water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

2030 NDP

The Determination of Water Resources Classes and Resource Quality Objectives for the water resources in in the Breede-Gouritz WMA

*Focus on Gouritz-Coastal area*

# Sector Meeting 1: Estuaries
# Presentation and workshopping of draft Resource Quality Objectives
# Overview of the RQOs Process

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19 April 2018
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# Study Objectives

Co-ordinate implementation of the Water Resources Classification System (WRCS):

- **Determine Water Resources Classes (WRCs)**
- **Determine Resource Quality Objectives (RQOs)**
- **Support Gazetting of Recommended Water Resources Classes and RQOs**

*for the water resources in the Breede-Gouritz WMA:*

- Rivers - Estuaries - Groundwater
- Dams - Wetlands

# Objectives of Sector Meeting 1 - Estuaries

- Provide overview of:
  - Study progress to date
  - Approach followed to determine RQOs
- Present and workshop RQO findings for estuaries:
  - Prioritisation of Resource Units (RUs)
  - Evaluation of Resource Units (prioritised RUs)
  - RQOs for Resource Units (prioritised RUs)

# Overview of Study Progress

# Classification and RQOs Steps

7-step process to determine WRCs

1. Delineate IUA's and describe status quo
2. Link value & condition of water resource
3. Quantify EWRs and changes in non-water quality EGSAs
4. Determine scenarios
5. Evaluate scenarios within IWRM process
6. Evaluate scenarios with stakeholders
7. Gazette & Class configuration

