



# water & sanitation

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA

## CLASSIFICATION OF WATER RESOURCES AND DETERMINATION OF THE COMPREHENSIVE RESERVE AND RESOURCE QUALITY OBJECTIVES IN THE MVOTI TO UMZIMKULU WATER MANAGEMENT AREA

### SCENARIO DESCRIPTIONS

*Purpose of document: To be used during presentations when reference to the details of a scenario is required.*

#### GROUPED SCENARIOS DESCRIPTIONS

LABEL	SCENARIO DESCRIPTION
A	<i>Ecological protection is priority (minimum discharge to estuaries)</i>
B	<i>Minimum costs scenario (highest flow through estuaries)</i>
C	<i>Current and short term (5 year) flow discharged into river systems, remainder through alternative means.</i>
D	<i>Current and medium term (10 year) flow discharged into river systems, remainder through alternative means.</i>
E	<i>Indirect re-use (consider volume and practicalities) Remainder According to Scenario C.</i>
F	<i>Direct re-use (consider volume and practicalities) Remainder According to Scenario C.</i>
X	<i>Alternative scenarios (combinations of alternative)</i>

## DETAILED SCENARIO DESCRIPTIONS

Sc	Scenario Description	Comment
Ai	<i>Ecological protection is priority (minimum discharge to estuaries)</i>	<i>Northern and Southern Cluster: 30% of future ww flow to estuary, remainder through alternative means.</i>
Aii	<i>Ecological protection is priority (minimum discharge to estuaries)</i>	<i>Northern and Southern Cluster: Discharge current capacity, remainder disposal through alternative means.</i>
Aiii	<i>Ecological protection is priority (minimum discharge to estuaries)</i>	<i>All Clusters: Discharge current capacity, remainder disposal through alternative means.</i>
Av	<i>Ecological protection is priority (minimum discharge to estuaries)</i>	<i>As Ai: Option for Central Cluster (discharge to iSipingo as an alternative option to Ai).</i>
Bi	<i>Minimum costs scenario (highest flow through estuaries)</i>	<i>Options for Central Cluster: Low nutrient discharge from (high costs)</i>
Bii	<i>Minimum costs scenario (highest flow through estuaries)</i>	<i>As Bi: Different infrastructure options for Central Cluster (lower costs). uMkhomazi estuary received 50MI/day WW flow .</i>
Biii	<i>Minimum costs scenario (highest flow through estuaries)</i>	<i>As Bi: Current treatment (high) nutrient discharge (low costs).</i>
C	<i>Current and short term (5 year) flow discharged into river systems, remainder through alternative means.</i>	<i>Northern and Southern Clusters: Short term increases in discharges. Central Cluster: Short term increases in discharges with low nutrient discharge (high costs)</i>
Ci	<i>Current and short term (5 year) flow discharged into river systems, remainder through alternative means.</i>	<i>Northern and Southern Clusters: Short term increases in discharges. Central Cluster: As C: Current treatment (high) nutrient discharge (low costs)</i>
D	<i>Current and medium term (10 year) flow discharged into river systems, remainder through alternative means.</i>	<i>Northern and Southern Clusters: Medium term increases in discharges. Central Cluster: Low nutrient discharge (high costs)</i>
Di	<i>Current and medium term (10 year) flow discharged into river systems, remainder through alternative means.</i>	<i>Northern and Southern Clusters: Medium term increases in discharges. Central Cluster: As D: Current treatment (high) nutrient discharge WWTW (low costs)</i>
E	<i>Indirect re-use (consider volume and practicalities) Remainder According to Scenario C.</i>	<i>Northern and Southern Clusters: Reuse 50% if future ww flow. Central Cluster: Reuse via Hazelmere Dam.</i>
F	<i>Direct re-use (consider volume and practicalities) Remainder According to Scenario C.</i>	<i>Northern and Southern Clusters: Reuse 50% if future ww flow. Central Cluster: High level of treatment (high operating costs), supply into distribution system.</i>