Determination of Water Resources Classes and Resource Quality Objectives in the Breede-Gouritz Water Management Area

Background Information Document

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Water and Sanitation
REPUBLIC OF SOUTH AFRICA

BREEDE-GOURITZ
Catchment Management Agency
Opvanggebied Bestuursagentskap
I-Arhente yoLawulo lomMandla nokungqongileyo

PURPOSE OF THIS DOCUMENT

The purpose of this Background Information Document (BID) is to inform stakeholders about the water resource classification and resource quality objective process that has recently been initiated by the Department of Water and Sanitation (DWS) in the Breede-Gouritz Water Management Area (WMA).

Through this process water resources within the WMA will be classified in accordance with the Water Resource Classification System (WRCS).

Stakeholders are invited to participate in the process by contributing information at meetings or workshops, or by corresponding with the technical team at the address provided below:

BACKGROUND

The National Water Act (NWA) (No. 36 of 1998) provides for the protection, use, conservation, management and control of our water resources in an efficient, sustainable, and equitable manner. The NWA is founded on the principle that our 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 which includes the classification of water resources, setting the Reserve and Resource Quality Objectives (RQOs). The Chief Directorate: Water Ecosystems of the Department of Water and Sanitation (DWS) is responsible for the classification of water resources in terms of the Water Resource Classification System (WRCS). Classification of water resources aims to ensure that a balance is sought between the need to protect and sustain critical water resources in a catchment and the need to develop these resources in support of sustainable social and economic development.

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WATER RESOURCE CLASSES AND RESOURCE QUALITY OBJECTIVES

The WRCS is a step-wise process whereby water resources are categorised according to specific Water Resource Classes (WRCs) that represent a management vision of a particular catchment, by taking into account the current state of the water resource and defining the ecological, social and economic aspects that are dependent on the resource. The resulting WRCs are then used to set specific Resource Quality Objectives (RQOs) which are numerical and/or narrative descriptive statements of conditions which should be met in the receiving water resources in order to ensure that the water resource is protected.

PURPOSE OF THE STUDY

The purpose of this Study is to determine the WRCs and Resource Quality Objectives of all significant water resources in the Breede-Gouritz Water Management Area, through the application of the WRCS. The outcomes of this study will assist the Department of Water and Sanitation (DWS) and the Breede-Gouritz Catchment Management Agency to make sound management decisions regarding these stressed catchments, and also ensuring continuous provision of ecosystem services upon which society and the economy depend.

OVERVIEW OF STUDY AREA

The Study Area comprises the whole of the Breede-Gouritz WMA and includes all the significant water resources of the Breede and Gouritz rivers catchments and their primary tributaries, the Riviersonderend, Groot, Gamka and Olifants Rivers, as well as numerous smaller coastal catchments.

The Study Area includes parts of the Cape Winelands, the Overberg, Eden and Central Karoo District Municipalities and a minor part of the Sarah Baartman District Municipality.

The Breede-Overberg is characterised by mountain ranges in the north and west, the wide Breede Valley, and the rolling hills in the south. The Gouritz is characterised by mountain ranges in the south-west, south and south-east and the vast flat landscape of the Karoo in the north.

The Gouritz Catchment is experiencing a water supply deficit, with the inland catchments not receiving enough rainfall to sustain reliable surface water supply.

The Breede and Overberg rivers have been experiencing a decline in ecosystem health due to mechanical disturbances, over-abstraction and water quality deterioration.

INFORMATION AND DATA COLLECTION

Water resource information and gap analysis has outlined specific models which will be used for surface water and ground water analysis. In terms of Ecological Water Requirement, surface water, water quality, groundwater, estuary, wetland, dam and socio-economic data it is considered that there is enough data available for the level of detail required in this project.

INTEGRATED UNITS OF ANALYSIS (IUAs)

The first step of the classification procedure is to delineate Integrated Units of Analysis (IUAs) and describe the status quo of the water resources in these areas. The IUAs represent the spatial units that are defined as significant water resources. Each IUA represents a

relatively homogeneous area which requires its own specification of the Water Resources Class. The objective of defining IUAs is to establish broader-scale units for assessing the socio-economic implications of different catchment configuration scenarios and to report on ecological conditions at a sub-catchment scale. Delineation of IUAs is required as it would not be appropriate to set the same Water Resource Class for all water resources in a catchment.

Eighteen preliminary IUAs have been defined for the Breede-Gouritz WMA. These are shown in the map of the study area given below and in the associated table which includes the associated river resource unit.

In addition to the IUAs a number of biophysical nodes have been identified for which ecological water requirements (EWRs) will be derived and used to evaluate the proposed WRC and associated socio-economic impacts.

