

# Bathing Water Directive report 2013

## 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 2013 season

In 2013 bathing season, 629 bathing waters have been reported in the United Kingdom. For each bathing water, five groups of parameters have been delivered:

- *basic 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>629</b>
Coastal	616
Inland	13
<b>Season period</b>	<b>138 / 190 days</b>
Coastal	15 Apr to 30 Oct
Inland	15 May to 30 Sep
<b>Samples taken</b>	<b>12485</b>
<b>New BWD implemented in</b>	<b>2012</b>

The authorities of the United Kingdom initiated new BWD (2006/7/EC) reporting in 2012 season. The 2013 season data were delivered to the European Commission by **23 December 2013**, with additional deliveries on 14 January 2014 and 3 February 2014.

Altogether, **629 bathing waters** have been reported – 2.8% of all bathing waters in Europe. Two (0.32% of total) have been newly identified in the 2013 season. Two bathing waters have been delisted<sup>2</sup>. 98% of bathing waters in the United Kingdom are of coastal type; the other 2% are inland. **12485 samples** were taken at bathing waters throughout the season – 20 per bathing water on average.

<sup>1</sup> Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:064:0037:0051:EN:PDF>

<sup>2</sup> Bathing waters which were identified in 2012 season, but not in 2013 season

The bathing season in England and Wales runs from 15 May to 30 September. In Northern Ireland and Scotland the season runs from 1 June to 15 September, and in Gibraltar from 15 April to 30 October. The same season dates apply to coastal and inland bathing waters.

Two bathing waters in England and one in Gibraltar were reported for shorter seasons in 2013. The access points at the English beaches were being repaired at the beginning of the season, and the Gibraltar beach was closed at the beginning of the season because of pollution.

Detailed information on individual bathing waters is available from national bathing water profiles at <http://environment.data.gov.uk/bwq/explorer/index.html> and [http://www.sepa.org.uk/water/bathing\\_waters/sampling\\_and\\_results.aspx](http://www.sepa.org.uk/water/bathing_waters/sampling_and_results.aspx).

## 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.

According to the BWD, the bathing water sample dataset should satisfy the following conditions:

- a minimum of one sample per month<sup>3</sup>
- a minimum of four samples per season<sup>4</sup>
- a minimum of 16 samples in total<sup>5</sup>
- four consecutive seasons<sup>6</sup>
- a pre-season sample<sup>7</sup>

99% of bathing waters satisfied the described sampling frequency rules set by the Directive. Table 1 shows the share of bathing waters that did not satisfy monitoring frequency, as well as corresponding reasons.

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<sup>3</sup> The interval between two samples should not exceed 31 + 4 days, provided that the next sampling is done according to the monitoring calendar; exception applies for temporarily closed bathing waters

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

<sup>5</sup> 12 samples if the season does not exceed eight weeks or the region is subject to special geographical constraints

<sup>6</sup> The condition does not apply if the bathing water is newly identified or any changes have occurred that are likely to affect the classification

<sup>7</sup> A pre-season sample is taken into account at total number of samples per season

**Table 1: Number of assessed bathing waters in 2013**

Total number of bathing waters in 2013	Bathing waters with sampling frequency satisfied	Bathing waters with sampling frequency not satisfied			
		Insufficiently sampled	Closed*	Not sampled	Total
629	623	5	1	0	6

\* Note: The bathing water was not accessible due to administrative reasons.

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).

Bathing waters are accordingly classified to one of the BWD quality classes:

- compliant with guide values
- compliant with mandatory values
- not compliant
- banned

