

# European bathing water quality in 2013





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# Foreword

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For many Europeans, summer holidays revolve around bathing water — whether it is snorkelling in turquoise seas, swimming in a lake or surfing. So it is natural that people have a keen interest in the quality of the bathing waters at this time of year.

The European Environment Agency (EEA) and the European Commission are therefore pleased to present this year's bathing water report, which will help Europeans make informed choices about the bathing sites they visit. The report assesses bathing water quality in 2013 in all EU Member States plus Albania and Switzerland, indicating where the best quality bathing is likely to be found this year.

The main message of this report is that in 2013 bathing waters in Europe were generally of high quality. More than 94 % of bathing waters met the minimum water quality standards set by the EU directives, with 96.8 % of coastal and 89.7 % of inland bathing water bodies meeting these requirements. Only 2.0 % of bathing waters were found to have poor bathing water quality.

Last summer, Croatia joined the European Union as the 28th Member State, adding more than 900 bathing waters to almost 21 000 bathing waters already designated in the EU. And in line with most parts of the Mediterranean, the majority of Croatian bathing waters had excellent bathing water quality in 2013.

Bathing water quality is not only essential for bathers' health. It is also a strong indication of the overall state of our coastal zones and inland water bodies. All efforts to improve the quality of bathing

waters should therefore also be seen in the context of good ecological and environmental status, the aims of the Water Framework Directive and Marine Strategy Framework Directive. In addition, many years of investment in better wastewater treatment under the Urban Waste Water Treatment Directive mean that Europe's bathing waters are much cleaner today than they were 30 years ago, when large quantities of untreated or partially treated urban and industrial wastewater were discharged into bathing water areas.

To get more detailed information about water quality at their local bathing site, European citizens can use online resources such as the 'Water Information System for Europe' (WISE). In addition, the web application on the EEA website gives people access to information on bathing water quality at the more than 22 000 coastal beaches and freshwater bathing sites across Europe. The data can be viewed on an interactive map, by selected country or region, and compared with data from previous years.

We encourage you all to make full use of all the information sources presented in this publication. We also encourage you to get more actively involved in protecting the environment and helping to improve Europe's bathing areas.

We wish you a nice summer!

*Janez Potočnik*  
European Commissioner for the Environment

*Hans Bruyninckx*  
Executive Director, European Environment Agency

# Executive summary

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Every year, millions of Europeans take advantage of the continent's wonderful selection of beaches, rivers, and lakes for a relaxing holiday or a day out. It is vitally important that they know the quality of the water they are swimming in, and that they do not jeopardize their health. The European Environment Agency (EEA) and the European Commission hope that this year's bathing water report will encourage Europeans to enjoy bathing areas near them, and assist them in planning their trips further afield.

This report provides a comprehensive overview of the quality of bathing waters in the Member States of the European Union in the 2013 bathing season. It thereby gives an indication of the areas where the quality of bathing is expected to be good if not excellent during 2014. The report also shows the evolution of bathing water quality from 1990 to 2013.

Of the more than 22 000 bathing areas monitored throughout Europe in 2013, more than two thirds were in coastal waters and the rest were in rivers and lakes (inland waters). In the 2013 bathing season, the monitoring of bathing sites has been adjusted to the provisions in the EU's new bathing water directive (Directive 2006/7/EC). The sampling of water quality in most of the bathing water sites meets the frequency standards (this involves a pre-season sample of the water quality, followed up by monthly samples thereafter). Bathing water monitoring data was provided by all EU-28 Member States as well as by Switzerland and Albania.

As regards assessment, the provisions in the new Bathing Water Directive have been applied in 24 European countries (23 EU Member States and Switzerland). This involved taking data from four years of monitoring to make the 2013 assessment. For the remaining six countries, the 2013 assessment has been carried out under a set of transitional rules that do not yet meet all the requirements of the new Directive using the results from the 2013 monitoring <sup>(1)</sup>.

In 2013, the quality of 94.7 % of all bathing waters in the EU-28 met the minimum water quality standards set by the Bathing Water Directive. Bathing water quality increased by 0.5 percentage points compared with results from 2012. The proportion of bathing waters with excellent quality (or complying with the most strict 'guide' values) increased by 3.6 percentage points compared to 2012, reaching 82.6 %.

Since 2011, a significant amount of management measures have been implemented on bathing waters locations with poor quality which has resulted in improving the quality at some beaches and closing other bathing waters. The share of waters with poor quality or non-compliant bathing waters in 2013 was 2.0 % representing a 0.2 percentage point increase from 2012.

