

Bathing water results 2010 – Croatia

1. Reporting and assessment

This report gives a general overview of bathing water quality in Croatia during the 2010 bathing season. Croatia has reported under the Directive 2006/7/EC since 2009.

Before the necessary data set for assessment of bathing water quality under the Directive 2006/7/EC is compiled (data for three or four consecutive years) the rules for transition period assessment are applied. This means that the classification of bathing waters is defined on the basis of concentrations of intestinal enterococci and *Escherichia coli* that are reported under the Directive 2006/7/EC. The limit values for the classification are taken from the Directive 76/160/EEC. For the conversion of reported parameters under the Directive 2006/7/EC, Article 13.3 of the Directive 2006/7/EC foresees that the parameter *Escherichia coli*, reported under the Directive 2006/7/EC, is assumed to be equivalent to the parameter faecal coliforms of the Directive 76/160/EEC. The parameter intestinal enterococci reported under the Directive 2006/7/EC is assumed to be equivalent to the parameter faecal streptococci.

The results are classified in the following categories:

- **Class CI:** Compliant with the mandatory value of the Directive 76/160/EEC for *Escherichia coli* and not compliant with the guide values of the Directive 76/160/EEC for *Escherichia coli* or intestinal enterococci;
- **Class CG:** Compliant with the mandatory value of the Directive 76/160/EEC for *Escherichia coli* and the more stringent guide values for the *Escherichia coli* and intestinal enterococci;
- **Class NC:** Not compliant with the mandatory value of the Directive 76/160/EEC for *Escherichia coli*;
- **Class B:** Banned or closed (temporary or throughout the season);
- **Class NF:** Insufficiently sampled;
- **Class NS:** Not sampled.

In the assessment of bathing water quality in 2010 the maximum days between two samples considered were 32 days. The new directive also requires that the first sample must be taken shortly before the start of a bathing season. However, in the assessment of bathing water quality in 2010, the first sample could be taken not later than 10 days after the start of the bathing season. If this was a case, the second sample should have been taken no later than 32 days after the start of the bathing season. The bathing water is classified as insufficiently sampled or not sampled when the pre-season sample is missing or when the difference between two consecutive samples is larger than 32 days.

2. Length of bathing season and number of bathing waters

As reported in bathing water quality data templates in December 2010, the start of the bathing season was 10 May 2010. The end of the bathing season was 30 September 2010.

A total of 913 bathing waters were monitored in Croatia during the 2010 bathing season; all of them are either coastal (887) or transitional bathing waters (26).

The evolution of the reported number of bathing waters since monitoring of the water quality began under the Directive 2006/7/EC is presented in Table 1. The number of coastal bathing waters increased since the start of the reporting from 905 in 2009 to 913 in 2010. There were eight more bathing waters in 2010 compared to the previous year. In addition, the new monitoring point was defined for 31 existing bathing waters after the BW profile has been developed.

3. Bathing water quality

The results of the bathing water quality in Croatia for the bathing seasons of 2009 and 2010 are presented in Figure 1. The previous report for the 2009 bathing season is available on the European Commission's bathing water quality website (http://ec.europa.eu/environment/water/water-bathing/index_en.html; Water and Health/Bathing Water/ 2005-2010 reports) and the European Environment Agency's bathing water website (<http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>).

The graph shows, for coastal bathing waters:

- The percentage of bathing waters that comply with the guide values (class CG, blue line);
- The percentage of bathing waters that comply with the mandatory value for *Escherichia coli* (class CI, green line);
- The percentage of bathing waters that do not comply with the mandatory value for *Escherichia coli* (class NC, red line);
- The percentage of bathing waters that are banned or closed (temporarily or throughout the season) (class B, grey line).

Table 1 shows the same information in absolute numbers and in percentages for coastal bathing waters. The numbers and percentages of insufficiently sampled or not sampled bathing waters are also presented.

Map 1 shows the location of the reported bathing waters in Croatia. The location of the bathing waters is based on the geographic coordinates reported by the Croatian authorities.

In Croatia, 98.7 % of the coastal bathing waters met the mandatory water quality in 2010. This is a decrease of 0.9 % compared to the previous year. The rate of compliance with the guide values also decreased slightly from 97.9 % to 97.3 %. No bathing water was non-compliant with the mandatory value for *Escherichia coli* and no bathing water had to be closed during the season, the same as in 2009.

Later the Croatian authorities informed ETC/ICM that the bathing season lasted from 1 June to 15 September 2010 and the monitoring started on 10 May. If this length of the bathing season is considered, all coastal bathing waters met the mandatory water quality in 2010. This is an increase of 0.4 % compared to the previous year. The rate of compliance with the guide values also increased from 97.9 % to 98.6 %.

