

Bathing water results 2010 – Belgium

1. Reporting and assessment

This report gives a general overview of bathing water quality in Belgium during the 2010 bathing season. The Flemish Region continued to report under the Directive 76/160/EEC, while the Walloon Region reported under the Directive 2006/7/EC and has monitored under this Directive since 2007.

Assessment under Directive 76/160/EEC

The Flemish Region reported 12 parameters under the Directive 76/160/EEC (1 Total coliforms, 2 Faecal coliforms, 3 Faecal streptococci, 4 Salmonella, 6 pH, 7 Colour, 8 Mineral oils, 9 Surface-active substances reacting with methylene blue, 10 Phenols (phenol indices), 11 Transparency, 12 Dissolved oxygen, 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**);
- Insufficiently sampled (**class NF**);
- Not sampled (**class NS**).

Assessment under Directive 2006/7/EC

The Walloon Region reported under the Directive 2006/7/EC and has monitored under this Directive since 2007. When samples of intestinal enterococci and *Escherichia coli* for bathing water are available for three or four consecutive years, the assessment is done according to assessment rules of Directive 2006/7/EC. The frequency of sampling is set out in Annex IV of the Directive. Including a sample to be taken shortly before the start of the bathing season, the minimum number of samples taken per bathing season is four. However, only three samples are sufficient when the bathing season does not exceed eight weeks or the region is subject to special geographical constraints. Sampling dates are to be distributed throughout the bathing season, with the interval between sampling dates never exceeding one month.

In the assessment of bathing water quality in 2010 the maximum days between two samples considered were 32 days in the 2010 bathing season. The new directive also requires that the first sample must be taken shortly before the start of a bathing season. However, in the assessment of bathing water quality in 2010, the first sample could be taken not later than 10 days after the start of the bathing season. If this was a case, the second sample should have been taken no later than 32 days after the start of the bathing season. The bathing water is classified as insufficiently sampled or not sampled when the pre-season sample is missing or when the difference between two consecutive samples is larger than 32 days.

To assess bathing water under the Directive 2006/7/EC in 2010, four (or three if bathing season shorter than eight weeks) samples per season must be available for the 2007, 2008, 2009 and 2010 bathing seasons.

Bathing waters assessed according to the Directive 2006/7/EC are classified as 'excellent', 'good', 'sufficient' and 'poor' quality. Some bathing waters cannot be classified according to their quality but

are instead classified as 'closed' (temporarily or throughout the bathing season), 'new' (classification not yet possible), 'insufficiently sampled' or 'changes' (bathing water is not new and classification not yet possible since a set of monitoring data is incomplete).

Assessment during the transition period

For the overall assessment of bathing water quality in Belgium, the assessment in the Walloon Region is also done according to the rules of the transition period. This means that the classification of bathing waters for the last year is based on concentrations of intestinal enterococci and *Escherichia coli*. For the conversion of reported parameters under the Directive 2006/7/EC, Article 13.3 of the Directive 2006/7/EC foresees that the parameter *Escherichia coli*, reported under the Directive 2006/7/EC, is assumed to be equivalent to the parameter faecal coliforms of the Directive 76/160/EEC. The parameter intestinal enterococci reported under the Directive 2006/7/EC is assumed to be equivalent to the parameter faecal streptococci.

The results are classified in the following categories:

- **Class CI:** Compliant with the mandatory value of the Directive 76/160/EEC for *Escherichia coli* and not compliant with the guide values of the Directive 76/160/EEC for *Escherichia coli* or intestinal enterococci;
- **Class CG:** Compliant with the mandatory value of the Directive 76/160/EEC for *Escherichia coli* and the more stringent guide values for the *Escherichia coli* and intestinal enterococci;
- **Class NC:** Not compliant with the mandatory value of the Directive 76/160/EEC for *Escherichia coli*;
- **Class B:** Banned or closed (temporary or throughout the season);
- **Class NF:** Insufficiently sampled;
- **Class NS:** Not sampled.

2. Length of bathing season and number of bathing waters

In the Flemish region, the bathing season lasted almost four months, starting from 17 May to 1 June and ending on 13 or 14 September 2010, for coastal bathing waters. The bathing season ran three months, starting on 15 June and ending from 6 to 16 September 2010, for inland bathing waters. In the Walloon region, it lasted three months, from 15 June to 15 September 2010, for inland bathing waters.

