



Riverwatch Microbial Monitoring Program

Assessing recreational water quality in the Parramatta River

Assessing recreational water quality in the Parramatta River is an important step in delivering the Parramatta River Masterplan. The Riverwatch microbial monitoring program assesses how microbial contaminants impact water quality in the Parramatta River. Along with the Riverwatch chemical assessment program, it helps inform decisions about proposed swimming sites along the river. The programs also inform future actions to improve waterway health across the Parramatta River catchment.

Background

The Parramatta River Masterplan

The Parramatta River Catchment Group (PRCG) released “[DUBA, BUDU, BARRA: Ten Steps to a Living River: The Parramatta River Masterplan](#)”, in October 2018, with the mission of making the Parramatta River swimmable again by 2025.

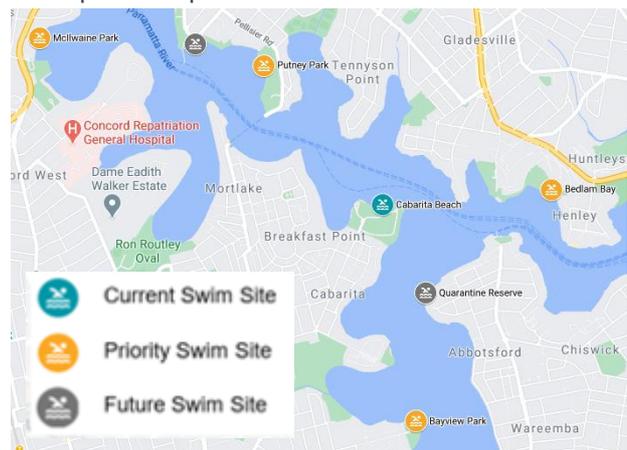
Sydney Water is the overall coordinating lead for Masterplan delivery, working in collaboration with key stakeholders to achieve the PRCG’s mission. Sydney Water is also the lead agency for Masterplan Step 2: Keep Watch, which is focused on establishing a Riverwatch monitoring program for the Parramatta River. The Riverwatch Program is essential to understanding the opportunities for swimming in the river over the short and long term.

The Riverwatch Program

The Riverwatch Program will assess the microbial and chemical contaminants in the water and sediment at each of the proposed swimming sites. The combined monitoring will inform whether proposed swimming sites can be activated for recreation, what types of activities will be possible (e.g. swimming, boating) and the conditions under which they can occur. The program will also help to prioritise actions and investment to improve waterway health across the catchment.

Assessing swimming sites

The Parramatta River catchment is heavily urbanised. Water quality in the river is impacted by stormwater runoff, wet weather wastewater overflows and historic land uses. These impacts and the location of each swimming site will affect water quality in different ways. To account for these variations, a microbial monitoring program will assess each of the proposed sites along the river starting with the three priority sites below. There will also be a visual inspection of each site to identify other potential pollution sources.



Swimming sites in the mid-estuary on the Parramatta River; current, priority and future

Approach to microbial monitoring

The microbial monitoring program follows the National Health and Medical Research Council’s [Guidelines for Managing Risks in Recreational Waters](#). It is aligned with similar recreational water quality monitoring programs such as [Beachwatch](#), to maintain a consistent approach across Sydney.

What’s being assessed and why?

Sampling for key water quality indicators occurs on a weekly basis over the swimming season. Targeted sampling is also conducted at following rainfall.

Targeted sampling helps us understand relationships between rainfall and microbial contaminants. It also informs us of recovery time to safer swimming conditions. This therefore leads to a proactive management strategy for swimming sites in the future.

The key water quality indicators being assessed are:

- **Enterococci:** bacteria that may be used as an indicator of how much faecal matter is present in recreational waters.
- **Conductivity:** an indicator of the salts in water. Conductivity will be used to identify the presence of freshwater from stormwater and wastewater sources.
- **Temperature:** influences how other water quality indicators react, including the growth rate of microorganisms.
- **Turbidity:** A measure of the amount of material suspended in the water. This can affect the transport, reactivity and biological impacts of a range of contaminants.
- **Dissolved Oxygen:** an indicator of the overall ecological health of the waterway. Aquatic organisms need dissolved oxygen to survive.

Next steps

The Riverwatch microbial monitoring program started in July 2019. Samples are collected under a range of conditions at each site for 12 months before providing a classification for recreational waters. Water quality monitoring continues on a monthly basis outside swimming season and weekly within beyond the initial classification.

The results of microbial monitoring are reviewed to determine how a proposed site may be activated in the future.

Sites that are not suitable for swimming in the short term may still be suitable for other water-based activities.



Classification of Recreational Water Environments

The classification of recreational waters is achieved by combining the categories for the visual inspection and microbial water-quality assessment, using a matrix. The outcome is a five-level classification for recreational waters - 'very good', 'good', 'fair', 'poor' and 'very poor'. These results can be used to support activities in pollution prevention and for cost-effective local actions to protect public health.

Like more information?

To know more about the Riverwatch Program contact the Riverwatch Team:

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