of training courses for local people, covering an array of topics, has been facilitated by the PMU. A highlight has been the opening, in 2007, of a World Heritage Site Interpretive Centre at the eastern gateway. A detailed Conservation Plan (spatial biodiversity assessment) has been prepared for the mega-reserve and the consolidation and expansion programme has been boosted by the acquisition of 14 067 ha since early 2003. Five conservancies, encompassing 76 000 ha, are associated with the mega-reserve. Comprehensive tourism development and financial feasibility plans have been compiled to guide future activities. Good progress is being made with the removal of alien invasive plants and the subtropical thicket restoration project. An innovative citrus farming and biodiversity partnership is being launched. A Strategic Management Plan, including a Conservation Development Framework, has been compiled for the Baviaanskloof Reserve Cluster. A number of projects, supported by the government's Expanded Public Works Programme and the National Lottery Distribution Trust Fund, have provided significant employment and skills development opportunities.

To date, there has been significant investment in the Baviaanskloof Mega-reserve Project and other, contemporary, conservation and development activities closely aligned with it. Collectively, this investment is in the order of some R115 million; this includes R15 million spent by the state on land acquisition since 2003. To this total can be added the R9.5 million annual ECP budget for the Baviaans Reserve Cluster (inland reserves). The funded activities have created many hundreds of temporary and permanent jobs.

Although excellent progress has been made in the establishment of the Baviaanskloof Mega-reserve, much work and many challenges still lie ahead. An overarching requirement is the need to secure large-scale funding to expand and maintain fully resourced provincial conservation agencies that can manage, monitor and evaluate the project, on both formal protected areas and on adjacent private or communal land. This will also contribute significantly to maintaining the integrity of the Baviaanskloof World Heritage Site in the future. It is imperative that government, at the national, provincial and local levels, gives expression to its prioritisation and institutionalisation of support for the mega-reserve project. The ultimate success of the Baviaanskloof Mega-reserve remains dependent on the ongoing support of the people of the region, all three tiers of government, the conservation fraternity at large, and the donor community. The PMU, ECP and DEDEA must continue to work together to further develop and expand appropriate relationships between the mega-reserve project and these broad stakeholder groups. When the PMU reaches the end of its lifespan, in mid-2009, its functions, programmes and projects will be inherited by ECP and DEDEA and it is vital for the sustainability of the Mega-reserve Project that these two entities maintain the momentum that has been established by the PMU.

The Baviaanskloof Mega-reserve Project offers a unique and exciting opportunity to make a significant and lasting contribution to the conservation of globally important biodiversity, and to local economic development, with accompanying social upliftment.

# ISISHWANKATHELO *isiXhosa*

Ibaviaanskloof okanye "iNgxingwa yeemfene", iphakathi kweentaba iBaviaanskloof ne Kouga ezikwicala elingasentshona laseMpuma Koloni. Eyona ndawo ingasempuma yalengxingwa ikumgama omalunga ne 95 km ukusuka eBhayi. Ummandla we Baviaanskloof uquka iindawo ezikhuselwe ngokusemthethweni ezilawulwa yiEastern Cape Parks Board, enye yazo yedumileyo iBaviaanskloof Nature Reserve emhlaba uzihekhtare ezi 184 385 eyeyesithathu kwezona ndawo zikhuselekileyo eMzantsi Afrika nomhlaba osetyenziselwa imfuyo. Izityalo ezinkcenkceshelwayo zityalwa ngakwimilambo omnye obalulekileyo yiGamtoos River.

Ingingqi yeBaviaanskloof yenye yeendawo ezinobuhle bendalo, ngenxa yemimango emihle enezityalo ezahlukahlukeneyo nezilwanyana ezininzi ezahlukahlukeneyo. Obubutyebi beyantlukantlukano yendalo buqatshelwe ehlabathini liphela ngokude iBaviaanskloof Nature Reserve inikwe inqanaba lokuba yiWorld Heritage Site ngo 2004, le mbasa iyifumene kunye nezinye iindawo zolondolozo lwendalo ezisixhenxe ezikwingingqi ye Cape Floristic Region, ivula amathuba ophuhliso axhomekeke kwezokhenketho nasekufuyeni iinyamakazi kulenginqqi. Le ngingqi, eneentlobontlobo zezinto ezazisetyenziswa kwimbali yamandulo neendawo zeloxesha, izalisekisa ibango elibalulekileyo akuqokeleleni amanzi ukuze izidingo ezikhulayo zamanzi zifezekise iimfuno zezolimo nokukhula kweedolophu empuman nasemazantsi mpuma.

Kukho kodwa uninzi loxinzelelo ekufuneka lwenziwe ukuba amathuba apheleleyo olondolozo lwendalo, uziso olupheleleyo lwamanzi, nempuculo yempilo yasemaphandleni zizakuqapheleka. Oluninzi loxinzelelo luphuma kwezendalo, namaziko angezokuhlala nezophuhliso.

Ngeendlela zokuzalisekisa ukubanakho kwalengingqi, ulungiselelo lwamaziko ubukhulu becala iBaviaanskloof Mega-reserve Project Management Unit (ephantsi kweSebe leZophuhliso, Indalo neZokhnketho [eMpuma Koloni]), sezikhona ukuze kubekho amalungiselelo aqhubekekayo nokuze indawo eyandisiweyo yokhuseleko iBaviaanskloof ibekhona. Ngokufutshane, lendawo yandisiweyo yokhuseleko icingeleka ukuba iyakudibanisa umhlaba karhulumente ophantsi kokhuselo mhlaba lowo ophakathi kwemihlaba yabantu neyamadlelo okuhlala, eyakuthi xa se iyonke ibenomhlaba ongange 500 000 yee hektare. Abantu abanomhlaba abazinikeleyo ukuba babeyinxalenye yale ndawo yandisiweyo yokhuseleko bazakungqamanisa iindlela abasebenzisa ngazo umhlaba nemiqathango kunye nezenzo zokhuseleko lwendalo. Njengesikhokhelo kweli phulo, indlela yokhuseleko, esekelezwe kuluhlu lemiqathango ebangelwa ngumbono neenjongo ezikhethekileyo iqulunqiwe.

Le projekti ilungiselelwe ukusebenzisana nabahlali ukuze kufezekiswe umdibaniso opheleleyo wophuhliso lwengingqi. Abantu abachaphazelekayo sele kudityenwe nabo yaye lo mdibaniso sele uphumeze inxaso enkulu yale projekti. Ukuze umbono nenjongo yale projekti izalisekiseke, kufuneka kubekho ibango ngomntu ngamnye noluntu lulonke nokuzinikela okuliqilima labahlali. Inkqubekela phambili eninzi sele yenziwe kulo mba.

Ulwazi oluphangaleleyo ngeBaviaanskloof Nature Reserve, izalise ukukhula kwezokhenketho ezisekelezelwe kwindalo kwimihlaba yabantu nakwiidolophu ezikufutshane. Ukusukela ngo 2002, umhlaba ongange 5 000 yeehektare uthengelwe ilifa lokhuseleko. Omnye umhlaba oyi 50 000 yeehektare, omelwe ngamafama alishumi, ujonge ukudityaniswa kwiintlobontlobo zezivumelwano. Uphando lwempumelelo yokutshintsha imfuyo kutshintshelwa kwiinyamakazi nokhenketho olusekelezelwe kwindalo kusetyenzinswa izivumelwano zokhuseleko lwengingqi sele luqaliwe. Kubekho impumelelo enkulu ekususeni izityalo ezingaphumi kule ngingqi, ngokwenjenjalo kukhuliswa ubuyiselo lwentsebenziseko yeendawo eziqokelela amanzi. Iprojekti ekhethekileyo yokubuyisela ihlathi lendalo lalengingqi, edibanisa ukugcinwa komoya ongcolisekileyo ukuze kuthomalale amaqondo obushushu sele senziwa. Inkqubekela phambili sele ikho ekwenziweni kwemigomo ebichaziwe ebhekisele ekulawuleni indawo yokhuseleko nasekuphuhliseni ukhenketho.

Kude kubengoku i Baviaanskloof Mega-reserve Project iphumelele ekutsaleleni iR35.6 yezigidi seerhandi kule ngingqi yaye incedise equqasheni abantu aba 200 people, nani elo elingenyuka kwilixa elizayo. Ezinye iiprojekti ezingqamene nokhuseleko zitsalele inkxaso yemali eliqela kule ngingqi - umzekelo, iWorking for Water projekti (R43 yezigidi ngephezu kweminyaka eli 10; abantu abangama 600 baqashiwe nyaka nonyaka) ne Working for Woodlands projekti (R3.6 yezigidi ngaphezu kweminyaka emithatu; abantu abangamashumi 55 baqashwe nyaka nonyaka). Ngaphezulu, imali elungiselelwe ukulawula iBaviaanskloof Reserve Cluster (R4.7 yezigidi), neeprojekti ezikhethekileyo ezingqamene nodalo lwemisebenzi (R10 yezigidi ngaphezu kweminyaka emihlanu), zenza ingeniso eqaphelekayo ekwenziweni kwale ndawo yandisiweyo yokhuseleko lwendalo.

Hayi ngokujongela phantsi inkqubela phambili eyenzeke ekuyilweni kwe Baviaanskloof Megareserve, mninzi umsebenzi nemiceli mngeni esahleliyo ngaphambili. Esona sidingo sengaphezu kwazo zonke kukufunana imali eninzi yokwandisa nokugcina amaziko olondolozo lwendalo yephondo, maziko lawo anokubanakho ukulawula, nokujonga nokuxabisa iprojekti le kwiindawo ezikhuseleke ngokusemthethweni nemihlaba yabantu neyabahlali. Le nto iyakubanongeniso oluqaphelekayo ekugcineni iBaviaanskloof World Heritage Site ihloniphekile kwilixa elizayo. Kunyanzelekile ngoko ukuba urhulimente welizwe nowephondo babonakalalise inkxaso yale projekti yendawo eyandisiweyo yokhuseleko. Kulo mba iyakhuthaza into yokuba iNkulumbuso yephondo laseMpuma Koloni nomntu wesigqeba solawulo bayixhasile le projekti njenge bhanile yolondolozo lwendalo nophuhliso lwephondo.

Iprojekti ye Baviaanskloof Mega-reserve izisa amathuba akhethekileyo nachwayitisayo ukwenza inkxaso ebalulekileyo neqhubekekayo kukhuseleko lwendalo ebalulekileyo emhlabeni uphela, nasekuphakamiseni uphuhliso lwengingqi kuhamba nempakamiso kwezentlalakahle.



# SAMEVATTING Afrikaans

Die Baviaanskloof (Vallei van Bobbejane) is geleë tussen Baviaanskloof- en Kougabergreekse, wat van oos na wes parallel aan mekaar loop in die westelike streek van die Oos-Kaap in Suid-Afrika. Die oostelike ingang tot hierdie kloof is ongeveer 95 km wes van die hawestad Port Elizabeth. Die Baviaanskloof sluit 'n groep beskermde gebiede in, wat amptelik deur die Oos-Kaapse Parkeraad bestuur word. Die bekendste hiervan is die 184 385 ha Baviaanskloof-natuurreservaat. Dit is op twee na die grootste beskermde gebied in Suid-Afrika en word oorwegend vir veeboerdery gebruik. Langs die groter riviere, waarvan die Gamtoosrivier die bekendste is, word besproeïngsgewasse verbou.

'n Buitengewone en eiesoortige natuurlike skoonheid kenmerk die Baviaanskloof. Skouspelagtige rotsformasies, 'n groot verskeidenheid plantsoorte, en talle inheemse diersoorte dra tot die gebied se ongerepte karakter by. Hierdie ryk biodiversiteit het in 2004 internasionale erkenning gekry as 'n prestige Wêreld-erfenisgebied, saam met sewe ander in die Kaapse flora-gebied. Dit bied verskeie geleenthede vir ekonomiese ontwikkeling op plaaslike en streekvlak, veral deur bedrywighede soos natuurgebaseerde toerisme en wildboerdery. Dié gebied, wat ook beskik oor 'n merkwaardige verskeidenheid pre-historiese en historiese terreine en artefakte, vervul 'n uiters belangrike rol as 'n wateropvanggebied om in die steeds toenemende waterbehoeftes van die landbousektor en die oostelike stedelike gebiede te voorsien.

Daar is egter 'n aantal knelpunte wat eers dringend aandag moet kry voor die volle potensiaal van biodiversiteitsbewaring, optimale watervoorsiening, en 'n verbetering in landelike lewensbestaan verwesenlik kan word. Hierdie knelpunte is 'n uitvloeisel van 'n reeks omgewings-, institusioneleen sosio-ekonomiese kwessies.

'n Manier om die potensiaal van die gebied ten volle te verwesenlik, is onder andere met formele ooreenkomste. In hierdie gebied geskied dit hoofsaaklik in die vorm van die Baviaanskloofmegareservaatprojek bestuurseenheid wat die beplanning en uitvoering van die megareservaat hanteer. Hierdie eenheid is deur die Departement van Ekonomiese Sake, Omgewingsake en Toerisme (Oos-Kaap) gekontrakteer om hierdie taak uit te voer. Die beoogde megareservaat sal bestaan uit 'n groep staatsbeheerde beskermde gebiede, binne 'n raamwerk van private en gemeenskaplike grond met 'n uiteindelike omvang van omtrent 500 000 ha. Privaat-grondeienaars wat vrywillig onderneem om deel te word van die megareservaat, sal dan hul grondgebruikpatroon en bestuurspraktyk moet aanpas vir die bewaring van bioversiteit. Om hierdie inisiatief te bestuur, is 'n bewaringsplan, wat gegrond is op 'n stel beginsels en ondersteun word deur 'n visie en spesifieke doelwitte, saamgestel.

Die megareservaat-projek is beplan en word geloods in samewerking met alle betrokkenes. Die doelwit is volle integrasie met ander plaaslike en streekbeplannings-en-ontwikkelingsinisiatiewe. 'n Omvattende deelnemers-verhoudingsprogram geniet reeds geesdriftige ondersteuning vir die projek. Om die projek se visie en doelwitte te bereik, is 'n individuele en gemeenskaplike gevoel van trots en "eienaarskap" van die gebied, asook 'n sterk verbintenis van alle grondeienaars en belanghebbendes,

nodig. Hierdie samehorigheidsgevoel tree reeds sterk na vore by die meeste betrokkenes in die gebied. As gevolg van die groeiende bewuswording van veral die Baviaanskloof-natuurreservaat, is daar 'n toename in natuurgebaseerde toerisme-aktiwiteite op privaateiendom en in dorpe waarneembaar.

Sedert 2002 is 5 000 ha tot die bestaande bewaringsgebied gevoeg. Ongeveer 50 000 ha, wat 10 privaat-inisiatiewe verteenwoordig, is tans onder bespreking vir insluiting ingevolge 'n verskeidenheid ooreenkomste en kontrakte. 'n Haalbaarheidsondersoek, met 'n plaaslike bewaringsgebied wat dien as 'n model om van vee- na wildboerdery en natuurgebaseerde toerisme oor te skakel, is van stapel gestuur. Op 'n groot deel van die megareservaat-gebied is reeds sukses behaal met die verwydering van indringerplante, wat die wateropvangsgebied meer doeltreffend sal maak. 'n Loodsprojek om subtropiese valleibos te herstel, is onderweg. Dit sluit 'n komponent oor die berging van atmosferiese koolstof in, asook die rol daarvan in die vermindering van aardverwarming. Vordering word gemaak met die toepassing van reservaatbestuur en toerisme-ontwikkeling.

Tot nou toe was die Baviaanskloof-megareservaatprojek suksesvol met die verkryging van R35.6 miljoen vir die gebied, asook met die skep van 200 werkgeleenthede. Dit kan in die toekoms meer word. Ander bewaringsverwante projekte het ook aansienlike fondse na die gebied gelok. So byvoorbeeld het die Werk vir Waterprojek (R43 miljoen oor 10 jaar; 600 werkgeleenthede jaarliks) en die Werk vir Boomveld-projek (R3.6 miljoen oor 3 jaar; 55 werkgeleenthede jaarliks) geld gekry. Bykomende geld vir die Baviaanskloof-reservategroep (R4.7 miljoen) en die spesiale ontwikkelingsprojekte wat aan werkskepping gekoppel is (R10 miljoen oor 5 jaar), het 'n beduidende bydrae tot die stigting van die megareservaat gelewer.

Ondanks goeie vordering met die stigting van 'n Baviaanskloof-megareservaat, lê daar nog baie werk en talle uitdagings voor. Die grootste behoefte is om groot geldelike bydraes te bekom vir die uitbreiding en onderhoud van ten volle toegeruste provinsiale bewaringsagentskappe. Die taak van laasgenoemde is die bestuur, beheer en evaluering van die projek in amptelike bewaringsgebiede, asook op privaat- en gemeenskaplike grond. Hierdie instansies sal vorentoe 'n betekenisvolle bydrae lewer om die integriteit van die Baviaanskloof Wêrelderfenisgebied te behou. Dit is nou gebiedend noodsaaklik dat die regering op nasionale en provinsiale vlak gestalte gee aan hulle voornemens deur die verwesenliking van die megareservaatprojek onvoorwaardelik te steun. In hierdie opsig is dit verblydend dat die Premier van die Oos-Kaap en die verantwoordelike Lid van die Uitvoerende Raad hierdie projek as 'n vlagskip van bewaring en ontwikkeling in die provinsie onderskryf.

