The Determination Of Water Resource Classes, Reserve And Resource Quality Objectives For Secondary Catchments (A5-A9) Within The Limpopo WMA And Secondary Catchment B9 in the Olifants WMA

Agricultural Sector Meeting

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WATER IS LIFE - SANITATION IS DIGNITY

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

2030 NDP

30 YEARS OF FREEDOM
South Africa 1994 - 2024

STUDY OBJECTIVES

RECAP

To ensure sustainable balance between the need to protect and utilise the water resources to meet the ecological, social and economic needs of the communities dependent on them

- Determination of the Water Resource Class
- Determination of the Reserve
- Determination of the Resource Quality Objectives

Of all significant water resources in the secondary catchments A5 to A9 of the Limpopo Water Management Area (WMA) and B9 in the Olifants WMA

STUDY APPROACH AND PROGRESS

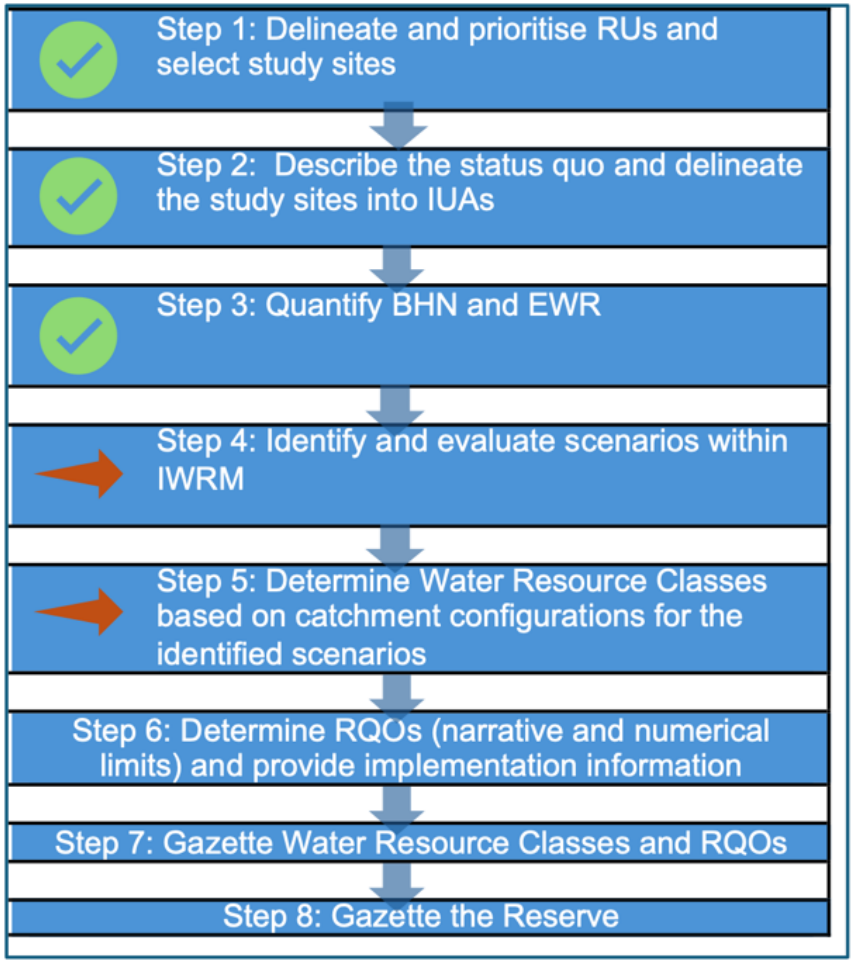


Figure 1. Integrated Framework for Resource Directed Measures

STEP 1: DELINEATE AND PRIORITISE RESOURCE UNITS (RU) AND STUDY SITES

- Delineation of the study area into resource units were undertaken for the rivers, wetlands and groundwater.
    - Facilitate effective management – break down the water resources into discrete manageable units, primarily from an ecological perspective.
- Prioritised significant water resources (rivers, wetlands and groundwater)
- 75 river nodes were identified across the study area.
- Prioritised 14 river nodes for detailed EWR assessment
- Prioritised 11 wetlands for higher confidence assessment of the PES, EI and ES. 2 Ramsar sites for EWR assessment

