

Ensuring confidence in Beachwatch water quality results

We undertake a quality assurance program to make sure water quality data collected by us and our partners is the best it can be.



Quality assurance program overview

To give Beachwatch users confidence that data reported by us is accurate and reliable, quality assurance is undertaken for all parts of our water quality monitoring program:

- field sampling
- laboratory analysis
- data management
- community reporting.

Field sampling

Water samples for the Beachwatch program are collected by a number of different agencies. To ensure all samples are taken the same way and information is correct, sampling activities are audited regularly each year.

Hunter Water and Sydney Water are audited throughout the year. Councils in the Beachwatch Partnership Program usually sample for part or all of the swimming season (October to April) and are audited once during this period.

Beachwatch also collects samples and our field officers are audited throughout the year by Beachwatch's senior project officer.

The audits include an assessment of field officer performance according to established Beachwatch program sampling protocols. The assessment checks that sample collection is done in a way which avoids contamination (aseptic sampling techniques), samples are properly stored and the documentation of field observations. These protocols are based on internationally recognised methods for the collection of water samples in recreational areas established by the American Public Health Association (APHA 1998).

To ensure the Beachwatch team's auditing skills and knowledge stay up-to-date and meet national and international standards, we undertake regular training and certification through Australia's National Association of Testing Authorities (NATA).



Figure 1 Field staff collecting water sample using aseptic sampling technique

Laboratory analysis

To make sure Beachwatch test results are reliable, we and our partners use laboratories that must meet certain standards and undergo audits of their performance.

Beachwatch water samples are analysed by a commercial laboratory which is accredited by NATA Australia. The laboratory undertakes regular proficiency testing as part of this accreditation.

Beachwatch also tests the reliability of sample analysis by submitting a duplicate water sample from each sampling run. Duplicate samples are collected from the same location at the same time. Each duplicate is given another name so it is not identified with any other water sample, and the laboratory does not know that the sample has been collected from the same location. The results are expected to be similar.



Figure 2 Enterococci colonies counted in the laboratory using membrane filtration technique for testing water samples

The Beachwatch partners use laboratories which are mostly NATA accredited or undertake regular proficiency testing to ensure they meet strict assessment, and the accuracy of the data is reliable.

Beachwatch assists non-accredited council laboratories with advice on quality control procedures and a proficiency testing program to ensure the reliability of results.

Data management

Beachwatch has invested in a new data management system to improve the accuracy and timeliness of water quality reporting.

Quality assurance procedures for the storage of data on our centralised database follow a rigorous protocol that was developed as part of the Beachwatch program. This includes data validation procedures to identify inconsistent results, restricting user access to the database, using fixed templates for uploading data, and settings preventing duplicate data entries.

All Beachwatch data is available on our website once quality assurance checks have been done. It may be downloaded on the [Beachwatch site](#).

Community reporting

Providing up-to-date beach water quality information to the community is a core Beachwatch function.

Our quality assurance program measures the accuracy and quality of content of our water quality forecasts.

The results of Beachwatch reporting audits are included in the annual State of the Beaches report.

Further information: www.beachwatch.nsw.gov.au/contactus

Environment and Heritage (EH)
Department of Climate Change, Energy, the Environment and Water
Locked Bag 5022, Parramatta NSW 2124; Phone: 1300 361 967 (EH enquiries);
Email: info@environment.nsw.gov.au; Website: www.environment.nsw.gov.au
ISBN 978-1-923436-74-9; EH 2025/0155; May 2025.