

## Between Two Oceans

Southern Tip by Tim Jackson, *Africa Geographic* August 2008



Three areas in southern Africa stand out for their high biodiversity and unique conservation value. These are the Cape Floristic Region, which encompasses an entire floral kingdom; the Succulent Karoo, which extends from South Africa into Namibia; and Maputaland, Pondoland and Albany, stretching along the east coast of South Africa and into southern Mozambique. All three are biodiversity hotspots.

The Cape Floristic Region comprises a Mediterranean-type vegetation called fynbos. Best known for its proteas, it includes five of South Africa's 12 endemic plant families. The Karoo area boasts the richest succulent flora on earth, and over two-thirds of its species are found nowhere else.

Southern Africa's plants and vertebrate animals are thought to have declined by 16 per cent since pre-colonial times, although over 99 per cent of species remain. Most affected are mammals, with populations declining by 71 per cent.

In South Africa, at least, many of the most threatened mammals are small – with the exception of the black rhino, none is larger than a pangolin. This is partly due to the distribution of the highly endangered golden moles. Only three out of the 21 species are found outside southern Africa so, depending on your criteria, almost half of the country's conservation priority species are golden moles. Others include the riverine rabbit, white-tailed mouse, Ongoye red squirrel, two bats and two shrews.

Conservation in many southern African countries is relatively well funded and the protection of many species, including large mammals (typically the first species to disappear), is good. The region harbours more than half of the continent's elephants. White rhinos have famously recovered from the brink of extinction and in Namibia, black rhinos are overflowing from Etosha National Park and there are plans to translocate them.

While terrestrial conservation has forged ahead, freshwater conservation has lagged behind, until recently. Some 84 per cent of South Africa's main river systems are threatened; more than half of them are critically endangered. The greatest threats come from regulation of river flow, land transformation and invasive alien species.

Conservation areas cover some eight per cent of southern Africa and these countries have many protected areas. Excluding forest and marine reserves, Zimbabwe has 248, Namibia 181, Zambia 89 and Botswana 84. (Compare this to East Africa, where Tanzania leads the pack with 117 protected areas.) But South Africa stands out with 862 protected areas, although many of them are tiny. The country therefore has a unique and fragmented conservation outlook, and a special set of challenges.

Kruger National Park aside, no reserves in South Africa are suitable or big enough for the conservation of African wild dogs – populations would be too small and not viable. The situation for lions

is similar. The long-term conservation value of keeping these carnivores in small, isolated reserves where they have little chance of recolonising adjacent land is questionable. An alternative is to treat animals from different reserves as subpopulations and to manage them by moving individuals between reserves. In South Africa, this approach has been used to conserve black rhinos, wild dogs and Cape mountain zebras, among others.

One of the main conservation threats in southern Africa today is land-use change – conversion to farmland, urban sprawl and plantation forestry all contribute to the problem. The most densely populated countries in the region – Malawi, Lesotho and Swaziland – are more affected than others. Substantial conservation declines are projected into the 21st century in the wetter northern and eastern parts of the region, particularly in Angola and Zambia, which have extensive tracts of undeveloped arable land. Mammals are likely to suffer the most, as many species are unable to thrive in the presence of arable or livestock farming, while declines in plant diversity are related to the amount of land converted for cultivation.

Climate change is recognised as another major threat to conservation, particularly in South Africa. Some species are expected to migrate out of protected areas, but those that cannot move will not survive. More than half of the fynbos is projected to vanish by 2050. In the Succulent Karoo, both wide-ranging generalist plants and endemics with narrow ranges may undergo radical range reductions in the next 50 years.

For the critically endangered riverine rabbit, a pessimistic view suggests that climatic change may render over 96 per cent of its current habitat unsuitable, only offset by a seven per cent increase in suitable land in adjacent areas. These scenarios of rapid climate transformation challenge the longer-term role of current conservation networks and call for innovative management.