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

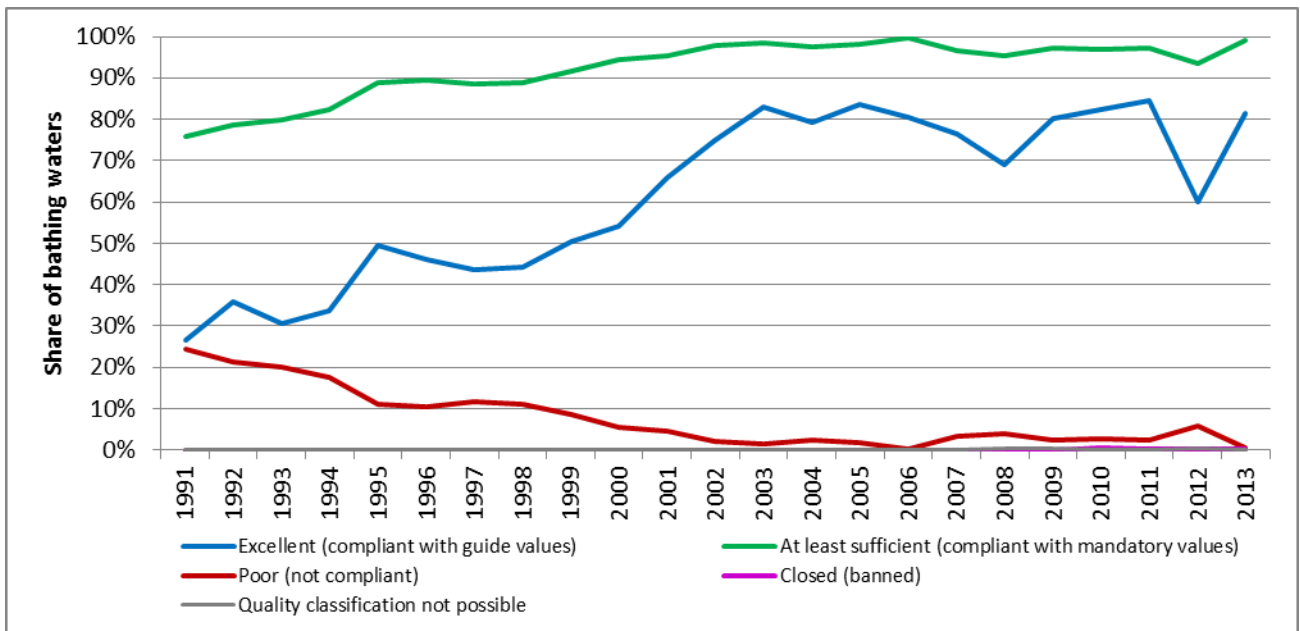
The results of the bathing water quality in The United Kingdom for the period of 2010–2013 as reported in the past reporting years and for the bathing season of 2013 are presented in Figure 1 (for coastal bathing waters) and Figure 2 (for inland bathing waters). The previous reports are available on the European Commission's bathing water quality website<sup>8</sup> and the European Environment Agency's bathing water website<sup>9</sup>.

#### 3.1 Coastal bathing waters

In The United Kingdom, 98.4% of coastal bathing waters met at least sufficient water quality in 2013. 0.3% of coastal bathing waters had to be closed during the bathing season. See Appendix 1 for numeric data.

<sup>8</sup> [http://ec.europa.eu/environment/water/water-bathing/index\\_en.html](http://ec.europa.eu/environment/water/water-bathing/index_en.html)

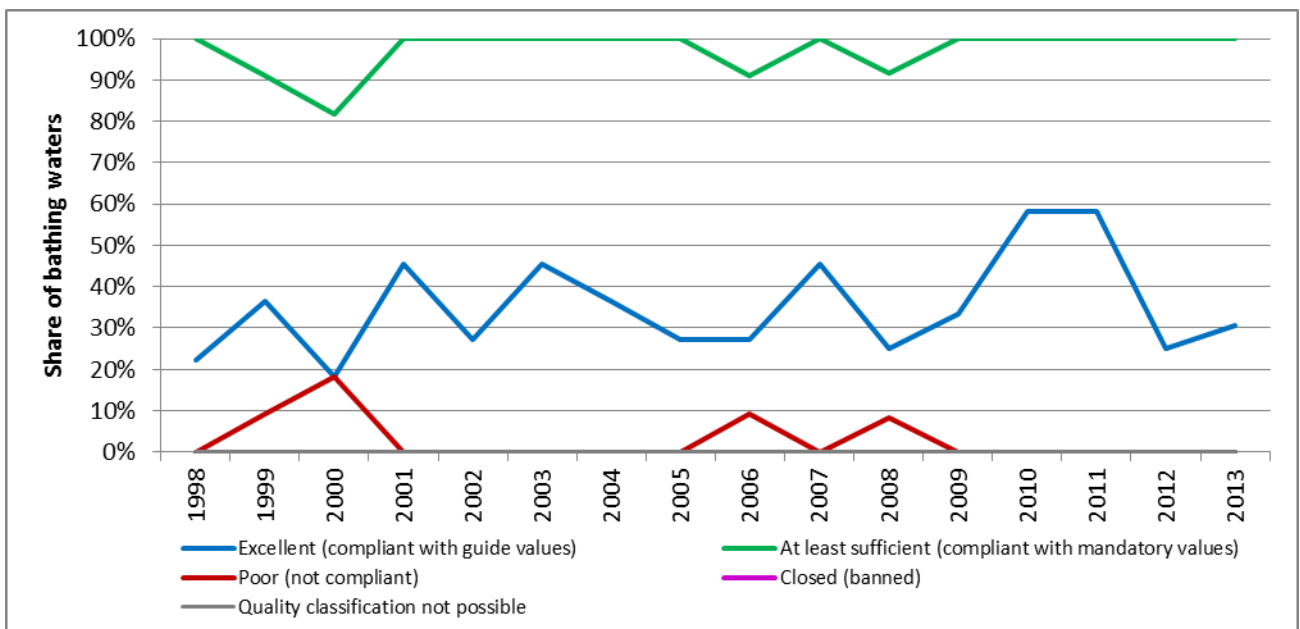
<sup>9</sup> <http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>



