water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

2030 NDP
NATIONAL DEVELOPMENT PLAN
Our Future - make it work

CLASSIFICATION OF SIGNIFICANT WATER RESOURCES AND DETERMINATION OF RESOURCE QUALITY OBJECTIVES FOR WATER RESOURCES IN THE USUTU TO MHLATHUZE CATCHMENTS (WP11387)

DEVELOPMENT OF RESOURCE QUALITY OBJECTIVES

Rivers: Links to RQOs, monitoring and implementation



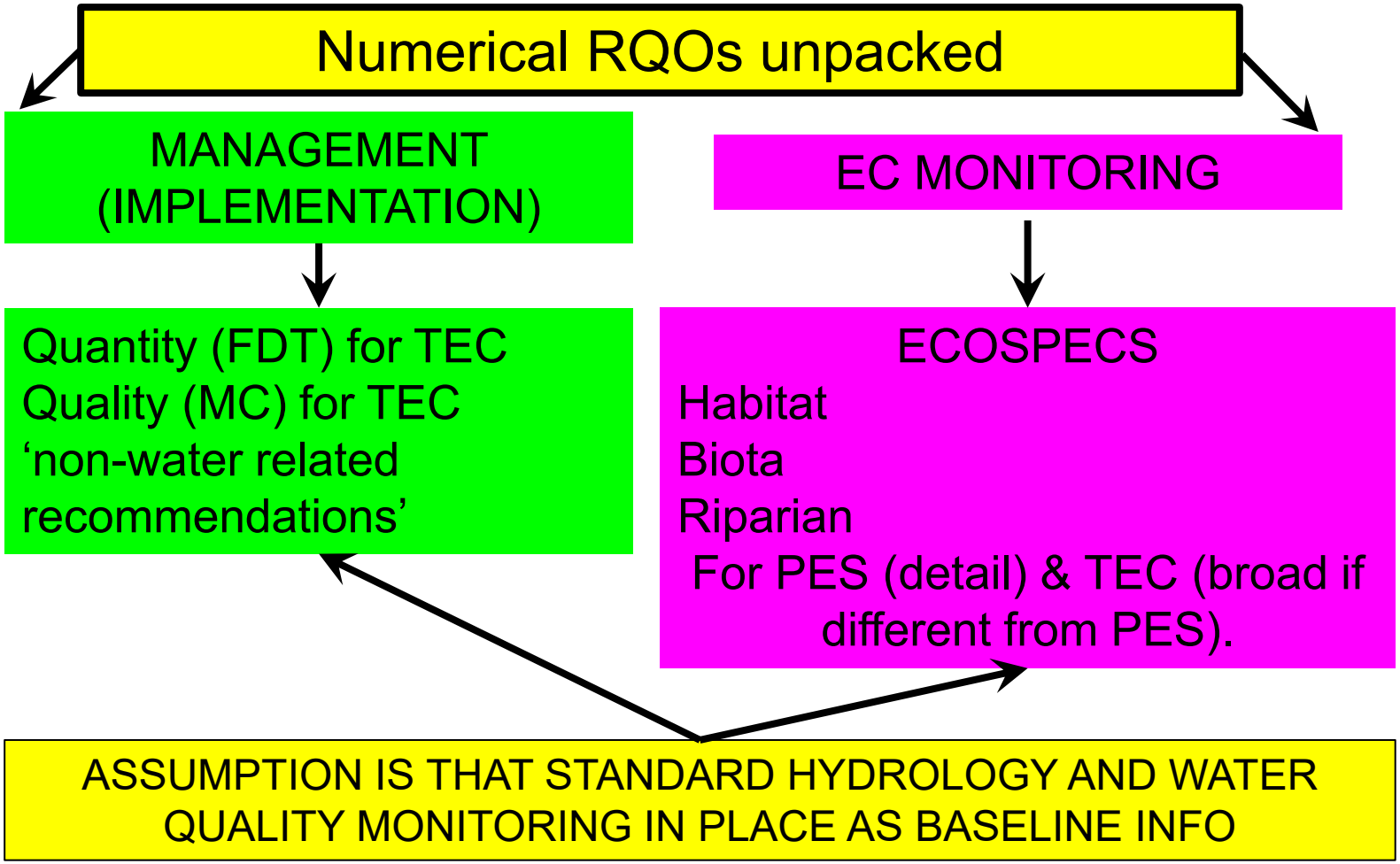
WATER IS LIFE - SANITATION IS DIGNITY

Workshop: Development of Resource Quality Objectives

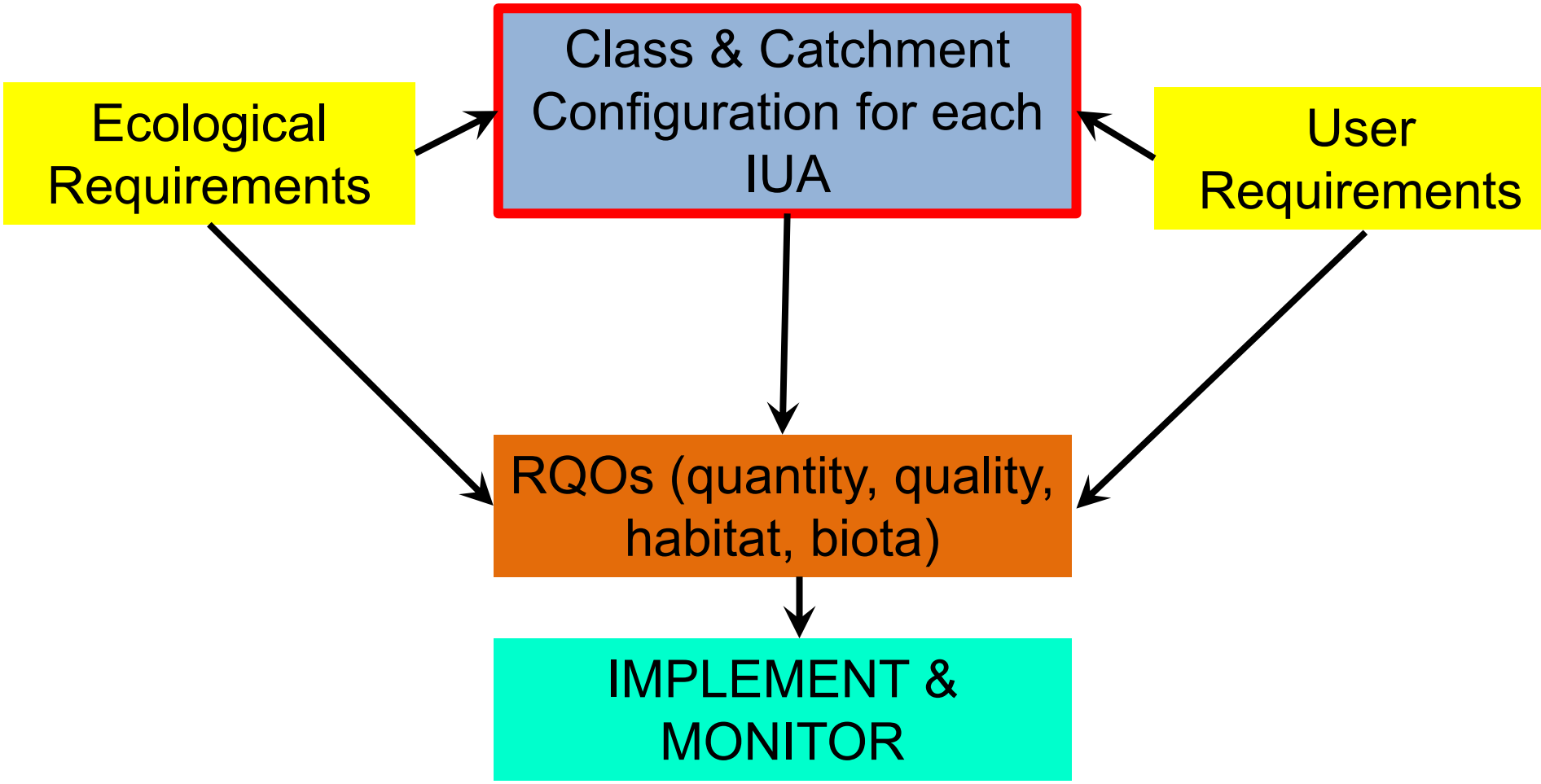
4.2 Rivers: Links to RQOs, monitoring and implementation