Aligned

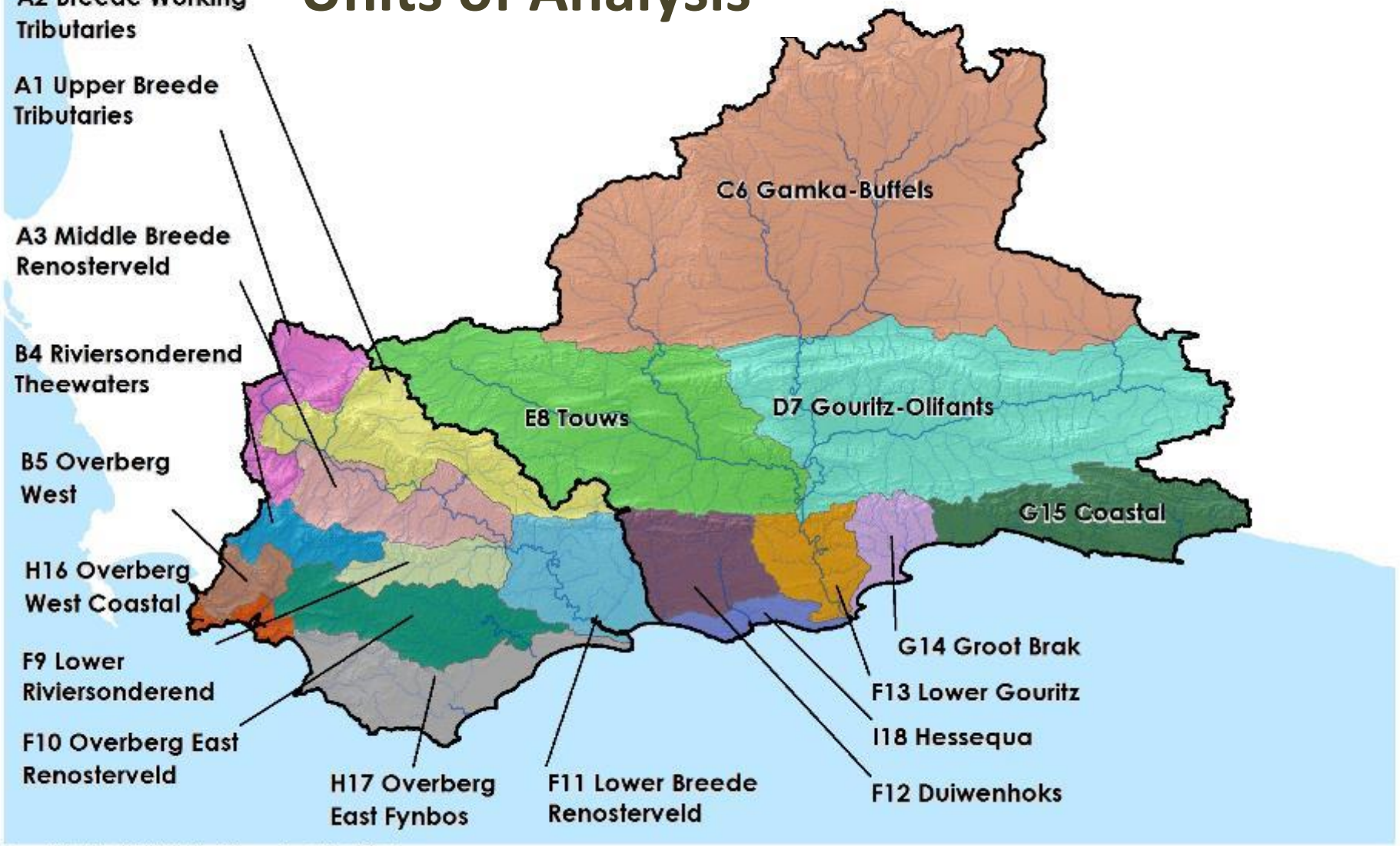
7-step process to determine RQOs

1. Delineate Resource Units (RUs)
2. Establish Vision for Catchment
3. Prioritise & select prelim RU for RQO
4. Prioritise sub-components for RQO & select indicators
5. Draft RQOs & Numerical limits
6. Agree to RU, RQOs and numerical limits with stakeholders
7. Gazette WRC & RQO

# Defined Integrated Units of Analysis (IUAs)

- Identified **significant resources**:
  - Based on Physical, Biological & Socio-economic factors
- Each IUA represents a similar area requiring a Water Resources Class (WRC)
- Why do we need these?
  - Broad-scale units to assess socio-economic implications of scenarios *(possible future situations)*
  - Report on ecological conditions at a sub-catchment scale
  - Set WR Classes for different parts of a catchment
- 18 IUAs delineated - 10 in the Breede-Overberg & 8 in the Gouritz-Coastal areas

# 18 Integrated Units of Analysis

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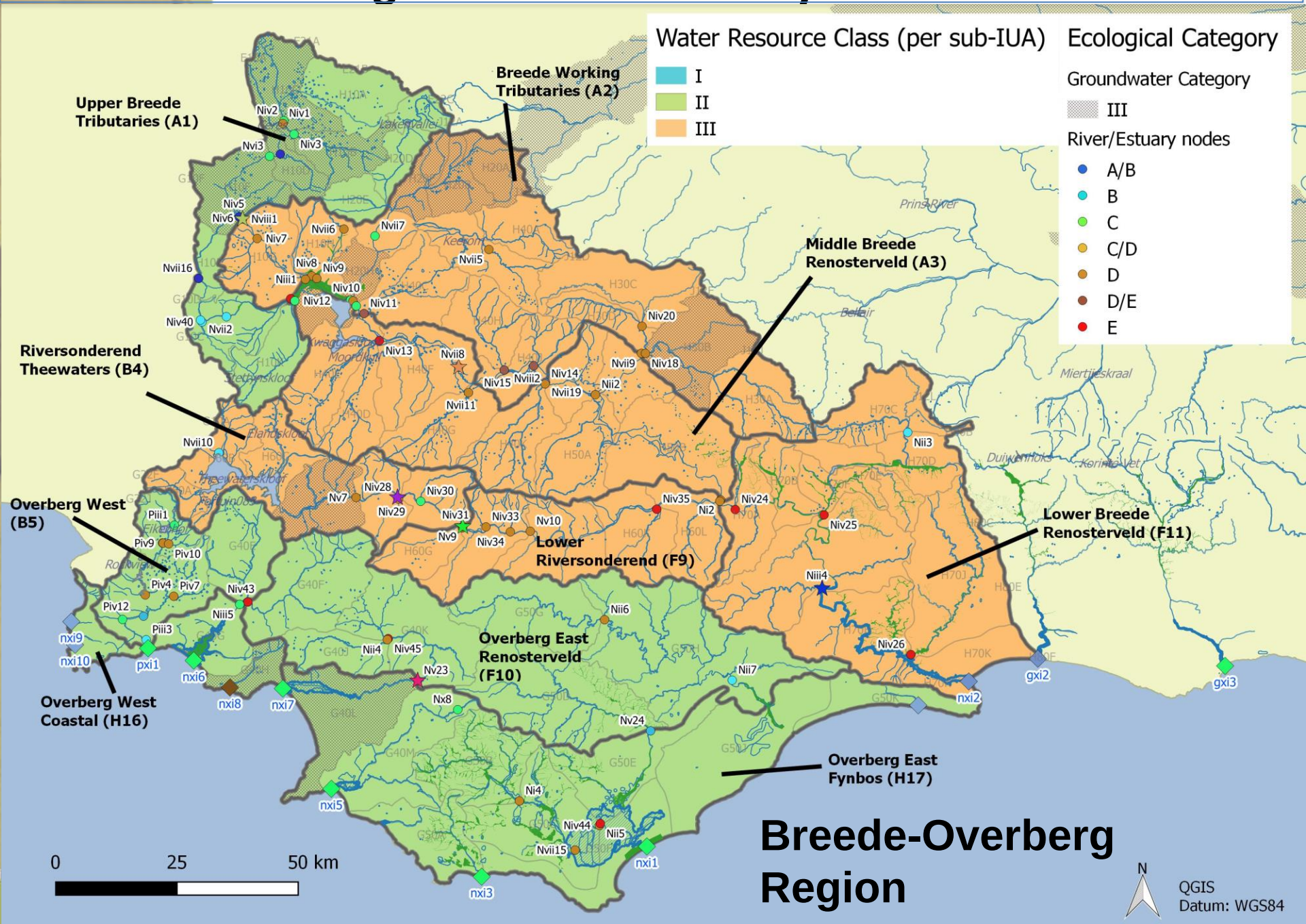
# Defined Resource Units (RUs) and Nodes