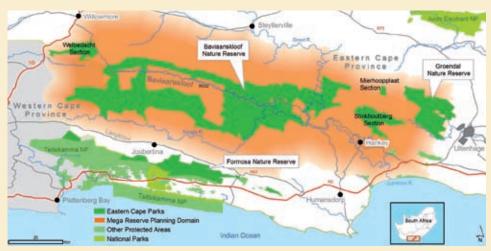
Die Baviaanskloof-megareservaatprojek bied 'n unieke en opwindende geleentheid om 'n betekenisvolle en volhoubare bydrae te lewer tot die bewaring van belangrike biodiversiteit wêreldwyd, asook tot plaaslike ekonomiese ontwikkeling met gepaardgaande maatskaplike opheffing.

# 2 introduction



The Baviaanskloof, or "Valley of Baboons", is a 75 km long valley, of varying width and depth, that lies between the parallel east-west running Baviaanskloof and Kouga mountain ranges in the western region of South Africa's Eastern Cape Province. The eastern-most point of the valley is some 95 kms north-west of the coastal city of Port Elizabeth, and its most southerly point is 50 kms from the Indian Ocean (Map 1).

The broader Baviaanskloof area is one of outstanding natural beauty and biodiversity, a fact illustrated by the representation there of seven of South Africa's eight biomes (see Chapter 4). This natural treasure has led to part of the area being declared a World Heritage Site – a prestigious honour indeed. These natural assets have also created exciting opportunities for sustainable economic growth, in an economically depressed region, focused on tourism and other nature-based commercial ventures.



*Map 1.* The location of the protected areas in the Baviaanskloof Reserve Cluster (see Chapter 3). Other protected areas in the region are shown, as is the Baviaanskloof Mega-reserve planning domain. NP = National Park.

This booklet does not provide a comprehensive synthesis of all the information on the Baviaanskloof area. It rather highlights (a) the natural and potential economic value of the area, (b) the steps taken to compile an appropriate, and widely accepted, conservation strategy, (c) some of the planning and implementation actions that are underway, and (d) the opportunities for stakeholders at large to become involved in this initiative.

### **GLOSSARY 1**

**Biodiversity (= biological diversity):** The variety of indigenous plants and animals, the habitats where they exist, and the ecological processes that shape and sustain them.

**Biomes:** Regional-scale areas, or ecosystems, with similar climate and vegetation.

**Ecosystem services:** Products of biodiversity and associated ecological processes, e.g. clean air, clean water, soil cover, natural vegetation, carbon storage.

**Ecological processes:** Physical processes essential for the evolution and maintenance of biodiversity. For example, fire, predation and pollination.

**Formal protected area:** State-owned land managed for conservation, i.e. national parks, provincial nature reserves or forestry reserves. Supported by strong legal and institutional structures.

(**Rural**) **conservancy:** An arrangement among neighbouring landowners based on voluntary cooperative environmental management of an area by its surrounding community and users. The aim is more effective conservation and management of the biodiversity of the area.



**1.** One of the ecosystem services provided by the Baviaanskloof – a sustained supply of good quality water – is of critical importance for one of South Africa's most significant agricultural areas and for its fourth largest metropole. Institutional arrangements have been initiated to protect the natural assets of the area, to develop and use them in a responsible manner, and to invite the participation of all who have a stake in the area and beyond (Photo: D. Rogers).



# TOWARDS A BAVIAANSKLOOF MEGA-RESERVE

#### The Baviaanskloof - a conservation history

The development of a Baviaanskloof mega conservation area (Box 1) reflects progress from the proclamation of the state-owned land in the area as a water catchment zone, to the consolidation of a provincial nature reserve system through the acquisition of key properties. This led to the identification of an expanded system that can ensure the protection of the unique biodiversity that occurs there, as well as provide essential ecosystem services (especially water) and opportunities for sustainable economic development.

#### Box 1: Mega conservation areas

Mega conservation areas comprise areas of largely pristine habitat that are sufficiently large (250 000–1 000 000 ha) to support all of the ecological processes necessary to conserve biodiversity in the long term. Specifically, they should:

- include a variety of ecological gradients (e.g. upland-lowland linkages), and associated habitats,
- incorporate areas of transition between biomes,
- include major migratory corridors,
- enable ongoing diversification of plant and animal lineages,
- support natural fire events,
- facilitate seasonal migration of animals, and
- maintain plant-herbivore, and predator-prey, relationships.

Ideally, mega conservation areas should be linked to other conservation areas to create mega corridor reserves.



In formal conservation terms, the focal point of the Baviaanskloof area is the 199 896 ha Baviaanskloof Nature Reserve, an important protected area. Most of this reserve has never been privately owned and has always been under some form of conservation management (Table 1). Table 1: Management history of the Baviaanskloof Nature Reserve

Period	Status	Managing authority	Type of management
Pre-1923	Crown land	State	Undefined
1923	Baviaanskloof Forest Reserve	Department of Forestry	<ul> <li>Mountain Catchment Area.</li> <li>Aims: <ul> <li>a) to maintain the vegetation cover,</li> <li>b) to minimize soil erosion, and</li> <li>c) to provide a sustained yield of high quality water.</li> </ul> </li> </ul>
1970	Forestry reserve	Department of Forestry	Mountain Catchment Area. Mountain Catchment Areas Act expanded to include "nature conservation" and "public recreation" and a prescribed burning programme.
1977	Forestry reserve	Department of Forestry	Parcels of land along the Kouga River purchased and transferred to the Department of Forestry, to be managed as mountain catchment.
1987-1993	Baviaanskloof Nature Reserve	Cape Provincial Administration	Nature reserve. Sections managed according to wilderness principles.
1994-2004	Baviaanskloof Nature Reserve	Department of Economic Affairs, Environment & Tourism, Eastern Cape Provincial Government.	Nature reserve. Sections managed according to wilderness principles.
2004 to present	Baviaanskloof Nature Reserve	Eastern Cape Parks	Nature reserve. Sections managed according to wilderness principles.

Since 1987, a total of 15 332 ha of land has been purchased with the aid of private funds and added to the reserve. In addition, some 15 931 ha of land has been purchased by, or donated to, the State during this period, and land was purchased by the State for the Kouga Dam in the 1960s. These land acquisitions enabled the consolidation of the eastern sector, and part of the western sector, of the reserve, and have increased its overall size to the current level (199 896 ha).

During the 1980s, the particular importance of the Baviaanskloof Nature Reserve for the conservation of the region's unique biodiversity began to be better realized. Around the same time, conservationists began to appreciate that the future of the reserve as a viable conservation area had to take into account human communities and land-use on properties adjacent to the reserve.

#### From awareness to action

Progress towards the establishment of a Baviaanskloof Mega-reserve can be summarized according to seven milestones.

A **first milestone** in the development of the Baviaanskloof Nature Reserve as a viable conservation area was the holding of a symposium at the then University of Port Elizabeth, in 1989, with the theme *The Kouga-Baviaanskloof Complex - Conservation Status and Management Problems*. Contributions dealt with geological, biological, ecological, agricultural, cultural and social aspects.

A second milestone was a visionary proposal developed by Reserve Manager Derek Clark in 1997. This motivated for the consolidation of the 56 000 ha western sector of the reserve, and for the establishment of a 20 000 ha sustainable game utilization-based zone on the plains area to the north of the Baviaanskloof Mountains (Map 2). This proposal was effectively the very first step towards the creation of a Baviaanskloof Mega-reserve.

A **third milestone** was the identification, by the C.A.P.E. Project (Box 2), of the Baviaanskloof Nature Reserve and adjacent areas as having the potential to create a mega conservation area that includes linkages to other conservation areas, both existing and proposed. A Baviaanskloof mega conservation area would (a) span the gradient from the arid Nama Karoo to moist fynbos and forest, (b) include much of the Groot-Baviaanskloof-Kouga riverine (migratory) corridor, and (c) encompass habitats such as grassland and moist subtropical thicket that are restricted to the eastern sector of the Cape Floristic Region.

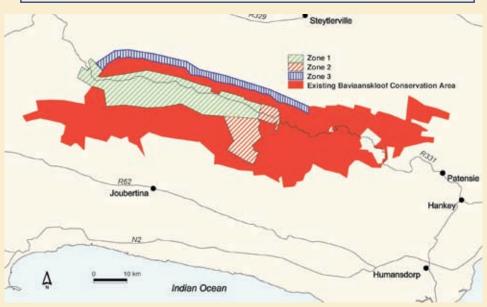
#### Box 2: The C.A.P.E. Project (www.capeaction.org.za)

The Cape Action for People and the Environment (C.A.P.E.) Project is a multi-stakeholder research, planning and implementation initiative between government, civil society and the private sector to co-ordinate and maximize efforts to conserve the highly threatened 87 892 km<sup>2</sup> Cape Floristic Region, one of only six floral kingdoms on earth and the only one that falls entirely within the borders of a single country.

#### Box 2 (continued)

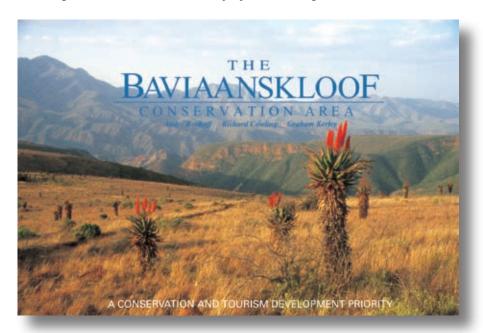


The Project identified the Baviaanskloof Nature Reserve and surrounding areas as one of three options for the establishment of mega conservation areas in the Cape Floristic Region, the others being the Cederberg and the Gouritz River areas to the west. In the latter two areas the Greater Cederberg Biodiversity Corridor and the Gouritz Initiative projects, respectively, have been established.



**Map 2:** The original 1997 concept proposal by Reserve Manager Derek Clark for the consolidation and expansion of the western sector of the Baviaanskloof Nature Reserve. This represented the first step towards the establishment of a Baviaanskloof Mega-reserve.

A **fourth milestone** was the publication in 2000 of the booklet *The Baviaanskloof Conservation Area: A conservation and tourism development opportunity* by the then Terrestrial Ecology Research Unit, at the former University of Port Elizabeth. This document highlighted the significance of the area for biodiversity conservation, assessed it in regional context, and evaluated the conservation and socio-economic development potential of the area based on the tourism industry. It also highlighted the cultural significance of the area, emphasised its vital role in water provision, identified gaps in the knowledge base and listed some of the major pressures facing the area.



(available at www.baviaanskloofmegareserve.co.za

# The physical, biological and cultural diversity of the Baviaanskloof Nature Reserve and environs is highlighted in Chapter 4.

The document also noted that, owing to a general decline in the agricultural industry, the general area surrounding the Baviaanskloof Nature Reserve is facing growing socio-economic problems and that new economic initiatives are urgently required. Conservation and nature-based commercial ventures were identified as alternative and sustainable forms of land-use that have the potential to contribute to the economy of the area, and the region as a whole, with accompanying social upliftment.

Most importantly, the document provided a motivation for attracting the interest of national and international governmental and non-governmental conservation funding agencies.

A **fifth milestone** was the identification by the STEP Project (Box 3) of the Baviaanskloof Megaconservancy Network (Box 4), which incorporates a large part of the Baviaanskloof Nature Reserve.

# Box 3: The STEP Project: Keeping people on the land in living landscapes (www.bgis.sanbi.org)

The Subtropical Thicket Ecosystem Planning (STEP) Project was a four-year, Global Environment Facility-supported, initiative that was completed in June 2004. This project:

- a) created an awareness of the unique biodiversity and significant economic value of the Subtropical Thicket Biome,
- b) conducted a conservation assessment to identify priority areas for ensuring the longterm conservation of thicket plants, animals and ecological processes, and
- c) promoted the inclusion of the spatial conservation plan, derived from the assessment, into the policies and practices of public and private sector organizations responsible for land-use planning and the management of natural resources in this biome.



Whereas the focus of the C.A.P.E. Project was fynbos vegetation, that of the STEP Project was subtropical thicket vegetation, and hence the outcomes of the two initiatives are somewhat different.

### **Box 4: Mega-conservancy networks**

Mega-conservancy networks, as identified by the STEP Project, are large corridors of land, the conservation of which is essential for the long-term conservation of biodiversity and ecological processes in subtropical thicket, and also for providing opportunities for sustainable nature-based economic development.

These networks represent a model of ecologically sustainable land management that offers landowners opportunities to work together to preserve landscapes essential for ensuring the sustainability of natural and social river catchment systems. They comprise groups of adjacent properties of various tenures and land-uses, whose owners share a common vision and who participate voluntarily, manage their land in a co-ordinated, co-operative and integrated way, and are committed to halting the degradation and loss of indigenous plant and animal communities, and to improving their own livelihoods.

#### The Baviaanskloof Mega-reserve Project

Owing largely to the impact and outcomes of the milestones described above, a critical **sixth milestone** was reached when the Baviaanskloof Mega-reserve Project came into being in 2002 – its overall goal being the creation of a Baviaanskloof Mega-reserve. A vision for the project was created following 18 months of collaboration and consultation between public agencies, landowners around the Baviaanskloof Nature Reserve, and the broader public. A Baviaanskloof Steering Committee, on which a wide range of stakeholders is represented, formed part of this process.

The Baviaanskloof Mega-reserve Project seeks to (a) conserve the area's spectacular biodiversity, (b) protect its critically important role as a provider of water, and (c) promote sustainable economic development opportunities based on the natural assets of the area, principally by:

- securing a large consolidated core formal protected area, the primary management objective of which is the conservation of biodiversity,
- establishing a multi-owner contractual reserve network around the core area in which different land-use patterns and forms of conservation status are reconciled and aligned with biodiversity conservation initiatives,
- managing the mega-reserve network through a partnership between government, the private sector and civil society,
- realising prospects for improving the livelihoods of people living in the rural parts of the region, and
- exposing people to sustainable ways of using the area's natural resources, and incentivising their adoption.

The Baviaanskloof Mega-reserve will therefore comprise both formal protected areas and privately owned land – the key elements of a mega-conservancy network.

The area envisaged for a mega-reserve includes the 199 896 ha Baviaanskloof Nature Reserve, comprising the Baviaanskloof (190 425 ha) and Welbedacht (9 473 ha) sections, the 43 428 ha Groendal Nature Reserve, comprising the Kwa-Zunga (27 998 ha), Mierhoopplaat (1 063 ha) and Stinkhoutberg (14 367 ha) sections, and the Formosa Nature Reserve, comprising the Formosa (22 139 ha) and Niekerksberg (3 385 ha) sections (Map 1). These five individual reserves, collectively known as the Baviaanskloof Reserve Cluster, form the 268 848 ha protected area core of the mega-reserve. A critical component of the mega-reserve is the link between this inland sector and the coast, to create a reserve that includes both east-west and north-south gradients, as well as a marked altitudinal gradient. See Chapter 8 for further information on the spatial planning process for the Baviaanskloof Mega-reserve.

#### The "Baviaanskloof Wilderness Area"

The Baviaanskloof Nature Reserve has become widely known as the "Baviaanskloof Wilderness Area". However, despite the management of parts of the reserve as a wilderness area, it has not been formally proclaimed as a "wilderness area".

#### **Institutional arrangements**

The institutional arrangements that have been put in place to plan and implement the Baviaanskloof Mega-reserve are summarised below.

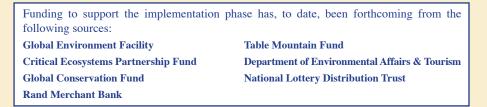


2002: The C.A.P.E. Project appoints the then Department of Economic Affairs, Environment & Tourism (DEAET), Eastern Cape Provincial Government, as the Implementing Agent for the Baviaanskloof Mega-reserve Project.

2002: DEAET contracts the Wilderness Foundation, an Eastern Cape-based **WILDERNESS** NGO, to conduct the planning and initial implementation phases of the Megareserve Project. Seed funding is provided by DEAET.

2003: The Wilderness Foundation establishes a Baviaanskloof Project Management Unit (PMU), located in Port Elizabeth, to manage the planning and implementation process.

The PMU will be in place until mid-2009, after which its functions will be taken over by Eastern Cape Parks (for the nature reserve component) and by the Eastern Cape's Department of Economic Development and Environmental Affairs (DEDEA) (for the offreserve component). During its lifespan, the PMU will assist these organizations to acquire the skills necessary to manage the Mega-reserve Project after 2009.



#### **International recognition**

A momentous **seventh milestone** was reached in 2004 when the Baviaanskloof Nature Reserve (BNR) was proclaimed, along with seven other reserves in the Cape Floristic Region, as a World Heritage Site. The reserves were nominated under two criteria – significant ecological processes, and biodiversity and threatened species (Box 5). The BNR's exceptional natural beauty and its culturally important sites and artefacts were used to support the successful nomination. The people of South Africa, and especially those living in the area, can take enormous pride in the proclamation, which places the reserve alongside other well-known World Heritage sites, e.g. Australia's Great Barrier Reef, East Africa's Serengeti Plains and Canada's Rocky Mountain Parks.



