

# UK bathing water quality in 2015



**United Kingdom** 

May 2016

# BWD Report For the Bathing Season 2015

## 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 2015

In 2015 bathing season, 633 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.

Bathing waters of the United Kingdom in 2015	
<b>Total reported</b>	<b>633</b>
Coastal	617
Inland	16
<b>Max season period</b>	<b>139 / 200 days</b>
Coastal	15 Apr to 31 Oct
Inland	15 May to 30 Sep
<b>Samples taken</b>	<b>11864</b>
<b>Share of bathing waters with good or excellent water quality</b>	<b>87 %</b>
<b>Reporting under Directive 2006/7/EC since</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 2015 were delivered to the European Commission by **23 December 2015**.

Altogether, **633 bathing waters** have been reported – 2.9% of all bathing waters in Europe. Out of all bathing waters in the United Kingdom, none have been newly identified in 2015 season. 97% of bathing

<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/3294#tables>

waters in the United Kingdom are of coastal type; the other 3% are inland. **11864 samples** were taken at bathing waters throughout the season – 19 per bathing water on average.

The maximum bathing season period was from 15 April to 31 October for coastal bathing waters, i.e. 200 days altogether. Maximum inland bathing season period was from 15 May to 30 September, i.e. 139 days. Season duration varies depending on bathing water.

Detailed information on bathing waters is available from national portal at:

<http://environment.data.gov.uk/bwq/> (England),

<http://environment.data.gov.uk/wales/bathing-waters/profiles/> (Wales),

<http://apps.sepa.org.uk/bathingwaters/> (Scotland),

<https://www.nidirect.gov.uk/articles/bathing-water-quality> (Northern Ireland), and

<https://www.gibraltar.gov.gi/new/water> (Gibraltar).

## 2. Assessment methodology<sup>3</sup>

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, livestock waste, bird faeces etc. 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 water in the bathing sites concerned.

The monitoring requirements under the Directive are:

- taking a pre-season sample (taken shortly before the start of the bathing season) <sup>4</sup>;
- a minimum of four samples per season<sup>5</sup>;
- a minimum of one sample per month<sup>6</sup>.

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 'not enough samples'. 99.4% of bathing waters met the described monitoring requirements set by the Directive, while the rest did not satisfy monitoring requirements for different reasons: being new; having changed environmental conditions that might affect water quality classification; closed; not monitored due to legal issues, physical inaccessibility to the site etc. Table 1 shows the statistics of bathing waters according to monitoring requirements.

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<sup>3</sup> The methodology used by the EC and the EEA is described here, while results of assessment by national authorities may differ in individual cases.

<sup>4</sup> A pre-season sample is taken into a sum of samples per season.

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

<sup>6</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 2015 according to compliance with BWD monitoring provisions**

	Count	Share of total [%]
<p><b>BWs with sampling frequency satisfied (and are not new, are not subject to changes or were not closed in 2015)</b></p> <p>These bathing waters have been monitored according to provisions and have complete dataset from the last assessment period. They have been quality-classified (excellent, good, sufficient, poor).</p>	629	99.4%
<p><b>BWs with sampling frequency not satisfied (and are not new, are not subject to changes or were not closed in 2015)</b></p> <p>These bathing waters exist throughout the last assessment period but have not been monitored throughout the period according to provisions for various individual reasons. They may be quality-classified if there is an adequate volume of samples available for credible classification.</p>	1	0.2%
<p><b>BWs that are new, subject to changes or closed in 2015</b></p> <p>These bathing waters do not have complete dataset for the last assessment period because they are new, have been subject to changes (that are likely to affect the classification of the bathing water) or have been closed. They cannot be quality-classified.</p>	3	0.5%
<b>Total number of bathing waters in 2015</b>	<b>633</b>	<b>100%</b>

Bathing waters where sampling frequency was not satisfied can still be quality assessed if at least four samples per season (three samples if the season does not exceed eight weeks or the region is subject to special geographical constraints) are available and equally distributed throughout the season. Assessment of bathing water quality is possible when the bathing water sample dataset is available for four consecutive seasons. Bathing waters are accordingly classified to one of the bathing water quality classes (excellent, good, sufficient, or poor).

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

Quality assessment is not possible for all bathing waters. In these cases, they are instead classified as either:

- not enough samples<sup>7</sup>;
- new<sup>8</sup>;
- changes<sup>9</sup>;
- closed<sup>10</sup>.

<sup>7</sup> Not enough samples have been provided throughout the last assessment period (the last four bathing seasons or, when applicable, the period specified in Article 4.2 or 4.4).

<sup>8</sup> Classification not yet possible because bathing water is newly identified and a complete set of samples is not yet available.

<sup>9</sup> Classification is not yet possible after changes that are likely to affect the classification of the bathing water.

