water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Determination of Water Resource Classes & Associated Resource Quality Objectives (RQOs) in the Mzimvubu Catchment

Presented by:
Lawrence Mulangaphuma
Department of Water & Sanitation
Date: 18 July 2017

Presentation Content

- Legal Mandate
- The Water Resource Classification System (WRCS)
- Study Area
- Process for the determination of Water Resources classes
- Stakeholder Engagement Plan
- Purpose of PSC 2 meeting

Legal Mandate

- Chapter 3 of the National Water Act (No. 36 of 1998), deals with the protection of water resources

- The measures for protection of water resources are:

  - Classification (S13)
  - Reserve (S16)
  - Resource Quality Objectives (S13)

- S12 requires the Minister to establish the Water Resource Classification System, (WRCS)

- WRCS was published as Regulation 810 in Government Gazette No. 33541 dated 17 September 2010

- The WRCS defines:
  - water resource classes and
  - the procedure to determine Class, RQOs and Reserve

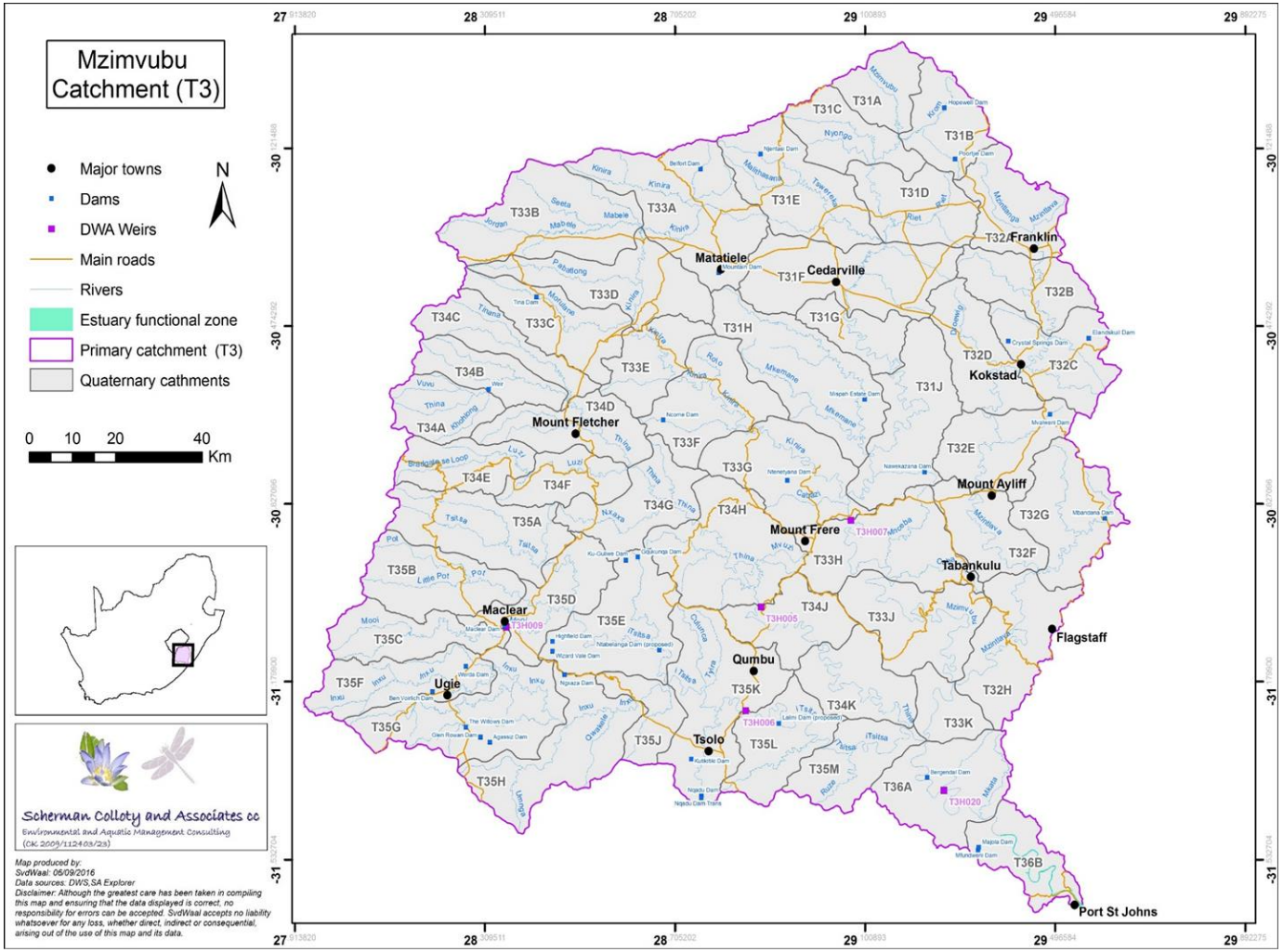
- According to the NWA, once the WRCS has been gazetted all significant water resources must be classified and Resource Quality Objectives determined

