

The National Wetlands Monitoring Programme

The Water Research Commission (WRC) through its research partners has developed the National Wetland Monitoring Programme to protect and manage South Africa's wetland resources.



Background

Wetlands are complex and dynamic ecosystems that provide indispensable services to the people and the environment of South Africa. In order to protect and manage the remaining wetlands of the country, assessment, monitoring and reporting on the state of wetlands is crucial.

The Department of Water and Sanitation (DWS) conceptualised a National Aquatic Ecosystem Health Monitoring Programme (NAEHMP) in the early 1990s. Although a number of monitoring programmes have been implemented under NAEHMP, a wetlands monitoring programme has yet to be established.

With this in mind the WRC, with its research partners, set out to design a National Wetland Monitoring Programme.

Methodology

An extensive literature review on wetlands and assessment is provided in the final report, including a new of international wetland inventory, assessment and monitoring (IAM) frameworks and IAM methods and programmes. International experience in the design and development

of IAM Frameworks and IAM methods provided invaluable insight into the design of the monitoring programme.

The international review is complemented by a review of the South African institutional environment and arrangements. This review includes an investigation of South African wetland policy, legislation, strategies, regulations and organisations as well as a review of wetland inventory, assessment and monitoring methods and initiatives in the country, linking these to the design of the National Wetland Monitoring Programme.

The framework, approach and decisions made in the designing of the programme are included in the final report. Design was based on an approach of:

- Minimising duplication, particularly with regard to wetland IAM methods and indicators currently being used
- Minimising resource use, while maximising the value of outputs of wetland assessment and monitoring
- Finding suitable methods for prioritising wetlands to be assessed and monitored
- Adaptive management
- Maximum engagement and participation by stakeholders.

Stakeholders agreed that an important purpose of the

programme is to assess and monitor the extent of wetlands, threats to, and change in the present ecological state and ecosystem services provided by wetlands in the country.

A core suite of practical and user-friendly indicators were also selected for the monitoring programme by the stakeholders involved in the design process. The programme design was then tested on selected sites, which further strengthened the final reports.

Results

Two reports emanated from the project, namely a consolidated technical report (Volume 1) and the implementation manual (Volume 2). The intention of the National Wetland Monitoring Programme is to assess and monitor wetlands at three different spatial scales:

- **Tier 1:** National Scale Assessment of Wetlands, largely using existing datasets and desktop assessment methods. Results from Tier 1 will allow the NAEHMP to report on the extent of wetlands in the country, land cover and land ownership and their surrounding and the extent to which wetlands in the country are protected.
- **Tier 2:** Rapid Assessment of Prioritised Wetlands involves the prioritisation of certain wetlands for further investigation, followed by field assessors spending about 4-8 hours at each wetland. Results from Tier 2 will allow reporting of eight indicators, namely the extent of the wetland; the present state of hydrology, geomorphology,

vegetation and water quality; present ecological state based on land use; scores for ecosystem services provided by the wetland; and a measure of the threats posed by listed invasive plants to the wetland.

- **Tier 3:** Detailed Monitoring of a Sub-set of Wetlands, most of which will have been selected from Tier 2. The purpose of Tier 3 is to build a body of knowledge of wetland ecosystems and to monitor wetlands assessed as being of concern for one reason or another.

Conclusions and recommendations

The Implementation Manual produced provides the information necessary for DWS to implement the National Wetland Monitoring Programme. The nature of the design of the programme is that it could be implemented in the very near future.

Further reading:

To order the reports, *The design of a National Wetland Monitoring Programme* Volume 1 (**Report No. 2269/1/16**) and Volume 2 (2269/2/16), contact Publications at Tel: (012) 330-0340, Email: orders@wrc.org.za or Visit: www.wrc.org.za to download a free copy.