

# Classification, Comprehensive Reserve and Resource Quality Objectives of significant water resources in the Mvoti to Umzimkulu Water Management Area



water affairs

Department:  
Water Affairs  
REPUBLIC OF SOUTH AFRICA

## Background Information Document – 1: January 2013

### PURPOSE OF THIS DOCUMENT

The purpose of this background information document (BID) is to inform stakeholders about the water resource classification, Reserve and Resource Quality Objectives (RQO) process/es that have recently been initiated by the Department of Water Affairs (DWA) in the Mvoti to Umzimkulu Water Management Area (WMA).

Through this process water resources in the Mvoti to Umzimkulu WMA will be classified in accordance with the Water Resource Classification System (WRCS) and in addition the Reserve and Resource Quality Objectives of the resources will be determined.

Stakeholders are invited to participate in the process by contributing information at meetings or by corresponding with the public participation office or the technical team at the addresses provided below.

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### BACKGROUND

The National Water Act (NWA) – Act No. 36 of 1998 – is founded on the principle that the South African Government has overall responsibility for and authority over water resource management for the benefit of the public without seriously affecting the functioning of the water resource systems.

In order to achieve this objective, Chapter 3 of the NWA provides for the protection of water resources through the implementation of resource directed measures (RDM) which includes the classification of water resources, setting the Reserve and Resource Quality Objectives (RQOs).

The Chief Directorate: Resource Directed Measures of the Department of Water Affairs (DWA) is responsible for the classification of water resources in terms of the recently published Water Resource Classification System (WRCS) to ensure that a balance is sought between the need to protect and sustain water resources on one hand and the need to develop and use them on the other.

The DWA has identified the need to undertake the classification of significant water resources (rivers, wetlands, groundwater and lakes) in the Mvoti to Umzimkulu in accordance with the WRCS as well as the determination of the Reserve and RQOs. To this end the DWA has appointed Professional Service Providers in July 2012 to assist with the process. Rivers for Africa is leading a group of consultants responsible for this study.

### WHAT ARE THE WRCS, RESERVE AND RQOs?

The **WRCS** places water resources into different categories called Management Classes (MCs). The Regulations (R810) for the establishment of the WRCS was published in Government Gazette No 33541 on 17 September 2010.

The WRCS 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 DWA and society require of different water resources. The WRCS prescribes 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 outcome of the Classification Process will be the approval of the MC by the Minister or her delegated authority 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.

The **Reserve** for a specific water resource is the quantity as well as the quality of water of that resource necessary to –

- satisfy basic human needs by securing a basic water supply as prescribed under the Water Services Act (Act 108 of 1997), for people who are currently or who will in the reasonably near future be relying upon that resource, who will be taking water from that resource or will be supplied from that resource (known as the basic human needs Reserve); and
- protect the aquatic ecosystems in order to secure ecologically sustainable development and use of the relevant water resource (known as the ecological Reserve).

There are preliminary Reserves already in place within the WMA. **The RQOs** are numerical and/or narrative descriptive statements of conditions which should be met in the receiving water resource, in terms of resource quality, in order to ensure that the water resource is protected. The purpose of the RQOs is to establish clear goals relating to the quality of the relevant water resource. The NWA stipulates that in determining the RQOs a balance must be sought between the needs to protect and sustain the water resources, and the need to develop and use them. The RQOs are intended to give effect to the Class determined in each water resource.

The RQOs may relate to the Reserve, the instream flow, the water level, the presence and concentration of particular substances in the water, characteristics and quality of the water resource and instream and riparian habitat, the characteristics and distribution of aquatic biota, the regulation or prohibition of instream or land-based activities which may affect the quality of water in or quality of the water resource, and any other characteristic of watercourse in question. In the South African water resources management, the acceptable level of impact hinges on the concept of RQOs as the balance between resource protection and resource development and utilization.

**The DWA brochure: *Implementation of a Water Resource Classification System* provides a detailed explanation of the procedures for determining different classes of water resources. (The brochure can be accessed from the Project website: <http://www.dwa.gov.za/rdm/WRCS/default.aspx> )**

## PURPOSE OF THIS STUDY

As South Africa's water resource are becoming more stressed due to an accelerated rate of development and the changing weather patterns resulting in the scarcity of water resources, there is an urgency to ensure that water resources are able to sustain their level of uses and be maintained at their desired states specifically in the Mvoti to Umzimkulu.

The purpose of this study is to coordinate the implementation of the integrated step process of the WRCS, Reserve and RQOs for all significant water resources in the Mvoti to Umzimkulu WMA.

The process of conducting the study is to determine appropriate classes, the Reserve and RQOs in order to

facilitate the sustainable use of the water resources without impacting negatively on their ecological integrity. Due to the availability of all components of the water resources (rivers, wetlands, groundwater and estuaries), different levels of Reserve (Comprehensive, Intermediate or Rapid III) will be applied in different water resources within the WMA. Water resources that are important from a water resource perspective will be selected for either Comprehensive or Intermediate Reserve determination.

