Bathing Water Season Report

November 2024

from Southern Water

Contents

Foreword

Dr. Nick Mills
Environment and Innovation Director

The 2024 bathing season has shown us, once again, why it's so important to work together. This year we strengthened relationships with our partners in the community, working innovatively and collaboratively to improve bathing water quality. We'll continue this way of working as part of our commitment to making things better.

This year's bathing water report comes towards the end of our latest five-year Business Plan 2020–25. As we prepare for the next Business Plan for 2025–30, which starts in April next year, we can see changes and opportunities on the horizon. We'll be building on the work to refine our Bathing Water Improvement Plan, as well as carrying out new investigations at locations throughout our region.

The classifications this year reflect a mixed picture, but one not without success. We've seen improvements at Margate the Bay, Hastings Pelham Beach and Hillhead for example; however we're disappointed that water quality has dropped in Deal Castle and Dymchurch. Understanding the many different environmental and human factors that can contribute to water quality decline isn't easy, and fixing whatever issues are causing it takes a combined effort with our local authority partners, regulators and communities.

St Mary's Bay, Kent, serves as a great example of collaborative working, shown in our case study on page 11. We've established the first community-based steering group in Folkestone and Hythe, where we meet with the council, the Environment Agency (EA) and the internal drainage board every month. Bathing water quality has steadily improved since this collaboration, and the bathing water classification of St Mary's Bay has improved to 'Sufficient'.

Foreword continued

Transparency over water quality remains critical. For example, our customers deserve access to quality information around storm overflow releases, so they can make an informed decision on where and when they use local bathing water. We've also recently released a new and improved storm overflow monitoring service, Rivers and Seas Watch (see page 15).
This was co-created with customers, stakeholders, community groups and local experts, as well as being informed by an independent review of our previous service, Beachbuoy.

Our plans are constantly adapting and growing, research and testing is always evolving in the background, and work is ongoing to make sure we're taking every opportunity possible to improve, protect, and preserve bathing water quality.

We're also improving our internal processes, making the best possible use of data, establishing and cultivating new relationships, and maintaining and making the most of our physical assets – including the equipment we manage and our sites – to reduce our own impact.

We're about to start detailed investigations into several bathing waters to find out more about what affects their water quality: you can read more about these in this report. We've also provided an update on our Citizen Science and Continuous Water Quality Monitoring programmes, as well as details on how our Clean Rivers and Seas Task Force continues to reduce the impact of storm overflows.

There's a lot happening as well as a lot to look forward to. The prize of achieving better bathing water depends on us continuing to work together.

Dr. Nick Mills
Environment and Innovation Director

Video: Water quality monitoring

Introduction

The 2024 Bathing Season has been a challenging one, reflected in this year's classifications.

Together we can acknowledge some positive strides forward at locations like Hastings Pelham Beach where trends continue to improve, and Kent, Broadstairs Viking Bay and Margate the Bay have improved to 'Good' and 'Excellent' respectively. Hillhead in Hampshire has also improved to the 'Excellent' standard.

It is disappointing that Deal and Dymchurch have dropped to 'Poor', and the newly designated Worthing Beach House is classified 'Poor' in its first year.

There is rarely one single reason behind the deterioration of a bathing water. Instead, several factors can have an impact. We have a clear responsibility to ensure our assets are well maintained and do not negatively impact water quality. With many assets including Wastewater Treatment Works (WTW), Wastewater Pumping Stations (WPS), and miles of sewer networks in bathing water sensitive areas, we have a significant role to play.

What is a designated bathing water?

A designated bathing water is a body of water that is recognised by the Environment Agency as being popular for swimming or other water-based leisure activities. Each designated bathing water is decided by the EA and managed by the relevant local authority for that area, for example, the local council.

We have

87 designated bathing waters for 2024

(up from 84 in 2023)

Introduction continued

A big part of our work is ensuring the health of our network of sewers, which can sometimes crack and leak. Improvement plans are in place to check the sewer network, clean out wet wells, identify issues that could impact bathing water quality, and resolve concerns quickly before they cause problems. For example, we now have over 26,000 sensors in our network to spot blockages before they cause a pollution. We're also investing heavily to reduce storm overflows.