**2.** The proclamation of the Baviaanskloof World Heritage Site, which was made by UNESCO (United Nations Educational, Scientific and Cultural Organisation) following a rigorous evaluation process, is a prestigious honour. It has provided a significant boost for the reserve - by giving it both national and international exposure and recognition, and by catalyzing initiatives to plan and support priority development opportunities. The onus now rests with the national and Eastern Cape provincial governments to ensure that sufficient resources are made available to manage the site in a manner that befits its international conservation status (Photo: D. Rogers).

Whilst the proclamation creates many opportunities (conservation of biodiversity, provision of water for environmental, agricultural and human consumption, nature-based economic development), it also confers a rigorous set of obligations on the site's guardians and users. Its management must conform to a plan approved by UNESCO, which will monitor the integrity of the site through an annual review process.

#### **Box 5: World Heritage Sites**



World Heritage Sites are special places on earth that are considered to be of outstanding universal significance to humanity. They are sites of exceptional beauty, contain the most important habitats, represent major stages of the earth's history, or contain significant ongoing ecological processes. The integrity of such sites, which belong to all the people of the world, must be assured into the future.

#### Implementation of the Baviaanskloof Mega-reserve - a challenge to be met

Given the complex backdrop of land ownership, land-use, cultural diversity, and multiple stakeholders, all with differing capacity, resources and expectations, in the area envisaged for the mega-reserve, the achievement of the vision and objectives of the Mega-reserve Project will be a challenge indeed. Notwithstanding this situation, an individual and collective sense of pride and 'ownership' of the area, and a strong commitment by all stakeholders to act in its best interests, will see its full potential being realized. Most importantly, the mega-reserve initiative offers exciting opportunities for people from all walks of life to participate in its ongoing development.

To guide the planning and implementation process, the Mega-reserve Project developed, in consultation with key stakeholders, a medium-term Conservation Strategy – this is briefly described in Chapter 7.



In 2005, the Project Management Unit commissioned a report (at left; available on www.baviaanskloofmegareserve.co.za) that summarises the conservation history of the Baviaanskloof area and early developments that led to the launching of the Mega-reserve Project. It also briefly summarises the natural and cultural assets of the area and highlights the opportunities provided by, and pressures facing, the project. The project's conservation strategy is outlined. Importantly, the document reports on implementation activities in progress. The current (2008) publication is an update of the 2005 report, with emphasis on the expanded range of completed, current or planned implementation activities.



# THE NATURAL AND CULTURAL DIVERSITY OF THE AREA





**3.** The area is characterised by remarkable scenery, owing to the high geological, topographic and climatic diversity that occurs. The inland parts are dominated by east-west running folded and eroded ridges and peaks (over 1700 metres above sea level in places) of the Cape Folded Belt (as seen here), comprising shales and sandstones of the Table Mountain, Bokkeveld and Witteberg groups of the Cape Supergroup. Upheaval of geological formations, associated with the breakup

of the ancient continent of Gondwanaland, resulted in the formation of a number of basins and the creation of the courses of the present-day Baviaanskloof, Kouga and Gamtoos rivers. The latter river meanders across the relatively flat coastal plain in the southern part of the mega-reserve area, prior to draining into the Indian Ocean (Photo: D. Rogers).

The Baviaanskloof area is characterized by a spectacular variety of plant and animal life, and of land -forms and natural processes that create and maintain this diversity. It also abounds with sites and artefacts that provide a fascinating reminder of the area's early and more recent human inhabitants.

#### **Plant life**

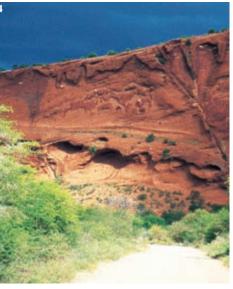
#### Biomes

No fewer than seven of the country's eight biomes – the highest level of ecosystem recognized by ecologists - are represented in the broader Baviaanskloof area – these are the Fynbos, Subtropical Thicket, Nama Karroo, Succulent Karoo, Grassland, Savanna and Forest biomes. This exceptional diversity, unparalleled in South Africa, is testament to the great physical and climatic diversity in this area of transition. The Fynbos Biome is found on the poor soils of the mountains, the Subtropical Thicket Biome on the more fertile soils in fire-protected valleys, the Nama Karoo and Succulent Karoo biomes on the semi-arid flats to the north and west, the Grassland Biome on the planed, gravelly surfaces in the foothills, the Savanna Biome on alluvial soils in the bottomlands, and the Forest Biome mainly in the sheltered, moist ravines. The fynbos represents the fabulous Cape Floristic Region and the subtropical thicket forms the south-western part of the Maputaland-Pondoland Region or biodiversity "hotspot".

#### Vegetation types

The remarkable habitat diversity supports a high variety of vegetation types. No fewer than 69 types have been mapped by botanists in the mega-reserve area; of these, some 31 are endemic to this defined area, and 16 are near endemic. They are dominated by fynbos and subtropical thicket elements. A large number of thicket mosaics have been mapped in the area; these occur when thicket forms clumps in a matrix of other vegetation, e.g. fynbos, succulent karoo. The vegetation layer is characterised by a prevalence of mosaic types, which occupy the biome transitional areas, and the area has the highest diversity of thicket mosaics for any part of the Subtropical Thicket Biome. The fynbos is dominated by mountain types.

**5.** Erosion that occurred after the Gondwanan era produced a series of plateaus, termed the African Land Surface, that are evident today throughout the mountainous parts of the area, at altitudes of 650-900 metres above sea level. These gently sloping surfaces are mostly underlain by the softer sediments of the Table Mountain Group, and they have deeper, finer-grained and more fertile soils than those derived from the harder sandstones of the adjacent peaks (Photo: D. Rogers).



**4.** During a warmer and wetter period, subsequent to the breakup of the ancient continent of Gondwanaland, extensive erosion of the mountains produced thick sediments in the fault basins, represented in the Baviaanskloof area by characteristic deposits of reddish Enon Conglomerate (Photo: R. Cowling).



Fynbos, the shrubland that forms the distinctive vegetation of a large part of the mega-reserve area, extends from the mountain peaks down the slopes and across the coastal plain to the sea-shore. It holds most of the richness of the Cape Floristic Region and is dependent on fire as a critical ecological process, and is therefore adapted to a natural fire regime. Thicket and forest types, on the other hand, are not fire dependent. Herbivory (feeding by plant eating animals, called herbivores) is an important ecological process for subtropical thicket and this emphasizes the need to restore herbivore communities in thicket-dominated landscapes.

Examples of particularly noteworthy plant assemblages that occur are the unique communities of succulent plants on colluvial soils, gravel patches and river terraces associated with the Groot River Valley, south of Steytlerville, and the moist fynbos on the north-western sides of the Langkloof.

#### An ecosystem treasure

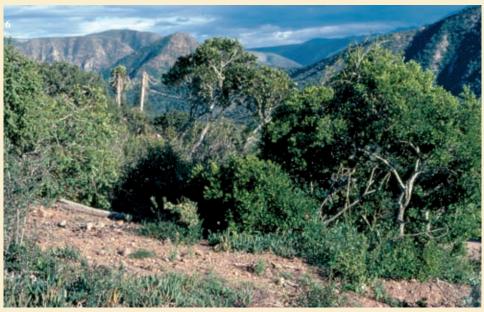
The meeting of so many different biomes and vegetation types in the mega-reserve area is extremely important. Within the boundaries of a single conservation area is included an almost complete spectrum of the biodiversity of the southern African region. Fire-prone fynbos shrublands exist side-by-side with bulk grazer-driven grasslands, megaherbivoremaintained thicket and browser-controlled savanna. Protected valleys support functionally distinct forest ecosystems while the karroid plains to the north support semi-arid shrublands where nomadic herds of grazing herbivores and periodic drought are the principle ecological forces. Nowhere else is it possible to find such an extraordinarily diverse array of functionally different vegetation types and associated ecosystems.

#### Plants

In terms of plant forms, the envisaged mega-reserve area is rich in species and genera. It lies at the eastern end of the Cape Floristic Region (predominantly fynbos) and, as such, falls within the smallest and most distinctive of the world's six plant kingdoms. This region includes 9 000 plant species (69% of which are endemic), 988 genera (16% endemic) and 173 families (seven of which are endemic or near-endemic). The Baviaanskloof Nature Reserve alone harbours some 138 Families, 570 genera and 1199 species; this is an incomplete list but nevertheless represents a truly remarkable richness, especially in terms of genera. Like fynbos, subtropical thicket is renowned for its high plant species richness and species endemism, with 1588 species being recorded in the planning region of the STEP Project (see Box 3), of which 322 (20%) are endemic. With regard to overall plant species richness, there are considered to be in excess of 2500 species in the envisaged mega-reserve area, with the incidence of listed rare and endemic species being exceptionally high by global standards. At least 52 species in the Baviaanskloof Nature Reserve alone are considered to be threatened with extinction, whereas 20 species are currently known to be endemic to the region. These figures will be considerably higher for the entire mega-reserve.

The fynbos plant forms of much of the mega-reserve area are fairly typical of those from throughout the Cape Floristic Region, as indicated by the importance of families such as the Ericaceae, Proteaceae, Iridaceae, Rutaceae and Aizoaceae. Large numbers of species of typical fynbos genera, such as *Agathosma, Aspalathus, Crassula, Erica* and *Pelargonium* are found there. The Gamtoos River Thicket contains eight endemic species, including the charismatic Gamtoos cabbage tree *Cussonia gamtoosensis*, whereas the Groot River Thicket contains 19 endemic species, including the aloe *Aloe pictifolia*, the tree *Atalaya capensis* and the tree/shrub *Smellophyllum capense*. The expanded conservation area will also include a number of Nama Karoo genera and species that are not normally found in fynbos and thicket-dominated landscapes. Of particular significance here are at least 70 succulent species, including many species of *Crassula, Haworthia, Euphorbia* and *Ruschia*.

Examples of plants of particular interest that occur in the area are the prehistoric cycads (*Encephalartos* species) and the highly localised and threatened Willowmore cedar (*Widdringtonia schwarzii*).



**6.** Subtropical thicket growing in a fertile, fire-protected valley near Geelhoutbos. Note the diversity of plant forms – evergreen trees, stem succulents, vines, creeping leaf succulents and a variety of smaller shrubs (Photo: R. Cowling).



7. The typical components of fynbos, the characteristic vegetation of the Cape Floristic Region, are the proteas, ericas and restioids. All are evident in this view, with the broad-leaf sugarbush (Protea eximia) dominating (Photo: R. Cowling).

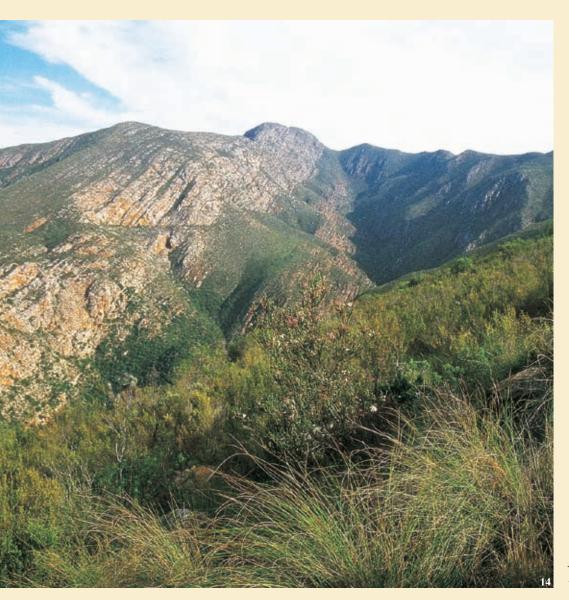
**8.** The forests that grow in shaded, protected kloofs in the Baviaanskloof Mega-reserve comprise an interesting mix of temperate and tropical species. Here the Outeniqua yellowwood (*Podocarpus falcatus*) co-exists with white stinkwood (*Celtis africana*) and the tropical Cape fig (*Ficus sur*) (*Photo: R. Cowling*).

**9.** Leucospermum cuneiforme, one of the pincushions, is a member of the Protea family that that is widespread in grassy fynbos throughout the Baviaanskloof Mega-reserve. Unlike most other members of the Leucospermum genus, this species sprouts after fire and is therefore resilient to high frequency burns (Photo: R. Cowling).

**10.** The flats to the north of the Baviaanskloof are occupied by karroid broken veld. This desert-like vegetation is home to many small succulent species, including Euphorbia esculenta, seen in the foreground (Photo: R. Cowling).

**11.** Two species of cycad – survivors from an ancient era – grow in the Baviaanskloof area. This species, *Encephalartos longifolius*, must have witnessed great changes in climate and vegetation during its long occupancy of this area (Photo: R. Cowling).







**12.** The steeply incised kloofs or ravines in the Baviaanskloof area support a rich flora of cliff-loving species, some of which grow nowhere else. Included among these endemics is Stapelia baylissii, showing the "hanging garden" growth form typical of many plants specialized for cliff dwelling (Photo: R. Cowling).

**13.** The boerboon (Schotia afra) is a common canopy species in many forms of subtropical thicket in the Baviaanskloof area. This very ancient plant – an ancestor of many trees common in the rainforests of Africa and Madagascar – produces a showy display of flowers that are pollinated by sunbirds, like this greater double-collared sunbird (Cinnyris afer) (Photo: R. Cowling).

**14.** Grassy fynbos occurs on drier, lower slopes and on relatively wet plateaus, especially in the eastern reaches of the Baviaanskloof Nature Reserve. The reserve supports many forms of grassy fynbos, including this community of the grass **Pentaschistis eriostoma** (foreground) and **Erica pectinifolia** (background) on shallow sand derived from quartzite (Photo: R. Cowling).





**15.** Crassula perfoliata – a subtropical thicket species – produces in autumn a striking spray of red flowers that are pollinated by the butterfly Aeropetes tulbaghia, known as the Table Mountain beauty (Photo: R. Cowling).

**16.** Nymania capensis is a beautiful shrub that grows on the rocky ridges of the Steytlerville Karoo, north of the Baviaanskloof Mountains. This unusual plant is extremely ancient - its closest relatives grow in South America (Photo: R. Cowling).

**17.** *Erica diaphana*, a bird-pollinated denizen of the southern, lower slopes of the Kouga Mountains, is one of the 45 species of this huge Cape genus that grow in the fynbos of the Baviaanskloof area (Photo: R. Cowling).



#### **Glossary 2**

**Ecosystem:** The system of relationships and interactions between plants, animals and the non-living environment (e.g. soil, air).

**Vegetation type:** A vegetation community with a characteristic and unique species composition and structure, and specific distribution.

**Vegetation mosaic:** A patchwork comprising more than one vegetation type.

**Genus and Species:** A particular plant or animal that has been classified and given a scientific name. For example, the plant *Gasteria glomerata* – *Gasteria* is the genus and *glomerata* is the species. A single genus may contain more than one species.

**Endemic species:** One that occurs in a particular site, area or region and nowhere else on earth.

Herbivores and carnivores: Herbivores are plant-eating animals (e.g. antelope) and carnivores are flesh-eating animals (e.g. predators such as leopard, jackal).

**Mega-herbivore:** Very large plant-eating animal (over 1000 kg bodyweight – elephant and rhinoceros).

#### **Animal life**

The Baviaanskloof Mega-reserve area lies within a region noted for its high animal diversity and high endemicity, and one that supports an old and little disturbed animal component of the ancient Gondwanan continent. Many species show disjunct distributions within this region, with populations recorded in the south-western Cape and in the eastern highlands, but not inbetween these two areas, despite the fact that suitable habitat appears to be present there. The mega-reserve lies within these distribution gaps. It is highly probable that the "missing" species do occur here, but have been overlooked due to poor sampling effort. Therefore, the animal diversity of the mega-reserve area is probably even richer and more interesting than has been documented to date.

Two major factors contribute to the area having an exceptionally rich and interesting animal life - these are the degree of habitat complexity provided by the combination of land forms, climate and plant cover, and the fact that the region has provided a relatively stable refuge for the persistence of ancient endemic species. This unique animal life has, however, been placed under severe pressure in recent years owing to human activities - primarily through direct exploitation, habitat transformation and the introduction of alien plant and animal species. Many animal species, particularly of large mammals, have become extinct in the region in recent times, but the potential for their reestablishment from other populations does exist.



#### Mammals

The mega-reserve area will provide habitat for at least 58 mammal species. This includes no fewer than 46 medium- and large-sized species - an extraordinary number for a single area, on a global scale, and for one as far south as 34° S on the African continent.

**18.** An important reason for the suitability of the Baviaanskloof area for the larger herbivores is the presence of grassy fynbos and subtropical thicket elements, the latter making possible the presence of the African elephant (Loxodonta africana) and the black rhinoceros (Diceros bicornis) (shown here) – both megaherbivores (Photo: S. Wilson).





