



**water & sanitation**

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA



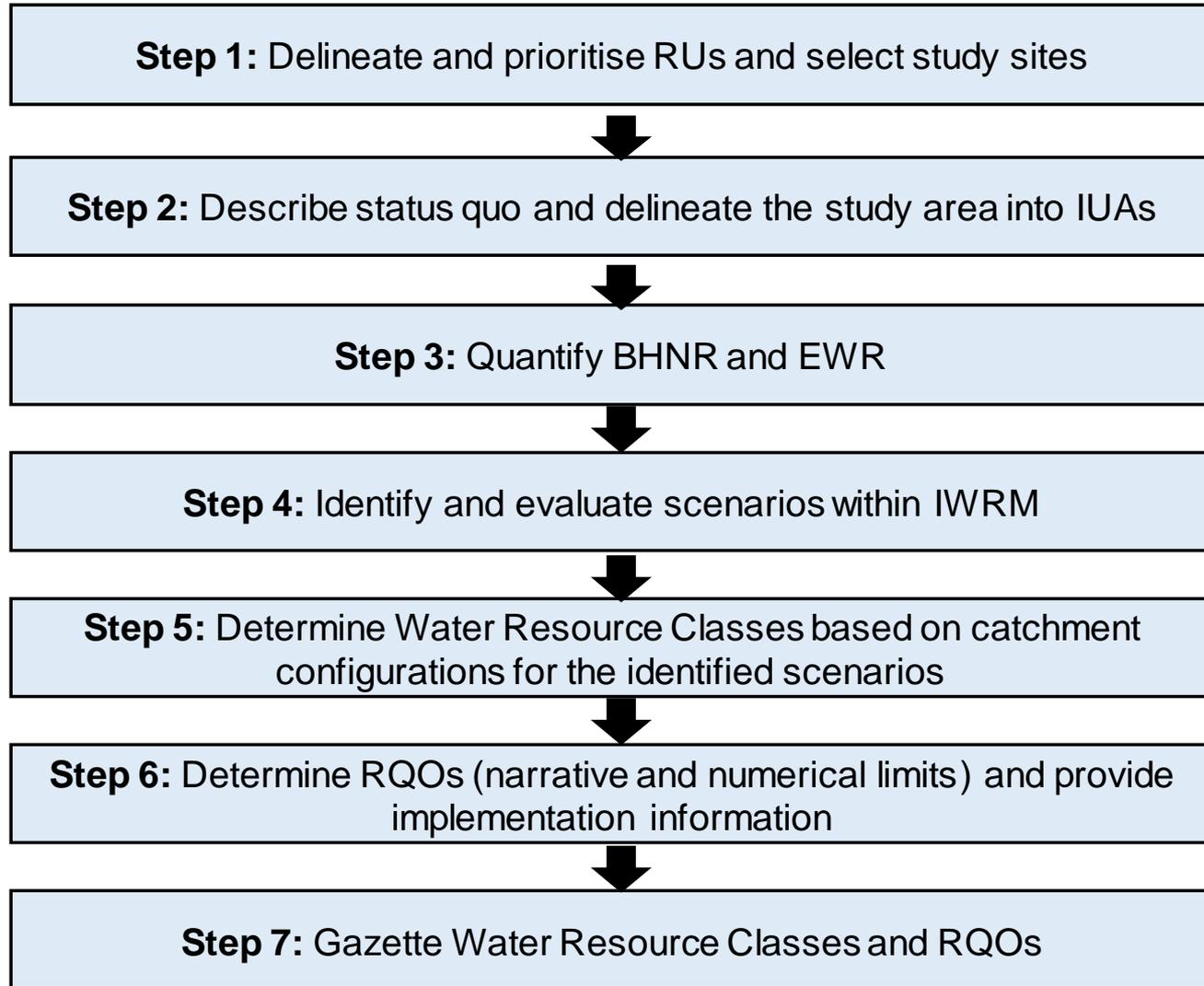
## **WP 11004: PSC MEETING 2, 18 JULY 2017**

# **DETERMINATION OF WATER RESOURCE CLASSES AND RESOURCE QUALITY OBJECTIVES FOR THE WATER RESOURCES IN THE MZIMVUBU CATCHMENT:**

