



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

CLASSIFICATION OF SIGNIFICANT WATER RESOURCES IN THE MVOTI TO UMZIMKULU WATER MANAGEMENT AREA

KZN Recon SSC Meeting 8

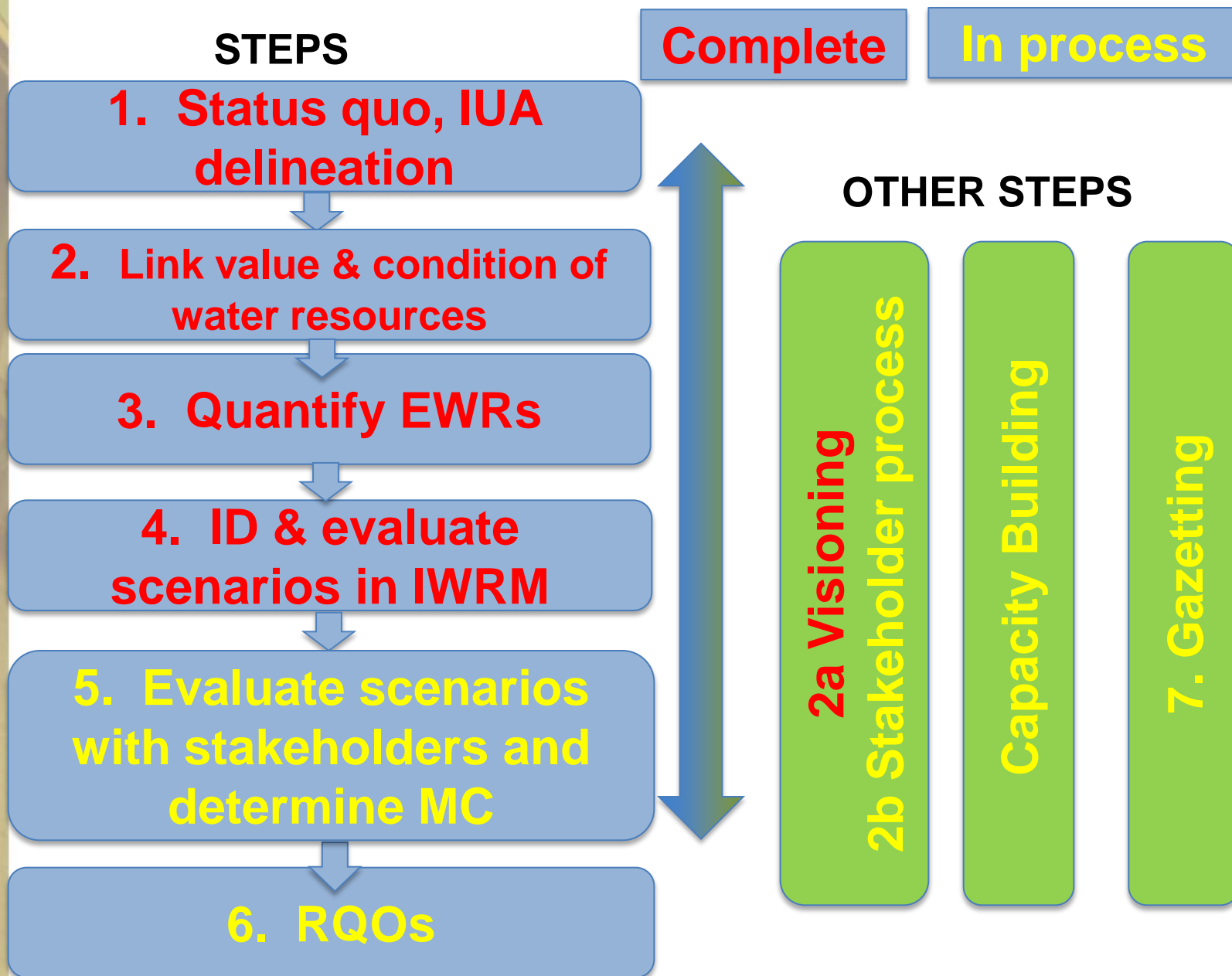
Presented by:
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Directorate: Water Resource Classification

9 September 2015

PURPOSE OF PRESENTATION

- ❑ To provide feedback on the progress of the DWS study on the Classification of Significant Water Resources, determination of the Reserve and Resource Quality Objectives (RQOs) in the Mvoti to Umzimkulu Water Management Area