Sewer level monitor

Bathing water expertise

Ann Saunders is our Bathing Water expert, with Bachelor of Science (BSc) and Master of Science (MSc) qualifications, followed by 30 years of experience looking into the science behind water quality. Ann's expertise allows us to meticulously cross reference the EA's water quality data with our storm overflow data. By doing this important analysis, we can see if there's a link between poor water quality samples and storm overflow releases leading up to the sample. We share this information with various stakeholders and customer groups to help increase public understanding of the different factors that contribute to poor water quality.

Visit Swimfo for an in-depth look at the geography of different bathing sites and past sample results.

What's that spot?

Click here to find out about water discolouration

Introduction continued

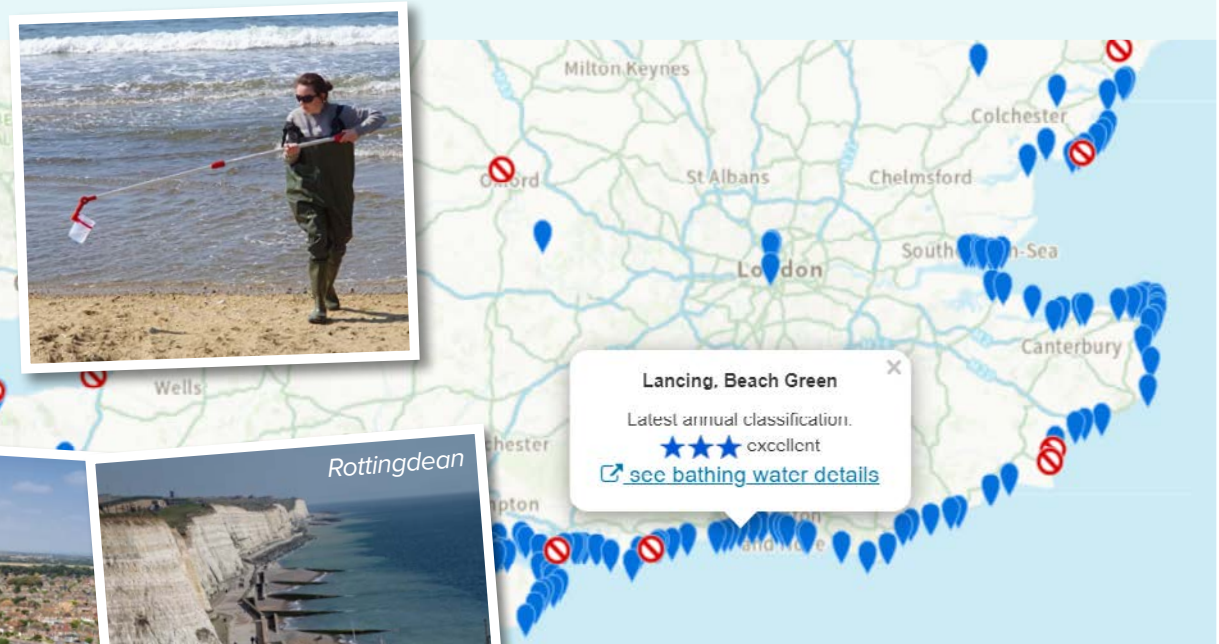
New bathing waters

Newly designated bathing waters this year were **Worthing Beach House** and **Goring** in West Sussex, and **Rottingdean**, East Sussex. These sites only have one season of water quality samples, whereas the classification process usually takes four seasons of samples into consideration. Classifications based on only one season of samples can sometimes be less accurate: for example there could be an unusually hot period that causes algae in the water to multiply rapidly or bloom and then die, creating bacteria that could lower water quality results.

We have established action plans in each of the areas where new bathing waters have been announced, with work starting this winter to fully understand these new bathing water sites.

How are bathing waters classified?

