Beachwatch

State of the beaches 2023–24

Statewide summary and how to read this report

Department of Climate Change,
Energy, the Environment and Water

NSW GOVERNMENT

Acknowledgement of Country

Department of Climate Change, Energy, the Environment and Water acknowledges the Traditional Custodians of the lands where we work and live.

We pay our respects to Elders past, present and emerging.

This resource may contain images or names of deceased persons in photographs or historical content.

Artist and designer Nikita Ridgeway from Aboriginal design agency Boss Lady Creative Designs created the People and Community symbol.

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Published by:
Environment and Heritage
Department of Climate Change,
Energy, the Environment and Water
Locked Bag 5022, Parramatta NSW 2124
Phone: +61 2 9995 5000 (switchboard)
Phone: 1300 361 967 (Environment and Heritage enquiries)
TTY users: phone 133 677, then ask for 1300 361 967
Speak and listen users: phone 1300 555 727, then ask for 1300 361 967
Email info@environment.nsw.gov.au
Website www.environment.nsw.gov.au

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Contents

Recreational water quality has been monitored in New South Wales by the Department of Climate Change, Energy, the Environment and Water's Beachwatch Program since 1989, and in partnership with coastal councils since 2002 under the Beachwatch Partnership Program. This report summarises the performance of 218 swimming sites along the NSW coast in 2023–2024, providing a long-term assessment of how suitable a site is for swimming. Monitored sites include ocean beaches, estuarine areas, lake, lagoon and freshwater swimming sites and ocean baths.

In 2023–2024 swimming sites in New South Wales performed well with 72% of monitored swimming sites graded as Good or Very Good. Of these, 95% of the monitored ocean beaches were graded as Good or Very Good, meaning these sites were suitable for swimming for most or almost all of the time. While this is a good result, it is a slight decline in performance from the previous year and reflects the wet months experienced in many coastal areas, including the above average rainfall in April, and significant rainfall events. Many estuarine, lake, lagoon and freshwater swimming sites did not perform as well as ocean beaches, being more susceptible to impacts from wet weather conditions.

The Beachwatch programs

Sampling in Sydney Harbour

Photo: Beachwatch/DCCEEW

Hunter Water Corporation and Sydney Water monitor ocean beaches in the Hunter and Illawarra regions respectively.

Beachwatch

The Beachwatch Program was established in 1989 to monitor Sydney's ocean beaches and was expanded to ocean beaches in the Hunter and Illawarra regions in 1996.

Monitoring of estuarine beaches commenced in 1994, with the addition of Sydney Harbour, Botany Bay and lower Georges River to the program. Pittwater was added in 1996 and most sites in Port Hacking were added in 1999.

Beachwatch Partnership Program

The Beachwatch Partnership Program was established in 2002 and included 9 local councils monitoring 86 swimming sites along the NSW coast during 2023–2024:

- Ballina Shire Council
- Richmond Valley Council
- Bellingen Shire Council
- Central Coast Council
- Blue Mountains Council
- Wollongong City Council
- Kiama Municipal Council
- Shoalhaven City Council
- Eurobodalla Shire Council.

In 2022, Beachwatch Partnership Program expanded state-wide to support NSW councils to deliver water quality monitoring to more swim sites across New South Wales including inland and regional areas.

The water quality sampling and laboratory analysis are fully funded by each local council. The Department of Climate Change, Energy, the Environment and Water (the department) provides quality assurance support and assistance with community reporting.

Beach pollution forecasts

Beachwatch issues daily pollution forecasts to enable beach goers to make informed decisions about where and when to swim. The forecasts are

available from 6:00 am and updated during the day if conditions change. They cover swimming sites in the Sydney, Hunter, Central Coast and Illawarra regions.

Beach pollution forecasts can be accessed via the Beachwatch website, email subscription, X (formerly Twitter) and Facebook.

Sampling sites and areas monitored in New South Wales under the Beachwatch programs

How to read this report

Beach Suitability Grades

Beach Suitability Grades provide an assessment of the suitability of a swimming location for recreation over time and are based on a combination of sanitary inspection (identification and rating of potential pollution sources at a beach) and microbial assessment (water quality measurements gathered over previous years). There are 5 grades ranging from Very Good to Very Poor:

VG Very Good

Location has generally excellent microbial water quality and very few potential sources of faecal pollution. Water is considered suitable for swimming almost all of the time

G Good

Location has generally good microbial water quality and water is considered suitable for swimming most of the time. Swimming should be avoided during and for up to one day following heavy rain at ocean beaches and up to 3 days at estuarine sites

F Fair

Microbial water quality is generally suitable for swimming, but because of the presence of significant sources of faecal contamination, extra care should be taken to avoid swimming during and for up to 3 days following rainfall or if there are signs of pollution such as discoloured water or odour or debris in the water

Some Beach Suitability Grades in this report are **provisional**, as the information required for the analysis is incomplete due to limited bacterial data or limited information on potential pollution sources in the catchment.

P Poor

Location is susceptible to faecal pollution and microbial water quality is not always suitable for swimming. During dry weather conditions, ensure that the swimming location is free of signs of pollution, such as discoloured water, odour or debris in the water, and avoid swimming at all times during and for up to 3 days following rainfall

VP Very Poor

Location is very susceptible to faecal pollution and microbial water quality may often be unsuitable for swimming. It is generally recommended to avoid swimming at these sites almost all of the time.

Follow Up

Sometimes a location's sanitary inspection and water quality data produce incongruent results. These locations are classified as 'Follow Up'. Further assessment will be required to obtain the necessary data to provide a definite classification in accordance with national guidelines.

The guidelines

The National Health and Medical Research Council's guidelines for managing risks in recreational water (NHMRC 2008) were adopted for use in New South Wales in May 2009. These guidelines have been adopted in all Australian states and territories and are supported by guidance notes developed by the Department of Health Western Australia (WA Department of Health 2007).

Enterococci

The national guidelines advocate the use of enterococci as the single preferred faecal indicator in recreational waters.

These bacteria are excreted in faeces and are rarely present in unpolluted waters. Enterococci have shown a clear dose–response relationship to disease outcomes in

marine waters in the northern hemisphere. In accordance with the guidelines, Beachwatch tests for enterococci only. The enterococci density in water samples is analysed in the laboratory using method AS/NZS 4276.9:2007 (Standards Australia 2007).

Enterococci are measured in colony forming units per 100 mL of sample (cfu/100 mL).

Beach Suitability Grades are determined by using the following matrix:

		Microbial Assessment Category			
		A	**B**	**C**	**D**
Sanitary Inspection Category	**Very Low**	Very Good	Very Good	Follow Up	Follow Up
	Low	Very Good	Good	Follow Up	Follow Up
	Moderate	Good	Good	Poor	Poor
	High	Good	Fair	Poor	Very Poor
	Very High	Follow Up	Fair	Poor	Very Poor

* A Follow up grade occurs when sanitary inspection and water quality data produce potentially incongruent results; further assessment will be required.

Using the Beach Suitability Grade classification matrix, sites assigned a moderate Sanitary Inspection Category can only be rated as Good or Poor, with no option of Fair grades. This can create the impression of a large change in water quality when in fact there need only be a slight increase in bacterial counts to push it over the threshold, with no significant increase in the risk to public health.

Explanation of tables

The report contains tables listing all monitored swimming sites including site type, beach grade and change in grade from the previous year.

The following symbols are used to show the change in beach grade from the previous year:

○ Stable

↑ Improved

↓ Declined

A provisional grade indicates the assessment is based on limited data collected during the assessment period and should not be compared to the beach grade from the previous year.

