

Bathing water results 2010 – Hungary

1. Reporting and assessment

This report gives a general overview of bathing water quality in Hungary during the 2010 bathing season. Hungary has reported under the Directive 2006/7/EC since 2008 and sent historical data with two parameters of this Directive for 2007.

When samples of intestinal enterococci and *Escherichia coli* for bathing water are available for three or four consecutive years, the assessment is done according to assessment rules of Directive 2006/7/EC. The frequency of sampling is set out in Annex IV of the Directive. Including a sample to be taken shortly before the start of the bathing season, the minimum number of samples taken per bathing season is four. However, only three samples are sufficient when the bathing season does not exceed eight weeks or the region is subject to special geographical constraints. Sampling dates are to be distributed throughout the bathing season, with the interval between sampling dates never exceeding one month.

In the assessment of bathing water quality in 2010 the two rules in regard to sampling frequency are considered in the assessment of the monitoring results in the 2010 bathing season. By the first rule, 41 days were taken as a maximum difference between two samples (less strict rule), whereas by the second rule the maximum days between two samples considered were 32 days (strict rule). 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 41 days after the start of the bathing season when the less strict rules or 32 days when the strict rules are used in the assessment. 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 41 days by the less strict rule or 32 days by the strict rule. In graph results applying the less strict rules are presented.

To assess bathing water under the Directive 2006/7/EC in 2010, four (or three if bathing season shorter than eight weeks) samples per season must be available for the 2007, 2008, 2009 and 2010 bathing seasons.

Bathing waters assessed according to the Directive 2006/7/EC are classified as 'excellent', 'good', 'sufficient' and 'poor' quality. Some bathing waters cannot be classified according to their quality but are instead classified as 'closed' (temporarily or throughout the bathing season), 'new' (classification not yet possible), 'insufficiently sampled' or 'changes' (bathing water is not new and classification not yet possible since a set of monitoring data is incomplete).

Assessment with bathing water groups

By the Directive 2006/7/EC, bathing waters can be grouped if they have similar physical, hydrological and geographical characteristics and same risk of pollution and bathers exposure to health damage. Only when bathing water profiles are established assessment with bathing water groups is possible.

Hungary grouped half of the bathing waters (125 out of 251) into 43 groups for the 2010 season. Therefore, the assessment of bathing water quality in 2010 is done by groups with the following rules applied:

- If an associated member of a group is insufficiently sampled, it gets the quality classification from a representative bathing water of a group. If an associated member of a group is sufficiently sampled, it gets its own quality classification (a case for 22 groups).
- If a representative bathing water is insufficiently sampled, it gets the quality classification from an associated member(s) of a group with quality class (a "monitoring representative" bathing water of a group). In this case, insufficiently sampled associated members also get the quality status from this associated member (a case for seven groups).

- If a representative bathing site and associated members of a group are insufficiently sampled, all bathing waters of a group are classified as insufficiently sampled (a case for 13 groups).

2. Length of bathing season and number of bathing waters

The bathing season started from 1 May to 1 August 2010 and ended from 20 August to 30 September 2010. One bathing site was opened the whole year.

A total of 251 inland bathing waters (28 on rivers; 223 on lakes) were reported in Hungary during the 2010 bathing season. Hungary has no coastal bathing waters.

With 251 bathing waters Hungary accounts for about 1.2 % of the reported bathing waters of the European Union.

The evolution of the reported number of bathing waters since monitoring of the water quality began under the Directive 76/160/EEC and the Directive 2006/7/EC is presented in Table 1 and Table 2. The number of inland bathing waters increased since the start of the reporting from 232 in 2004 to 260 in 2009. It decreased afterwards to 251 in 2010. There were nine less inland bathing waters in 2010 than in the previous year: one new bathing site was added to the list, seven were re-opened, and seven were de-listed. Three bathing waters were not identified as bathing waters in 2010. In 2009, they were been classified as “not sampled”.

3. Bathing water quality

The results of the bathing water quality in Hungary for the period 2004-2009 as reported in the past reporting years and for the bathing season of 2010 are presented in Figure 1. The previous reports are 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>; reports for the 2008 and 2009 bathing seasons).

The graph shows the classification under the Directive 76/160/EEC and during transition period, for inland bathing waters from 2004 to 2009:

- 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 values (class CI, green line);
- The percentage of bathing waters that do not comply with the mandatory values (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 inland bathing waters. The numbers and percentages of insufficiently sampled or not sampled bathing waters are also presented.

The same graph shows the classification under the Directive 2006/7/EC, for inland bathing waters for 2010:

- The percentage of bathing waters that have excellent quality (dark blue bar);
- The percentage of bathing waters that have good quality (light blue bar);
- The percentage of bathing waters that have sufficient quality (green bar);
- The percentage of bathing waters that have poor quality (red bar);
- The percentage of bathing waters that are temporarily closed or closed throughout the season (grey bar);
- The percentage of bathing waters that are insufficiently sampled (orange bar).