In 2013, 96.8 % of all coastal waters in the EU achieved the minimum quality standards established by the EU directives which represent a slight increase compared to 2012. The share of bathing waters with excellent quality in 2013 reached 85.2 %. This is a significant improvement in comparison with year 2012.

The majority of inland bathing water locations are situated on lakes. In 2013, 89.7 % of inland bathing waters in the European Union had at least sufficient quality. This is a 1.2 percentage point decrease from 2012. The share of inland bathing waters with poor quality is low and has slightly increased for by 0.1 percentage points (in comparison with the 2012 season). On the other hand, it was a remarkable 4.6 percentage points increase of waters that achieved excellent quality class in 2013.

Nine countries had all their bathing waters classified as compliant with at least mandatory values (i.e. no poor quality or non-compliant bathing sites were found): Cyprus, Latvia, Lithuania, Luxembourg, Malta, Romania, Slovakia,

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<sup>(1)</sup> A first classification according to the requirements of the bathing water directive shall be completed for all EU Member States by the end of the 2015 bathing season (report to be published in 2016).

Slovenia and Switzerland. Five countries reached compliance levels with excellent quality or guide values above 90 %. They were: Cyprus (100 %), Luxembourg (100 %), Malta (98.9 %), Croatia (94.9 %), and Greece (93.2 %). However, in Croatia and Greece there are also some bathing waters with poor or non-compliant bathing waters (three bathing waters in Croatia and five in Greece).

The highest rates of poor or non-compliant bathing waters have been found in Estonia (5.7 %), the Netherlands (5.1 %), Belgium (3.5 %), France (3.5 %), Spain (3.3 %) and Ireland (3.0 %). In Albania, which reported for the first time in 2013, 8.2 % of the bathing waters were classified as non-compliant bathing. This rate of non-compliance is comparable to when other countries reported their bathing water quality for the first time.



**Photo:** © Peter Kristensen



# 1 Bathing waters in Europe

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Europe has a great diversity of beautiful beaches and bathing areas, and each year millions of Europeans spend their weekends at their local beach or their holidays cooling down by the water. As this year's bathing season approaches, many citizens have a keen interest in the quality of bathing waters.

To make an informed choice of beach, the European Union (EU) publishes an annual report on the quality of coastal and inland bathing areas, as reported by EU Member States and other European countries. Since 2009 the European Environment Agency (EEA) and its European Topic Centre on Inland, Coastal and Marine Waters have been preparing the report in cooperation with the European Commission's Directorate-General for the Environment.

Water is essential for human life, nature and the economy. The EU's water policy has been successful in helping to protect water resources, and the quality of EU bathing sites is a good example. The efforts of the European Union to ensure clean and healthy bathing waters commenced in the 1970s. The first European bathing water legislation, in the form of the Bathing Water Directive <sup>(2)</sup> was adopted in 1975 and came into force in 1976. Its main objectives were to safeguard public health and protect the aquatic environment in coastal and inland areas from pollution. Swimming pools and waters for therapeutic purposes were not covered by this directive.

New European legislation on bathing waters (the 'new' Bathing Water Directive) was adopted in 2006 <sup>(3)</sup>. This 'new' directive simplifies management and surveillance methods. Bathing water profiles describe physical and hydrological conditions of bathing areas and analyse potential impacts and threats to their water quality. These serve both as sources of information for citizens and as a management tool for the responsible authorities.

Member States identify each year beaches and bathing areas visited by large numbers of people to monitor their quality and implement measures for improvements if needed. Throughout the bathing season local or national governments communicate monitoring results to citizens and inform them about possible health risk when bathing. At the end of each year Member States send their data to the European Commission and the European Environment Agency (EEA).

This report provides a synopsis of the quality of bathing waters in the Member States of the European Union, Switzerland and Albania in the 2013 bathing season. It also presents the evolution of bathing water quality from 1990 on. The report also gives an indication of the areas where the quality of bathing water is expected to be good in the 2014 bathing season. The bathing season usually opens in May and lasts until the end of September.

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<sup>(2)</sup> Council Directive 76/160/EEC of 8 December 1975 concerning the quality of bathing water.

<sup>(3)</sup> Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC.

## 2 Monitoring and assessment under the EU bathing water legislation in 2013

In the 2013 bathing season, all Member States monitored their bathing sites according to the provisions in the EU's new Bathing Water Directive (2006/7/EC). Countries identified national bathing waters, defined the length of the bathing season, and established a monitoring calendar for each bathing water site before the start of bathing season. They ensured that the analysis of bathing water quality took place in accordance with the reference methods specified in the directive.

