European Environment Agency

Bathing water results 2011 – Bulgaria

1. Reporting and assessment

This report gives a general overview of bathing water quality in Bulgaria during the 2011 bathing season. In 2011 Bulgaria reported under the Directive 2006/7/EC.

Before the necessary data set for assessment of bathing water quality under the Directive 2006/7/EC is compiled (data for three or four consecutive years) the rules for transition period assessment are applied. This means that the classification of bathing waters is defined on the basis of concentrations of intestinal enterococci and *Escherichia coli* that are reported under the Directive 2006/7/EC. The limit values for the classification are taken from the Directive 76/160/EEC. 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;
- **Class NF:** Insufficiently sampled;
- **Class NS:** Not sampled.

The frequency of sampling is set out in Annex IV of the Directive 2006/7/EC. 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.

Strictly speaking, there should be one pre-season sample and the interval between sampling should not exceed one month. Since a late start of monitoring and/or low frequency do not necessarily indicate unsatisfactory bathing water quality, it has been accepted that the first sample in the 2011 season could be taken shortly after the start of the season (but within 10 days after the start), and the maximum interval between two samples taken into account is 41 days. These criteria are described as less strict. In this report a compliance class under the strict rules and less strict criteria are presented.

2. Length of bathing season and number of bathing waters

The bathing season started between 15 May and 1 July 2011 and ended between 31 August and 30 September 2011 for coastal bathing waters. Inland bathing waters opened on 1 or 18 June 2011 and closed on 30 or 31 August 2011.

A total of 93 bathing waters were monitored in Bulgaria during the 2011 bathing season, of which 89 were coastal bathing waters and four were inland bathing waters (0 on rivers; four on lakes). There are very few inland bathing waters due to lack of tradition to bath on rivers or lakes. One coastal bathing water and no inland bathing waters were reported as de-listed (permanently closed) compared to the previous year.

With 93 reported bathing waters Bulgaria accounts for about 0.4 % of the reported bathing waters of the European Union.

3. Bathing water quality

The results of the bathing water quality in Bulgaria for the period 2007-2010 as reported in the past reporting years and for the bathing season of 2011 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/ Bathing Water/ 2005-2011 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, 2009 and 2010 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 (class B, grey line).

Table 1 shows the same information in absolute numbers and in percentages for coastal, inland and all bathing waters from 2008 on. The numbers and percentages of insufficiently sampled or not sampled bathing waters are also presented.

A map given in Appendix 1 shows the location and quality of the bathing waters.

Coastal bathing waters

In Bulgaria, 96.6 % of the coastal bathing waters met the mandatory water quality in 2011. This is a decrease of 3.4 % compared to the previous year. The rate of compliance with the guide values decreased from 84.4 % to 50.6 %. Three bathing waters (3.4 %) were non-compliant with the mandatory value for *Escherichia coli* compared to none in 2010. No bathing waters (0.0 %) had to be closed during the bathing season, the same as in 2010.

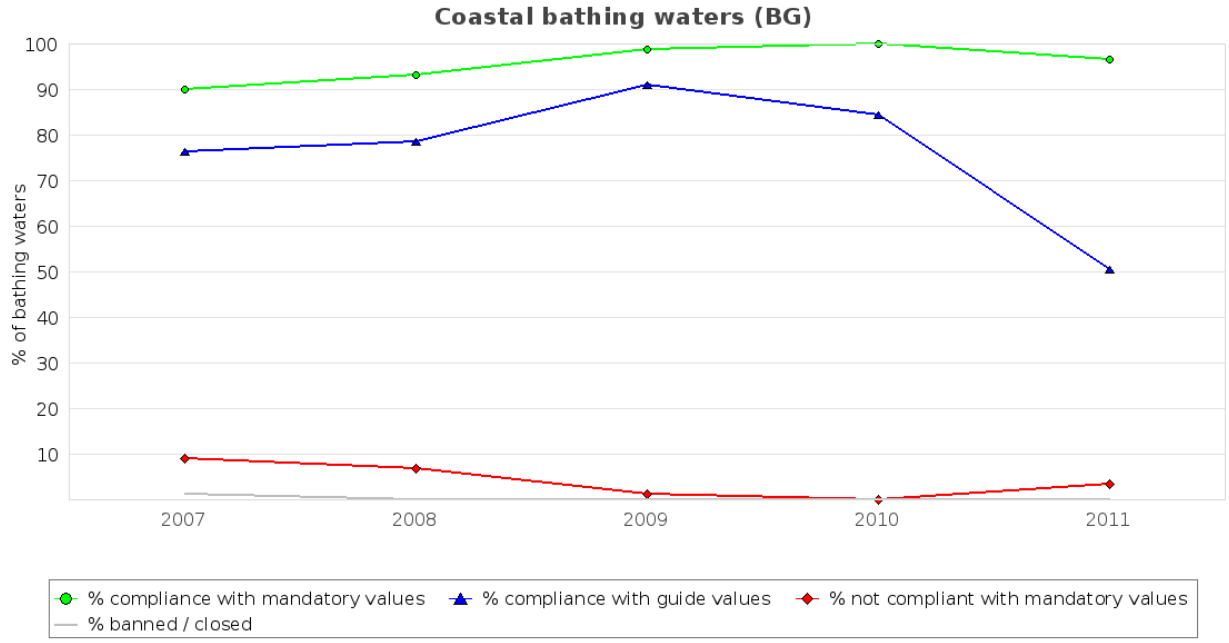
For comparison since the start of the reporting please see Figure 1.