The output of the study will be the setting of the MCs, the Reserve and RQOs, which will then be presented to the Minister for approval and gazetting.

## AN OVERVIEW OF THE STUDY AREA

Mvoti to Umzimkulu WMA stretches from the Drakensberg Mountains in the west at an altitude of over 3000 m and drops to sea level in the east over a comparatively short distance of 150 km. The WMA is very rugged and is characterised by very steep slopes. The flatter areas are mainly subject to intensive agricultural activities (DWAF, 2004).

The Mvoti to Umzimkulu WMA consists of two large river systems, the Mzimkhulu and Mkomazi rising in the Drakensberg; two medium-sized river systems the Mgeni and Mvoti rising in the Natal Midlands which have been largely modified by human activities, mainly intensive agriculture, forestry and urban settlements. Several smaller river systems (e.g. Mzumbe, Mdloti, Tongaat, Fafa, and Lovu Rivers) also exist within the WMA (DWAF, 2004).

According to DWAF (2004) eight key areas exist within WMA and include:

- Mvoti (Tertiary catchments U40 and U50).
- Mdloti (Tertiary catchment U30).
- Mgeni (Tertiary catchment U20).
- Mlazi and Lovu (Tertiary catchments U60 and U70).
- Mkomazi (Tertiary catchment U30).
- Mpambanyoni to Mzumbe or South Coast (Tertiary catchment U80).
- Mzimkhulu (Tertiary catchments T51 and T52); and
- Mtamvuna (Tertiary catchment T40).

The study area is provided in Figure 1. below.

## FOCUS OF THE STUDY

The study area in general has been the subject of various studies in the past. Members of study team undertook water resource analysis work in the study area in the past and the current knowledge of hydrological data and models. These will be further expanded on during different tasks in this study.

Information available at this stage on previous riverine Reserve determinations is available in the Mvoti, Mgeni, Mkomazi and Mzimkulu Rivers. During the appropriate task in this study, this list will be expanded on. A range of Rapid III assessments have also been undertaken in this WMA and this data will be further investigated during the project.

The Mvoti to Umzimkulu WMA includes a vast number of estuaries – sixty four in total. There are number of estuarine EWR studies that have been completed in this study area at various levels of confidence.

There have been no previous DWA wetland Reserve studies within the WMA based on the CD: RDM Reserve database for this WMA. Although a previous riverine Reserve study on the Mvoti River was undertaken in 1996, this study did not include any wetland EWR determinations. However, available information will aid in the assessment of wetlands within the WMA.

Information on the groundwater reserve of the Mvoti to Umzimkulu is limited and will be investigated where applicable.

There are three DWA processes which forms the basis for the completion of this study. These are - the determination of the Reserve, the determination of the MC and the description of the RQOs which qualitatively and numerically describe the MCs. Each of these processes has specific steps and various methods and tools which have been reviewed and or published by the DWA. The steps for each of the processes are linked and will be applied in an

integrated manner during this study. Key aspects that will be assessed during the study to determine the MC are the following:

- The Status Quo of the study area will be determined. This will entail a description of the ecological, economical and ecosystem services of the study area. The description will be provided in context of the hydrology and geohydrology of the river system and its current water resource infrastructure and management. This information will highlight issues and challenges in the catchment as well as providing an indication of the ecological and environmental importance of different areas. With this information available, preliminary IUAs will be delineated and provided to stakeholders for comment. This information will also provide stakeholders with sufficient background to allow them to envisage their future 'vision' of the different IUAs.
- Ecological Water Requirements will be described for river system. This information will be used for the required models and different scenarios which can include changes to present operation of the system and/or future developments. For future developments it is required to understand the implications for water availability, stakeholders, ecological health of the system and changes to ecosystem services. This will lead to recommendations on the MCs for each IUA which will be presented for discussion to stakeholders. Stakeholders will then be able to understand the consequences of their original vision and how it could impact on all users and the ecological health of the system.
- Once the MCs have been accepted, RQOs will be developed to describe the set classes. Some RQOs will be numerical, and others descriptive; all depending on the different detail available. The numerical RQOs will for example be used in monitoring which is very important to see that the MCs are being maintained and improvement within these MCs being achieved where necessary.

## PUBLIC PARTICIPATION PROCESS

### ***Identification of stakeholders***

The identification of stakeholders in the Mvoti to Umzimkulu will be an ongoing process. Some of the stakeholders included in the database currently are relevant government departments on national and provincial level such as the Department of Environmental Affairs, the Department of Mineral Resources and the Department of Agriculture, Forestry and Fisheries; municipalities; agriculture (Irrigation Boards, National and Local Agricultural Unions); mining and industry; conservation organisations; relevant parastatals (e.g. Eskom); community representatives; and civil society.

