

Focus on CSIR Research in Water Resources

South African national spatial biodiversity assessment 2004

Technical report volume 2: river component

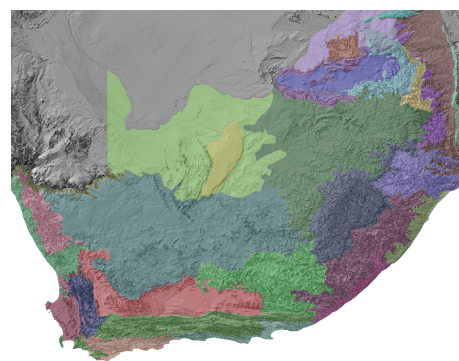
This report forms the river component of the National Spatial Biodiversity Assessment, which focuses on spatial conservation assessments for South Africa's terrestrial, river, marine, estuarine and wetland ecosystems.

The results presented form the first ever systematic assessment of river biodiversity in South Africa. The approach and results should therefore be seen as the first attempt towards deriving a systematic and scientifically defensible method for identifying river heterogeneity, achieving representation, systematically satisfying conservation targets, and designing conservation options, for example, through identification of threatened riverine ecosystems.

River ecosystems, in addition to being home to large numbers of fish and other species, are crucial for the production of the country's water supply. Together with wetlands, they play a vital role in purifying and delivering the water on which our economy and quality of life depend. Well functioning, intact river and wetland

ecosystems are also extremely important for flood control.

Results show that for South Africa's main rivers 44% are critically endangered, 27% are endangered, 11% are vulnerable and 18% are least threatened. A critically endangered river is one for which there are few remaining intact examples, thus putting the biodiversity patterns and ecological processes associated with that river at risk. This reflects the fact that South Africa is a water scarce country with multiple demands for water, from urban settlements, agriculture and industry all of which have to be satisfied by our limited water resources.



South African
National Spatial Biodiversity Assessment
2004
Technical Report
Volume 2: River Component

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CSIR Report Number ENV-S-1-2004-063



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Cross-sector policy objectives for conserving South Africa's inland water biodiversity

In South Africa, the responsibility for conserving inland water ecosystems is shared between several segments or sectors of society and departments of government, with the result that there is often a considerable overlap of mandates. Departments that are responsible for water resource protection and management, biodiversity conservation, land use management, and integrated development planning are all key role players and their cooperative actions are necessary if inland water ecosystems and their biodiversity are to be managed effectively.

The primary purpose of this discussion paper is to support the development of shared (i.e. inter-departmental) policy objectives and guiding principles that will help to promote the practical conservation of inland water biodiversity across multiple sectors and spheres of government.

This paper is intended to:

- Facilitate the development of a national-level vision for the conservation of inland water ecosystems
- Establish a bridge between best available science and policy
- Present a set of objectives, guiding principles and implementation options to inform future policy and strategy development processes

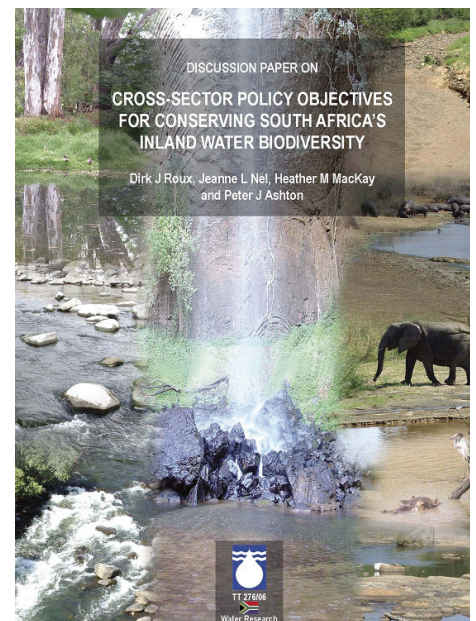
National Goal

To conserve a sample of the full variety or diversity of inland water ecosystems that occur in South Africa, including all species as well as the habitats, landscapes, rivers and other water bodies in which they occur, together with the ecosystem processes responsible for generating and maintaining this diversity, for both present and future generations.



Five necessary conditions

- Set and entrench quantitative conservation targets
- Plan for representation of inland water biodiversity
- Plan for persistence of inland water biodiversity
- Establish a complementary portfolio of conservation areas
- Enable effective implementation



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