### 2.1 Monitoring of bathing water quality

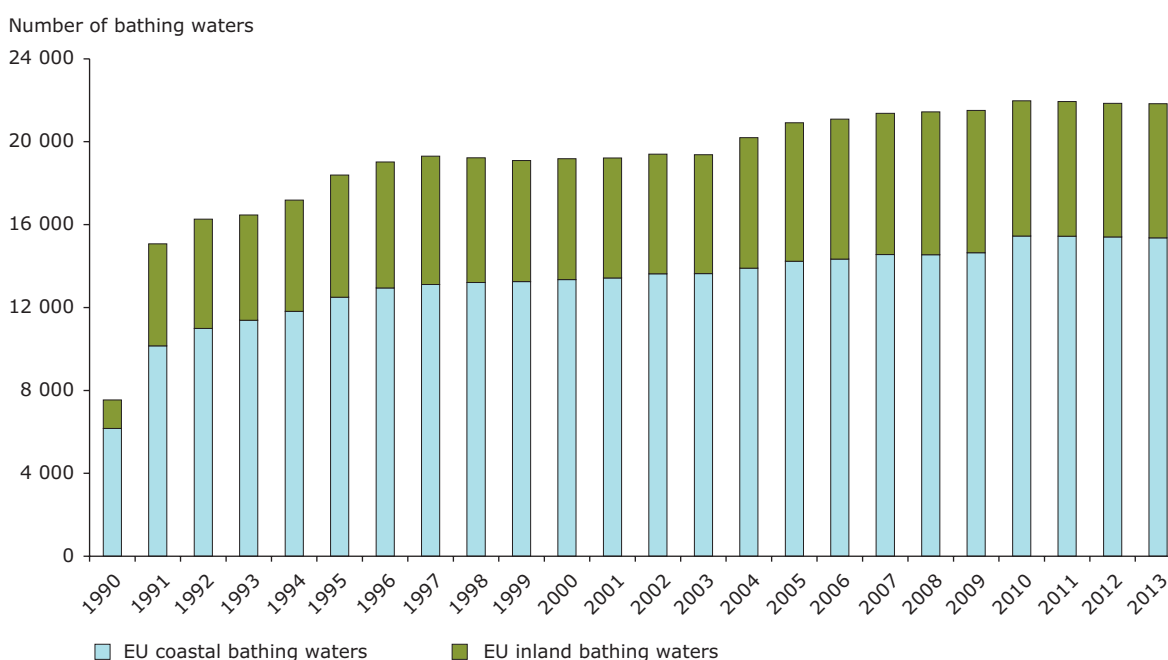
During the bathing season, samples from the coastal and inland bathing waters are taken and analysed. The laboratories count the number of two bacteria, *Escherichia coli* and intestinal enterococci which may indicate the presence of pollution, usually originating in sewage or livestock waste. The

results of the analysis are used to assess the quality of the bathing waters concerned and to provide information to the public.

The monitoring calendar, with fixed dates for the collection of samples, has to be established for every bathing water site before the start of the bathing season. In cases of short term pollution caused by heavy rain or other reasons, additional samples may be taken to confirm that the incident has ended.

In 2013, there were 22 076 bathing waters identified in Europe, out of which 21 836 are in the 28 EU Member States. Switzerland and Albania have also monitored and reported the quality of their bathing waters. A total of 27 countries reported inland bathing sites on lakes and rivers. There were no inland bathing waters reported in Cyprus, Malta and Albania. All 24 countries with access to the sea have reported coastal bathing waters.

**Figure 2.1 Total number of bathing waters reported in the European Union since 1990**



**Source:** WISE bathing water quality database (data from annual reports by EU Member States).

In the past 20 years there has been a constant increase in reported number of bathing water sites. The number of bathing water sites monitored by EU Member States in 1990 was 7 539 (in 7 Member States), a year later the figure was already 15 075 (in 12 Member States). From 2004, bathing water quality is monitored on more than 20 000 sites. Out of 21 836 EU bathing water sites monitored in 2013, 70.4 % are coastal bathing waters and 29.6 % are inland waters. More than 70 % of all EU bathing water sites are located in Italy, France, Germany and Spain.

## 2.2 Assessment of bathing water quality

Member States are obliged to provide the results of their samples to the European Commission before 31 December of the same year that they took the samples. Before the start of the bathing water season the following year, the Commission, together with

the EEA, publishes a Europe-wide report on the result. The information on the quality of European bathing waters in this report is based on an assessment of the data reported by countries in 2013.

