

## Bathing water results 2009 – Croatia

### 1. Introduction

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

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 is done. 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:

- 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 CI);
- 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 CG);
- Not compliant with the mandatory value of the Directive 76/160/EEC for *Escherichia coli* (class NC);
- Banned or closed (temporarily or throughout the season) (class B).

This year the interval between two samples during the bathing season should not be larger than 41 days. The interval is longer than 31 days as defined in the Directive 2006/7/EC, since we are approaching the year 2012 only when the assessment rules will be in full compliance with the rules of this Directive. Furthermore, the first sample that should be taken shortly before the start of the bathing season could be taken even 10 days after the start of the bathing season.

### 2. Length of bathing season and number of bathing waters

For all bathing waters the bathing season lasted almost five months, from 11 May to 30 September 2009.

A total of 905 bathing waters were monitored in Croatia during the 2009 bathing season; all of them are either coastal (879) or transitional bathing waters (26). Four bathing waters were insufficiently sampled. This is the first time that the Croatian authorities report about the bathing water quality.

### 3. Results of bathing water quality

The results of the bathing water quality in Croatia for the bathing season of 2009 are presented in Figure 1.

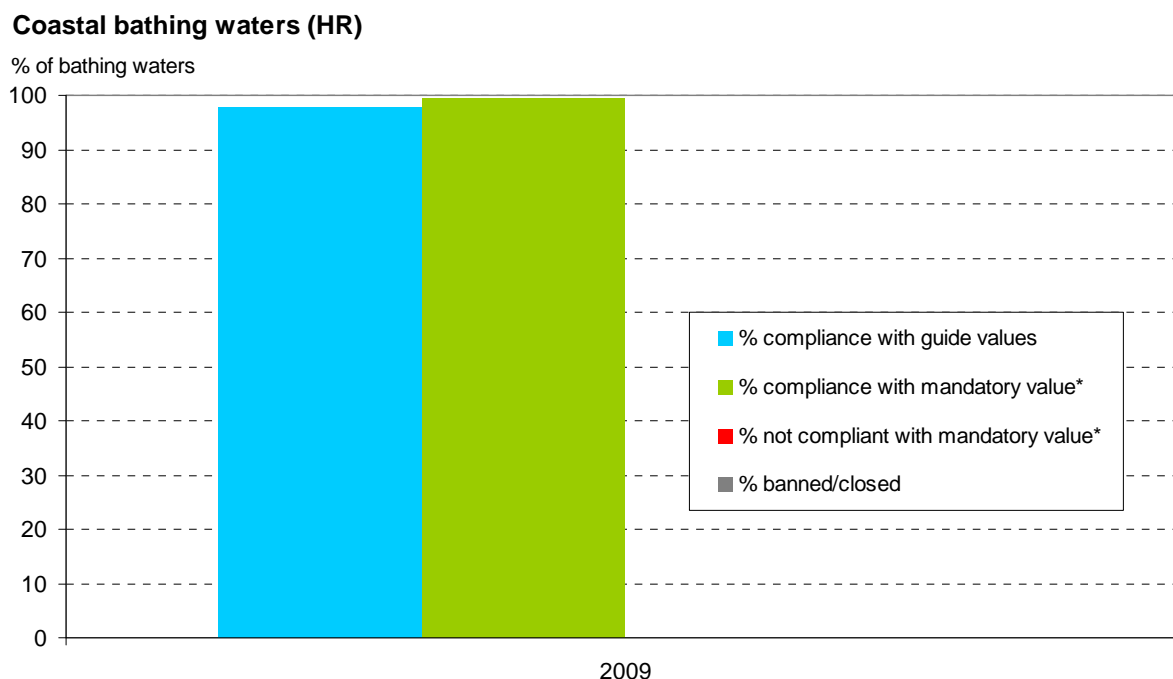
The graph shows, for coastal bathing waters:

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

Table 1 shows the same information in absolute numbers and in percentages for coastal bathing waters.

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.

**Figure 1: Results of bathing water quality in Croatia in 2009**



Note: \* : Mandatory value for *Escherichia coli*.

