Bathing Water Directive report 2013
Portugal

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 Portugal.

1. BWD reporting in 2013 season

In 2013 bathing season, 543 bathing waters have been reported in Portugal. 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 Portugal in 2013	
Total reported	**543**
Coastal	446
Inland	97
Season period	**121 / 155 days**
Coastal	1 May to 20 Oct
Inland	18 May to 30 Sep
Samples taken	**3125**
Share of bathing waters with good or excellent water quality	**92 %**
New BWD implemented in	**2008**

The authorities of Portugal initiated new BWD (2006/7/EC) reporting in 2008 season. The 2013 season data were delivered to the European Commission by **26 February 2014**, with additional delivery on 10 March 2014.

Altogether, **543 bathing waters** have been reported – 2.5% of all bathing waters in Europe. Out of all bathing waters in Portugal, 18 (3.31%) have been newly identified in 2013 season. One bathing water has been delisted[2]. 82% of bathing waters in Portugal are of coastal type; the other 18% are inland. **3125 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 1 May to 20 October for coastal bathing waters, i.e. 155 days altogether. Season duration varies for coastal bathing waters. Inland bathing season period was from 18 May to 30 September, i.e. 121 days. Season duration varies for inland bathing waters.

Detailed information on individual bathing waters is available from national bathing water profiles at http://www.apambiente.pt/index.php?ref=19&subref=906&sub2ref=919&sub3ref=920, http://www.azores.gov.pt/Gra/srrn-mar/conteudos/livres/Perfis+das+%C3%81guas+Balneares+dos+A%C3%A7ores.htm and http://dramb.gov-madeira.pt/berilio/berwpag0.desenvctt?pCtt=2082.

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 month[3]
- a minimum of four samples per season[4]
- a minimum of 16 samples in total[5]
- four consecutive seasons[6]
- a pre-season sample[7]

The monitoring took place at all identified bathing waters, while 99.8% 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.

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**
543	542	1	0	0	1

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

[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

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 Portugal 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 website[8] and the European Environment Agency's bathing water website[9].

