

**DETERMINATION OF WATER RESOURCE CLASSES, RESERVE AND
RESOURCE QUALITY OBJECTIVES IN THE KEISKAMMA AND FISH
TO TSIKAMMA CATCHMENTS WITHIN THE MZIMVUBU-
TSITSIKAMMA WATER MANAGEMENT AREA (WP11354)**


**TECHNICAL TASK GROUP MEETING
RESOURCE QUALITY OBJECTIVES**


ESTUARIES
K, L, M, N and P - CATCHMENT

Presented by: GroundTruth and Collaborators
Directorate: Classification

Date: 6 June 2025

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



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PRIORITISATION OF RUs

- Estuaries is a single RU based on the Estuarine Functional Zone (EFZ) (previously done national scale by van Niekerk et al. 2019)
- Water resource importance (use/quality)
- High ecological importance (resource is currently/future stressed)
- Previous assessments
- Further considerations/inclusions:
 - High Ecological Category: A, A/B or B (High EC);
 - Critically endangered fish species
 - Carbon sequestration (mangrove, salt marsh & seagrass)
 - Nursery areas
 - Critically endangered species (other)



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RESOURCE QUALITY OBJECTIVES

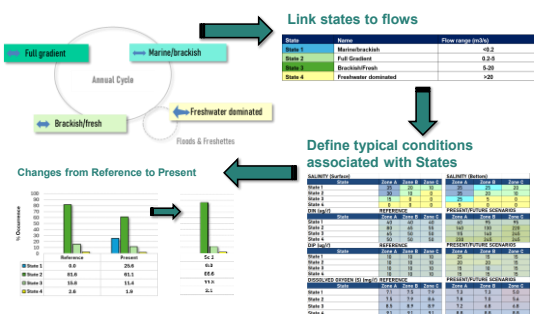
- Study confidence & detail captured in RQOs is influence by :
 - Quality of the flow data & simulated hydrology – uncertainty we aggregate
 - Historical imagery (aerial photographs and satellite)
 - Information on mouth state (if relevant)
 - **Historical abiotic and biotic measurements and studies**
 - Do we understand the Reference/Natural conditions?
 - Time scales at which an estuary respond to flow (i.e. Keiskamma (weeks to months) vs East Kleinmonde (days))

Limited data available for SA estuaries, especially data matched with salinity data and river inflow data - Specialists often must use expert judgement/option

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Typical abiotic Conditions/States

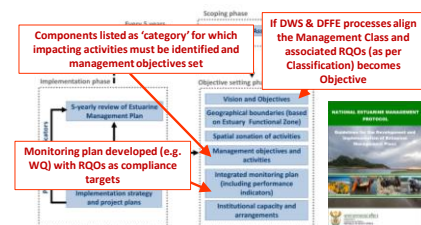


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ESTUARY MANAGEMENT PLANS

National Estuarine Management Protocol requires Estuarine Management Plans (under Integrated Coastal Management Act)



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Estuary Mitigation Measures

- Restore/protect base flows, floods or groundwater
- Improve urban runoff (stormwater)
- **Manage agricultural runoff (e.g. fertilizing, buffer zones)**
- **Manage Plastic Pollution (storm water)**
- **Improve WWTW infrastructure/operations**
- Restore connectivity/ hydrodynamic functioning
- Improve mouth management
- Rehabilitate riparian areas/ wetlands
- **Remove alien vegetation**
- **Reduce grazing (sheep, cattle, goats)**
- **Implement cattle exclusion zone (browsing of mangroves)**
- **Control mangrove harvesting**
- **Control recreational activities (impacting on birds or seagrass)**
- **Manage/reduce fishing pressure/ bait collection**
- Restore/protect against impact from mining
- Investigate eradication of alien fish

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RESOURCE QUALITY OBJECTIVES: 83 Estuaries

NAME	SES	Ecology	SC	TEC	Hydrology	Hydrodynamics	Water Quality/Salinity	Physical Habitat	Microalgae	Macrophytes	Wetland	Fish	Birds
Gxara (Gxarha)	A/B	A-A/B	A-A/B	A-A/B	A	A	A	A	A	A	A	A	A
Ngogwane	B	B	B	B	B	B	B	B	B	B	B	B	B
Qolora (Qolorha)	B	B	B	B	A	B	A	B	A	B	B	B	B
Niclate	A/B	A-A/B	A-A/B	A	A	A	A	A	A	A	A	A	A
Timba	B	B	B	B	B	B	B	B	B	B	B	B	B
Kobongaba (Kobongaba)	B	A/B	A/B	A	A	B	B	B	A	B	B	B	B
Nxazonqusi	B	A/B	A/B	A	A	A	A	B	A	B	B	B	B
Cebe	A/B	A-A/B	A-A/B	A	A	A	B	B	A	A	B	B	B
Goume	A/B	A-A/B	A-A/B	A	A	A	B	B	A	A	B	B	B
Zulu	B	B	B	B	A	B	B	B	B	B	B	B	B
Ngawara (Ngawarha)	A/B	A-A/B	A-A/B	A	A	A	B	B	A	A	B	B	B
Siblonfereni	A/B	A-A/B	A-A/B	A	A	A	B	B	A	A	B	B	B
Nehelile	A/B	B	B	B	B	A	A	B	B	A	B	B	B
Gora (Ghorha)	B	A/B	A/B	A	A	A	B	B	B	B	B	B	B
Julana (Julurha)	B	B	B	B	B	B	B	B	B	B	B	B	B
Nvula	A/B	A-A/B	A-A/B	A	A	A	B	B	A	A	B	B	B