RECAP OF STUDY PROCESS



PROPOSED WATER RESOURCE CLASSES FOR THE uMKOMAZI CATCHMENT

IUA	River reach	Scenarios and Proposed Water Resource Class		
		PES	21 (Recommended Scenario)	Implications
U1-1	uMkomazi Mountain Zone	I	I	Nzinga: B/C→B - difficult, catchment management to e.g manage sedimentation. No direct impact on users/economy
U1-2	Middle uMkomazi	II	II	Elands: C→B - Buffer zone protection, alien vegetation removal. Sc MK 21 negative implications for ecology (PES & REC not maintained)
U1-3	uMkomazi Gorge	II	II	Sc MK 21: Geomorph, Fish, Invert PES and REC will not be maintained
U1-4	Lower uMkomazi	II	II	Sc MK 21: Geomorph, Fish, Invert PES and REC will not be maintained.

2040 development demands; meeting the REC (total flows);
Smithfield Dam, Ngwadini off channel storage
Wastewater Scenarios evaluated

DRAFT WATER RESOURCE CLASSES FOR THE MVOTI CATCHMENT

IUA	River reach	Scenarios and Proposed Water Resource Class		
		PES	42 (Recommended Scenario)	Implications
U4-1	Mvoti Upper reaches	II	II	Mvoti, Khamanzi: B/C→B - Buffer zone protection (forestry & agriculture) No implications
U4-2	Mvoti Middle Reaches	II	II	No implications
U4-3	Mvoti Lower Reaches	II	II	Pambela, Nsuze: B/C→B - Buffer zone protection, Under Sc 42: Geom, Fish REC will not be maintained. (Dam in place)

Updated water demands; development demands & return flows;
meeting the REC (low flows); Mvoti River Development Project
(Isithundu Dam); Imvutshane Dam
Wastewater Scenarios evaluated

IMPLICATIONS OF WRC: RQOs at IUA U1-2, MK_I_EWR1 (Mkomazi - DS proposed Smithfield Dam)



		Target	Sc 21					
Hydrology	nMAR%	27.1	79.1					
	Drought Sep	0.89 m³/s	2.377 m³/s					
	Normal Sep	1.416 m³/s	2.82 m³/s					
Water Quality (A/B)	Turbidity	Acceptable: Moderate changes						
	<i>E.Coll targets for recreational use – potential health risk in terms of counts/100 ml</i>	<table><tr><td>Low</td><td>Medium</td><td>High</td></tr><tr><td>< 600</td><td>600 - 2 000</td><td>> 2 000</td></tr></table>		Low	Medium	High	< 600	600 - 2 000
Low	Medium	High						
< 600	600 - 2 000	> 2 000						
Habitat & Biota (EcoStatus C)	Geomorph	A/B	B/C					
	Fish	B	B/C					
	Invertebrates	B/C						
	Vegetation	C						

IMPLICATIONS OF WRC: RQOs at IUA U1-4, MK_I_EWR3 (Mkomazi - DS proposed Smithfield Dam)



		REC: C	Sc 21: C					
Hydrology	nMAR%	31.1	76.1					
	Drought Sep	1.532 m³/s	2.743 m³/s					
	Normal Sep	2.203 m³/s	3.383 m³/s					
Water Quality (A/B)	Nutrients (PO ₄)	Acceptable						
	Salts	Acceptable						
	E.Coli targets for recreational use – potential health risk in terms of counts/100 ml	<table><tr><td>Low</td><td>Medium</td><td>High</td></tr><tr><td>< 600</td><td>600 - 2 000</td><td>> 2 000</td></tr></table>		Low	Medium	High	< 600	600 - 2 000
Low	Medium	High						
< 600	600 - 2 000	> 2 000						
Habitat & Biota (EcoStatus C)	Geomorph	B	B/C					
	Fish	B	B/C					
	Invertebrates	B	B/C					
	Vegetation	B						

WHERE TO FROM HERE

- ❑ **Next Project Steering Committee meeting on 16 September 2015, focus:**
 - ❖ Recommending Water Resource Classes
 - ❖ Estuary Waste Water Scenarios & consequences to ecological health
 - ❖ Groundwater and Estuary RQOs

- ❑ **Stakeholder Meetings: October 2015**
 - ❖ Proposed venues – Pietermaritzburg (UKZN) & Durban (Botanical Gardens)

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- Reports are available on:
<http://www.dwa.gov.za/Documents/Policies/WRPP/default.htm> OR
www.dwa.gov.za/rdm/WRCS/default.aspx

Thank you