

# BWD Report For the Bathing Season 2014

## The United Kingdom

The report gives a general overview of information acquired from the reported data, based on provisions of the Bathing Water Directive<sup>1</sup>. The reporting process is described below, as well as state and trends of bathing water quality in the United Kingdom.

### 1. BWD reporting in the season 2014

In 2014 bathing season, 632 bathing waters have been reported in the United Kingdom. For each bathing water, five groups of parameters have been delivered<sup>2</sup>:

- *identification data* – including name, location, geographic type of bathing water and availability to bathers;
- *seasonal data* – including season start and end, national quality classification in present season, potential management measures and changes in quality;
- *monitoring results* – disaggregated numerical values of two microbiological parameters – intestinal enterococci and Escherichia coli (also known as E. coli), recorded at each water sample taken;
- *abnormal situation periods* – periods of unexpected situations that have, or could reasonably be expected to have, an adverse impact on bathing water quality and on bathers' health; reporting is optional;
- *short-term pollution periods* – identifiable events that adversely affect water quality by faecal contamination; reporting is optional.

<b>Total reported</b>	<b>632</b>
Coastal	617
Inland	15
<b>Max season period</b>	<b>138 / 198 days</b>
Coastal	16 Apr to 31 Oct
Inland	15 May to 30 Sep
<b>Samples taken</b>	<b>12539</b>
<b>New BWD implemented in</b>	<b>2012</b>

The authorities of the United Kingdom report data according to the new BWD (2006/7/EC) since the season 2012. The data for the season 2014 were delivered to the European Commission by **13 January 2015**.

Altogether, **632 bathing waters** have been reported – 2.9% of all bathing waters in Europe. Out of all bathing waters in the United Kingdom, five (0.8%) have been newly identified in 2014 season. 98% of bathing waters in the United Kingdom are of coastal type; the other 2% are inland. **12539 samples** were taken at bathing waters throughout the season – 20 per bathing water on average.

<sup>1</sup> Directive BWD 2006/7/EC, available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:064:0037:0051:EN:PDF>

<sup>2</sup> See the BWD Data Dictionary for detailed explanations: <http://dd.eionet.europa.eu/datasets/3151#tables>

The bathing season period was from 16 April to 31 October for coastal bathing waters, i.e. 198 days altogether. Season duration varies for coastal bathing waters. Inland bathing season period was from 15 May to 30 September, i.e. 138 days. Season duration varies for inland bathing waters.

Detailed information on individual bathing waters is available from national bathing water profiles for each UK country and Gibraltar individually online:

- England: <http://environment.data.gov.uk/bwq/explorer/index.html>,
- Wales: <http://environment.data.gov.uk/wales/bathing-waters/profiles>,
- Scotland: <http://www.sepa.org.uk/environment/water/bathing-waters/profiles>,
- Northern Ireland: [http://www.doeni.gov.uk/niea/water-home/quality/bathingqualityni/bathing\\_water\\_profiles.htm](http://www.doeni.gov.uk/niea/water-home/quality/bathingqualityni/bathing_water_profiles.htm),
- Gibraltar: <https://www.gibraltar.gov.gi/new/water>.

## 2. Assessment methodology

During the bathing season, water samples are taken and analysed for two bacteria, *Escherichia coli* and intestinal enterococci which may indicate the presence of pollution, usually originating in sewage or livestock waste. The results of the analysis are used to assess the quality of the bathing waters concerned and to provide information to the public on the quality of the water in the bathing sites concerned.

The monitoring requirements under the New Bathing Water Directive are:

- taking of a pre-season sample (taken shortly before the start of the bathing season)<sup>3</sup>;
- a minimum of four samples per season<sup>4</sup>;
- a minimum of one sample per month<sup>5</sup>.

The conditions described above must be met for all bathing waters. If these rules are satisfied, the bathing water is categorised as 'sampling frequency satisfied'. If not all monitoring requirements are fulfilled the bathing water is categorised as 'sampling frequency not satisfied'. 99.8% of bathing waters met the described monitoring requirements set by the Directive, while the remaining one (0.2%) bathing water did not satisfy monitoring requirements because it was banned or closed. Table 1 shows the statistics of bathing waters according to satisfied BWD monitoring requirements.

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<sup>3</sup> A pre-season sample is taken into account at total number of samples per season.

<sup>4</sup> Three samples are sufficient if the season does not exceed eight weeks or the region is subject to special geographical constraints.