Main study tasks

- **Task 1: Inception**
  - Inception Report
  - Stakeholder Identification and Mapping Report
- **Task 2: Information gathering**
  - Water Resources Information and Gap Analysis
- **Task 3: Determine Water Resource Classes**
  - Resource Units & IUA Delineation Report
  - Status Quo Report
  - Linking the Value & Condition of Water Resources
  - Quantification of the EWR and changes in EGSAs
  - Ecological Base Configuration Scenarios Report
  - Report on Evaluation of Classification Scenarios

  } Current
- **Task 4: Determine Resource Quality Objectives**
  - Resource Unit Prioritization Report
  - Evaluation of Resource Units
  - Outline of Resource Quality Objectives
  - Monitoring Program to Support RQOs Implementation
  - Confidence Assessment of Resource Quality Objectives
- **Task 5: Support Gazetting done by DWS to legalise**
  - Final Report and Gazette template

Study area


Mzimvubu Catchment (T3)
Major towns
Dams
DWA Weirs
Main roads
Rivers
Estuary functional zone
Primary catchment (T3)
Quaternary cathments
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Km
Matatiele
Cedarville
Franklin
Kokstad
Mount Fletcher
Mount Ayliff
Mount Frere
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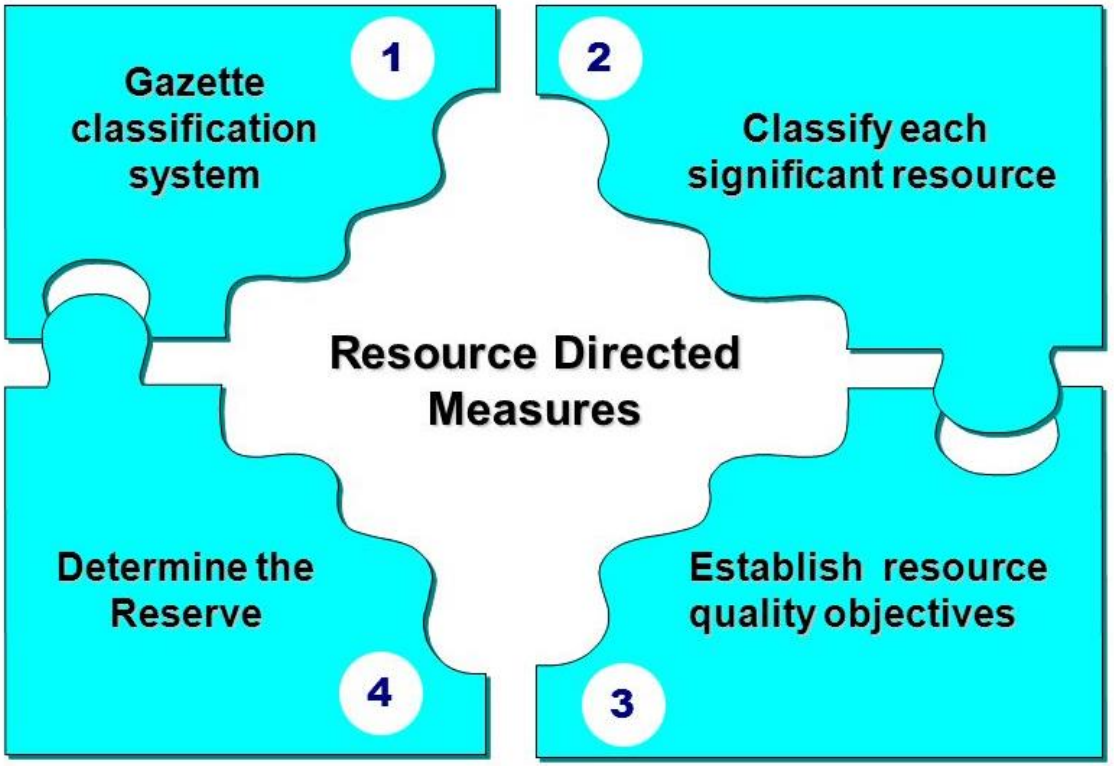
Scherman Colloty and Associates cc
Environmental and Aquatic Management Consulting
(CK 2005/112403/23)
Map produced by:
SvdWaal: 05/09/2016
Data sources: DWS,SA Explorer
Disclaimer: Although the greatest care has been taken in compiling this map and ensuring that the data displayed is correct, no responsibility for errors can be accepted. SvdWaal accepts no liability whatsoever for any loss, whether direct, indirect or consequential, arising out of the use of this map and its data.

