European Environment Agency

Bathing water results 2009 – The United Kingdom

1. Introduction

This report gives a general overview of bathing water quality in the United Kingdom during the 2009 bathing season.

The United Kingdom reported 12 parameters under the Directive 76/160/EEC (1 Total coliforms, 2 Faecal coliforms, 3 Faecal streptococci, 4 Salmonella, 5 Entero viruses, 6 pH, 7 Colour, 8 Mineral oils, 9 Surface-active substances reacting with methylene blue, 10 Phenols (phenol indices), 11 Transparency, 13 Tarry residues and floating materials).

The parameters to be taken into account for assessment according to the assessment rules of the Directive 76/160/EEC are microbiological (1 Total coliforms, 2 Faecal coliforms) and physico-chemical (8 Mineral oils, 9 Surface-active substances reacting with methylene blue, 10 Phenols (phenol indices)).

The bathing waters are classified in the following categories:

- Compliant with mandatory values of the Directive for the five parameters (class CI);
- Compliant with mandatory and more stringent guide values of the Directive for the five parameters (class CG);
- Not compliant with mandatory values of the Directive for the five parameters (class NC);
- Banned or closed (temporarily or throughout the season) (class B).

2. Length of bathing season and number of bathing waters

For all bathing waters the bathing season ran from 15 May to 30 September 2009 in England and Wales (4.5 months) and from 1 June to 15 September 2009 in Scotland and Northern Ireland (3.5 months) with some variations depending on geographical and climatic factors. One coastal bathing water in England opened on 3 August due to engineering work. In Gibraltar, the bathing season lasted 6.5 months, from 15 April to 30 October 2009, for coastal bathing waters.

A total of 608 bathing waters were reported in the United Kingdom during the 2009 bathing season, of which 596 were coastal bathing waters (516; including six in Gibraltar) or in estuaries (80) and 12 freshwater bathing waters on lakes. Three coastal bathing waters were not monitored because they were inaccessible. Two coastal bathing waters were monitored with reduced frequency according to the Directive 76/160/EEC. The number of freshwater bathing waters is very low compared to the coastal bathing waters reported because there is a tradition in the UK of swimming in the sea.

With 608 reported bathing waters the United Kingdom accounts for about 2.8% of the reported bathing waters of the European Union.

The evolution of the reported number of bathing waters since monitoring of the water quality began under the Directive 76/160/EEC is presented in Table 1. The number of coastal bathing waters increased since the start of the reporting from 437 in 1990 to 596 in 2008 and 2009. The reporting of freshwater bathing waters started in 1998. The number of freshwater bathing waters increased from nine in 1998 to 12 in 2008 and 2009.

3. Results of bathing water quality

The results of the bathing water quality in the United Kingdom for the period 1990-2008 as reported in the past reporting years and for the bathing season of 2009 are presented in Figure 1. The previous reports are available on the European Commission's bathing water quality website (http://ec.europa.eu/environment/water/water-bathing/index_en.html; Water and Health/Bathing Water/ 2005-2009 reports) and the European Environment Agency's bathing water website (http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water; reports for 2008 bathing season).