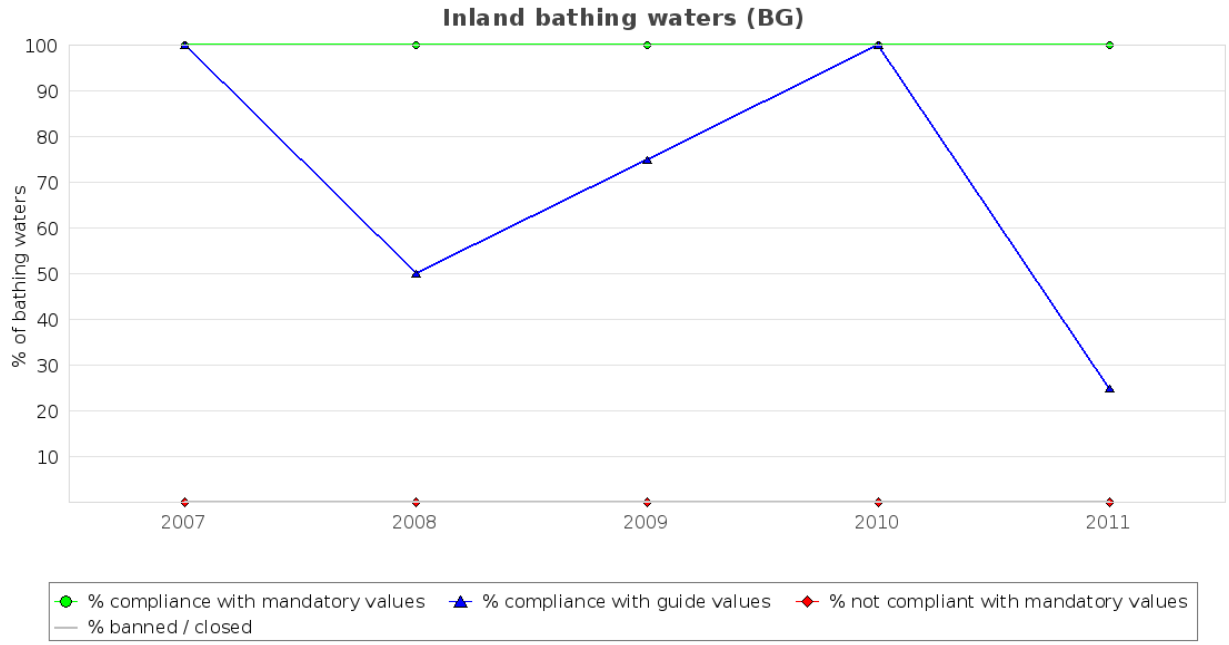
Inland bathing waters

All inland bathing waters met the mandatory water quality in 2011, the same as in the previous year. The rate of compliance with the guide values decreased from 100.0 % to 25.0 %. No bathing waters (0.0 %) had to be closed during the bathing season, the same as in 2010.

For comparison since the start of the reporting please see Figure 1.

Figure 1: Results of bathing water quality in Bulgaria from 2007 to 2011





Note: Data until 2008 is available in the previous reports at http://ec.europa.eu/environment/water/water-bathing/index_en.html; Water/Bathing Water/ 2005-2011 reports.