Table 2 shows the same information in absolute numbers and in percentages for inland bathing waters.

Map 1 shows the location of the reported bathing waters in Hungary. The results applying the less strict rules are presented. In addition, insufficiently sampled bathing waters by the strict rules are presented as an orange outline. The location of the bathing waters is based on the geographic coordinates reported by the Hungarian authorities.

In Hungary, more than one third (34.3 %) of the inland bathing waters were insufficiently sampled in 2010. In addition, 20 bathing waters (8 %) were closed during the season. The majority of bathing waters that could be evaluated under the Directive 2006/7/EC were of excellent quality (46.6 %), while 16 bathing waters (6.4 %) were of good quality, seven (2.8 %) were of sufficient quality and five (2 %) were of poor quality.

The share of bathing waters of excellent quality (46.6 %) is lower than it was the share of the bathing waters compliant with the guide values in 2009 (57.6 %). Some 86.4 % of the bathing waters met the mandatory water quality in 2009 compared to 55.8 % of the bathing waters with at least sufficient quality in 2010. No bathing water was non-compliant with the mandatory value for *Escherichia coli* in 2009 compared to five bathing waters of poor quality (2 %) in 2010. The percentage of insufficiently sampled bathing waters (34.3 %) increased compared to 2009, when 12.4 % of the bathing waters were insufficiently sampled or not sampled. The number of closed bathing waters also increased significantly from two (1.1 %) in 2009 to 20 (8 %) in 2010.

Figure 1: Results of bathing water quality in Hungary from 2004 to 2010

Inland bathing waters (HU)

% of bathing waters



Note: For the year 2010 results applying the less strict rules are presented.

Table 1: Results of bathing water quality in Hungary from 2004 to 2009.

HU												
		Total number of bathing waters	Compliance with guide and mandatory values**		Compliance with mandatory values		Not compliant		Banned/closed temporarily or throughout the season		Insufficiently sampled or not sampled	
			number	%	number	%	number	%	number	%	number	%
Inland bathing waters	2004	232	10	4.3	17	7.3	20	8.6	2	0.9	193	83.2
	2005	259	68	26.3	102	39.4	24	9.3	2	0.8	131	50.6
	2006	241	139	57.7	199	82.6	13	5.4	1	0.4	28	11.6
	2007	238	128	53.8	188	79.0	12	5.0	2	0.8	36	15.1
	2008	256	131	51.2	220	85.9	7	2.7	7	2.7	22	8.6
	2009*	177	102	57.6	153	86.4	0	0.0	2	1.1	22	12.4

*Assessment done by groups as reported (42) and 135 ungrouped bathing waters (177). Each group is represented by "representative" bathing water. A total of 260 bathing waters were reported in 2009, of which 125 were grouped into 42 groups.

**Bathing waters which were compliant with the guide values were also compliant with the mandatory values for five parameters under the Directive 76/160/EEC (2004-2007) or the mandatory value for *Escherichia coli* (2008-2009).

Table 2: Results of bathing water quality in Hungary for 2010. Assessment done under Directive 2006/7/EC rules (based on a set of data for the period 2007-2010).

HU												
		Total number of bathing waters	Excellent quality		Good quality Sufficient quality		Poor quality		Closed temporarily or throughout the season		Insufficiently sampled	
			number	%	number	%	number	%	number	%	number	%
Inland bathing waters	2010*	251	117	46.6	Good: 16	6.4	5	2.0	20	8.0	86	34.3
					Suff.: 7	2.8						
	2010	251	112	44.6	Good: 16	6.4	5	2.0	20	8.0	94	37.5
					Suff.: 4	1.6						

*Less strict rules applied (41 days taken as a maximum difference between two samples for reporting under Directive 2006/7/EC).