3.1 Coastal bathing waters

In Portugal, 97.8% 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

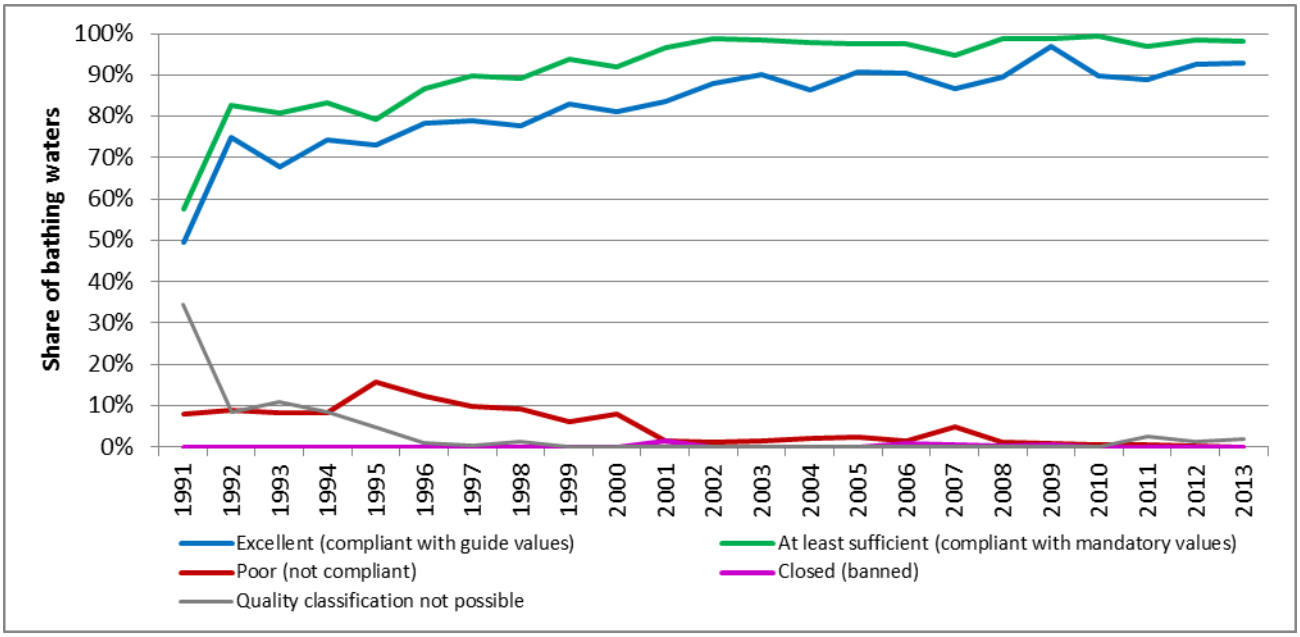


Figure 1: Coastal bathing water quality trend in Portugal. Note: the "At least sufficient" class also includes bathing waters of "Excellent" quality class, the sum of shares is therefore not 100%.

3.2 Inland bathing waters

84.5% of the inland bathing waters met at least sufficient water quality in 2013. No bathing waters had to be closed during the bathing season. See Appendix 1 for numeric data.

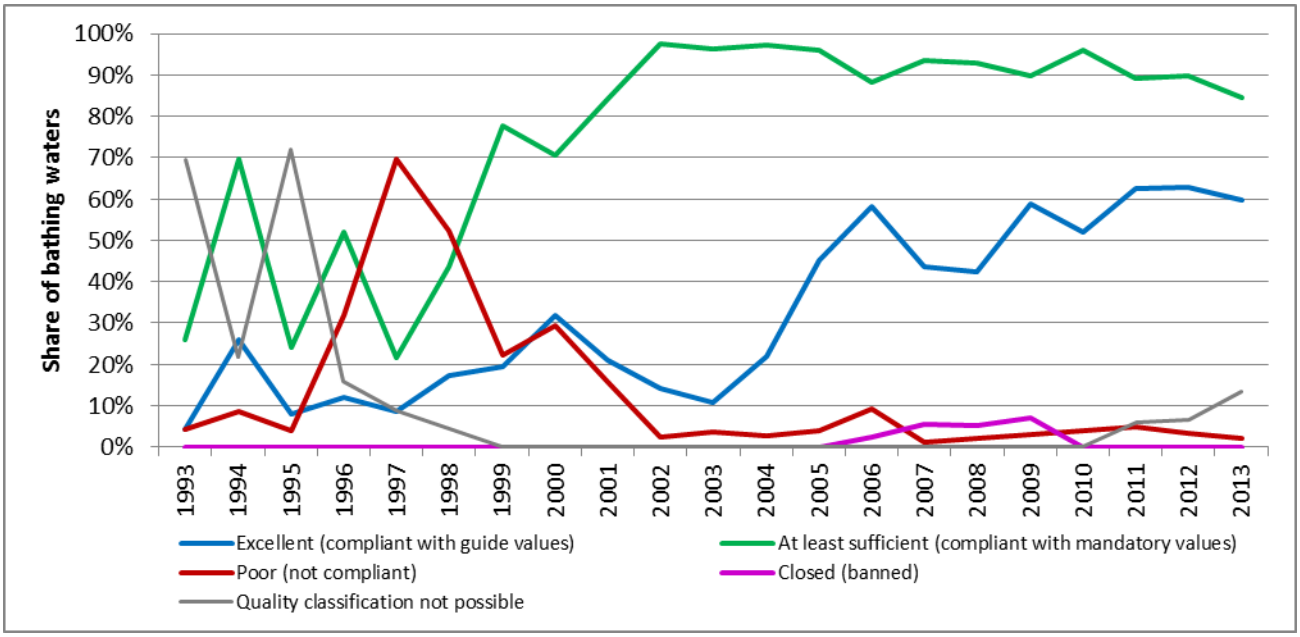


Figure 2: Inland bathing water quality trend in Portugal. Note: the "At least sufficient" class also includes bathing waters of "Excellent" quality class, the sum of shares is therefore not 100%.

