

Bathing water results 2010 – Estonia

1. Reporting and assessment

This report gives a general overview of bathing water quality in Estonia during the 2010 bathing season. Estonia has reported under the Directive 2006/7/EC since 2008.

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.

The new bathing water directive (2006/7/EC) requires Member States to start sampling shortly before the start of the bathing season. It also requires that the interval between sampling should not exceed one month. In some cases these required changes in regard to the old bathing water directive (76/160/EEC) have not yet been implemented, resulting in a late start date of sampling at some sites and/or insufficiently frequent sampling. For that reason two rules in regard to sampling frequency are considered in the assessment of the monitoring results in 2010. 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 graphs results applying the less strict rules are presented.

2. Length of bathing season and number of bathing waters

For all bathing waters the bathing season lasted three months, from 1 June to 31 August 2010.

A total of 55 bathing waters were monitored in Estonia during the 2010 bathing season, of which 27 were coastal bathing waters and 28 inland bathing waters (five on rivers; 23 on lakes).

With 55 bathing waters Estonia accounts for about 0.3 % 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. Both the number of coastal bathing waters and the number of inland bathing waters remained the same from 2005 to 2007 (34 coastal bathing waters; 38 inland bathing waters). It increased since the start of the reporting from eight coastal and 15 inland bathing waters in 2004. Afterwards, it decreased to 27 coastal bathing waters in 2009 and 28 inland bathing waters in 2008. In 2010, one coastal bathing site was added to the list and one was de-listed.

3. Bathing water quality

The results of the bathing water quality in Estonia 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 graphs show, for coastal and inland bathing waters separately:

- 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 separately for coastal and inland bathing waters. The numbers and percentages of insufficiently sampled or not sampled bathing waters are also presented. Table 2 shows the bathing water quality results for the 2009 and 2010 seasons in Estonia for all bathing waters.

Map 1 shows the location of the reported bathing waters in Estonia. 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 Estonian authorities.

Coastal bathing waters

In Estonia, 100 % of the coastal bathing waters met the mandatory water quality in 2010. This is an increase of 3.7 % compared to the previous year. The rate of compliance with the guide values also increased from 55.6 % to 70.4 %. Since the start of the reporting in 2004, no coastal bathing water had to be closed during the season.

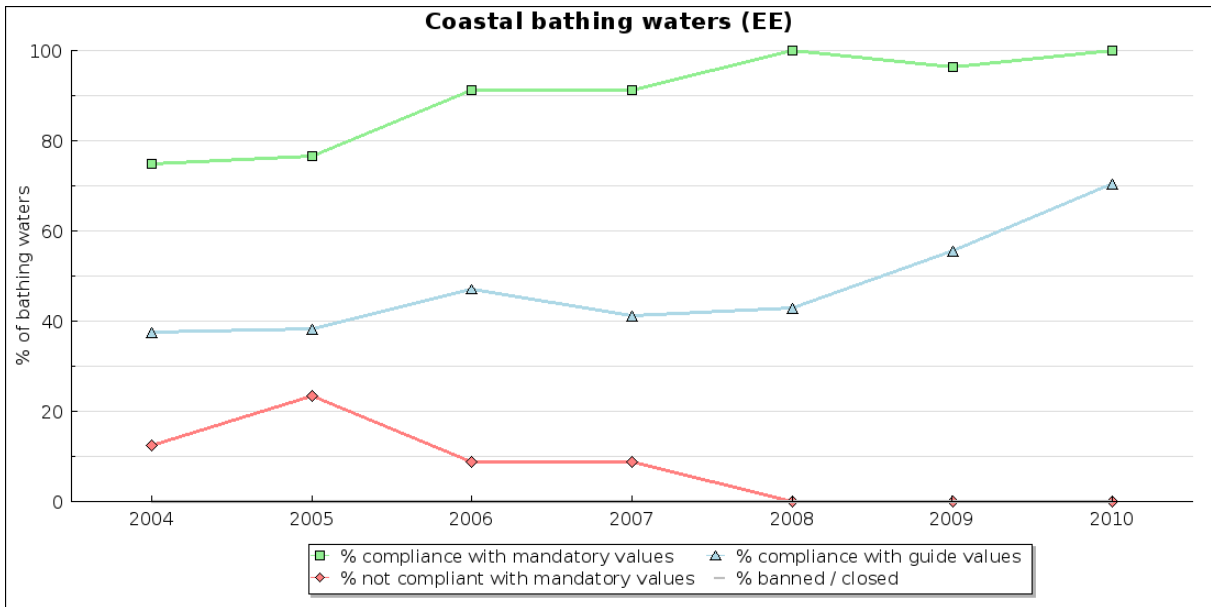
From 2004 on, there is an improvement of the percentage of bathing waters that comply with mandatory values. The percentages of bathing waters that complied with the more stringent guide values fluctuated around 40 % till 2008 and increased to 70 % in 2010.