## **BASIC HUMAN NEEDS**

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# PROJECT PLAN



# ASSESSING BASIC HUMAN NEEDS

- **BHN is that volume of water set aside to meet everyone's basic needs, i.e. water for washing, drinking and cooking, and **NOT** being supplied from a recognised formal source.**
- **The BHN assessment is based upon people living within the catchment, and does not include the population outside of the catchment who may be utilising the water.**
- **Population figures adjusted from Census 2011 base to 2015 using the currently accepted population growth figures for the applicable districts within the catchment area.**
- **Data was matched with the profiles of reliance on water resources as provided by Census 2011.**

# CATCHMENT BACKGROUND

- **The area is predominantly rural, with a population of over 1 million people.**
- **85% of people live in rural settlements, dependent on surrounding resources.**
- **Unemployment is higher than the national average of 27%, with the majority of residents being grant dependent vs. actively productive, with the latter involving passive land use, e.g. extensive grazing and food projects driven by the state or parastatals.**
- **A degraded resource base produces lower yields for relatively high time inputs, discouraging involvement in agriculture and subsistence activities.**

# **BHN ASSESSMENT: APPROACH**

- **Follows standard DWS methods (1999, 2007, 2008).**
- **Analyze current demographic profile (using Census 2011 data extrapolated to 2015).**
- **Analyze households dependent on different water sources by QUATERNARY catchment (185 in T3).**
- **Exclude people receiving water from a formal water supply source.**
- **BHN-dependant = persons dependent on boreholes, springs, dams and pools, rivers and streams, water tankers and other means of supply. Population in this category estimated at 685,006.**

# BHN RESULTS (1)

- About 36% of the households are serviced by a Regional Water Supply Scheme.
- Remaining **64% are BHN-dependent** and abstract directly from boreholes as Schedule 1 users, from streams, springs, dams and pools or make other arrangements for their water.
- Results are presented as 25L and 60L/capita/day.
- Projections up to 2025 using the 1.2% pa growth rate estimated for the Eastern Cape.

Total population	1,045,215	Cubic metres per day	million m <sup>3</sup> /a
Population not serviced and allocated to BHN	685,006		
BHN 1: @ 25 L/c/d – excluding those on a formal scheme (surface or groundwater)		17,125	6,251
BHN 1: @ 60 L/c/d – excluding those on a formal scheme (surface or groundwater)		41,100	15,002

## **BHN RESULTS (2)**

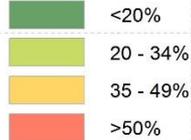
- **Settlements dependent on groundwater (>40% of households) via boreholes: Krom, Mzimvubu, Mzintlava, Tswereka, Mzintlanga, Riet, and Tsitsana quaternary catchments.**
- **Settlements heavily dependent (>60% of households) on springs, dams, pools, and rivers: Mzimvubu, Rolo, Phiri-e-ntso, Tinana, Phinari, Kinira, Jordan, Mabele, Mafube, Malithasana, Nyongo, Mngeni, Pot, Little Pot, Mvumvu, Thina, Mooi, Ngcothi, iTsitsa, Kuntombizininzi, Klein-Mooi, Fontana, Culunca, Inxu, Mzintlava, Gatberg, Gqaqala, Ncolosi, Mzintshana, Qwakele, KuNgindi, Mkata, Zindawa, Vuvu, Somabadi, Mkemane, Ncome, Tokwana, Khohlong, Khalatsu, Bradgate se Loop, Luzi, Mvenyane, and Mvalweni quaternary catchments.**

# Percentage of population dependent on groundwater for BHN

Source data  
 Department of Water Affairs  
[\[http://www.dwaf.gov.za/iwqs/gis\\_data/river/nvs500k.html\]](http://www.dwaf.gov.za/iwqs/gis_data/river/nvs500k.html)  
[\[http://www.dwaf.gov.za/iwqs/wms/data/000key2data.asp\]](http://www.dwaf.gov.za/iwqs/wms/data/000key2data.asp)  
[\[http://www.dwaf.gov.za/Dir\\_BI/SLIMDownload\]](http://www.dwaf.gov.za/Dir_BI/SLIMDownload)