- **Resource units (RUs)** are grouped areas e.g. river basins, deemed similar in terms of various characteristics
- Are used to transfer information between catchments
- Groundwater

- **Nodes** are locations of interest (points) in a water resource (rivers, dams, wetlands, estuaries)
- Are sited using:
  - Water infrastructure
  - Aquatic ecosystem attributes
- Are used to allocate water for environment and development

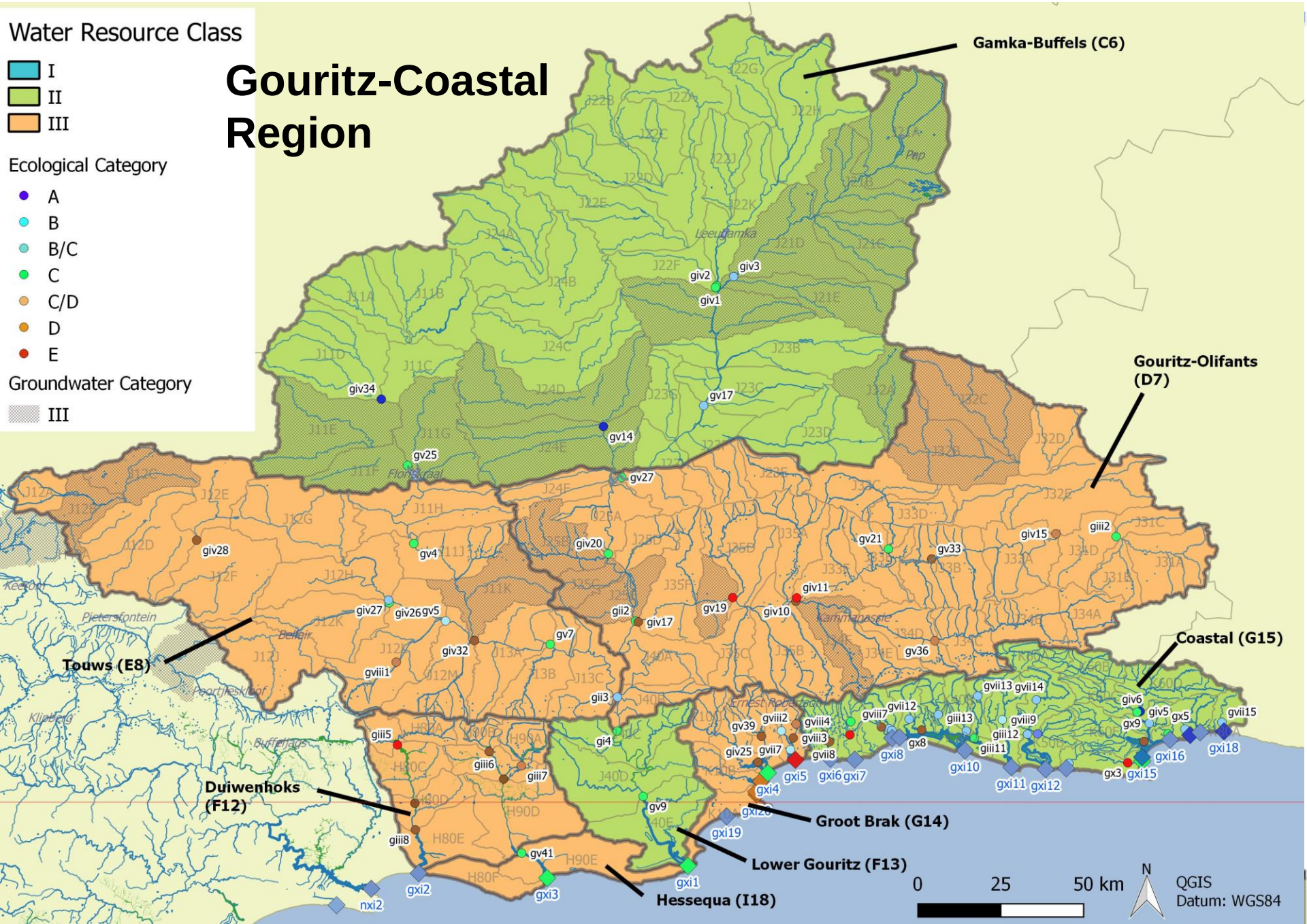
# Integrated Units of Analysis and Nodes