Inland bathing waters

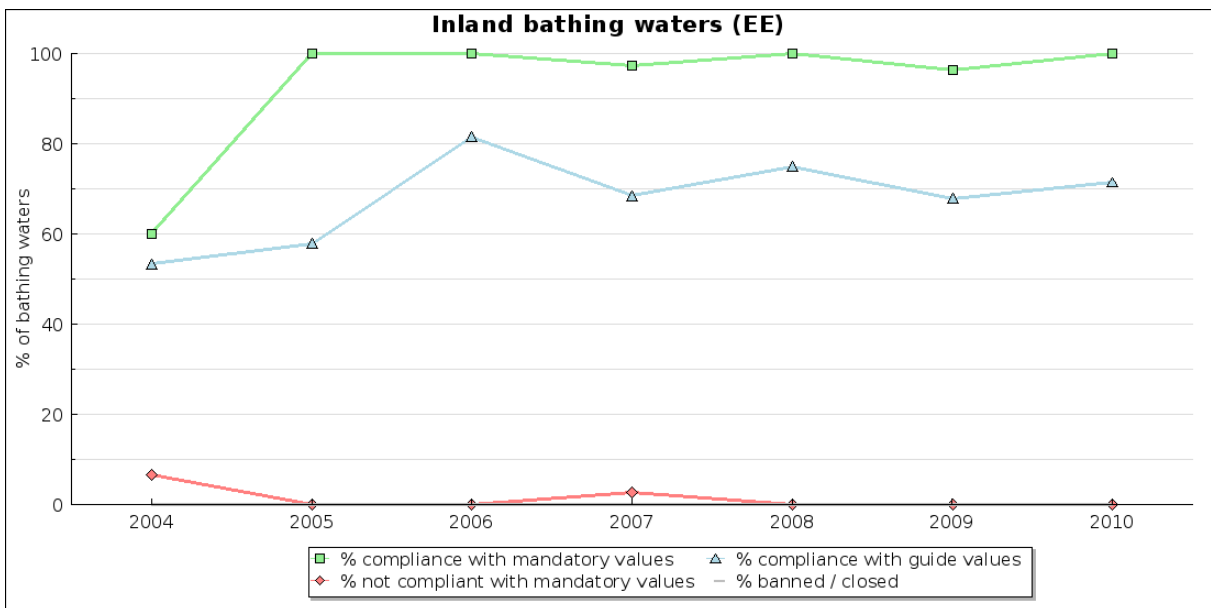
All inland bathing waters met the mandatory water quality in 2010. This is an increase of 3.6 % compared to the previous year. The rate of compliance with the guide values also increased by 3.5 % and reached 71.4 %. Since 2004, no inland bathing water had to be closed during the season.