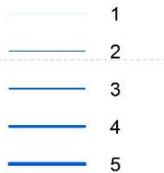
## Ground water abstraction

### Quaternary catchments



Quaternary boundary

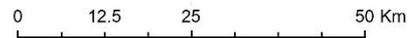
### River-Order



• Towns  
 ★ EWR sites

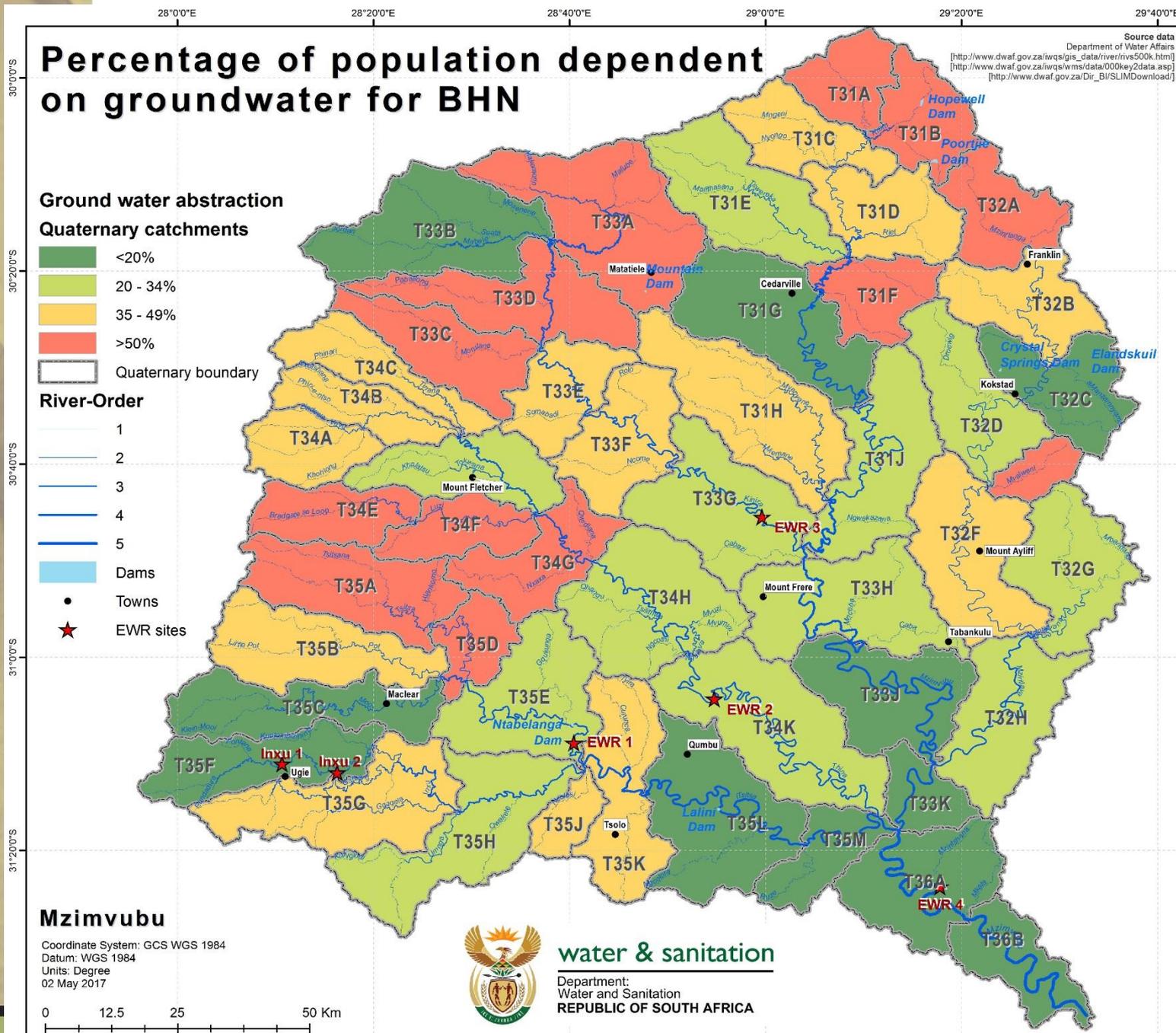
## Mzimvubu

Coordinate System: GCS WGS 1984  
 Datum: WGS 1984  
 Units: Degree  
 02 May 2017



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# Percentage of population dependant on direct abstraction of surface water resources for BHN

