



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.

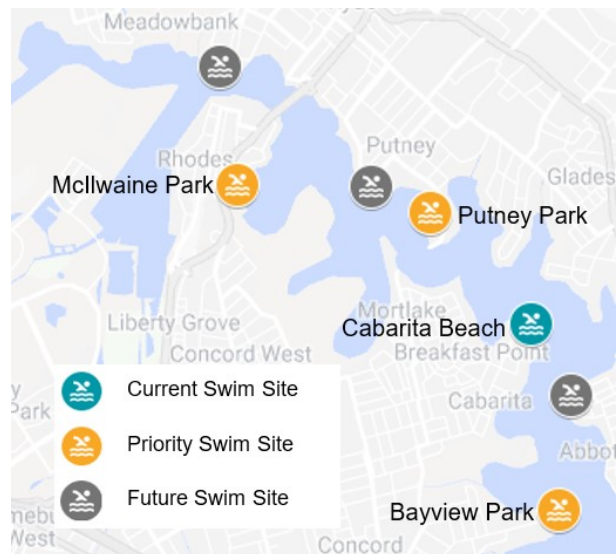
Sydney Water is the overall coordinating lead for Masterplan delivery, working in collaboration with key stakeholders to achieve the PRCG’s mission. Sydney Water is also the lead agency for Masterplan Step 2: Keep Watch, which is focused on establishing a Riverwatch monitoring program for the Parramatta 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 (eg swimming, boating) and the conditions under which this 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 will occur on a routine basis every four to six days, with sampling for chlorophyll-a conducted monthly. Targeted sampling will occur at each site over a period of five consecutive days following rain. This targeted sampling will help us understand how microbial contaminants impact each site and the recovery time for water quality. This will help proactively manage 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.
- **Chlorophyll-a:** the green pigment found in plants. High levels often indicate poor water quality and low levels often suggest good conditions.

Next steps

The Riverwatch microbial monitoring program started in July 2019. Samples will be collected under a range of conditions at each site for 12 months before providing a suitability grade for recreation.

The combined results from the microbial monitoring and chemical assessment programs will be 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.



Suitability grades for recreational waters

Suitability grades for recreational waters are an assessment of a site's suitability for recreational uses, based on a combination of sanitary inspections and microbial assessments. There are five grades ranging from Very Good to Very Poor.

Like more information?

To know more about the Riverwatch Program contact:

Alex Michie, Riverwatch Coordinator
alexander.michie2@sydneywater.com.au
 Ph: 0401 709 142