A total of 123 bathing waters were reported in Belgium during the 2010 bathing season, of which 42 were coastal bathing waters and 81 inland bathing waters (21 on rivers; 60 on lakes).

With 123 bathing waters Belgium accounts for about 0.6 % 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 and the Directive 2006/7/EC is presented in Table 1. There was a significant increase in number of inland bathing waters from 50 in 2001 to 84 in 2009, almost reaching the highest reported numbers in the period 1992-1995 (85, 85, 86, 87 respectively). In 2010, three bathing waters were de-listed compared to the previous year. The number of coastal bathing waters remained stable. It started with 39 in 1990 and increased to 42 in 2009 and 2010.

3. Bathing water quality

The results of the bathing water quality in Belgium for the period 1990-2009 as reported in the past reporting years and for the bathing season of 2010 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/2005-2010 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 the 2008 and 2009 bathing seasons).

The graphs show, for coastal and inland 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 inland bathing waters. The numbers and percentages of insufficiently sampled or not sampled bathing waters are also presented. Table 2 shows the bathing water quality results for the 2009 and 2010 seasons in Belgium for all bathing waters.

Table 3 shows the classification under the Directive 2006/7/EC in absolute numbers and in percentages for inland bathing waters in the Walloon Region for 2010.

Map 1 and 2 show the locations of the reported bathing waters in Belgium. Map 1 shows the bathing water quality results of the overall assessment for Belgium. Map 2 shows the bathing water quality results of assessment under Directive 2006/7/EC for the Walloon Region. The location of the bathing waters is based on the geographic coordinates reported by the Belgian authorities.

Coastal bathing waters

In Belgium, 100 % of the coastal bathing waters met the mandatory values in 2010, the same as in the previous year. The rate of compliance with the more stringent guide values decreased significantly from 73.8 % to 26.2 %. Since the start of the reporting in 1990, no coastal bathing water had to be closed during the season.

In regard to the mandatory values, an overall bathing water quality was fairly stable (from 94.9 % to 100 %) since 1995 with a small drop in 1998. The percentage of bathing waters that met the more stringent guide values, however, fluctuated significantly since the start of the reporting in 1990 from 12.8 % in 1995 and 1999 to 73.8 % in 2009.

Inland bathing waters

The mandatory values were met for 79 % of the inland bathing waters in 2010. This is a decrease of 3.1 % compared to the previous year. The rate of compliance with the guide values decreased from 41.7 % to 29.6 %. The number of non-compliant bathing waters with the mandatory values was 11 (13.6 %), the same as in 2009 (13.1 %). Five inland bathing waters (6.2 %) were closed (banned) during the season in 2010 compared to four (4.8 %) in 2009.

From 1990 on, measures were taken to improve the inland water quality of rivers and lakes to improve the overall water quality. From 1997 till 2002, the percentage of inland bathing waters that met the mandatory water quality reached more than 90 %. Since 2003, when 17 and later more than 20 inland bathing waters have been reported than in 2002, both the compliance with the mandatory values and the more stringent guide values decreased. This decrease is reflected into an increase of the number of the bathing waters being closed throughout the season. In 2007 and 2008, only one bathing site was closed.

In the Walloon Region of Belgium (36 out of Belgium's 123 bathing waters), 25 % of the inland bathing waters were of excellent quality, 22.2 % of good quality and 27.8 % of poor quality in 2010. Five bathing waters were closed (13.9 %) and four bathing waters were insufficiently sampled (11.1 %).