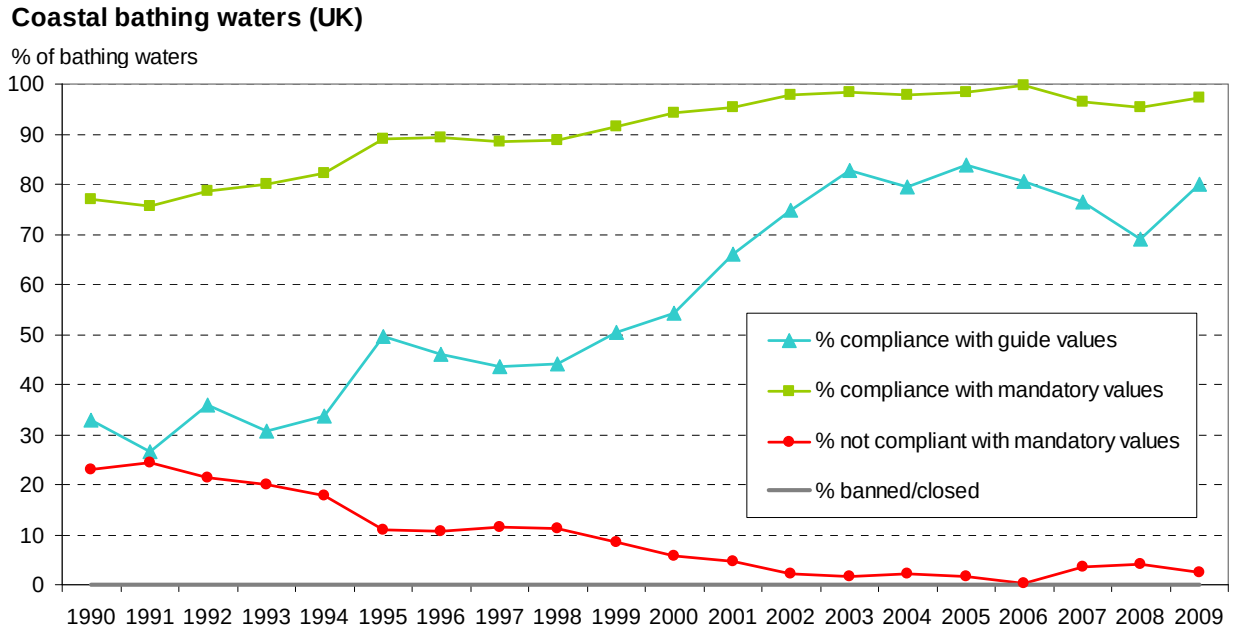
The graphs show, for coastal and freshwater bathing waters separately:

- The percentage of bathing waters that comply with the guide values (class CG, blue line);
- The percentage of bathing waters that comply with the mandatory values (class CI, green line);
- The percentage of bathing waters that do not comply with the mandatory values (class NC, red line);
- The percentage of bathing waters that are banned or closed (temporarily or throughout the season) (class B, grey line).

Table 1 shows the same information in absolute numbers and in percentages separately for coastal and freshwater bathing waters. Table 2 shows the bathing water quality results for the 2009 season in the United Kingdom for all bathing waters.

Map 1 shows the locations of the reported bathing waters in the United Kingdom. The location of the bathing waters is based on the geographic coordinates reported by the U.K. authorities.

Figure 1: Results of bathing water quality in the United Kingdom from 1990 to 2009