Table 1: Results of bathing water quality in Bulgaria from 2008 to 2011

BG												
		Total number of bathing waters	Compliance with guide and mandatory values*		Compliance with mandatory values		Not compliant		Banned/closed		Insufficiently sampled or not sampled	
			number	%	number	%	number	%	number	%	number	%
Coastal bathing waters	2008	89	70	78.7	83	93.3	6	6.7	0	0.0	0	0.0
	2009	89	81	91.0	88	98.9	1	1.1	0	0.0	0	0.0
	2010	90	76	84.4	90	100.0	0	0.0	0	0.0	0	0.0
	2011	89	45	50.6	86	96.6	3	3.4	0	0.0	0	0.0
	2011(s)	89	45	50.6	86	96.6	3	3.4	0	0.0	0	0.0
Inland bathing waters	2008	4	2	50.0	4	100.0	0	0.0	0	0.0	0	0.0
	2009	4	3	75.0	4	100.0	0	0.0	0	0.0	0	0.0
	2010	4	4	100.0	4	100.0	0	0.0	0	0.0	0	0.0
	2011	4	1	25.0	4	100.0	0	0.0	0	0.0	0	0.0
	2011(s)	4	1	25.0	4	100.0	0	0.0	0	0.0	0	0.0
All bathing waters	2008	93	72	77.4	87	93.5	6	6.5	0	0.0	0	0.0
	2009	93	84	90.3	92	98.9	1	1.1	0	0.0	0	0.0
	2010	94	80	85.1	94	100.0	0	0.0	0	0.0	0	0.0
	2011	93	46	49.5	90	96.8	3	3.2	0	0.0	0	0.0
	2011(s)	93	46	49.5	90	96.8	3	3.2	0	0.0	0	0.0

*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 (2008-2010) or the mandatory value for *Escherichia coli* (2011).

(s)Strict rules applied (see Chapter 1 of this report).

4. Important information as provided by the Bulgarian authorities

The Bulgarian authorities have reported significant management measures (Table 2). Additional information including reasons for changes is provided in two separate documents (http://cdr.eionet.europa.eu/bg/eu/nbwd/envtzojog/Annex_to_ManMeas_BG_2011.doc; http://cdr.eionet.europa.eu/bg/eu/nbwd/envtzojog/Annex_to_Change__de-listing_BG3320302508008017_.doc).

Table 2: Information on management measures for the 2011 season as reported by the Bulgarian authorities

Unique Identification Code of Bathing Water	Bathing Water Name	Bathing Water Category	Management Measures*
BG3412181178002024	KAMPING GRADINA	coastal	Long term measures: Building a new WWTP. Deadline for implementation of measures - 2014
BG3310610135003011	VARNA - OFITSERSKI PLAZH	coastal	Identification of probable causes of pollution: discharge and overflows of not fully treated or untreated waste water. Measures taken: Informing the public through the electronic site of the Regional Health Inspectorate; Additional monitoring; Organized meetings with local authorities to take measures to eliminate pollution. In 2011 was finished the reconstruction and modernization of the WWTP "Varna" (except installation for phosphorus treatment). It was built a new city collector for wastewater.
BG3310610135003006	SV. KONSTANTIN I ELENA-GOLYAM PLAZH	coastal	In 2011 was built a new wastewater collector discharge wastewater to WWTP.
BG3310610135003007	SV. KONSTANTIN I ELENA-DO MINERALEN BASEYN	coastal	
BG3310610135003008	SV. KONSTANTIN I ELENA-PLAZH MALKA RIVIERA	coastal	
BG3310610135003009	SV. KONSTANTIN I ELENA-SENT ELIAS	coastal	
BG3310610135003010	VARNA -- BRIZ 3-BUNITE	coastal	In 2011 was finished the reconstruction and modernization of the