# Breede-Overberg Region

| Integrated Unit of Analysis (IUA) | Recommended Classes |
|---|---|
| A1 Upper Breede Tributaries | II |
| A2 Middle Breede Renosterveld | III |
| A3 Breede Working Tributaries | III |
| B4 Riversonderend Theewaters | III |
| F9 Lower Riversonderend | III |
| B5 Overberg West | II |
| H16 Overberg West Coastal | II |
| F10 Overberg East Renosterveld | II |
| H17 Overberg East Fynbos | III |
| F11 Lower Breede Renosterveld | II |

# Integrated Units of Analysis and Nodes



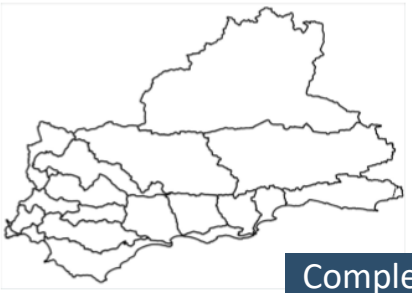
# Gouritz-Coastal Region

| Integrated Unit of Analysis (IUA) | | Recommended Classes |
|---|---|---|
| Gamka Buffels | C6 | II |
| Touws | E8 | III |
| Gouritz-Olifants | D7 | III |
| Lower Gouritz | F13 | II |
| Duiwenhoks | F12 | III |
| Hessequa | I18 | III |
| Groot Brak | G14 | III |
| Coastal | G15 | II |

# Study Status: RQOs

## STEP 1: DELINEATE CATCHMENT

Outcome: Integrated Units of Analysis and Resource units as defined in the WRCS approach.



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## STEP 2: ESTABLISH VISION FOR CATCHMENT

Outcome: Align the diverse and competing interests in the resource into a collective desired future state. This involves multiple stakeholders in the strategic planning process.