Designated bathing waters are classified as ‘Excellent’, ‘Good’, ‘Sufficient’ or ‘Poor’ every year around November. The annual classification for each bathing water is based on results from the previous four years of water quality testing, carried out by the EA from May to September, otherwise known as ‘bathing season’. We have no influence over these classifications as they are independently assigned by the EA. We are, however, trialling year-round sampling methods to help give a clearer picture when it comes to bathing water quality.



Find out more about how the Environment Agency monitor bathing water quality here.

Why we need to work together

Test data shows that storm overflow releases do not always cause poor bathing water quality, and that other factors can have a significant impact.

That's why we want to continue working together with stakeholders to find solutions to a variety of causes.

Impact from third parties

There are several factors outside our control that have the potential to impact bathing water quality including:

- **agricultural/farm run-off** which can include pesticides, animal medicines and animal waste
- **private sewer issues such as illegal connections**, which cause sewage to end up in bathing waters
- **seabird and other animal waste** causing spikes in bacteria concentration
- **disposal of waste/liquid contaminants** down surface water drains
- **seaweed and algal blooms** protecting bacteria and allowing them to live longer and sometimes providing a medium for them to reproduce
- **marine activities**, such as discharging on-board toilet and hygiene facilities.

We must also consider pollution from road surface run-off, which at scale, can have a significant impact on water quality. We're continuing to work closely with partner agencies – such as local councils – to address these issues together. This approach enables us to share knowledge and data, as well as creating improvement plans and prioritising bathing waters with a 'Poor' classification. By working together, we can cover more ground and take action faster and more effectively.

Our collective efforts in Hastings are a great example of this way of working. Representatives from the EA, local council and we have met regularly since 2019, at which time Hastings Pelham Beach was classified as 'Sufficient'. After much collaboration and effort, Hastings Pelham beach is now classified as 'Excellent'. This serves as a great example of what can be achieved when we all collaborate and work together towards a shared goal. Not only does the partnership increase quality and speed of projects; it also gives us valuable insight into the catchments so we can spot potential problems early on, improve local beaches, and support the local economy.

We're also looking at issues including illegal sewer connections and private drainage beneath piers, as well as commercial misuse of wastewater provisions. For example, businesses putting substances like oil, cleaning products, and contaminated water into surface water drains, which are used to carry rainwater and other natural surface water directly to the sea.

Hastings Pelham Beach

Why we need to work together continued

Our programme of various investigations over the past 12 months has uncovered significant issues, including **31** illegally connected properties, with **12** having toilet waste connected to the surface water system which goes directly out to sea. Since 2019 our in-house team has now identified **290** illegally connected properties with **918** separate facilities. That includes **135** toilets which had potentially been letting out **2,700,000** litres of raw sewage straight into streams or onto beaches. We're always striving for improvement, and investment totalling **£130k** has been spent on CCTV crawler devices to help spot issues which have the potential to impact bathing water quality.

Right: *Examples of issues uncovered by our dedicated illegal connections team.*

Location	Issues uncovered
Sussex	
Worthing	Eating establishment found to have all kitchen waste connected to the surface water sewer.
Bexhill	Eight properties with toilets connected to the surface water sewer, put right by our teams.
Hastings	800 meters of lining work undertaken following investigations in King Edward Avenue. 37 sections of foul sewer relined to stop sewage from reaching the surface water system.
Bognor Aldwick	Defective sewers repaired, and illegal connections resolved.
Bognor Regis Pier	Leaking private drainage causing pollution, the team worked with the pier owners to resolve the issue.
Kent	
Littlestone	Three properties with defective cess collection points identified and fixed by our teams.
Deal Castle	Three properties in with grey water (water from sinks, showers and appliances) connected to the surface water sewers identified. All have since been put right.
Dymchurch	Property with all household waste connected to the surface water sewer corrected.
Dover	Six properties recently found with facilities incorrectly connected, all issues corrected.
Hampshire	
Southsea East	The Hampshire and Isle of Wight team have focused a great deal of attention on Southsea. Using local knowledge, they have investigated all assets owned by Southern Water as well as private assets, to identify the reason for the recent dramatic decline in water quality in Southsea. Our team identified significant issues on Southsea Pier, including broken drainage pipework on the underside. We have funded the repair of defects on the private structure to help improve bathing water quality in Southsea. Another factor is the weather. The climate continues to change, and our region is seeing increasingly warmer water temperatures. The water temperature this summer was the hottest on record, and we have only just started to understand what impact this might have on the life, strength, and multiplication of bacteria.