STEP 2: DESCRIBE THE STATUS QUO AND DELINEATE THE STUDY SITES INTO IUAs

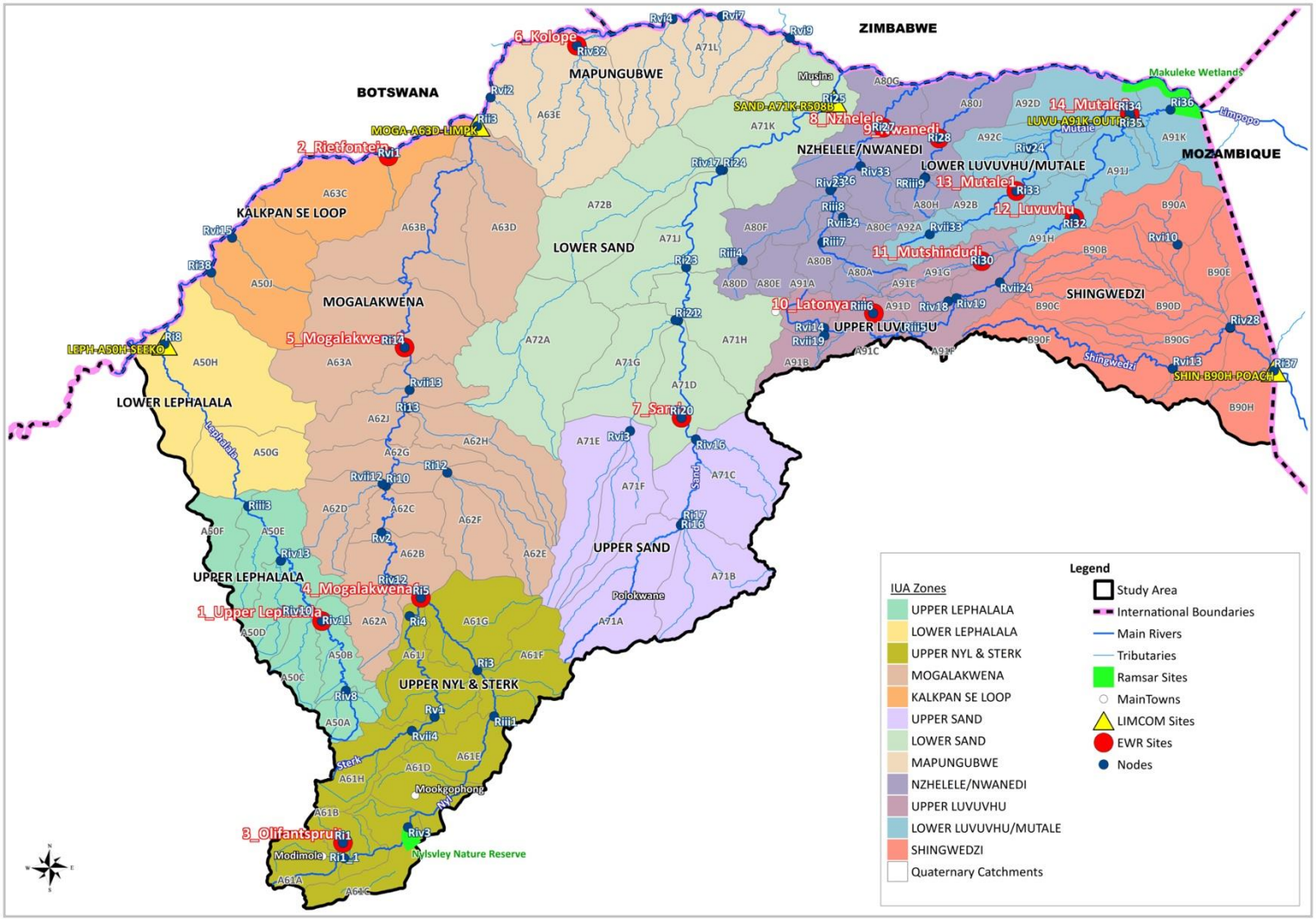
- The delineation process was aimed at combining the river, wetland, and groundwater resource units; the infrastructure, landuse and socio-economic information into areas of interest.
- Key considerations in the delineation process was to maintain separate river basins such that the IUAs are hydrologically independent.
- 12 IUAs defined
- Each represent a homogenous area which requires its own specification of the Water Resource Class.

