

Development of a National Water Resource Classification System (NWRCS)

BACKGROUND INFORMATION DOCUMENT (BID)

PURPOSE OF THIS DOCUMENT

The purpose of this Background Information Document (BID) is to notify Interested and Affected Parties (I&APs) of the Department of Water Affairs and Forestry's (DWAf) project to develop a National Water Resource Classification System (NWRCS) for South Africa.

This document provides a brief description of the background to the NWRCS, describes what the NWRCS is, what is currently being used to classify water resources, presents the rationale for the project, its guiding principles, and outlines the proposed stakeholder involvement process. I&APs will have an opportunity during the development of the NWRCS to raise issues of concern, comment on and review reports, and assess how their issues and concerns are being addressed.

Comments can be sent to the project manager or the stakeholder involvement office at the contacts below.

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INTRODUCTION

BACKGROUND

The National Water Act (NWA) (No. 36 of 1998) requires that the nation's water resources be protected, used, developed, conserved, managed and controlled in an equitable, efficient and sustainable manner. The NWA also requires that all significant water resources in South Africa be classified to help facilitate a balance between resource protection and use. The NWRCS is one of the important tools for achieving this balance.

WHAT IS THE NWRCS?

The NWRCS, which is required by the NWA, is a set of guidelines and procedures for determining the desired characteristics of a water resource, and is represented by a Management Class (MC). The MC outlines those attributes that the custodian [Department: Water Affairs and Forestry (DWAf)] and society require of different water resources. The NWRCS will be used (later) in a consultative process to classify water resources (Classification Process) to help facilitate a balance between protection and use of the nation's water resources. The economic, social and ecological implications of choosing a MC will need to be established and communicated to all I&APs during the Classification Process. The outcome of the Classification Process will be the Minister or her delegated authority setting the MC and Resource Quality Objectives (RQOs) for every significant water resource (river, estuary, wetland and aquifer) which will be binding on all authorities or institutions when exercising any power, or performing any duty under the NWA. This MC, which may range from Natural to Heavily Used/Impacted, essentially describes the desired condition of the resource, and conversely, the degree to which it can be utilised. In other words, the MC of a resource sets the boundaries for the volume, distribution and quality of the Reserve and RQOs, and thus the potential allocable portion of a water resource for off-stream use. This has considerable economic, social and ecological implications.

OBJECTIVES OF THE NWRCS

PROJECT

The NWRCS project has six main objectives. These are:

1. The development of a procedure for determining the integrated economic, social and ecological values and implications of a MC.
2. The refinement of the guidelines that underpin the NWRCS.
3. The development of guidelines for the best available tools and methods to be used in support of determining the MC.
4. A development of an appropriate stakeholder involvement process.
5. The development and delivery of a draft NWRCS ready for gazetting by a legal team.
6. To help integrate the NWRCS into DWAf's broader integrated water resource management (IWRM) mandate.

WHAT IS CURRENTLY BEING USED TO CLASSIFY WATER RESOURCES?

At present, a prototype classification system using A to F ecological categories has been used for preliminary Reserve determinations. However, there is a need for a NWRCS that integrates ecological and user requirements into MCs, and allows examination of the socio-economic and ecological implications of water management decisions.

Institutional considerations for the NWRCS

As the NWRCS forms part of DWAf's IWRM mandate, the Classification Process does not occur in isolation and is linked to many other processes in the integrated planning of water resource protection, development and utilisation, and in the management and control of water use. For example, the Classification Process and Catchment Management Strategy (CMS) are iterative, while the proposed MC both influences and informs the water allocation process, Compulsory Licensing process and the Waste Discharge Charge System (WDCS).

The NWRCS also has a bearing on a range of broader processes, and consequently co-operation with all three spheres of Government, relevant stakeholders and wider civil society is necessary.

RATIONALE FOR THE PROJECT

The NWA requires balancing the demand for economic development with the protection of natural resources that provide the goods and services necessary for economic growth. This requires achieving a balance between viewing water as a commodity, i.e. use of water to promote economic growth, create jobs and eradicate poverty; and viewing water as part of the fabric of ecosystems or the resource, i.e. water required to support ecosystem or resource functions reliant, in part, on natural processes.

DWAF as custodian of the nation's water resources is mandated to allocate water to stimulate economic growth and development, and to promote equity, while at the same time ensuring the long-term sustainable utilisation of the resource. One of the goals of IWRM in South Africa is to protect ecosystem resilience, to avoid the risk of irreversible damage and therefore loss of capability to meet human needs in the future.

A balance must therefore be found between utilisation and protection of water resources nationally, regionally and locally.

Ultimately, however, the value society places on the resource will determine the extent to which resource capability will be drawn down, and thus the risk of irreversible change. This means that some resources may be afforded more protection than others, i.e. some resources may become 'work horses', while others may be targeted for protection.