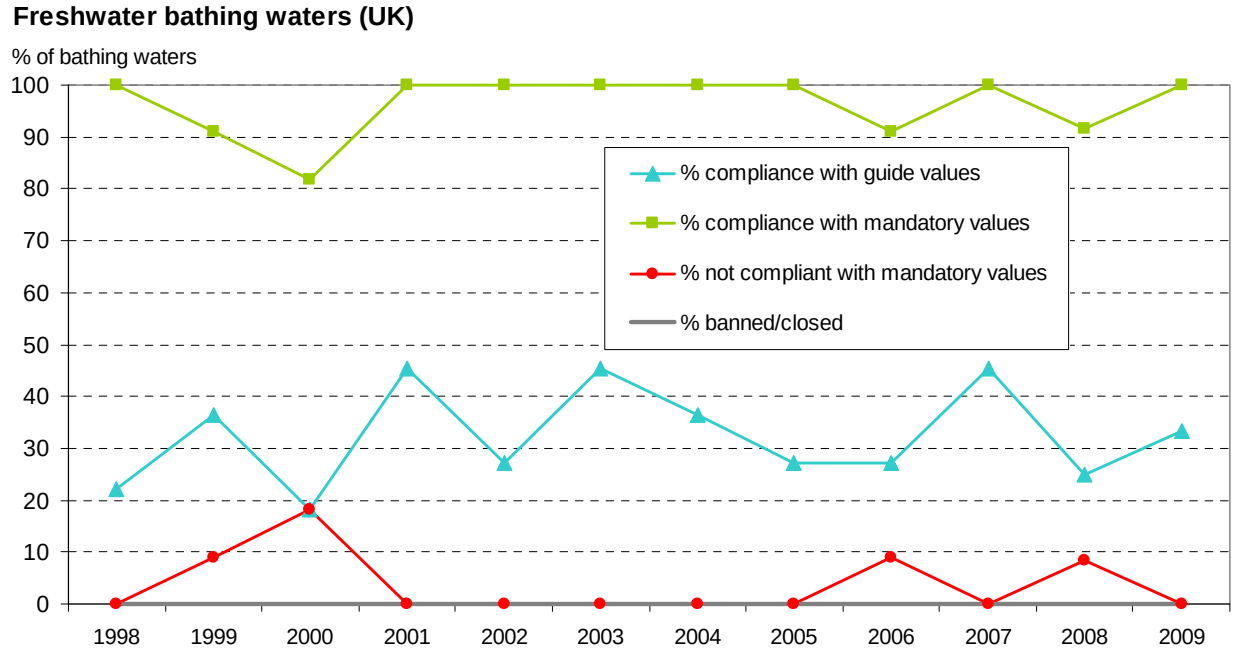


Table 1: Results of bathing water quality in the United Kingdom from 1990 to 2009

UK										
		Total number of bathing waters	Compliance with guide values		Compliance with mandatory values		Not compliant		Banned/closed temporarily or throughout the season	
			Number	%	Number	%	Number	%	Number	%
Coastal bathing waters	1990	437	144	33.0	337	77.1	100	22.9	0	0.0
	1991	453	120	26.5	343	75.7	110	24.3	0	0.0
	1992	455	163	35.8	358	78.7	97	21.3	0	0.0
	1993	457	140	30.6	365	79.9	92	20.1	0	0.0
	1994	457	154	33.7	376	82.3	81	17.7	0	0.0
	1995	464	230	49.6	413	89.0	51	11.0	0	0.0
	1996	472	217	46.0	422	89.4	50	10.6	0	0.0
	1997	492	214	43.5	435	88.4	57	11.6	0	0.0
	1998	502	222	44.2	446	88.8	56	11.2	0	0.0
	1999	541	273	50.5	495	91.5	46	8.5	0	0.0
	2000	551	299	54.3	520	94.4	31	5.6	0	0.0
	2001	552	364	65.9	526	95.3	26	4.7	0	0.0
	2002	553	414	74.9	541	97.8	12	2.2	0	0.0
	2003	560	464	82.9	551	98.4	9	1.6	0	0.0
	2004	562	446	79.4	549	97.7	13	2.3	0	0.0
	2005	565	473	83.7	555	98.2	10	1.8	0	0.0
	2006	567	456	80.4	565	99.6	2	0.4	0	0.0
	2007	573	438	76.4	553	96.5	20	3.5	0	0.0
	2008	596	412	69.1	569	95.5	24	4.0	0	0.0
	2009	596	477	80.0	579	97.1	14	2.3	0	0.0
Freshwater bathing waters	1998	9	2	22.2	9	100.0	0	0.0	0	0.0
	1999	11	4	36.4	10	90.9	1	9.1	0	0.0
	2000	11	2	18.2	9	81.8	2	18.2	0	0.0
	2001	11	5	45.5	11	100.0	0	0.0	0	0.0
	2002	11	3	27.3	11	100.0	0	0.0	0	0.0
	2003	11	5	45.5	11	100.0	0	0.0	0	0.0
	2004	11	4	36.4	11	100.0	0	0.0	0	0.0
	2005	11	3	27.3	11	100.0	0	0.0	0	0.0
	2006	11	3	27.3	10	90.9	1	9.1	0	0.0
	2007	11	5	45.5	11	100.0	0	0.0	0	0.0
	2008	12	3	25.0	11	91.7	1	8.3	0	0.0
	2009	12	4	33.3	12	100.0	0	0.0	0	0.0

Note: Bathing waters which were insufficiently sampled or not sampled according to the Bathing Water Directive were not included in this table. Therefore, in some cases, the sum of the different categories will not be equal to the total number of bathing waters. Bathing waters which were compliant with the guide values were also compliant with the mandatory values.