Figure 1: Results of bathing water quality in Belgium from 1990 to 2010

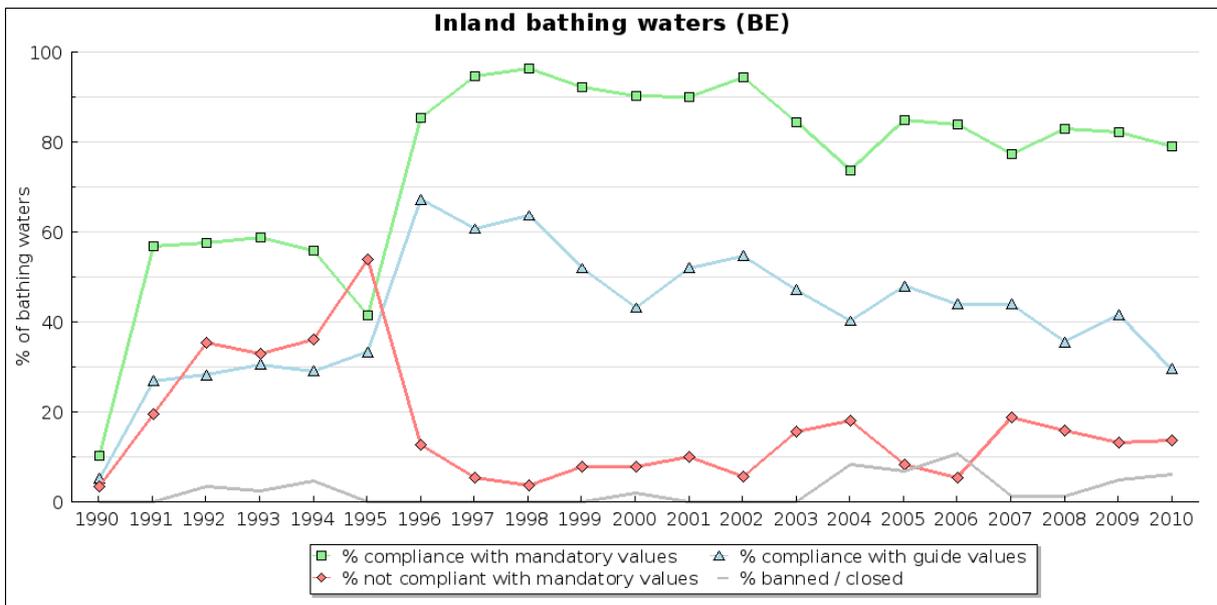
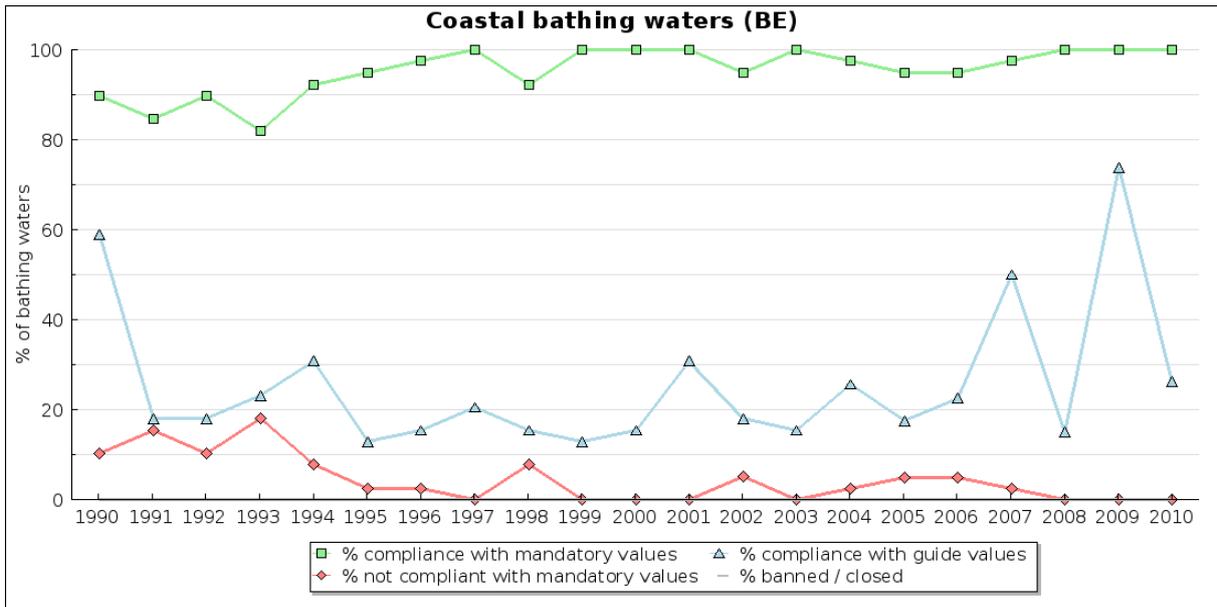


