



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

INKOMATI PSC

USER WATER QUALITY RQOs

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STEP 6 of CLASSIFICATION: RQOs

- **Water quality = two broad components:**
 - **Ecological, i.e. as part of the EWR or Reserve process.**
Output = EcoSpecs
 - **Non-ecological or Users, i.e. UserSpecs (excl. aquatic ecosystems)**
- **Note that aquatic ecosystem requirements may be the driver of UserSpecs**
- **Aquatic ecosystem requirements may then represent the water quality component of RQOs for sites other than EWR sites**

USER WATER QUALITY STEPS

Step 1

Identify priority RUs and water quality hotspots

Step 2

Identify priority users + link them to the identified RUs. Use Reserve info for aquatic ecosystems

Step 3

Identify driving variables

Step 4

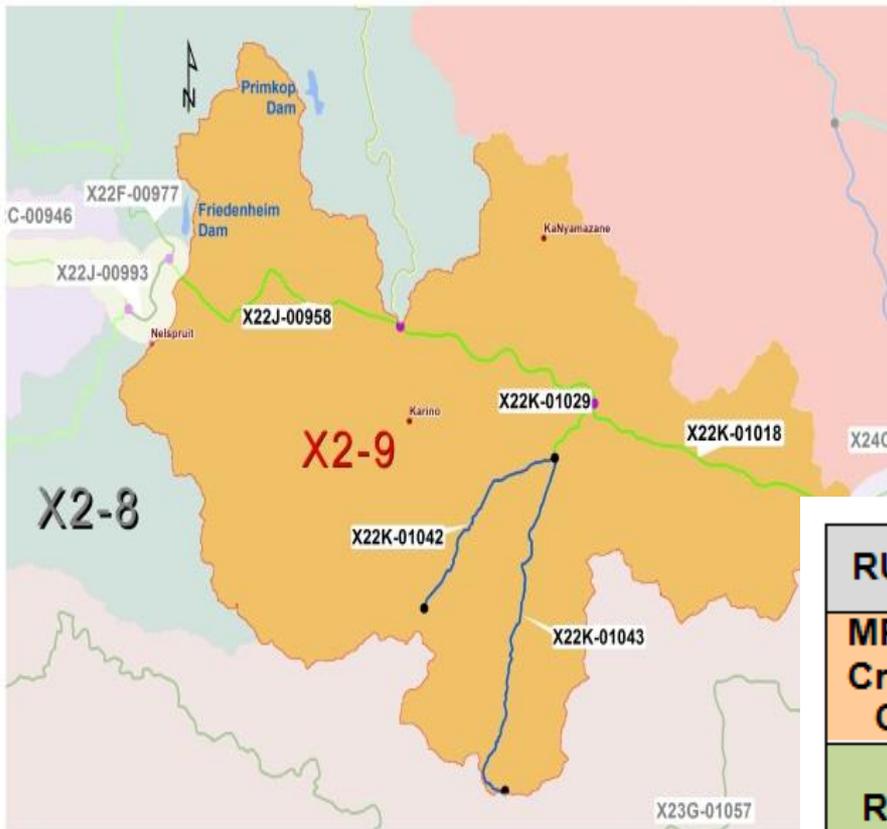
Test all info with Technical Task Group

Step 5

Determine RQOs for driving variables and driving users. Also provide EcoSpecs and TPCs for EWR sites.

TO SUMMARIZE, USER WATER QUALITY STATE PER RELEVANT RU AND IUA WAS EVALUATED BY DETERMINING THE DRIVING WATER QUALITY VARIABLES LINKED TO THE PRIMARY WATER QUALITY USER(S). NOTE THAT ALTHOUGH THE AQUATIC ECOSYSTEM IS THE **RESOURCE BASE** RATHER THAN A “USER”, IT WAS GROUPED AND EVALUATED WITH OTHER USERS FOR PURPOSES OF THIS STEP OF THE CLASSIFICATION PROCESS. THE DRIVING USER IS THEN IDENTIFIED AND THE WATER QUALITY RQOs SET ACCORDINGLY.

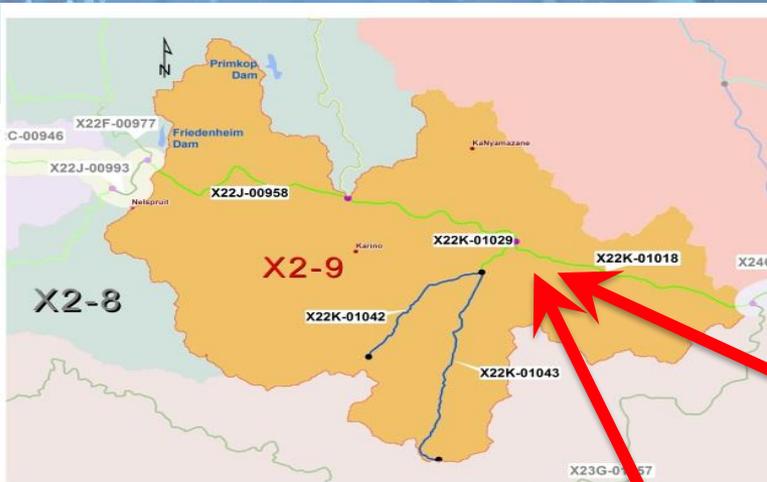
IUA X2-9, CROCODILE FROM NELS TO KAAP INCLUDING BLINKWATER AND EWR C4 (CROCODILE)



PRIORITY RATINGS

RUs	SQ number	River	PES	REC	RU PR
MRU Croc C	X22J-00958	Crocodile	C	B	3WQ
	X22K-00981	Crocodile	C	B	
RU C15	X22K-01042	Mbuzulwane	B	B	2
	X22K-01043	Blinkwater	B	B	
	X22K-01029	Blinkwater	C	C	
MRU Croc D	X22K-01018 EWR C4	Crocodile	C	B	3WQ 3

IUA X2-9, RU EWR C4 (CROCODILE) High priority RU: Water quality RQOs



**EcoSpec + TPC tables for
ecological requirements**

Narrative RQOs	Numerical RQOs
Ensure that electrical conductivity (salt) levels are within Ideal limits.	95 th percentile of the data must be less than or equal to 55 mS/m (aquatic ecosystems: driver).
Ensure that nutrient levels are within Acceptable limits.	50 th percentile of the data must be ≤ 0.025 mg/L PO ₄ -P (Aquatic ecosystem: driver)
Meet faecal coliform and <i>E.coli</i> targets for recreational (full contact) use.	Meet the TWQR of 0-130 counts per 100 ml (DWAF, 1996a).
Ensure that toxics are within Ideal limits or A categories or TWQR.	95 th percentile of the data must be within the TWQR for toxics or the upper limit of the A category in DWAF (2008). Numerical limits can be found in DWAF (1996c) and DWAF (2008).

IUA X2-9, MRU Croc C (CROCODILE) High priority WQ: Water quality RQOs



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