4. Important information as provided by the Hungarian authorities

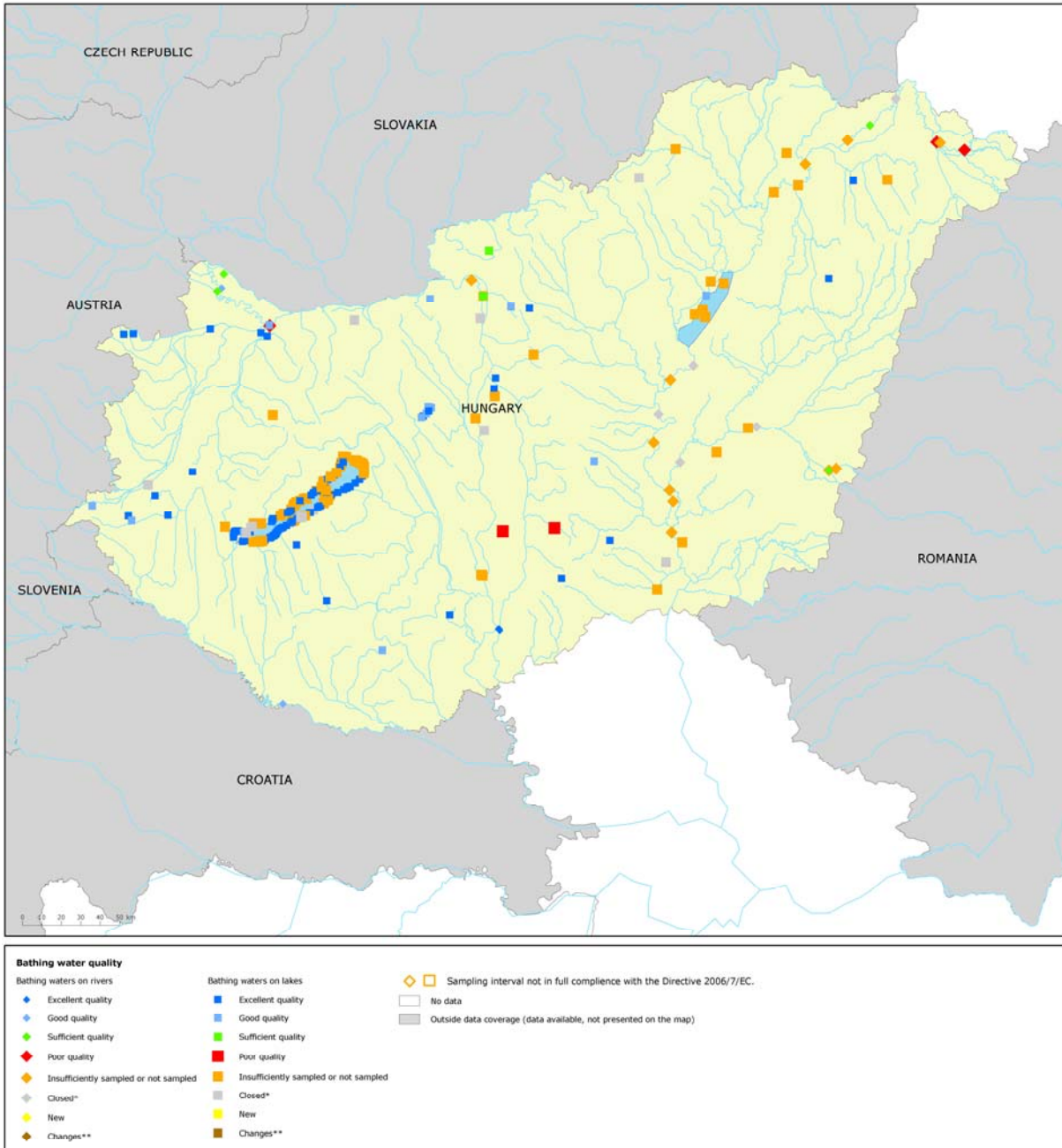
Monitoring and assessment

The designation, quality and monitoring of bathing waters (BWs) is regulated by Government Decree No. 78/2008. (IV. 3.), harmonized with the Directive 2006/7/EC. The Decree sets a 21 day maximum limit to the sampling before the start of a season.

The owner or operator of the BW is obliged to have it monitored. Supervision of BWs is in the competence of the public health authorities of the small regions. A lot of BWs belong to privately owned or leased establishments and public access may be restricted. The use by the public and the length of the bathing season are subject to the decision of the owner or the renter.

The monitoring and examination of the BWs is only performed by accredited laboratories which are requested to observe the relevant ISO and EN standards. *E. coli* is tested acc. to EN ISO 9308:3 and intestinal enterococci acc. to EN ISO 7899:1 or :2.

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



Note: * banned or closed (temporarily or throughout the season)
 ** changes (bathing water where changes occur that affect the classification of a bathing water)
 More data on bathing water quality on: <http://www.eea.europa.eu/themes/water/mapviewers/bathing>

Source: National boundaries: GISCO; Large rivers and lakes: EEA, WFD article 3; Bathing waters data and coordinates: Hungarian authorities

This bathing season was exceptional for meteorological reasons, so that the start of the season was delayed at several bathing waters or even some of the BWs were not at all opened. The extremely rainy weather (see http://www.met.hu/pages/rendkivul_csapadekos_idojaras-20101108.php) prevented the monitoring calendar from being complied at 81 of the 231 BWs that could be operated at least partly during the season.

Abnormal situation was not reported though it has to be noted that the extreme precipitation and the concomitant floods at the riverine bathing waters were rather prevalent and prevented the public from bathing during almost the complete season. No short term pollution was reported.