All countries monitor and report the measured values of concentrations in their bathing waters of two microbiological parameters — intestinal enterococci and *Escherichia coli* (also known as *E. coli*). The assessment of bathing water quality under the new directive makes use of the values of these two parameters obtained in four consecutive years. To assess a quality of bathing waters for 2013, for instance data from 2010 to 2013 are used. The new directive also requires that bathing water is sampled before the start of the bathing season (and that this sample is included in the assessment), and that further sampling is done at least once per month during the course of the bathing season. The assessment methodology for bathing water quality in the 2013 season is further described in Box 2.1.

### Box 2.1 Assessment methodology for bathing water quality in the 2013 season

#### Assessment during the transition period

Assessing bathing water quality under the new Bathing Water Directive requires a data set spanning four consecutive years. While those data are being compiled, the rules for the transition period are applied. This means that the classification of bathing waters is defined on the basis of concentrations of intestinal enterococci and *Escherichia coli* reported under Directive 2006/7/EC in year 2013 only. The parameter intestinal enterococci is evaluated according to the guide value (the highest standard, corresponding to a rating that would classify a water body as having 'excellent' quality) for the faecal streptococci parameter given in Directive 76/160/EEC. The parameter *Escherichia coli* is evaluated according to the mandatory and guide values for the parameter faecal coliforms given in Directive 76/160/EEC. The results are classified in the following three categories: compliant with the mandatory value; compliant with the stricter guide values; or not compliant with the mandatory value of the Directive 76/160/EEC.

#### Assessment under the new Bathing Water Directive (2006/7/EC)

When four consecutive years of samples of intestinal enterococci and *Escherichia coli* for bathing water are available, the assessment is done according to assessment rules of the new Bathing Water Directive. The directive requires a sample to be taken shortly before the start of the bathing season, and states that the minimum number of samples taken per bathing season is four (if the bathing season is less than eight weeks long, then three samples are sufficient). Sampling dates are to be distributed throughout the bathing season, with the interval between sampling dates never exceeding one month. Four extra days are tolerated.

The EEA has checked all bathing waters for a pre-season sample and monthly samples thereafter for the 2013 season. When these requirements are met, the bathing water is categorised as 'frequency of sampling satisfied'. If these criteria are not met, the bathing water is categorised as 'frequency of sampling not satisfied'. Bathing waters are classified as 'excellent', 'good', 'sufficient' or 'poor' if they have at least 4 (if the bathing season is less than 8 weeks long, then 3) samples distributed throughout the 2013 season, and 16 (if the bathing season is less than 8 weeks long, then 12) samples available for the assessment period.

Some bathing waters cannot be classified according to their quality. They are instead classified as 'closed' (temporarily or throughout the bathing season), 'new' (classification not yet possible), 'changes' (classification not yet possible after changes that affect or could have affected bathing water quality) or they do not have enough samples in the 2013 season or throughout the assessment period.

A first classification according to the requirements of the Bathing Water Directive shall be completed for all EU Member States by the end of the 2015 bathing season (report to be published in 2016).

For the 2013 season, bathing water quality has been assessed under the new bathing water directive in 24 European countries, including Switzerland. Bathing water quality in the remaining six countries has been assessed under a set of transitional rules, since the full set of data sampled according to the new directive rules is not available for four consecutive years yet.

Table 2.1 shows the number of bathing waters identified in each European country in the 2013 season, the number of bathing waters permanently closed (for which monitoring has not been done in the 2013 season due to permanent prohibition) and the number of newly identified bathing water in 2013 bathing season. In the 2013 season, EU Member States identified 22028 bathing water sites, out of which 179 are new bathing water sites and 192 permanently

closed. Switzerland identified 167 bathing water sites in the 2013 season. Albania reported for the first time and identified 73 bathing water sites.

All bathing waters have been checked for the 2013 season for a pre-season sample and monthly samples. If these criteria are not met, the bathing water is categorised as 'frequency of sampling not satisfied'. Sampling frequency was not satisfied in 815 EU Member States and 32 bathing sites in Switzerland (Table 2.2). Italy and France account for the highest number of bathing waters with 'frequency of sampling not satisfied' while the highest percentage of bathing waters violating the frequency criteria are found in Hungary, Switzerland, Sweden and Finland, all having more than 10 % of the bathing waters with the 'frequency of sampling not satisfied'.