Table 2: Results of bathing water quality for all bathing waters in the United Kingdom in 2009

UK										
		Total number of bathing waters	Compliance with guide values		Compliance with mandatory values		Not compliant		Banned/closed temporarily or throughout the season	
			Number	%	Number	%	Number	%	Number	%
Bathing waters	2009	608	481	79.1	591	97.2	14	2.3	0	0.0

Note: Bathing waters which were not sampled according to the Bathing Water Directive were not included in this table. Therefore the sum of the different categories is not equal to the total number of bathing waters. Bathing waters which were compliant with the guide values were also compliant with the mandatory values.

4. Development of bathing water quality

Coastal bathing waters

In the United Kingdom, the mandatory values were met for 97.1% of the coastal bathing waters in 2009. This is an increase of 1.6% compared to the previous year. 80% of the bathing waters met the more stringent guide values, which is a significant increase of 10.9%. 14 bathing waters (2.3%) were non-compliant with the mandatory values compared to 24 (4%) in 2008. Since the start of reporting in 1990, no coastal bathing water had to be closed during the season.

If we take three not sampled coastal bathing waters out of overall assessment, the results would be the following: 97.6% of the coastal bathing waters complied with the mandatory values and 80.4% of the bathing waters complied with the guide values.

The water quality of coastal bathing waters has improved since 1990. Since 2001, the percentage of bathing waters complying with mandatory values was above 95%. Since 1997, the percentage of bathing waters complying with the more stringent guide values has improved, with a slight drop below 80% in 2004 and 2007 and below 70% in 2008. In 2009, the compliance with the guide values reached again 80%.

Freshwater bathing waters

All 12 freshwater bathing waters met the mandatory values in 2009 compared to 11 (91.7%) in the previous year. Four bathing waters (33.3%) met the more stringent guide values, which is also an increase of one bathing water (+ 8.3%). Since the start of reporting in 1998, no freshwater bathing water had to be closed during the season.

Since 2001, all freshwater bathing waters complied with mandatory values, except in 2006 and 2008, when one bathing water was non-compliant. Since 2001, the percentages of freshwater bathing waters that complied with the more stringent guide values fluctuated between 25% and 45.5%.

5. General information as provided by the United Kingdom authorities

Monitoring and analytical methods

The national mandatory limit values for the UK and Gibraltar are the mandatory values set in the Annex to the Directive. The results for the UK are usually based on a minimum of 20 samples taken at approximately weekly intervals throughout the bathing season. Sampling has been reduced to 5 samples per season at 2 stable guideline bathing waters in Scotland (on the basis on Directive 76/160/EEC) and reduced to 10 samples per season at a further 5 locations on the basis of remote geography. In Gibraltar, 27 samples were taken at all the identified bathing waters except for Sandy Bay, where access was closed for 1 month from 26 June while repairs were carried out following storm damage. 23 samples were

taken at this bathing water. One bathing water in England, Hollicombe in the South West region, was sampled for a shorter period during 2009, between 3 August and 30 September, because engineering work to stabilise the cliffs following a rockfall during the winter continued until the end of July and the bathing water was closed to samplers and the public until that time.

The competent authorities in the UK have used the guidelines concerning sampling and sample handling, as agreed in the Bathing Water Committee. The main microbiological parameters are analysed using Membrane Filtration methods.

Results

During the 2009 season the UK monitored 587 coastal bathing waters and 12 inland bathing waters. In Gibraltar, 6 coastal bathing waters were monitored. Three coastal bathing waters were not accessible during the 2009 bathing season and have therefore not been included in the 2009 bathing water results.

For UK coastal bathing waters in 2009, overall compliance with the mandatory coliform standards and physico-chemical parameters (surface active substances, phenols and mineral oils) laid down in the Directive was 97.6% and compliance was 80.2% with the guideline standards. All six coastal bathing waters in Gibraltar complied with the mandatory and guideline values.

