

SANParks contribution to conserving freshwater and estuarine ecosystems

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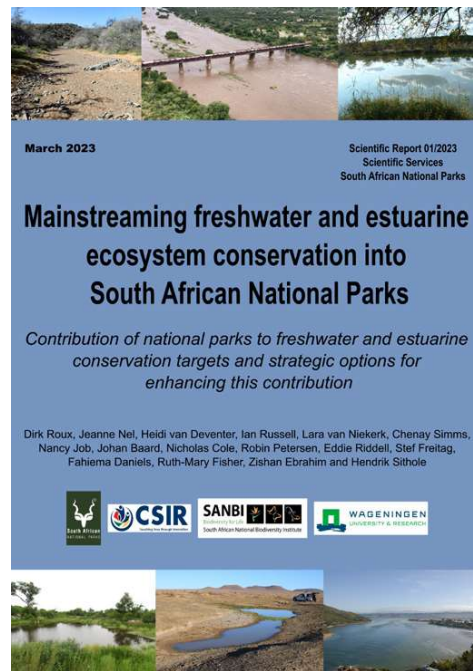
A COLLABORATION BETWEEN SANPARKS, SANBI AND THE CSIR CULMINATED IN A DETAILED REPORT SUMMARISING THE EXTENT TO WHICH SANPARKS CONTRIBUTE TO THE CONSERVATION OF RIVERS, WETLANDS AND ESTUARIES

South Africa's National Biodiversity Assessment (NBA 2018) highlights the dire and deteriorating state of most aquatic ecosystems - rivers, wetlands and estuaries. We asked to what extent the SANParks estate, and individual national parks, contribute to conserving these ecosystems. This resulted in a two-year collaboration between SANParks, South African National Biodiversity Institute (SANBI) and the Council for Scientific and Industrial Research (CSIR) and publication of its findings in early 2023.

Rivers: Around 6050 km (4 %) of South Africa's river length and 86 of South Africa's 222 (39%) river ecosystem types are found in the SANParks estate. Rivers in national parks are, on average, in better ecological condition than outside of parks, with 63% of river length inside parks categorised as being in a natural or near-natural ecological condition compared to 25% outside parks. Four national parks host 11 of South Africa's 62 remaining free-flowing (undammed) rivers, namely Garden

Route (6), Kruger (3), Table Mountain (1) and the proposed Grasslands National Park (1). These include three so-called 'flagship' free-flowing rivers, namely Mutale River in Kruger, Groot River in Garden Route, and tributaries of the Kraai River within Grasslands National Parks.

Wetlands: Even though over half (72) of South Africa's 135 wetland ecosystem types occur in national parks, approximately 75% of the country's wetland ecosystem types are both threatened and under-protected. This is because few wetland types have the target of 20% or more of their extent under protection and/or wetlands that are protected are not in good ecological condition (based on modelled data). In fact, modelled ecological condition data suggest that wetlands are in a similarly poor condition inside and outside the SANParks estate. To test this, basic field-based wetland inventories are being developed for selected parks, providing location, wetland type and ecological condition data.



Managers and scientists are working together to develop an inventory of wetlands for Addo Elephant National Park. Here they are exploring a near-natural depression wetland on a mountain plateau in Nyathi Section.

Estuaries: South Africa has 290 estuaries and 42 micro-estuaries. These highly productive ecosystems comprise less than 2% of the country's territory but contribute R 4.2 billion per annum to our economy. This is the most threatened of all realms in South Africa, with only 18% of estuarine ecosystem types and 1% of the total estuarine area considered well protected. Nevertheless, most of the 22 estuaries that fall within or overlap with SANParks' estate are in a natural to near-natural ecological state, reflecting the higher protection level achieved through inclusion in a national park. Estuaries are prime examples of multiple-use common-pool resources, facing an array of pressures from surrounding uses of land, freshwater, coastal and marine ecosystems. Therefore, management and conservation of estuaries requires very clear definition, and execution, of roles and responsibility of all mandated and/or co-governing agencies.

Strategic Water Source Areas (SWSAs): These areas represent approximately 10% of South Africa's land area and provides 50% of its water, making a critical contribution to water security. However, only 9% of SWSAs are formally protected, with national parks contributing a mere 2% towards the total area. This includes the contribution of the proposed Grasslands National Park, which by itself covers almost the same extent of SWSAs as the other national parks combined.

Conclusion and recommendations: Global and national conservation targets for aquatic ecosystems cannot be achieved by national parks, or even all of South Africa's

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protected areas, alone. Furthermore, conservation of aquatic ecosystems is inherently challenging as they are highly connected to upstream and surrounding land areas, have high direct utility value for humans, are generally heavily used, and require cooperative action across administrative boundaries. However, national parks and other protected areas provide a cornerstone for the conservation of these threatened ecosystems. Recommendations on how park planning, park management, research and monitoring functions can help to optimise SANParks' contribution to aquatic ecosystem conservation in South Africa include to:

- Plan towards incorporating whole catchments, free-flowing rivers, Strategic Water Source Areas and/or estuaries into existing or new national parks
- Improve or avoid further decline in ecological condition of aquatic systems in parks by maintaining or restoring hydrological connectivity along freshwater systems or between connected freshwater, groundwater, estuarine and terrestrial systems and avoid further development in sensitive zones
- Develop basic wetland inventories for all parks
- Ensure that achievable actions for all co-governing or co-managing agencies are included in Estuary Management Plans under development
- Promote, attract and enable research to enhance understanding and appreciation of aquatic systems
- Pursue collaborative management and/or co-governance of those aquatic systems not fully contained within parks and/or where external influences on their functioning are dependent on cooperation.