Unique Identification Code of Bathing Water	Bathing Water Name	Bathing Water Category	Management Measures*
BG3310610135003012	VARNA - TSENTRALEN PLAZH	coastal	WWTP "Varna" (except installation for phosphorus treatment). It was built a new city collector for wastewater.
BG3310610135003013	VARNA - YUZHEN PLAZH	coastal	
BG3310610135003014	VARNA - ASPARUHOVO TSENTAR	coastal	
BG3410407079002018	BURGAS - PLAZH CHERNOMORSKI SOLNITSI	coastal	In 2011 was finished the reconstruction and modernization of WWTP Burgas.
BG3410407079002020	BURGAS - TSENTRALEN PLAZH	coastal	
BG3410407079002021	KV. KRAYMORIE - TSENTRALEN PLAZH	coastal	
BG3410407079002019	BURGAS - SEVEREN PLAZH	coastal	
BG3320353120008019	ALBENA	coastal	Long term measures: reconstruction and modernization of WWTP "Albena". Deadline for implementation of measures - 2013.
BG3412758356002034	MEZHDUNARODEN MLADEZHKI TSENTAR	coastal	Long term measures: reconstruction and modernization of WWTP "Primorsko". Deadline for implementation of measures - 2014.
BG3412167800002025	KAMPING ZLATNA RIBKA	coastal	Long term measures: Building a new WWTP and one nautical mile discharge pipe into the Black Sea. Deadline for implementation of measures - 2014.
BG3412167800002027	SOZOPOL - PLAZH HARMANITE	coastal	
BG3412167800002026	SOZOPOL - TSENTRALEN PLAZH	coastal	
BG3412181178002022	CHERNOMORETS - TSENTRALEN PLAZH	coastal	Long term measures: Building a new WWTP. Deadline for implementation of measures - 2014
BG3412181178002023	CHERNOMORETS - YUZHEN PLAZH	coastal	
BG3321765543008005	RUSALKA-GOLYAM PLAZH	coastal	
BG3321765543008006	RUSALKA-TSENTRALEN PLAZH	coastal	
BG3411300878002043	AHTOPOL - TSENTRALEN PLAZH	coastal	
BG3411366528002044	PLAZH BUTAMYATA	coastal	
BG3320353120008018	FISH-FISH	coastal	Long term measures: reconstruction and modernization of WWTP "Albena". Deadline for implementation of measures - 2013.
BG3321735064008008	KAVARNA-TSENTRALEN	coastal	Long term measures: reconstruction and modernization of WWTP "Kavarna". Deadline for implementation of measures - 2014
BG3412737023002035	KITEN - SEVEREN PLAZH	coastal	Long term measures: reconstruction and modernization of WWTP "Primorsko". Deadline for implementation of measures - 2014.
BG3412737023002036	KITEN - YUZHEN PLAZH	coastal	
BG3412758356002032	PRIMORSKO - SEVEREN PLAZH	coastal	
BG3412758356002033	PRIMORSKO - YUZHEN PLAZH	coastal	
BG3310610135003002	ZLATNI PYASATSI-MORSKO KAZINO	coastal	Long term measures: reconstruction and modernization of WWTP "Zlatni Pyasatsi" and building one nautical mile discharge pipe into the Black Sea. Deadline for implementation of measures - 2012-2015.
BG3310610135003003	ZLATNI PYASATSI-RIVIERA	coastal	
BG3310610135003004	KABAKUM-TSENTRALEN	coastal	
BG3411511538002005	SVETI VLAS - PLAZH SPETSIALIZIRANA BOLNITSA	coastal	Long term measures: reconstruction and modernization of WWTP and building one nautical mile discharge pipe into the Black Sea. Deadline for implementation of measures - 2014
BG3411551500002006	SLANCHEV BRYAG - HOTEL VIKTORIA PALAS	coastal	
BG3411551500002007	SLANCHEV BRYAG - HOTEL GLOBUS	coastal	
BG3411561056002011	RAVDA - TSENTRALEN	coastal	