Rainfall impacts

Rainfall is the major driver of pollution to recreational waters, generating stormwater runoff and triggering untreated discharges from the wastewater treatment and transport systems. Changes in rainfall patterns are reflected in beach water quality over time due to variation in the frequency and extent of stormwater and wastewater inputs.

The Beach Suitability Grades for 2023–2024 are based on water quality data collected over the last 2–4 years. Rainfall over this period has been diverse:

- 2020–2021: variable rainfall with significant wet weather events, including record wet months
- 2021–2022: extended periods of wet weather, including the wettest summer since 2012, record wet months and significant flooding events
- 2022–2023: variable rainfall, with some very wet months over winter and spring, including the wettest July on record in many coastal areas
- 2023–2024: extended periods of average to below average rainfall, with some isolated wet months.

See the section on **How to read this report** on page 4 for an explanation of the Beach Suitability Grades.

Monthly rainfall totals along the NSW coast were average to below average during winter and early spring 2023. The isolated wet months mostly occurred in summer and mid-autumn:

- The North Coast and Mid-North Coast recorded rainfall above the long-term monthly averages in January and April 2024.
- Well above average rainfall totals were recorded in November 2023, and February and April 2024 in the Hunter and Central Coast regions.
- April 2024 was the wettest month in Sydney region, particularly in the north.
- In the Illawarra and South Coast regions, November and December 2023 and April 2024 were the wettest months, recording well above average rainfall.

Several significant wet weather events occurred during the reporting year. Notably, a significant wet weather event in early April 2024 triggered localised flooding and

impacted recreational water quality, particularly in the Central Coast, Sydney and Illawarra regions. Rainfall gauges in these regions recorded their highest April daily rainfall, and highest April total rainfall for many years with more than 2–3 times the long-term monthly average.

See the section on **Quality assurance** on page 37 for an explanation and results of the quality assurance program.

A quality assurance program ensures the information collected and reported by Beachwatch and our partners is accurate and reliable.

Health risks

Contamination of recreational waters with faecal material from animal and human sources can pose significant health problems to beach users owing to the presence of pathogens (disease-causing micro-organisms) in the faecal material. The most common groups of pathogens found in recreational waters are bacteria, protozoans and viruses.

Exposure to contaminated water can cause gastroenteritis, with symptoms including vomiting, diarrhoea, stomach-ache, nausea, headache and fever. Eye, ear, skin and upper respiratory tract infections can also be contracted when pathogens come into contact with small breaks and tears in the skin or ruptures of the delicate membranes in the ear or nose.

Certain groups of users may be more vulnerable to microbial infection than others. Children, the elderly, people with compromised immune systems, tourists, and people from culturally and linguistically diverse backgrounds are generally most at risk.

State of the beaches statewide summary 2023–2024

Monitoring water quality for swimming in New South Wales

Queenscliff Beach

Photo: Beachwatch/DCCEEW

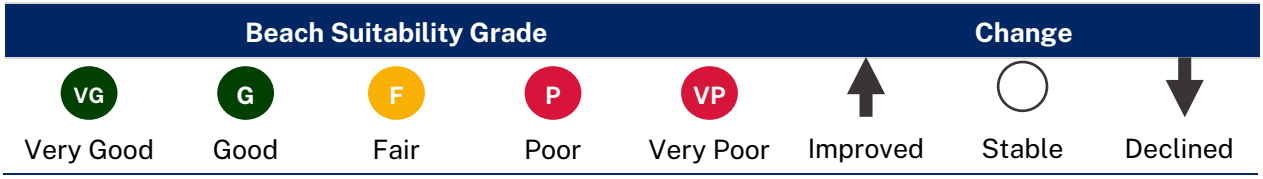
The water quality of beaches and other swimming locations is monitored under the NSW Government's Beachwatch programs to provide the community with accurate information on the cleanliness of the water and to enable individuals to make informed decisions about where and when to swim. Routine assessment also measures the impact of pollution sources, enables the effectiveness of stormwater and wastewater management practices to be assessed and highlights areas where further work is needed.

Swimming sites in New South Wales are graded as Very Good, Good, Fair, Poor or Very Poor in accordance with the National Health and Medical Research Council's 2008 *Guidelines for Managing Risks in Recreational Waters*. These Beach Suitability Grades provide a long-term assessment of how suitable a beach is for swimming. The grades are determined from the most recent 100 water quality results (2–4 years' worth of data depending on the sampling frequency) and a risk assessment of potential pollution sources.

In 2023–2024 Beachwatch and our partners monitored 218 swimming locations in NSW. Results are summarised by region and compared with the previous year's results in the following tables. This year, 72% of all monitored swimming sites were graded as Good or Very Good and 95% of the monitored ocean beaches were graded as Good or Very Good.

Beach Suitability Grades for North Coast region

Swimming site	Site type	Beach Suitability Grade	Change
Ballina Shire Council			
Seven Mile Beach	Ocean beach	VG	○
Lake Ainsworth North	Lake/Lagoon	P	○
Lake Ainsworth East	Lake/Lagoon	P	○
Lake Ainsworth South	Lake/Lagoon	G	○
Lake Ainsworth West	Lake/Lagoon	P	○
Shelly Beach	Ocean beach	VG	○
Lighthouse Beach	Ocean beach	VG	○
Shaws Bay North	Estuarine	P	○
Shaws Bay East	Estuarine	P	↓
Shaws Bay East Arm	Estuarine	G	○
Shaws Bay East Beach	Estuarine	G	○
Shaws Bay West	Estuarine	P	○
The Serpentine	Estuarine	G	○
Missingham Beach	Estuarine	P^	○
Richmond Valley Council			
Airforce Beach	Ocean beach	G	○
Main Beach	Ocean beach	G	○
Shark Bay	Ocean beach	VG	○
Evans River	Estuarine	P	○
Elm Street Bridge North (Evans River)	Estuarine	P	○



^ Provisional: Information required for the analysis is incomplete due to limited bacterial data or limited information on potential pollution sources in the catchment.

Beach Suitability Grades for Mid-North Coast region

Swimming site	Site type	Beach Suitability Grade	Change
Bellingen Shire Council			
Arthur Keough Reserve (Never Never River)	Freshwater	P ^	○
Lavenders Bridge (Bellinger River)	Estuarine	P ^	○
Dalhousie Creek	Lagoon	Follow Up ^	○
Hungry Head Beach	Ocean beach	G ^	↑
Urunga Lido (Kalang River)	Estuarine	P ^	○
Mylestom Baths (Bellinger River)	Estuarine	Follow Up ^	○
North Beach	Ocean beach	G ^	○

Beach Suitability Grade					Change		
VG	G	F	P	VP	↑	○	↓
Very Good	Good	Fair	Poor	Very Poor	Improved	Stable	Declined

^ Provisional: Information required for the analysis is incomplete due to limited bacterial data or limited information on potential pollution sources in the catchment.

Follow Up: Sanitary inspection and water-quality data produce potentially incongruent results; further assessment will be required.