Delana Louw
Rivers for Africa eFlows Consulting

RQOs LEADING TO MONITORING AND IMPLEMENTATION



IMPLEMENTATION & MONITORING



CONTEXT OF AN IMPLEMENTATION PLAN FOR ACHIEVING THE CLASS

- RQO implementation information must function within the current water resource management and regulatory environment.
- Integration of RQO and Class implementation with existing processes should be an overarching principle.
- This will prevent duplication of functions aimed at efficient utilisation of human, infrastructure and financial resources.

CONTEXT OF AN IMPLEMENTATION PLAN FOR ACHIEVING THE CLASS

Existing processes:

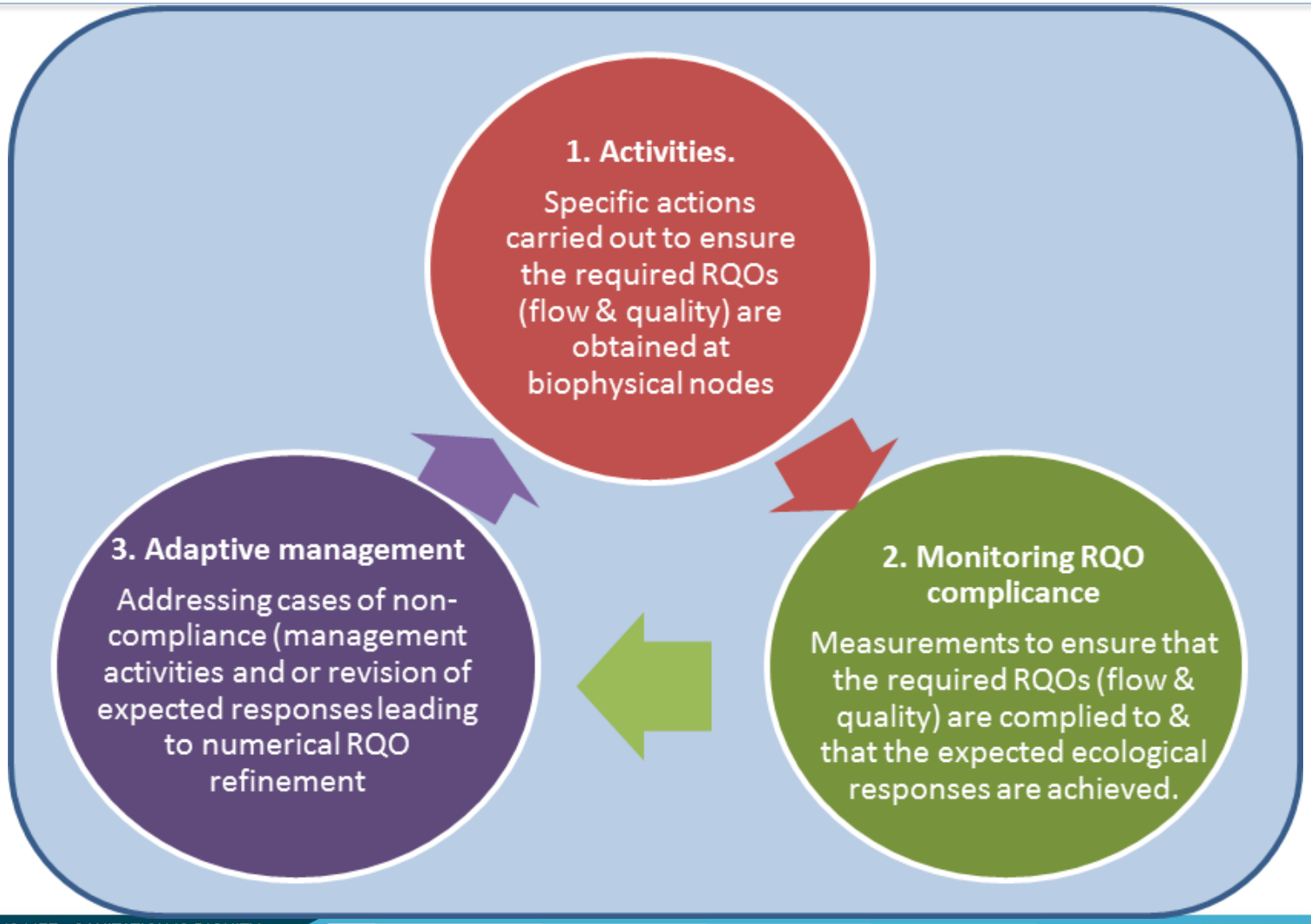
- Water Resource Management functions performed by DWS and other institutions.
  - Informed amongst others by Reconciliation Strategies, Feasibility studies and infrastructure construction.
  - Operational operating analysis providing decision support information in support of System Operating Forums (water user institutions, system operators and DWS)
  - Planning and execution of infra structure maintenance activities which influences operational decisions.
  - Operation and control of infrastructure on a daily basis (nb in some cases for RQOs).