Distinction between the NWRCS and the Classification Process

National Water Resource Classification System:

A system that provides the guidelines and procedures for determining different classes of water resources that is consistent with the letter and spirit of the NWA.

Classification Process:

The process of utilising the NWRCS to determine the MC and RQOs of all or part of those water resources considered to be significant.

NWRCS PRINCIPLES

The following principles were identified for the evolving NWRCS to help make the process open, transparent and reasonably predictable, and to help reduce the level of potential contestation.:

Principle 1: Balance and trade-off for optimal use

The chosen MC should balance protection of the resource with its utilisation in line with societal norms and values. Utilisation of the resource provides economic and social benefits; it also has the potential, however, to compromise ecosystem integrity, which has economic and social costs. This balance will require trade-offs. The NWRCS should therefore clearly outline the implications of different MCs to facilitate informed decision-making.

Principle 2: Sustainability

The principle reason for the protection of water resources is to maintain ecosystem integrity at a level that ensures the continued delivery of desired ecosystem goods, services and attributes for use. The NWRCS therefore needs to provide a framework to help facilitate the sustainable use of water resources. It is also recognised that there is a sustainability baseline that if crossed, could result in the non-delivery of the goods, services and attributes necessary for economic growth, poverty alleviation and the redress of historical inequality. As there is a degree of uncertainty as to the exact position of this baseline, and as the risks exceeding the limits of sustainability are considerable, the precautionary principle¹ will be applied.

Principle 3: National interest and consistency

A MC of a resource may produce solutions that are acceptable at a local-level, but are sub-optimal when considered at a national-level. Catchment-level decisions therefore need to be evaluated against national-level interests (and where appropriate, international-level

constraints e.g. international obligations). The NWRCS should also outline a clear intention with respect to the characteristics of different MCs and provide for consistency in this regard.

Principle 4: Transparency

Stakeholders should be consulted both in the development of the NWRCS and in the process of classifying the nation's water resources. The approach should be legitimate and transparent, and ensure that the valuation method used for determining trade-offs is fair. As the MC has considerable economic, social and ecological implications, stakeholders will need to be informed in a meaningful way of the potential impacts on and risks (and benefits) of the NWRCS to them. Further, stakeholders will need to be informed about the level of uncertainty that accompanies many of the economic, social and ecological predictions inherent in the Classification Process.

Principle 5: Implementability

The NWRCS needs to be used, at reasonable cost, by trained DWAF/CMA staff at an operational level. The institutional and transactional costs associated with making a decision on the MC should be as low as possible. The NWRCS should also be sufficiently robust to make a decision in the light of imperfect knowledge. The final outcome of the Classification Process should take into consideration the impacts of existing entitlements to use water (for both abstraction and disposal) as well as regional- and national-development objectives.

Principle 6: Interdependency of the hydrological cycle

All components of a water resource are linked. As such, the NWRCS needs to account for the interlinkages between all resources dependent on water; rivers, aquifers, wetlands and estuaries.

¹ The precautionary principle is an internationally accepted norm that suggests prudence in decision-making when the exact implications of a perceived trend or new policy intervention are unknown.

Principle 7: Legally defensible and scientifically robust

The NWRCS should be legally defensible and scientifically robust. It should be based on sound socio-economic and ecological principles in line with IWRM goals. The NWRCS and Classification Process should be legally defensible, apply due diligence in the decision-making process, and prevent legal liability accruing to DWAF or the stakeholders. It should also be consistent with South Africa's international obligations and other environmental legislation both at a national- and international-level. The guidelines should indicate the best available tools and data sets to be used in the Classification Process. These will need to be regularly updated to account for developments in science and technology.

Principle 8: Management scales

The scale at which the NWRCS is applied should be appropriate to the problem at hand. The end result of the Classification Process will be the recommendation of a MC. The implications of this will need to be understood, implemented and checked at multiple scales.

Principle 9: Auditable and enforceable

The NWRCS needs to be auditable and enforceable to ensure that it is operationalised. Thus, the regulator will

need to ensure that a transparent, permanent record of the procedures, information and logic used for classifying a particular resource is created and maintained. The outcomes of the NWRCS also need to be monitored and enforced.

Principle 10: Lowest level of contestation and the highest level of legitimacy

Given the strategic importance of the NWRCS, the principle of lowest level of contestation and highest level of legitimacy should be applied. This requires consultation with, and the highest level of buy-in from, internal (DWAF) and external strategic stakeholders and I&APs.

Principle 11: Utilisation of existing tools, data and information

The NWRCS will use existing tools, data and information wherever possible. Where applicable, existing tools, data and information will be modified or extended to meet the requirements of the NWRCS. Unless there is an urgent need to do so, no new tools, data or information will be developed or collected.

