

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 Healthy Waterways Strategy (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

Key Research Area: Wetlands and estuaries - Developing tools and approaches to assist in strategic planning of pollution management to protect biodiversity, amenity and recreation in waterways across the region.

Achievements to date

- Stakeholder workshop to agree on the structure and functionality of the DSF based on Melbourne Water and key stakeholder interviews and a worldwide literature review on decision support frameworks for water quality management. Technical Report 131. (due end Year 2)

Pollution index workshop with Melbourne Water and key stakeholders (EPA and DEECA) to discuss the consolidation of all A3P data into a single pollution index.

- Begun input of historic CAPIM data into the A3P database for inclusion in the DSF

Approach for Year 3

- Develop a single pollution index (Version 1- Dandenong Catchment) incorporating all A3P data in-line with workshop discussions
- Continue inputting historic CAPIM data into the A3P database
- Incorporate an environmental risk assessment approach into the DSF
- Develop and test the DSF (Version 1) for the Dandenong Catchment with Melbourne Water. Aimed to identify priority pollution issues to inform Performance Objectives and set water quality condition targets in the next HWS.

Key outputs for Year 3

- Decision Support Framework Version 1 for the prioritisation of management interventions to improve water quality in waterways in the Dandenong Catchment.
- Incorporating the new pollution Index and historic CAPIM data as available.

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

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