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RESOURCE QUALITY OBJECTIVES: 83 Estuaries

Detail available for all systems

Estuary	SES	Ecology	SC	TEC	Hydrology	Hydrodynamics	Water Quality/Salinity	Physical Habitat	Microalgae	Macrophytes	Wetland	Fish	Birds
Ngogwane	B	B	B	B	B	B	B	B	B	B	B	B	B
Qolora (Qolorha)	B	B	B	B	A	B	A	B	A	B	B	B	B
Niclate	A/B	A-A/B	A-A/B	A	A	A	A	A	A	A	A	A	A
Timba	B	B	B	B	B	B	B	B	B	B	B	B	B
Kobongaba (Kobongaba)	B	A/B	A/B	A	A	B	B	B	A	B	B	B	B
Nxazonqusi	B	A/B	A/B	A	A	A	A	B	A	B	B	B	B
Cebe	A/B	A-A/B	A-A/B	A	A	A	B	B	A	A	B	B	B
Goume	A/B	A-A/B	A-A/B	A	A	A	B	B	A	A	B	B	B
Zulu	B	B	B	B	A	B	B	B	B	B	B	B	B
Ngawara (Ngawarha)	A/B	A-A/B	A-A/B	A	A	A	B	B	A	A	B	B	B
Siblonfereni	A/B	A-A/B	A-A/B	A	A	A	B	B	A	A	B	B	B
Nehelile	A/B	B	B	B	B	A	A	B	B	A	B	B	B
Gora (Ghorha)	B	A/B	A/B	A	A	A	B	B	B	B	B	B	B
Julana (Julurha)	B	B	B	B	B	B	B	B	B	B	B	B	B
Nvula	A/B	A-A/B	A-A/B	A	A	A	B	B	A	A	B	B	B

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RESOURCE
QUALITY
OBJECTIVES

ESTUARIES

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SUMMARY OF IUAs – PRIORITY RU

IUA No.	IUA Code	Estuaries
1	IUA_K01	✓
2	IUA_KL01	✓
3	IUA_L01	✗
4	IUA_M01	✓
5	IUA_LN01	✗
6	IUA_N01	✗
7	IUA_P01	✓



IUA No.	IUA Code	Estuaries
1	IUA_K01	Lottering, Elandsbos, Storms, Elands, Groot (Oos)
2	IUA_KL01	Kromme, Kabeljous, Gamtoos
4	IUA_M01	Van Stadens, Swartkops
7	IUA_P01	Kariega, Bushans, Kowie, Kasouga, Riet, West Kleinemonde, East Kleinemonde

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RESOURCE
QUALITY
OBJECTIVES

ESTUARIES

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RESOURCE QUALITY OBJECTIVES: M CATCHMENT



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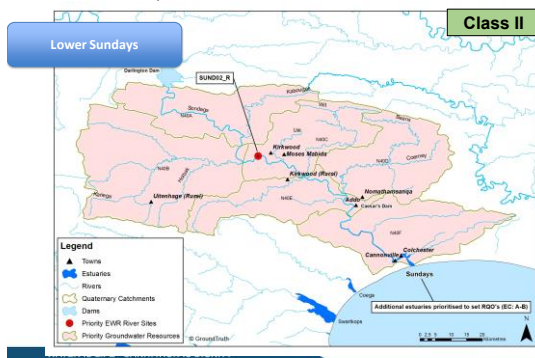
RESOURCE QUALITY OBJECTIVES: P CATCHMENT



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RESOURCE QUALITY OBJECTIVES: N CATCHMENT



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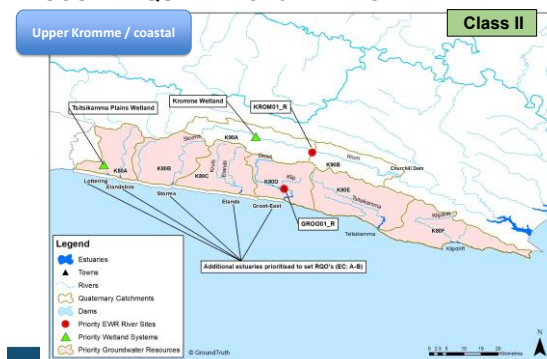
RESOURCE QUALITY OBJECTIVES: K/L CATCHMENT



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RESOURCE QUALITY OBJECTIVES: K CATCHMENT

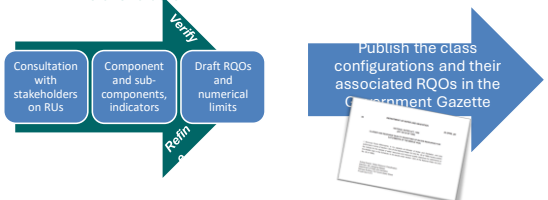


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NEXT STEPS:

Step: Agree RUs, RQOs & numerical limits with stakeholders

Step: Finalise and Gazette



- Draft Gazette template: end-June 2025
- Out for public review: September – October 2025 (60 days)
- Public meeting: August/September 2025
- Minister to sign off Gazette

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THANK YOU!

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All study reports can be accessed from the DWS
website: <https://www.dws.gov.za/RDM/WRCs/>

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