Beach Suitability Grades for Hunter region

Swimming site	Site type	Beach Suitability Grade	Change
Port Stephens Council			
Zenith Beach	Ocean beach	VG	○
Box Beach	Ocean beach	VG	○
Fingal Beach	Ocean beach	VG	○
One Mile Beach	Ocean beach	VG	○
City of Newcastle Council			
Stockton Beach	Ocean beach	VG	○
Nobbys Beach	Ocean beach	VG	○
Newcastle Beach	Ocean beach	VG	○
Bar Beach	Ocean beach	VG	○
Merewether Beach	Ocean beach	VG	○
Burwood North Beach	Ocean beach	VG	○
Burwood South Beach	Ocean beach	VG	○
Lake Macquarie City Council			
Glenrock Lagoon Beach	Ocean beach	VG	○
Dudley Beach	Ocean beach	VG	○
Redhead Beach	Ocean beach	VG	○
Blacksmiths Beach	Ocean beach	VG	○
Swansea Heads Little Beach	Ocean beach	G	○
Caves Beach	Ocean beach	VG	○

Beach Suitability Grade					Change		
VG	G	F	P	VP	↑	○	↓
Very Good	Good	Fair	Poor	Very Poor	Improved	Stable	Declined

Beach Suitability Grades for Central Coast region

Swimming site	Site type	Beach Suitability Grade	Change
Central Coast Council			
Lakes Beach	Ocean beach	VG	↑
Cabbage Tree Bay Rockpool	Ocean baths	G	○
Soldiers Beach	Ocean beach	VG	↑
North Entrance Beach	Ocean beach	VG	○
The Entrance Beach	Ocean beach	G	○
The Entrance Ocean Baths	Ocean baths	G	○
Toowoon Bay	Ocean beach	G	○
Shelly Beach	Ocean beach	G	○
Gwandalan	Lake/Lagoon	P	○
Summerland Point Baths	Lake/Lagoon	P	○
Chain Valley Bay	Lake/Lagoon	P	○
Mannering Park Baths	Lake/Lagoon	P	○
Lake Munmorah Baths	Lake/Lagoon	P	○
Canton Beach	Lake/Lagoon	P	○
Wamberal Beach	Ocean beach	G	○
Wamberal Lagoon	Lagoon	P	○
Terrigal Beach	Ocean beach	G	↑
Terrigal Lagoon	Lagoon	P	○
North Avoca Beach	Ocean beach	G	○
Avoca Beach	Ocean beach	G	○
Avoca Lagoon	Lagoon	P	○
Copacabana Beach	Ocean beach	G	○
Cockrone Lagoon	Lagoon	P	○

Swimming site	Site type	Beach Suitability Grade	Change
Central Coast Council (continued)			
MacMasters Beach	Ocean beach	G	○
Killcare Beach	Ocean beach	G	○
Ocean Beach	Ocean beach	G	○
Umina Beach	Ocean beach	G	○
Pearl Beach Rockpool	Ocean baths	G	○
Davistown Baths	Estuarine	P	○
Pretty Beach Baths	Estuarine	P	○
Woy Woy Baths	Estuarine	G	↑
Yattalunga Baths	Estuarine	P	○

Beach Suitability Grade					Change		
VG	G	F	P	VP	↑	○	↓
Very Good	Good	Fair	Poor	Very Poor	Improved	Stable	Declined

Beach Suitability Grades for Sydney region

Swimming site	Site type	Beach Suitability Grade	Change
Northern Sydney – Ocean beaches			
Palm Beach	Ocean beach	VG	○
Whale Beach	Ocean beach	VG	○
Avalon Beach	Ocean beach	VG	○
Bilgola Beach	Ocean beach	G	○
Newport Beach	Ocean beach	VG	↑
Bungan Beach	Ocean beach	VG	↑
Mona Vale Beach	Ocean beach	VG	↑
Warriewood Beach	Ocean beach	G	○
Turimetta Beach	Ocean beach	G	○
North Narrabeen Beach	Ocean beach	G	○
Narrabeen Lagoon (Birdwood Park)	Lagoon	P	○
Bilarong Reserve	Lagoon	P	○
Collaroy Beach	Ocean beach	G	○
Long Reef Beach	Ocean beach	G	○
Dee Why Beach	Ocean beach	G	○
North Curl Curl Beach	Ocean beach	G	○
South Curl Curl Beach	Ocean beach	G	○
Freshwater Beach	Ocean beach	G	○
Queenscliff Beach	Ocean beach	G	○
North Steyne Beach	Ocean beach	G	○
South Steyne Beach	Ocean beach	G	○
Shelly Beach	Ocean beach	P	↓

Swimming site	Site type	Beach Suitability Grade	Change
Northern Sydney – Pittwater			
Barrenjoey Beach	Estuarine	G	○
Paradise Beach Baths	Estuarine	G	○
Clareville Beach	Estuarine	G	○
Taylors Point Baths	Estuarine	G	○
Bayview Baths	Estuarine	P	○
Elvina Bay	Estuarine	G	○
North Scotland Island	Estuarine	G	○
South Scotland Island	Estuarine	G	○
The Basin	Estuarine	VG	○
Great Mackerel Beach	Estuarine	G	↓
Central Sydney – Ocean beaches			
Bondi Beach	Ocean beach	G	○
Tamarama Beach	Ocean beach	G	○
Bronte Beach	Ocean beach	P	↓
Clovelly Beach	Ocean beach	G	○
Gordons Bay	Ocean beach	G	○
Coogee Beach	Ocean beach	P	○
Maroubra Beach	Ocean beach	G	○
South Maroubra Beach	Ocean beach	VG	↑
South Maroubra Rockpool	Ocean baths	G	○
Malabar Beach	Ocean beach	P	○
Little Bay Beach	Ocean beach	G	○

Swimming site	Site type	Beach Suitability Grade	Change
Central Sydney – Sydney Harbour			
Camp Cove	Estuarine	G	
Watsons Bay	Estuarine	G	
Parsley Bay	Estuarine	G	
Nielsen Park	Estuarine	G	
Rose Bay Beach	Estuarine	P	
Murray Rose Pool	Estuarine	P	↓
Dawn Fraser Pool	Estuarine	G	
Chiswick Baths	Estuarine	G	
Cabarita Beach	Estuarine	G	
Woolwich Baths	Estuarine	P	
Tambourine Bay	Estuarine	P	
Woodford Bay	Estuarine	P	↓
Greenwich Baths	Estuarine	G	
Hayes St Beach	Estuarine	G	
Clifton Gardens	Estuarine	G	
Balmoral Baths	Estuarine	G	
Edwards Beach	Estuarine	G	
Chinamans Beach	Estuarine	G	
Northbridge Baths	Estuarine	P	
Davidson Reserve	Estuarine	P	
Gurney Crescent Baths	Estuarine	P	
Clontarf Pool	Estuarine	G	
Forty Baskets Pool	Estuarine	G	

Swimming site	Site type	Beach Suitability Grade	Change
Central Sydney – Sydney Harbour (continued)			
Fairlight Beach	Estuarine	G	○
Manly Cove	Estuarine	G	○
Little Manly Cove	Estuarine	G	○
Southern Sydney – Ocean beaches			
Boat Harbour	Ocean beach	P	↓
Greenhills Beach	Ocean beach	VG	○
Wanda Beach	Ocean beach	VG	○
Elouera Beach	Ocean beach	VG	○
North Cronulla Beach	Ocean beach	VG	○
South Cronulla Beach	Ocean beach	G	○
Shelly Beach	Ocean beach	G	↓
Oak Park	Ocean beach	VG	○
Southern Sydney – Botany Bay and lower Georges River			
Silver Beach	Estuarine	G	○
Como Baths	Estuarine	P	○
Jew Fish Bay Baths	Estuarine	P	○
Oatley Bay Baths	Estuarine	P	○
Carss Point Baths	Estuarine	P	○
Sandringham Baths	Estuarine	G	○
Dolls Point Baths	Estuarine	P	○
Ramsgate Baths	Estuarine	P	↓
Monterey Baths	Estuarine	G	○
Brighton-Le-Sands Baths	Estuarine	P	○