**Table 1: Results of bathing water quality in Croatia in 2009**

		HR								
	Total number of bathing waters	Compliance with guide values		Compliance with mandatory value for <i>Escherichia coli</i>		Not compliant		Banned/closed temporarily or throughout the season		
		Number	%	Number	%	Number	%	Number	%	
Coastal bathing waters	2009	905	886	97.9	901	99.6	0	0.0	0	0.0

Note: Bathing waters which were insufficiently sampled according to the New Bathing Water Directive were not included in this table. Therefore the sum of the different categories is not equal to the total number of bathing waters. Bathing waters which were compliant with the guide values were also compliant with the mandatory value for *Escherichia coli*.

#### 4. Bathing water quality in 2009

In Croatia, 99.6% of the coastal bathing waters met the mandatory water quality in 2009. The rate of compliance with the guide values was 97.9%. No bathing water was non-compliant with mandatory value for *Escherichia coli* and no bathing water had to be closed during the season.

## 5. General information as provided by the Croatian authorities

The report of bathing water quality in Croatia during 2009 bathing season fulfils the requirements of the *Directive 2006/7/EC*. It was delivered for the first time by the Croatian Environment Agency and in the framework of voluntary collaboration with the European Environment Agency (Art. 37 of the *Environmental Protection Act* (O. G. 110/2007)). In the respect to the Art. 35 of the *Regulation on Coastal Bathing Water Quality*, Croatia will be sending bathing water quality data for the needs of European Commission upon accession to EU.

The Programme of bathing water quality monitoring and assessment for the coastal and transitional waters in the Republic of Croatia for 2009 season has been implemented under the new national *Regulation on Coastal Bathing Water Quality* (O.G. 73/2008). The Regulation entered into force from 1 January 2009. It is in line with the *Environmental Protection Law, Directive 2006/7/EC concerning the management of bathing water quality and repealing Directive 76/160/EEC, Draft of Guideline on coastal bathing water quality* (Mediterranean Action Plan (MAP)) and *Guideline on health suitability of bathing water and recreation* (World Health Organization). The Regulation sets out standards for bathing water quality on sea beaches, establishing the limit values for microbiological parameters and other characteristics of the sea. Measures for management of coastal bathing water as defined in Art. 2 of the Directive 2006/7/EC are also established. Deadline for establishing of bathing water profile is 1 May 2010. The Ministry of Environmental Protection, Physical Planning and Construction is in charge of implementation of the Regulation.

Coastal bathing season covers the period from 1 June until 15 September, except if the representative body of a particular County makes decision on prolongation of the season due to weather conditions and local tradition. In general, coastal bathing water monitoring is being performed during the period 15 May - 30 September. However, the coastal bathing season in 2009 lasted almost five months, i.e. since 11 May until 30 September.

A monitoring calendar was established before the start of the 2009 bathing season. Short term pollution was reported in 10 cases at nine bathing waters.

Related monitoring of inland bathing waters has not been implemented in 2009 season because new regulation on inland bathing water quality is still in preparation. The regulation is based on the new *Water Act* (O.G. 153/09) entered into force from 1 January 2010. Its adoption is foreseen for the beginning of 2011, at the latest. The Ministry of Regional Development, Forestry and Water Management is competent for the implementation of this regulation. The Croatian Environment Agency is in charge to coordinate reporting under both regulations and Bathing Water Directive.

### Results

All 905 sites were monitored for the required minimum frequency as per Regulation (and Annex IV of Directive 2006/7/EC). For Croatia this would amount to 10 samples per bathing season. The classification of all 905 sites has been carried out as per Regulation and Annex II of the Directive 2006/7/EC (<http://www.izor.hr/kakvoica/index.html>; <http://www.izor.hr/bathing/index.html>). According to assessment rules of the Regulation, 833 sites were classified as "excellent" (92%), 53 sites as "good" (5.9%), 11 sites as "sufficient" (1.2%) and eight sites as "poor" (0.9%). The first final assessment (classification) of coastal bathing water quality in Croatia has been foreseen by the Regulation not before 2012 (based on monitoring data for 2009, 2010, 2011 and 2012 bathing seasons).