Table 1: Results of bathing water quality in Belgium from 1990 to 2010

BE												
		Total number of bathing waters	Compliance with guide and mandatory values*		Compliance with mandatory values		Not compliant		Banned/closed temporarily or throughout the season		Insufficiently sampled or not sampled	
			number	%	number	%	number	%	number	%	number	%
Coastal bathing waters	1990	39	23	59.0	35	89.7	4	10.3	0	0.0	0	0.0
	1991	39	7	17.9	33	84.6	6	15.4	0	0.0	0	0.0
	1992	39	7	17.9	35	89.7	4	10.3	0	0.0	0	0.0
	1993	39	9	23.1	32	82.1	7	17.9	0	0.0	0	0.0
	1994	39	12	30.8	36	92.3	3	7.7	0	0.0	0	0.0
	1995	39	5	12.8	37	94.9	1	2.6	0	0.0	1	2.6
	1996	39	6	15.4	38	97.4	1	2.6	0	0.0	0	0.0
	1997	39	8	20.5	39	100.0	0	0.0	0	0.0	0	0.0
	1998	39	6	15.4	36	92.3	3	7.7	0	0.0	0	0.0
	1999	39	5	12.8	39	100.0	0	0.0	0	0.0	0	0.0
	2000	39	6	15.4	39	100.0	0	0.0	0	0.0	0	0.0
	2001	39	12	30.8	39	100.0	0	0.0	0	0.0	0	0.0
	2002	39	7	17.9	37	94.9	2	5.1	0	0.0	0	0.0
	2003	39	6	15.4	39	100.0	0	0.0	0	0.0	0	0.0
	2004	39	10	25.6	38	97.4	1	2.6	0	0.0	0	0.0
	2005	40	7	17.5	38	95.0	2	5.0	0	0.0	0	0.0
	2006	40	9	22.5	38	95.0	2	5.0	0	0.0	0	0.0
	2007	40	20	50.0	39	97.5	1	2.5	0	0.0	0	0.0
	2008	40	6	15.0	40	100.0	0	0.0	0	0.0	0	0.0
	2009	42	31	73.8	42	100.0	0	0.0	0	0.0	0	0.0
2010	42	11	26.2	42	100.0	0	0.0	0	0.0	0	0.0	
Inland bathing waters	1990	58	3	5.2	6	10.3	2	3.4	0	0.0	50	86.2
	1991	67	18	26.9	38	56.7	13	19.4	0	0.0	16	23.9
	1992	85	24	28.2	49	57.6	30	35.3	3	3.5	3	3.5
	1993	85	26	30.6	50	58.8	28	32.9	2	2.4	5	5.9
	1994	86	25	29.1	48	55.8	31	36.0	4	4.7	3	3.5
	1995	87	29	33.3	36	41.4	47	54.0	0	0.0	4	4.6
	1996	55	37	67.3	47	85.5	7	12.7	0	0.0	1	1.8
	1997	56	34	60.7	53	94.6	3	5.4	0	0.0	0	0.0
	1998	55	35	63.6	53	96.4	2	3.6	0	0.0	0	0.0
	1999	52	27	51.9	48	92.3	4	7.7	0	0.0	0	0.0
	2000	51	22	43.1	46	90.2	4	7.8	1	2.0	0	0.0
	2001	50	26	52.0	45	90.0	5	10.0	0	0.0	0	0.0
	2002	53	29	54.7	50	94.3	3	5.7	0	0.0	0	0.0
	2003	70	33	47.1	59	84.3	11	15.7	0	0.0	0	0.0
	2004	72	29	40.3	53	73.6	13	18.1	6	8.3	0	0.0
	2005	73	35	47.9	62	84.9	6	8.2	5	6.8	0	0.0
	2006	75	33	44.0	63	84.0	4	5.3	8	10.7	0	0.0
	2007	75	33	44.0	58	77.3	14	18.7	1	1.3	2	2.7
	2008	76	27	35.5	63	82.9	12	15.8	1	1.3	0	0.0
	2009	84	35	41.7	69	82.1	11	13.1	4	4.8	0	0.0
2010	81	24	29.6	64	79.0	11	13.6	5	6.2	1	1.2	

*Bathing waters which were compliant with the guide values were also compliant with the mandatory values for five parameters under the Directive 76/160/EEC or the mandatory value for *Escherichia coli* in the Walloon Region (2010).