**19.** Other herbivore species that occur, or can potentially occur, include medium to large species such as Cape mountain zebra (*Equus zebra zebra*) (above left), klipspringer (*Oreotragus oreotragus*) (top) and bushbuck (*Tragelaphus scriptus*), and small species such as steenbok (*Raphicerus campestris*) and the tiny blue duiker (*Philantomba monticola*) (above right). Black rhinoceros and Cape mountain zebra are highly threatened species and the mega-reserve will provide both with a secure refuge (Photos, clockwise from the top: M. Norval; C. Urquhart; P. Heymans.).



**20.** The mega-reserve will conserve an important population of the leopard (*Panthera pardus*), one of Africa's Big Five and a species in urgent need of protection throughout its range in South Africa (*Photo: P. Norton*).

Apart from the leopard (*Panthera pardus*), which is still present, all the large carnivores (lion *Panthera leo*, cheetah *Acinonyx jubatus*, spotted hyaena *Crocuta crocuta*, brown hyaena *Hyaena brunnea*, African wild dog *Lycaon pictus*) have become extinct in the area. The re-introduction of the locally extinct larger species will restore the natural large mammal community to the region, thereby providing all the elements for a naturally functioning ecosystem, and the southernmost location for the tourist-attracting African big game species.

#### Birds

With over 300 recorded species, which is more than a third of the total bird fauna in South Africa, the Kouga-Baviaanskloof Complex is recognised as a Globally Important Bird Area on account of the high overall diversity of birds, the presence of Globally threatened species (blue crane *Anthropoides paradisea*, lesser kestrel *Falco naumanni*), Globally near-threatened species (black harrier *Circus maurus*, ground woodpecker *Geocolaptes olivaceus*, Cape rock-jumper *Chaetops frenatus*, Cape



**21.** All six of the Cape Floristic Region's endemic bird species occur. These include Victorin's warbler (Cryptillas victorini), Cape sugarbird (Promerops cafer) (shown here), orange-breasted sunbird (Anthobaphes violacea), Cape rock-jumper (Chaetops frenatus), Cape siskin (Chrithagra totta), and protea seedeater (Chrithagra leucopterus) (Photo: T. Wooldridge).

**22.** No fewer than 23 raptor (bird of prey) species occur in the mega-reserve area. This includes the majestic Verreaux's (black) eagle (Aquila verreauxii), one of four of South Africa's "Big Five" eagles that occur in the area (Photo: C. van Rooyen).

siskin *Chrithagra totta*, protea seedeater *Chrithagra leucopterus*), and Nationally threatened (African marsh-harrier *Circus ranivorus*, striped flufftail *Sarothrura affinis*, Denham's bustard *Neotis denhami*) and near-threatened species (black stork *Ciconia nigra*, peregrine falcon *Falco peregrinus*, lanner falcon *Falco biarmicus*).

#### Reptiles

Remarkably, almost half (24 species) of the 57 reptile species recorded in the Baviaanskloof Megareserve area and close environs are endemic to South Africa. This degree of endemism is further highlighted by the fact that 10 of these species are recognised as Cape endemics, of which three species have only ever been recorded within this specific area. Being an area of high ecological diversity, the Baviaanskloof Mega-reserve may yet yield many new species and, in this regard, there is a need for further fieldwork.



**23.** The mega-reserve potentially has one of the highest diversities of chelonians (tortoises and turtles) in South Africa and anywhere else in the world. Four species occur in the Baviaanskloof Nature Reserve and habitat for a further two is encompassed by the mega-reserve's planning region. The large leopard tortoise (Geochelone pardalis) illustrated here is a prominent species in the area (Photo: G. Kerley).

### Amphibians

The Baviaanskloof Mega-reserve amphibian (frog) community includes 17 species, including three Cape Floristic Region endemics and eight national endemics. This is high by global standards, and reflects the fact that South Africa has a particularly rich frog life. The southern part of the envisaged mega-reserve area, including the Gamtoos River Corridor, is classified as a "hotspot" for threatened and near-threatened species. To date 20 species have been recorded in this area, which is relatively rich in endemic and range-restricted species.



**24.** Of the amphibian species recorded in the area, four are recognized as fynbos endemics. Most notable are a number of ghost frog (**Heleophryne**) species, representing ancient forms, with at least one species being endemic to the area. Members of this South African endemic family of frogs have very specific habitat requirements of clear mountain streams (Photo: W. Branch).

The frog group is, however, generally recognised as being poorly studied, and more species are still being discovered. The Baviaanskloof Mega-reserve is not an exception in this regard and it is probable that more species do occur here.

#### Fish

At 15 species, the indigenous fresh-water fish diversity of the Baviaanskloof Mega-reserve area is exceptionally high by South African standards. Three species are Cape Floristic Region endemics.



**25.** Two species of redfin minnow - **Pseudobarbus afer** (shown here) and **P. asper** - recorded in the Baviaanskloof Nature Reserve are threatened, and the area has been identified as a key one for their future conservation (Photo: J. Cambray).

Most of the species belong to the Southern Temperate group, possibly representing ancient Gondwanan endemic species. For example, the closest living relatives of the Cape galaxius (*Galaxias zebratus*) occur in southern Chile, another Gondwanan continent remnant.

#### Invertebrates

The invertebrates of the area have been generally poorly studied, but available information indicates a rich diversity and a very high degree of endemism. This reflects the fact that the area is rich in



**26.** Six of the nine cicada species that occur in the Baviaanskloof Nature Reserve are endemic to the Cape Floristic Region, and of the 59 butterfly species recorded, two are threatened. Shown here is **Papileo nireus**, a forest/thicket butterfly that reaches one of its western-most distribution points in the Baviaanskloof (Photo: S. Proches).



**27.** Recent research in the area revealed a strong positive relationship between plant and insect species richness, that thicket insect diversity is high across different land forms and that the thicket insect group is quite distinct from others. Fynbos and thicket in the area thus harbour important insect species and communities, illustrated here by a species of tiny weevil (within the genus Hexatmetus) that feeds on Erica flowers and is endemic to the Cape Floristic Region (Photo: S. Proches).

ancient forms, particularly in the fynbos and subtropical thicket biomes, with notable groups being the velvet worms, harvestmen and stagbeetles. It appears that many groups of invertebrates have persisted here since the break-up of the Gondwanaland supercontinent over 100 million years ago, and this has been attributed to the relative stability, both geologically and climatically, of this region over this period. Furthermore, the mountain habitats provided specialized refuges, allowing temperate species to survive climate change.

#### **Ecological processes**

A major goal for the Baviaanskloof Megareserve is to conserve not only the different plant and animal species that live there, but also the ecological processes that produce and maintain the habitats that they occupy. The intention is, therefore, to achieve a conservation area that will continue to function ecologically indefinitely, and that will allow both plants and animals to evolve naturally through time.

All of the processes that must be maintained to sustain the area's biodiversity must be identified, their occurrence on the landscape mapped, and the proportion of each one that must be conserved by means of an appropriate conservation system, estimated.

Some of the important ecological processes associated with the Baviaanskloof area are illustrated here.



**Plant pollination** by insects, mammals and birds, such as the orange-breasted sunbird (Anthobaphes violacea) – a fynbos endemic (Photo: T. Wooldridge).



Seed dispersal by mammals and birds; a prominent example of the latter is the speckled mousebird (Colius striatus) (Photo: G. Kerley).



*Herbivory,* especially by the larger game species, such as the African buffalo (*Syncerus caffer*) (*Photo: G. Kerley*).

**ECOLOGICAL** 

**PROCESSES** 



Foraging by, and physical impacts of, the megaherbivores, namely African elephant and black rhinoceros (Photo: A. Boshoff).



Natural fire events, to maintain firedependent vegetation and large mammalian herbivore communities (Photo: D. Rogers).



**Predator-prey relationships**, involving, for example, carnivorous predators such as the caracal (**Caracal caracal**) (Photo: M. Norval).



Altitudinal and seasonal movements of animals, for example through ravines (kloofs) that dissect the high mountain ranges (Photo: D. Rogers).



*Hydrological regimes,* involving whole water catchments, small streams, large tributaries and major rivers (Photo: G. Spiby).

#### Human prehistory



**28.** There is much evidence of the former presence of the San and Khoekhoen in the Baviaanskloof area, this in the form of wood and bone artefacts, plant and animal remains and a wealth of rock art. To date, over 200 heritage sites have been located in the area and this is conservatively estimated to represent only about 10% of those in existence. A comprehensive survey is required (Photos: D. Rogers [left]; E. Richardson [right]).

The Eastern Cape has been inhabited by humans for many thousands of years, with archaeological evidence of human occupation dating back some 120 000 years. Artefacts from rock shelters in the Baviaanskloof indicate that prehistoric humans were living there from at least the Middle Stone Age (100 000 to 30 000 years ago). After a period of low population density between 60 000 and 20 000 years ago, stable Late Stone Age human populations became established in a series of phases. The hunter-gatherer San, who occupied the region until the Khoekhoen (= Khoikhoi) arrived about 2000 years ago, are considered to be the direct descendants of these early dwellers. The Khoekhoen, who were herders, migrated southwards from what is now Botswana with their sheep and cattle and later mixed with the San, to form a group known to archaeologists as the Khoisan. According to early European travellers, the Khoekhoen tended to live in the coastal areas, whereas the San were in the mountainous areas in the interior. The Khoekhoen were followed in turn, about 1700 years ago, by Bantu-speaking Iron Age agro-pastoralists who migrated southwards from central and eastern Africa with crops such as sorghum and millet, and domesticated sheep, goats and cattle. Further westward movement would have led to contact with the San and Khoekhoen, and later the European colonists, in the western part of the present Eastern Cape. The region in which the envisaged Baviaanskloof

Mega-reserve is located can therefore rightly be considered as an important meeting place of these diverse cultures, and a treasure-trove for Stone Age archaeology.

In 2003 an archaeologist from the Albany Museum in Grahamstown conducted a pilot survey of the cultural heritage of the Baviaanskloof Mega-reserve and provided guidelines for its protection and utilization by the public. The South African Heritage Resources Agency, the Department of Archaeology at the University of Cape Town and the Rock Art Research Institute at the University of the Witwatersrand have also been consulted regarding general heritage management issues.

#### History

European settlement in the Baviaanskloof region commenced in the mid to late 18th century. Although the San people living in the Baviaanskloof and environs came under pressure from the Khoekhoen, the event that was to seal their fate was the arrival of the Europeans. As the latter settled and impacted the land, so the San became increasingly unable to maintain their traditional way of life. The new settlers hunted most of the indigenous animals to extinction, replacing game with domestic stock, and the arable parts were put to cultivation. Many of the remaining San had little



**29.** Expertly constructed dry-stone walls (left) and old farm buildings (right), in various states of repair, provide fascinating reminders of pioneering farmers who settled in the area long ago (Photos: *E. Richardson [left]; D. Rogers [right]*).



**30.** Current economic activity in the rural parts of the Baviaanskloof Mega-reserve is associated mainly with agriculture, in the form of small-stock ranching (left) and irrigated crop production (right). Conservation and tourism-related activities in formal protected areas and on private land have increased significantly since the start of the Mega-reserve Project in late 2002 (Photos: G. Kerley [left]; D. Rogers [right]).

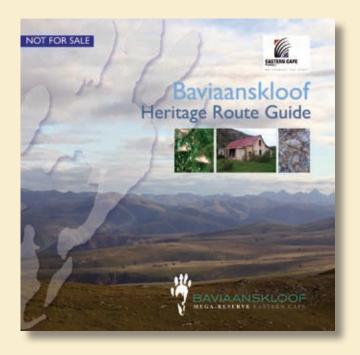
option but to move permanently onto the farms as servants and labourers, intermarry outside their culture and so merge with the wider population of the region. Others tried to maintain their way of life and in doing so often resorted to stealing livestock from the European settlers. This inevitably led to confrontation and several accounts record the violent demise of the San in the area. By the end of the 19th century the San had ceased to exist as an independent people in the area.

The human population of the Baviaanskloof itself probably reached a maximum of about 2000 souls somewhere between the mid-19th and mid-20th centuries, whereafter it began a decline that continues to the present day. Apart from the farmers whose properties were bought out in the 1960s for the construction of the Kouga Dam, no people in the area of the existing Baviaanskloof Nature Reserve were removed from their land by the State. The rugged terrain and the isolation of the valley from the marketplace were major constraints and a challenge for the early farmers in the Baviaanskloof. People living in the area suffered periodic natural events, such as floods, droughts and outbreaks of disease.

#### A natural and cultural heritage to cherish

The mega-reserve area contains a veritable treasure trove of plant and animal life, of ecological processes that sustain this life, and of numerous signs and sites to remind us of the area's early human inhabitants. These represent a rich and fascinating heritage that all South Africans, and especially those who currently reside in or near the area, must cherish and protect, for the benefit of generations to come. The Baviaanskloof Mega-reserve Project provides a valuable opportunity to achieve this goal.

In order to document this remarkable heritage, and to be able to manage it in a sustainable manner, a detailed heritage assessment study, including a set of heritage resource management plans, was commissioned in 2006. This initiative included a strong stakeholder engagement component. A Baviaanskloof Heritage Route Guide, based on the detailed study, can be obtained from Eastern Cape Parks (see back cover for contact details).





# OPPORTUNITIES PROVIDED BY THE BAVIAANSKLOOF MEGA-RESERVE



**31.** The mega-reserve provides an outstanding opportunity to establish a variable land-use system that will conserve an extremely high diversity of species (including many endemics), habitats and ecosystems, and to ensure their persistence in the face of inevitable global change. In many parts, this diversity is encapsulated within a wilderness context, with visible human impacts being absent or of a localised nature (Photo: G. Spiby).

The Baviaanskloof Mega-reserve offers important opportunities in three key fields.

#### **Biodiversity conservation**

The mega-reserve will conserve biodiversity of local, regional and international significance. Its major contribution in this field has been recognized by the recent awarding of World Heritage Site status to the Baviaanskloof Nature Reserve (see Chapter 3). The mega-reserve will also incorporate large areas of relatively productive habitat, thereby providing the potential to support viable populations of indigenous medium- to large-sized mammals, including the charismatic and tourist-attracting Big Five.

#### Water provision

The Baviaanskloof Nature Reserve already plays a vital role in the provision of good quality water for downstream consumption by agriculture and human communities. The Kouga Dam, located upstream of the confluence of the Gamtoos and Groot rivers, is fed by the Baviaanskloof and Kouga rivers.



**32.** The mega-reserve offers a critical opportunity to enhance the supply of potable water to agriculture and human consumers. This will be achieved by increasing water security from the Kouga Dam to above the present level of 75%, by including as much as possible of the catchments of the Baviaanskloof and Kouga rivers. If the southern boundary of the existing Baviaanskloof Nature Reserve is extended to the Kouga River, around 75% of the Kouga-Baviaanskloof catchment will be under conservation management and this will permit the effective application of sound catchment management practices, thereby securing the supply of water (Photo: G. Spiby).

The Baviaanskloof River supplies about 35%, and the Kouga River supplies most, of the water for the Kouga Dam, which in turn delivers 100% of the water requirements of the Gamtoos River Valley irrigation area, and up to 30% of the requirements of the growing Nelson Mandela Metropole (incorporating the urban centres of Port Elizabeth, Uitenhage and Despatch). Almost the entire catchment of the Baviaanskloof River, and a substantial part of the catchment of the Kouga River, fall within the existing Baviaanskloof Nature Reserve. Similarly, the Groendal Nature Reserve and environs provides a significant part of the catchment of the Groendal Dam, which is fed by the Kwazunga River and is a critical source of water for the Nelson Mandela Metropole.

Of further importance is the fact that the water supplied by the mega-reserve is of the highest quality and this obviates the need for expensive treatment downstream to remove impurities.

From the above, the present and future importance of the Baviaanskloof area as a sustainable source of good quality water for human, agricultural, industrial and environmental consumption downstream is obvious.

#### Biodiversity and local and regional economic growth

The Baviaanskloof Mega-reserve provides excellent opportunities for commercial ventures, based on the sustainable utilization of the area's unique biodiversity, which can reverse the economic decline in the area.

#### Tourism



**33.** The Baviaanskloof Mega-reserve, which is malaria-free and enjoys good access to necessary infrastructure (e.g. roads, airports, shops), is ideal for nature-based tourism (e.g. enjoyment of scenery and climate, hiking, birding, plant- and game-viewing, wilderness experience), adventure tourism (e.g. mountaineering, mountain-biking, canoeing, horse trails, 4x4 trails) and sport tourism (e.g. sport hunting in zoned areas, fishing) (Photos: R. Cowling; G. Spiby [3]; D. Euston-Brown [1]).

#### Conservation

The development of the mega-reserve, and the appropriate development of its tourism potential, will undoubtedly provide a number of socio-economic benefits at the local, regional and national levels. Conservation linked economic development opportunities relate to initiatives on both formal protected areas (provincial nature reserves) and on privately owned land (e.g. private nature reserves). Where the latter abut the former, good potential exists for public-private partnerships, for which successful models already exist elsewhere.