**Table 2.1 Number of bathing waters in Europe by country**

Country	Total number of bathing water in 2013	Total number of bathing water in 2012	Number of permanently closed bathing waters in 2013	Number of newly identified bathing waters in the 2013 season
AT (Austria)	266	266	0	0
BE (Belgium)	113	123	10	0
BG (Bulgaria)	94	93	0	1
CY (Cyprus)	112	112	0	0
CZ (Czech Republic)	157	160	3	0
DE (Germany)	2 296	2 295	11	12
DK (Denmark)	1 037	1 090	57	4
EE (Estonia)	53	54	1	0
ES (Spain)	2 161	2 156	13	18
FI (Finland)	315	320	6	1
FR (France)	3 331	3 322	26	35
GR (Greece)	2 162	2 155	5	12
HR (Croatia)	927	919	0	8
HU (Hungary)	241	232	6	15
IE (Ireland)	135	136	1	0
IT (Italy)	5 511	5 509	19	21
LT (Lithuania)	112	114	2	0
LU (Luxembourg)	11	11	0	0
LV (Latvia)	51	46	0	5
MT (Malta)	87	87	0	0
NL (Netherlands)	711	696	4	19
PL (Poland)	205	221	21	5
PT (Portugal)	543	526	1	18
RO (Romania)	50	49	0	1
SE (Sweden)	446	448	4	2
SI (Slovenia)	47	47	0	0
SK (Slovakia)	33	33	0	0
UK (United Kingdom)	629	629	2	2
<b>EU</b>	<b>21 836</b>	<b>21 849</b>	<b>192</b>	<b>179</b>
AL (Albania)	73	0	0	73
CH (Switzerland)	167	335	172	4
<b>Europe</b>	<b>22 076</b>	<b>22 184</b>	<b>364</b>	<b>256</b>

Source: EEA.

**Table 2.2** Number of bathing waters in the 2013 season with requirement on sampling frequency satisfied and not satisfied

Country	Total number of bathing water in 2013	Number of bathing waters with sampling frequency satisfied	Bathing waters with sampling frequency not satisfied <sup>(a)</sup>			
			Insufficiently sampled	Closed	Not sampled	Total
AT (Austria)	266	266	0	0	0	0 (0 %)
BE (Belgium)	113	112	1	0	0	1 (0.9 %)
BG (Bulgaria)	94	94	0	0	0	0 (0 %)
CY (Cyprus)	112	112	0	0	0	0 (0 %)
CZ (Czech Republic)	157	151	1	5	0	6 (3.8 %)
DE (Germany)	2 296	2 277	9	10	0	19 (0.8 %)
DK (Denmark)	1 037	1 030	7	0	0	7 (0.7 %)
EE (Estonia)	53	51	1	1	0	2 (3.8 %)
ES (Spain)	2 161	2 144	13	4	0	17 (0.8 %)
FI (Finland)	315	279	36	0	0	36 (11.4 %)
FR (France)	3 331	3 137	188	6	0	194 (5.8 %)
GR (Greece)	2 162	2 162	0	0	0	0 (0 %)
HR (Croatia)	927	920	7	0	0	7 (0.8 %)
HU (Hungary)	241	187	53	1	0	54 (22.4 %)
IE (Ireland)	135	135	0	0	0	0 (0 %)
IT (Italy)	5 511	5 153	356	2	0	358 (6.5 %)
LT (Lithuania)	112	103	8	1	0	9 (8 %)
LU (Luxembourg)	11	11	0	0	0	0 (0 %)
LV (Latvia)	51	49	2	0	0	2 (3.9 %)
MT (Malta)	87	87	0	0	0	0 (0 %)
NL (Netherlands)	711	697	12	2	0	14 (2.0 %)
PL (Poland)	205	200	2	3	0	5 (2.4 %)
PT (Portugal)	543	542	1	0	0	1 (0.2 %)
RO (Romania)	50	50	0	0	0	0 (0 %)
SE (Sweden)	446	369	77	0	0	77 (17.3 %)
SI (Slovenia)	47	47	0	0	0	0 (0 %)
SK (Slovakia)	33	33	0	0	0	0 (0 %)
UK (United Kingdom)	629	623	5	1	0	6 (1.0 %)
<b>EU</b>	<b>21 836</b>	<b>21 021</b>	<b>779</b>	<b>36</b>	<b>0</b>	<b>815 (3.7 %)</b>
AL (Albania)	73	73	0	0	0	0 (0 %)
CH (Switzerland)	167	135	32	0	0	32 (19.2 %)
<b>Europe</b>	<b>22 076</b>	<b>21 229</b>	<b>811</b>	<b>36</b>	<b>0</b>	<b>847 (3.8 %)</b>

