

Bathing Water Directive report 2013

Germany

The report gives a general overview of information acquired from the reported data, based on provisions of the Bathing Water Directive¹. The reporting process is described below, as well as state and trends of bathing water quality in Germany.

1. BWD reporting in 2013 season

In 2013 bathing season, 2296 bathing waters have been reported in Germany. For each bathing water, five groups of parameters have been delivered:

- *basic 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 Germany in 2013	
Total reported	2296
Coastal	367
Inland	1929
Season period	208 / 133 days
Coastal	10 May to 22 Sep
Inland	1 Apr to 31 Oct
Samples taken	13423
Share of bathing waters with good or excellent water quality	96 %
New BWD implemented in	2008

The authorities of Germany initiated new BWD (2006/7/EC) reporting in 2008 season. The 2013 season data were delivered to the European Commission by **18 December 2013**, with additional delivery on 9 January 2014.

Altogether, **2296 bathing waters** have been reported – 10.4% of all bathing waters in Europe. Out of all bathing waters in Germany, 12 (0.52%) have been newly identified in 2013 season. 11 bathing waters have been delisted². 16% of bathing waters in Germany are of coastal type; the other 84% are inland. **13,423 samples** were taken at bathing waters throughout the season – six per bathing water on average.

¹ Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:064:0037:0051:EN:PDF>

² Bathing waters which were identified in 2012 season, but not in 2013 season

The bathing season period was from 10 May to 22 September for coastal bathing waters, i.e. 133 days altogether. Season duration varies for coastal bathing waters. Inland bathing season period was from 1 April to 31 October, i.e. 208 days. Season duration varies for inland bathing waters.

134 abnormal situations due to floods have been reported at 133 bathing waters. See Chapter 4 for additional information.

15 bathing waters (0.6 % of all bathing waters) have been reported in a total of seven groups.

Detailed information on individual bathing waters is available from national bathing water profiles at <http://www.umweltbundesamt.de/themen/wasser/schwimmen-baden/badegewaesser/wasserqualitaet-in-badegewaessern>.

2. Assessment methodology

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.

According to the BWD, the bathing water sample dataset should satisfy the following conditions:

- a minimum of one sample per month³
- a minimum of four samples per season⁴
- a minimum of 16 samples in total⁵
- four consecutive seasons⁶
- a pre-season sample⁷

The monitoring took place at 100% of total identified bathing waters, while 99% of bathing waters satisfied the described sampling frequency rules set by the Directive. Table 1 shows the share of bathing waters that did not satisfy monitoring frequency, as well as corresponding reasons.

³ The interval between two samples should not exceed 31 + 4 days, provided that the next sampling is done according to the monitoring calendar; exception applies for temporarily closed bathing waters

⁴ Three samples if the season does not exceed eight weeks or the region is subject to special geographical constraints

⁵ 12 samples if the season does not exceed eight weeks or the region is subject to special geographical constraints

⁶ The condition does not apply if the bathing water is newly identified or any changes have occurred that are likely to affect the classification

⁷ A pre-season sample is taken into account at total number of samples per season

Table 1: Number of assessed bathing waters in 2013

Total number of bathing waters in 2013	Bathing waters with sampling frequency satisfied	Bathing waters with sampling frequency not satisfied			
		Insufficiently sampled	Closed	Not sampled	Total
2296	2277	9	10	0	19

However, in pursue of maximum possible count of bathing waters to be taken into account for statistical purposes, limited number of other bathing waters have been assessed as well. This includes all bathing waters that have set of samples for a competent quality classification, but lack pre-season sample or frequency between sample dates is larger than defined in the directive. However, samples have to be equally distributed throughout the season.

Bathing waters are accordingly classified to one of the BWD quality classes:

- excellent
- good
- sufficient
- 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.

3. Bathing water quality

The results of the bathing water quality in Germany for the period of 2010–2013 as reported in the past reporting years and for the bathing season of 2013 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 website⁸ and the European Environment Agency's bathing water website⁹.

3.1 Coastal bathing waters

In Germany, 97.3% of coastal bathing waters met at least sufficient water quality in 2013. No coastal bathing waters had to be closed during the bathing season. See Appendix 1 for numeric data.

