BWD Report For the Bathing Season 2014
Bulgaria

The report gives a general overview of information acquired from the reported data, based on provisions of the Bathing Water Directive[1]. The reporting process is described below, as well as state and trends of bathing water quality in Bulgaria.

1. BWD reporting in the season 2014

In 2014 bathing season, 94 bathing waters have been reported in Bulgaria. For each bathing water, five groups of parameters have been delivered[2]:

- *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 Bulgaria in 2014

Total reported	**94**
Coastal	90
Inland	4
Max season period	**91 / 139 days**
Coastal	15 May to 30 Sep
Inland	1 Jun to 31 Aug
Samples taken	**838**
Share of bathing waters with good or excellent water quality	**91 %**
New BWD implemented in	**2011**

The authorities of Bulgaria report data according to the new BWD (2006/7/EC) since the season 2011. The data for the season 2014 were delivered to the European Commission by **4 January 2015**.

Altogether, **94 bathing waters** have been reported – 0.4% of all bathing waters in Europe. No bathing waters have been newly identified in 2014 season. 96% of bathing waters in Bulgaria are of coastal type; the other 4% are inland. **838 samples** were taken at bathing waters throughout the season – 9 per bathing water on average.

[1] Directive BWD 2006/7/EC, available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:064:0037:0051:EN:PDF

[2] See the BWD Data Dictionary for detailed explanations: http://dd.eionet.europa.eu/datasets/3151#tables

The maximum bathing season period was from 15 May to 30 September for coastal bathing waters, i.e. 139 days altogether. Season duration varies for coastal bathing waters. Maximum inland bathing season period was from 1 June to 31 August, i.e. 91 days. Season duration varies for inland bathing waters.

Detailed information on bathing waters is available from national portal at http://www.mh.government.bg/Articles.aspx?lang=bg-BG&pageid=507.

2. Assessment methodology[3]

During the bathing season, water samples are taken and analysed for two bacteria, *Escherichia coli* and intestinal enterococci which may indicate the presence of pollution, usually originating in sewage or livestock waste. The results of the analysis are used to assess the quality of the bathing waters concerned and to provide information to the public on the quality of the water in the bathing sites concerned.

The monitoring requirements under the New Bathing Water Directive are:

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

The conditions described above must be met for all bathing waters. 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 'sampling frequency not satisfied'. All bathing waters met the described monitoring requirements set by the Directive. Table 1 shows the statistics of bathing waters according to satisfied BWD monitoring requirements.

[3] The methodology used by the EC and the EEA is described here, while results of assessment by national authorities may somewhat differ. However, the provisions of the Directive should be followed in any case.
[4] A pre-season sample is taken into account at total number of samples per season.
[5] Three samples are sufficient if the season does not exceed eight weeks or the region is subject to special geographical constraints.
[6] 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 2014 according to compliance with BWD monitoring provisions

	Count	Share of total [%]
BWs with sampling frequency satisfied and are not new, have no changes or were not closed in 2014 These bathing waters have been monitored according to BWD provisions (monitoring frequency satisfied and have pre-season sample. They have been quality-classified (excellent, good, sufficient, poor).	94	100.0%
BWs with sampling frequency not satisfied and that are not new, have no changes or were not closed in 2014. These bathing waters have not been monitored according to BWD provisions (monitoring frequency not satisfied). They may be quality-classified if there is a reasonable volume of samples available.	0	0.0%
BWs that are new, changed or closed in 2014 These bathing waters are new or have been subject to changes that could affect bathing water quality.	0	0.0%
Total number of bathing waters in 2014	**94**	**100%**

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 are more or less 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, falling in the certain class given in Annex I of the Directive. This 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[7];
- new[8];
- changes[9];
- closed[10].

[7] Not enough samples have been provided for the 2014 season or throughout the whole assessment period.
[8] Classification not yet possible because bathing water is newly identified and a complete set of samples is not yet available.
[9] Classification is not yet possible after changes affecting bathing water quality have been implemented.
[10] Bathing water is closed temporarily or throughout the bathing season.

3. Bathing water quality

The results of the bathing water quality in Bulgaria for the period of 2011–2014 as reported in the past reporting years and for the bathing season of 2014 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[11] and the European Environment Agency's bathing water website[12].

3.1 Coastal bathing waters

In Bulgaria, 96.7% of all existing coastal bathing waters met at least sufficient water quality standards in 2014. See Appendix 1 for numeric data.