**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 met at least sufficient water quality in 2013. No bathing waters had to be closed during the bathing season. 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**

Bathing water quality information in the UK can be accessed through different 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 2013 were posted on the websites. Monitoring information is also available to the public on registers held by the competent authorities and detailed summaries are published annually. In Scotland, electronic signage providing real-time bathing water quality predictions is available at 23 bathing waters.

### **Treatment of wastewater**

The UK water industry is implementing solutions to meet the requirements of the revised Bathing Water Directive. In England and Wales, during the AMP5 period (2010-2015), a capital investment of UK £220m is focusing on 34 investigations, which cover 43 bathing waters and 102 enhancement projects impacting on bathing waters as a direct consequence of the Bathing Water Directive or the revised Bathing Water Directive.

During AMP5, 34 investigations and 29 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 2013).

In addition, event duration monitors have been installed at 313 combined sewer overflows and storm tanks that impact on bathing waters projected as poor or at risk of being 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 the Shellfish Waters 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 10 investment programme (2010-13) has resulted in infrastructure investment by Northern Ireland Water aimed at complying with bathing water standards. This included the completion of three projects at Bangor, Coleraine and Newcastle in 2012 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.

### **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.

Another key project in England is Catchment Sensitive Farming, which operates in 65 priority catchments and has 14 catchment partnerships. These include a number of catchments with identified bathing sites. These catchments were identified as priority areas for action to improve farm practices and reduce water pollution from agriculture. Since April 2007 the project has been complemented by a capital grants scheme providing financial support for farmers investing in farm infrastructure items, such as watercourse fencing, that restrict the entry of faecal indicator organisms (FIOs) to water. From 2010 RDPE became the source of funding of the capital grants and contracted advice elements of the project, and advice services will therefore be available on a wider scale. In conjunction with advice, the capital grants scheme awarded £21.5m of grant funding in 2012-13, and £15.5m is currently committed for the 2013 -14 scheme opening on 1 March 2013. Applicants are expected to contribute 50% towards the capital works.

The entry level of the Welsh agri-environment scheme, Glastir, 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 Advanced is a part farm scheme which builds upon the commitments made under Glastir Entry. It 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 and in priority areas for water quality includes additional requirements for resource management planning. Glastir Efficiency Grants replace the Axis 1 Catchment Sensitive Farming Grant Scheme to improve nutrient management, and so will mitigate diffuse agricultural pollution and reduce emissions of pollutants to water bodies across Wales.

In Spring 2013 156 Farm Nutrient Management Plans covering over 2200 improved fields were delivered in Wales by Natural Resources Wales.

Natural Resources Wales has produced a diffuse action plan which will help to guide and inform local priorities as part of the River Basin Planning approach. The plan highlights eight key areas of concern and outlines the actions Natural Resources Wales intends to take to work with those causing the problems to reduce diffuse water pollution.

Alongside the implementation of this plan and in order to ensure there is a joined up approach to land and water management which addresses diffuse water pollution, the Welsh Government will work with Natural Resources Wales and sectors such as construction and agriculture to develop a shared understanding of the problem and to identify and implement improvements to current practices.

The UK is continuing its implementation of the EC Nitrates Directive, which aims to reduce pollution of water by nitrates from agricultural sources. New Regulations came into effect from 17 May 2013 and 18 November 2013 in England, establishing revised Nitrate Vulnerable Zones (NVZs) and an updated Action Programme. In England new NVZ guidance to farmers, initially published in June, was updated in

November 2013. Many of the most recent surface and groundwater monitoring results have shown a reduction in nitrate concentrations, which has resulted in a slight reduction in the overall areas being designated. The methodology for both England and Wales was developed through a Methodology Working Group which included farming representatives and independent academics to ensure the method for identifying NVZs makes use of the best techniques and data available. The mandatory measures within the Action Programmes control the use and management of chemical nitrogen fertiliser and organic manures on farms located within the NVZs in England, Wales and Scotland and across the whole of Northern Ireland. Studies have shown that these measures, although specifically designed to tackle nitrate pollution, will also reduce losses of FIOs and phosphate to water. 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 and, following review, a revised Action Programme has been operational since 1 January 2011.