INTEGRATING ECONOMIC, SOCIAL GOALS IN THE NWRCS

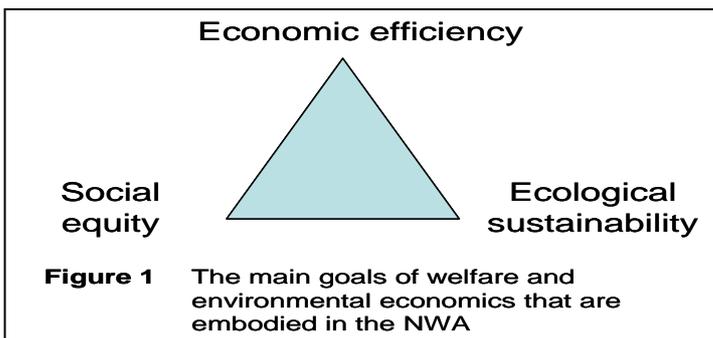
In recent years, following the development of welfare economics and ecological, environmental and resource economics, three main policy goals for IWRM have emerged: efficiency, equity and sustainability. These economic, social and ecological goals, respectively, are embodied in DWAF's official motto '*some, for all, for ever, together*' (Figure 1).

The economic goal of efficiency relates to maximising economic returns from water resources, or achieving the greatest possible net benefit. This can also be seen as fulfilling the goal of economic development. The social goal of equity is to

ensure that the economic benefits derived from utilising water resources, and the costs incurred in water supply development, are distributed fairly. In South Africa, this needs to be done in the context of the legal imperative of reducing poverty and redressing historic inequities.

The goal of ecological sustainability recognises the limits to resources in the light of population growth and economic development, and promotes the use of resources in such a way as not to compromise the economic opportunities and social well being of both present and future generations. Ecological goals may also include meeting national and international biodiversity conservation obligations as well as ensuring an acceptable state of health of resources in the short- and long-term.

However, these economic, social and ecological goals are potentially conflicting and are not easy to solve simultaneously. A number of trade-offs will therefore have to be considered in the Classification Process that will require a suitable, integrated analytical and decision-making system (the NWRCS).



PROPOSED STAKEHOLDER INVOLVEMENT PROCESS

The purpose of the stakeholder involvement process in the development of the NWRCS is to obtain their inputs to ensure that stakeholder issues and concerns are understood and considered in the development of the NWRCS. The process that will be followed is detailed below:

UPDATING THE EXISTING STAKEHOLDER DATABASE AND VERIFYING STAKEHOLDER CONTACT DETAILS

To date, the DWAF has conducted several stakeholder processes throughout the country. Existing, recent stakeholder mailing lists have been used as far as possible to avoid duplication of effort and cost. Existing lists have been verified for accuracy and representivity by cross-checking that all relevant sectors have been included.

An electronic database has been developed that will automatically record all stakeholder correspondence; verbal, telephonic, electronic and written. Fields have

been created for every meeting attended, comment sheets returned and so on. This will provide an ongoing record of participation activities. In addition, comments by stakeholders will be recorded on the database and linked to the name of the person who made the comment. The table below lists the sectors of water users, potential water users and other stakeholders as examples of who

has been considered for the mailing list.

TARGETED STAKEHOLDER MEETING

A targeted stakeholder meeting will be held sometime in August or September of 2006. This meeting will be by invitation only.

The meeting will assist to focus stakeholders' and the authorities' minds on potential issues that may have a bearing on the development of the NWRCS. The meetings will also be instrumental in focussing the technical approach being developed on issues that could constitute a potential fatal flaw in the development of the NWRCS.

PROGRESS FEEDBACK TO ALL STAKEHOLDERS

Following the stakeholder meeting, all key stakeholders on the database will receive a personalised letter to ensure that they are aware of the opportunity to comment, to thank those who commented to date, and to confirm the next steps in the process.

Sectors of water users, potential water users and other stakeholders to be considered for the mailing list.	
<ul style="list-style-type: none"> • Government (national, provincial and local) • Traditional leaders • Conservation and environmental bodies • NGOs (environmental and development-focused) • Commerce and business • Industry • Mining • Agriculture • Forestry • Transport 	<ul style="list-style-type: none"> • Civil society • Local communities leaders in addition to tribal leaders • Researchers and consultants • Local media (print and broadcast) • Water management institutions • Education bodies • Health bodies • Tourism and recreation • DWAF personnel in the National as well as Regional Offices

WHO IS DOING THE WORK?

The scope and complexity of this project requires a multi-disciplinary team with expertise in several areas including economics, social science, ecology, water resources assessment, groundwater, modelling and decision-analysis. Two cross-cutting themes are also part of the approach; the development of

organizational and institutional relationships and processes, and a targeted stakeholder process. CSIR, supported by a multi-disciplinary team of service providers, manages the project while Zitholele Consulting conducts the stakeholder involvement process.