Swimming site	Site type	Beach Suitability Grade	Change
Kyeemagh Baths	Estuarine	P	○
Southern Sydney – Botany Bay and lower Georges River (continued)			
Foreshores Beach	Estuarine	VP	○
Yarra Bay	Estuarine	P	○
Frenchmans Bay	Estuarine	P	○
Congwong Bay	Estuarine	G	○
Southern Sydney – Port Hacking			
Jibbon Beach	Estuarine	G	○
Horderns Beach	Estuarine	G	○
Gymea Bay Baths	Estuarine	VP	○
Lilli Pilli Baths	Estuarine	G	○
Gunnamatta Bay Baths	Estuarine	P	○
Western Sydney – Blue Mountains Council			
Megalong Creek	Freshwater	P	○
Yosemite Creek – Minnehaha Falls	Freshwater	VP	○
Wentworth Falls Lake – Jetty	Freshwater	P	○
Wentworth Falls Lake – Beach	Freshwater	P	○

Beach Suitability Grade					Change		
V	G	F	P	VP	↑	○	↓
Very Good	Good	Fair	Poor	Very Poor	Improved	Stable	Declined

Beach Suitability Grades for Illawarra region

Swimming site	Site type	Beach Suitability Grade	Change
Wollongong City Council			
Stanwell Park Beach	Ocean beach	VG	○
Coledale Beach	Ocean beach	VG	○
Austinmer Beach	Ocean beach	VG	○
Thirroul Beach	Ocean beach	G	○
Bulli Beach	Ocean beach	G	○
Woonona Beach	Ocean beach	VG	○
Bellambi Beach	Ocean beach	G	○
Corrimal Beach	Ocean beach	G	○
North Wollongong Beach	Ocean beach	G	○
Wollongong City Beach	Ocean beach	VG	○
Coniston Beach	Ocean beach	VG	↑
Fishermans Beach	Ocean beach	VG	○
Port Kembla Beach	Ocean beach	G	○
Shellharbour City Council			
Entrance Lagoon Beach	Lake/Lagoon	P	○
Warilla Beach	Ocean beach	VG	↑
Shellharbour Beach	Ocean beach	VG	○
Kiama Municipal Council			
Boyds Jones Beach	Ocean beach	VG	↑
Bombo Beach	Ocean beach	VG	↑
Surf Beach Kiama	Ocean beach	G	○
Werri Beach	Ocean beach	VG	↑
Seven Mile Beach (Gerroa)	Ocean beach	G	○


Beach Suitability Grade
Change
VG
Very Good
G
Good
F
Fair
P
Poor
VP
Very Poor
Improved
Stable
Declined

Beach Suitability Grades for South Coast region

Swimming site	Site type	Beach Suitability Grade	Change
Shoalhaven City Council			
Shoalhaven Heads Beach	Ocean beach	VG	
Tilbury Cove	Ocean beach	VG	
Warrain Beach	Ocean beach	VG	
Collingwood Beach	Ocean beach	VG	
Cudmirrah Beach	Ocean beach	VG	
Mollymook Beach	Ocean beach	VG	
Rennies Beach	Ocean beach	VG	
Racecourse Beach	Ocean beach	VG	
Bawley Point Beach	Ocean beach	VG	
Merry Beach	Ocean beach	VG	
Eurobodalla Shire Council			
Cookies Beach	Ocean beach	VG	
Caseys Beach	Ocean beach	G	
Surf Beach	Ocean beach	P	
Malua Bay Beach	Ocean beach	VG	
Broulee Beach	Ocean beach	VG	↑
South Broulee (Bengello) Beach	Ocean beach	G	↓
Shelley Beach (Moruya Heads)	Ocean beach	G	
Tuross Main Beach	Ocean beach	G	
Brou Beach	Ocean beach	VG	
Wagonga Inlet	Estuarine	G	
Narooma Main Beach	Ocean beach	G	


Beach Suitability Grade
Change
VG
Very Good
G
Good
F
Fair
P
Poor
VP
Very Poor
Improved
Stable
Declined

95%

ocean beaches graded Good or Very Good

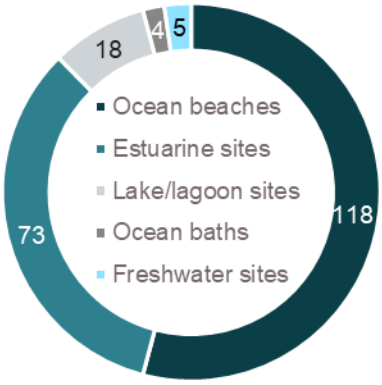
Overall beach performance for 2023–2024

In 2023–2024, 72% of monitored swimming sites in New South Wales were graded as Very Good or Good, indicating they were suitable for swimming for most or almost all of the time, a slight decline in overall performance from the previous year when 73% of swimming sites were graded as Very Good or Good.

During 2023–2024, 218 swimming sites were monitored including ocean beaches, estuarine areas, lake, lagoon and freshwater swimming sites and ocean baths.

Percentage of sites graded as Very Good or Good

	2021–2022	2022–2023	2023–2024	Trend
Overall	**80% (214 sites)**	**73% (225 sites)**	**72% (218 sites)**	
Ocean beaches	94% (123 sites)	96% (123 sites)	95% (118 sites)	
Estuarine sites	68% (69 sites)	56% (75 sites)	53% (73 sites)	
Lake/ lagoon sites	24% (17 sites)	6% (18 sites)	6% (18 sites)	
Ocean baths	100% (5 sites)	100% (4 sites)	100% (4 sites)	
Freshwater sites	–	0% (5 sites)	0% (5 sites)	



Site types monitored in New South Wales by Beachwatch and partnership councils

Changes in the percentage of sites graded as Very Good or Good reflect changes in water quality over time and may also be influenced by changes in the number of sites monitored each year. In 2022 Beachwatch expanded state-wide to include inland waterways and freshwater swimming sites in the Beachwatch Partnership monitoring program.

Beach Suitability Grades at 15 swimming sites improved in 2023–2024. These sites included 12 ocean beaches upgraded from Good to Very Good, 2 ocean beaches upgraded from Poor to Good and one estuarine swimming site upgraded from Poor to Good. Beach Suitability Grades at 10 swimming sites were downgraded from the previous year. While 2 ocean beaches and 1 estuarine swimming site were downgraded from Very Good to Good, 3 ocean beaches and 4 estuarine swimming sites crossed the threshold from Good to Poor. Two Beach Suitability Grades continued to be graded as Follow Up. Further assessment will be required to obtain definite classifications in accordance with national guidelines.

While overall results are good, many lake/lagoon, estuarine and freshwater swimming locations did not perform as well as ocean beaches, primarily due to lower levels of flushing increasing the time needed to disperse and dilute pollution inputs. As ocean beaches, estuarine beaches, lake/lagoon and freshwater swimming sites and ocean baths have very different responses to rainfall-related impacts, the results for each type of swimming area are discussed separately.

Ocean beaches

Beach Suitability Grades for monitored ocean beaches in New South Wales

The open ocean beaches of New South Wales had excellent water quality in 2023–2024 with 95% of 118 monitored ocean beaches graded as Very Good or Good. This indicates they were suitable for swimming most or almost all of the time. This performance is a slight decline on the 2022–2023 result, when 96% of 123 ocean beaches were graded as Very Good or Good.

The impacts of rainfall on water quality are least apparent at ocean beaches with tidal flushing rapidly dispersing and diluting pollution inputs.