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 research in the Demonstration Test Catchments (DTC) which is continuing to trial pollution mitigation measures in three catchments in England: the Eden (Cumbria); Wensum, (Norfolk); and Hampshire Avon. DTC is establishing a platform to host future research activities on agricultural and catchment science. Other Defra-funded research is testing the effectiveness of riverbank fencing and constructed wetlands to reduce FIO loads in surface water. In addition, work is underway to scope the development of improved models to predict FIO risk and to target mitigation to protect bathing and shellfish waters. A project to quantify microbial loads from different agricultural sources has concluded this year.

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 5500km of watercourses to identify diffuse pollution impacts. They have 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 recently launched a "Mind the Gap" campaign to remind land managers of their legal responsibilities to protect the water environment. The Scotland Rural Development Programme 2007-2013 also offers funding to land managers towards the cost of certain measures to reduce diffuse pollution.

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. 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. Once commenced, the provision in Schedule 3 of the Flood and Water Management Act 2010 will, among other things, make the connection of surface water from new developments to public sewers conditional on the drainage system being approved by the SuDS Approving Body as meeting Ministerial National Standards for SuDS, which may differ in England and Wales. It will also clarify the responsibility for maintenance of the SuDS. In Wales, retrofitting of SuDS schemes is now taking place in Llanelli and Gowerton with over 170 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 three thousand Swansea properties have been inspected for misconnections, with approximately ten per cent requiring modification to make their drainage systems compliant. 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. Interactive information on bathing water quality in Europe

Information on bathing water quality is available on the internet for all UK Administrations.

In England the Bathing Water Data Explorer allows users to look up the quality of all bathing waters and access up to date sampling results and see the bathing water profile. Notifications of Short Term Pollution warnings and Abnormal Situations are also posted there. The Environment Agency has prepared a “widget” which allows owners of websites to include bathing water information for particular beaches on their websites. This has been taken up by many Local Councils and tourist business.

Bathing water data is also available from a number of smart phone apps which have been developed to use the freely available data from the Environment Agency. Defra and the Environment Agency have also funded an app with the charity Surfers Against Sewage to provide bathing water information, but also real time warnings of spills from CSOs. The spill data is obtain through voluntary partnerships with the water industry (<https://www.gov.uk/government/policies/improving-water-quality/supporting-pages/planning-for-better-water>).

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 22 000 coastal beaches and inland sites across Europe. Data is aggregated and visualized on national and station level. Detailed information regarding specific bathing site are given in pop-up windows (can be activated with a click on a selected bathing location) and bathing water profiles which can be opened through hyperlinks in pop-up windows.

The data on bathing water quality in 2013 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 locations of coastal and inland bathing waters, as well as statistics on their quality. Specific bathing water locations can be observed on Google Earth, Google maps or Bing maps.

