POLICY BRIEF

August 2019
The WRC operates in terms of the Water Research Act (Act 34 of 1971) and its mandate is to support water research and development as well as the building of a sustainable water research capacity in South Africa.

Updated version of the water resource classification system produced

A recently completed Water Research Commission (WRC) project focused on the review of water resource classification system guidelines and development of a decision support system.

Executive summary

The Water Resource Classification System (WRCS) is an important water policy instrument that seeks to enable the protection of South Africa's water resources. It is a set of guidelines and procedures that is established through the National Water Act (NWA, 1998) to create a balance between protecting our national water resources and developing them in order to meet the socio-economic goals.

However, over the years, flaws have been identified in the guidelines, which a new WRC study aimed to close. Among others, the study developed a new set of socio-economic aspects as well as a decision support tool to standardise the guidelines was developed.

Background

Chapter 3 Part 1 of the NWA requires the Minister to prescribe, "***as soon as is reasonably practicable***" a system for classifying water resources.

The WRCS may (as the Minister considers necessary):

- establish guidelines and procedures for determining different classes of water resources;
- in respect of each class of water resource

i) establish procedures for determining the Reserve;

ii) establish procedures which are designed to satisfy the water quality requirements of water users as far as is reasonably possible, without significantly altering the natural water quality characteristics of the resource;

iii) set out water uses for instream or land-based activities which activities must be regulated or prohibited in order to protect the water resource ….

The Minister is also required to use the WRCS to determine the management class (MC) of all or part of water resources "***considered to be significant***". The MC categories range from natural (minimally disturbed) to modified (heavily disturbed) catchments used and describes the desired state of the water resource and the level of utilisation.

The Vaal River is an example of a modified system.

Therefore, the overall purpose of the WRCS is the setting of the Management Class (MC), the Reserve and the Resource Quality Objectives (RQOs) by the Minister or delegated authority for each significant water resource i.e. watercourse, surface water, estuary, and aquifer under consideration.

Aspects that were reviewed

Since the outputs of the WRCS is gazetted it must be able to stand litigation, hence accuracy in the procedure is cannot be compromised.

The main WRCS shortfalls which led to its review were:

- **Inconsistent methodology:** The guidelines have not been able to specify a suitable set of socio-economic approaches and methodologies that would enable a common understanding of analyses and results. This has resulted in difficulty in comparing the results of classifications, and in some cases, huge omissions.
- **Inadequate linkage between ecosystems and the economy:** The current guidelines are not clear on how the economic analysis should link to and integrate with

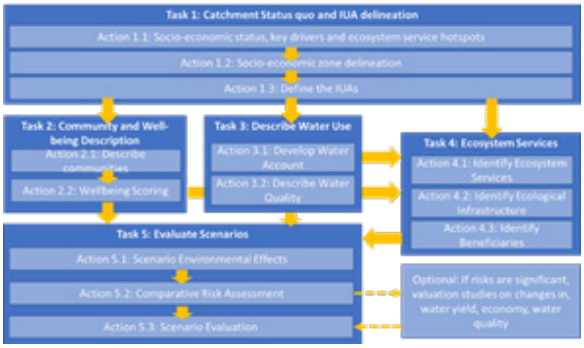
the other components of the WRCS process.

- **Logical order of methodological steps:** The existing 2007 guideline required onerous work at the start of the process, that may be premature if the information is not required later in the process.
- **Confusion among stakeholders:** The varying approaches and outputs used by different practitioners have caused confusion among stakeholders, especially at policy-decision level
- **Legal defensibility:** There have been legal challenges to the WRCS process due to inconsistency in methodology and low transparency. To address the shortfalls, the main aim of the project was to revise and update the current WRCS Socio-Economic Guidelines. The aim was further broken down into the following objectives: the investigation and recording of successes and failures of the current WRCS, identify socio-economic gap analysis, and standardisation of data acquisition and economic indicators used, analysis approaches, methodologies and reporting outputs.

Approaches and main results

In consultation with staff from the Department of Water and Sanitation and users of the WRCS various changes were made to the procedures, such as simplifying the process to improve transparency, reordering the stepwise process, standardise methodologies to improve legal defensibility, comparison between classifications, and updated the socio-economic guidelines.

These changes were used to improve the process workflow. The revised guideline follows a logical approach with step-wise tasks and intermediate actions as set out in the framework is presented in the figure below.



While this framework represents a significant simplification of the process, it is still complex, and requires transdisciplinary collaboration. Thus, to operationalise the guidelines and aid all involved stakeholders, a decision support tool was developed, called the Socio-economic Classification Tool (SeCT).

The SeCT is a Microsoft Excel-based tool that ensures standardised inputs and outputs to simplify the process and ensure that classifications are transparent and comparable. The SeCT was tested in the Olifants river catchment. The tool eliminates errors while forcing users to respond to drop-down question and finally calculates ratings based on indicator scores.

Conclusions and recommendations

Overall, the revised guideline and complementary tool was found to significantly simplify the socio-economic component of the classification system. This leads to the process being faster and therefore less resource intensive, less confusing to stakeholders, more legally defensible, and avoids duplicating work.

The process also allows for linking ecosystem services to the economy through a modular approach to valuation. While the aims and objectives of the project have been fulfilled, there are opportunities for further research and optimisation of the process. It is recommended that future projects seek to standardise how water quality and social well-being scoring are better integrated into the process.

Policy recommendations:

The user-friendly WRCS and supplementary decision support tool is ready for use, particularly where water resources classification is planned or underway. This is critical to avoid further cases of litigation as seen in uMzimkhulu/uMvoti WMA.

Also important is that the new guidelines must be streamlined into Resource directed measures of Chapter: 3 of the NWA.

Associated project:
The review of water resource classification system guidelines and development of a decision support system (**Project No. 2465)**. For more information, contact WRC Research Manager, Bonani Madikizela, at Tel: (012) 761 9300 or Email: bonanim@wrc.org.za.