Twelve ocean beaches were upgraded to Very Good from Good in 2023–2024:

- Lakes Beach and Soldiers Beach on the Central Coast
- Newport Beach, Bungan Beach, Mona Vale Beach and South Maroubra Beach in Sydney
- Coniston Beach, Warilla Beach, Boyds Jones Beach, Bombo Beach, Werri Beach in the Illawarra
- Broulee Beach on the South Coast.

Two ocean beaches were upgraded to Good from Poor in 2023–2024:

- Hungry Head Beach on the Mid-North Coast
- Terrigal Beach on the Central Coast.

Six ocean beaches were graded as Poor in 2023–2024:

- Shelly Beach (Manly), Bronte Beach, Coogee Beach, Malabar Beach and Boat Harbour in Sydney
- Surf Beach on the South Coast.

Shelly Beach (Manly), Bronte Beach and Boat Harbour were downgraded to Poor from Good in the previous year. Water quality at these sites is mostly suitable for swimming during dry weather conditions, but enterococci levels increase following rainfall, exceeding the safe swimming limit following moderate to heavy rain.

Coogee Beach and Malabar Beach continued to be graded Poor in 2023–2024. Water quality at these sites is mostly suitable for swimming during dry weather conditions, but enterococci levels increase following rainfall. Microbial water quality can be impacted at these beaches by several potential sources of faecal contamination including stormwater. Malabar Beach is located at the end of a long narrow bay and takes longer to recover from stormwater events than surrounding areas. Lower levels of flushing increase the time needed to disperse and dilute pollution inputs, with elevated bacteria levels often recorded up to 2 days after rainfall.

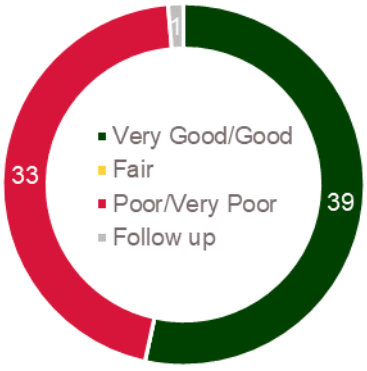
The NSW Government has previously invested $2.5 million for the diversion of stormwater from Coogee Beach to improve water quality and the marine environment. The Coogee Beach Stormwater Quality

Working Group has made substantial progress on the detailed design of the stormwater solution. A comprehensive implementation plan will be presented to council for review and consideration in 2025.

Surf Beach continued to be graded as Poor in 2023–2024. Elevated bacterial levels were often recorded during dry weather conditions and increased following rainfall. Microbial water quality at this beach has improved slightly this year, however it had been declining for several years prior to this result. Eurobodalla Shire Council engaged a consultant to undertake a water quality investigation to identify the source of microbial contamination contributing to poor water quality at Surf Beach. The investigation identified multiple potential sources of contamination including domestic dog faeces entering waterways, discharge from Batemans Bay Sewage Treatment Plant (STP) during overflow events, STP outfall contamination via tidal patterns and failure or leakage of onsite sewer management systems (OSSM) upstream of Surf Beach. Council will be undertaking recommended actions, including a responsible dog waste disposal education program and an audit of all OSSMs in the catchment to reduce any potential contamination from these sources.

As a general precaution swimming should be avoided at ocean beaches during and for up to one day after rainfall, or if there are signs of stormwater pollution such as discoloured water, flowing stormwater drains or floating debris.

Estuarine beaches



Beach Suitability Grades for monitored estuarine beaches in New South Wales

Thirty-nine (53%) of the 73 estuarine swimming sites were graded as Very Good or Good in 2023–2024. This is a slight decline in performance from the previous year when 56% of the 75 estuarine swimming sites were graded as Very Good or Good. While water quality at these sites was suitable for swimming most of the time, it was occasionally impacted by stormwater pollution following rainfall. These estuarine swimming sites are generally located in the well-flushed sections of the estuaries or had few potential sources of faecal contamination.

Woy Woy Baths improved to Good from Poor in the previous year. Microbial water quality at this site has shown gradual improvement over the last 3 years, however remains close to the threshold between Good and Poor grades.

Thirty-one estuarine beaches were graded as Poor in 2023–2024, with 27 sites continuing to be graded as Poor, and four sites downgraded from Good in the previous year:

- Shaws Bay North, Shaws Bay East, Shaws Bay West, Missingham Beach, Evans River and Elm Street Bridge North (Evans River), on the North Coast
- Urunga Lido in Kalang River and Lavenders Bridge in Bellinger River on the Mid-North Coast
- Davistown Baths, Pretty Beach Baths and Yattalunga Baths in Brisbane Water on the Central Coast
- Bayview Baths in Pittwater, Rose Bay Beach, Murray Rose Pool, Woodford Bay, Tambourine Bay, Woolwich Baths, Gurney Crescent Baths, Northbridge Baths and Davidson Reserve in Sydney Harbour, Jew Fish Bay Baths, Como Baths, Oatley Bay Baths, Carss Point Baths, Dolls Point Baths, Ramsgate Baths, Brighton-Le-Sands Baths, Kyeemagh Baths, Yarra Bay and Frenchmans Bay in Botany Bay and lower Georges River, and Gunnamatta Bay Baths in Port Hacking in Sydney.

Water quality at these swimming sites was often suitable for swimming during dry weather conditions, with elevated bacterial levels recorded following rainfall. These sites were typically located in less well-flushed sections of the estuaries or had more significant pollution sources.

The poor grades are provisional for Missingham Beach on the North Coast and Lavenders Bridge and Urunga Lido on the Mid-North Coast with further monitoring required to enable a complete classification.

Shaws Bay East on the North Coast, Murray Rose Pool and Woodford Bay in Sydney Harbour, and Ramsgate Baths in Botany Bay were downgraded to Poor from Good in the previous year, due to a decline in microbial water quality.

Two estuarine beaches continued to be graded as Very Poor in 2023–2024: Foreshores Beach in Botany Bay and Gymea Bay Baths in Port Hacking in Sydney. Water quality at these sites is significantly impacted by faecal contamination during and following rainfall, and occasionally during dry weather.

Foreshores Beach is very susceptible to faecal contamination from the sewage overflows that periodically discharge into Mill Stream. Sydney Water has placed permanent signage to advise the public to avoid swimming 3 days after rainfall due to the risk from sewage overflows that may impact water quality at this site.

Microbial water quality at Gymea Bay Baths has shown trends of declining microbial assessments over the last 5 years. This site is susceptible to faecal contamination with many potential sources including stormwater, sewer chokes and from elsewhere within Port Hacking.

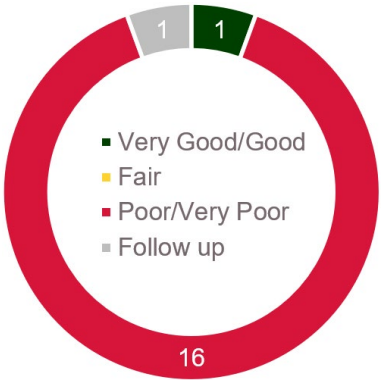
One estuarine beach, Mylestom Baths on the Mid-North Coast, was graded as Follow Up in 2023–2024. This grade is provisional due to limited bacterial data. Water quality was generally suitable for swimming in dry weather conditions but was impacted by stormwater pollution following rainfall.

An assessment of the potential pollution sources (known as the sanitary inspection) at Mylestom Baths indicates low risk, but microbial water quality assessment data indicate times of poor-quality water, which suggests there are sources of diffuse pollution that have not been identified. This swimming site is in a well-flushed section of the estuary, however the large catchment upstream has many potential sources of faecal contamination. Follow up is needed with further assessment required to assign a definite Beach Suitability Grade.