The assessment of the BWs was performed according to the Directive 2006/7/EC. 125 BWs have been grouped into 43 groups on the basis of Art. 4 (5) of the Directive. Their contiguity and similarity in the sense of risk of water pollution is evidenced in bathing water profiles.

De-listing and closing of bathing waters

The Hungarian authorities reported reasons for de-listing of bathing waters as follows:

Bathing water identification code	Bathing water name	River Basin District subunit	Reasons for change
HUBW_00311	Tiszaalpári Holt-Tisza szabad strand	Tisza	The BW has long been closed.
HUBW_00703	Tini szabad strand	Duna	The BW was not opened for the public in 2010.
HUBW_01801	Bajánsenye, Krammer-tó	Dráva	The owner of the lake ceased to offer it as public bathing water.
HUBW_01929	Erdész pihenő	Balaton	The BW has long been closed.
HUBW_02015	Kistolmács, szabad strand	Dráva	Not a bathing water.
HUBW_02016	Kustánszeg, szabad strand	Dráva	Not a bathing water.
HUBW_02019	Zalacsányi horgásztó	Balaton	Not a bathing water.

The Hungarian authorities also reported closed bathing waters with some reasons for closing given as follows:

Bathing water identification code	Bathing water name	River Basin District subunit	Reasons for change
HUBW_00405	Gyomai szabad strand	Tisza	The BW was not opened for the public in 2010.
HUBW_00501	Kemping strand	Tisza	The sluice-gate has been stolen and the BW cannot be operated.
HUBW_00606	Sándorfalvi strand	Tisza	The BW was not opened for the public in 2010.
HUBW_01102	Kunszentmártoni szabad strand	Tisza	The BW was not opened for the public in 2010.
HUBW_01103	Nagykörű, szabad strand	Tisza	The BW was not opened for the public in 2010.
HUBW_01107	Rákóczi-falvai szabad strand	Tisza	The BW was long inaccessible because of flooding and its consequences.
HUBW_01202	Mocsa, Oázis strand	Duna	The BW was not opened for the public in 2010.
HUBW_01402	Budakalász, Omszki-tó, strand	Duna	Bathing is banned on accident prevention reasons.
HUBW_01408	Kék Duna strand	Duna	The BW was not opened for the public in 2010.
HUBW_01515	Hotel Riviera strand	Balaton	The BW was not opened for the public in 2010.
HUBW_01535	Községi szabad strand	Balaton	The BW has long been closed.
HUBW_01586	Tópart Szálló	Balaton	The BW was not opened because of legal proceeding.
HUBW_01587	Vadkacsa Panzió strand	Balaton	The BW was not opened because of legal proceeding.
HUBW_01615	Tuzsér, szabad strand	Tisza	The BW was not opened for the public in 2010.
HUBW_01802	Döröske tófürdő	Duna	The BW was not opened for the public in 2010.
HUBW_01958	Strand Holiday	Balaton	The BW was not opened for the public in 2010.
HUBW_01977	Kastély és Park Hotel	Balaton	The BW was not opened for the public in 2010.
HUBW_02001	Castrum Kemping	Balaton	The BW was not opened for the public in 2010.

Bathing water identification code	Bathing water name	River Basin District subunit	Reasons for change
HUBW_02003	Becehegy-KUNÉP szabad strand	Balaton	The BW was not opened for the public in 2010.
HUBW_02022	Park kemping és üdülőfalu	Balaton	The BW was not opened for the public in 2010.

Information to the public

Upon the 14 June 2010 Circular Letter no. 3269-3/2010 of the Chief Medical Officer, the Regional Institutes of the National Public Health and Medical Officers' Service (NPHMOS) arrived at a couple of measures for the public information and involvement. Among others they published on their websites about the list of the designated and authorized bathing waters, their test results during the season and information about how and where the public can ask questions and submit proposals with regard the bathing waters, including ones regarding to their designation and water quality. The telephone number and address of each of the public health institutes of the small-regions competent in the bathing water matters have been also designated for receiving and answering submissions from the public and this information has been passed to the municipalities and the environmental authorities, as well. The bathing water quality information was also posted on the website of the National Institute of Environmental Health (NIEH) (<http://oki.wesper.hu/>) and was updated each week during the season.

The NPHMOS institutes reported their activities with regard to the information and involvement of the public to the Office of the Chief Medical Officer after the season. According to their reports and also according to the experience of the NIEH no relevant questions and other submissions were received from the public. It was only the media that were active and both the local and the national radio and TV stations and the printed and electronic media asked questions and received answers to them. The questions were mostly related to the quality of waters used for bathing and the activity of the authorities for controlling it.

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 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 Institute for Water of the Republic of Slovenia (IWRIS), a partner in the EEA European Topic Centre on Inland, Coastal and Marine Waters (ETC/ICM) has produced the reports for the bathing seasons from the 2008 bathing season on. 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>.