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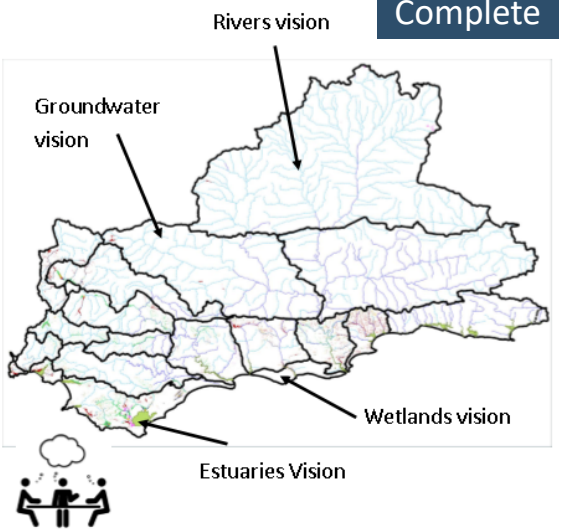
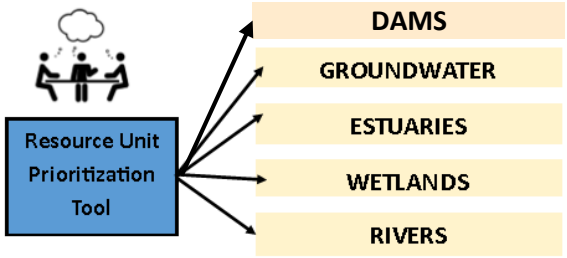



## STEP 3: PRIORITISE & SELECT PRELIMINARY RESOURCE UNITS FOR RQO

Outcome: Use the resource unit prioritization tool to sect priority resource units.

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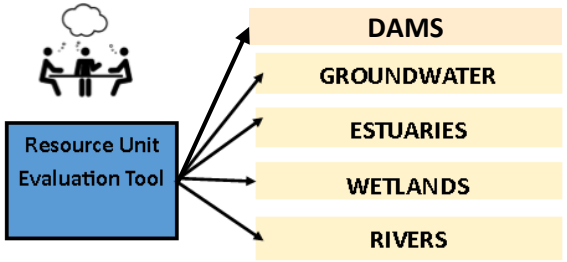
## STEP 4: PRIORITISE SUB-COMPONENTS FOR RQO & SELECT INDICATIORS FOR MONITORING

Outcome: Identify & prioritize sub-components that may be important to users or environment. Select sub-components and associated indicators for RQOs and Numerical Limits.

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## STEP 5: DEVELOP DRAFT RQOs & NUMERICAL LIMITS

Outcome: RQOs are essentially narrative but sometimes broadly quantitative descriptions of the resource. These are gazette, whilst Numerical Limits are not. These should be set for discussion with stakeholders.

Draft

## STEP 6: AGREE RESOURCE UNITS, RQOs AND NUMERICAL LIMITS WITH STAKEHOLDERS

Outcome: .Stakeholders who were involved in the setting of the vision are involved in reviewing how their input has been considered and taken forward. Decide on Resource Units, RQOs and Numerical Limits.

## STEP 7: GAZETTE RESOURCE QUALITY OBJECTIVES

Outcome: A Water Resource Class configuration and associated RQOs for the entire catchment is published by the Minister in the Government Gazette as required in the National Water Act of 1998.

# Comments on draft RQO Reports

- Three RQO Reports were disseminated for comment (up to 22 March)
  - Resource Unit Prioritisation Report
  - Evaluation Resource Units Report
  - Outline of RQOs Report