4. Information regarding management and other issues

The information to the public on bathing water quality, including bathing water profiles and sampling results is provided online. All official bathing waters were identified on site by appropriate signs on placards. These placards also included a general description of the bathing water based on the bathing water profiles and other relevant information such as emergency numbers.

During bathing season, a few bathing waters were temporarily closed (one day or more days) or bathing was temporarily discouraged.

The short-term pollution mainly occurs as a result of intense rainfall events that microbiologically pollutes a bathing water. Other reasons are illegal discharges of domestic wastewater into rivers and urban pluvial drainage systems, and also insufficient wastewater treatment. Moreover, causes for the STP are accidental discharges of the domestic and urban wastewater treatment systems, caused for example by overflows of the sewage systems.

In the case of a STP, measures were taken to prevent the contact of bathers with the potentially contaminated water such as the placement, on the internet and on the beach, of an advertisement to discouraging or to prohibit the bath. Additional water monitoring was also done.

This monitoring included sampling to confirm the existence of pollution, to verify pollution. No specific additional samples were taken to substitute samples obtained on STP situation but we purpose to substitute STP for scheduled samples where frequency and number of samples were completed anyway. For some cases, the APA, IP has put on the APA website daily specific information about a bathing water. Besides that, local authorities have implemented other measures when clear causes for an incident were found, such to public information, control illegal discharges, improvements on the collection, treatment and discharge of urban and domestic wastewaters, revision of the bathing water profile.

When the causes were not clearly identified, the authorities tried to find the causes and increase inspection actions and the preparation of a study to find reasons of STP and to avoid other STP events. Authorities implement public education actions in order to avoid illegal discharges and other unwanted events.

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.