<sup>5</sup> If, for any reason, it is not possible to take the sample at the scheduled date, a delay of four extra days is allowed. Thus, the interval between two samples should not exceed 31 + 4 days.

**Table 1: Bathing waters in 2014 according to compliance with BWD monitoring provisions**

	Count	Share of total [%]
<b>BWs with sampling frequency satisfied that are not banned or closed (B) in 2014.</b> These bathing waters have been monitored according to BWD provisions (monitoring frequency satisfied and have pre-season sample. They have been quality-classified (CG, CI, NC).	631	99.8%
<b>BWs with sampling frequency not satisfied and that are not banned or closed (B) in 2014.</b> These bathing waters have not been monitored according to BWD provisions (monitoring frequency not satisfied). They may be quality-classified if there is a reasonable volume of samples available.	0	0%
<b>BWs that are banned or closed (B) in 2014.</b> The bathing waters that were banned or closed (B) because of a legal dispute and could not be sampled.	1	0.2%
<b>Total number of bathing waters in 2014</b>	<b>632</b>	<b>100%</b>

Since the data series of four consecutive years has not been collected yet, the assessment of bathing waters has been done according to transitional rules. This means that only the most recent season's data have been considered, while quality classification is based on criteria of the old BWD (76/160/EEC). The results for both parameters are classified in the following three quality categories: compliant with the mandatory value (CI), compliant with the guide values (CG), and not compliant with the mandatory value (NC).

The classification is based on pre-defined percentile values for microbiological enumerations, falling in the certain class given in Annex I of the Directive. This defines different limit values for coastal and inland waters.

### 3. Bathing water quality

The results of the bathing water quality in the United Kingdom for the period of 2011–2014 as reported in the past reporting years and for the bathing season of 2014 are presented in Figure 1 (for coastal bathing waters) and Figure 2 (for inland bathing waters). The previous reports are available on the European Commission's bathing water quality website<sup>6</sup> and the European Environment Agency's bathing water website<sup>7</sup>.

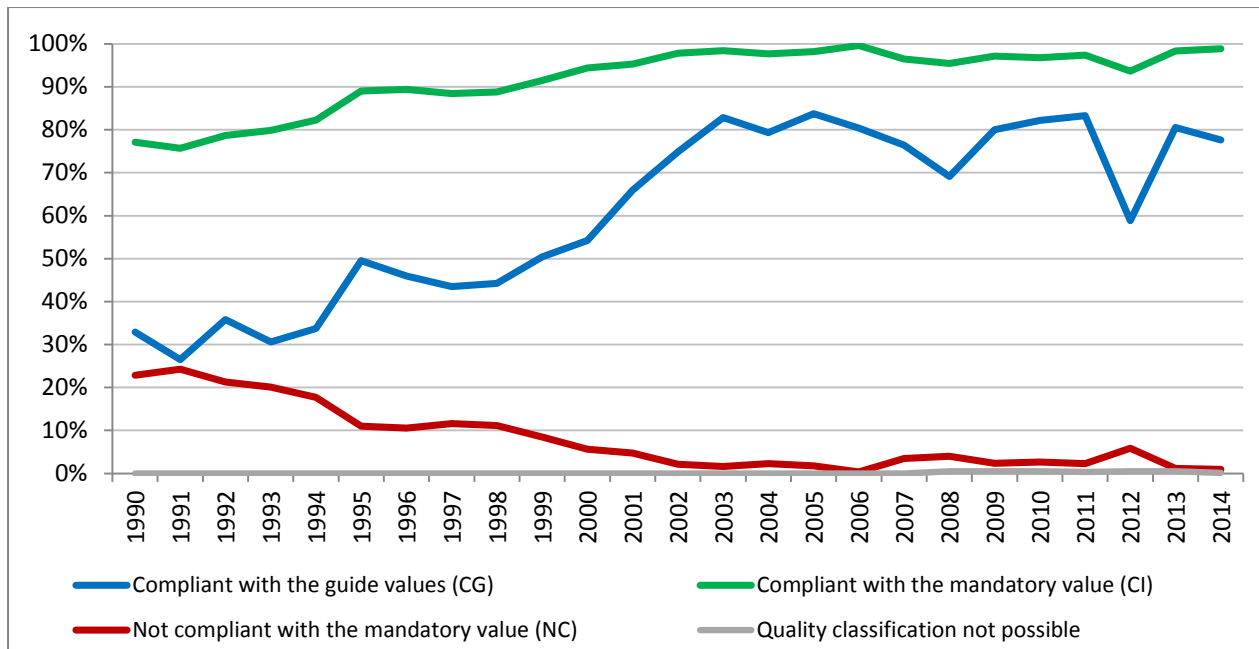
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<sup>6</sup> [http://ec.europa.eu/environment/water/water-bathing/index\\_en.html](http://ec.europa.eu/environment/water/water-bathing/index_en.html)

