A1: A decision support framework (DSF) to help prioritise water quality management actions across the region, set management targets and assess management effectiveness

Objective(s)

To develop a decision support framework (DSF) that supports the prioritisation of actions and setting of management targets to protect and improve water quality across Greater Melbourne.

Why this research is important

Consolidating extensive pollution monitoring and assessment data collected by A3P and Melbourne Water over several years, the development of a DSF will enable Melbourne Water to identify the most efficient and effective water quality improvement actions across the region and set water quality management priorities in the next HWS. This will include identifying pollution hotspots, environmental risk assessment, identification of priority pollutants and major sources and intervention options. This DSF will also be informed by developing techniques to evaluate the extent to which pollution is driving declines in key environmental values in some sub-catchments and assess the effectiveness of interventions.

Contribution to Melbourne Water research priorities

This project addresses the HWS Key Research Area: Developing tools and approaches to assist in strategic planning of pollution management to protect biodiversity, amenity and recreation in waterways across the region.

Approach

- Conduct interviews across Melbourne Water and key stakeholders (EPA and DEECA) to understand needs and specific end use requirements e.g. What questions does it need to support? What outputs will be most useful? What systems it needs to integrate with? Existing datasets that would be informative?
- A review of current knowledge around DSFs used within Australia and worldwide for water quality management. It will focus on the types of DSFs being used, underpinning information, metrics, identification of critical stakeholders, measurement of intervention effectiveness and data gaps.
- A stakeholder workshop to agree on the structure and functionality of the DSF based on interviews and literature review.
- Develop and test the DSF with Melbourne Water, including helping to identify priority pollution issues to inform Performance Objectives and set water quality condition targets in the next HWS.

Key outputs

- Report on Melbourne Water pollution management DSF requirements
- Literature review on pollution management DSFs applied either nationally or internationally and alignment with Melbourne Water requirements
- Report proposed DSF design based on workshop outcomes
- A DSF for the prioritisation of management interventions to improve water quality in waterways across Greater Melbourne

Expected benefits

- More efficient and effective investment in water quality improvement activities across the region
- Provides a sound justification for investment in water quality improvement activities undertaken by Melbourne Water or our stakeholders
- Supports new water quality targets and Performance Objectives in the next HWS

For more information, contact the project leads: Dr. Claudette Kellar, Claudette.Kellar@rmit.edu.au, Dr. Sara Long, Sara.Long@rmit.edu.au, or at Melbourne Water: Slobanka.Stojkovic@melbournewater.com.au or Rhys.Coleman@melbournewater.com.au

RMIT UNIVERSITY AQUEST

A3P

Aquatic Pollution Prevention Partnership

Melbourne Water

A collaborative research partnership delivering practical management solutions to reduce pollution in our waterways