

# A5: Assessment of pollutant risks and the need for management interventions at environmentally sensitive sites across the region

## Objective(s)

Determine the risk of pollution to environmentally sensitive sites within the Port Phillip and Westernport region, including Melbourne Water's Sites of Biodiversity Significance (SoBS) and Ramsar sites of international significance. Where pollution is a major threat to these sites identify the major sources of contamination to inform management priorities.

## Why this research is important

Melbourne Water manages over 40 sites that are designated Sites of Biodiversity Significance (SoBS), as well as Ramsar sites of international significance such as Edithvale-Seaford Wetlands, Port Phillip (Western Shoreline, including the Western Treatment Plant) and Western Port. Management plans for SoBS are included in Melbourne Water's asset management system and five-yearly assessments of condition are conducted to guide protection. The potential threat of contaminants to values within these sites, however, has not been assessed for some of these sites. This project will assist Melbourne Water to identify sites where pollution is a major threat to environmental values and where applicable, identify major sources of contaminants to focus management efforts.

## Contribution to Melbourne Water research priorities

This project addresses HWS Key Research Area: Understanding areas of high biodiversity significance (e.g., Melbourne Water's Sites of Biodiversity Significance, Ramsar) and appropriate management responses to manage key threats to environmental values.

## Approach

This project is a continuation from A3P project B2.6, building on the same process, using the initial desktop risk assessments at all sites, which informed the order of systematic site assessment prioritization (Long *et al.*, 2019, 2020, 2022), to better understand potential contamination. Sediment, water and passive samplers

will be used to measure a variety of contaminants. If results indicate contamination, a follow up investigation to clarify findings and identify the source and/or the risk of the contaminants to values will occur.

Initial site assessments will occur at 18 SoBS yet to be assessed, including The Inlets in Western Port; with 10 sites proposed for Year 1, pending steering committee agreement. Follow up sampling in conservation wetlands at the Western Treatment Plant (WTP) will also occur including sediment sampling and toxicity testing to assess the impact of elevated metals on macroinvertebrates. Additional follow-up studies are proposed to determine if metals (and potentially pesticides) pose a risk to birds through consumption of macroinvertebrates. This may include obtaining existing blood and feather samples collected by potential collaborators.

## Key outputs

- Pollution data and risk assessment for all Melbourne Water SoBS for inclusion in management plans.
- Identification of the major sources of pollutants to SoBS and other sites of environmental significance to support targeted management interventions.

## Expected benefits

- A greater understanding of the risks of pollution to SoBS and other sites of environmental significance in the region.
- Inform SoBS, WTP Risk Management and Monitoring Plan, biodiversity, management and Ramsar plans.

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