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Bathing Water Quality

The Environment Agency (<https://www.gov.uk/government/organisations/environment-agency>) takes up to twenty water samples at each of England's designated bathing waters (<help-glossary.html#designated-bathing-water>) during the bathing water season between May and September each year. A classification for each bathing water is calculated annually based on samples from the previous four years. These classifications are, from best to worst:

- excellent (<help-glossary.html#bathing-waters-directive-classification>) – the highest cleanest seas
- good (<help-glossary.html#bathing-waters-directive-classification>) – generally good water quality
- sufficient (<help-glossary.html#bathing-waters-directive-classification>) – the water meets minimum standards
- poor (<help-glossary.html#bathing-waters-directive-classification>) – the water has not met the new minimum standards. Work is planned to improve bathing waters not yet reaching Sufficient

If water is classified as *poor*, then a sign advising against bathing will be displayed. However the beach remains open for people to enjoy.

The use of standardised symbols for the four classes, which all countries in the EU have to use at bathing waters across Europe, helps people make informed choices on where to swim when home and abroad.




A sample tells us the quality of the water at that specific time, but water can change even over the course of one day. In each sample we test for bacteria that indicate whether there is faecal matter (<help-glossary.html#faecal-matter>) in the water. The bacteria we test for are:

- Escherichia coli (<help-glossary.html#e-coli>) or E. coli (EC)
- Intestinal enterococci (<help-glossary.html#intestinal-enterococci>) (IE)

When more of these bacteria are present in a bathing water there are greater risks to bathers' health. The standards we use are specified in the Bathing Water Directive ([help-glossary.html#bathing-waters-directive](#)) and are based on World Health Organisation research which recorded the incidence of gastrointestinal disease (stomach upsets) in people bathing in waters of differing bacterial concentrations.

Water quality changes over time, even in the course of one day. This may be due to: These water quality warnings are shown on the main map on the home page, profile pages for individual bathing waters, and the compare bathing waters page. They are indicated by a warning circle icon .

- Heavy rain or tides washing pollution into the water that flows into a bathing water from the surrounding catchment. At sites where this is known to occur, this risk is assessed by daily Pollution Risk Forecasts ([help-glossary.html#pollution-risk-forecast](#)) (PRF) and if an increased risk is forecast, a pollution risk warning is issued along with advice against bathing.
- On rare occasions pollution incidents can occur which may affect water quality. If a pollution incident occurs that may affect bathing water quality we will issue advice against bathing. We consider whether the samples counted towards a site's classification should be suspended during these incidents, in which case the incident is known as an abnormal situations ([help-glossary.html#abnormal-situation](#)).

These water quality warnings are shown on the main map on the home page ([index.html](#)), profile pages for individual bathing waters, and the compare bathing waters page. They are indicated by a warning circle icon .

Water Quality Assessments

Designated bathing waters in England have tough water quality targets to achieve.

The classifications are based on a detailed statistical analysis of the sample measurements taken over a four year period. If a step change ([help-glossary.html#step-change](#)) in quality has occurred because of an improvement action such as new sewerage infrastructure, only data collected since the action will be assessed.

The analysis groups bathing waters into classifications based on the probability that most of the time concentrations of Escherichia coli (EC) or Intestinal enterococci (IE) will be below classification thresholds, there are no 'pass' or 'fail' standards. All the samples are combined and the classification is based on a statistical measure, known as the percentile which measures the probability of high results occurring. The classification uses either the 95% or 90% percentile depending on the classification (see below). It's important to note percentiles are not limits that apply to individual samples

The criteria for coastal bathing waters ([help-glossary.html#coastal-bathing-water](#)) and inland bathing waters ([help-glossary.html#coastal-bathing-water](#)) are different. The thresholds for classifications are as follows:

Classification	Thresholds	Confidence level
Coastal Bathing Waters		
Excellent	EC: ≤250 cfu/100ml ; IE: ≤100 cfu/100ml	95th percentile
Good	EC: ≤500 cfu/100ml ; IE: ≤200 cfu/100ml	95th percentile

Classification	Thresholds	Confidence level
Sufficient	EC: ≤500 cfu/100ml ; IE: ≤185 cfu/100ml	90th percentile
Poor	means that the values are worse than the sufficient	
Inland Bathing Waters		
Excellent	EC: ≤500 cfu/100ml ; IE: ≤200 cfu/100ml	95th percentile
Good	EC: ≤1000 cfu/100ml ; IE: ≤400 cfu/100ml	95th percentile
Sufficient	EC: ≤900 cfu/100ml ; IE: ≤330 cfu/100ml	90th percentile
Poor	means that the values are worse than the sufficient	

Key EC: Escherichia coli, IE: Intestinal enterococci, cfu: Colony Forming Units ([help-glossary.html#colony-forming-units](#))

For planning purposes the Environment Agency uses unofficial classifications based on these standards for samples collected during years before 2015. These classifications use data collected using different analytical methods for data prior to 2012 and are therefore approximations of the class that the bathing water would have achieved if the new bathing water quality standards had been in force.

Prior to 2015, classifications are included on this website to show the history of bathing water quality. These are marked with a *p* icon. The official classifications before 2015 are based on the old standards and can be found here (<https://www.gov.uk/government/collections/bathing-waters>) or on the water quality data pages of this application.

If water is classified as *poor*, then the symbol for "poor" together with a sign showing advice against bathing must be displayed in the following year. A sign displaying a "poor" classification and advice against bathing does not mean bathing is banned or that a beach is closed, beaches remain open for people to enjoy.



Short term pollution

If a PRF coincides with a routine water sample, it may be classed as Short term pollution (STP). STP is bacterial pollution that occurs at a bathing water and is not expected to last for more than 72 hours. Management actions to deal with STP are designed to help protect the public from predictable pollution of short duration at a bathing water. Compliance samples taken during events which are defined as STP may be removed from the compliance dataset.

An additional sample has to be collected by the Environment Agency after the STP event to confirm its end. This end sample cannot be used for classifications.

Up to 15% of samples used in the classification data may be removed over the four year period. This discounting assessment is made at the end of each monitoring season and is shown in the data by the *discounted* field.



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