All of the UK's inland bathing waters complied with the mandatory coliform standards and physico-chemical parameters (surface active substances, phenols and mineral oils) required by the Directive. 33.3% complied with guideline standards.

UK bathing water changes since the 2008 bathing season

The UK authorities reported the list of identified bathing waters before the start of the 2009 bathing season. No new bathing waters were identified in 2009 and none have been deleted from the list of identified bathing waters. The names of 16 bathing waters in England have been amended to better reflect their geographical location. The 'access keys' remain the same.

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 2009 were posted on the websites of the Environment Agency for bathing waters in England and Wales (www.environment-agency.gov.uk), the Scottish Environment Protection Agency for Scotland (www.sepa.org.uk) and in Northern Ireland, the Northern Ireland Environment Agency: (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.

A proactive bathing water management system, including the use of electronic signage for real-time bathing water quality predictions and a text messaging service, has continued at several locations in Scotland in 2009.

Treatment of wastewater

The UK has now almost completed the programme of investigations and investment into the sewage treatment works and sewerage system funded during the current asset management plan (2005-2010). During the period, schemes at some 57 sites have been completed with a further four schemes due for completion early in 2010. The UK water industry has recently finalised the investment and output requirements for the next asset management plan for 2010-15. This will see a further £220m of capital investment focusing on investigations at 32 bathing waters and capital enhancement projects at 102 assets impacting on bathing waters as a direct consequence of the Bathing Water Directive or the revised Directive. There may also be additional benefit to bathing water quality from schemes funded under other

Directives. The programme of funded enhancements includes some schemes to take bathing waters beyond the minimum requirements of the revised Bathing Water Directive to ensure water industry assets do not prevent a bathing water from obtaining “excellent” classification.

In Northern Ireland, the Strategic Business Plan programme running from 2007 to 2010 has resulted in a significant infrastructure investment to ensure compliance with the bathing water standards. This included two major projects to improve wastewater discharges impacting on 7 of Northern Ireland’s 24 identified bathing waters.

In Scotland, the investment programme ‘Quality and Standards 3’ runs from 2006-14 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.

One such programme is the England Catchment Sensitive Farming Delivery Initiative, which operates in 50 catchments across England and which includes 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 Initiative has been complemented by a limited capital grants scheme providing support for farmers investing in farm infrastructure items, such as fencing, that restrict the entry of faecal indicator organisms (FIOs) to water. From 2010 onwards it is expected that aspects of the Initiative will be transferred to the Rural Development Programme for England (RDPE) and advice services will be available on a national scale, rather than being restricted to the 50 priority catchments.

In Wales agri-environment schemes are being revised with intentions to introduce a new scheme (Glas Tir) in 2012. The basic level scheme will be eligible across Wales and includes resource management planning to identify actions required to safeguard soil and water quality plus templates for soil nutrient and manure management planning. The higher tier is currently being developed and will include incentives to improve water quality in priority catchments. Separately the Welsh Assembly Government intends to run a Catchment Sensitive Farming Scheme within Nitrate Vulnerable Zones (NVZs) to assist farmers with measures geared towards mitigating pollution.

The UK is continuing and enhancing its implementation of the EC Nitrates Directive, which aims to reduce pollution of water by nitrates from agricultural sources. New Regulations came into force from 1 January 2009 in England, Scotland and Wales establishing revised NVZs and a tougher Action Programme. A revised Action Programme covering the total territory of Northern Ireland and applicable to all farmers has been operational from 1 January 2007. 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 and across Northern Ireland. Studies have shown that these measures, although specifically designed to tackle nitrate pollution, will also reduce losses of faecal indicator organisms to water.

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 different measures. Within this programme a Demonstration Catchments Project is being set up in four catchments to concentrate research and monitoring to improve understanding and data on the overall effectiveness of different packages of agricultural measures in improving water quality at sub-catchment level. Projects have been established in three catchments in England and a fourth will be selected and set up in Wales during 2010. In addition, research is being carried out to establish the processes and pathways of FIO losses from farming systems to surface waters and to identify the relative contribution to the overall FIO burden of surface waters.