After 2004, there was an improvement in the quality of the inland bathing waters, both in terms of compliance with the mandatory values as with the guide values. All bathing waters met the mandatory water quality in 2005, 2006, 2008 and 2010. Since 2006, the rate of compliance with the guide values is fluctuating between 67.9 % in 2009 and 81.6 % in 2006.

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



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



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Table 1: Results of bathing water quality in Estonia from 2004 to 2010

| EE | | | | | | | | | | | | |
|------------------------|-------|--------------------------------|--|------|----------------------------------|-------|---------------|------|--|-----|---------------------------------------|------|
| | | 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 | % |
| Coastal bathing waters | 2004 | 8 | 3 | 37.5 | 6 | 75 | 1 | 12.5 | 0 | 0 | 1 | 12.5 |
| | 2005 | 34 | 13 | 38.2 | 26 | 76.5 | 8 | 23.5 | 0 | 0 | 0 | 0.0 |
| | 2006 | 34 | 16 | 47.1 | 31 | 91.2 | 3 | 8.8 | 0 | 0 | 0 | 0.0 |
| | 2007 | 34 | 14 | 41.2 | 31 | 91.2 | 3 | 8.8 | 0 | 0 | 0 | 0.0 |
| | 2008 | 28 | 12 | 42.9 | 28 | 100 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| | 2009 | 27 | 15 | 55.6 | 26 | 96.3 | 0 | 0 | 0 | 0 | 1 | 3.7 |
| | 2010* | 27 | 19 | 70.4 | 27 | 100.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| | 2010 | 27 | 16 | 59.3 | 22 | 81.5 | 0 | 0.0 | 0 | 0.0 | 5 | 18.5 |
| Inland bathing waters | 2004 | 15 | 8 | 53.3 | 9 | 60 | 1 | 6.7 | 0 | 0 | 5 | 33.3 |
| | 2005 | 38 | 22 | 57.9 | 38 | 100 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| | 2006 | 38 | 31 | 81.6 | 38 | 100 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| | 2007 | 38 | 26 | 68.4 | 37 | 97.4 | 1 | 2.6 | 0 | 0 | 0 | 0.0 |
| | 2008 | 28 | 21 | 75 | 28 | 100 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| | 2009 | 28 | 19 | 67.9 | 27 | 96.4 | 0 | 0 | 0 | 0 | 1 | 3.6 |
| | 2010* | 28 | 20 | 71.4 | 28 | 100.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| | 2010 | 28 | 20 | 71.4 | 25 | 89.3 | 0 | 0.0 | 0 | 0.0 | 3 | 10.7 |