**34.** *Permanent jobs can be created, particularly in the conservation management and hospitality sectors. Here the reserve manager introduces a visitor to the public recreation area at Groendal Nature Reserve (Photo: A. Skowno).* 



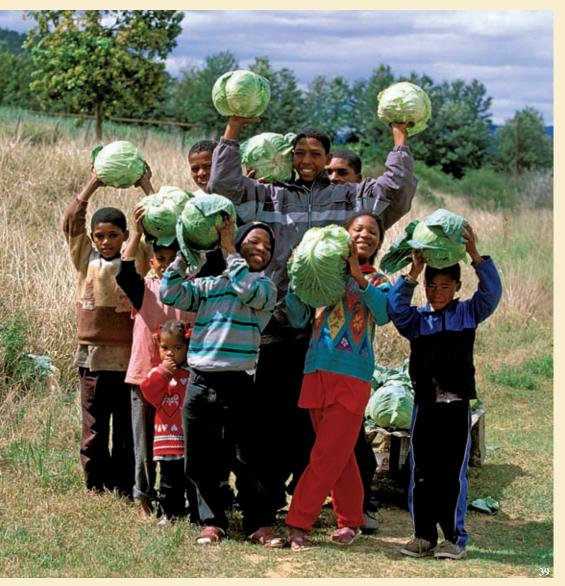
35. Casual jobs can be created, e.g. for labour intensive management projects, such as game capture, alien vegetation eradication and fencing (Photo: A. Tanner).

**36.** Jobs can be created in the service and peripheral industries, e.g. suppliers of services and materials, suppliers of skills such as builders, plumbers, caterers, tourist guides etc. This will be particularly important during the development phase of the formal protected areas within the mega-reserve, when local suppliers will be called upon to provide the materials for, and the erection or construction of, hundreds of kilometres of fencing and roads, and also tourist rest camps and other infrastructure (Photo: E. Richardson).

**37.** Opportunities for public-private sector partnerships, and for local economic development, e.g. lodge construction and operation, can be created. This luxury chalet in the western Baviaanskloof was constructed by a team of builders from the impoverished local town of Willowmore (Photo: PMU).

38. Training opportunities for local people will arise, especially in the fields of wildlife management and hospitality services (Photo: R. Cowling).

**39.** Opportunities for outlets for local produce will be presented (following page) (Photo: D. Rogers).



#### Conservation and tourism can pay

A recent (2004) study on the socio-economic profile of seven private game reserves in the Eastern Cape revealed that the switch from domestic stock ranching to conservation and tourism increased on-site employment opportunities by 3.5 times, the average wage bill by 20 times and average wages by 5.7 times. In addition, staff received additional employment benefits not typically available to farm labourers, including extensive skills training. No farm workers were laid off as a consequence of this switch.

#### Game ranching



**40.** Parts of the Baviaanskloof Mega-reserve offer excellent potential for appropriately managed game-ranching enterprises. These could include ventures to breed game for the venison market, for hunting and for live game sales. Properties can run only game, or operate mixed stock-game ventures. There is also good potential to combine game ranching with a tourism/ hospitality element, e.g. farm stays (Photo: G. Kerley).

#### Stock farming



**41.** Stock farming has been practised for many decades in large parts of the mega-reserve area and, notwithstanding its fluctuating fortunes, remains a core economic activity. It has the potential to make a significant contribution to the vision of the mega-reserve if ecologically sustainable land management principles are applied (Photo: J. Kirkman).

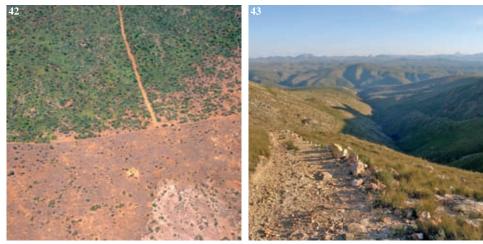
People and organizations engaging in any of the activities mentioned in this chapter, and applying sound conservation principles and practices to harness the potential of the area's unique biodiversity, will have the satisfaction of making a significant contribution to the achievement of the vision and objectives of the Baviaanskloof Mega-reserve Project.



# ENVIRONMENTAL, INSTITUTIONAL AND SOCIO-ECONOMIC PRESSURES

There are a number of pressures that are impacting on, or have the potential to impact on, the effective implementation of the Baviaanskloof Mega-reserve Project. To avoid or minimize the impacts of these pressures, the planning and implementation of the mega-reserve is being conducted in close collaboration with key stakeholders (see Chapter 8). Stakeholders that may be responsible for any of the pressures are receiving special attention. In addition, specific areas where significant pressures are present, or may occur in the future, and that contain important biodiversity, are receiving priority attention in the implementation process. Some of the pressures referred to are briefly described here.

#### **Environmental issues**



**42.** Overgrazing by domestic stock (especially goats), followed by accelerated soil erosion, siltation of river systems and reduced water quality, presents a serious threat to biodiversity conservation in parts of the mega-reserve (Photo: M. Powell).

**43.** Increasing demands are being made on the area's natural resources. For example, stock farming is being extended in mountainous areas, with attendant problems caused by new management roads to service these areas, poorly designed 4x4 tracks, and frequent burning to provide grazing for introduced game and domestic stock (Photo: M. Wing).

**44.** Fires started by man, and inappropriately located reserve boundaries, disturb the natural fire regime, thereby compromising the maintenance of fire-dependent fynbos-dominated vegetation types (Photo: D. Rogers).

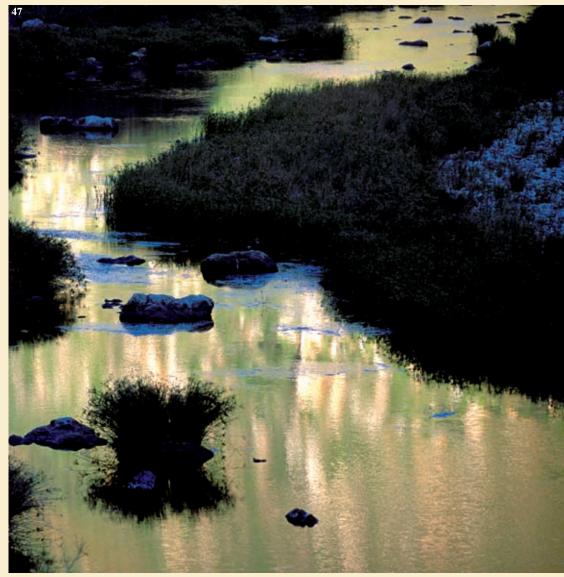




**45.** Stands of invasive alien shrubs and trees, most notably black wattle (*Acacia mearnsii*), are a threat to both biodiversity conservation and water production. The stability of the river channels is negatively impacted by invasive alien trees, especially black wattle, which fall into and block river watercourses. Alien plants also increase fuel loads, resulting in frequent and intense fires. Until these are completely eradicated, and all regrowth controlled, they will continue to pose a serious threat (Photo: D. Boshoff).

**46.** A number of alien herbivore species – such as the impala (*Aepyceros melampus*) – have been introduced onto private land in the area. Given that that these introductions may have negative ecological and economic consequences for the conservation and tourism value of the land, they will compromise its potential to be included as part of the mega-reserve (Photo: G. Kerley).

**47.** Many of the ancient endemic invertebrate forms in the mega-reserve are aquatic, or have aquatic life phases, emphasising the need for effective conservation management of the streams and wetlands. These habitats are currently threatened by incompatible land-use practices (e.g. excessive water extraction, channeling of flow, eutrophication from fertilisers) and are also extensively invaded by alien plants and fish. Alien fish prey on the endemic invertebrates, and also on amphibians and indigenous fish. The mega-reserve will make a significant contribution towards the successful conservation of this important component of South Africa's biodiversity (Photo: D. Rogers).







**48.** *Many of the old forestry management roads and tracks have become badly eroded, as have some of the more recently constructed 4x4 tracks (Photo: G. Spiby).* 

**49.** Large areas of valuable mountain catchment are being converted into croplands in some parts of the mega-reserve's planning region (Photo: D. Rogers).

**50.** Longstanding conflict exists between some stock farmers and the large mammalian predators, which form an important component of the functioning ecosystem of the mega-reserve. Of particular concern is the impact of this on the local population of the leopard (**Panthera pardus**). (Photo: *Q. Martins: Cape Leopard Trust*).

#### **Institutional issues**

Although much progress has been made, the relatively low capacity of Eastern Cape Parks to effectively manage the formal protected areas (reserves) is a matter of concern. The very low capacity of the Department of Economic Development and Environmental Affairs (Eastern Cape) to plan and manage off-reserve conservation initiatives provides much cause for concern. It is critically important that these managing authorities make sufficient resources available to ensure the successful implementation of the Mega-reserve Project, and the maintenance of the integrity of the Baviaanskloof World Heritage Site. The Baviaanskloof Nature Reserve is classified by Eastern Cape Parks as one of its five "flagship" reserves in the Eastern Cape, and the low management capacity has been identified as a problem that requires ongoing attention.



**51.** There is progressive deterioration of infrastructure (e.g. roads, buildings, communications) and cultural artefacts (e.g. historical houses, rock paintings) within the mega-reserve area. Unless urgent steps are taken to improve institutional capacity and resources, this deterioration will continue and some artefacts will be lost forever, whilst others will become extremely expensive to rehabilitate (Photo: C. Urguhart).

#### Socio-economic issues



**52.** A number of developments are taking place, or are being planned, within the mega-reserve planning domain, especially in the coastal zone. Whilst some have management goals that are consistent with those of the mega-reserve, others may not and these present a threat to its integrity. (Photo: A. Boshoff).

**53.** Because of the high incidence (about once in every 10 years) of major flood events, the Baviaanskloof is largely unsuitable for crop-based agriculture. Each major flood reduces the area of arable land and reshapes the valley floor. For example, it has been estimated that the 1916 and 1932 floods removed almost half of the arable land in the lower Kouga River catchment. In addition, extensive loss of costly infrastructure, especially roads, causeways and telephone lines, usually accompanies each major flood (Photo: R. Cowling).

Although much has been accomplished by the Project Management Unit since 2003, there is still a general lack of awareness of the value of biodiversity and the services it provides and a focused and ongoing education programme is required to address this issue. The recently completed (2007) World Heritage Site Interpretive Centre at the eastern gateway will make an important contribution in this regard. There is still some uncertainty over the objectives and potential benefits of the megareserve and its possible impact on the livelihoods of local people; this will need to be addressed on an ongoing basis.

There are a number of stakeholders and other interested and affected parties in the conservation and tourism fields that are active in the Baviaanskloof area. Although most of them have broadly similar goals and co-operation is good, there is sometimes a lack of synergy and the approaches employed differ, occasionally leading to tension. This could delay the attainment of common goals.



# THE BAVIAANSKLOOF MEGA-RESERVE CONSERVATION STRATEGY

To guide the development and implementation of the Baviaanskloof Mega-reserve, a series of cascading complementary planning products, including, inter alia, a broad medium-term (2004-2007) Conservation Strategy, were compiled.



The Conservation Strategy document is available at www.baviaanskloofmegareserve.co.za.

The Conservation Strategy has the following cascading components:



The Guiding Principles for the strategy are listed below:



### Vision for the Baviaanskloof Mega-reserve Project:

Expanding the conservation estate of the Baviaanskloof for the benefit of all.

### **Principle underlying the vision:**

Creating an ecologically, economically and socially sustainable conservation area, incorporating private land, formal protected areas and communal areas.

The Conservation Strategy addresses, inter alia, the following set of mega-reserve objectives:

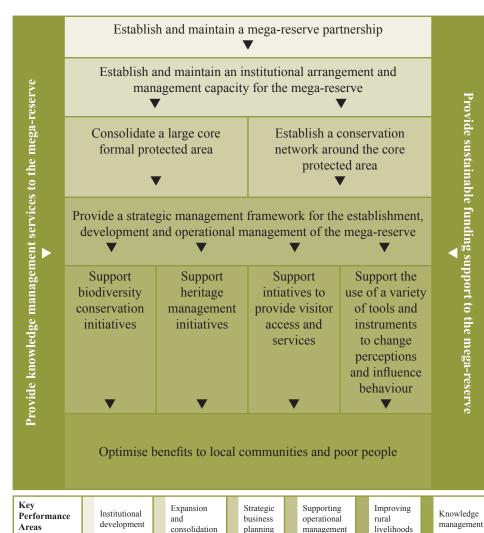
- The establishment, nurturing and expanding of partnerships as a means of equitably sharing the multiple benefits of the mega-reserve.
- The expansion of the conservation estate, focusing on priority areas.
- A general acceptance of conservation as an alternative and productive land use, thereby creating a new opportunity for local and regional economic growth.
- The payment for ecological services, notably the provision of potable water, to create new income streams and associated opportunities for job creation and economic growth.
- The implementation of a nature-based tourism plan, to stimulate and guide the development of local and regional tourism-related ventures.
- The sustainable harvesting and utilization of natural resources, in certain areas.
- The targeting of socially and environmentally responsible private investments for tourism and related small enterprises.
- The support of small-scale businesses from local communities, and the development of entrepreneurial and technical skills in local communities, to deliver services to the nature-based economy of the mega-reserve.

The Conservation Strategy addresses six Key Performance Areas (KPAs), the objectives of which are given in Table 2. Details of strategic actions and activities can be found at the website address (previous page).

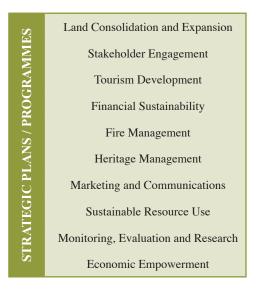
### Table 2: The objectives of the six Key Performance Areas of the Conservation Strategy.

Key Performance Areas	Objectives	
1. Institutional Development	<ul><li>a. To establish and maintain active partnerships between statutory authorities and civil society that will support the establishment and management of the Baviaanskloof Mega-reserve.</li><li>b. To develop the institutional arrangements, capacity and resources to support the implementation of the mega-reserve.</li></ul>	
2. Consolidation and Expansion	<ul><li>a. To consolidate a core formal protected area.</li><li>b. To establish a conservation network around the core protected area.</li></ul>	
3. Strategic and Business Planning	<ul><li>a. To develop a vision and strategic management framework for the mega-reserve that provides for continual improvement in its management.</li><li>b. To develop the potential for financial sustainability of the mega-reserve, without compromising its ecological and socio- economic sustainability.</li></ul>	
4. Supporting Operational Reserve Management	<ul><li>a. To promote the long-term conservation, use and restoration of the biodiversity and heritage resources.</li><li>b. To promote the provision of a unique experience and world-class service and facilities to visitors.</li><li>c. To develop an appreciation and understanding of the bio-physical and socio-economic significance of the mega-reserve.</li></ul>	
5. Improving Rural Livelihoods	To realize opportunities for, and equitable distribution of, benefits to surrounding rural communities.	
6. Knowledge Management	To ensure that the improving management of the mega-reserve project is guided by the application of relevant scientific research and monitoring, resulting in information that is readily accessible to managers and relevant stakeholders.	

The linkages between the mega-reserve project objectives, in relation to the six Key Performance Areas, are illustrated in the diagram below.



The Strategic Plans/Programmes that align with the Key Performance Areas include the following themes:



Important activities associated with some of the above themes are described in Chapter 8.



## 8

## THE BAVIAANSKLOOF MEGA-RESERVE PROJECT AT WORK



Substantial progress has been made in the implementation phase of the Mega-reserve Project. This chapter highlights some of the strategic and operational activities that flow from the Conservation Strategy (see Chapter 7). They illustrate how the mega-reserve's vision is being achieved through innovative partnerships and projects that involve people and institutions representing government and civil society. All the activities mentioned have direct and indirect benefits for the local communities, private landowners and formal protected areas. In order to capture their context, the topics below are grouped according to the Conservation Strategy's six Key Performance Areas.

#### **Key Performance Area 1: Institutional Development**

#### STAKEHOLDER ENGAGEMENT: GETTING PARTNERS ON BOARD

A wide diversity of people reside within the Baviaanskloof Mega-reserve, which encompasses land occupied by rural communities (including local communities, commercial farmers [stock farming and irrigated crops], farm labourers, tourism practitioners and conservation agency staff), and a number of urban communities. In addition, descendants of the occupiers of the land in pre-historical times form an important stakeholder group. Broadly overseeing the activities within this mosaic of landowners, land occupiers, land managers and land uses are cascading spheres of national, provincial and local government. Of particular importance are the respective roles of the two District Municipalities (Cacadu, Eden), three Local Municipalities (Baviaans, Koukamma, Kouga), and one Metropolitan Municipality (Nelson Mandela) that are represented in the mega-reserve planning region.

A Stakeholder Engagement Programme is therefore an important component of the mega-reserve's Conservation Strategy, and a key requirement of the donor organizations that are providing funding support for the initiative. It has three main aims:

- a) To create an awareness of the vision, objectives and potential benefits of the mega-reserve project.
- b) To foster active participation in project design and implementation.
- c) To explore possibilities for future partnerships.

Participatory methods and materials used by the Baviaanskloof Mega-reserve Project Management Unit vary widely and depend on the profile of the stakeholders in question. Some key activities are briefly described below.

#### **Direct engagement**

Since the launch of the Stakeholder Engagement Programme in 2003, well over 1000 direct stakeholder interactions have taken place. Important stakeholders interacted with include private landowners, farm labourers, provincial conservation staff, local communities, tourism operations, organised agriculture and local government (municipal) officials. A wide range of stakeholders is represented on the Baviaanskloof Steering Committee, the principal formal tool for project-stakeholder interaction, which meets quarterly.