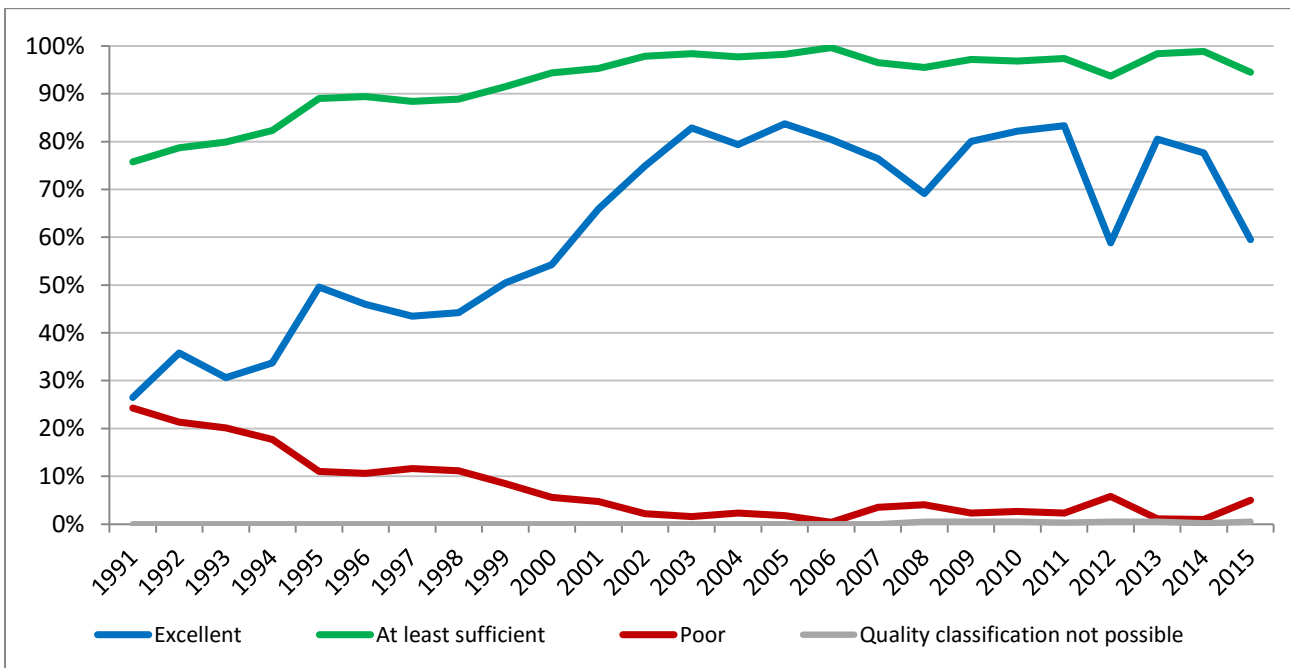
<sup>10</sup> Bathing water is closed temporarily or throughout the bathing season.

### 3. Bathing water quality

The results of the bathing water quality in The United Kingdom throughout the past period 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>11</sup> and the European Environment Agency's bathing water website<sup>12</sup>.

#### 3.1 Coastal bathing waters

In the United Kingdom, 94.5% of all existing coastal bathing waters met at least sufficient water quality standards in 2015. See Appendix 1 for numeric data.



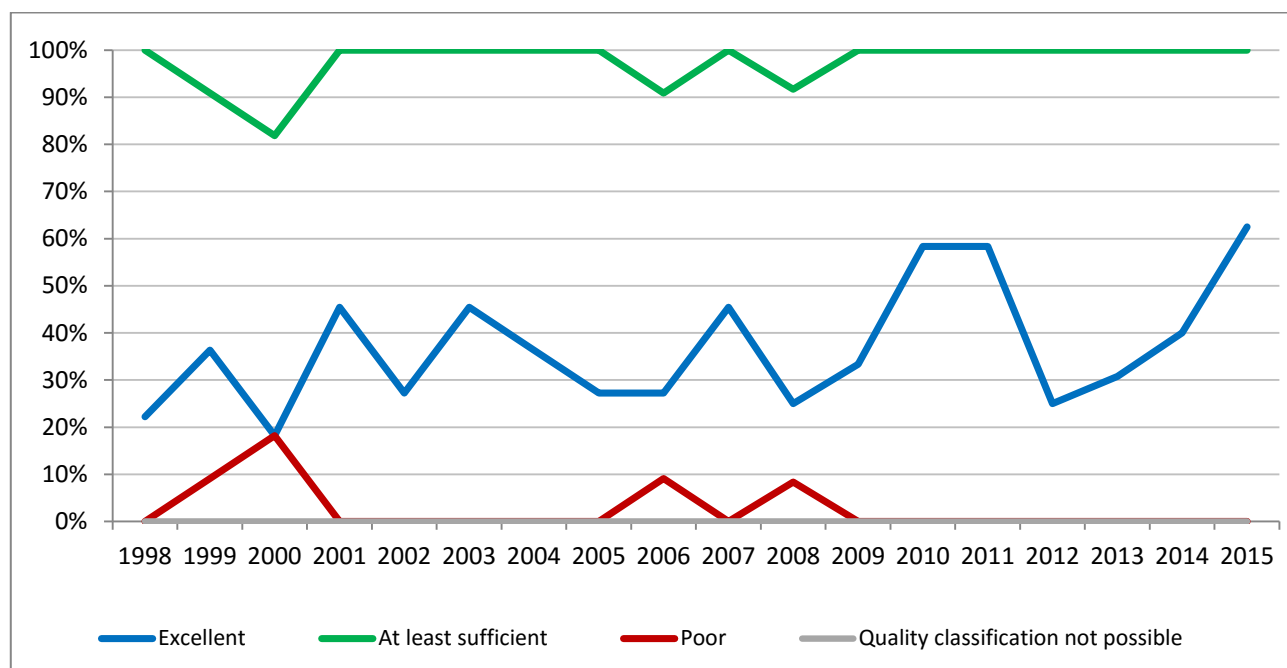
**Figure 1: Coastal bathing water quality trend in The United Kingdom.** Note: the “At least sufficient” class also includes bathing waters of “Excellent” quality class, the sum of shares is therefore not 100%.