- **COMPLETE**

STEP 3: QUANTIFY BHN AND EWRs

- Rivers
  - 14 EWR sites assessed at a detailed level.
  - River coverage was supplemented by the 5 EWR sites assessed through the LIMCOM study.
  - EWR estimated for the 61 nodes using the Revised Desktop Reserve Model
- Wetlands
  - Luvuvhu Floodplain (Makuleke) and Nyl River Floodplain – EWR assessment supported by a hydrodynamic model.
- Groundwater contribution to the EWR was determined and where sufficient data was available, this determination was supported by numerical groundwater flow models.

- **COMPLETE**


ZIMBABWE
BOTSWANA
MOZAMBIQUE
MAPUNGUBWE
NZHELELE/NWANEDI
LOWER LUVUVHU/MUTALE
SHINGWEDZI
KALKPAN SE LOOP
LOWER SAND
MOGALAKWENA
LOWER LEPHALALA
UPPER LEPHALALA
UPPER SAND
UPPER NYL & STERK
UPPER LUVUVHU
6_Kolope
2_Rietfontein
5_Mogalakwena
4_Mogalakwena
1_Upper Lephalala
7_Sand
8_Nzhelele
9_Nwanedi
14_Mutale
13_Mutale1
12_Luvuvhu
11_Mutshinduduli
10_Latonya
3_Olifantspruit
MOGA-A63D-LIMPK
SAND-A71K-RS085
LUVU-A91K-OUT
LEPH-A50H-SEEKO
SHIN-B90H-POACH
Makuleke Wetlands
Mookgophong
Modimole
Nylsvley Nature Reserve
Polokwane
Legend
IUA Zones
UPPER LEPHALALA
LOWER LEPHALALA
UPPER NYL & STERK
MOGALAKWENA
KALKPAN SE LOOP
UPPER SAND
LOWER SAND
MAPUNGUBWE
NZHELELE/NWANEDI
UPPER LUVUVHU
LOWER LUVUVHU/MUTALE
SHINGWEDZI
Quaternary Catchments
Study Area
International Boundaries
Main Rivers
Tributaries
Ramsar Sites
MainTowns
LIMCOM Sites
EWR Sites
Nodes

STEP 3: QUANTIFY BHN AND EWRs

Basic Human Needs

- Quantify BHN requirements for the study area population who rely directly on surface or groundwater ecosystems for their basic water needs, i.e., their water is not delivered to houses, yards or community standpipes from service provisioners
- Daily allowance (per person per day)
  - 25 litres

- **COMPLETE**

STUDY PROGRESS

IN PROGRESS

STEP 4 and Step 5 – Scenario analysis and determination of Water Resource Classes

The identification and evaluation of scenarios is to evaluate the economic, social and ecological consequences of a range of identified scenarios looking into both the current and potential future developments.

- Presented at the Project Steering Committee (PSC) meeting on the 22 October 2024
- Revisited the scenarios based on comments received at the PSC meeting – presentation today
  - Comments were received on the river systems and hence our presentation today does not go into groundwater and wetland

STAKEHOLDER ENGAGEMENT

- Project Steering Committee meetings – representatives from various sectors – to give strategic guidance to the project
- Technical Task Team meetings – representatives from sectors with technical knowledge of the study area and water resource management – to source comments and inputs on the technical aspects of the project
- Public meetings – the broader public – to announce the project and the final results
- Forums – catchment management forums – information sharing
- Sectors – different sectors (domestic, conservation, agriculture) where necessary. Information sharing

UPCOMING MEETINGS

- RQO Workshops – RU prioritization, RU evaluation and Outline of RQOs – March 2025
- PSC meeting 4 – present the draft RQOs – April 2025
- Public meetings – present the draft Water Resource Classes, RQOs and the Reserve – June 2025

Thank you