Figure 1: Results of bathing water quality in Croatia in 2009 and 2010

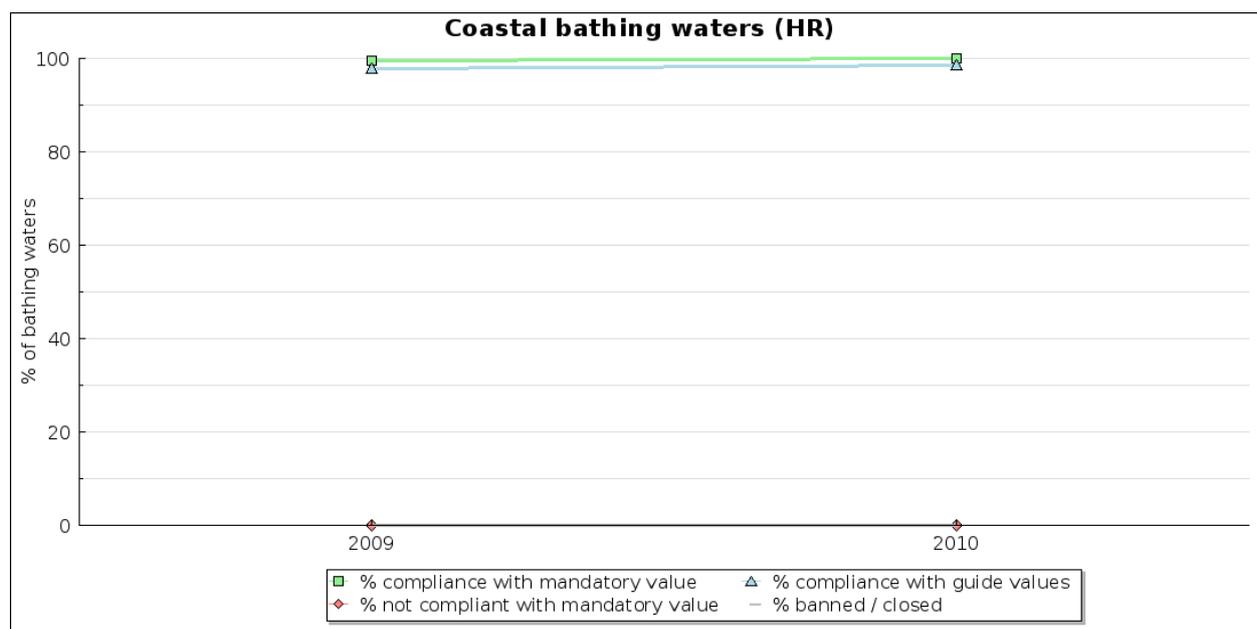


Table 1: Results of bathing water quality in Croatia in 2009 and 2010

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		Total number of bathing waters	Compliance with guide and mandatory values***		Compliance with mandatory value		Not compliant		Banned/closed temporarily or throughout the season		Insufficiently sampled or not sampled	
			number	%	number	%	number	%	number	%	number	%
Coastal bathing waters	2009	905	886	97.9	901	99.6	0	0.0	0	0.0	4	0.4
	2010*	913	888	97.3	901	98.7	0	0.0	0	0.0	12	1.3
	2010**	913	900	98.6	913	100.0	0	0.0	0	0.0	0	0.0

*Assessment based on data reported in templates for the 2010 season. Included in European report, published in June 2011.

**Updated assessment based on information sent by the national authorities in QA/QC process. The bathing season lasted from 1 June to 15 September 2010 and not from 10 May to 30 September 2010 as reported in templates. This is the final result also presented in Figure 1 and Map 1.

***Bathing waters which were compliant with the guide values were also compliant with the mandatory value for *Escherichia coli*.

4. Important information as provided by the Croatian authorities

The report by the Croatian authorities to the European Commission in regard to bathing water quality in Croatia for the 2010 bathing season (in Croatian) can be obtained from http://cdr.eionet.europa.eu/hr/eu/colsxzqg/envttbrga/lzvjesce_HR_2010_corr..pdf.

Further information can be found on the website of the Ministry of Environment Protection, Physical Planning and Construction (<http://www.mzopu.hr>) including web application on coastal bathing water quality (<http://www.izor.hr/kakvoća> or <http://www.izor.hr/bathing>) with bathing water profiles included.

Map 1: Bathing waters reported during the 2010 bathing season in Croatia



5. More information on bathing water quality in Europe

Of the more than 21 000 bathing areas monitored throughout the European Union in 2010, two-thirds were in coastal waters and the rest in rivers and lakes. The largest number of coastal bathing waters can be found in Italy, Greece, France, Spain and Denmark, while Germany and France have the highest number of inland bathing waters.