<sup>7</sup> <http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>

### 3.1 Coastal bathing waters

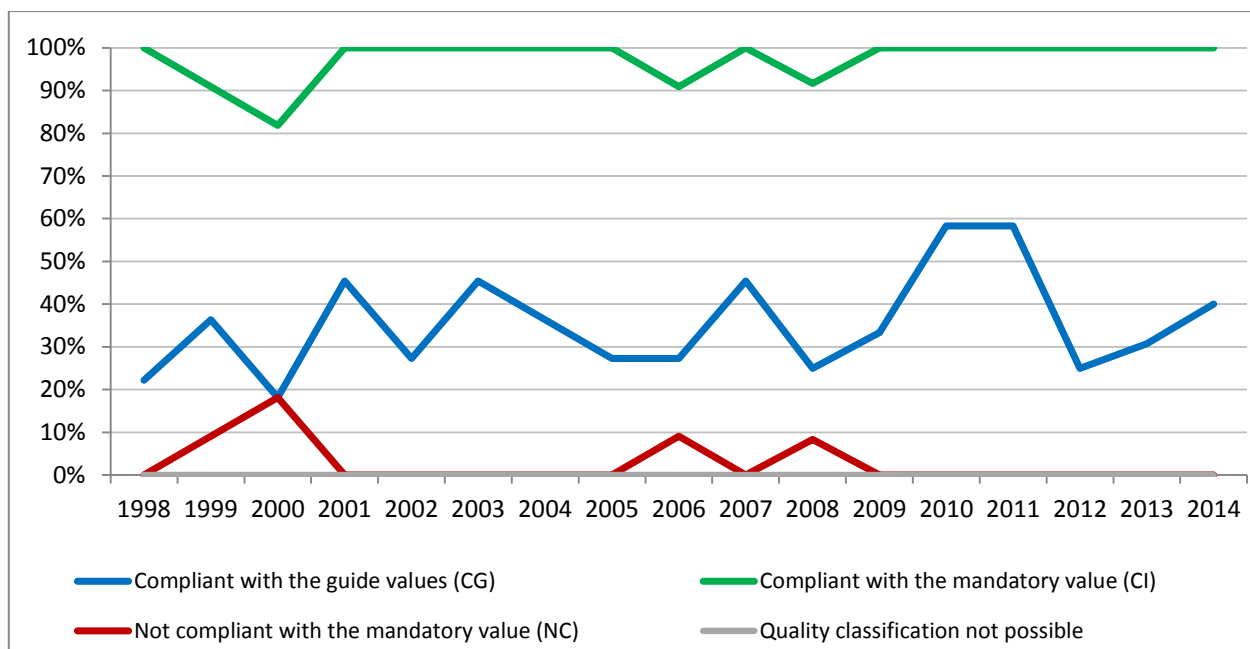
In the United Kingdom, 98.7% of coastal bathing waters met the mandatory values (CI) in 2014. See Appendix 1 for numeric data.



**Figure 1: Coastal bathing water quality trend in the United Kingdom.** Note: the “At least sufficient” class also includes bathing waters of “Excellent” quality class, the sum of shares is therefore not 100%.

## 3.2 Inland bathing waters

All inland bathing waters were compliant with mandatory values (CI) in 2014. See Appendix 1 for numeric data.



**Figure 2: Inland bathing water quality trend in the United Kingdom.** Note: the “At least sufficient” class also includes bathing waters of “Excellent” quality class, the sum of shares is therefore not 100%.

## 4. Information regarding management and other issues

### 4.1 Information to the public

Bathing water quality information in the UK can be accessed through a wide range of sources, including the traditional poster scheme, which is operated at many UK bathing waters, and the internet, where up-to-date results of samples taken in 2014 were posted on the websites of:

- the Environment Agency for bathing waters in England (<http://environment.data.gov.uk/bwq/explorer/index.html>);
- Natural Resources Wales (<http://environment.data.gov.uk/wales/bathing-waters/profiles>)
- the Scottish Environment Protection Agency <http://www.sepa.org.uk/environment/water/bathing-waters>
- and the Department of the Environment in Northern Ireland ([www.ni-environment.gov.uk/water/quality/bathingqualityni.htm](http://www.ni-environment.gov.uk/water/quality/bathingqualityni.htm)).