Table 2: Results of bathing water quality for all bathing waters in Belgium in 2009 and 2010

BE												
		Total number of bathing waters	Compliance with guide and mandatory values*		Compliance with mandatory values		Not compliant		Banned/closed temporarily or throughout the season		Insufficiently sampled or not sampled	
			number	%	number	%	number	%	number	%	number	%
All bathing waters	2009	126	66	52.4	111	88.1	11	8.7	4	3.2	0	0.0
	2010	123	35	28.5	106	86.2	11	8.9	5	4.1	1	0.8

*Bathing waters which were compliant with the guide values were also compliant with the mandatory values for five parameters under the Directive 76/160/EEC or the mandatory value for *Escherichia coli* in the Walloon Region (2010).

Table 3: Results of bathing water quality in the Walloon Region in the 2010 bathing season, assessment under Directive 2006/7/EC (data from 2007, 2008, 2009 and 2010).

BE – Walloon Region													
		Total number of bathing waters	Excellent quality		Good quality Sufficient quality		Poor quality		Closed temporarily or throughout the season		Insufficiently sampled		
			number	%	number	%	number	%	number	%	number	%	
Inland bathing waters	2010	36	9	25.0	Good:	8	22.2	10	27.8	5	13.9	4	11.1
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4. Important information as provided by the Belgian authorities

The reports by the Belgian authorities to the European Commission in regard to bathing water quality in Belgium for the 2010 bathing season (in French and Dutch) can be obtained from:

http://cdr.eionet.europa.eu/be/eu/bathing/envtqnuq/Annex_to_ManMeas.doc

(Walloon Region);

http://cdr.eionet.europa.eu/be/eu/bathing/envtbq1eq/Verklarende_brief_aanduiding_zwemwateren_2011.doc,

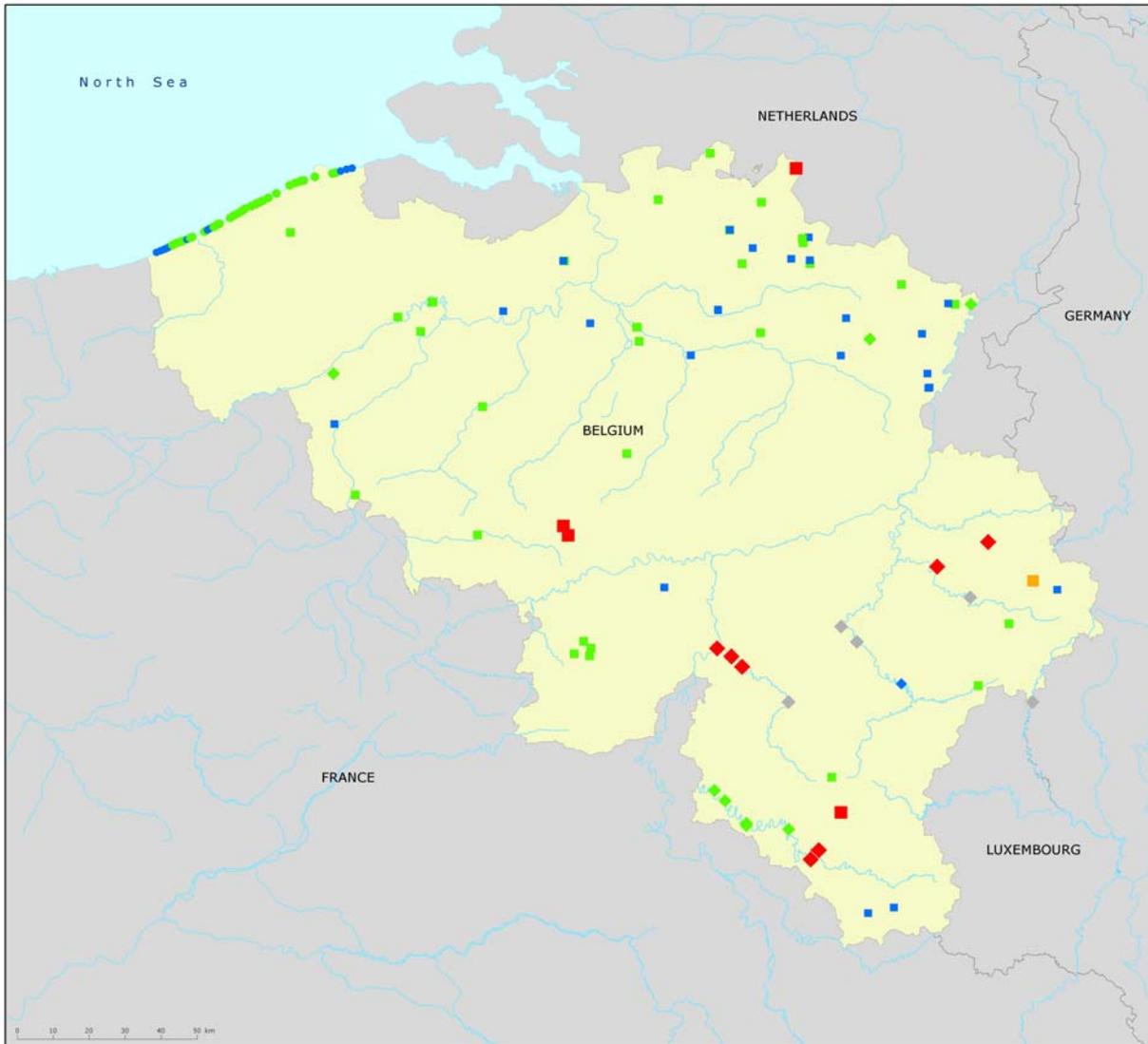
http://cdr.eionet.europa.eu/be/eu/bathing/envtrcqxa/sup_doc_rapportering_comm_2010.doc

