



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>