Monitoring information is also available to the public on registers held by the competent authorities and detailed summaries are published annually.

In Wales, Natural Resources Wales launched a new mobile app in 2014 which will help bathers make informed choices about where they choose to swim. The app, which is free to download via “Play Store” (Google’s online store for purchasing Android apps), provides regularly updated information about the quality of the water at each of Wales’ 102 designated bathing waters.

Daily pollution risk forecasts were available online for 151 bathing waters in England and 12 in Wales, with some local authorities providing warnings on signs at beaches.

In Scotland electronic signage providing daily real-time bathing water quality predictions is available at 23 bathing waters, along with updates on the web, a smartphone mobile website and a dedicated beachline phone number. There is an investment programme currently underway to extend this predication and information approach to a further five or six locations during 2015.

## **4.2 Treatment of wastewater**

The UK water industry continues to implement solutions to meet the requirements of the revised Bathing Water Directive. In England and Wales, during the 2010-2015 water company investment period (AMP5), a capital investment of £220m has delivered an extensive programme of investigations and enhancement schemes to improve the quality of bathing waters. Plans for the 2015-2020 period will see considerable investment to improve and protect over 50 waters.

During AMP5, investigations at 36 sites and 46 capital enhancement projects to improve sewage treatment works and overflows to assist compliance with EU microbiological standards have been completed (figures correct up to 31 March 2014).

In addition, event duration monitors have been installed at 331 combined sewer overflows and storm tanks that impact on bathing waters projected Poor or at risk of being classified as Poor, or at risk of deterioration. Beyond this, a number of water companies have installed monitors at:

- Intermittent discharges around the coastline on a voluntary basis to allow beach managers to be advised of significant spills that could impact bathing waters, or
- Critical points in drainage catchments to minimize the impact on the environment.

There may also be additional benefit to bathing water quality from projects funded under other Directives, such as work to protect Shellfish Protected Areas under the Water Framework Directive. The programme of funded enhancements includes some projects to take bathing waters beyond the minimum requirements of the revised Bathing Water Directive to ensure that water industry assets do not prevent a bathing water from obtaining excellent classification.

In Northern Ireland, the Price Control 13 investment programme (2013-15) has resulted in infrastructure investment by Northern Ireland Water aimed at complying with bathing water standards. This included the completion of two projects at Newcastle in 2013 and Magilligan Benone in 2014 to improve wastewater discharges impacting on bathing waters.

In Scotland, the investment programme ‘Quality and Standards 3’ runs from 2006-15 and takes account of infrastructure investment requirements to ensure compliance with bathing water standards. Further

details of the requirements set by Ministers for Scottish Water to develop in the period 2010-15 are provided on the Scottish Government's website at:

<http://www.scotland.gov.uk/Topics/Business-Industry/waterindustryscot/improvingservices/currentimprovement>.

### **4.3 Treatment of sources of diffuse pollution**

Tackling diffuse water pollution from agriculture is a major part of UK water quality policy and a key element of achieving the objectives of the Bathing Water Directive and Water Framework Directive. UK authorities are working with farmers and others to develop measures to reduce diffuse water pollution from agricultural and urban sources, and to provide information and advice on how to achieve this.

In England authorities are working with farmers to develop mechanisms to ensure that all farmers adopt basic measures and to secure uptake of additional measures through incentive mechanisms such as the Rural Development Programme for England (RDPE). Evidence of diffuse pollution from agriculture collected by the Environment Agency is being used to target measures to water bodies where they will deliver the greatest benefit.

The key project in England is Catchment Sensitive Farming (CSF), which provides advice and capital grants to reduce diffuse pollution from agriculture. It operates in 79 priority catchments and has 9 catchment partnerships. These include a number of catchments with identified bathing sites. The capital grants scheme provides financial support for farmers investing in farm infrastructure items, including items such as watercourse fencing that restrict the entry of faecal indicator organisms (FIOs) to water. In conjunction with advice, the capital grants scheme awarded £12.5m of grant funding during 2013-14. Grants for works in 2015 will be available in CSF priority catchments, with improvements to infrastructures that help improve bathing waters a priority. Farmers are able to apply for grants worth up to £10,000 per holding, with applicants expected to contribute 50% towards the capital works.