<sup>11</sup> [http://ec.europa.eu/environment/water/water-bathing/index\\_en.html](http://ec.europa.eu/environment/water/water-bathing/index_en.html)

<sup>12</sup> <http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>

## 3.2 Inland bathing waters

All existing inland bathing waters were of at least sufficient water quality in 2015. 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

The following text is provided directly by national authorities for BWD implementation in the United Kingdom.

### Information to the public

Bathing water quality information in the UK can be accessed through a wide range of sources, including online. Up-to-date results of samples taken in 2015 were posted on the websites of:

- 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/water/bathing\\_waters.aspx](http://www.sepa.org.uk/water/bathing_waters.aspx));
- Department of the Environment in Northern Ireland (<http://www.nidirect.gov.uk/bathing-water-quality>).

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

Daily pollution risk forecasts were available online for 153 bathing waters in England and 9 in Wales, with some local authorities providing warnings on signs at beaches. Electronic pollution risk forecasting signs are provided at 35 bathing waters in England.

In England, the Environment Agency uses a web tool called a widget to make it possible to share the latest bathing water quality results via other organisations' websites, including local authorities, tourist attractions and businesses. The widget designer is a simple tool that helps website managers and builders configure a widget and embed it into their own site, allowing them to display the latest data from one or more bathing waters in their area. It can be seen on the Environment Agency's website: <http://environment.data.gov.uk/bwq/widget/design>.

In Wales, Natural Resources Wales launched a new mobile app in 2014 which helps bathers make informed choices about where they choose to swim. The app, which is free to download via "Play Store", provides regularly updated information about the quality of the water at each of Wales's 102 designated bathing waters.

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 prediction and information approach to a further five or six locations for the 2016 season.

In Gibraltar, bathing water results are uploaded on to the Environmental Agency website for the public to view: [http://www.environmental-agency.gi/environmental\\_monitoring.htm](http://www.environmental-agency.gi/environmental_monitoring.htm). Relevant information can also be accessed via the Environmental Agency app (Gibenviro) for mobile phones and tablets. The Environmental Agency also disseminates information regarding bathing water quality to the public via press releases.

### **Treatment of wastewater**

The UK water industry continues to implement solutions to meet the requirements of the Bathing Water Directive. In England and Wales, during the 2010-2015 water company investment period (AMP5), a capital investment of around £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 41 sites and 113 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 2015).

In addition, event duration monitors have been installed at 557 combined sewer overflows and storm tanks that impact on bathing waters that are classified as Poor or are at risk of a Poor classification or 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 Bathing Water Directive to ensure that water industry assets do not prevent a bathing water from obtaining Excellent classification.

In Northern Ireland, Northern Ireland Water (NIW) invested in the region of £3.1 million to upgrade Luke's Point Pumping Station, Bangor and construct a new pumping station at Bangor Marina to provide extra storage capacity, particularly during periods of heavy rainfall. This work was completed in the summer of 2014 and will help to improve the water quality in Ballyholme strand and the North Down coastal waters, whilst improving the sewerage infrastructure in the North Down area. It will also ensure that NIW complies with Northern Ireland Environment Agency standards and help to ensure that local beaches meet EU bathing water quality standards.

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>.

### **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 advice and incentive mechanisms. 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.