In England and Wales policy projects to tackle non-agricultural diffuse water pollution include increasing the uptake of Sustainable Drainage Systems (SUDS) through new legislation which will require SUDS for all new developments and will clarify the responsibility for ownership and maintenance of SUDS, and a range of options to correct sewer misconnections, both voluntary (public awareness raising and training for plumbers) and regulatory (new powers for sewerage undertakers).

In Scotland, a number of innovative projects have been undertaken to improve compliance at sites susceptible to diffuse pollution, including the introduction of specific farm measures and installation of farm-scale anaerobic digestion plants. The Water Environment (Diffuse Pollution) (Scotland) Regulations 2008 introduced a set of General Binding Rules designed to reduce diffuse pollution, including losses of manure and slurry. The Scotland Rural Development Programme, introduced in 2008, offers funding to land managers towards the cost of certain measures to reduce diffuse pollution.

In Northern Ireland, in support of the revised Action Programme, the Phosphorus (Use in Agriculture) Regulations (Northern Ireland) 2006 came into operation, limiting the use of chemical phosphorus fertiliser to crop requirement. Agri-environment schemes providing for farm nutrient and pollution controls support agricultural methods to protect water quality. By the close of the Northern Ireland Rural Development Programme (NIRDP) 2000-2006 some 13 000 farmers were participants, with approximately 455 000 hectares of land under management. As with England and Scotland, there is ongoing development of similar policy projects to tackle non-agricultural diffuse water pollution within Northern Ireland.

In Wales, the Environment Strategy for Wales sets the commitment to tackle diffuse pollution. The specific outcome of the strategy is that diffuse pollution is better understood and action is being taken to reduce and manage diffuse pollution. The Welsh Assembly Government has asked the Environment Agency Wales to produce a plan to tackle diffuse pollution in Wales.

The Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009 have recently amended the Water Resources Act to focus the development of Water Protection Zones to meet the requirements of the Water Framework Directive. This amendment may bring additional benefits for bathing waters by strengthening procedures for tacking pollution.