In preparation for the more stringent standards of the revised Bathing Water Directive in 2015, we have also asked the farming industry to promote good practice measures to help improve water quality in bathing waters at risk of not meeting standards due to agricultural pollution. Industry groups are currently evaluating what more can be done to minimise the risk of agricultural pollution going forward.

In England, in order to develop appropriate policy interventions, Defra funds significant research into understanding the relationships between agriculture, diffuse pollution and water quality, and evaluating the cost-effectiveness of mitigation measures. This includes the second phase of the Demonstration Test Catchments (DTC) programme (2014-17), which aims at testing diffuse pollution mitigation measures in combination at a large scale in four English catchments: the Eden (Cumbria); Wensum (Norfolk); Avon (Hampshire), and Tamar (Devon/Cornwall). This research combines a biophysical and socio-economic assessment of the efficacy and appropriateness of mitigation measures to reduce pollution, and is used to support policy development and the design of agri-environment monitoring and evaluation programmes. This programme also serves to engage stakeholders in the development of strategies to reduce agricultural pollution and provides a research "platform" to host additional research activities on agricultural and catchment science. Defra-funded research integrates FIOs when evaluating the efficacy of specific mitigation measures to reduce diffuse water pollution. In

addition, a project modelling the delivery of FIOs from land to water in headwater catchments is concluding, while further ongoing research aims at developing an integrated model to predict FIO risk in bathing and shellfish waters.

In Wales the entry level of the agri-environment scheme Glastir, “Glastir Entry”, is available to land managers across Wales to undertake positive environmental work. Applicants may select options that enhance water quality. In addition, under the whole farm code they are required to maintain a field record of all inputs that are applied to the land. The higher tier of Glastir, “Glastir Advanced”, is intended to deliver targeted improvements to the environmental status of a range of habitats, species, soils and water that might also require changes to current agricultural practices. From 2016 Glastir Advanced will be available to all land managers across Wales, irrespective of whether they have an entry level commitment, in order to increase the level of uptake of targeted measures for environmental improvements. In priority areas for water quality there are additional requirements for resource management planning. Glastir Efficiency Grants will be replaced by Sustainable Production Grants designed to improve farm efficiency, which will include nutrient management and so will help to mitigate diffuse agricultural pollution to water bodies across Wales. Glastir is entering its fourth year of operation.

The UK is continuing its implementation of the EU Nitrates Directive, which aims to reduce pollution of water by nitrates from agricultural sources. There are separate Action Programmes for England, Wales, Scotland and Northern Ireland. Mandatory measures within the Action Programmes control the use and management of chemical nitrogen fertiliser and organic manures on farms located within the Nitrate Vulnerable Zones (NVZs). Studies have shown that these measures, although specifically designed to tackle nitrate pollution, will also reduce losses of FIOs and phosphate to water. In recent years monitoring results in England have shown a reduction in nitrate concentrations, which has resulted in a slight reduction in the overall area being designated as NVZs. The current Action Programme for England has been in place since 2013 and is due for review by 2017. In Wales the new Regulations came into effect on 1 October 2013. In Scotland revisions to the Action Programme for NVZs came into force on 1 March 2013. An Action Programme covering the total territory of Northern Ireland and applicable to all farmers has been operational since 1 January 2007. It was reviewed again during 2014 and a revised Action Programme has been in place since 1 January 2015.

Scotland’s programme of rural diffuse pollution priority catchment work started in March 2010 in 14 priority catchments identified as being at risk from diffuse pollution to help deliver the objectives outlined in the River Basin Management Plans for the Scotland and Solway Tweed river basin districts. The Scottish Environment Protection Agency is continuing to work with land managers in these catchments and has surveyed over 5600km of watercourses to identify diffuse pollution impacts. It has carried out one-to-one visits with land managers to discuss diffuse pollution issues and, with key stakeholders, organised events and workshops to raise awareness and discuss actions that could be taken to reduce diffuse pollution and to protect and improve water quality in catchments impacting on bathing water quality. Scotland has also launched a “Mind the Gap” campaign to remind land managers of their legal responsibilities to protect the water environment. The Scotland Rural Development Programme 2014-2020 also offers funding to land managers towards the cost of measures to reduce diffuse pollution. The Programme now includes measures to mitigate run-off from farm steadings, which has the potential to have a considerable impact on the water environment.