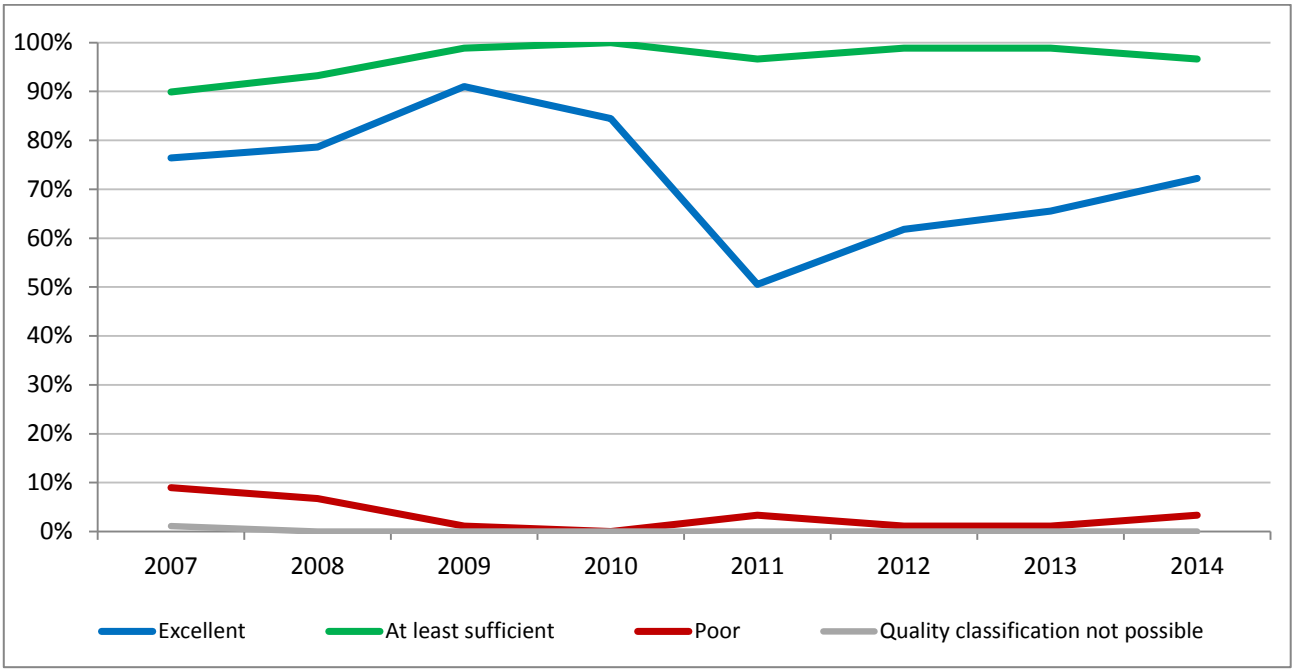

Figure 1: Coastal bathing water quality trend in Bulgaria. Note: the "At least sufficient" class also includes bathing waters of "Excellent" quality class, the sum of shares is therefore not 100%.

[11] http://ec.europa.eu/environment/water/water-bathing/index_en.html
[12] http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water

3.2 Inland bathing waters

All existing inland bathing waters met at least sufficient water quality in 2014. See Appendix 1 for numeric data.

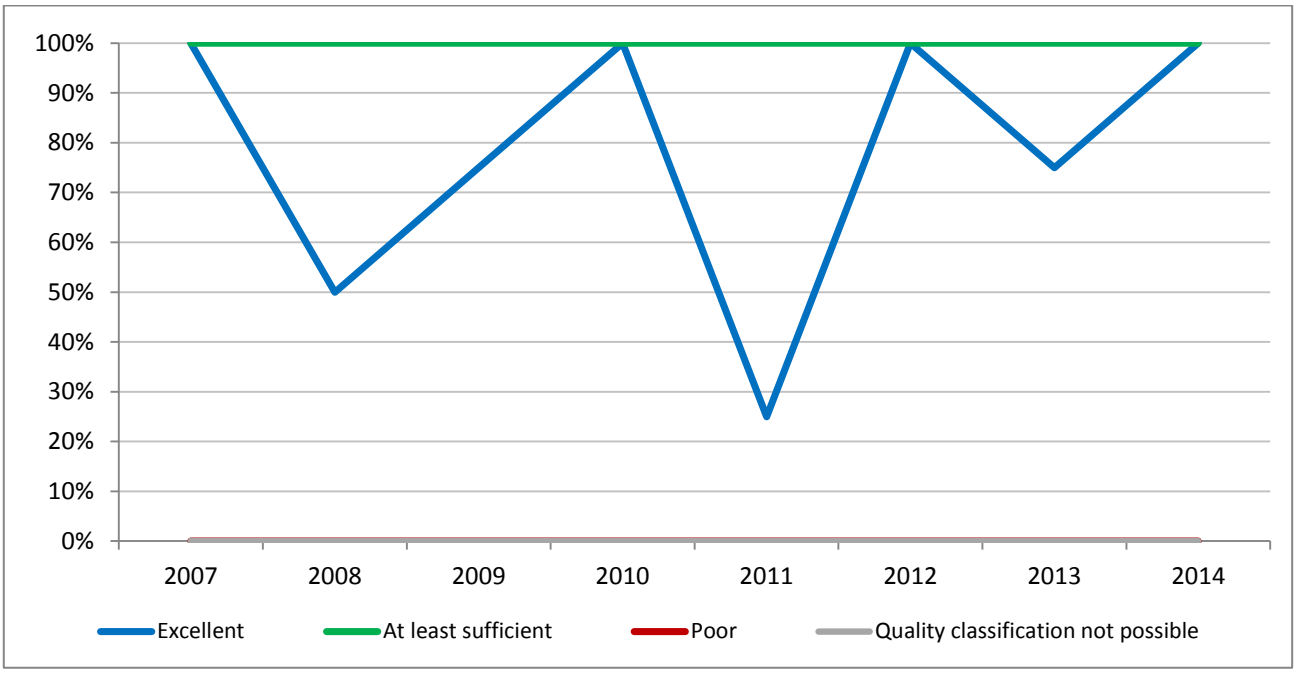

Figure 2: Inland bathing water quality trend in Bulgaria. Note: the "At least sufficient" class also includes bathing waters of "Excellent" quality class, the sum of shares is therefore not 100%.