6. More information on bathing water quality in the European Union

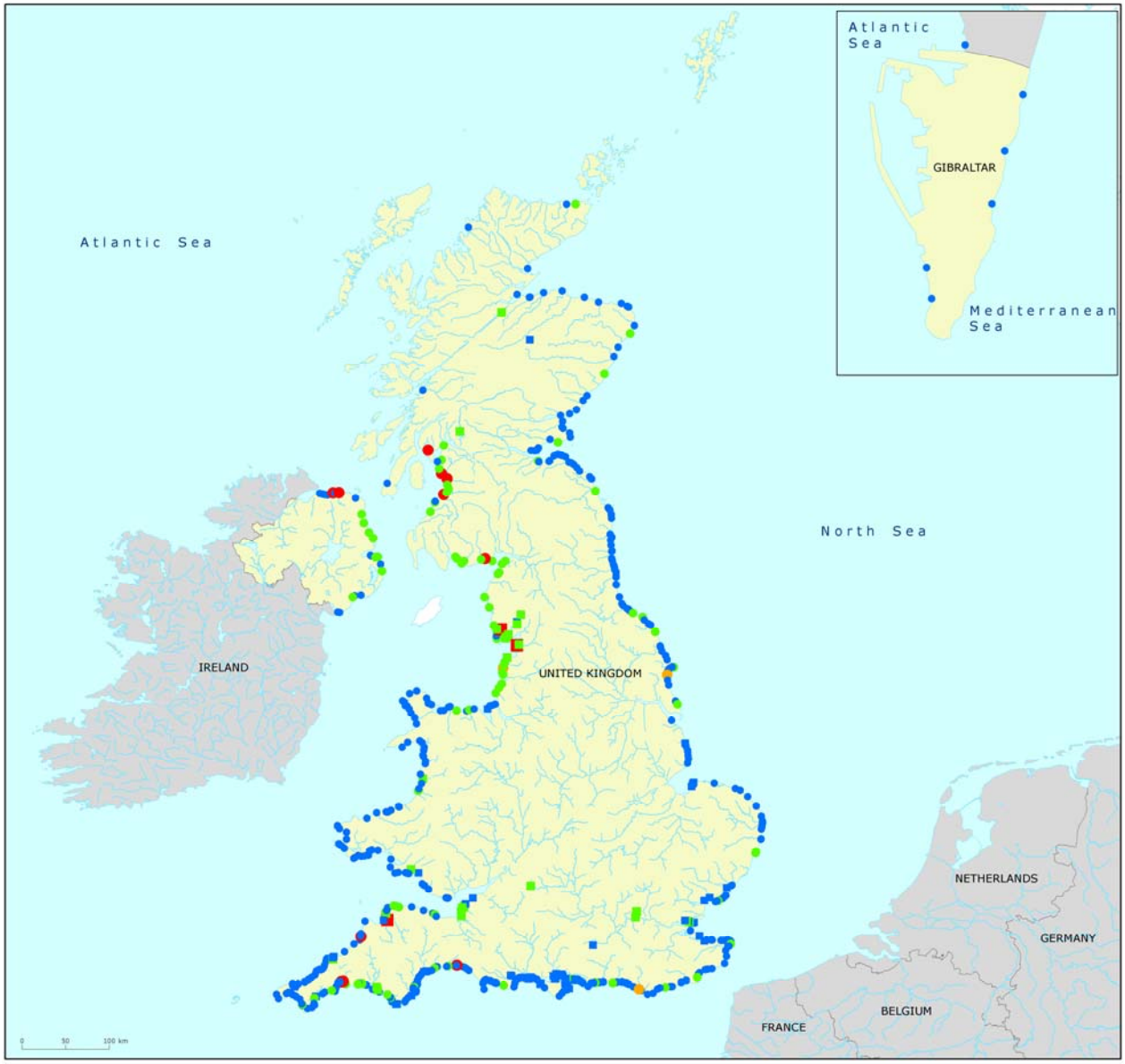
More information on bathing water quality in the European Member States, including the EU summary report, the reports for 27 Member States, Croatia and Switzerland, can be found on the European Commission's bathing water quality website (http://ec.europa.eu/environment/water/water-bathing/index_en.html) and the European Environment Agency's bathing water website (http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water). The reports for the bathing seasons of 2008 and 2009 have been produced by the Institute for Water of the Republic of Slovenia (IWRS), a partner in the EEA European Topic Centre on Water (ETC/W). Countries have collaborated in the assessment of bathing water quality and supplied additional information when needed.

By 2015, Member States will have to comply with the stricter and more ambitious requirements laid out in the New Bathing Water Directive (Directive 2006/7/EC). This Directive requires more effective monitoring and management of bathing waters, greater public participation and improved information. More information on the new Directive can be found on the bathing water quality website and on http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:064:0037:0051:EN:PDF.

Cyprus, Denmark, Estonia, Finland, Germany, Hungary, Latvia, Lithuania, Slovakia, Spain and Sweden started to report according to more stringent new requirements in 2008 bathing season. Malta and the Netherlands started to report in 2009 bathing season under the new requirements. Sweden and Malta also sent data for three previous bathing seasons under the new requirements. Luxembourg started to monitor under the new requirements in 2006 bathing season, while reported for the first time in 2007 bathing season.

WISE - Water Information System for Europe (www.water.europa.eu) is a gateway to all water related information. Among other water related data, information on individual bathing water quality can be found in the WISE map viewer and WISE Bathing Water Quality data viewer through interactive maps and graphs (http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water).

Map 1: Bathing waters reported during the 2009 bathing season in the United Kingdom



Note: * banned or closed (temporarily or throughout the season)
More data on bathing water quality on: http://www.eea.europa.eu/themes/water/mapviewers/bathing
Source: National boundaries: GISCO; Large rivers and lakes: EEA, WFD Article 3; Bathing waters data and coordinates: U.K. authorities