⁸ http://ec.europa.eu/environment/water/water-bathing/index_en.html

⁹ <http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>

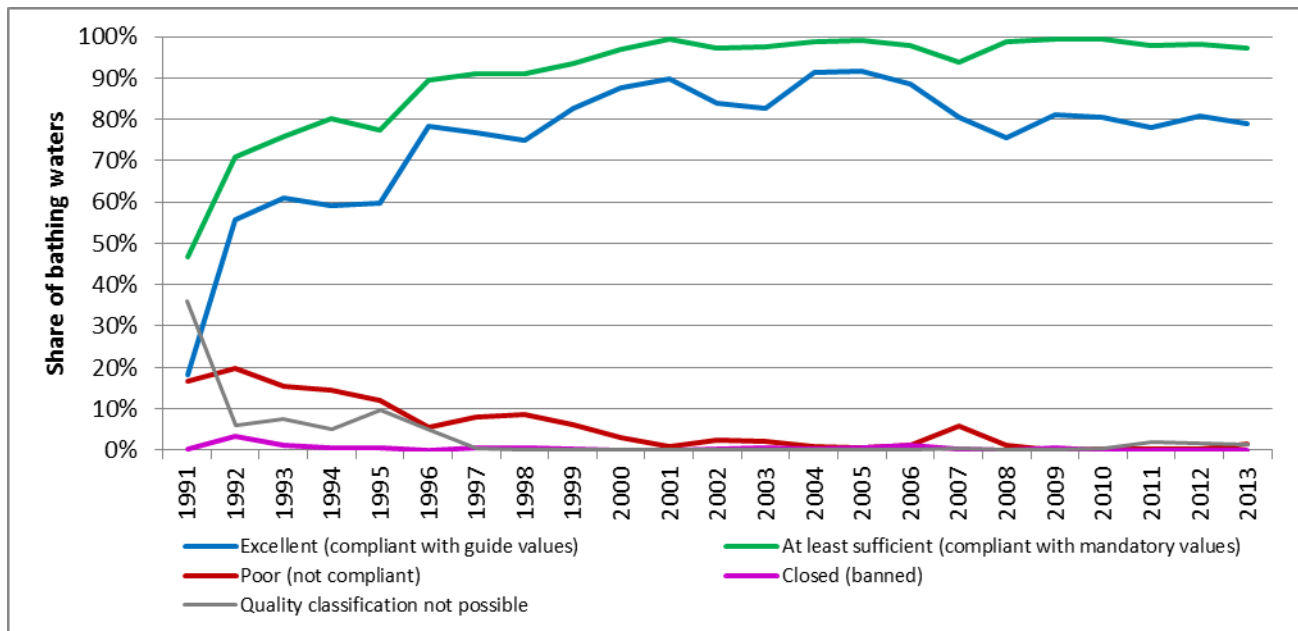


Figure 1: Coastal bathing water quality trend in Germany. Note: the “At least sufficient” class also includes bathing waters of “Excellent” quality class, the sum of shares is therefore not 100%.

3.2 Inland bathing waters

97.0% of the inland bathing waters met the mandatory water quality in 2013. 0.5% of bathing waters had to be closed during the bathing season. See Appendix 1 for numeric data.