A key project in England is Catchment Sensitive Farming (CSF), which provides advice on reducing diffuse pollution from agriculture. From 2015 the CSF capital grant scheme has been integrated into the Countryside Stewardship agri-environment scheme. The planned number of agreements for the 2015 water capital grant scheme is 1450, with a value of £12.5million. Funding is targeted towards high priority areas for water where multiple Water Framework Directive objectives (including those for Protected Areas like bathing waters) are not being met due to agriculture. The grants provide financial support for farmers investing in farm infrastructure items, such as watercourse fencing that restricts livestock, and therefore faecal pollution, from water. CSF is now focusing its farm advice in the same high priority areas for water (covering 5.37m hectares) where Countryside Stewardship is targeted.

In preparation for the new, more stringent standards that were implemented in 2015, we 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.



An additional mechanism in England to help tackle diffuse water pollution is the Catchment Based Approach (CaBa). This approach establishes local partnerships between all those that have an interest in water and the wider environment. These partnerships are able to better identify the pressures, agree priorities and elicit more action to improve the local water environment. There are currently over 100 Catchment Partnerships set up across England's 87 (93 including cross-border) catchments. In line with Defra's policy framework, the vast majority of the partnerships are hosted by third sector organisations. To support these partnerships there is a central National CaBa Support Group which works to enhance the effectiveness and impact of local partnership working (e.g. sharing best practice, mentoring, steering investment in Research and Development).

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 (2015-17), 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. A project modelling the delivery of FIOs from land to water in headwater catchments has concluded and the outcomes can be seen on its website: <http://www.sheffield.ac.uk/c2c>

In Wales the entry level component 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 has been 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 have been replaced by Sustainable Production Grants designed to improve farm efficiency, which further supports nutrient management practices and so will help to mitigate diffuse agricultural pollution to water bodies across Wales. Glastir is entering its fifth year of operation.

The UK is continuing its implementation of the 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 current Regulations came into effect on 1 October 2013 and both these and the current Action Programme for Wales are undergoing review, with implementation proposed to commence from 2017. 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 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. An additional 43 priority catchments are also identified for the second river basin management plan which will cover the period 2016 to 2021.

Under the Northern Ireland Rural Development Programme, as at 31 December 2014, there were approximately 9400 agri-environment scheme participants managing just over 360,000 hectares of agricultural land. All Northern Ireland Countryside Management Scheme (NICMS) participants must prepare and implement a farm nutrient and waste management plan. A successor to NICMS for the Rural Development Programme 2014-2020 is currently being developed.

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 actively based and provides practical advice for farmers on avoiding pollution. A further update of the Code will take place at a future stage to accommodate recent changes to the NAP Regulations and other relevant legislation.

Annual assessments are made of Northern Ireland's bathing water quality to determine those "at risk" of failing Bathing Water Directive standards. These catchments are subjected to detailed catchment investigations to identify and rectify actual pollution sources in an effort to continue to drive improvements in water quality and ensure no deterioration.

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) 2014 limit the use of chemical phosphorus fertiliser to crop requirement.

In England, demonstrator projects to tackle non-agricultural diffuse water pollution include increasing the uptake of the Sustainable Drainage Systems (SuDS) approach for surface water. From 6 April 2015 planning policy was strengthened to ensure that SuDS are provided in new major developments, where appropriate, and that arrangements are in place for ongoing maintenance over the lifetime of the development.

In Wales, voluntary standards and guidance for the construction of SuDS for new developments were published in December 2015, following consultation early in the year. Work on implementation of Schedule 3 of the Flood and Water Management Act 2010, which provides a framework for implementing SuDS for new developments, is scheduled for 2016. Over 5800 Swansea properties, including some significant larger scale buildings, have been inspected for misconnections since 2010 as 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 European bathing water legislation focuses on sound 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 WISE bathing water quality data viewer combines text and graphical visualisation, providing a quick overview of the bathing water's locations and achieved quality. Having access to bathing water information, citizens are encouraged to make full use of it and participate with their comments.

## Appendix 1: Results of bathing water quality in The United Kingdom from 2012 to 2015

Table 2: Bathing waters in the season 2015 according to quality

		Total number of bathing waters	Excellent quality		At least sufficient quality		Poor quality		Quality classification not possible: not enough samples /new bathing waters/bathing waters subject to changes/closed	
			No	%	No	%	No	%	No	%
Coastal	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
	2015	617	367	59.5	583	94.5	31	5.0	3	0.5
Inland	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
	2015	16	10	62.5	16	100.0	0	0.0	0	0.0
Total	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
	2015	633	377	59.6	599	94.6	31	4.9	3	0.5

Note: the class "At least sufficient" also includes bathing waters which are of excellent quality, the sum of shares is therefore not 100%.

## Appendix 2: Bathing water quality map

**Map 1: Bathing waters reported during the 2015 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; Digital Elevation Model over Europe (EU-DEM): EEA.