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

Project Steering Committee Meeting #3
Study Progress

Presented by: Adhishri Singh
Designation: Project Manager
Company: Myra Consulting with Southern Waters, Anchor Research and Monitoring and Delta-H as sub-consultants

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water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

2030 NDP

WATE

STUDY OBJECTIVE

- Determine Water Resource Classes
- Determine the Reserve (Basic Human Needs (BHN) and Ecological Water Requirements (EWR))
- Determine Resource Quality Objectives (RQOs)

INTEGRATED FRAMEWORK

- Step 1: Delineate and prioritise RUs and select study sites
- Step 2: Describe the status quo and delineate the study sites into IUAs
- Step 3: Quantify BHN and EWR
- Step 4: Identify and evaluate scenarios within IWRM
- Step 5: Determine Water Resource Classes based on catchment configurations for the identified scenarios
- Step 6: Determine RQOs (narrative and numerical limits) and provide implementation information
- Step 7: Gazette Water Resource Classes and RQOs
- Step 8: Gazette the Reserve

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.
- 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

- **COMPLETE**

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

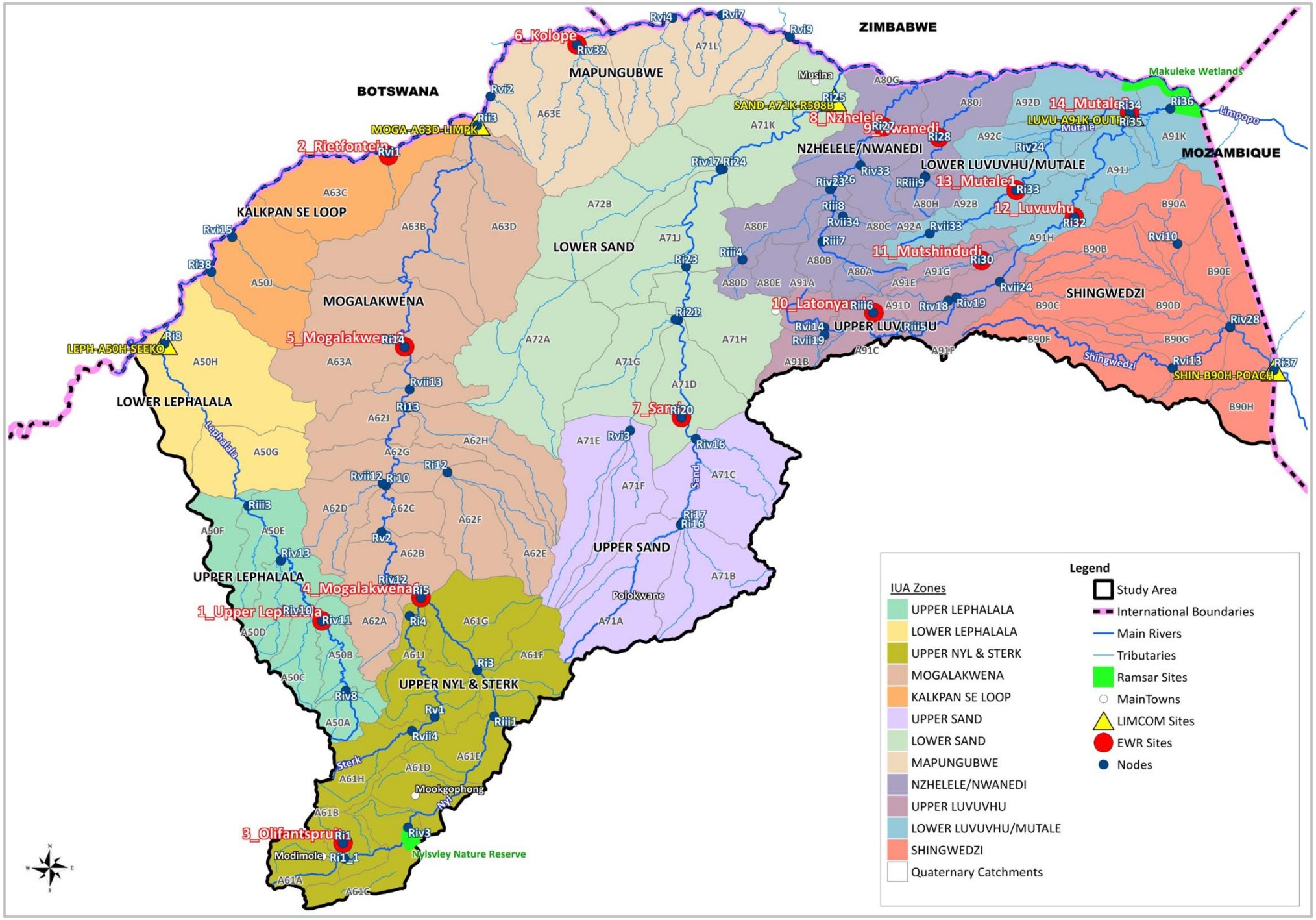
- The delineation process was aimed at combining the river, wetland, and groundwater resource units; the infrastructure, landuse and socio-economic information into areas of interest.
- Key considerations in the delineation process was to maintain separate river basins such that the IUAs are hydrologically independent.
- 12 IUAs defined

- **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
LOWER SAND
KALKPAN SE LOOP
MOGALAKWENA
LOWER LEPHALALA
UPPER LEPHALALA
UPPER SAND
UPPER NYL & STERK
UPPER LUVUVHU
6_Kolope
2_Rietfontein
5_Mogalakwe
7_Sar
8_Nzhelele
9_Nwanedi
14_Mutale
13_Mutale1
12_Luvuvhu
11_Mutshindudi
10_Latonya
4_Mogalakwena
1_Upper Lep
3_Olifantspru
MOGA-A63D-LIMPK
LEPH-A50H-SEEKO
SAND-A71K-R508B
LUVU-A91K-OUTF
SHIN-B90H-POACH
Makuleke Wetlands
Limpopo
Lephalala
Sand
Sterk
Nyl
Shingwedzi
Mookgophong
Polokwane
Modimole
Nylsvley Nature Reserve
Musina
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
Legend
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
  - International guidelines 50 litres

- **COMPLETE**

STEP 4: IDENTIFY AND DEVELOP SCENARIOS WITHIN IWRM

- In development of the scenarios consideration was given to national, provincial and local plans and policies, available data and importantly stakeholder visions.
  - We used the information you provided in the visioning forms you returned to us in identifying our scenario descriptions.
  - Included the importance of sustainable development, biodiversity economy, maintenance or improvement of river condition and particular areas of conservation, socio-cultural importance and ecosystem services.

- **COMPLETE**

FOCUS OF THE MEETING

- Present the scenarios and their evaluation in terms of consequences for surface and groundwater resources, groundwater condition, water quality, ecological condition, EGSA, society and the economy.
- Present the recommended scenario and the draft water resource classes
- Discussion

THANK YOU