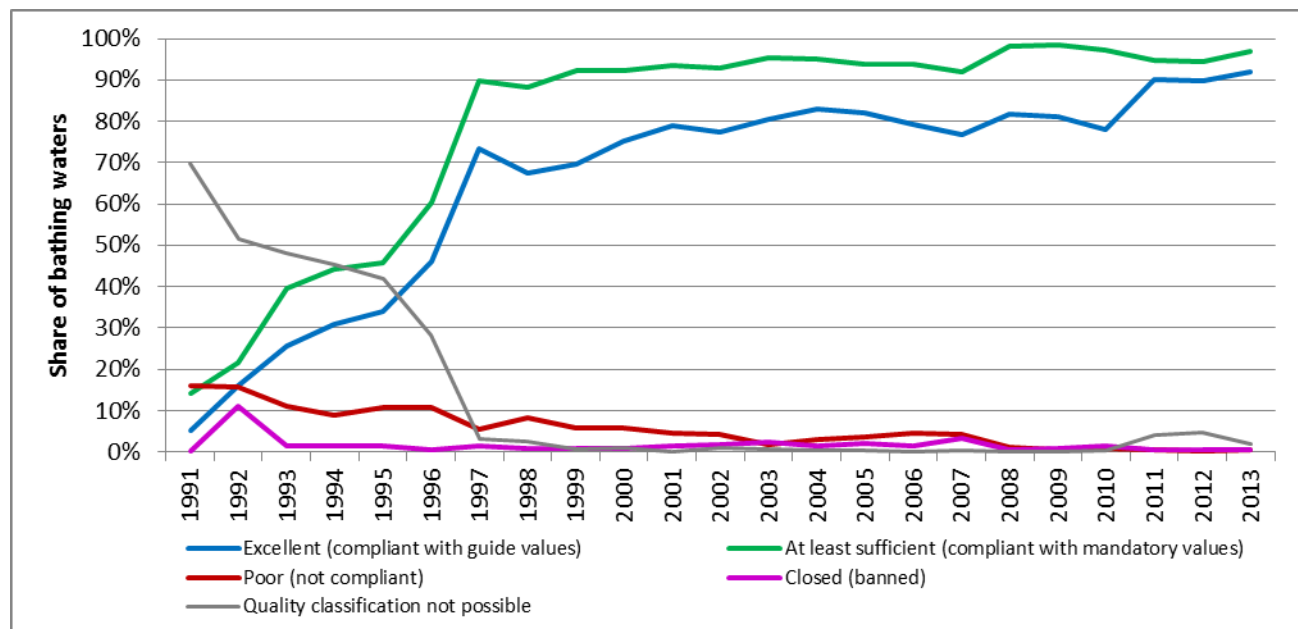


Figure 2: Inland bathing water quality trend in Germany. Note: the “At least sufficient” class also includes bathing waters of “Excellent” quality class, the sum of shares is therefore not 100%.

4. Information regarding management and other issues

Specific management measures have been described in BWD deliverable by national authorities. Measures include establishing monitoring calendar; bathing water quality monitoring; bathing water quality assessment during the season and after the season, including cyanobacteria; information to the public; establishing bathing water profile.

5. Interactive information on bathing water quality in Europe

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 22 000 coastal beaches and inland sites across Europe. Data is aggregated and visualized on national and station level. Detailed information regarding specific bathing site are given in pop-up windows (can be activated with a click on a selected bathing location) and bathing water profiles which can be opened through hyperlinks in pop-up windows.

The data on bathing water quality in 2013 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 locations of coastal and inland bathing waters, as well as statistics on their quality. Specific bathing water locations can be observed on Google Earth, Google maps or Bing maps.

Appendix 1: Results of bathing water quality in Germany from 2010 to 2013

		Total	Excellent (compliant with guide values)		At least sufficient (compliant with mandatory values)		Poor (not compliant)		Closed (banned)		Quality classification not possible*	
			No	%	No	%	No	%	No	%	No	%
Coastal	2010	370	298	80.5	368	99.5	1	0.3	0	0.0	1	0.3
	2011	372	280	75.3	359	96.5	6	1.6	0	0.0	7	1.9
	2012	366	291	79.5	357	97.5	3	0.8	0	0.0	6	1.6
	2013	367	290	79.0	357	97.3	5	1.4	0	0.0	5	1.4
Inland	2010	1915	1495	78.1	1862	97.2	17	0.9	27	1.4	9	0.5
	2011	1938	1749	90.2	1838	94.8	9	0.5	13	0.7	78	4.0
	2012	1929	1731	89.7	1824	94.6	5	0.3	9	0.5	91	4.7
	2013	1929	1775	92.0	1871	97.0	8	0.4	10	0.5	40	2.1
Total	2010	2285	1793	78.5	2230	97.6	18	0.8	27	1.2	10	0.4
	2011	2310	2029	87.8	2197	95.1	15	0.6	13	0.6	85	3.7
	2012	2295	2022	88.1	2181	95.0	8	0.3	9	0.4	97	4.2
	2013	2296	2065	89.9	2228	97.0	13	0.6	10	0.4	45	2.0

Note: the "At least sufficient" class also includes bathing waters which are of excellent quality, the sum of shares is therefore not 100%. * This includes new bathing waters, bathing waters with changes that affect or could have affected bathing water quality, and bathing waters that do not have enough samples.

Appendix 2: Bathing water quality map

Map 1: Bathing waters reported during the 2013 bathing season in Germany