### ***Project announcement***

The project will be announced to the public with a letter of invitation addressed to all Interested and Affected Parties (I&APs) currently on the database, accompanied by this BID, the DWA brochure on WRCS and a reply sheet for I&APs to register for participation. An advertisement will be placed in national and local newspapers.

### ***Project Steering Committee***

Stakeholders representing specific sectors of society (e.g. agriculture, mines, conservation, civil society) will be identified and asked to serve on a Project Steering Committee (PSC) for the duration (three years) of this project. The PSC members will oversee the classification

process and provide strategic advice and guidance.

#### ***Stakeholder meetings***

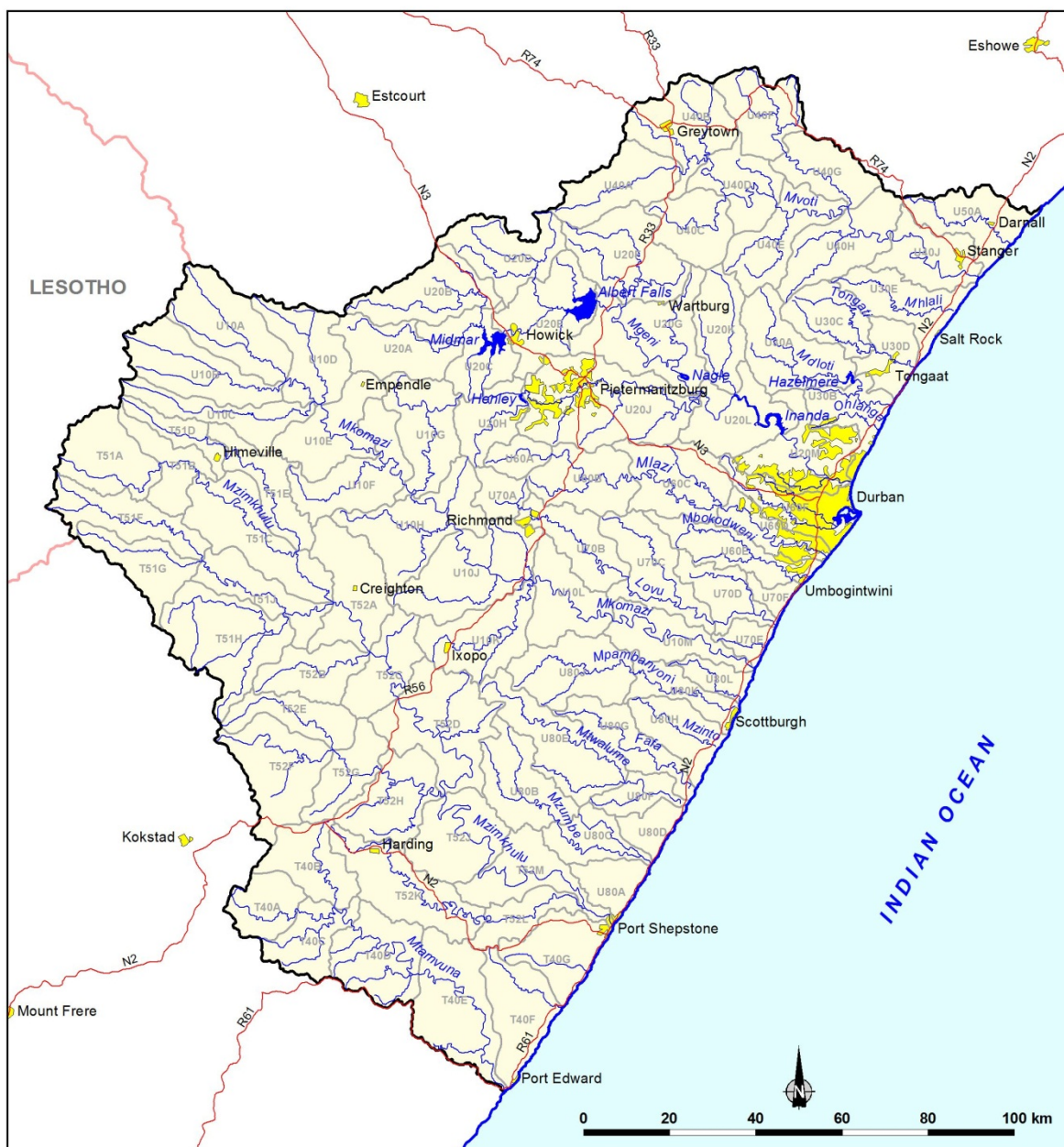
One stakeholder meeting at three (3) separate venues will be held in the study area towards the end of the process.

#### ***On-going consultation with stakeholders***

Stakeholders will continue to be informed on progress of the study through a series of newsletters and will be asked for their inputs on an ongoing basis. The DWA website will also be used for the publishing of information regarding this study (<http://www.dwa.gov.za/rdm/WRCS/default.aspx>).

### **DWA Study Managers**

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**Figure:** The Mvoti to Umzimkulu Water Management Area