**54.** Various stakeholders contributed to the development of the vision and objectives of the Megareserve Project, and identified preferred methods of engagement by the Project Management Unit. These comprise one or more of the following: presentations, workshops, multiple participant meetings, one-on-one meetings, focus groups, committees, email and land mail. (Photo: PMU)

#### **Partner Programme**

The Baviaanskloof Mega-reserve Partner Programme was created as a means to form a link with those land owners and tourism service providers within the mega-reserve area who can show that they identify with, and support the concept of, the mega-reserve. More specifically, they need to ascribe to the vision and the underlying principles for the mega-reserve (see Chapter 7). Those who conform to these key requirements have the option to show their support for the Mega-reserve

Project by becoming either a Proud Partner or a Tourism Partner. This support is reciprocated by the Mega-reserve Project, which in turn expresses support for the activities of the private sector partner. The partner is issued with a certificate that carries five conditions which must be adhered to, and that is signed by an appropriate representative of Eastern Cape Parks and the Co-ordinator of the C.A.P.E. Project. An annual review process has been built into the Partner Programme to maintain standards associated with branding, the use of the logo and marketing in general. This is seen as a constructive opportunity to constantly improve communication between the partners and the Mega-reserve.



**55.** To formalise participation in the Baviaanskloof Mega-reserve Partner Programme, the Megareserve Project provides the partner with a signboard that can be displayed at the entrance to the property or the tourism establishment. Here officials of the Koukamma Local Municipality receive their signboard. The Tourism and/or Proud Partner may use the logo on brochures, websites or correspondence related to the establishment. To date, 84 Proud Partners (70% of a potential total of 120), and 85 Tourism Partners, have joined the Partner Programme. (Photo: Laura-Leigh Randall).

#### **Art Competition**



**56.** As a pilot project, the Mega-reserve Project ran an art competition to determine the degree of interest and awareness of the project at primary and secondary school level. Schools from the Baviaanskloof area and from neighbouring towns, and even from as far as Port Elizabeth, participated in the competition. The prizes included art hampers and trips to the Baviaanskloof Nature Reserve. The pilot project was highly successful and Eastern Cape Parks has been requested to run this competition as an annual event. (Photo: PMU).

#### **Decision Maker Trails Project**

A two-year Baviaanskloof Decision Maker Trails Project, involving the running of eight guided wilderness trails into the wilderness zone of the Baviaanskloof Nature Reserve, and supported by the Critical Ecosystems Partnership Fund, was launched in 2007. Participants on these trails are

carefully selected decision makers from the region and they range from local community leaders and youth groups to key municipal officials and leaders in the agricultural sector.

One of the key aims of the project is to promote an appreciation, by the participants, of the region's outstanding biodiversity, and by so doing to develop an understanding of the benefits and services supplied by the Baviaanskloof Mega-reserve, which contains much of this biodiversity. It is also envisaged that the experience will better equip participants in their roles as decision makers in a range of important activities that will, or may, affect the development and future management of the mega-reserve.



**57.** The feedback received from participants on the first three Decision Maker Trails in the Baviaanskloof Nature Reserve has been very positive. They greatly appreciated the opportunity to be exposed to the unique wilderness experience that the Baviaanskloof offers, and to learn about the biodiversity-based socio-economic development potential provided by the mega-reserve. (Photo: PMU).

#### Volunteer groups



#### **Indirect contact**

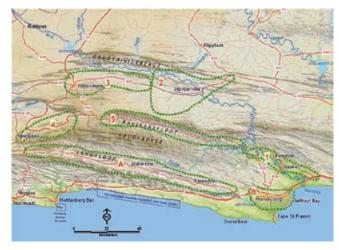


#### **Open Africa routes**

In order to highlight tourist activities in the broader mega-reserve area, which includes the Baviaanskloof Reserve Cluster and surrounding towns, with the aim of attracting potential tourists and getting them to stay for extended periods, funding was secured from Rand Merchant Bank to develop an internet-based tourism route, in association with the Open Africa initiative and based on the Afrikatourism concept.

**58.** A volunteer group from civil society – the Mountain Club of South Africa – makes significant contributions to the Mega-reserve Project in three fields, namely, provision of advice on climbing activities, assisting in search and rescue operations, and contributing to the compilation of a cultural heritage database for the area. Another group - the Friends of the Baviaanskloof Wilderness Area (FOBWA) – provides welcome support to the Mega-reserve Project and Eastern Cape Parks in a number of ways, for example through field data collection and the monitoring and regulating of visitor activities. (Photo: D. Penkler).

Additional engagement and awareness creation instruments that have been used are a dedicated project website (www. baviaanskloofmegareserve.co.za) with links to other websites, information brochures, specialized pamphlets, media releases, the South African National Biodiversity Institute's Eastern Cape Bioregional Programme newsletter, a Baviaanskloof Mega-reserve Project newsletter, magazine articles, resource packs and information packs. A poster display is used at appropriate venues. The Mega-reserve Project and Open Africa created the internet-based routes through a series of participatory workshops, to ensure that they include all the major cultural and natural heritage attractions and to ensure that the accommodation sites are linked and advertised on the virtual route. The website (see www.africandream.org) includes information on the region, activities and accommodation, and has route maps that potential visitors can access. Website viewers can interrogate the maps down to the finest details of what they want to see and experience, while suppliers of facilities and providers of services can market their wares in a cost efficient and effective manner.



*Map 3:* Seven Open Africa routes have been created in the Baviaanskloof Mega-reserve and surrounds; details can be found on the website provided here. The individual routes are: (1) Gamtoos Valley Route; (2) Steytlerville Scenic Route; (3) Willowmore Gateway; (4) Western Gateway; (5) Baviaanskloof Heritage Route; (A) Langkloof Route; (B) Coastal Gateway. To date, 144 tourism related ventures on these routes are formally linked to the Open Africa website.

#### **Specialised Task Teams**

Five specialized Task Teams (TTs) were created for the purpose of providing guidance and assistance to the Mega-reserve Project. The teams - a Stakeholder TT, a Land Consolidation TT, a Tourism Working Group TT, a Financial Sustainability TT and a Scientific TT - provided specialised inputs and services to the project, through the Baviaanskloof Steering Committee.

#### SKILLS DEVELOPMENT: EMPOWERING THE PEOPLE

To assist people living in the mega-reserve area to derive tangible benefits from the mega-reserve initiative, the Mega-reserve Project secured funding and organised a series of training courses aimed at improving the skills levels of local people in a range of fields.

#### **Tourism training**

As a contribution to the empowering of local communities, the Baviaanskloof PMU secured funding from the Critical Ecosystems Partnership Fund (CEPF) and launched an initiative to train 50 community members from the western Baviaanskloof, Patensie, Willowmore, Steytlerville and Langkloof districts. This training was designed to assist them to understand the tourism industry and to start their own small business ventures, with the intention of tapping into the growing tourism market associated with the Baviaanskloof Mega-reserve.

The Baviaans Local Municipality (BLM) partnered the Mega-reserve Project in this endeavour by providing catering for the trainees within their municipal boundaries and by facilitating the advertisement and selection process for the candidates. Individuals with existing informal business ventures indicated that the training assisted them to "plan" and "manage" their ventures as small 'organised' businesses. The training has also created opportunities for some local community members to participate in the tourism routes and to receive free marketing services. For example, all individuals who developed tangible skills collectively approached the BLM tourism office to arrange for their products to be sold at the BLM Information Centre in Willowmore.



**59.** The modules included in the Megareserve Project's tourism training initiative dealt with tourism awareness, sustainable tourism development, starting a business and an introduction to business planning. (Photo: PMU).

#### Other training programmes

A skills training programme was conducted as part of the Poverty Relief Project of the Department of Environmental Affairs and Tourism's (DEAT) Expanded Public Works Programme, with a budget of R616 350. A skills audit of the 270 employees, which was constantly updated, was conducted and a comprehensive training programme (based on the skills audit and approved by DEAT) was compiled. It fully complied with a key training requirement in the Project Business Plan, namely a target of 8 218 training days. The training programme allowed for two training days for every month that each person worked on the project. To assist in the achievement of these goals, two successful applications for training support were submitted to the Department of Labour.



**Beekeeping training** 



**61.** The beekeeping training and mentoring component is being conducted over a twoyear period. During the first year, the trainees attend a three day Beekeeping Certification Course (Level 1) on site in the Baviaanskloof, where they reside. This will enable them to learn the basics of beekeeping and to be able to assemble beehives, catch swarms, place them in hives, and perform basic hive manipulations. Regular mentoring visits will take place. During the second year, the trainees will attend an Advanced Beekeeping Certification Course. (Photo: PMU).

**60.** From 2005 to 2007, thirty-four training courses for 270 Poverty Relief Project

employees were arranged by the Mega-

reserve Project. These dealt with a diverse

array of topics, all designed to develop

or improve the skills of the participants in

the various fields covered by the courses.

Broadly, the major fields covered were arts and crafts, tourism, conservation activities,

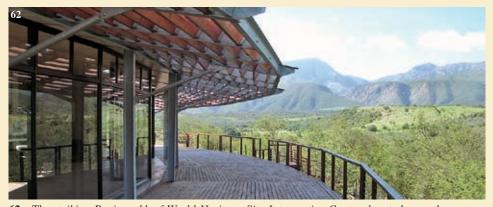
environmental education, construction activities, health and safety issues, family planning, personal finance, employment issues, business management, tool use and

road maintenance. (Photo: PMU).

Nine members of the local Baviaanskloof community are being trained as beekeepers, to enable them to acquire the skills to produce products from honey, which in turn can contribute to their income and improve their socio-economic status. Envisaged products include honey, beeswax (for molds, candles, etc), honey beer and bee venom. Initially, this initiative is taking the form of a partnership between the local communities and Eastern Cape Parks. Additional key partners are the Makana Meadery and Rhodes University, both in Grahamstown, which will conduct the initial and follow-up training, and provide assistance with marketing etc. In the future it is hoped that a partnership will develop between the local communities and private, commercial landowners in the region.

#### WORLD HERITAGE SITE INTERPRETIVE CENTRE: SHARING INFORMATION

The Baviaanskloof World Heritage Site Interpretive Centre serves as a focal point for visitors to the Baviaanskloof Mega-reserve. Its interpretive and audio-visual facilities have been designed to provide an ideal introduction to this area. Tourism activities associated with the Centre include guided or unguided tours through the Centre, guided or unguided walks in the surrounding veld or to a rock art cave on the newly incorporated Wilderness Foundation property 'The Havens'. The Centre also has a conference facility that can seat up to 50 people and can be booked (through Eastern Cape Parks) for meetings, workshops and training courses that have relevance to the overall aims of the World Heritage Site.



**62.** The striking Baviaanskloof World Heritage Site Interpretive Centre, located near the eastern boundary of the Baviaanskloof Nature Reserve, was officially opened on 6 December 2007. It contains displays with information on the natural and cultural heritage of the reserve and has up to date maps and information leaflets for visitors to take away. There are also outdoor displays that depict examples of the mega-reserve's natural assets. (Photo: PMU).

## SUPPORT FOR RESERVE MANAGEMENT: GROWING TO MEET THE CHALLENGE



The management of the nature reserves in the Baviaanskloof Reserve Cluster - the protected area core of the Baviaanskloof Mega-reserve - is the responsibility of Eastern Cape Parks (ECP). The fact that the annual operational budget of the Cluster (R9.5 million in 2008; excluding The Island Nature Reserve, west of Port Elizabeth) has doubled since 2004, and that R15 million has been spent on land purchases since then, confirms that ECP has a significant role to play in the establishment of the megareserve. Notwithstanding the increase in the annual operating budget, substantial funding for ECP is still required to achieve the objectives of the mega-reserve (see Key Performance Area 4: Financial Feasibility Plan).

#### **Key Performance Area 2: Consolidation and Expansion**

#### **EXPANDING THE CONSERVATION ESTATE**

The Land Consolidation and Expansion Programme ("Land Programme") has two thrusts - (a) spatial planning and (b) consolidation and expansion - and is guided by a set of defined principles and objectives. It has two main aims:

- to consolidate and expand the existing formal protected area estate within the mega-reserve's planning region, and
- to include private land, on a voluntary basis, that is managed according to conservation principles and practices.

#### **Spatial planning**

The Land Programme is underpinned by the outcomes of a process that sets out to identify and prioritise land, for incorporation into the Baviaanskloof Mega-reserve, which would best contribute to achieving the vision of the mega-reserve. This process comprised a series of spatial planning actions at the regional and farm scales.

#### From the mountains to the sea – a biodiversity corridor

Three large perennial rivers- the Kouga River, draining the Kouga Mountains in the southwest - the Baviaanskloof River, flowing through the Baviaanskloof in the north-west - and the Groot River, draining part of the Nama Karoo to the north - meet to the south-east of the Baviaanskloof to form the Gamtoos River. This river meanders along the broad Gamtoos River Valley, which crosses a gently undulating coastal plain on its way to the sea. Thus, the Gamtoos River Valley forms a natural linkage between the mountainous interior of the Baviaanskloof area and the coast, in the vicinity of the town of Jeffrey's Bay. The coastal and valley bottom areas have been identified by the C.A.P.E. and STEP projects as being in urgent need of conservation attention. Consequently, one of the objectives of the megareserve project is to implement a biodiversity corridor that links the mountains to the sea, incorporating these important habitats, which will allow for plants and animals to be conserved there and to enable them to move in response to climate change. To implement this corridor, individual projects involving local farmers, other landowners and resident communities in appropriate conservation initiatives in this zone, are required.



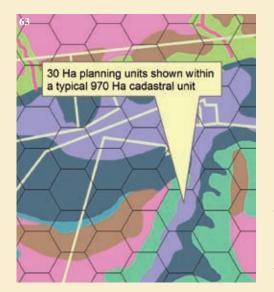
#### Regional scale planning

#### Step 1: Choosing a planning region

An important early step in the spatial planning phase of the Mega-reserve Project was the choice of a project planning domain or region. The following factors were considered in this action:

- The cluster of existing provincial nature reserves in the greater Baviaanskloof area.
- The diverse array of important biological gradients, biome transitions and large-scale ecological processes and biodiversity patterns in the region.
- Areas critical for water catchment management.
- The spatial planning outcomes of the STEP Project and the Eastern Cape Biodiversity Conservation Plan.
- Regional conservation initiatives and potential linkages.
- Management and project implementation realities and priorities.

A planning region of approximately 1 million ha (10 000 km<sup>2</sup>), wherein mega-reserve planning is focused in the short- to medium-term, was delineated (Map 1). The Baviaanskloof Mega-reserve, which lies within this demarcated area, will never be fixed in size and shape since it will expand as additional properties are included through time. It will comprise state-owned provincial nature reserves and private land, the latter in the form of conservancies, private nature reserves and agricultural land where conservation farming principles and practices are adopted.



**Step 2:** Identifying appropriate planning units Planning units are an essential part of the conservation planning process, where they are used in the various calculations and summarisation steps. They are also used to facilitate further planning and management decision-making.

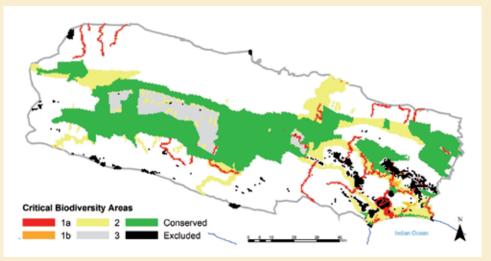
**63.** For the mega-reserve conservation planning exercise, a coverage of 30 ha hexagons was generated for the planning area, this because standardised planning units are generally easier to use than cadastral planning units. However, final outputs can be generalised to the cadastral level.

#### **Step 3:** Compiling a spatial conservation plan

The main objectives of this planning action are:

- a) to focus conservation efforts on biodiversity-rich areas, and on areas where ecological processes can be maintained in the long-term, and
- b) to ensure that the conservation and spatial planning outputs are aligned with the goals and obligations of the implementation agencies, and that they include socio-economic factors relating to tourism and other conservation-friendly land-uses.

More specifically, the Conservation Plan (= spatial biodiversity assessment) is aimed at supporting and informing regional biodiversity planning and conservation initiatives conducted by the relevant local and district municipalities (especially through their Spatial Development Frameworks), and also for guiding further expansion and consolidation plans for the nature reserves in the Baviaanskloof Cluster (Baviaanskloof, Groendal and Formosa, and their satellite sections).



**Map 4:** Critical Biodiversity Areas (red = high category; grey = low category), which form the key outputs of the Baviaanskloof Mega-reserve Conservation Plan. They will be used for guiding and prioritising further planning and implementation actions, especially consolidation and expansion initiatives. Note the linkage from the mountains to the sea.