(Flemish Region).

Further information is available on two websites: <http://aquabact.environnement.wallonie.be> and

<http://www.kwaliteitzwemwater.be/>.

Map 1: Bathing waters reported during the 2010 bathing season in Belgium

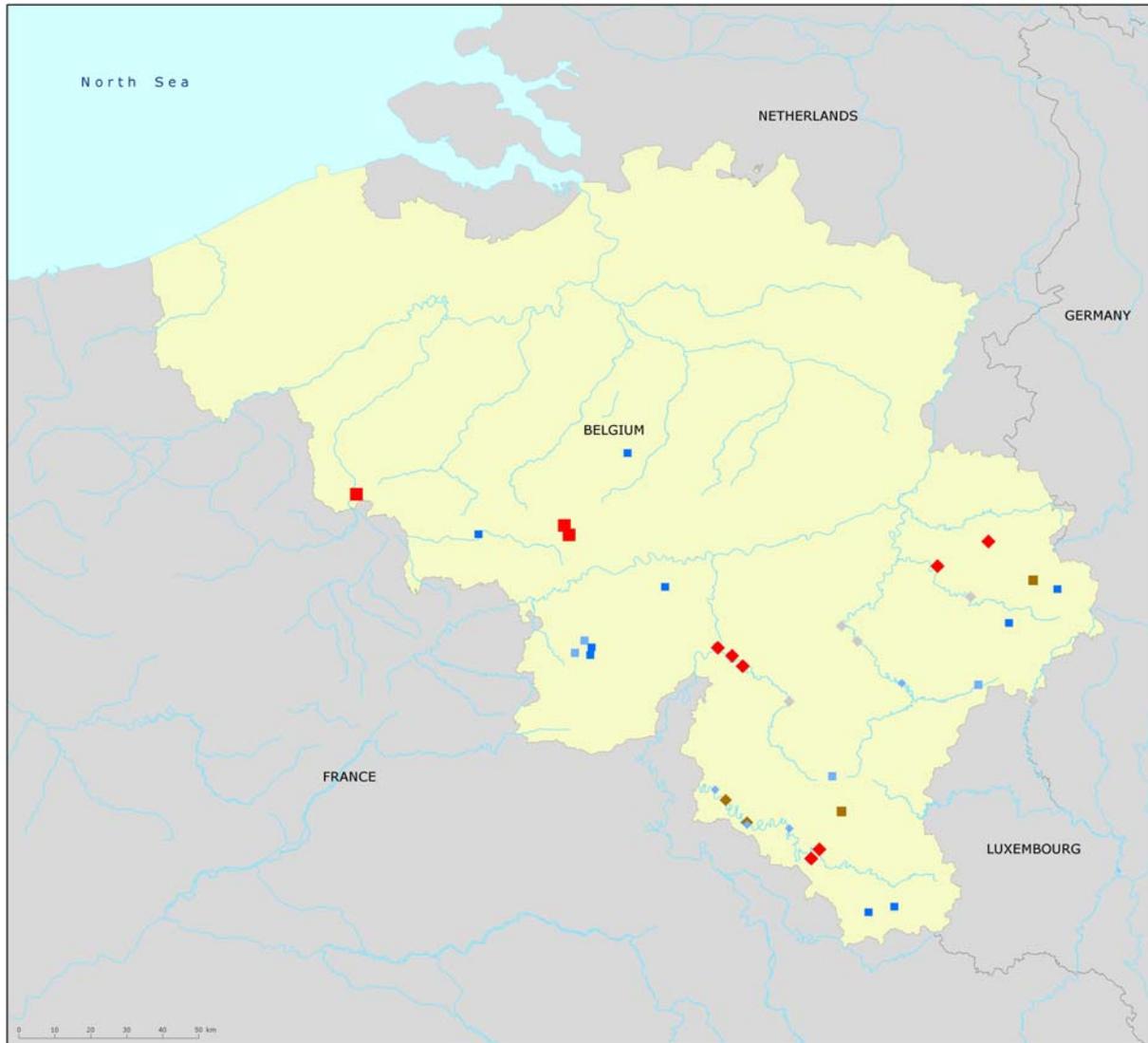


Bathing water quality			
Bathing waters on rivers	Bathing waters on lakes	Coastal/transitional bathing waters	No data
◆ Compliant with guide values	■ Compliant with guide values	● Compliant with guide values	□ No data
◆ Compliant with mandatory values	■ Compliant with mandatory values	● Compliant with mandatory values	■ Outside data coverage (data available, not presented on the map)
◆ Closed*	■ Closed*	● Closed*	
◆ Insufficiently sampled or not sampled	■ Insufficiently sampled or not sampled	● Insufficiently sampled or not sampled	
◆ Not compliant with mandatory values	■ Not compliant with mandatory values	● Not compliant with mandatory values	

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: Belgian authorities

Map 2: Bathing waters reported during the 2010 bathing season in Belgium - Walloon Region



Bathing water quality

Bathing waters on rivers

- ◆ Excellent quality
- ◆ Good quality
- ◆ Sufficient quality
- ◆ Poor quality
- ◆ Closed*
- ◆ Other transition period assessment rules

Bathing waters on lakes

- Excellent quality
- Good quality
- Sufficient quality
- Poor quality
- Closed*
- Other transition period assessment rules

□ No data

■ Outside data coverage (data available, not presented on the map)