**Note:** <sup>(a)</sup> See Box 2.1.

### 3 Bathing water quality and trends in 2013

#### 3.1 Overall bathing water quality in the European Union

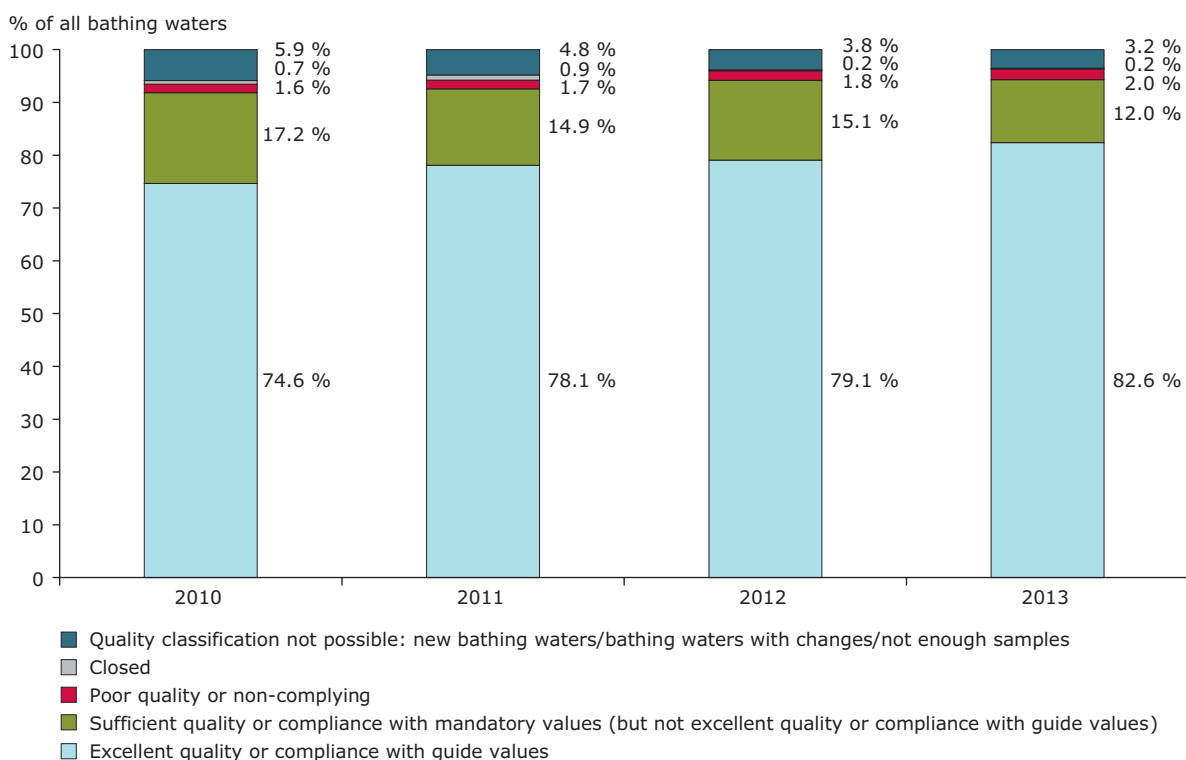
In 2013, the quality of 94.7 % of all bathing waters in the EU met the minimum water quality standards set by the Bathing Water Directive. Bathing water quality increased by 0.5 percentage points compared with results from 2012. The proportion of bathing waters with excellent quality (or complying with the most strict 'guide' values) increased by 3.6 percentage points compared to 2012, reaching 82.6 %.

The share of waters with poor quality or non-compliant bathing waters in 2013 was 2.0 %, which represented a 0.2 percentage point increase from 2012. In 2013, 36 bathing waters were closed (0.2 %). This is a minor drop from 2012 when 40 bathing water sites were closed, but a significant

drop from 2011 when 207 bathing waters were closed. The reasons a bathing water site may be closed or classified as poor quality typically include pollution due to heavy rain or public construction works close to the bathing water site. Since 2011, a significant amount of management measures have been implemented on bathing waters sites with poor quality. These management measures have resulted in a lower number of bathing water sites classified as 'closed'.

In 2013, it was not possible to classify the status of 3.2 % of bathing waters, either because they were newly opened, not yet assessed due to changes that affect or could have affected bathing water quality, or the required number of samples for assessment was not provided. This represented a 0.7 percentage point decrease from 2012.

**Figure 3.1 Bathing water quality in the European Union in the period 2010–2013**



Source: WISE bathing water quality database (data from annual reports by EU Member States).

### 3.2 Coastal bathing water quality in the European Union in 2013

In 2013, EU Member States reported 15 363 coastal bathing sites. More than 70 % of all EU coastal bathing water sites are located in Italy (32 %), Greece (14 %), France (13 %) and Spain (14 %). 96.8 % of all coastal waters in the EU achieved the minimum quality standards established by the EU directives. This was an increase of 1.2 percentage points compared to 2012. The share of bathing waters with excellent quality in 2013 reached 85.2 %. This is a significant improvement of 3.2 percentage points in comparison with year 2012.