Estuarine sites are generally not as well flushed as ocean beaches, and so the time for pollution to disperse and dilute is longer. Pollution inputs are retained at some swimming sites when they are located in the upper reaches away from the main channels. As a precaution, avoid swimming in estuaries during and for up to 3 days

following rainfall, or if there are signs of pollution such as discoloured water, flowing stormwater drains or floating debris.

Lake/lagoon swimming sites



Beach Suitability Grades for monitored lake/lagoon swimming sites in New South Wales

One (6%) of the 18 lake and lagoon swimming sites continued to be graded as Good in 2023–2024. This is a similar performance to the previous year.

The Good grade was recorded at Lake Ainsworth South on the North Coast. Water quality at this site was mostly suitable for swimming during dry weather, with elevated bacterial levels recorded following rainfall.

Sixteen lake and lagoon swimming sites continued to be graded as Poor in 2023–2024:

- Lake Ainsworth North, Lake Ainsworth East and Lake Ainsworth West on the North Coast
- 10 sites on the Central Coast: Gwandalan, Chain Valley Bay, Summerland Point Baths and Mannering Park Baths in Lake Macquarie; Lake Munmorah Baths in Lake Munmorah; Canton Beach in Tuggerah Lakes and 4 coastal lagoons at Wamberal, Terrigal, Avoca and Cockrone
- Birdwood Park and Bilarong Reserve in Narrabeen Lagoon in Sydney
- Entrance Lagoon Beach in Lake Illawarra in the Illawarra.

Microbial water quality at most of these sites was often elevated during dry weather conditions, and bacterial levels continued to increase following rainfall. These sites are susceptible to the impacts of wet weather during and for up to 3 days after rain.

In 2019, Ballina Shire Council investigated the poor water quality at Lake Ainsworth, with preliminary results showing the main contributor to elevated bacteria levels is avian (bird) sources.

Central Coast Council has been investigating poor water quality at Canton Beach and the 4 coastal lagoons since

2019, and the findings are assisting to detect and resolve water quality issues in these catchments.

Dalhousie Creek on the Mid-North Coast was the only lagoon site graded as Follow Up in 2023-24. This grade was due to incongruent results from the sanitary inspection and microbial water quality. While this grade is provisional, microbial water quality was mostly suitable for swimming during dry weather conditions, with elevated bacterial levels recorded following rainfall.

An assessment of the potential pollution sources (known as the sanitary inspection) at Dalhousie Creek on the Mid-North Coast indicates low risk, but microbial water quality assessment data indicate times of poor-quality water, which suggests there are sources of diffuse pollution that have not been identified. Follow up is needed with further assessment required to assign a definite Beach Suitability Grade.

The water quality at lake/lagoon swimming sites often depends on how close the swimming area is to the ocean and whether the entrance is open to the ocean. When the entrance is open and the site is near that opening, the site can be well flushed by clean ocean water, and water quality is often of a high standard. If the site is not near the entrance, or the entrance is closed, pollution inputs are retained, and the water quality can be affected by contamination from stormwater runoff to the lake/lagoon.

As a general precaution, it is recommended that swimming at lake and lagoon swimming sites be avoided during and for up to 3 days after rainfall or if there are signs of stormwater pollution such as discoloured water or floating debris.

Freshwater swimming sites

Beach Suitability Grades for monitored freshwater swimming sites in New South Wales

All 5 freshwater swimming sites were graded as Poor or Very Poor in 2023–2024.

Four freshwater swimming sites continued to be graded as Poor in 2023–2024:

- Arthur Keough Reserve in the Never Never River on the Mid-North Coast
- Megalong Creek, Wentworth Falls Lake Jetty and Wentworth Falls Lake Beach in the Blue Mountains in Western Sydney.

Microbial water quality at these sites was not always suitable for swimming. These sites are susceptible to pollution particularly after rainfall, and often during dry weather conditions, and have several sources of faecal contamination including upstream sources, stormwater, onsite systems, sewer chokes and animals.

A high proportion of the samples collected at Blue Mountains swimming sites for the 2023–2024 assessment period were collected during wet weather conditions, contributing to the Poor grades.

The Beach Suitability Grade for Arthur Keough Reserve on the Mid-North Coast is provisional with incomplete data available for the microbial assessment. Further monitoring is required to obtain the necessary data to provide a definite classification.

Bellingen Shire Council is investigating the source of poor water quality, including testing 4 tributaries to the Never Never River to find sources of diffuse pollution that have not been identified. Further investigation will help address issues of concern and explore potential management solutions.

One freshwater swimming site continued to be graded as Very Poor in 2023–2024:

- Yosemite Creek – Minnehaha Falls in the Blue Mountains in Western Sydney.

Water quality at this site is very susceptible to faecal pollution and may often be unsuitable for swimming. Several potential sources of faecal contamination have been identified in the sanitary inspection, including stormwater, sewer chokes and impacts from upstream sources in Yosemite Creek

Low levels of flushing in shallow pools and freshwater creeks can increase the time needed to disperse and dilute pollution inputs, taking longer to recover from stormwater events.

As a general precaution swimming should be avoided during and for up to 3 days in freshwater creeks and shallow pools, or if there are signs of stormwater pollution such as discoloured water or floating debris.

Ocean baths

Beach Suitability Grades for monitored ocean baths in New South Wales

All 4 ocean baths continued to be graded as Good in 2023–2024:

- Cabbage Tree Bay Rockpool, The Entrance Ocean Baths and Pearl Beach Rockpool on the Central Coast
- South Maroubra Rockpool in Sydney.

Microbial water quality at the ocean baths was mostly suitable for swimming after little or no rain, with elevated bacterial levels recorded following higher levels of rainfall.

The water quality at ocean baths often depends on the flushing regime. While The Entrance Ocean Baths is regularly cleaned by council, other ocean baths are flushed irregularly, relying on the natural exchange of ocean water over the rocks and pool walls. It is recommended that swimming be avoided during and for up to one day after rainfall, or if there are signs of pollution such as discoloured water or floating debris.

Quality assurance

Water sample collection

Photo: Beachwatch/DCCEEW

The quality assurance program

To ensure that data reported by Beachwatch is accurate and reliable, quality assurance is included in all parts of the program:

- field sampling (equipment preparation, sample collection, sample storage and sample transport)
- laboratory analysis
- data management
- community reporting.

Beachwatch reporting system

In August 2023 Beachwatch launched a new reporting system to streamline, integrate and automate data capture to support real-time reporting of water quality information. The system consists of multiple applications including a modern user-friendly website, Salesforce platform including a partner portal, MuleSoft and database, with stringent quality controls built-in, enhancing quality assurance for the program.

Field sampling

Hunter Water, Sydney Water and Beachwatch collect samples throughout the year and are audited quarterly. 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. There were 20 field audits completed during the 2023–2024 sampling season.

Audits include an assessment of field officer performance according to established Beachwatch Programs sampling protocols, including aseptic sampling techniques, sample collection, sample storage and documentation of field observations. These protocols are based on internationally recognised methods for the collection of water samples in recreational bathing areas (APHA 1998).

Beachwatch Program

Sample collection by Beachwatch, Hunter Water and Sydney Water complied well with established sampling protocols, with a compliance of 100%. One Beachwatch audit was missed during the 2023–2024 reporting year, however history of compliance has been very high and so there are no concerns on the competency of field sampling.

Beachwatch partners

Sample collection by Hunter Water and Sydney Water complied well with established sampling protocols, with a compliance of 100%.