CONTEXT OF AN IMPLEMENTATION PLAN FOR ACHIEVING THE CLASS

Existing processes:

- Regulatory and control functions relating to both the water and ecological environments
  - Carried out eg by DWS and DEA
  - DWS regulatore functions are
    - water use abstraction control & enforcement
    - water pollution prevention, control and enforcement
  - DEA regulatory aspects relating to RQO implementation – EIAs e.g.
- Legal framework within which the above functions: Provided by the Water and Environmental Acts that stipulate the responsibilities of the government departments as well as how water users and developers are regulated.

CORE BUILDING BLOCKS OF AN IMPLEMENTATION PLAN



HABITAT AND BIOTA RESPONSE MONITORING (Ecological Water Response Monitoring)

- Ecological monitoring is the collection and analysis of repeated observations or measurement to evaluate changes in the condition of the resource and the progress towards meeting the management objective (Class and TEC).
- Ecological monitoring must be undertaken within a structured framework following the principles of adaptive management.
- This provides a framework within which monitoring results can be interpreted – a DSS will provide guidance on the management of the resource.

HABITAT AND BIOTA RESPONSE MONITORING

- RQOs & EcoSpecs are specified and relevant for monitoring.
- EcoSpecs are numerical and can be used for monitoring and compliance.
- Response monitoring operates within the following concepts:
- Reference condition is natural
- Monitoring baseline is PES and survey info obtained during EWR assessments is crucial.
- Important to assess whether there is a trend in baseline
- This is the standard (benchmark) against which future deviations can be measured.

Therefore: PES = baseline

Concluding Remarks

- The recommended WRCs and RQOs provides for appropriate protection - utilisation of the water resources is possible to sustain current and future socio-economic imperatives.
- The levels of protection (ECs) vary across the study area, allowing for substantive utilisation to take place in “workhorse” systems while setting appropriate levels of protection for resources with high ecological importance.

Concluding Remarks

- Implementation and monitoring of the RQOs will require intensifying the cooperation among institutions, for optimal use of resources and to aim higher towards achieving the goals of Integrated Water Resource Management.
- The classification of the water resources is a further step to realise Integrated Water Resource Management

[Going forward, the water business needs to be unusual]

Pieter van Rooyen, 2013