Contextualizing Resource Directed Measures



Determination of Water Resource Classes

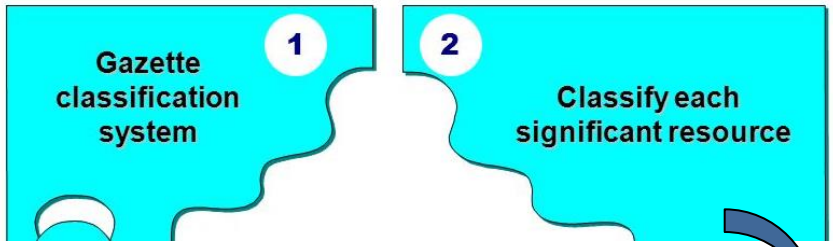
Classification defines the **desired state** of the water resources by setting Water Resource Classes;

Each class represents:

- a different **level of protection** that is required for the water resource, and
- **the extent to which the water resource can be used.**

Classification is used in two ways:

- To describe the **present status** of the water resource
- To describe the state towards which the water resource needs **to be managed** sustainably (**future state**).

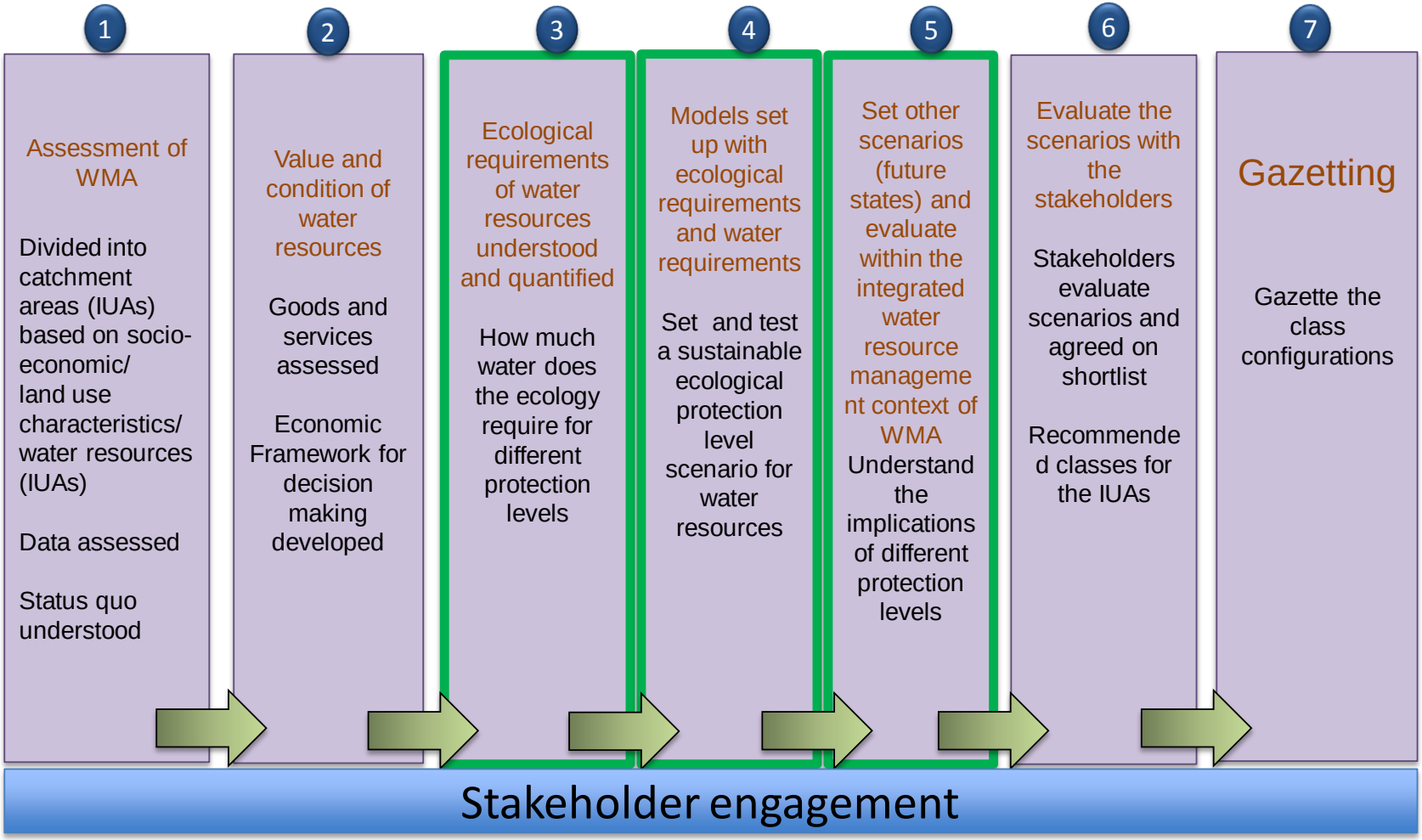


Surface water, groundwater, wetlands, estuaries

	Description of use	Majority of ecological categories
Class I	**Minimally used**	**A-B**
Class II	**Moderately used**	**C**
Class III	**Heavily used**	**D**

Ecological Category (EC) - means the assigned ecological condition to a water resource . It is measured by determining how much the ecosystem has changed from natural (pre-development condition). The scale is A (near natural) to F (critically modified)

Classification Steps



Completed classification steps

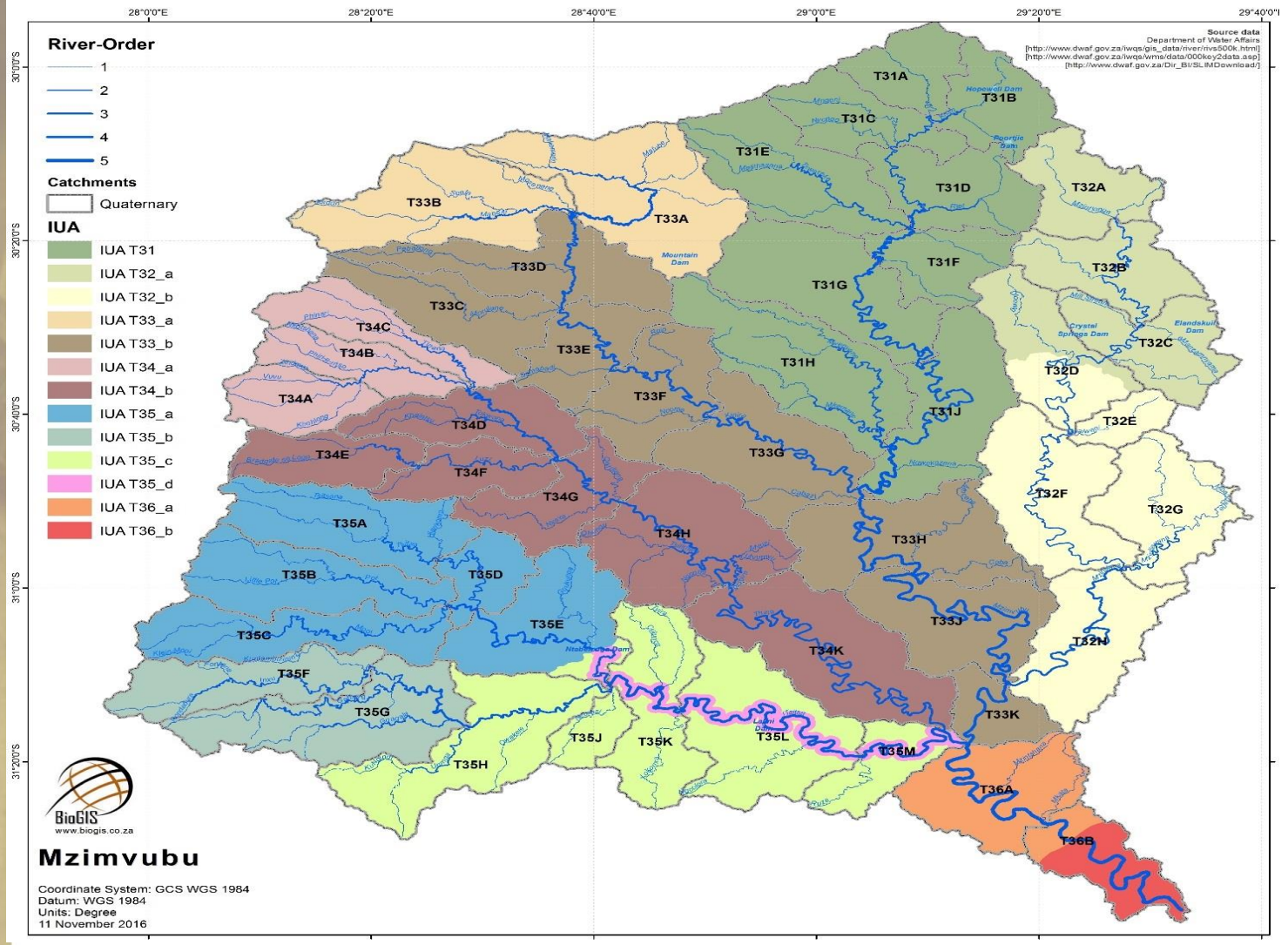
Step 1: Assessment of Catchment:

