C3.3 Improving aquatic pollution assessments in streams, wetlands and estuaries

Background

While typical methods to monitor and assess impacts of water quality on waterway health inform managers about the condition of the waterways, these methods provide little information on the primary factors impacting environmental values to guide targeted restoration efforts.

Approach

This project aims to:

➢ Review existing and emerging tools for ecosystem health assessments, with a focus on water quality, to identify the most useful waterway health indicators for Melbourne Water to incorporate into their Healthy Waterways Strategy Monitoring and Evaluation Plans (MEPs).

➢ Identify key gaps in the knowledge of what indicators are needed to reliably predict the relationships between water quality condition and key environmental values (e.g. aquatic macroinvertebrates, fish, platypus, frogs, birds)

➢ Develop and trial new molecular tools through laboratory and field studies that can be incorporated into improved monitoring and intervention programs.

➢ Make recommendations for the MEPs that will enable the identification of pollutants that are having the greatest impact on the ecological health of waterways and to assess the effectiveness of interventions across Melbourne's streams, wetlands and estuaries.

Progress to date

An international review of water quality monitoring programs, including their purpose and indicators measured, is now complete, as well as a pilot study, trialling novel molecular techniques in waterway health assessments. In 2020, integrated monitoring case studies will commence. These activities will inform a review of the routine water quality monitoring network by the Catchments and Water Quality team and recommendations are to be incorporated into the new MEPs.

Expected Outcomes

➢ Improved efficiency and effectiveness of MW waterways water quality monitoring programs and identification of management priorities

➢ Support the development of the Healthy Waterways Strategy (HWS) Monitoring, Evaluation, Reporting and Improvement (MERI) framework and MEPs

➢ Establish new tools for assessing the presence and impacts of contaminants (including emerging contaminants of concern) in waterways

Project Team

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Expected Completion 2023

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