Country report

Italian bathing water quality in 2017

Italy

May 2018

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European Environment Agency

BWD Report For the Bathing Season 2017
Italy

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 Italy.

1. BWD reporting in the season 2017

In the 2017 bathing season, 5531 bathing waters have been reported in Italy. For each bathing water, five groups of parameters have been delivered[2]:

- *identification data* – including name, location, coastal, inland or transitional type of bathing water and availability to bathers;
- *seasonal data* – including season start and end, national quality classification in the recent season, potential management measures and changes that are likely to affect the classification of the bathing water;
- *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 an event or combination of events impacting on bathing water quality, during which monitoring calendar may be suspended; reporting is optional;
- *short-term pollution periods* – measurable events of microbiological contamination; reporting is optional.

Bathing waters of Italy in 2017

Total reported	**5531**
Coastal	4864
Inland	667
Max season period	**153 / 214 days**
Coastal	1 Apr to 31 Oct
Inland	1 May to 30 Sep
Samples taken	**37270**
Share of bathing waters with good or excellent water quality	**95 %**
Reporting under Directive 2006/7/EC since	**2010**

The authorities of Italy report data according to the new BWD (2006/7/EC) since the season 2010.

Altogether, **5531 bathing waters** have been reported – 25.4% of all bathing waters in Europe. 30 bathing waters have been newly reported in the recent season. 88% of bathing waters in Italy are of coastal type; the other 12% are inland. **37270 samples** were taken at bathing waters throughout the season – 7 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/3294#tables

The maximum bathing season period was from 1 April to 31 October for coastal bathing waters, i.e. 214 days altogether. Maximum inland bathing season period was from 1 May to 30 September, i.e. 153 days. Season duration varies depending on the bathing water.

Detailed information on bathing waters is available from national portal at http://www.portaleacque.salute.gov.it/PortaleAcquePubblico/homeBalneazione.do.

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, livestock waste, bird faeces etc. 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 water in the bathing sites concerned.

The monitoring requirements under the Directive are:

- taking 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].

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 'not enough samples'. 93.1% of bathing waters met the described monitoring requirements set by the Directive, while the rest did not satisfy monitoring requirements for different reasons: being new; having changed environmental conditions that might affect water quality classification; closed; not monitored due to legal issues, physical inaccessibility to the site etc. Table 1 shows the statistics of bathing waters according to monitoring requirements.

Table 1: Bathing waters in 2017 according to compliance with BWD monitoring provisions

	Count	Share of total [%]
BWs with sampling frequency satisfied (and are not new, are not subject to changes or were not closed in 2017) These bathing waters have been monitored according to provisions and have complete dataset from the last assessment period. They have been quality-classified (excellent, good, sufficient, poor).	5147	93.1%
BWs with sampling frequency not satisfied (and are not new, are not subject to changes or were not closed in 2017) These bathing waters exist throughout the last assessment period but have not been monitored throughout the period according to provisions for	312	5.6%

[3] The methodology used by the EC and the EEA is described here, while results of assessment by national authorities may differ in individual cases.
[4] A pre-season sample is taken into a sum 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.

various individual reasons. They may be quality-classified if there is an adequate volume of samples available for credible classification.		
BWs that are new, subject to changes or closed in 2017 These bathing waters do not have complete dataset for the last assessment period because they are new, have been subject to changes (that are likely to affect the classification of the bathing water) or have been closed. They cannot be quality-classified.	72	1.3%
Total number of bathing waters in 2017	**5531**	**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 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, limiting the classes given in Annex I of the Directive. The Directive 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].

3. Bathing water quality

The results of the bathing water quality in Italy throughout the past period 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].

[7] Not enough samples have been provided throughout the last assessment period (the last four bathing seasons or, when applicable, the period specified in Article 4.2 or 4.4).
[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 that are likely to affect the classification of the bathing water.
[10] Bathing water is closed temporarily or throughout the bathing season.
[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

3.1 Coastal bathing waters

In Italy, 96.9% of all existing coastal bathing waters met at least sufficient water quality standards in 2017. See Appendix 1 for numeric data.