- Economically dominated by irrigation agriculture, commercial forestry, sawmills + laminated board factory
- Irrigation return flows + return flows from WWTW problematic in certain areas
- The catchment was divided into 13 IUAs and 87 Rus.

Step 2: Value and condition of water resources:

- Water quality generally good, although extensive erosion and sedimentation
- Key ecosystem services (15 Eco. Zones)
  - ❖ Recreational fishing
  - ❖ Limited subsistence fishing
  - ❖ Wastewater dilution

Integrated Units of Analysis



Current classification step

Expected outcomes of classification step 3 are:

- A list of nodes to which information can be extrapolated
- EWR rule curves/summary tables for each category for each node.
- A list of biophysical and allocation nodes for which changes in ecosystem services can be provided.
- A list of hydrological, biological, physical, water quality, and structure and organisational ecosystem services changes considered for the catchment

Stakeholder Engagement Plan

Platforms	Stakeholder groups	Purpose
Project Steering Committee	Representatives from various Sectors	To give strategic inputs to the project **PSC 1 was held on 05/12/16**
Technical Task team Meeting	Representatives from sectors with technical knowledge of study area and water resource management	To source comments and inputs on technical aspects of the project **TTG: WQ info was held on 31/01/17**
Public Meetings	The broader public	To announce the project To present the proposed classes & RQOs
Forums	Catchment management forums	Information sharing **UCPP held on 21/06/17**
Sectors	Different sectors e.g. Domestic, Agriculture, mining etc. (where necessary).	Information sharing

Purpose of the PSC 2 meeting

- Finalised spreadsheet of RUs, IUAs, drivers
- Desktop and River EWRs, including EcoClassification results
- Systems modelling
- Selecting and defining operational scenarios

Proposed future PSC meeting schedule

PSC meeting 3: ???? 2017

- Estuary EWR results
- Wetland EcoClassification
- Groundwater report

PSC meeting 4: November 2017

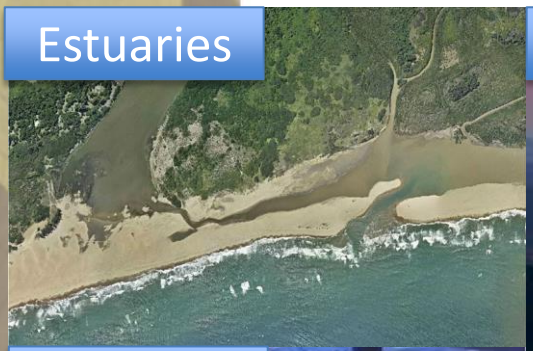
- Consequences of operational scenarios (estuary, river, economics, ecosystem services, user water quality)
- Presentation of Preliminary WRC and RQOs

Further information

- For more information:
  - Register on project specific web-site or email:
    - https://www.dwa.gov.za/rdm/Documents.aspx
- For more information contact:
  - Project Team: Patsy Scherman (patsy@itsnet.co.za)
  - DWS (Pretoria): Lawrence Mulangaphuma (mulangaphumal@dws.gov.za)

THANK YOU!

Estuaries



Rivers

Groundwater

Wetlands

Dams