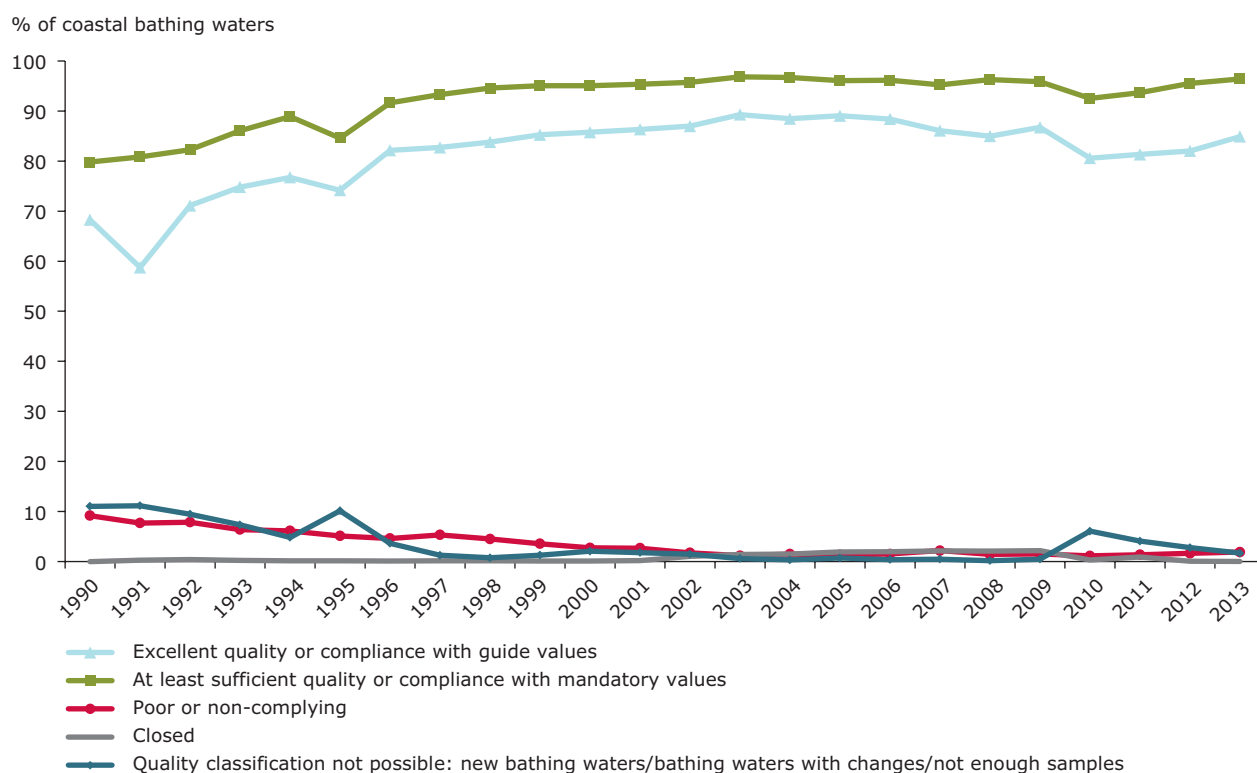
In 2013, EU Member States reported 290 coastal bathing waters (1.9 %) with poor quality or not in compliance with mandatory values, an increase of 0.3 percentage points compared with 2012. This increasing trend that began in 2011 goes against the longer-term trend, which has been a steady decline in the share of coastal bathing waters that do not comply with bathing water directives: for

example, the share of non-compliant bathing waters in 1990 was 9.2 %. Four coastal bathing water sites were closed in 2013, which is fewer than in 2012, when 8 coastal bathing waters were closed, but significantly fewer than in 2011 when 139 coastal bathing sites were closed.

It was not possible to classify the status of the remaining 204 coastal bathing waters (which represents 1.3 % of all coastal bathing waters), because they were newly opened, not yet assessed due to changes or the required number of samples for assessment was not provided.

Compliance with 'mandatory' values (those waters meeting the 'sufficient' standard) was steadily increasing between 1990 and 2000, but has remained quite stable since then. Compliance with guide values or excellent quality (a more strict standard than mandatory quality) was also on an increasing path from 1990 to 2000, before reaching a plateau. It dropped below 81 % in 2010, but it has been steadily increasing since then (Figure 3.2).