Table 1: Composition of individual provisional IUAs for the Breede-Gouritz WMA

Zone Code	Socio-economic Zone	River Resource Units	IUA Code	#	IUA Name
A	Breede wine & fruit region	Upper Breede Tributaries	A1	1	Upper Breede Tributaries
		Breede Working Tributaries	A2	2	Breede Working Tributaries
		Middle Breede Renosterveld	A3	3	Middle Breede Renosterveld
B	Theewaterskloof fruit region	Riviersonderend Upper	B4	4	Riviersonderend Theewaters
		Overberg West (part 1 of 3)	B5	5	Overberg West
C	Great Karoo	Groot/Touws (part 1 of 2)	C6	6	Gamka-Buffels
		Gamka (part 1 of 2)			
D	Swartberg	Lower Gouritz (part 1 of 2)	D7	7	Gouritz-Olifants
		Olifants			
E	Little Karoo	Groot/Touws (part 2 of 2)	E8	8	Touws
F	Wheat belt	Riviersonderend Lower	F9	9	Lower Riviersonderend
		Overberg West (part 2 of 3)	F10	10	Overberg East Renosterveld
		Overberg East Renosterveld (part 1 of 2)			
		Lower Breede	F11	11	Lower Breede
		Duiwenhoks (1 of 2)	F12	12	Duiwenhoks
		Lower Gouritz (2 of 2)	F13	13	Lower Gouritz
G	Garden route coast	Coastal Rivers (1 of 2)	G14	14	Groot Brak
		Coastal Rivers (2 of 2)	G15	15	Coastal
H	Overberg coast	Overberg West (3 of 3)	H16	16	Overberg West Coastal
		Overberg East (Fynbos)	H17	17	Overberg East Fynbos
I	Hessequa coast	Duiwenhoks (2 of 2)	I18	18	Hessequa

