B1.1 Identifying and managing emerging chemicals of concern

Background

Most of the 50 million chemicals found or produced in the world have not been tested to determine their effect on human health and the environment (1). This proactive program aims to keep a watchful eye on the international literature for reports of new chemicals of concern (CoC), and to initiate programs in Melbourne to investigate priority chemicals in the environment and, if necessary, to understand their impacts on human health and the environment. The prioritisation of chemicals of concern is based upon protecting the ecological values identified in Melbourne's Healthy Waterway Strategy 2018 (HWS) i.e. platypus, fish, macroinvertebrates, frogs, birds and vegetation. Chemicals warranting further investigation will be incorporated into relevant A3P projects.

Approach

This project aims to:

- Review international literature and conferences for reports of emerging CoC for waterways, particularly those that will potentially impact HWS ecological values.
- Produce an annual report identifying priority emerging CoC for waterways across greater Melbourne that warrant further investigation of their presence and potential environmental impacts.
- Develop standard analytical methods for detecting priority chemicals.
- Through other A3P projects, determine whether priority chemicals are present in the environment at concentrations that may affect ecological values, and if so, undertake studies to better understand the potential impacts to environmental values.



Progress to date

An initial international review of CoC was completed in 2019. Two PhD students are now focussing on measuring priority chemicals in waterways across Melbourne.

Expected Outcomes

- Informing Melbourne Water's approach to risk management from emerging contaminants of concern, allowing awareness, and timely response to chemicals that have the potential to substantially impact waterway values.
- Gather information on emerging contaminants of concern to better understand further research priorities for Melbourne's waterways.

Project Team

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Reference 1. https://www.wired.com/2009/09/humans-have-made-found-or-used-over-50-million-unique-chemicals/