



What do 'Best Practice Water Quality Targets' miss when considering the local context; Waverley Council

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OVERVIEW

The presentation demonstrates a novel way of thinking about stormwater quality improvement strategy in the context of Waverley LGA. Through it, we emphasise the value in early consideration of the local context for both the development of water quality strategy and for the design of treatment infrastructure enhances the surrounding landscape.

Waverley is quite unique as it's catchments drain to a wide range of receiving environments, many of which are high profile sites with high environmental and socio-economic values. Receiving environments of Waverley catchments include some of Australia's most iconic beaches, popular swimming sites in Sydney Harbour, artificial ponds in one of Australia's oldest and well-used parks and local bushland waterways that are highly valued by the local communities.

The standard approach to stormwater treatment projects is to design systems that meet 'best practice' treatment targets for TSS, TP and TN with little consideration as to what these targets achieve in terms of the local issues and values of the treatment site and the receiving environments. Conversely, this project began with developing an understanding of the local issues and values of the numerous receiving environments. This then allowed for the development of a strategic plan for Waverley Council to identify and invest in priority catchments with site specific stormwater quality infrastructure that will provide meaningful benefits.

OBJECTIVES

The project had multiple objectives as follows:

1. Setting meaningful water quality improvement objectives for individual subcatchments
2. Provide Council with strategic direction to meet their LGA wide environmental objectives for stormwater quality improvement that is considerate of the local conditions, ecosystems and values
3. Create support for stormwater quality improvement works across multiple project teams within Council to assist in realising the proposed stormwater improvement works.

METHOD

The strategic design was underpinned by an understanding of the ecological and socio-economic values of Waverley receiving environments using desktop and field analysis and close consultation with a multi-disciplinary Council team. From this we determined specific water quality objectives for these environments and therefore what target pollutants were appropriate. For example, Waverley's iconic ocean beaches are not sensitive to high nutrient loads, but nutrient loads contribute to algal blooms and degradation of amenity value in Waverley's freshwater ponds.

Combining this understanding with a detailed physical profile analysis of the LGA we matched subcatchment areas to receiving environments, determined the likely pollution issues, and what the most appropriate treatment solution would be for each subcatchment. The next step was to investigate technical feasibility and ensure that the solution would also contribute to the amenity value of the treatment sites.

RESULTS

Out of this project, multidisciplinary support exists across Council for:

- Targeted stormwater pollutant removal in priority catchments enabling effective resource allocation;
- A mix of treatment infrastructure that is fit for purpose and landscape sensitive;
- Improving maintenance of treatment systems and open spaces;
- Balancing social, environmental and economic values in decision making;
- Measuring potential removal of pollutants and assigning a financial value for pollutant removal with transparent and replicable measurement methodologies;

CONCLUSIONS

This presentation questions the effectiveness of a blanket 'best practice' approach to setting stormwater quality objectives and offers an alternative that bases stormwater quality objectives and strategy in understanding of the local environmental and social values of the catchments and receiving environments.

Lessons learnt through the project approach are associated with appreciating the value of bringing a multidisciplinary team along on the project journey to gain a holistic understanding of the site context and foster wide support for the strategy. This was achieved through use of communication and engagement tools such as visually attractive and graphical documentation, face to face workshops and inclusive decision-making tools such as multi-criteria assessment.