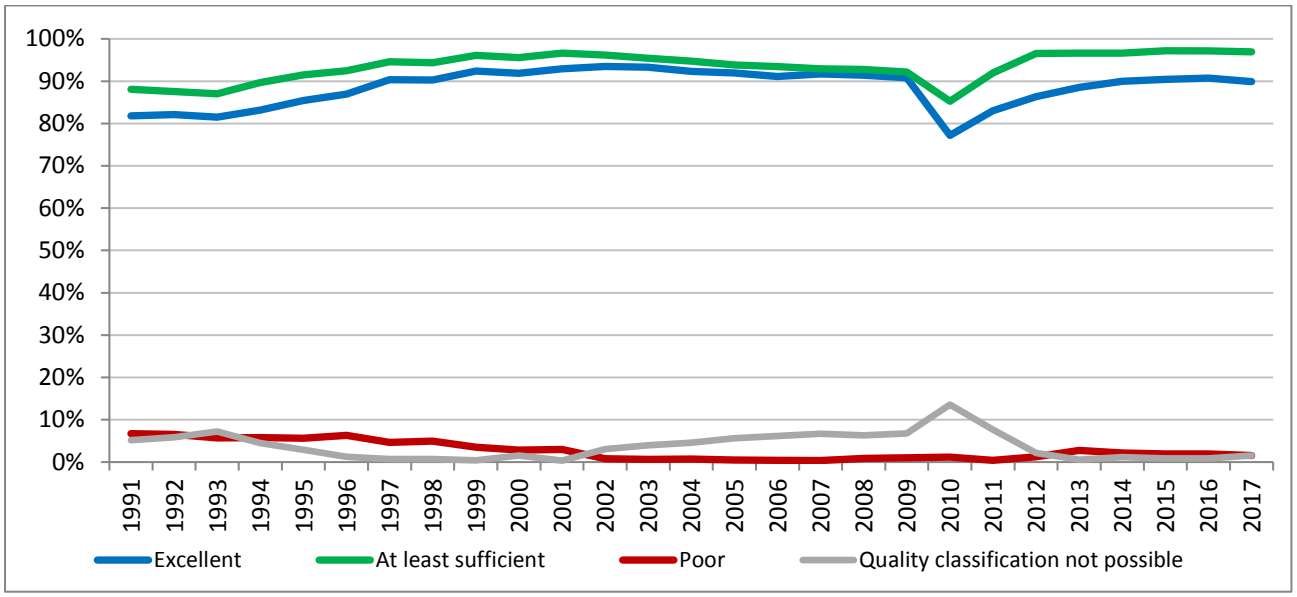

Figure 1: Coastal bathing water quality trend in Italy. Note: the "At least sufficient" class also includes bathing waters of "Excellent" quality class, the sum of shares is therefore not 100%.

3.2 Inland bathing waters

96.9% of all existing inland bathing waters were of at least sufficient water quality in 2017. See Appendix 1 for numeric data.