Under the Northern Ireland Rural Development Programme more than 12,000 farmers are participating in agri-environment schemes with over 450,000 hectares of land under management. All Northern Ireland Countryside Management Schemes (NICMS) participants must prepare and implement a farm nutrient and waste management plan. The Department of Agriculture and Rural Development's code of Good Agricultural Practice for the Prevention of Pollution of Water, Air and Soil was published in August 2008. The Code is activity based and provides practical advice for farmers on avoiding pollution.

As with England and Scotland, there is ongoing development of policy projects to tackle non-agricultural diffuse water pollution in Wales and Northern Ireland. In addition, in Northern Ireland, in support of the Nitrates Action Programme the Phosphorus (Use in Agriculture) Regulations (Northern Ireland) 2006 limit the use of chemical phosphorus fertiliser to crop requirement. These have been reviewed along with the Northern Ireland Action Programme and revised Regulations came into force on 1 January 2015.

In England and Wales policy projects to tackle non-agricultural diffuse water pollution include increasing the uptake of the Sustainable Drainage Systems (SuDS) approach for surface water. In England, better use will be made of the planning system to deliver sustainable drainage for new development from 6 April 2015. Changes will strengthen existing planning policy to ensure that sustainable drainage systems will be provided in new major developments and that clear arrangements are in place for ongoing maintenance over the lifetime of the development.

In Wales, standards and guidance for the construction of SuDS for new development were published for consultation early in 2015 and implementation of Schedule 3 of the Flood and Water Management Act 2010, which provides a framework for implementing SuDS for new developments, is under consideration. Retrofitting of SuDS schemes to remove surface water from combined sewers and reduce storm discharges is now taking place in Llanelli and Gowerton, with an extensive programme of schemes planned for delivery by 2020. Detailed water quality coastal models have been developed for Swansea Bay, enabling sources of diffuse pollutants to be better identified and remedial actions monitored. Over four thousand Swansea properties have been inspected for misconnections since 2010, which is part of a wider initiative to improve water quality in Swansea Bay. Natural Resources Wales continues to undertake investigations to identify sources of contamination where they impact on bathing water quality at beaches in Wales.

In Scotland it is already required by legislation that, in most circumstances, new developments must include SuDS to control surface water drainage.

## **5. Bathing water quality assessment presentation in online viewers**

The new legislation requires more effective monitoring and management of bathing waters, greater public participation and improved information dissemination. More on the bathing and other water legislation can be found on the European Commission's website: [http://ec.europa.eu/environment/water/index\\_en.htm](http://ec.europa.eu/environment/water/index_en.htm).