Our commitment to collaborate and deliver improvements

We have a dedicated team of passionate individuals from across the business working in collaboration and using the data available to identify issues.

Past CCTV investigations will tell us where we've potentially defective sewers that need attention, and we review historic data records to understand where there have previously been blockages, flooding or pollution incidents. This then drives investigations to assess whether an issue persists, if it could impact the local bathing water, and how we're going to resolve it.

In early 2024, we began a programme of water quality testing across bathing waters that required urgent attention following EA classifications. Water quality technicians were tasked with visiting several high priority locations to collect samples from multiple points along the coastline. In some cases, samples were collected from inland waters in the catchment. In total, 830 samples were collected across 14 bathing water catchments. Samples were tested for E.coli (EC) and Intestinal Enterococci (IE) – these are the same parameters as the EA's own sampling programme uses.

Investigations have continued in areas which recorded concerning levels of EC or IE. This programme helped to identify illegal connections and leaking sewers causing pollution in Bexhill.

Above: *Bexhill shadow sampling locations*

Working together to improve St Mary's Bay

Case study

St Mary's Bay classification improvement from 'Poor' to 'Sufficient'

St Mary's Bay in Folkestone was classified as a 'Poor' bathing water in 2022. When a bathing water falls to the 'Poor' classification, we share the community's frustration and concerns. While we're not exclusively responsible for water quality, we know there's a lot that we can do, and our teams make these sites a priority in our improvement plans.

In July 2022 we carried out an investigation into the possible sources of pollution impacting St Mary's Bay. We took a thorough and methodical approach to analysing and assessing every possible data point, including our own assets.

The report concluded that 'evidence showed no significant source of pollution from our own assets', and that the impact was due to a combination of sources including seabird waste, human contamination and livestock. DNA analysis of samples from ten different bathing waters showed impact due to seabird waste in every single one.

Taking a joint approach

Although the results show minimal impact from our operations, we're still working in collaboration to help improve the classification. We're continuing our years of working in partnership with the EA, Folkestone and Hythe District Council, and the Internal Drainage Board (IDB) to investigate and tackle each and every source of possible pollution in St Mary's Bay. The group meets each month with clear governance around actions for each member to work towards.

Collaborative and cross-sector working such as this is critical to the long-term health of our bathing waters. We've been able to pool resources, share information, and work as a team to address issues faster and more effectively. We've carried out works to sewers, found and resolved several illegal connections, and identified issues where we have little control, but which our partners can influence and resolve.

The story so far

As the bathing water samples taken at St Mary's Bay in 2024 have been consistently positive regarding water quality, a change in classification, known as a 'Step Change', was applied for. A Step Change changes the classification of a bathing water sooner than the four-year regulatory cycle used for bathing water classifications would normally allow, benefitting the community and economy. The bay will no longer be classified as a 'Poor' bathing water, and the advice against swimming will be lifted by the EA for 2025 bathing water season. This case serves as an excellent example of what can be achieved through collaborative working.

This year we've also strengthened our community engagement by hosting the first community bathing water steering group, held at the Folkestone and Hythe District Council's civic centre. We're looking forward to continuing our work with the group supporting water quality improvement across the local coastline.

Continued on page 12.

Working together to improve St Mary's Bay continued

What we know

- There were no storm overflows with the potential to impact bathing water quality at St Mary's Bay in 2022, 2023 or 2024.
- High concentration samples have typically been found when flow is from the south. This may indicate a source from the south, such as the watercourse known locally as the new sewer.
- DNA analysis has been carried out on 10 samples, and the seabird marker was found in all samples analysed to species level.

