

# Bathing Water Directive report 2013

## Greece

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

### 1. BWD reporting in 2013 season

In 2013 bathing season, 2162 bathing waters have been reported in Greece. 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 Greece in 2013	
<b>Total reported</b>	<b>2162</b>
Coastal	2156
Inland	6
<b>Season period</b>	<b>152 days</b>
Coastal	1 Jun to 31 Oct
Inland	1 Jun to 31 Oct
<b>Samples taken</b>	<b>13352</b>
<b>Share of bathing waters with good or excellent water quality</b>	<b>98 %</b>
<b>New BWD implemented in</b>	<b>2010</b>

The authorities of Greece initiated new BWD (2006/7/EC) reporting in 2010 season. The 2013 season data were delivered to the European Commission by **30 December 2013**.

Altogether, **2162 bathing waters** have been reported – 9.8% of all bathing waters in Europe. Out of all bathing waters in Greece, 12 (0.56%) have been newly identified in 2013 season. Five bathing waters have been delisted<sup>2</sup>. 99.7% of bathing waters in Greece are of coastal type. **13,352 samples** were taken at bathing waters throughout the season – six per bathing water on average.

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

<sup>2</sup> Bathing waters which were identified in 2012 season, but not in 2013 season

The bathing season period was from 1 June to 31 October for coastal bathing waters, i.e. 152 days altogether. Inland bathing season period was from 1 June to 31 October, i.e. 152 days.

A short-term pollution event has been reported at one bathing water.

Detailed information on individual bathing waters is available from national bathing water profiles at <http://www.bathingwaterprofiles.gr/>.

## 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<sup>3</sup>
- a minimum of four samples per season<sup>4</sup>
- a minimum of 16 samples in total<sup>5</sup>
- four consecutive seasons<sup>6</sup>
- a pre-season sample<sup>7</sup>

The monitoring took place at all identified bathing waters, likewise all 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
2162	2162	0	0	0	0

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

- excellent
- good

<sup>3</sup> 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

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

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

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

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

- sufficient
- poor

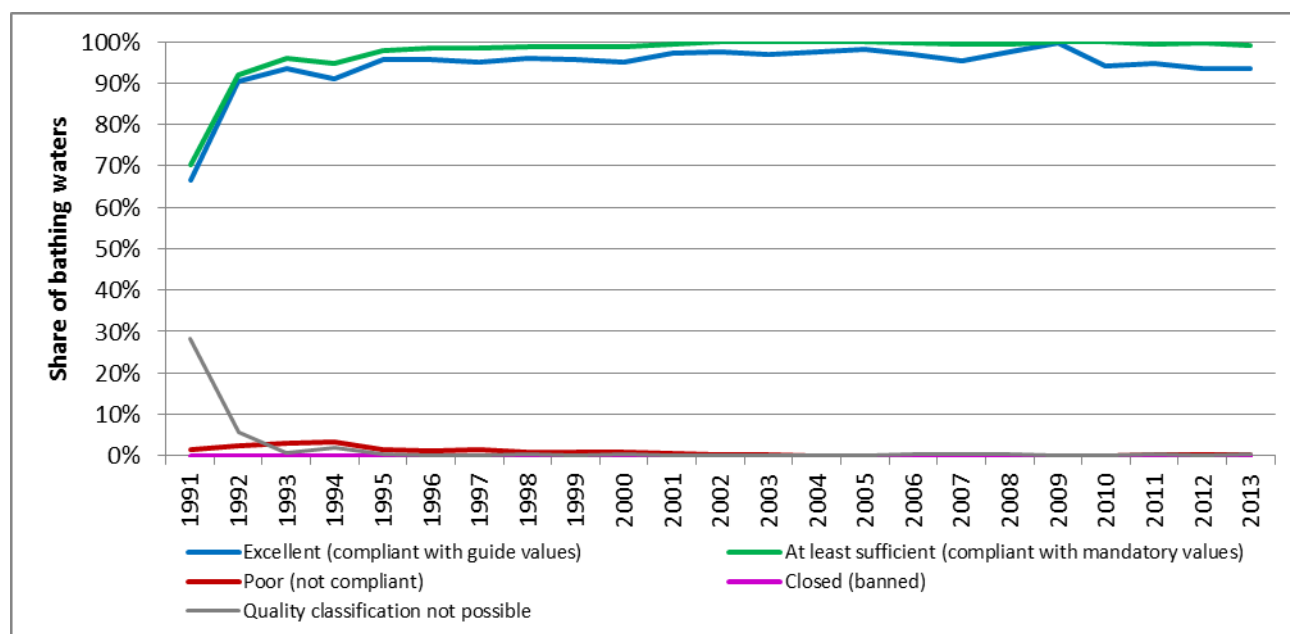
The classification is based on pre-defined percentile values for microbiological enumerations, falling in the certain class given in Annex I of the Directive. This defines different limit values for coastal and inland waters.

### 3. Bathing water quality

The results of the bathing water quality in Greece 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<sup>8</sup> and the European Environment Agency's bathing water website<sup>9</sup>.