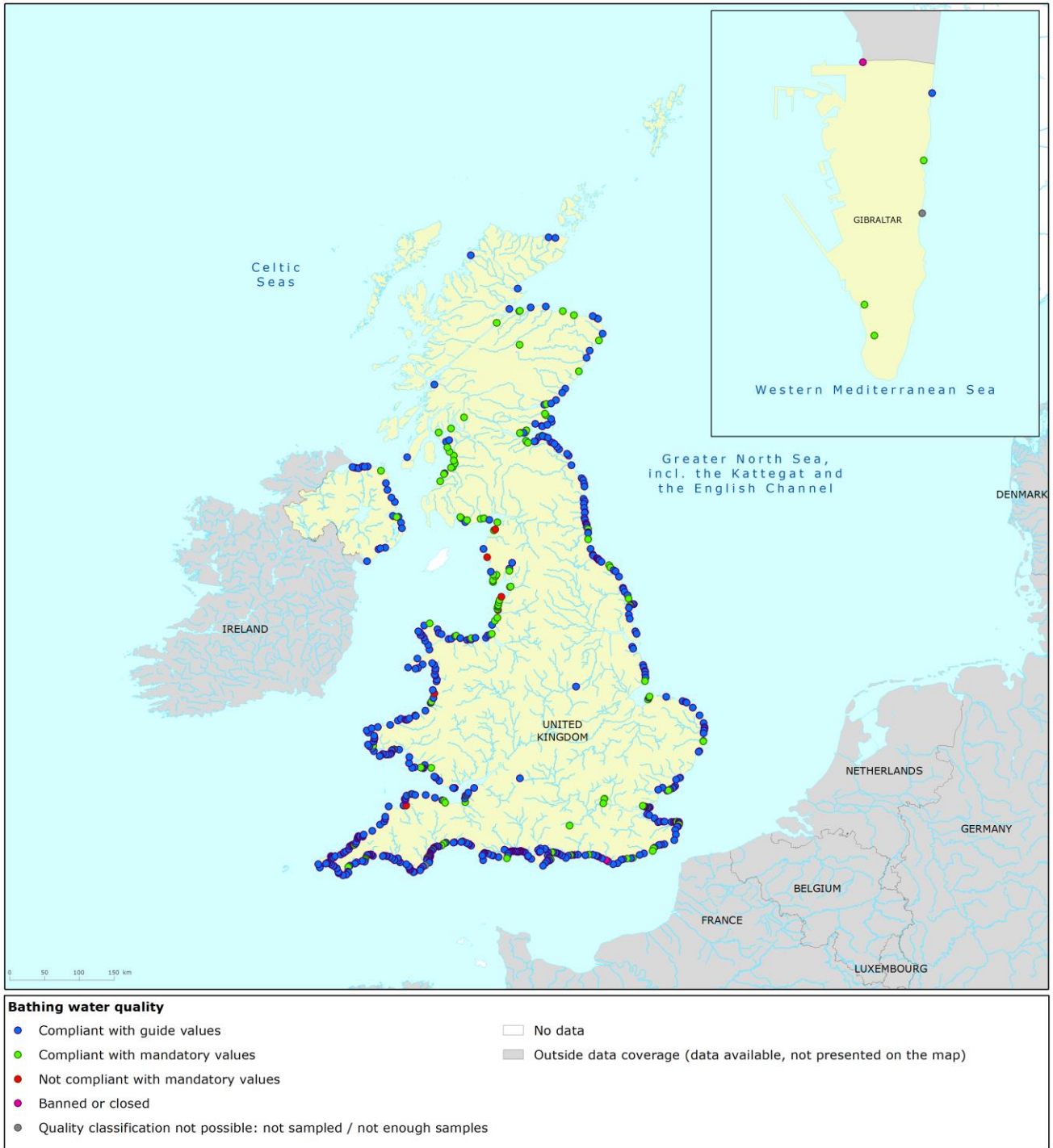
## Appendix 1: Results of bathing water quality in The United Kingdom from 2010 to 2013

		Total	Excellent (compliant with guide values)		At least sufficient (compliant with mandatory values)		Poor (not compliant)		Closed (banned)		Quality classification not possible*	
			No	%	No	%	No	%	No	%	No	%
Coastal	2010	596	490	82.2	577	96.8	16	2.7	3	0.5	0	0.0
	2011	605	504	83.3	589	97.4	14	2.3	2	0.3	0	0.0
	2012	617	363	58.8	578	93.7	36	5.8	1	0.2	2	0.3
	2013	616	496	80.5	606	98.4	7	1.1	1	0.2	2	0.3
Inland	2010	12	7	58.3	12	100.0	0	0.0	0	0.0	0	0.0
	2011	12	7	58.3	12	100.0	0	0.0	0	0.0	0	0.0
	2012	12	3	25.0	12	100.0	0	0.0	0	0.0	0	0.0
	2013	13	4	30.8	13	100.0	0	0.0	0	0.0	0	0.0
Total	2010	608	497	81.7	589	96.9	16	2.6	3	0.5	0	0.0
	2011	617	511	82.8	601	97.4	14	2.3	2	0.3	0	0.0
	2012	629	366	58.2	590	93.8	36	5.7	1	0.2	2	0.3
	2013	629	500	79.5	619	98.4	7	1.1	1	0.2	2	0.3

Note: the "At least sufficient" class also includes bathing waters which are of excellent quality, the sum of shares is therefore not 100%. \* This includes new bathing waters, bathing waters with changes that affect or could have affected bathing water quality, and bathing waters that do not have enough samples.

## Appendix 2: Bathing water quality map

**Map 1: Bathing waters reported during the 2013 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