For the Conservation Plan that was compiled for the Baviaanskloof Mega-reserve planning domain by the Project Management Unit (see www.baviaanskloofmegareserve.co.za), a set of complex and

highly technical conservation planning procedures was followed. This process commenced with a *pre-assessment layer preparation stage*, that dealt with aspects such as planning domain, planning units, protected areas, transformation and degradation and other land use pressures, landowner willingness, and terrestrial and aquatic biodiversity. This was followed by a *conservation assessment stage* that incorporated a conservation status assessment, an 'irreplaceability' analysis and a design phase. The main output of the Conservation Plan is in the form of a map of Critical Biodiversity Areas (CBAs) (Map ??). These CBAs will now be used, via a bioregional planning process, to develop specific guidelines for land use decision-making for the Baviaanskloof Mega-reserve and adjacent areas, and for the expansion and consolidation of reserves in the Baviaanskloof Cluster. For example, and following the approach used in the 2007 Eastern Cape Biodiversity Conservation Plan (see www.dwaf.gov.za), the CBAs have been linked to Biodiversity Land Management Classes, which relate to "the desired ecological state that an area should be kept in to ensure biodiversity persistence".

#### Farm scale planning

This involves the planning and provision of farm scale decision support and is geared to making informed and defensible decisions with regard to individual farms and farmers. The creation of a landowner database and the development of an understanding of landowner concerns and needs is a vital part of this component.

#### The Baviaanskloof Mega-reserve and municipal level land-use planning.

The planning region straddles parts of the areas administered by two District Municipalities, three Local Municipalities and one Metropolitan Municipality. Given that key land use planning decisions are made at local government level, co-operation between these local authorities and the mega-reserve project is essential. In this regard, the two main municipal planning instruments are the Integrated Development Plan (IDP) and its associated Spatial Development Framework (SDF). Each local authority is legally required to produce, and regularly update, these documents. The Project Management Unit provides inputs into these documents, to achieve alignment with the vision and aims of the mega-reserve.

#### SKEP (www.skep.org)

The western section of the planning area for the mega-reserve includes parts of the Succulent Karoo Biome. SKEP (Succulent Karoo Ecosystem Programme) was initiated in 2001 to identify and generate broad consensus around a shared vision and set of conservation goals for this threatened biome. The one-year planning process combined a comprehensive scientific analysis with broad land-user participation. The implementation phase of SKEP is currently in progress.

#### **Consolidation and expansion**

The incorporation of land into the mega-reserve is being pursued according to three different mechanisms:

#### a) Land purchases



b) Stewardship/conservancies

**64.** Since 1987, a total of 31 263 ha of land of high conservation value has been added to the formal conservation estate of the Baviaanskloof Nature Reserve, including its Welbedacht section. Of this, 15 332 ha was privately funded and 15 931 ha was state funded. Of the total of 31 263 ha, 14 067 ha has been acquired since the Baviaanskloof Mega-reserve Project was launched in late 2002. (Photo: G. Spiby).



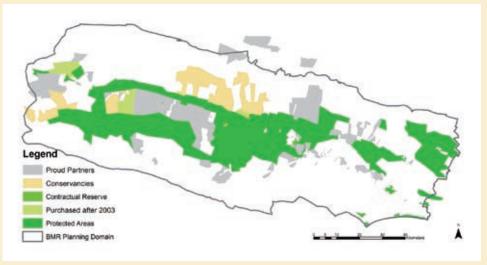
This involves the use of a range of agreements and/or contracts (e.g. leases, fixed-term contracts, cooperation agreements) between landowners and Eastern Cape Parks. This land will form the greater part of the mega-reserve. Currently there are five registered conservancies in the mega-reserve, encompassing approximately 76 000 ha, and approximately 160 000 ha is owned by members of the Proud Partner Programme.

A package of financial and non-financial incentives is being developed to facilitate agreement by landowners to incorporate their land into the mega-reserve.

#### c) Donations



**65.** Conservation-minded landowners are encouraged to donate their land to the megareserve. At the opening function for the World Heritage Site Interpretive Centre in December 2007, the Wilderness Foundation signed 405 ha of land over to Eastern Cape Parks for 30 years, to form the first contractual nature reserve in the Eastern Cape. (Photo: A. Boshoff).



**Map 5:** Land incorporated into the Baviaanskloof Mega-reserve (to February 2008) through purchases, stewardships/conservancies and donations

#### Key Performance Area 3: Strategic and Business Planning

#### LANDOWNERS AND TOURISM: UNLOCKING THE POTENTIAL

A tourism and recreation development plan has been compiled to guide the long-term development and management of nature-based tourism and recreation in the Baviaanskloof Mega-reserve. As part of this plan, a strategic framework was placed in a theoretical framework, in order that the plan is aligned with current international thought on the subject and with current issues affecting responsible tourism.

The vision statement for tourism in the Baviaanskloof Mega-reserve is "To strive for the development of a world class nature-based tourism destination that is economically sustainable and optimises benefits to local communities and the nation, within agreed limits of acceptable change".

The aims associated with this vision are:

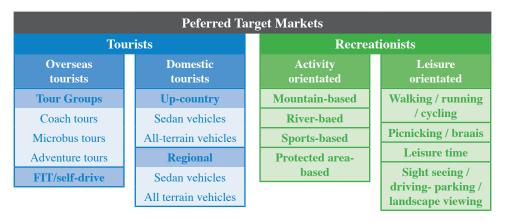
- To establish the Baviaanskloof Nature Reserve as a primary tourism and recreation attraction that may encourage tourism related economic activity on privately owned land within the mega-reserve.
- To conserve the tourism resource base of the mega-reserve.
- To optimize economic returns from tourism in mega-reserve.
- To increase the participation of host communities in the tourism industry of the mega-reserve.
- To ensure a high quality visitor experience.

The mega-reserve straddles provincial and municipal boundaries and it includes sections of tour routes that stretch from Cape Town to the Addo Elephant National Park. It therefore needs to be viewed within a spatial context relative to the Garden Route, the R62 (Little Karoo) and the Eastern and Western Cape tourism plans. Its spatial location relative to these tourism economies forms its potential, and poses certain constraints to tourism development.

In order to achieve the stated high-level tourism development aims of the mega-reserve, it is proposed that a tour route that links its eastern section to the Tsitsikamma and Addo Elephant national parks be established. This route is aimed primarily at the overseas tourist market and its planning aim would be to encourage overseas visitors to overnight at the proposed Goedehoop Tourist Node in the eastern section of the Baviaanskloof Nature Reserve, before proceeding to the Addo Elephant National Park.

The Baviaanskloof Mega-reserve has the potential to serve the domestic South African and overseas tourist markets, and has a responsibility to provide recreational products to its neighbouring communities. The development plan acknowledges that tourists and recreationists have differing needs and demands and thus deals with the two entities as separate, but interlinked, entities.

The preferred tourist market segments to target for the mega-reserve were identified through stakeholder workshops and are summarized below:

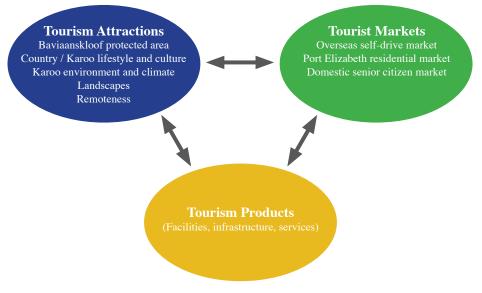


The tourism development plan recognises a number of concepts, in order to make it easier to implement:

- 1. Integration of the Baviaanskloof Mega-reserve into the regional tourism economy.
- 2. Contribution to the regional economy.
- 3. Development of the Baviaanskloof Nature Reserve as a separate entity to privately owned land in the Baviaanskloof Mega-reserve.
- 4. Branding of the Baviaanskloof Nature Reserve as a remote and wild nature-based tourism area.
- 5. Conversion of 'The Baviaanskloof' from a transitory travel route to a tourist destination.
- 6. Management of access to the Baviaanskloof Nature Reserve.
- 7. Planning of the Baviaanskloof Mega-reserve in zones and phases (see Box 6).
- 8. Focusing on preferred tourist market segments.
- 9. Differentiation between tourism and recreation.
- 10. Future of non-permanent structures.

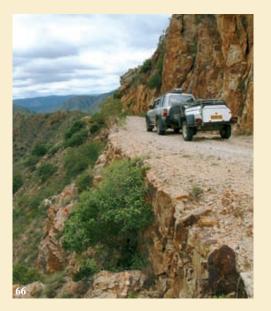
Tourism products and infrastructure will be planned to meet the needs, demands and expectations of the targeted market segments. Potential tourism products are identified for targeted market segments

to make use of the natural tourism resources and attractions of the mega-reserve, as depicted in the figure below.



#### Box 6: Tourism Development Areas (TDAs)

The Baviaanskloof Mega-reserve is a dynamic entity. It will grow in size and shape over time as additional land is acquired by Eastern Cape Parks, and as private landowners formalise their association with it. However, for the purposes of strategic tourism and recreation development planning, the mega-reserve has been divided into zones or Tourism Development Areas (TDAs), namely a Western TDA, a Central TDA, an Eastern TDA and an Outer TDA. Each of these zones has distinctly different tourism images, resources and attractions that will appeal to different segments of the preferred tourist and recreation markets. A detailed tourism development plan has already been compiled for the Central TDA, which contains the most wild and rugged part of the mega-reserve (i.e. true 'wilderness'); this zone is the primary attraction area of the Baviaanskloof Mega-reserve, and the asset on which its brand is based.



66. There is good evidence that the Baviaanskloof Mega-reserve Project, and the awarding of World Heritage Site status to the Baviaanskloof Nature Reserve, has served to stimulate the growth of the local naturebased tourism industry. For example, by the end of 2007, there were at least 37 tourism ventures operating in the western sector of the Baviaanskloof and the neighbouring Willowmore and Steytlerville areas, and at least 30 in the Gamtoos River Valley region in the east. Most of these ventures, which offer a range of tourism products, including accommodation, hiking trails, birding, 4x4 trails, horse riding and rock art visits, commenced operation since 2000, when steps were taken by conservation organisations to promote the biological importance and tourism attractions of the Baviaanskloof and surrounds. (Photo: G. Spiby).

#### FINANCIAL FEASIBILITY PLAN: DOING THE SUMS

The Baviaanskloof Mega-reserve has considerable economic development potential but to achieve this potential a co-ordinated effort between several government departments and entities - locally, regionally and nationally - is required. The Mega-reserve Project must be accepted as a priority by the Executive Council of the Eastern Cape Government, to ensure that this co-ordination and commitment occurs. Eastern Cape Parks (ECP) is considered the most appropriate lead agency for the Mega-reserve Project. If the Baviaanskloof Reserve Cluster is to effectively fulfil its role as the core protected area for the mega-reserve, and the Baviaanskloof Nature Reserve is to maintain its integrity as a World Heritage Site, then current funding levels by the national and provincial governments need to be significantly increased. Similarly, additional resources must be made available to effectively manage the off-reserve component of the mega-reserve project.

The tourism plan identified a range of tourism developments and activity concessions (e.g. lodges, campsites, hiking trails, 4x4 routes), for which it is estimated that the capital cost to the state will be approximately R26 million, with a further R33 million required from the private sector. The estimated annual cost of operating the tourism component is R3.2 million and 160 direct jobs will be generated. It is estimated that once the biodiversity management programme (e.g. fire management, clearing of invasive alien plants, patrolling, monitoring) has been developed and established it will cost approximately R13 million per year to manage; this programme will require about 105 staff (in addition to the 160 for tourism management), at a cost of around R6 million. In 2007, the Baviaanskloof Reserve Cluster had 89 permanent employees.

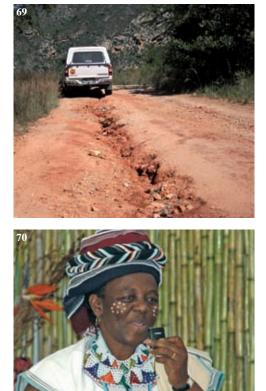


**67.** Tourism-related economic development in and around local rural towns has been boosted by conservation initiatives associated with the Baviaanskloof Nature Reserve and the World Heritage Site. For example, the small town of Patensie – at the eastern "gateway" to the Baviaanskloof – has seen the establishment of over 25 hospitality ventures, in town and on local farms, since the launch of the Megareserve Project (Photo: A. PMU).



**68.** Additional development capital of around R22 million is required to finance infrastructure development (e.g. education centre, gates, staff facilities, fencing, signage) and vehicle purchases for the Baviaanskloof Reserve Cluster. (Photo: PMU).

With a projected (10 year) estimated annual tourism turnover of about R20 million, the estimated gross income to ECP from tourism will be approximately R4.3 million, to which can be added a further R1 million from the sale of buffalo. This gives an estimated (early 2007 values) annual income of R5.3 million. With an estimated total annual operating cost of R17.9 million (for tourism, biodiversity, maintenance and vehicle replacement), a net annual provision of around R12.6 million will be required from ECP. A wider economic assessment suggests that tax revenues to the state could be approximately R6.6 million per year, with as many as 340 direct and indirect jobs being created.



**69.** Owing to its importance for the tourism industry, the public road through the Baviaanskloof Nature Reserve will need to be rehabilitated and properly maintained. The possibility of this road being deproclaimed and responsibility for it passing to Eastern Cape Parks needs to be investigated (Photo: A. Boshoff)

**70.** There is strong political support for the Baviaanskloof Mega-reserve Project, witnessed here by Mrs Nosimo Balindlela, Premier of the Eastern Cape Province Government, officially opening the Komdomo tourist camp and launching the Conservation Strategy, in September 2004. It is imperative that this is now translated into ongoing operational support to develop and manage the reserves in the Baviaanskloof Reserve Cluster to world-class standards (Photo: E. Richardson).

#### Key Performance Area 4: Supporting Operational Reserve Management

#### **RESTORATION: HEALING THE LAND**

Over the past 200 years, man's activities have transformed or degraded large areas within the megareserve's planning region, thereby reducing their overall ability to function as parts of a natural ecosystem and to provide valuable ecosystem services. Restoration of impacted habitats is therefore an important requirement if the vision and objectives of the Baviaanskloof Mega-reserve Project are to be met. This section briefly describes three components of this programme.

#### Bringing back the Subtropical Thicket

Overgrazing has seriously degraded large tracts of subtropical thicket in parts of the Baviaanskloof area. This plant biomass is vital for continued ecosystem functioning and long-term sustainability. A large percentage of the lost biomass is formed by a remarkable succulent tree called 'spekboom' (*Portulacaria afra*). This plant is considered a keystone species, playing a major role not only in primary production on the land, but also as a fundamental component of nutrient cycling. Research has shown that the soils associated with spekboom could have extraordinarily high levels of stored carbon in the form of soil organic matter. Here the plant can fulfil a potentially significant role in extracting and storing atmospheric carbon dioxide, thereby contributing to combating the role of this gas in global warming. It has been calculated that the removal of spekboom can result in the removal of up to 90 tonnes of carbon per ha. This carbon storage feature, and the plant's exceptional ability to grow from cuttings, created the impetus for a Baviaanskloof Rehabilitation Pilot Project, which aims to achieve a balance between carbon storage and biodiversity conservation.

This R3.6 million three-year pilot project, which commenced in January 2004, was funded by the national Department of Water Affairs and Forestry, through the Working for Woodlands Programme. The aim of the project was to research the scientific and practical feasibility of restoring subtropical thicket at the farm scale. Its potential success was boosted by the inclusion of Eastern Cape Parks, the Baviaanskloof Mega-reserve Project and the Gamtoos Irrigation Board as anchor partners. By 2006, 250 ha in the Goedehoop area of the Cambria valley of the eastern Baviaanskloof had been planted with spekboom.

It is envisaged that, should the project be successful, it will stimulate initiatives for the restoration of subtropical thicket on a landscape scale and possibly enable qualification for global credits linked to a number of potential international funding streams - carbon sequestration, conserving biodiversity, combating desertification, water security – established through the Clean Development Mechanism of Article 12 of the Kyoto Protocol. In addition, it could return biodiversity to transformed landscapes, reduce soil erosion, increase wildlife carrying capacity, improve water infiltration and retention, and provide employment opportunities for rural communities.

The original pilot project has now expanded into a fully-fledged Subtropical Thicket Restoration Project, within the Working for Water portfolio and as an anchor project of Working for Woodlands. It has entered a second phase (2007-2010) during which an additional 400 ha of land will be restored across the Thicket Biome.



**71.** *The aim of a spekboom restoration pilot project in the Cambria region of the eastern Baviaanskloof is to test the viability of restoring degraded or transformed subtropical thicket. It involves three stages (Photos: M. Powell):* 

- *i)* Harvesting of spekboom from the wild (left), and then planting it, in varying densities, in spekboom 'orchards' in transformed areas (centre).
- *ii)* Planting of other key plant species between the spekboom, once the latter has attained an appropriate size and cover; these species will be harvested from the wild, where feasible, or propagated in a nursery (right).
- *iii)* Monitoring and evaluating the success of the restoration actions.



**72.** Major benefits associated with a largescale spekboom restoration project are the provision of work opportunities and skills development for local unemployed people, of which more than 55 have been employed on the project. Research has indicated that the restoration of 10 000 ha of thicket per year will result in the employment of 4000 labourers. This will further contribute to combating the current influx of unemployed people into urban centres, where prospects are no better, and is firmly in line with the STEP vision of "keeping people on the land in living landscapes" (Photo: A. Tanner).



