

A7: Managing the impacts of toxicants in urban stormwater and wastewater treatment plant discharges on the health of estuaries and bays

Objective(s)

To understand the water quality in estuaries and bays across the region to support HWS target setting, performance objectives and prioritisation of management actions.

Why this research is important

HWS performance objectives are needed for toxicants in estuaries and bays to better inform risk-based management and protect biodiversity, amenity, and recreational values. This project will improve our understanding of what toxicants pose an ecological threat to the health of estuaries and bays and help establish clear goals for future catchment management activities.

Contribution to Melbourne Water research priorities

Key Research Area: Port Phillip and Western Port and Wetlands and estuaries: Developing improved monitoring, assessment and reporting methods to understand environmental conditions and values of wetlands and estuaries

Achievements to date

Knowledge synthesis summarising data available on toxicants in estuaries and bays in Greater Melbourne (due end Year 2).

Successful grant funded through the Port Phillip Bay Fund 2024 round, titled '*Exploring Unseen Threats: Contaminant Trends and Impacts in Port Phillip Bay*' to expand our ability to collect data to fill knowledge gaps. Currently undertaking second round of contaminants monitoring, which will provide baseline data.

Approach for Year 3

The project will follow the PPB Unseen threats project plan, supporting the following activities

- Continue monitoring of toxicants in estuaries and bays as per PPB project plan (3 rounds, 120 samples per year)

- Undertake two toxicological assessments on estuaries and bay sites of most concern
- Present findings of monitoring outcomes to Steering committee, MW and other interested stakeholders more broadly
- Workshop to present and discuss findings of monitoring to industry, government and community

Key outputs for Year 3

- Chemical and toxicological data for estuaries and bays
- Research Note on outcomes from toxicant monitoring and toxicological assessments to date
- Stakeholder workshop (part of PPB Unseen threats project)

Expected benefits

- Consolidation of existing knowledge about the levels and ecological risks posed by toxicants in bays and estuaries across the region.
- Identification of data gaps and other knowledge gaps required to underpin robust condition scores, management targets or Performance Objectives for bays and estuaries in the next HWS.
- Inform the development of condition metrics, targets and Performance Objectives for bays and estuaries in the next HWS.
- Supporting information for risk assessments regarding estuary and bay management e.g., estuary opening and dredging.

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