Councils in the Beachwatch Partnership Program achieved an overall compliance of 98% with Beachwatch sampling protocols. During 2 council audits it was identified that samples may not have been stored at the correct temperature. Subsequently, the councils have implemented quality control measures, including monitoring the esky temperature, and using additional ice/ice bricks and esky bags to ensure samples are kept at the required temperature for storage and transportation.

Who samples where?

Beachwatch

Collects samples at 97 ocean and harbour beaches in Sydney.

Hunter Water

Collects samples at 17 ocean beaches in Port Stephens, Newcastle and Lake Macquarie.

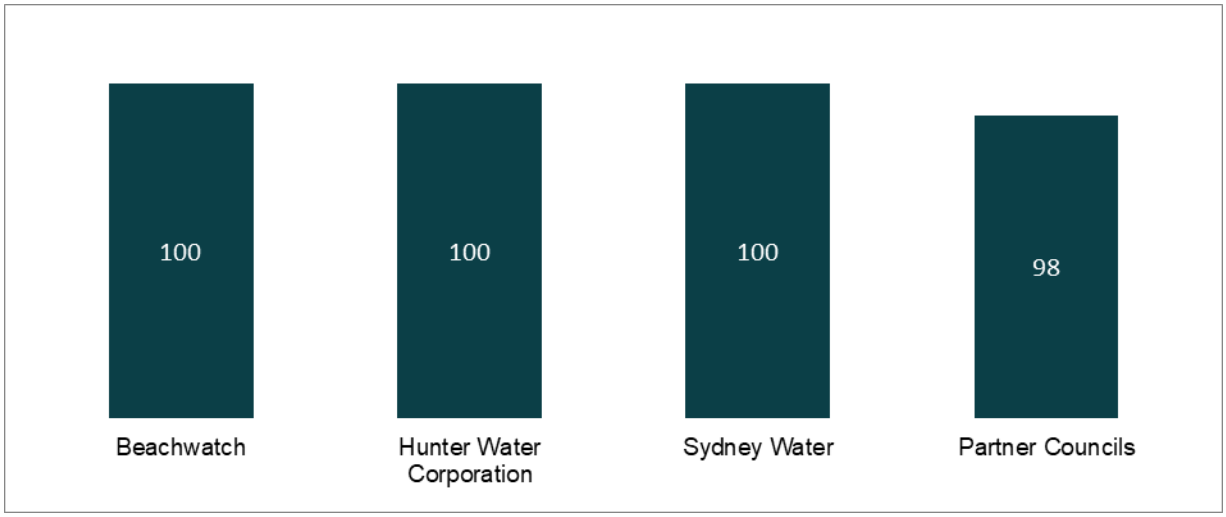
Sydney Water

Collects samples at 18 ocean beaches in Wollongong, Shellharbour and Kiama.

Partner councils

Ballina Shire Council, Richmond Valley Council, Bellingen Shire Council, Blue Mountains Council,

Central Coast Council, Wollongong City Council, Kiama Municipal Council, Shoalhaven City Council and Eurobodalla Shire Council collect samples at 86 popular swimming locations in their respective local government areas.



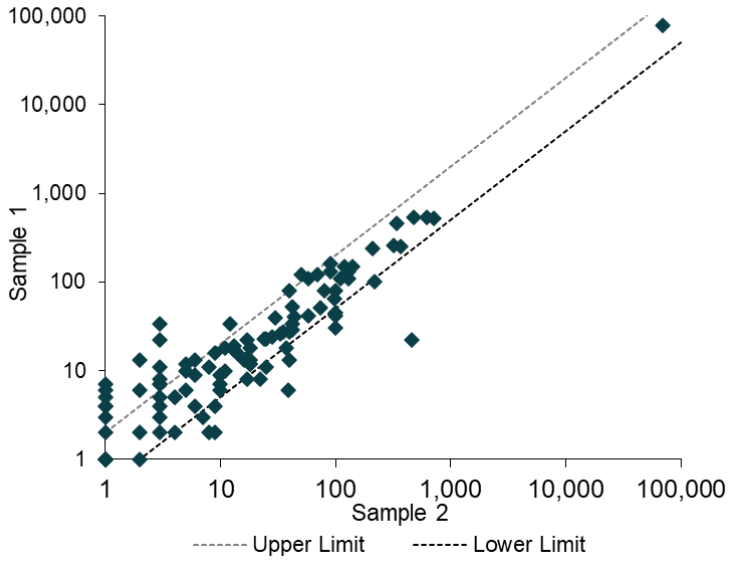
Percentage compliance with Beachwatch sampling protocols in 2023–2024

Laboratory analysis

Beachwatch program

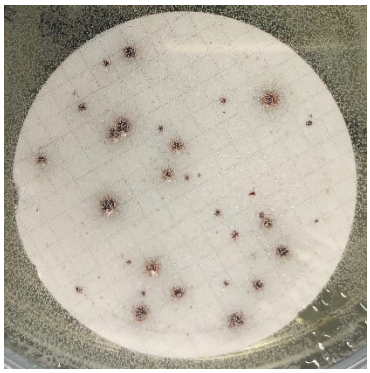
To assess the reliability of laboratory data, Beachwatch sends duplicate water samples to our contracted microbiological laboratory, which is accredited by the National Association of Testing Authorities (NATA). Duplicate samples are collected from the same site at the same time and the laboratory is unaware that the samples are collected from a single location. The results are expected to be similar.

Due to the inherent variability of bacterial levels in environmental samples, duplicate results that are within 0.3 log-units of each other (equivalent to a halving or doubling of density on a linear scale) are considered to be acceptable. Most duplicate samples were within the acceptable limits, with only 21% of the 122 enterococci results outside this range. Of the 21%, the majority were at very low bacterial densities that were below the safe swimming limit.



Distribution of duplicate enterococci (cfu/100 mL) results for the contracted laboratory, May 2023 to April 2024

Beachwatch partners



Confirmed colonies of enterococci on plate

Photo: Silliker Australia

Water samples for Hunter and Illawarra beaches were tested at Hunter Water and Sydney Water laboratories respectively. These are NATA accredited laboratories that comply with strict assessments.

Council laboratories in the Beachwatch Partnership Program are required to undertake proficiency testing to determine the reliability of data. In 2023–2024, most laboratories were NATA accredited or participated in regular proficiency testing programs to demonstrate competence in enterococci analysis.

Water samples for Bellingen Shire Council, Blue Mountains Council, Wollongong City Council, Kiama Municipal Council, Shoalhaven City Council and Eurobodalla Shire Council were tested by NATA accredited laboratories that comply with strict assessments.

The proficiency testing for Central Coast councils' laboratories was conducted by IFM Quality Services Pty Ltd. IFM Quality Services despatches samples in freeze dried form that require reconstitution prior to testing. The councils' laboratories underwent regular proficiency testing during October 2023 to April 2024 and recorded good results with enterococci counts reported within defined limits. Confidence can be placed in the accuracy of data from these laboratories. The Ballina and Richmond Valley laboratory did not undertake proficiency testing in 2023–2024.

Data management

Quality assurance procedures for data management were enhanced in the new reporting system, ensuring rigorous protocols are followed as part of the Beachwatch Program.

Water quality data for monitored swim sites in the Beachwatch Program are entered by Beachwatch and our partners into the Beachwatch reporting system via the Salesforce platform, including the partner portal.

Water quality data for the Illawarra beaches are regularly forwarded electronically to Beachwatch from the Sydney Water laboratory for the Beachwatch team to upload to the reporting system. Sydney Water provide their data using the template compatible with the Beachwatch reporting system to minimise handling of data and data entry error.