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: Belgian authorities

5. More information on bathing water quality in Europe

Of the more than 21 000 bathing areas monitored throughout the European Union in 2010, two-thirds were in coastal waters and the rest in rivers and lakes. The largest number of coastal bathing waters can be found in Italy, Greece, France, Spain and Denmark, while Germany and France have the highest number of inland bathing waters.

During recent years, including the 2010 bathing season, majority of Member States have adjusted their monitoring programmes to meet the requirements of the new bathing water directive (2006/7/EC). Luxembourg was the first country to report under this Directive in 2007. Cyprus, Denmark, Estonia, Finland, Germany, Hungary, Latvia, Lithuania, Slovakia, Spain and Sweden started to report under the new directive in 2008. Malta and the Netherlands started to report in 2009, while Austria, Belgium - Walloon Region, France, Greece, Italy, Portugal and Slovenia reported under this Directive for the first time in 2010. Historical data of two microbiological parameters, *Escherichia coli* and intestinal enterococci were sent by Sweden (since 2005), Luxembourg and Malta (since 2006), Belgium - Walloon Region, Greece, Hungary and Portugal (since 2007), and France (since 2009). To conclude, 20 Member States and the Walloon Region of Belgium monitored and reported under the new directive (Directive 2006/7/EC) in 2010.