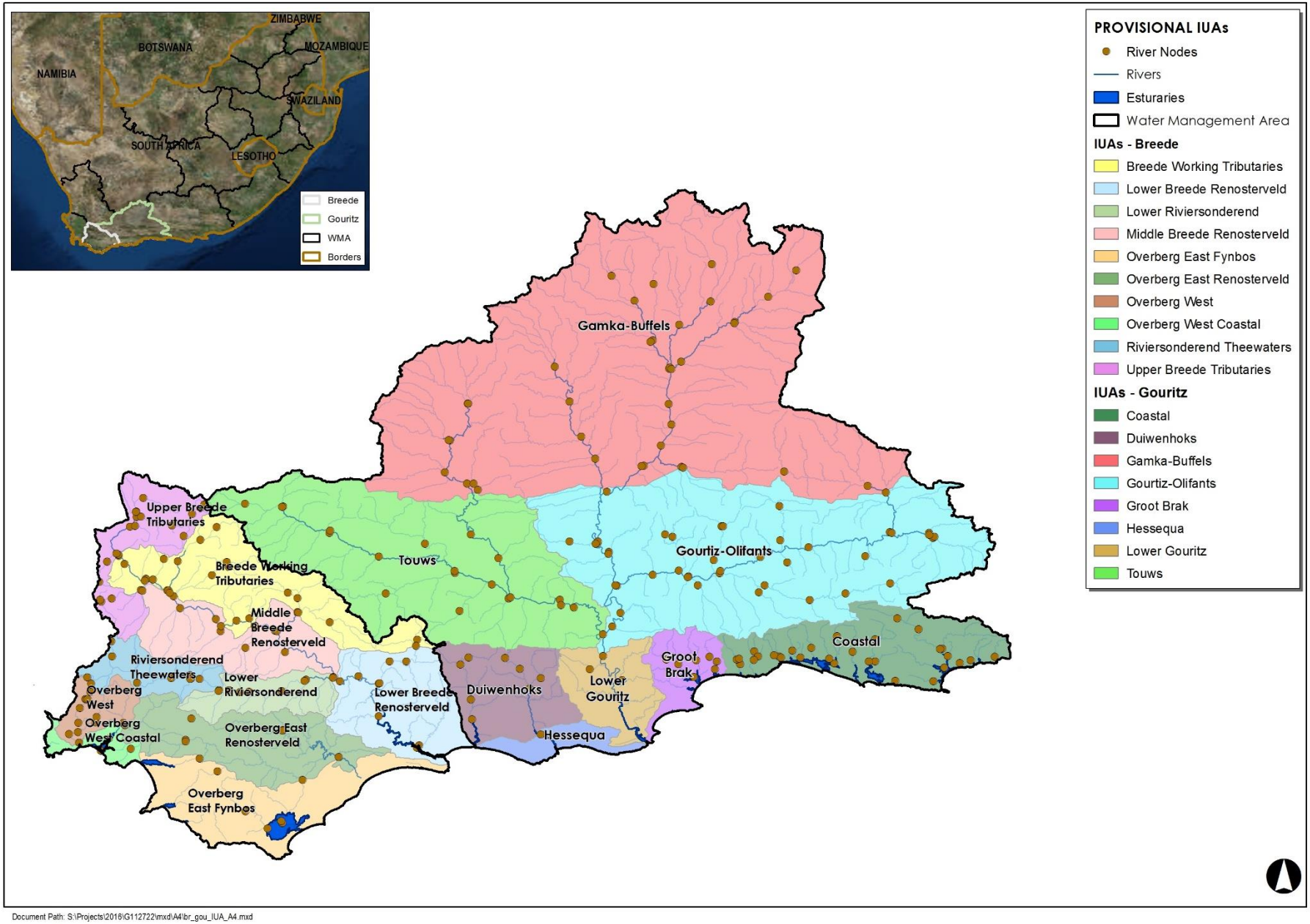

Figure 2: Location of the Integrated Units of Analysis (IUAs) and EWR nodes for the Breede-Gourtiz WMA.

STAKEHOLDER ENGAGEMENT

The engagement of stakeholders throughout the project is vital as the study will impact the use of water and thus will affect stakeholders.

There are many stakeholders with an interest in the Study Area. Key stakeholders will be identified throughout the duration of the Study. Representative members of the public are encouraged to be involved as stakeholders.

Public Meetings

Two sets of public meetings (four in total with two in the Breede catchment and two in the Gourtiz) will be held to create awareness of the project at the beginning, and to present the draft classification and RQOs prior to gazetting.

Project Steering Committee (PSC)

The PSC should be representative of all major sectors and interests within the Study Area, in order to provide strategic advice and guidance. The PSC will meet at key times during the project duration to provide critical inputs to the classification process and the determination of relevant RQOS.

On-going consultation

Stakeholders will continue to be informed of progress with the study through a newsletter and will be asked for their inputs on an ongoing basis. The Project website will also be used for the publishing of relevant information.

Please make sure you register as a stakeholder using the reply sheet to receive further information on the study

WHY YOU SHOULD BE INVOLVED IN THE PROJECT

It is important to understand that this study will eventually impact on you as a water user, as it will determine the management measures your organisation may have to implement, it may result in stricter controls, it will determine the limits with regard to discharges and disposal of waste and wastewater, it will impact on the costs relating to the above, and will have a bearing on future water uses. These measures are not meant to be restrictive but rather to sustainably manage the water resources of the area catering for all water users including the aquatic ecosystem. Since this is your catchment, it is important that you become involved and contribute to the process.

TIME FRAME

Following the initial public consultation process, individual stakeholder representatives will be invited to contribute to the Project Steering Committee (PSC). The PSC will form the primary advisory board for the development of the water resource classifications and RQOs. Individuals interested in being a representative of the PSC should contact DWS or the Project Team as soon as possible.

The next phase in the project will be the completion of the status quo assessment, which will then be followed by an evaluation of alternative classification scenarios that will be used to inform the final recommended WRC. The RQOs will then be determined for the priority water resource units (RU).

To register your interest in the project email: BGClassRQO@gmail.com

DEFINITIONS

Ecological Water Requirements (EWR): The flow patterns (magnitude, timing and duration) and water quality needed to maintain a riverine ecosystem in a particular condition. This term is used to refer to both the quantity and quality components.

Ecological Water Requirement Sites: Ecological Water Requirement (EWR) sites are set at specific points on the river. These sites provide sufficient indicators for the specialists to assess environmental flows and information about the variety of conditions in a river reach. An EWR site consists of a length of river which may consist of various cross-sections for both hydraulic and ecological purposes.

Integrated Units of Analysis (IUAs): The basic unit of assessment for the classification of water resources. The IUAs incorporates socio-economic zones and is defined by catchment area boundaries.

Reserve: The quantity and quality of water needed in a water resource (e.g. estuaries, rivers, lakes, groundwater and wetlands) to sustain basic human needs and protect aquatic ecosystems to ensure ecologically sustainable development and utilisation of the resource.

Significant Water Resources: Water resources that are deemed to be significant from a water resource use perspective, and/or for which sufficient data exist to enable an evaluation of changes in their ecological condition in response to changes in their quality and quantity of water. Water resources are deemed to be significant based on factors such as, but not limited to, aquatic importance, aquatic ecosystems to protect and socio-economic value.