# Thank you, Any discussion?

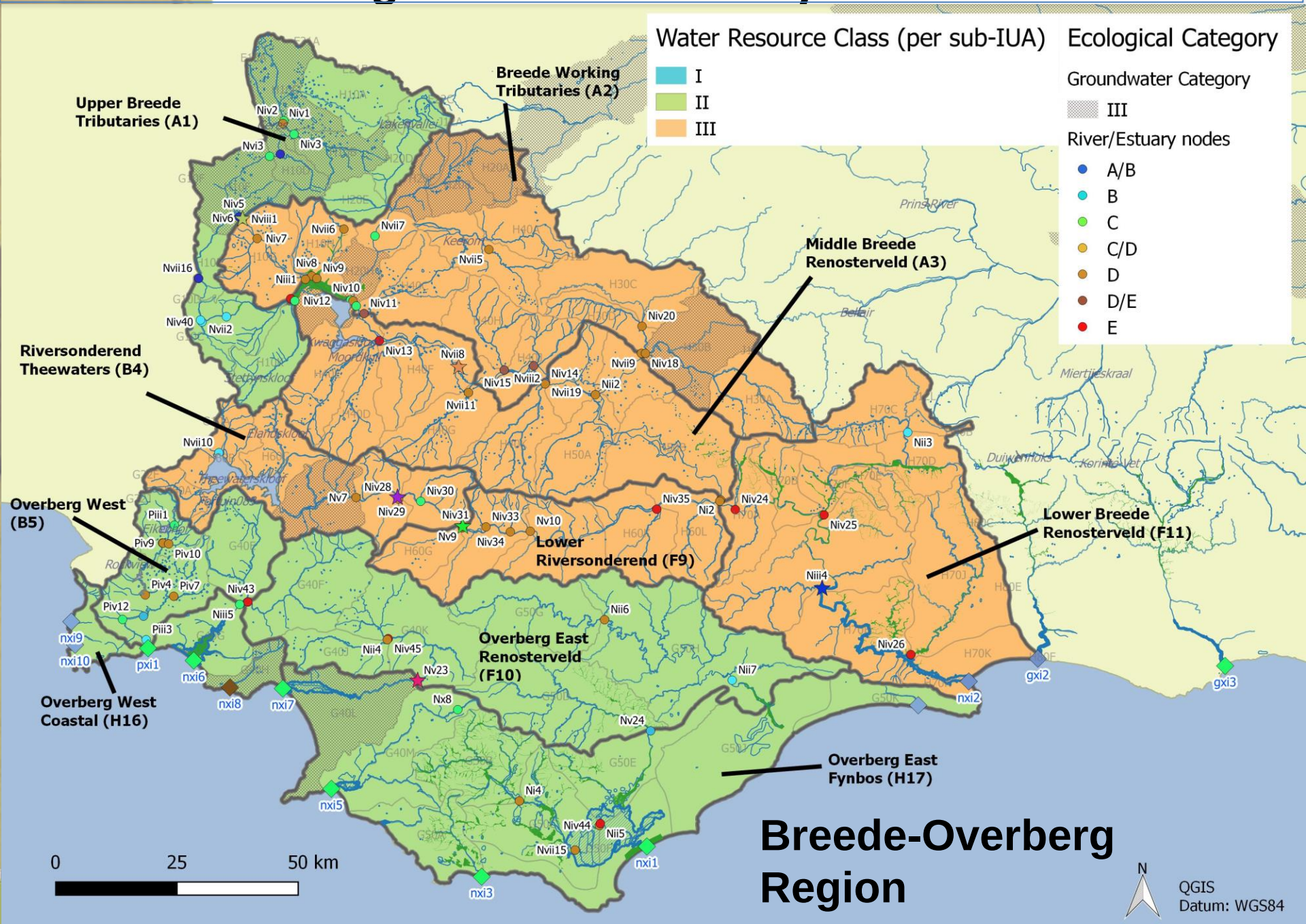
# ADDITIONAL SLIDES

# Methodology for Determination of RQOs

# Integrated Units of Analysis

| Socio-economic Zone | Zone Code | River Resource Unit | IUA Name | IUA Code |
|---|---|---|---|---|
| Upper and Middle Breede | A | Upper Breede Tributaries | Upper Breede Tributaries | A1 |
| | | Breede Working | Breede Working Tributaries | A2 |
| | | Middle Breede Renosterveld | Middle Breede Renosterveld | A3 |
| Upper Riversonderend and Palmiet | B | Riviersonderend Upper | Riviersonderend Theewaters | B4 |
| | | Overberg West (part 1 of 3) | Overberg West | B5 |
| Great Karoo | C | Groot/Touws (part 1 of 2) | Gamka-Buffels | C6 |
| | | Gamka (part 1 of 2) | | |
| Little Karoo West | D | Lower Gouritz (part 1 of 2) | Gouritz-Olifants | D7 |
| | | Olifants | | |
| Little Karoo East | E | Groot/Touws (part 2 of 2) | Touws | E8 |
| Wheat belt | F | Riviersonderend Lower | Lower Riviersonderend | F9 |
| | | Overberg West (part 2 of 3) | Overberg East Renosterveld | F10 |
| | | Overberg East Renosterveld (part 1 of 2) | | |
| | | Lower Breede Renosterveld | Lower Breede Renosterveld | F11 |
| | | Duiwenhoks (1 of 2) | Duiwenhoks | F12 |
| Garden Route coast | G | Coastal Rivers (1 of 2) | Groot Brak | G14 |
| | | Coastal Rivers (2 of 2) | Coastal | G15 |
| Overberg coast | H | Overberg West (3 of 3) | Overberg West Coastal | H16 |
| | | Overberg East (Fynbos) | Overberg East Fynbos | H17 |
| Hessequa coast | I | Duiwenhoks (2 of 2) | Hessequa | I18 |