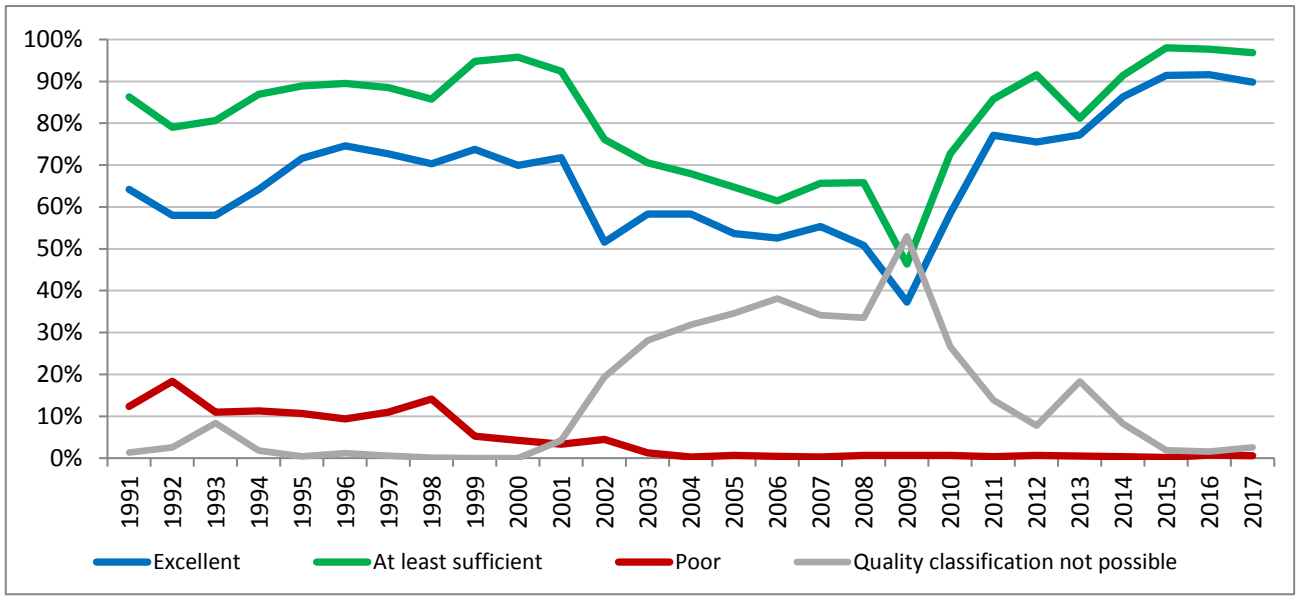

Figure 2: Inland bathing water quality trend in Italy. Note: the "At least sufficient" class also includes bathing waters of "Excellent" quality class, the sum of shares is therefore not 100%.

4. Information regarding management and other issues

In line with Bathing Water Directive, the Ministry of Health has developed the "Water Portal" (http://www.portaleacque.salute.gov.it). The aim of the portal is to improve information system through network building, ensure easily accessible and searchable tool for public and provide real-time information on water quality (art. 4.1, Ministerial Decree March 30th, 2010). In addition, in the back-end section, the regional and ARPA referents may include all the data required by the Commission, standardized with European formats, as well as extract from the database all the information needed.

Other management measure tools include Temporary Prohibition Ordinances by the Mayor of the municipality, following bad results delivered by Regional Environmental Protection Agencies (ARPA), and a withdrawal ordinance once the bathing water quality is restored (art 2.4, letter a, Ministerial Decree March 30th, 2010). Municipalities are in charge to put a prohibition signage to the bathing site according to the Directive 2006/7/EC and put in action recovering plans in areas with poor bathing water quality. According to Art. 6.4 of the DM 3/30/2010 the municipalities send the ordinances of prohibition (explaining the reasons of prohibition) promptly to the Ministry of Health which publishes it in the Water Portal website.

5. Bathing water quality assessment presentation in online viewers

The European bathing water legislation focuses on sound 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 and inland sites across Europe. 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. Having access to bathing water information, citizens are encouraged to make full use of it and participate with their comments.

Appendix 1: Results of bathing water quality in Italy from 2014 to 2017

Table 2: Bathing waters in the season 2017 according to quality

		Total number of bathing waters	Excellent quality		At least sufficient quality		Poor quality		Quality classification not possible: not enough samples /new bathing waters/bathing waters subject to changes/closed	
			Count	%	Count	%	Count	%	Count	%
Coastal	2014	4864	4377	90.0	4701	96.6	105	2.2	58	1.2
	2015	4866	4399	90.4	4729	97.2	94	1.9	43	0.9
	2016	4864	4414	90.7	4726	97.2	95	2.0	43	0.9
	2017	4864	4371	89.9	4714	96.9	75	1.5	75	1.5
Inland	2014	643	555	86.3	588	91.4	2	0.3	53	8.2
	2015	652	596	91.4	639	98.0	1	0.2	12	1.8
	2016	654	599	91.6	639	97.7	5	0.8	10	1.5
	2017	667	599	89.8	646	96.9	4	0.6	17	2.5
Total	**2014**	**5507**	**4932**	**89.6**	**5289**	**96.0**	**107**	**1.9**	**111**	**2.0**
	2015	**5518**	**4995**	**90.5**	**5368**	**97.3**	**95**	**1.7**	**55**	**1.0**
	2016	**5518**	**5013**	**90.8**	**5365**	**97.2**	**100**	**1.8**	**53**	**1.0**
	2017	**5531**	**4970**	**89.9**	**5360**	**96.9**	**79**	**1.4**	**92**	**1.7**

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 2017 bathing season in Italy

Source: National boundaries: EEA; Large rivers and lakes: EEA, WFD Article 3; Rivers in Western Balkan: TC Vode; Bathing waters data and coordinates: Italian authorities; Digital Elevation Model over Europe (EU-DEM): EEA.