- St Mary's Bay samples show concentrations of bacteria are high when rainfall over the past 48 hours has been more significant. As there have been no impacting storm overflows to St Mary's Bay for years, this could be due to agricultural or road run-off. This link with rainfall is not seen at other Folkestone and Hythe bathing water locations.

Work we've done

A comprehensive study of the local surface water catchment including manhole cover lifting and inspections, caging installation and monitoring.

A sampling programme that assesses ammonia and E.coli levels in surface water sewers and the new sewer river watercourse.

Completed a sediment sampling assessment, a method used to monitor contaminants in a watercourse.

Pressure tested a rising main sewer running close to the new sewer watercourse to check for leaks. No issues were found.

A programme of sewer lining in 2019.

Uncovered five illegal connections to properties, including a toilet from a building extension, which have now been resolved.

Employed the services of environmental specialists to put water quality testing equipment in multiple locations to analyse bacteria levels in the new sewer watercourse.

Testing local gravity sewers for potential unchartered connections between the foul and surface water sewers.

Our bathing water improvement plans

Investigations under our next Business Plan

Next year sees the start of our new five-year Business Plan. It runs from 2025–30, but we've been given early access to funding so we can start investigations without delay at several bathing water locations.

Early investigations give us the chance to take a deep look into all possible sources of pollution at a given bathing water, starting of course with any impact our own assets may be having. We're guided and advised by the EA about which locations to analyse. We also work with our regulators to make sure we're using funding in priority spots.

The method

We use several different methods in these investigations to understand microbiological impacts from our assets and from other sources. We look closely in an area to understand what we can do to improve water quality. We then share the information with our partner agencies, including the relevant councils, so a collaborative effort can go ahead if needed.

A typical investigation will consist of:

- A desk-based exercise to identify and gather any relevant available data from the area, such as from our own systems, the EA and/or third parties.
- Monitoring and investigations to understand the sources of potential bathing water contaminants called faecal indicator organisms (FIO), covering both wet and dry weather conditions.
    - These may include: water quality spot sampling, surveys to monitor the flow passing through the surface water system and for pollutants, installation of water quality monitoring devices, continuous monitoring, and closed-circuit television (CCTV) analysis of foul and surface water sewers.

The information that we gather will be used to develop a plan of work to resolve any issues stemming from our assts or operations, or those that we can solve with relevant permissions. This includes illegal customer connections to surface water sewers, foul and combined sewers blocked or in need of repair, or issues at our pumping stations and wastewater treatment works. We'll also work with the local council on third-party issues which could include pier drainage, like we've seen recently at Southsea, or leaky cess pits like those recently found and fixed in Littlestone.

The locations for this year's early investigations are:

- Worthing Beach House
- Goring Beach
- Rottingdean
- Deal Castle
- Brighton Central
- Normans Bay
- Ramsgate Western Undercliff
- Herne Bay
- Southsea East
- West Bay Westgate

Southsea East

Our bathing water improvement plans continued

Continuous water quality monitoring and citizen science

Last year we told you about our citizen science trial programme. Since then, our programme has grown into more areas with new teams of volunteers testing their local water quality.

As well as an existing project on the Isle of Wight, teams of testers from Brighton and Hove, Hastings and Eastbourne have been supplied with specialised equipment to sample bathing water quality at their own coastal locations. They'll help to build a bigger, more comprehensive understanding of water quality and where sources of pollution might be coming from. We're also continuing to work with other prospective groups to build on the citizen science projects already in place.

You can read more about the trial programme in our recent Citizen Science Report.

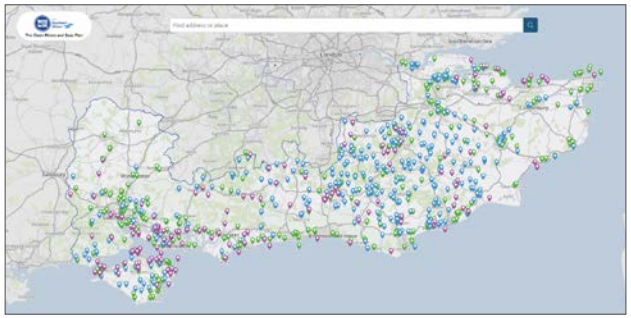
We've continued to progress our Water Quality Buoy Pilot project, investigating developments in technology to provide near real-time bathing water quality monitoring. The project was launched in 2022 and has seen trials of instruments in three locations: Hayling Island in Hampshire, Tankerton in Kent, and most recently, Langstone Harbour in Hampshire. Based on the results from an intensive sampling campaign, we've continued to modify and upgrade the equipment to increase its ability to pick up contaminants even in low concentration rates.

