

A4: Understanding the ecological risks of treated and untreated wastewater discharges to waterways

Objective(s)

To understand risks to waterway health from treated and untreated wastewater and validate indicators of wastewater pollution in waterways, to inform the prioritisation of wastewater management interventions across the region.

Why this research is important

This project will improve our understanding of impacts to waterway health from treated and untreated wastewater and facilitate a more structured and strategic process for prioritising the investigation and management of different types of wastewater inputs e.g. wastewater treatment plant discharges, Emergency Relief Structure spills, septic tanks. The project will also consider potential impacts from a range of anticipated discharge scenarios (e.g., spill type, quality, volume, frequency and duration) to enhance planning capabilities and enable adaptive management strategies.

Contribution to Melbourne Water research priorities

This project addresses the HWS Key Research Area: Understanding and managing the impacts of treated and untreated wastewater discharges on waterway health.

Approach

Year 1 of this project will focus on synthesising knowledge from existing literature on the risks and impacts from contaminants in treated and untreated wastewater discharges on key environmental values, including identifying priorities for future research. Based on the review, sites will be selected across the Greater Melbourne Area for field-based investigations of ecological indicators of treated and untreated wastewater. This research will complement previous research by A3P that identified chemical indicators of treated and untreated wastewater in waterways.

Year 2 and beyond will be informed by the outcomes of Year 1 and will focus on applying chemical and biological indicators of wastewater inputs to support the prioritisation of wastewater management programs across the region.

Key outputs

A literature review that synthesises existing knowledge on the risks and impacts to environmental values from treated and untreated wastewater discharges. The literature review will identify research priorities for Year 2+.

Expected benefits

- Improved understanding of risks and impacts to environmental values from wastewater including key contaminants.
- Decision support for emergency releases of wastewater to waterways.
- Inform risk assessment of pollutants in wastewater discharges to waterways as outlined by EPA Victoria (Publication 1287, 2023).
- Inform HWS performance objectives and metrics for the next strategy.

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