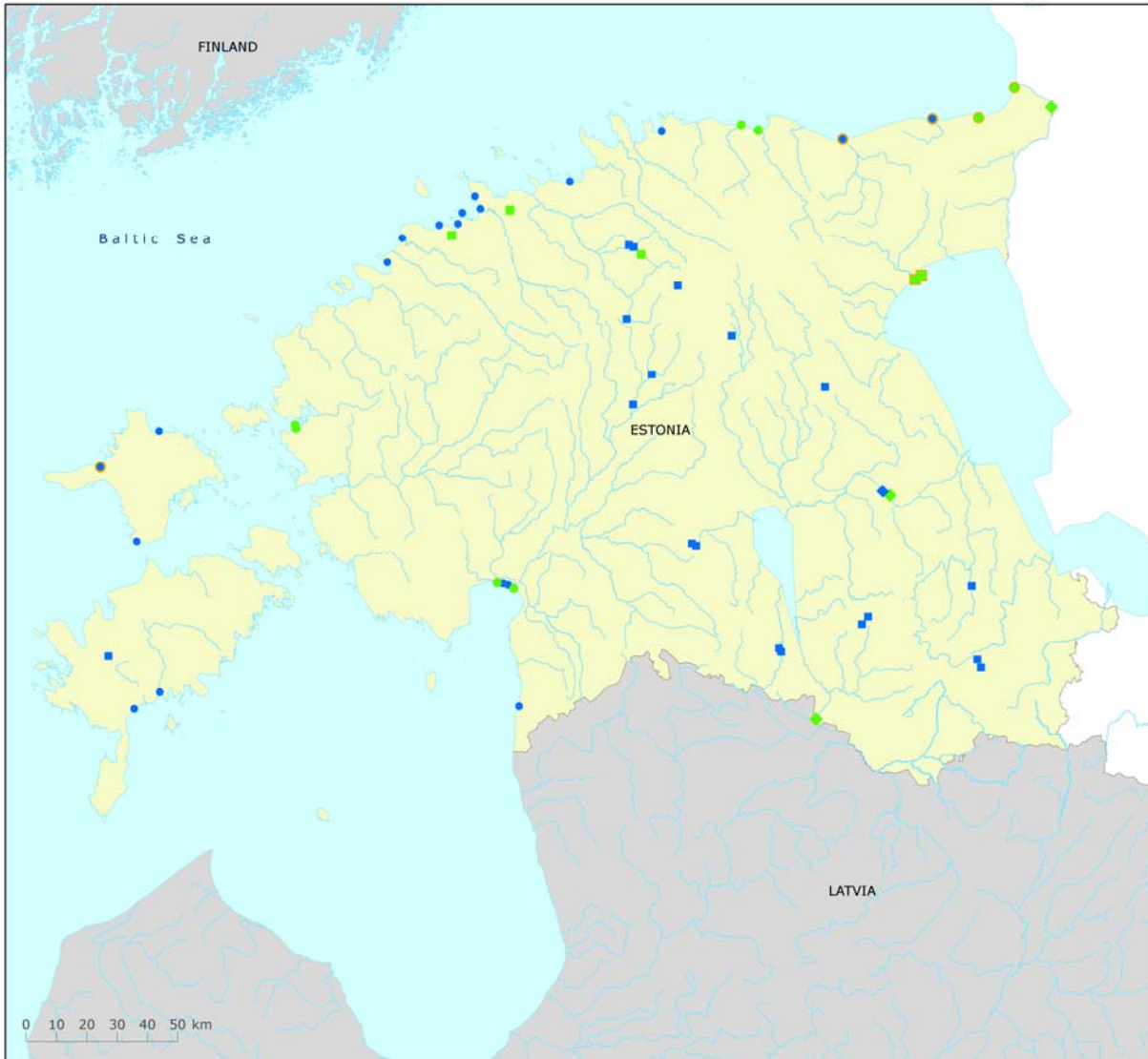
*Less strict rules applied (41 days taken as a maximum difference between two samples for reporting under Directive 2006/7/EC). **Bathing waters which were compliant with the guide values were also compliant with the mandatory values for five parameters under the Directive 76/160/EEC (2004-2007) or the mandatory value for *Escherichia coli* (2008-2010).

Table 2: Results of bathing water quality for all bathing waters in Estonia in 2009 and 2010

| EE | | | | | | | | | | | | |
|--------------------|-------|--------------------------------|--|------|---------------------------------|-------|---------------|-----|--|-----|---------------------------------------|------|
| | | 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 | % |
| All bathing waters | 2009 | 55 | 34 | 61.8 | 53 | 96.4 | 0 | 0.0 | 0 | 0.0 | 2 | 3.6 |
| | 2010* | 55 | 39 | 70.9 | 55 | 100.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| | 2010 | 55 | 36 | 65.5 | 47 | 85.5 | 0 | 0.0 | 0 | 0.0 | 8 | 14.5 |

*Less strict rules applied (41 days taken as a maximum difference between two samples for reporting under Directive 2006/7/EC). **Bathing waters which were compliant with the guide values were also compliant with the mandatory value for *Escherichia coli*.