During recent years, including the 2010 bathing season, majority of Member States have adjusted their monitoring programmes to meet the requirements of the new bathing water directive (2006/7/EC). Luxembourg was the first country to report under this Directive in 2007. Cyprus, Denmark, Estonia, Finland, Germany, Hungary, Latvia, Lithuania, Slovakia, Spain and Sweden started to report under the new directive in 2008. Malta and the Netherlands started to report in 2009, while Austria, Belgium - Walloon Region, France, Greece, Italy, Portugal and Slovenia reported under this Directive for the first time in 2010. Historical data of two microbiological parameters, *Escherichia coli* and intestinal enterococci were sent by Sweden (since 2005), Luxembourg and Malta (since 2006), Belgium - Walloon Region, Greece, Hungary and Portugal (since 2007), and France (since 2009). To conclude, 20 Member States and the Walloon Region of Belgium monitored and reported under the new directive (Directive 2006/7/EC) in 2010.

Assessment of the status of all bathing waters in 2010 under the rules of the new directive (Directive 2006/7/EC) is made for Luxembourg, Malta and Hungary. Assessment of the bathing water quality on a country level for the other countries that reported under the new directive has been done using transition rules. Bathing water quality for individual bathing waters having four year set of data can be seen on the interactive maps and data viewer that are described below.

Three non-EU countries, Croatia, Montenegro and Switzerland have reported monitoring results under the new directive. Switzerland sent data on *Escherichia coli* for all bathing waters but only for some data on intestinal enterococci.

Overall in 2010, 92.1 % of Europe's coastal bathing waters and 90.2 % of inland bathing waters met the minimum water quality standards set by the bathing water directives. During recent years there has been a deterioration in bathing water quality but still more than nine in ten bathing waters meet the minimum quality standards. The share of non compliant bathing waters was 1.2 % for coastal bathing waters and 2.8 % for inland bathing waters. The decrease reflects in part year to year variation but also indicates that further work is necessary to ensure that the quality of bathing waters is constantly improved and maintained.

More information on bathing water quality in the European Member States, including the EU summary report, the reports for 27 Member States, Croatia, Montenegro and Switzerland, can be found on the European Commission's bathing water quality website (http://ec.europa.eu/environment/water/water-bathing/index_en.html) and the European Environment Agency's bathing water website (<http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>). The reports for the bathing seasons from the 2008 bathing season on have been produced by the Institute for Water of the Republic of Slovenia (IWRS), a partner in the EEA European Topic Centre on Inland, Coastal and Marine Waters (ETC/ICM). Countries have collaborated in the assessment of bathing water quality and supplied additional information when needed.

Interactive information on bathing water quality

The bathing water section of the Water Information System for Europe (WISE), which is accessible at the EEA bathing water website, allows users to view the quality of the bathing water at more than 22 000 coastal beaches and inland bathing sites across Europe. Users can check bathing water quality on an interactive map or can download data for a selected country or region and make comparisons with previous years.

The WISE map viewer (<http://www.eea.europa.eu/themes/water/interactive/bathing>) is an online map viewer for visualisation of European spatial water data. It includes a lot of interactive layers, allowing water themes to be visualised at different scales. Broad resolutions display the aggregated data by Member State. At finer resolutions the locations of monitoring stations are displayed.

The WISE Bathing Water Quality data viewer (<http://www.eea.europa.eu/themes/water/status-and-monitoring/bathing-water-data-viewer>) combines text and graphical visualisation, providing a quick check on locations and statistics on the quality of coastal and freshwater bathing waters. It also documents how bathing waters have changed throughout Europe in recent years and provides a full summary of Europe's bathing water quality. Users can search information at three spatial levels - country, region and province - and observe specific bathing water locations on the Google Earth, Google maps or Bing maps.

The Eye On Earth - Water Watch application (<http://www.eea.europa.eu/data-and-maps/explore-interactive-maps/eye-on-earth>) allows users to zoom in on a given section of the coast, riverbank or lake, both in street map or, where available, bird's eye viewing formats. A 'trafficlight' indicator (red, amber, green) of bathing water quality, based on the official bathing water data, is put alongside the ratings of people who have visited the bathing site, including any comments users wish to make. For historical data Water Watch uses a simplified index of bathing water quality data. The Czech Republic, Estonia, Finland (one municipality), Hungary, Lithuania, Luxembourg, Malta, the Netherlands, Norway (one municipality), Slovenia, Slovakia and England and Wales were also sending near real time information on bathing water quality to the Eye On Earth application. The bathing water quality from Austria, Belgium, Bulgaria, Croatia, Denmark, France, Germany, Ireland, Italy, Poland, Portugal, Spain, Sweden and Scotland and Northern Ireland was also presented on Eye on Earth Water Watch.

National and local information on bathing water quality

In order to make information to the public more effective, all EU countries have national or local web portals with detailed information for each bathing water. Websites generally include a map search function and public access to the monitoring results both in real time and for previous seasons.

Information on EU bathing water legislation

EU Member States will have to comply with the stricter and more ambitious requirements laid out in Directive 2006/7/EC by 2015 at the latest. The new legislation requires more effective monitoring and management of bathing waters, greater public participation and improved information dissemination. By March 2011 Member States have to have established bathing water profiles. More on the new legislation can be found on the European Commission's websites and on <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:064:0037:0051:EN:PDF>.