Some of the quality controls incorporated into the new reporting system for data management include:

- all field observations and water quality data are entered by the responsible person, reducing opportunity for data entry error, and manual handling by another user
- all field observations and water quality data go through a series of quality checks, ensuring data is double-checked by the user, data entry is cross-checked by another user and cannot be changed after quality checks are completed
- reporting system has built-in requirements including validation rules and mandatory fields, ensuring data is not duplicated, and necessary fields are completed with acceptable values and format
- reporting system requires a user account with specific permissions, restricting which users can and cannot enter, change and approve data
- reporting system can ingest data using fixed templates when needed, to minimise manual data entry and reduce data entry error.

Download data

Beachwatch data is available online on the Beachwatch 'Water quality data' webpage.

Once water quality data is approved through the quality checks, the data is automatically synced to the Beachwatch secure database, and automatically updates data available on the Beachwatch website. The results can be viewed and downloaded from the website.

Community reporting

Subscribe

Daily beach pollution forecast emails are available from the Beachwatch 'Subscribe' webpage

Providing the community with current beach water quality information is a core function of the Beachwatch programs, so reporting has been incorporated into the quality assurance program. This enables Beachwatch to measure the accuracy and reliability of our service. When necessary, this information is used to improve the reporting process.

Beachwatch website

The new Beachwatch website was launched in August 2023, as part of the Beachwatch reporting system. The reporting system streamlines, integrates and automates data capture to support real-time reporting of water quality information, including water quality forecasts and latest star ratings.

There are 2 main types of Beachwatch reporting: water quality forecasts and star ratings reports.

Water quality forecasts

Water quality forecasts provide advice to assist beach users on deciding when and where to swim. The forecasts are generated twice daily and report on the likelihood of bacterial contamination at swimming sites in the Hunter, Central Coast, Sydney and Illawarra regions. This information can be accessed by the public through the Beachwatch website and is reported on X (formerly Twitter) and Facebook. The information is also sent by email to subscribers.

The water quality forecasts are based on telemetered rainfall data and any reported pollution incidents that could affect swim site water quality. The forecasts include a prediction of the likelihood of pollution at ocean beaches and estuarine swimming areas, as well as daily weather, tides and coastal conditions, based on forecasts provided by the Australian Bureau of Meteorology. Forecasts are updated throughout the day if conditions change, using information provided by the Bureau of

Meteorology, local councils, lifeguards, the Environment Protection Authority or Sydney Water.

Accuracy of water quality forecast predictions

The daily water quality forecast scenarios are analysed against bacterial data to validate the models and track the accuracy of predictions. During 2023–2024, 93% of overall predictions were correct; a similar result to the previous reporting year. The Hunter and Illawarra beaches forecasts were the most accurate with 97% of scenarios correctly predicted. Central Coast and Sydney beaches had high accuracy, with 93% of scenarios correctly predicted.

During extreme wet weather and flooding events, pollution advisories were extended despite microbial water quality returning to levels suitable for swimming, to account for other hazards such as debris and murky water, which posed a risk to recreational activities.

When the accuracy of the pollution predictions for a swimming site declines, the prediction models are reassessed and adjusted to incorporate the changes in water quality. Regular tracking of the accuracy of pollution scenarios ensures a high level of overall accuracy is maintained.

Reliability of water quality forecasts

Water quality forecasts are generated automatically twice daily and require integration with several data sources, including the Bureau of Meteorology, Sydney Water and Manly Hydraulics Laboratory, and applications for reporting on the Beachwatch website. Forecast subscription emails are sent to subscribers each morning.

The water quality forecasts are monitored daily to ensure any issues are identified and rectified as soon as possible to avoid any disruption to the water quality forecasts produced. In the event a water quality forecast cannot be updated for more than 24 hours, the forecast for a swim site will display ‘Forecast not available’.

- The reliability of the water quality forecasts is measured by the number of times a water quality

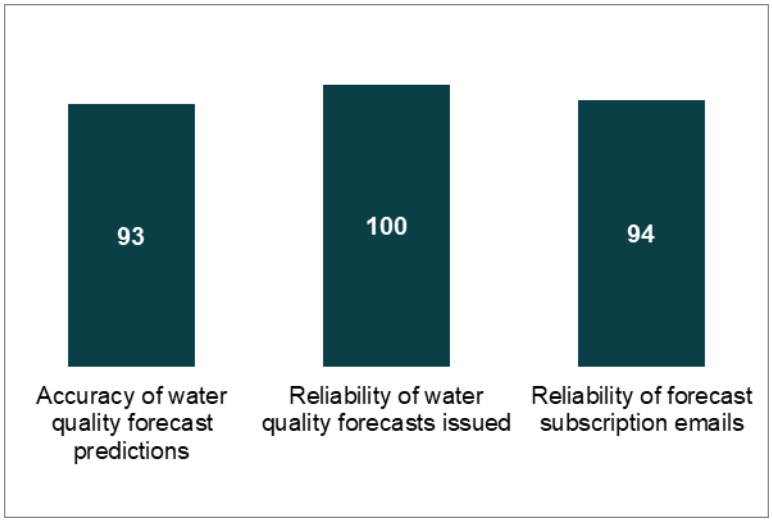
forecast was produced versus the total number of times a forecast is expected, to ensure the information provided is current and reliable.

- The reliability of the forecast subscription emails is measured by the number of subscription emails sent on time.

Between August 2023 and April 2024 (since the new reporting system has been live), 99.67% of the automated morning and afternoon forecasts (87,680 predictions) were successfully calculated for 160 swim sites. There were 285 occasions (0.33% of automatically generated forecasts) where a forecast was not available. Most of these were caused by technical issues, including unavailable rainfall data and loss of connectivity to data sources. This is a good result given the launch of a complex reporting system with many systems and work flows.

In 2023–2024, 94.3% of forecast emails were sent on time to subscribers. There were 18 times when daily emails were either not sent, or not sent on time due to technical issues or human error. Since the launch of the new reporting system in August 2023, the forecast emails service has been enhanced, including the automation of subscription emails, and ability for users to manage and refine their subscription preferences. The breakdown of compliance performance for forecast reports on the Beachwatch website and by email is shown below.

Beachwatch's water quality forecasting service is monitored every day by the Beachwatch team. Any issues impacting our service are raised and followed up promptly with the appropriate support team and stakeholders, and are stored in an electronic database.



Percentage compliance with beach pollution forecast reporting protocols in 2023–2024

Star ratings reports

Beach warning signs

Photo: Beachwatch/DCCEEW

The star ratings reports provide an indication of recent bacterial water quality, based on NHMRC (2008) guidelines, with one star indicating poor water quality, through to a 4-star rating indicating excellent water quality. The latest result is generated for each swim site based on the number of bacteria (*enterococci)* in the most recent water sample. Ratings are published automatically on the Beachwatch website for each monitored swim site once the data has passed through the quality assurance procedure, and are uploaded to the Beachwatch database.

Most star ratings are updated weekly throughout the year for swimming sites in the Sydney, Hunter and Illawarra regions and during the summer season for regional partner councils, where the frequency of sampling is reduced during winter when sites are not regularly used. All historical enterococci water quality data is available on the Beachwatch website.

References

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Wyer MD, Kay D, Fleisher JM, Salmon RL, Jones F, Godfree AF, Jackson G and Rogers A (1999) 'An experimental health related classification for marine waters', *Water Research*, 33(3):715–722.

More information

- About star ratings for beach water quality
- Beachwatch NSW on X (formerly Twitter)
- Beachwatch NSW on Facebook
- Beachwatch webpage
- Water quality data download
- Sanitary inspection of beaches
- Subscribe to daily pollution forecast emails
- WA Government environmental water publications