Delegates at the 2007 Society for Conservation Biology (SCB) conference, held in Port Elizabeth in July 2007, generated a sum of R93 205 through a levy on the registration fees. This levy was introduced by the SCB Board of Governors to offset the impact of carbon emissions associated with the conference. The funds are

being used by Eastern Cape Parks for thicket restoration work in the Baviaanskloof Megareserve, to promote carbon sequestration.

#### Letting the rivers run: removal of alien plants

As part of its innovative and highly successful Working for Water Programme, the Department of Water Affairs and Forestry made funds available to the Gamtoos Irrigation Board in 1995 to act on its behalf to clear alien invasive plants from the catchment of the Kouga River. The aims of this programme are threefold - to protect biodiversity, to improve water security and to provide employment opportunities. The importance of the Kouga Dam for the provision of water for the Nelson Mandela Metropole and for agriculture in the Gamtoos River Valley is discussed in Chapter 5.

The invasive alien plant clearance project continues to be a great success and it is therefore essential that sufficient funding be made available for the task to be completed, and most importantly, so that the significant gains made to date are not reversed in the future.



**73.** In 1995, 100 unemployed people from local communities were hired for the Working for Water alien plant removal project in the Kouga River catchment, which at the time was conducted in areas close to local towns and villages. After 1998, the work was carried out in a more strategic manner – with teams starting at the head of a catchment and working downstream from there. From 1996 the project has employed between 500 and 600 people each year. Thus far, R52 million has been spent on the Kouga project, with R31 million of this going to wages for poor and unemployed people, who were hired for the work (Photo: A. Kogana).



74. To date, some 190 000 ha of the Kouga River catchment has been cleared of invasive alien plants, and follow-up clearing completed; approximately 95% of this area was lightly invaded. Few lightly invaded areas remain and the challenge is now to clear the heavily invaded areas. It is estimated that some 70 000 ha remain to be cleared -a task that is estimated will take more than 20 years. The main species being removed are black wattle (Acacia mearnsii) (95%), silky hakea (Hakea sericea) (2%), pines (Pinus species) (2%) and bluegum (Eucalyptus species), blackwood, rooikrans, Port Jackson (all Acacia species) and grey poplar (Populus x canescens) (1%) (Photo: D. Rogers).

Working for Water, in partnership with WWF-SA, has initiated the Kouga Riparian Rehabilitation Project, which aims to improve the recovery of degraded land after the removal of alien plant invaders. Restoration projects will be established in priority catchments, in an effort to restore their ecological functionality.

#### **Integrated Catchment Management**

Given that biodiversity conservation and the provision of good quality water are key products of the mega-reserve, an Integrated Catchment Management Plan (ICMP) is an important management tool. Fire management (especially in the Kouga Mountains) and the removal of invasive alien vegetation (especially black wattle), followed by restoration of transformed riverine areas, are vital components of this plan. Alien plants use water, choke and transform riparian systems, and negatively impact on the aesthetic appeal of the area.

For the benefit of the fire-prone fynbos, and for maintaining communities of large herbivores, it is necessary to restore and maintain, as closely as possible, a natural fire regime, and to minimize the occurrence of unnatural fires. To this end, a Fire Management Plan for all the inland reserves in the Baviaanskloof Reserve Cluster was completed in 2006.

For a full ICMP to be compiled and effectively implemented in the Baviaanskloof Reserve Cluster, Eastern Cape Parks must be well resourced.

#### Citrus farming and biodiversity: a conservation partnership

A Citrus and Biodiversity Initiative, which involves a partnership between citrus farmers and the Baviaanskloof Mega-reserve in the Patensie area of the Gamtoos River Valley, aims to promote the conservation of habitats that are critical for the conservation of biodiversity. The strategy to be followed focuses on the mainstreaming of biodiversity conservation into citrus industry activities, and the identification of other possible opportunities for collaboration between this industry and the mega-reserve, with the specific aim of developing viable biodiversity-based land corridors that address social and economic development needs in the region.

This will be achieved by working with 'champions' amongst the citrus farmers, who will support the piloting of certain activities on their properties. Activities will include the development of conservation management plans for individual farms and the creation of physical corridors through co-operation between landowners. Issues around the use of water, pesticides and other agri-chemicals will also receive attention. Associated social aspects include beekeeping and guide training of local community members, and the development of a route to enable visitors to experience activities linked to the initiative.



**75.** The Citrus and Biodiversity Initiative seeks to integrate the important agricultural activities being undertaken in the Gamtoos River Valley with the vision of the Baviaanskloof Mega-reserve, in order to promote the conservation of threatened landscapes and ecological processes that fall outside the formal protected areas. (Photo: A. Boshoff).

#### SUPPORT FOR RESERVE MANAGEMENT: LAYING THE FOUNDATIONS

#### Strategic Management Plan (see www.baviaansmegareserve.co.za)



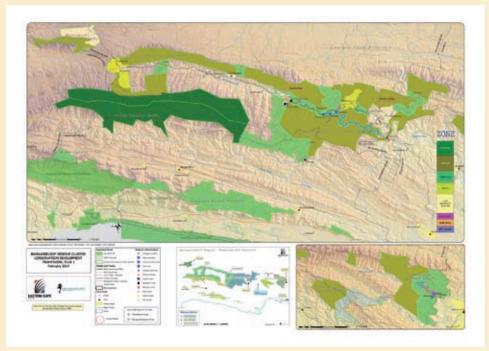
Baviaanskloof Mega-reserve Project Management Unit staff formed part of the Reserve Planning Team for the compilation of the *Strategic Management Plan* (SMP) for the Baviaanskloof Reserve Cluster, as one element of the Integrated Management Plan (IMP) for all the nature reserves in the Cluster (including the Baviaanskloof, Groendal and Formosa nature reserves and their satellite sections); the other two elements are detailed *subsidiary plans* and *annual operational plans*. The IMP is supported by a *state of knowledge report* and *operational guidelines*.

The purpose of the SMP, which focuses on strategic priorities, is to ensure that the Cluster has clearly defined objectives and activities to direct the protection and sustainable use of its natural, scenic and heritage resources, over a five year time horizon. It indicates where the Reserve Management Team will focus its efforts during this period. The SMP thus provides the medium-term operational framework for the prioritized allocation of

resources and capacity in the management, use and development of the Cluster. The SMP comprises four sections or frameworks:

- *Contextual Framework* (Location and extent; Purpose of SMP; Legal and policy framework; Institutional framework; Description of reserve; SWOT analysis)
- *Management Objectives Framework* (Reserve purpose; Guiding principles; Vision; Key result areas and goals)
- Strategic Implementation Framework (Key Result Areas are: Reserve planning and expansion; Biodiversity and heritage resources; Stakeholder involvement and partnerships; Infrastructure and equipment; Visitor services and facilities; Reserve administration; Knowledge management). The biodiversity and heritage resources section of this framework addresses the key components of an Integrated Catchment Management Plan (see Box 7).

• *Conservation Development Framework* (Visitor use zones [see Map 7 and Box 7 for details]; Management guidelines; Road classification scheme).



*Map 6.* The Conservation Development Framework (CDF) for the Baviaanskloof Reserve Cluster (see Box 7 for details).

#### **Box 7: Conservation Development Framework (CDF)**

Based on available information on the biophysical, heritage, socio-economic and land use context of the Cluster, and in consultation with the Reserve Planning Team, a Conservation Development Framework (CDF) for the projected medium-term extent of the Cluster was been developed, as an integral part of the Strategic Management Plan. This CDF provides a broad overarching medium-term spatial planning framework for the Cluster. The CDF indicates the extent and location of suitable visitor use zones within the Cluster, with management guidelines and broad conservation and tourism infrastructural requirements (e.g. fences, roads) designated for each use zone. One Table indicates the desired visitor

#### **Box 7** (continued)

experiences, suitable activities, appropriate infrastructural developments and management guidelines for different use zones. Another Table provides a schedule of proposed road classifications for the Cluster. The visitor use zones, infrastructure, services and facilities identified in the CDF will undergo detailed local area planning prior to any development implementation.

#### The return of the mega-herbivores



**76.** In 2007 a group of six black rhinoceros (**Diceros bicornis bicornis**) was released into the Baviaanskloof Nature Reserve. This charismatic species was widespread in the region, prior to being exterminated by man during the 19<sup>th</sup> century. The re-introduction of this subspecies of this mega-herbivore (>1000 kg), which is listed as 'Critically Endangered' in the Red Data Book of the Mammals of South Africa, is part of an ongoing programme to re-establish the indigenous large mammal fauna of the ecosystem of the mega-reserve. The other mega-herbivore that occurred historically in the mega-reserve area - the African elephant (**Loxodonta africana**) - has not yet been re-introduced. (Photo: K. Erlank)

#### Key Performance Area 5: Improving Rural Livelihoods

### JOB CREATION AND SKILLS DEVELOPMENT: HARNESSING THE OPPORTUNITIES



**77.** Job creation and skills development projects funded through the Poverty Relief Project (see text) included the building of the Baviaanskloof World Heritage Site Interpretation Centre (top left), the building of seven new entrance gates and erecting of signage (top right), the upgrading of 50 kms of road through the Baviaanskloof Nature Reserve (above left), and the removal of obsolete structures (e.g. fences, buildings, water reservoirs) at 10 sites. (above right). (Photos: PMU).

A number of priority projects, that require implementation in the reserve and which form the basis for a job creation and skills development initiative, were identified by the Baviaanskloof Project Management Unit and conservation managers from the Baviaanskloof Nature Reserve. These projects are briefly discussed in this section.

Funding to the value of R17.3 million was sourced for these projects from the National Lottery Distribution Trust Fund (R1.3 million) and from the national Department of Environmental Affairs and Tourism's Poverty Relief Project (R16 million), the latter as part of the South African government's Expanded Public Works Programme. Both initiatives focused on the upliftment of local communities that were previously denied access to development opportunities. The majority of the people working on the Poverty Relief projects were sourced from contractors in the surrounding areas, and the Lottery funding had to deliver 40 % of the allocated budget to previously disadvantaged contractors from the surrounding local communities. A total of 270 people were employed on work teams under the Poverty Relief Project, these being made up of 60 % females, 20 % youths and 1 % disabled people.



**78.** Job creation and skills development projects funded through the National Lottery Distribution Trust Fund (see text) include an assessment of the heritage value of the Baviaanskloof area (see page 22) and the drawing up of a business plan for a heritage route through the reserve (left), the creation of a two-day hiking trail that starts and ends at Komdomo tourist camp on the eastern boundary of the Baviaanskloof Nature Reserve, with an overnight stop at the upgraded Bergplaas hut (centre), and the upgrading of three day-visitor sites in the reserve (right). (Photos: PMU).

The information in this Chapter provides evidence that the plans and activities emanating from, or closely aligned with, the Baviaanskloof Mega-reserve's Conservation Strategy are achieving significant success. It also illustrates what can be achieved when a spirit of co-operation and commitment prevails amongst a diverse array of stakeholders. Clearly, the opportunities provided by the conservation of biodiversity are beginning to have a significant impact on the mega-reserve, and on many of the people that live there.

#### Key Performance Area 6: Knowledge management

### **RESEARCH, MONITORING AND INVENTORIES: MAINTAINING A SOUND SCIENTIFIC APPROACH**

#### Inventories

The following open-ended computerised databases, containing data and information relating to the Baviaanskloof Mega-reserve Project, have been created and are being maintained on an ongoing basis:

- GIS metadata (e.g. vegetation, conservation planning, heritage sites, land ownership, fire history)
- Unpublished source documents (e.g. management plans, tourism development plan, conservation development framework, conservation plan, plant and animal checklists, plant red data list)
- Bibliography (list of publications, e.g. books, scientific papers, published popular and semiscientific articles)

#### **Research priorities**

Fire frequency (veld age and fire regime), fish ecology and conservation (rivers with endemic species, extent of invasion by alien species, key intervention areas) and large predator ecology and conservation (viable populations, interactions with neighbouring small-stock farmers) have been identified as urgent research priorities in the mega-reserve.

#### Recent and current research and planning activities

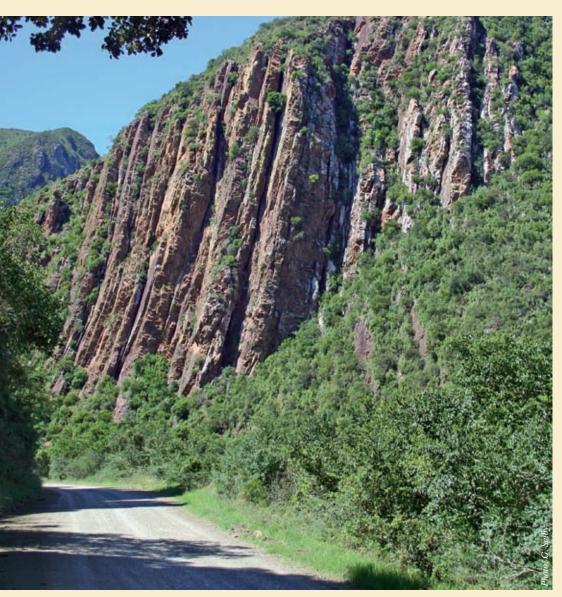
Recent and current research and planning activities in and around the mega-reserve include a project that investigates the scientific and practical feasibility, and the possible ecological and economic benefits, of restoring subtropical thicket in degraded or transformed areas (see "Bringing back the Subtropical Thicket"); this project involves collaboration between staff and students from Rhodes University (Grahamstown), Wageningen University and Research Centre (Netherlands) and Nelson Mandela Metropolitan University (Port Elizabeth), as well as the Rhodes Restoration Research Group and the Department of Water Affairs and Forestry. Other projects cover conservation planning for river and estuarine biodiversity in the Fish-to-Tsitsikamma Water Management Area, conservation planning for the mega-reserve (see 'Spatial Planning'), compilation of a mega-reserve heritage assessment, detailed vegetation mapping, studies of archaeological sites, assessment of biomespecificity in insect assemblages, leopard diet on formal conservation land and adjacent rangelands, and stock farmer-leopard interactions.



**79.** The leopard (**Panthera pardus**) is regarded as a flagship species for the Baviaanskloof Megareserve. In 2005, the Centre for African Conservation Ecology (ACE), Nelson Mandela Metropolitan University, completed a preliminary study of the diet of this threatened species in the Baviaanskloof Nature Reserve and on adjacent rangelands. A two-year (2007-2008) ACE project, supported by the Table Mountain Fund, is expanding the earlier diet study and is also investigating leopard-stock farmer interactions in rangelands bordering the conservation area. The outcomes of these studies will be used to guide the predator management component of the reserve's Strategic Management Plan and off-reserve leopard conservation initiatives. (Photo: T. Rautenbach).

## 9 THE WAY FORWARD





The Baviaanskloof Mega-reserve Project has reached stage where the implementation phase is well underway. As a consequence of the stakeholder engagement activities of the Project Management Unit (PMU), the vision and overall objectives of the project are now relatively well understood and are supported by the majority of key stakeholders, especially local communities. This is paving the way for the establishment of new, and the growth of existing, partnerships. These developments augur well for the future of the Mega-reserve Project.

Implementation actions on the ground are realising positive effects on biodiversity conservation, community upliftment and regional economic growth. Importantly, funding has been secured to "kickstart" short- and medium-term activities. Notwithstanding the good progress made to date in the establishment of the mega-reserve, considerable attention still needs to be given to a range of important issues, especially those relating to the achievement of medium- and long-term objectives.

- An overarching requirement is the need to secure large-scale funding to expand and maintain fully resourced provincial conservation agencies that can manage, monitor and evaluate the project, on both protected areas and on adjacent private or communal land.
- It is also essential that sufficient resources be secured to enable the effective management of the formal protected areas that constitute the core of the mega-reserve. In particular, the integrity of the Baviaanskloof Nature Reserve World Heritage Site must be maintained into the future.
- The government, at the national and provincial levels, must give full expression to its prioritisation and institutionalisation of support for the mega-reserve project.
- More emphasis needs to be placed on efforts to get other conservation initiatives and organisations, and land management agencies, that are operating in the broader Baviaanskloof area, to align their strategies and actions with those of the Baviaanskloof Mega-reserve
- The ultimate success of the Baviaanskloof Mega-reserve remains dependent on the ongoing support of the people of the region, all three tiers of government, the conservation fraternity at large, and the donor community. The Baviaanskloof PMU, Eastern Cape Parks (ECP) and the Department of Economic Development and Environmental Affairs (DEDEA) (Eastern Cape Government) must continue to work together to further develop and expand appropriate relationships between the mega-reserve project and these broad stakeholder groups. When the PMU reaches the end of its planned lifespan, in mid-2009, its functions, programmes and projects will be inherited by ECP and DEDEA and it is vital for the sustainability of the Mega-reserve Project that these two entities maintain the momentum that has been established by the PMU.

Although much still needs to be done, the Baviaanskloof Mega-reserve is indeed a reality and increasing numbers of people and organisations are developing an awareness of, or participating directly and indirectly in, this innovative and exciting conservation and development initiative.

# 10 Acknowledgements

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Vision for the Baviaanskloof Mega-reserve Project: Expanding the conservation estate of the Baviaanskloof for the benefit of all