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



| Bathing water quality | | | |
|---|---|--|---|
| Bathing waters on rivers | Bathing waters on lakes | Coastal/transitional bathing waters | Sampling interval not in full compliance with the Directive 2006/7/EC. |
| ◆ Compliant with guide values | ■ Compliant with guide values | ● Compliant with guide values | ◇ Sampling interval not in full compliance with the Directive 2006/7/EC. |
| ◆ Compliant with mandatory values | ■ Compliant with mandatory values | ● Compliant with mandatory values | □ No data |
| ◆ Closed* | ■ Closed* | ● Closed* | ■ Outside data coverage (data available, not presented on the map) |
| ◆ Insufficiently sampled or not sampled | ■ Insufficiently sampled or not sampled | ● Insufficiently sampled or not sampled | |
| ◆ Not compliant with mandatory values | ■ Not compliant with mandatory values | ● Not compliant with mandatory values | |

Note: * banned or closed (temporarily or throughout the season)
 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: Estonian authorities

4. Important information as provided by the Estonian authorities

Monitoring

For the year 2010, Estonia reported 55 bathing waters to the European Commission. All these bathing waters are under surveillance of the Health Board during the bathing season. Samples were taken from the same places at least once a month (often more frequently), mostly from the area where the number of swimmers was the greatest.

The legislative background

The requirements of Directive 2006/7/EC are promulgated in Estonian law in the Public Health Act, the Water Act, and regulation implementing them.

Quality and control requirements for bathing water are laid down in the Decree of the Government No. 74 from 3rd April 2008 "Requirements to bathing waters and bathing sites". The regulation says that bathing place must be safe to bathers. The regulation establishes requirements for bathing places, bathing water quality, monitoring, classification, quality management and reference methods, also establishes the provision of information to the public. Private or public bodies owning the bathing place are the subject of the regulation.

In accordance to legislation the Health Board is responsible for arranging bathing water monitoring and doing state supervision, collecting and processing the data on the bathing water quality, advising bathing place owners, informing public and establishing bathing water profiles.

De-listing of bathing water

The Estonian authorities reported that one bathing water, "AA RAND" in the East Estonia River Basin district (EE00301010AARAND) was delisted due to low number of bathers. The public was informed about the change. The monitoring of the bathing water showed that water quality was nevertheless excellent. The Estonian authorities plan to re-open the water in future. The nearest bathing site is Liimala.

Water quality

It was third bathing season for Estonia to monitor bathing waters according to the new European legislation. Almost 300 samples were taken for intestinal enterococci and *E.Coli* analyses. Four of those samples did not comply with the national requirements. After the bathing season water quality was assessed in accordance with the rules for transition period. All bathing waters are compliant with mandatory values, 75% of those also comply with the guide values.

Short-term pollution occurred once during the bathing season and lasted some days. Event took place at lakeside bathing place Harku in Tallinn in the August. Intestinal enterococci exceeded national level (135). The number of *E.Coli* bacteria was higher than 2149. The sample was taken in Monday after the weekend what was hot and windy, partly cloudy and with thunderstorm rains. Also was held competitions in power-boating during the weekend on the lake. Probably those events caused temporary water quality degradation. The public was informed and during this period bathing was not recommended. There was information at beach, also in newspapers and homepage of Health Board. New additional sample was taken a week later and it showed that the water quality was again good.

Information for the public and other significant management measures

Significant management measures according to Directive 2006/7/EC includes a monitoring calendar, bathing water quality monitoring, bathing water quality assessment during the season and after the season, information to the public and bathing water profiles. Bathing water profiles have been established for five bathing waters and can be accessed at <http://www.terviseamet.ee/keskkonnatervis/vesi/suplusvesi/suplusvee-profiilid.html>.

During bathing season information about quality of bathing water is available at the bigger beaches, on the web site of Health Board: <http://www.terviseamet.ee/keskkonnatervis/vesi/suplusvesi.html> as well as it is posted to counties and central newspapers and occasionally in TV or radio.

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 'traffic-light' 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 site. 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>.