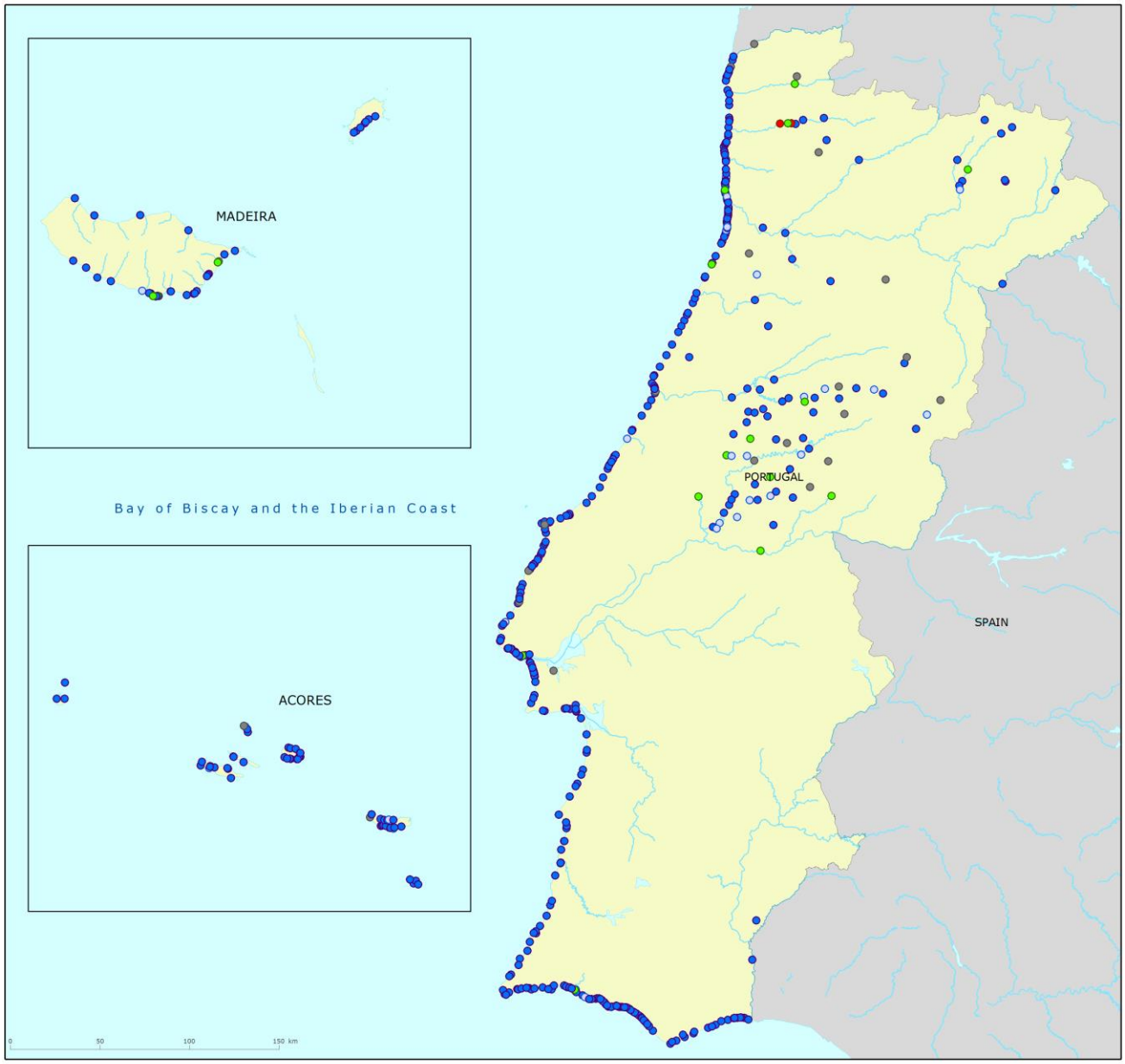
Appendix 1: Results of bathing water quality in Portugal from 2010 to 2013

		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	417	374	89.7	414	99.3	3	0.7	0	0.0	0	0.0
	2011	431	380	88.2	418	97.0	2	0.5	0	0.0	11	2.6
	2012	437	401	91.8	427	97.7	1	0.2	0	0.0	9	2.1
	2013	446	410	91.9	436	97.8	0	0.0	0	0.0	10	2.2
Inland	2010	75	39	52.0	72	96.0	3	4.0	0	0.0	0	0.0
	2011	83	52	62.7	74	89.2	4	4.8	0	0.0	5	6.0
	2012	89	56	62.9	80	89.9	3	3.4	0	0.0	6	6.7
	2013	97	58	59.8	82	84.5	2	2.1	0	0.0	13	13.4
Total	**2010**	**492**	**413**	**83.9**	**486**	**98.8**	**6**	**1.2**	**0**	**0.0**	**0**	**0.0**
	2011	**514**	**432**	**84.0**	**492**	**95.7**	**6**	**1.2**	**0**	**0.0**	**16**	**3.1**
	2012	**526**	**457**	**86.9**	**507**	**96.4**	**4**	**0.8**	**0**	**0.0**	**15**	**2.9**
	2013	**543**	**468**	**86.2**	**518**	**95.4**	**2**	**0.4**	**0**	**0.0**	**23**	**4.2**

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 Portugal



Bathing water quality

- Excellent water quality
- Good water quality
- Sufficient water quality
- Poor water quality
- Closed temporarily or throughout the season
- Quality classification not possible: new bathing waters / bathing waters with changes / insufficiently sampled
- No data
- Outside data coverage (data available, not presented on the map)

Source: National boundaries: EEA; Large rivers and lakes: EEA, WFD Article 3; Bathing waters data and coordinates: Portugese authorities