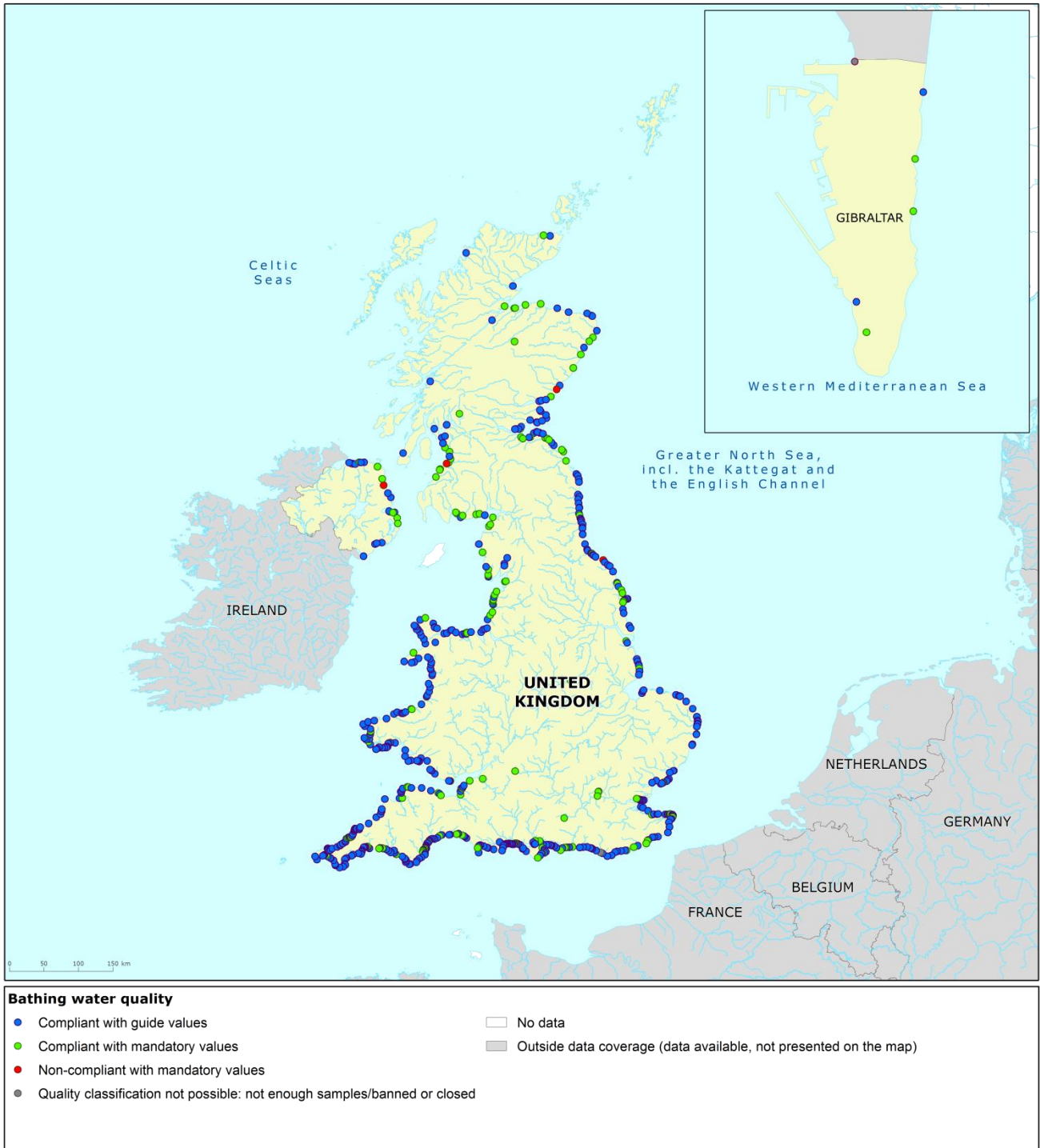
The bathing water section of the Water Information System for Europe (WISE), which is accessible at the EEA bathing water website (<http://www.eea.europa.eu/themes/water/interactive/bathing/state-of-bathing-waters>), allows users to view the bathing water quality at more than 21 000 coastal beaches and inland sites across Europe. The data on bathing water quality in 2014 and previous years can also be viewed in WISE bathing water data viewer, an application prepared by TC Vode (<http://bwd.eea.europa.eu/>). The WISE bathing water quality data viewer combines text and graphical visualisation, providing a quick overview of the bathing water's locations and achieved quality.

## Appendix 1: Results of bathing water quality in the United Kingdom from 2011 to 2014

		Total number of bathing waters	Compliant with the guide values (CG)		Compliant with the mandatory value (CI)		Not compliant with the mandatory value (NC)		Quality classification not possible: not enough samples/banned or closed	
			No	%	No	%	No	%	No	%
Coastal	2011	605	504	83.3	589	97.4	14	2.3	2	0.3
	2012	617	363	58.8	578	93.7	36	5.8	3	0.5
	2013	616	496	80.5	606	98.4	7	1.1	3	0.5
	2014	617	479	77.6	610	98.9	6	1.0	1	0.2
Inland	2011	12	7	58.3	12	100.0	0	0.0	0	0.0
	2012	12	3	25.0	12	100.0	0	0.0	0	0.0
	2013	13	4	30.8	13	100.0	0	0.0	0	0.0
	2014	15	6	40.0	15	100.0	0	0.0	0	0.0
Total	2011	617	511	82.8	601	97.4	14	2.3	2	0.3
	2012	629	366	58.2	590	93.8	36	5.7	3	0.5
	2013	629	500	79.5	619	98.4	7	1.1	3	0.5
	2014	632	485	76.7	625	98.9	6	0.9	1	0.2

## Appendix 2: Bathing water quality map

**Map 1: Bathing waters reported during the 2014 bathing season in the United Kingdom**



**Source:** National boundaries: EEA; Large rivers and lakes: EEA, WFD Article 3; Bathing waters data and coordinates: U.K. authorities