Unique Identification Code of Bathing Water	Bathing Water Name	Bathing Water Category	Management Measures*
	PLAZH		
BG3411700833002013	KAMPING AHELOY	coastal	
BG3411511538002004	SVETI VLAS - TSENTRALEN PLAZH	coastal	
BG3411551500002008	SLANCHEV BRYAG - HOTEL BURGAS	coastal	
BG3411551500002009	NESEBAR - YUZHEN PLAZH	coastal	
BG3411561056002010	PLAZH AKADEMIK	coastal	
BG3411561056002012	RAVDA - PLAZH NDK	coastal	
BG3410407079002017	KV. SARAFOVO - TSENTRALEN PLAZH	coastal	Long term measures: reconstruction and modernization of WWTP. Deadline for implementation of measures - 2014.
BG3411757491002014	POMORIE - TSENTRALEN PLAZH	coastal	
BG3411757491002015	POMORIE - IZTOCHEN PLAZH	coastal	
BG3411757491002016	POMORIE - YUZHEN PLAZH	coastal	
BG4251606567009001	YAZOVIR KARDZHALI - PLAZH 1	lake	Possible reason for bathing water quality deterioration: The strong decrease of water volume in the dam due to drought. Informing the public through the electronic site of the Regional Health Inspectorate.
BG4251615000009002	YAZOVIR KARDZHALI - PLAZH 2	lake	
BG4251615268009003	YAZOVIR STUDEN KLADENETS	lake	
BG3310610135003001	ZLATNI PYASATSI-PSOV	coastal	Identification of probable causes of pollution: discharge and overflows of not fully treated waste water because of insufficient capacity of WWTP. Measures taken: Informing the public through the electronic site of the Regional Health Inspectorate; Additional monitoring. Long term measures: reconstruction and modernization of WWTP "Zlatni Pyasatsi" and building one nautical mile discharge pipe into the Black Sea. Deadline for implementation of measures - 2012-2015.
BG3411348619002040	POPSKI PLAZH	coastal	Identification of probable causes of pollution: discharge and overflows of untreated waste water due to damage of sewage pumping station. Measures taken: Performing frequent monitoring (weekly); Issuance of order to temporary prohibition of bathing from 24.08.2011; informing the public by the electronic site of the Regional Health Inspectorate, local and national media.
BG3320302508008017	OVCHAROVSKI PLAZH	coastal	Permanently closed - de-listed

*For all bathing waters in Bulgaria a bathing water profile and monitoring calendar were established and bathing water quality assessed. The results from bathing water quality monitoring are made public through websites of the regional CAs and through the media (local press, radio and TV).

5. More information on bathing water quality in Europe

Of the more than 21 000 bathing areas monitored throughout the European Union in 2011, two thirds were in coastal waters and the rest in rivers and lakes. The largest numbers of coastal bathing waters can be found in Italy, Greece, France and Spain, while Germany and France have the highest numbers of inland bathing waters.

During recent years, including the 2011 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. Austria, Belgium - Walloon Region, France, Greece, Italy, Portugal and Slovenia reported under the new directive for the first time in 2010, while Belgium - Flemish Region, Bulgaria, Ireland and Poland reported under this Directive for the first time in 2011. Historical data of two microbiological parameters, *Escherichia coli* and intestinal enterococci were sent by Sweden (2005-2007), Luxembourg (2006), Malta (2006-2008), Belgium -

Walloon Region (2007-2009), Belgium - Flemish Region (2008-2010), Greece (2007-2009), Hungary (2007) and Portugal (2007-2009).

Three non-EU countries, Croatia, Montenegro and Switzerland have reported monitoring results under the new directive. Croatia and Switzerland started to report in 2009, while Montenegro reported for the first time in 2010. Switzerland sent data on *Escherichia coli* for all bathing waters but only for some data on intestinal enterococci.

For the 2011 season, bathing water quality has been assessed under the new bathing water directive in 16 European countries. This is 13 more than for 2010 bathing season. Only three countries - the Czech Republic, Romania and the United Kingdom - are still assessed under the old bathing water directive. Eleven countries are assessed under the transition period rules.

Overall in 2011, 92.1 % of bathing waters in the EU met the minimum water quality standards set by the bathing water directives. Bathing water quality increased at 0.6 % of sites in 2011 compared to 2010. The proportion of bathing waters with excellent quality (or complying with the more stringent guide values) increased by 3.5 percentage points compared to 2010, reaching 77.1 %. The share of non-compliant bathing waters was 1.8 %, which was a 0.1 percentage point increase from 2010. In 2011, 207 bathing waters were banned or closed (1 %), which was 57 more than in the 2010 bathing season.

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 (IWRS), 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 bathing water quality at more than 22 000 coastal beaches and inland 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 visualising 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 inland 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 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 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 added by users. For historical data Water Watch uses a simplified index of bathing water quality data. The Czech Republic, Croatia, Denmark, Estonia, Finland (one municipality), Greece, Hungary, Lithuania, Luxembourg, Malta, Slovakia, Slovenia, England and Wales were also sending near real time information on bathing water quality to the Eye on Earth application. The bathing water quality for Austria, Belgium, Bulgaria, France, Germany, Iceland, Italy, Ireland, the Netherlands, Portugal, Sweden, Scotland and Northern Ireland was also presented on the 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.

Appendix 1

Map 1: Bathing waters reported during the 2011 bathing season in Bulgaria

Note: 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, CCM GISCO; Bathing waters data and coordinates: Bolgarian authorities