# Integrated Units of Analysis and Nodes



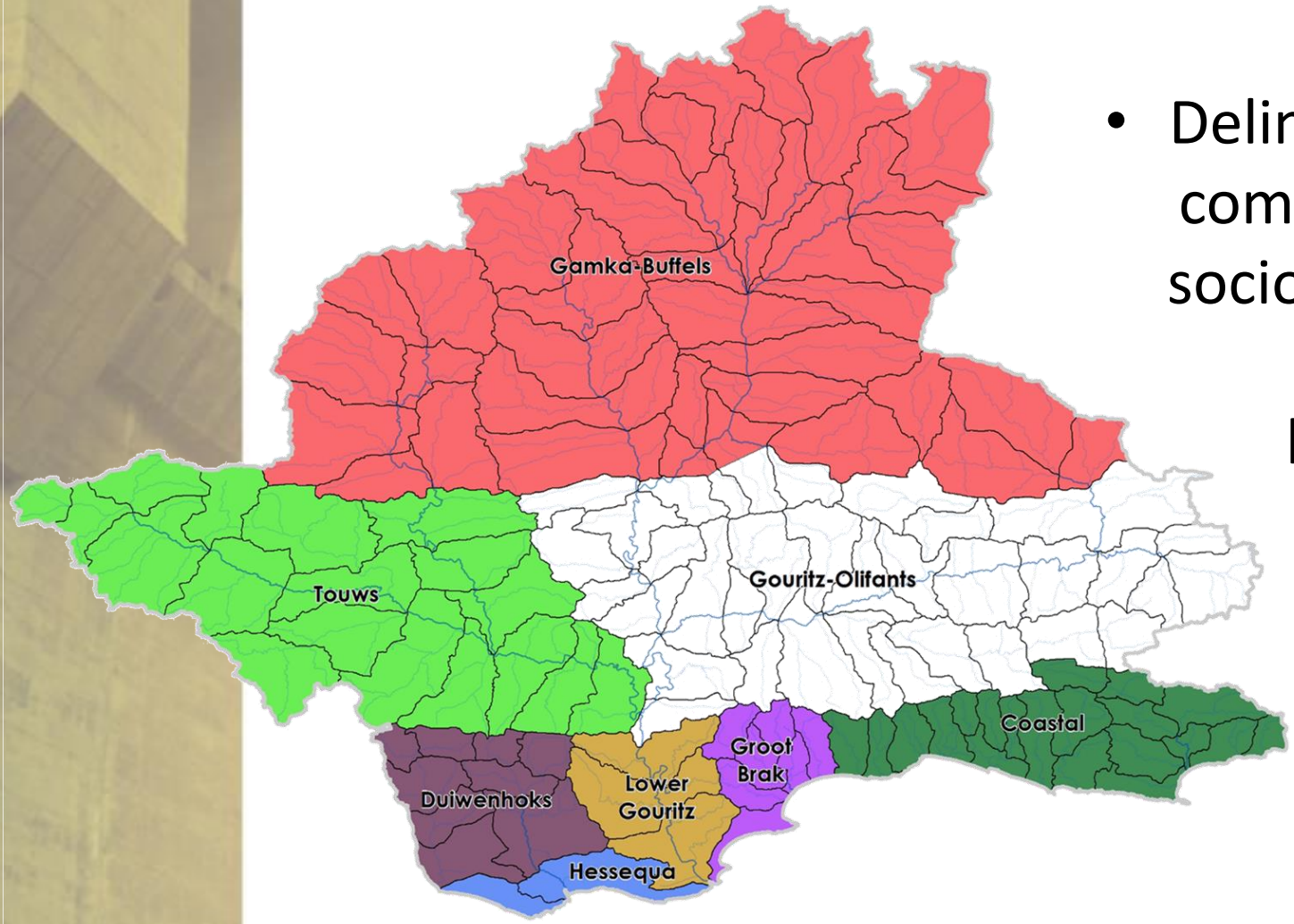
# Integrated Units of Analysis

## Breede-Overberg area


- Delineated by a combination of socio-economic and biotic boundaries

# Integrated Units of Analysis

## Gouritz-Coastal area




- Delineated by a combination of socio-economic and biotic boundaries

# Integrated Units of Analysis and Nodes