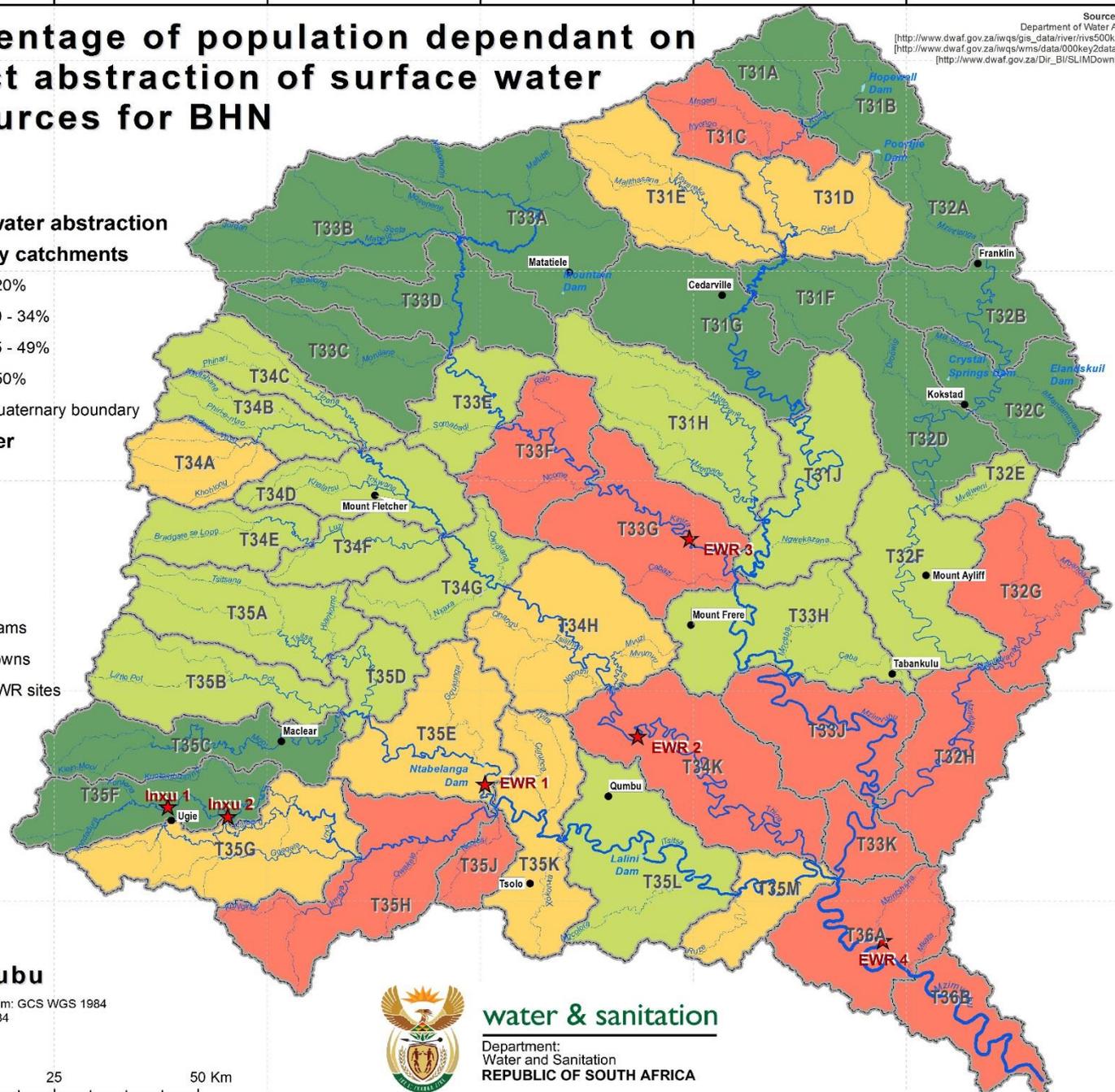
Source data  
 Department of Water Affairs  
[http://www.dwaf.gov.za/wqs/gis\\_data/river/nvs500k.html](http://www.dwaf.gov.za/wqs/gis_data/river/nvs500k.html)  
<http://www.dwaf.gov.za/wqs/wms/data/000key2data.asp>  
[http://www.dwaf.gov.za/Dir\\_BI/SLIMDownload/](http://www.dwaf.gov.za/Dir_BI/SLIMDownload/)

- Surface water abstraction**
- <20%
  - 20 - 34%
  - 35 - 49%
  - >50%
- Quaternary catchments**
- Quaternary boundary
- River-Order**
- 1
  - 2
  - 3
  - 4
  - 5
- Dams**
- Dams
- Towns**
- Towns
- EWR sites**
- EWR sites

**Mzimvubu**

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0 12.5 25 50 Km





# **QUESTIONS FOR CLARIFICATION**