We're due to begin a further round of sampling following the latest suggested modification. It's hoped that this information will allow us to draw some informed conclusions regarding the capability of the technology. We will be publishing a report on our findings, which will define our future strategy and aims for providing improved bathing water quality information.

Storm overflow reduction

The Clean Rivers and Seas Task Force continues working to reduce storm overflow releases across the south, with over 500 releases saved or treated prior to release so far this year. You can read all about the latest work in our most recent Task Force Update, which includes our early plans for Portsmouth Harbour, how we've reduced storm overflows from our Swalecliffe treatment works by 36%, sealed 3,239 metres of public and private pipework to reduce groundwater driven storm overflows, and our extensive work in Cowes.

Event duration monitoring helps us to understand the performance of our storm overflows. It is a vital part of our response to managing their frequency and to reduce our impact on bathing water quality. We now have 100% Event Duration Monitoring installed, and the data produced by the monitors is shared with the Environment Agency annually and via our new Clean Rivers and Seas Watch customer webapp.



Above: *Clean Rivers and Seas Plan*

We've also created our Clean Rivers and Seas Plan which is hosted on an interactive map, showing our improvement plans for every storm overflow in our region, as well as why storm overflows happen. Try searching your postcode and see what the team has planned for your local area.

Rivers and Seas Watch – our online monitoring service

Rivers & Seas Watch
from Southern Water

We recently launched Rivers and Seas Watch, our new storm overflow monitoring service, after a successful beta testing period.

A notable improvement on our previous service, Beachbuoy, Rivers and Seas Watch provides the user with everything they need to know prior to using a watercourse, from storm overflow and water quality information to tide and wind details.

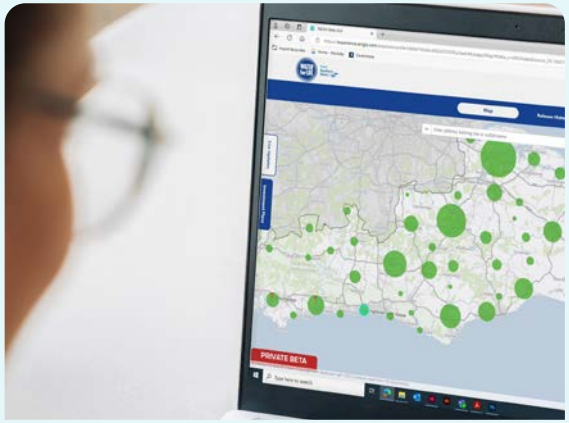
What's new?

We launched our first storm overflow monitoring service, Beachbuoy, in 2020 to keep customers informed of storm overflow releases to coastal bathing waters. It offered beachgoers and water users the opportunity to know more about overflow activity at their favourite spots.

But we wanted to do better for our customers, not just in terms of transparency and information but also for ease of use and functionality. So, after consulting with independent experts and a panel of our customers, we developed the service together.

Rivers and Seas Watch now includes all our inland outfalls, integrated improvement plans, search and location features, as well as various new data sets and informational content that was not available in Beachbuoy. The recent changes mean we can look towards further and longer-term improvements, such as real-time water quality information provided by citizen science and real-time water quality buoys.

Video: Rivers and Seas Watch



Visit Rivers and Seas Watch to find out what else is new.