Assessment of the status of all bathing waters in 2010 under the rules of the new directive (Directive 2006/7/EC) is made for Luxembourg, Malta and Hungary. Assessment of the bathing water quality on a country level for the other countries that reported under the new directive has been done using transition rules. Bathing water quality for individual bathing waters having four year set of data can be seen on the interactive maps and data viewer that are described below.

Three non-EU countries, Croatia, Montenegro and Switzerland have reported monitoring results under the new directive. Switzerland sent data on *Escherichia coli* for all bathing waters but only for some data on intestinal enterococci.

Overall in 2010, 92.1 % of Europe's coastal bathing waters and 90.2 % of inland bathing waters met the minimum water quality standards set by the bathing water directives. During recent years there has been deterioration in bathing water quality but still more than nine in ten bathing waters meet the minimum quality standards. The share of non compliant bathing waters was 1.2 % for coastal bathing waters and 2.8 % for inland bathing waters. The decrease reflects in part year to year variation but also indicates that further work is necessary to ensure that the quality of bathing waters is constantly improved and maintained.

More information on bathing water quality in the European Member States, including the EU summary report, the reports for 27 Member States, Croatia, Montenegro 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 Institute for Water of the Republic of Slovenia (IWRIS), a partner in the EEA European Topic Centre on Inland, Coastal and Marine Waters (ETC/ICM) has produced the reports for the bathing seasons from the 2008 bathing season on. Countries have collaborated in the assessment of bathing water quality and supplied additional information when needed.

Interactive information on bathing water quality

The bathing water section of the Water Information System for Europe (WISE), which is accessible at the EEA bathing water website, allows users to view the quality of the bathing water at more than 22 000 coastal beaches and inland bathing sites across Europe. Users can check bathing water quality on an interactive map or can download data for a selected country or region and make comparisons with previous years.

The WISE map viewer (<http://www.eea.europa.eu/themes/water/interactive/bathing>) is an online map viewer for visualisation of European spatial water data. It includes a lot of interactive layers, allowing water themes to be visualised at different scales. Broad resolutions display the aggregated data by Member State. At finer resolutions the locations of monitoring stations are displayed.

The WISE Bathing Water Quality data viewer (<http://www.eea.europa.eu/themes/water/status-and-monitoring/bathing-water-data-viewer>) combines text and graphical visualisation, providing a quick check on locations and statistics on the quality of coastal and freshwater bathing waters. It also documents how bathing waters have changed throughout Europe in recent years and provides a full summary of Europe's bathing water quality. Users can search information at three spatial levels - country, region and province - and observe specific bathing water locations on the Google Earth, Google maps or Bing maps.

The Eye On Earth - Water Watch application (<http://www.eea.europa.eu/data-and-maps/explore-interactive-maps/eye-on-earth>) allows users to zoom in on a given section of the coast, riverbank or lake, both in street map or, where available, bird's eye viewing formats. A 'traffic-light' indicator (red, amber, green) of bathing water quality, based on the official bathing water data, is put alongside the ratings of people who have visited the bathing site, including any comments users wish to make. For historical data Water Watch uses a simplified index of bathing water quality data. The Czech Republic, Estonia, Finland (one municipality), Hungary, Lithuania, Luxembourg, Malta, the Netherlands, Norway (one municipality), Slovenia, Slovakia and England and Wales were also sending near real time information on bathing water quality to the Eye On Earth application. The bathing water quality from Austria, Belgium, Bulgaria, Croatia, Denmark, France, Germany, Ireland, Italy, Poland, Portugal, Spain, Sweden and Scotland and Northern Ireland was also presented on Eye on Earth Water Watch.

National and local information on bathing water quality

In order to make information to the public more effective, all EU countries have national or local web portals with detailed information for each bathing water. Websites generally include a map search function and public access to the monitoring results both in real time and for previous seasons.

Information on EU bathing water legislation

EU Member States will have to comply with the stricter and more ambitious requirements laid out in Directive 2006/7/EC by 2015 at the latest. The new legislation requires more effective monitoring and management of bathing waters, greater public participation and improved information dissemination. By March 2011 Member States have to have established bathing water profiles. More on the new legislation can be found on the European Commission's websites and on <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:064:0037:0051:EN:PDF>.