### Database on coastal bathing water quality

Along with the implementation of the new Regulation, a new national database for entry, processing, evaluation and public information on coastal bathing water quality (short name: *Database on coastal bathing water quality*) has also been established. Database integrates, evaluates and calculates the bathing water sampling data. It provides public information through an internet application. It is currently in the phase of coastal bathing water profile developing and consolidation for all 905 coastal bathing waters along the Croatian coast.

The database was developed by the Ministry of Environment Protection, Physical Planning and Construction in co-ordination with both the Institute of Oceanography and Fishery from Split and Croatian Environment Agency. The database is a part of the *Database on marine, fishery and*

*mariculture indicators*. The Ministry applies the database to unify available data and to inform the public on regularly basis through a specially prepared bilingual (Croatian/English) browser. This bilingual application is available on: <http://www.izor.hr/kakvoqa> or <http://www.izor.hr/bathing>.

The database has been developed also for the needs of reporting on coastal bathing water quality. First phase of development of the database has been realized in 2009. Second phase (consisting of upgrading and inclusion of spatial data, statistical tools, automatically retrieving of data for EEA needs and population with rest of historical monitoring data) should be finished until 1 May 2010. Therefore, it is not possible to calculate and deliver reports on bathing water quality for earlier bathing seasons at the moment, although data on coastal bathing water quality for the previous years (2006, 2007 and 2008) were gathered according to a former regulation (i.e. Directive 76/160/EEC).

### Further improvements

The Croatian authorities are launched a project: The Coastal Cities Water Pollution Control Project (*Adriatic Project*) to prevent the deterioration of coastal water quality in some Croatian regions as a consequence of inappropriate discharge of untreated wastewaters. The basic objectives of the project are protection and preservation of coastal water quality. *The Adriatic Project* is going to be implemented in three stages in a period of ten years. The first stage (2005-2008) is finished while the second and the third stage are supposed to last six years (three years each). The project is currently being implemented in 15 towns and municipalities by the Ministry of Environmental Protection, Physical Planning and Construction.

More information on bathing water quality in Croatia can be found on the website of the Ministry of Environment Protection, Physical Planning and Construction <http://www.mzopu.hr>.

Detailed report by the Croatian authorities to the European Commission in regard to bathing water quality in Croatia for the 2009 bathing season (in Croatian) can be obtained at [http://cdr.eionet.europa.eu/hr/eu/colsxzqg/envs40mha/HR\\_BWQ\\_Report\\_2009..pdf](http://cdr.eionet.europa.eu/hr/eu/colsxzqg/envs40mha/HR_BWQ_Report_2009..pdf).

## 6. More information on bathing water quality in the European Union and Croatia

More information on bathing water quality in the European Member States, including the EU summary report, the reports for 27 Member States, Croatia 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](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 of 2008 and 2009 have been produced by the Institute for Water of the Republic of Slovenia (IWRs), a partner in the EEA European Topic Centre on Water (ETC/W). Countries have collaborated in the assessment of bathing water quality and supplied additional information when needed.

By 2015, Member States will have to comply with the stricter and more ambitious requirements laid out in the New Bathing Water Directive (Directive 2006/7/EC). This Directive requires more effective monitoring and management of bathing waters, greater public participation and improved information. More information on the new Directive can be found on the bathing water quality website and on <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:064:0037:0051:EN:PDF>.

Cyprus, Denmark, Estonia, Finland, Germany, Hungary, Latvia, Lithuania, Slovakia, Spain and Sweden started to report according to more stringent new requirements in 2008 bathing season. Malta and the Netherlands started to report in 2009 bathing season under the new requirements. Sweden and Malta also sent data for three previous bathing seasons under the new requirements. Luxembourg started to monitor under the new requirements in 2006 bathing season, while reported for the first time in 2007 bathing season. Croatia as an European Union candidate country reported according to the new requirements in 2009 bathing season for the first time.

WISE - Water Information System for Europe ([www.water.europa.eu](http://www.water.europa.eu)) is a gateway to all water related information. Among other water related data, information on individual bathing water quality can be found in the WISE map viewer and WISE Bathing Water Quality data viewer through interactive maps and graphs (<http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>).

**Map 1: Bathing waters reported during the 2009 bathing season in Croatia**