Bathing water classifications

Bathing Water	2023	2024	Change
Beachlands Central	Excellent	Excellent	–
Beachlands West	Excellent	Excellent	–
Bembridge	Good	Good	–
Bexhill	Sufficient	Sufficient	–
Birling Gap	Excellent	Excellent	–
Bognor Regis (Aldwick)	Poor	Poor	–
Bognor Regis East	Good	Sufficient	↓
Botany Bay, Broadstairs	Excellent	Excellent	–
Bracklesham Bay	Excellent	Excellent	–
Brighton Central	Good	Good	–
Brighton Kemptown	Excellent	Excellent	–
Broadstairs, Stone Bay	Good	Good	–
Broadstairs, Viking Bay	Sufficient	Good	↑
Calshot	Excellent	Excellent	–
Camber	Good	Good	–
Christchurch Bay	Excellent	Excellent	–
Colwell Bay	Excellent	Excellent	–
Compton Bay	Excellent	Excellent	–
Cowes	Excellent	Excellent	–
Deal Castle	Sufficient	Poor	↓
Dymchurch	Sufficient	Poor	↓

Bathing Water	2023	2024	Change
East Cowes	Excellent	Excellent	–
Eastbourne	Good	Good	–
Eastney	Good	Good	–
Eastoke	Excellent	Excellent	–
Felpham	Good	Good	–
Folkestone	Sufficient	Sufficient	–
Goring Beach		Sufficient	N/A
Gurnard	Good	Good	–
Hastings Pelham Beach	Good	Excellent	↑
Herne Bay	Excellent	Excellent	–
Herne Bay Central	Good	Sufficient	↓
Highcliffe	Excellent	Excellent	–
Hillhead	Good	Excellent	↑
Hove	Excellent	Excellent	–
Hythe	Excellent	Excellent	–
Joss Bay, Broadstairs	Excellent	Excellent	–
Lancing, Beach Green	Excellent	Good	↓
Lee-on-Solent	Excellent	Excellent	–
Lepe	Excellent	Excellent	–
Leysdown	Good	Good	–
Littlehampton	Good	Good	–
Littlestone	Poor	Poor	–

Bathing water classifications continued

Bathing Water	2023	2024	Change
Margate Fulsam Rock	Excellent	Excellent	–
Margate The Bay	Good	Excellent	↑
Middleton-on-Sea	Excellent	Excellent	–
Milford-on-Sea	Excellent	Excellent	–
Minnis Bay, Birchington	Excellent	Excellent	–
Minster Leas	Excellent	Good	↓
Norman's Bay	Excellent	Excellent	–
Pagham	Good	Good	–
Pevensey Bay	Good	Good	–
Ramsgate Sands	Good	Excellent	↑
Ramsgate Western Undercliffe	Good	Good	–
Rottingdean Beach		Good	N/A
Ryde	Good	Good	–
Saltdean	Excellent	Excellent	–
Sandgate	Excellent	Excellent	–
Sandown	Good	Good	–
Sandwich Bay	Good	Good	–
Seaford	Excellent	Excellent	–
Seagrove	Excellent	Excellent	–
Selsey	Excellent	Excellent	–
Shanklin	Excellent	Excellent	–
Sheerness	Excellent	Excellent	–
Shoreham Beach	Excellent	Excellent	–

Bathing Water	2023	2024	Change
Southsea East	Poor	Poor	–
Southwick	Excellent	Excellent	–
St Helens	Excellent	Excellent	–
St Leonards	Excellent	Excellent	–
St Margaret's Bay	Excellent	Excellent	–
St Mary's Bay (Kent)	Poor	Sufficient	↑
St Mildred's Bay, Westgate	Excellent	Excellent	–
Stokes Bay	Excellent	Good	↓
Tankerton	Excellent	Excellent	–
Totland Bay	Excellent	Excellent	–
Ventnor	Excellent	Excellent	–
Walpole Bay, Margate	Good	Good	–
West Bay, Westgate	Sufficient	Sufficient	–
West Beach, Whitstable	Good	Good	–
West Wittering	Excellent	Excellent	–
Westbrook Bay, Margate	Excellent	Excellent	–
Whitecliff Bay	Excellent	Excellent	–
Winchelsea	Good	Good	–
Worthing	Good	Sufficient	↓
Worthing Beach House		Poor	N/A
Yaverland	Excellent	Excellent	–

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