#### 3.1 Coastal bathing waters

Based on the total number of bathing waters monitored, including new sites identified for which classification is not possible yet, 99.2% of coastal bathing waters met at least sufficient water quality in 2013. If the 12 new bathing waters which are not yet evaluated are excluded, this percentage reaches 99.8%, with 93.8% of bathing waters classified as excellent. No coastal bathing waters had to be closed during the bathing season. See Appendix 1 for numeric data.



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

<sup>8</sup> [http://ec.europa.eu/environment/water/water-bathing/index\\_en.html](http://ec.europa.eu/environment/water/water-bathing/index_en.html)

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

### 3.2 Inland bathing waters

All inland bathing waters met the mandatory water quality in 2013. No bathing waters had to be closed during the bathing season. See Appendix 1 for numeric data.

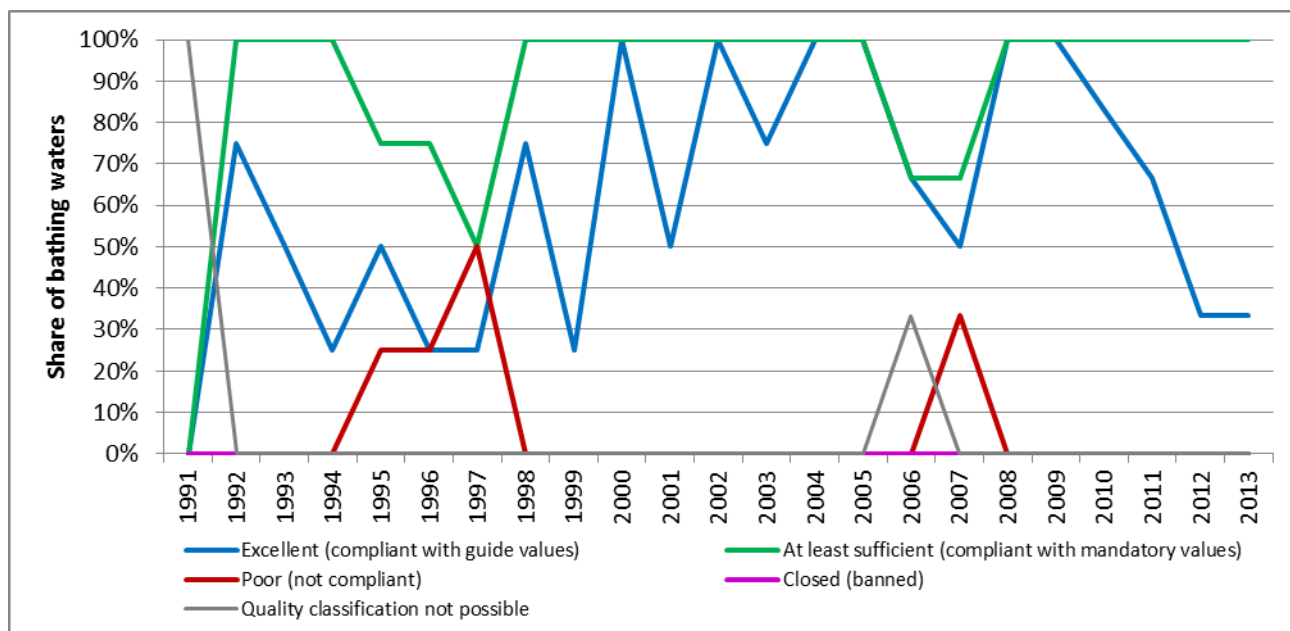


Figure 2: Inland bathing water quality trend in Greece. Note: the “At least sufficient” class also includes bathing waters of “Excellent” quality class, the sum of shares is therefore not 100%.

### 4. Information regarding management and other issues

No specific management measures have been described by national authorities.

## **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 Greece 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	2149	2024	94.2	2149	100.0	0	0.0	0	0.0	0	0.0
	2011	2149	2035	94.7	2138	99.5	5	0.2	0	0.0	6	0.3
	2012	2149	2008	93.4	2143	99.7	6	0.3	0	0.0	0	0.0
	2013	2156	2014	93.4	2139	99.2	5	0.2	0	0.0	12	0.6
Inland	2010	6	5	83.3	6	100.0	0	0.0	0	0.0	0	0.0
	2011	6	4	66.7	6	100.0	0	0.0	0	0.0	0	0.0
	2012	6	2	33.3	6	100.0	0	0.0	0	0.0	0	0.0
	2013	6	2	33.3	6	100.0	0	0.0	0	0.0	0	0.0
Total	<b>2010</b>	<b>2155</b>	<b>2029</b>	<b>94.2</b>	<b>2155</b>	<b>100.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>
	<b>2011</b>	<b>2155</b>	<b>2039</b>	<b>94.6</b>	<b>2144</b>	<b>99.5</b>	<b>5</b>	<b>0.2</b>	<b>0</b>	<b>0.0</b>	<b>6</b>	<b>0.3</b>
	<b>2012</b>	<b>2155</b>	<b>2010</b>	<b>93.3</b>	<b>2149</b>	<b>99.7</b>	<b>6</b>	<b>0.3</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>
	<b>2013</b>	<b>2162</b>	<b>2016</b>	<b>93.2</b>	<b>2145</b>	<b>99.2</b>	<b>5</b>	<b>0.2</b>	<b>0</b>	<b>0.0</b>	<b>12</b>	<b>0.6</b>

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 Greece**