4. Information regarding management and other issues

The competent authorities concerning bathing water are the Ministry of Health at national level and its 28 Regional Health Inspectorates that carry out sampling and monitoring of bathing waters. The samples are analysed in the regional CA's laboratories and the analytical methods used are relevant to the methods laid down in the Annex I of the Directive 2006/7/EC – BDS EN ISO 9308-3 and BDS ISO EN 7899-1.

The results from bathing water quality monitoring are made public through websites of the regional CAs and through the media (local or national press, radio and TV). Information is also available on the website of Ministry of Health -http://www.mh.government.bg/Articles.aspx?lang=bg-BG&pageid=507.

During the bathing season every week the regional CAs give press conference incl. the current bathing water quality status on their territory. There is also a practice the actual information for bathing water quality to be made available to the guests of the big sea hotels.

2014 bathing season (the months of May, June, July and September) was characterized by relatively frequent severe storms and heavy rainfall along the coast. Some of them caused local flooding with human casualties (such floods occurred on the 19th June in the city of Varna and on the 5th September in the city of Burgas and south of it). Total rainfall during these months for different regions of the coast

exceeded the monthly norms from 200 to 600 %. These circumstances had an adverse impact on the quality of bathing water in some bathing areas in the region of Varna and Burgas.

For the agglomerations of above 2 000 p.e. in the Black Sea basin with no treatment, the necessary treatment should be provided in the years until the end of 2020, as foreseen by the regional master plans for water supply and sewage. In the 2014, several major projects have been launched for collection and treatment of the wastewater of the agglomerations Pomorie, Nessebar-Ravda-Slunchev bryag, Sozopol and Banevo-Vetren-Mineralni bani. For decreasing the diffuse pollution sources, Republic of Bulgaria provides a system of measures concerning the protection of waters against pollution caused by nitrates from agricultural sources that includes identification polluted water, the water in risk of pollution and vulnerable zones, adoption of the Code of Good Agricultural Practice, adoption of the Action Program and development of Training program for farmers on how to implement measures of the Code of GAP. Action Program provides concrete measures for the prevention and the reduction of the surface waters' pollution from agricultural sources. The Black Sea Coast Law establishes two kinds of protection zones (up to 2.1 km from the sea coast and alongside the whole Bulgarian coast's length) where the use of mineral fertilizers and plant protection products is forbidden.

5. Bathing water quality assessment presentation in online viewers

The new legislation requires more effective monitoring and 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.

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 data on bathing water quality in 2014 and previous years can also be viewed in WISE bathing water data viewer, an application prepared by TC Vode (http://bwd.eea.europa.eu/). The WISE bathing water quality data viewer combines text and graphical visualisation, providing a quick overview of the bathing water's locations and achieved quality.

Citizens have now access to more bathing water information than ever and are encouraged to make full use of disseminated information.

Appendix 1: Results of bathing water quality in Bulgaria from 2011 to 2014

Table 2: Bathing waters in the season 2014 according to quality

		Total number of bathing waters	Excellent quality or compliant with guide values		At least sufficient quality or compliant with mandatory values		Poor quality or non-compliant		Quality classification not possible: not enough samples /new bathing waters/bathing waters with changes/closed	
			No	%	No	%	No	%	No	%
Coastal	2011	89	45	50.6	86	96.6	3	3.4	0	0.0
	2012	89	55	61.8	88	98.9	1	1.1	0	0.0
	2013	90	59	65.6	89	98.9	1	1.1	0	0.0
	2014	90	65	72.2	87	96.7	3	3.3	0	0.0
Inland	2011	4	1	25.0	4	100.0	0	0.0	0	0.0
	2012	4	4	100.0	4	100.0	0	0.0	0	0.0
	2013	4	3	75.0	4	100.0	0	0.0	0	0.0
	2014	4	4	100.0	4	100.0	0	0.0	0	0.0
Total	**2011**	**93**	**46**	**49.5**	**90**	**96.8**	**3**	**3.2**	**0**	**0.0**
	2012	**93**	**59**	**63.4**	**92**	**98.9**	**1**	**1.1**	**0**	**0.0**
	2013	**94**	**62**	**66.0**	**93**	**98.9**	**1**	**1.1**	**0**	**0.0**
	2014	**94**	**69**	**73.4**	**91**	**96.8**	**3**	**3.2**	**0**	**0.0**

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 2014 bathing season in Bulgaria

Source: National boundaries: EEA; Large rivers and lakes: EEA, WFD Article 3; Rivers in Western Balkan: TC Vode; Bathing waters data and coordinates: Bulgarian authorities