**Figure 3.2 Percentage of coastal bathing waters in the European Union per compliance category**



**Source:** WISE bathing water quality database (data from annual reports by EU Member States).

### 3.3 Inland bathing water quality in the European Union

In 2013, EU Member States monitored 6 473 bathing sites situated on rivers and lakes across Europe. The majority (87 %) of inland bathing water locations are situated on lakes. The percentage of inland bathing waters with excellent quality was 76.5 % in 2013. This is a 4.6 percentage point increase in comparison to the 2012 bathing season. In 2013, 89.7 % of inland bathing waters in the European Union had at least sufficient quality. This is a 1.2 percentage point decrease from 2012. The share of inland bathing waters with poor quality has slightly increased by 0.1 percentage points (in comparison with the 2012 season) reaching 2.4 %.

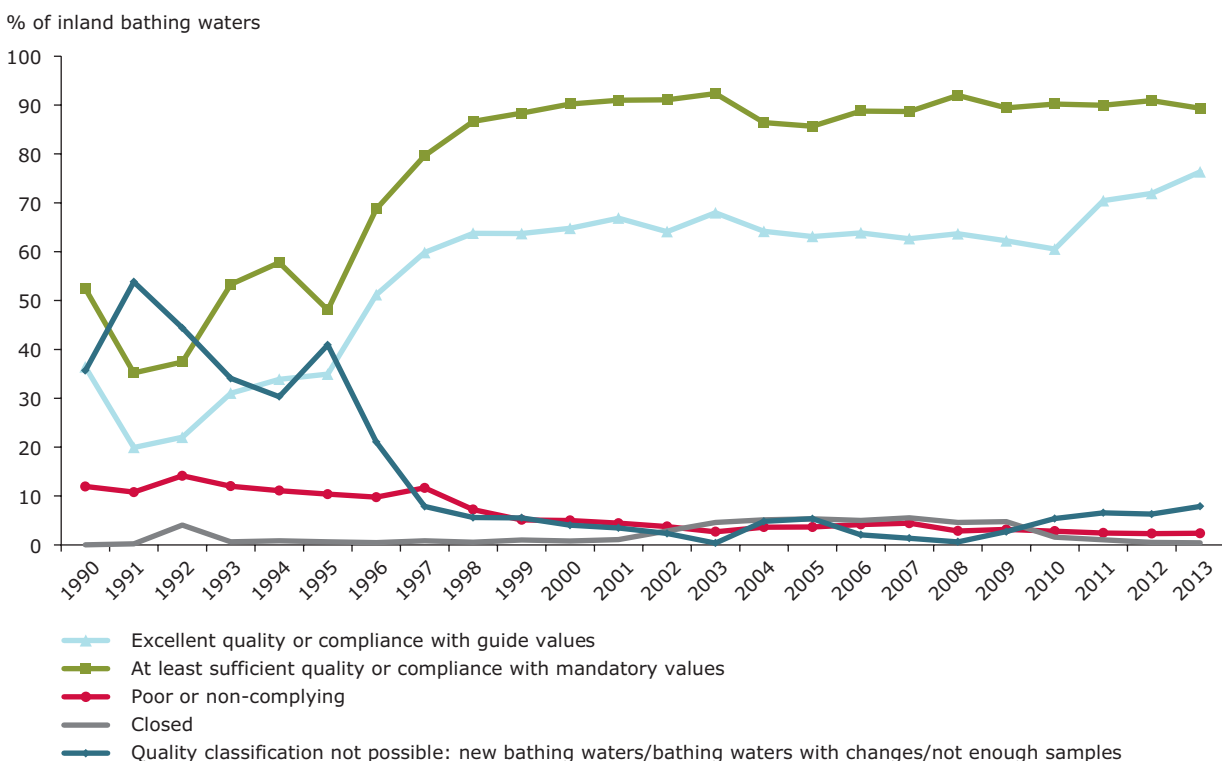
Despite increases in the percentage of inland bathing water sites with poor quality status, there was a remarkable increase of waters that achieved the excellent quality classification. The share of bathing

waters of excellent quality or compliant with the guide values has been constantly growing since 1990. In 1990, this share accounted for less than 40 %. In 1998 it exceeded 60 %, the share was more or less stable until 2011. In 2011 the share reached 70 %, and since then it has been growing.

In 2013, 32 bathing waters were closed (0.5 %) which is the same as in 2012, following a steady decrease that began in 2009.

Out of 6 473 inland bathing waters, it was not possible to classify the status for 484 (7.5 %) as they were newly opened, not yet assessed due to changes that affected or could have affected bathing water quality, or did not provide the required amounts of samples for assessment. This is an increase of 79 bathing waters or 1.2 percentage points from the previous year; continuing the increasing proportional trend of inland bathing waters with unclassifiable status, which began in 2009.

**Figure 3.3 Percentage of inland bathing waters in the European Union per compliance category**



Source: WISE bathing water quality database (data from annual reports by EU Member States).



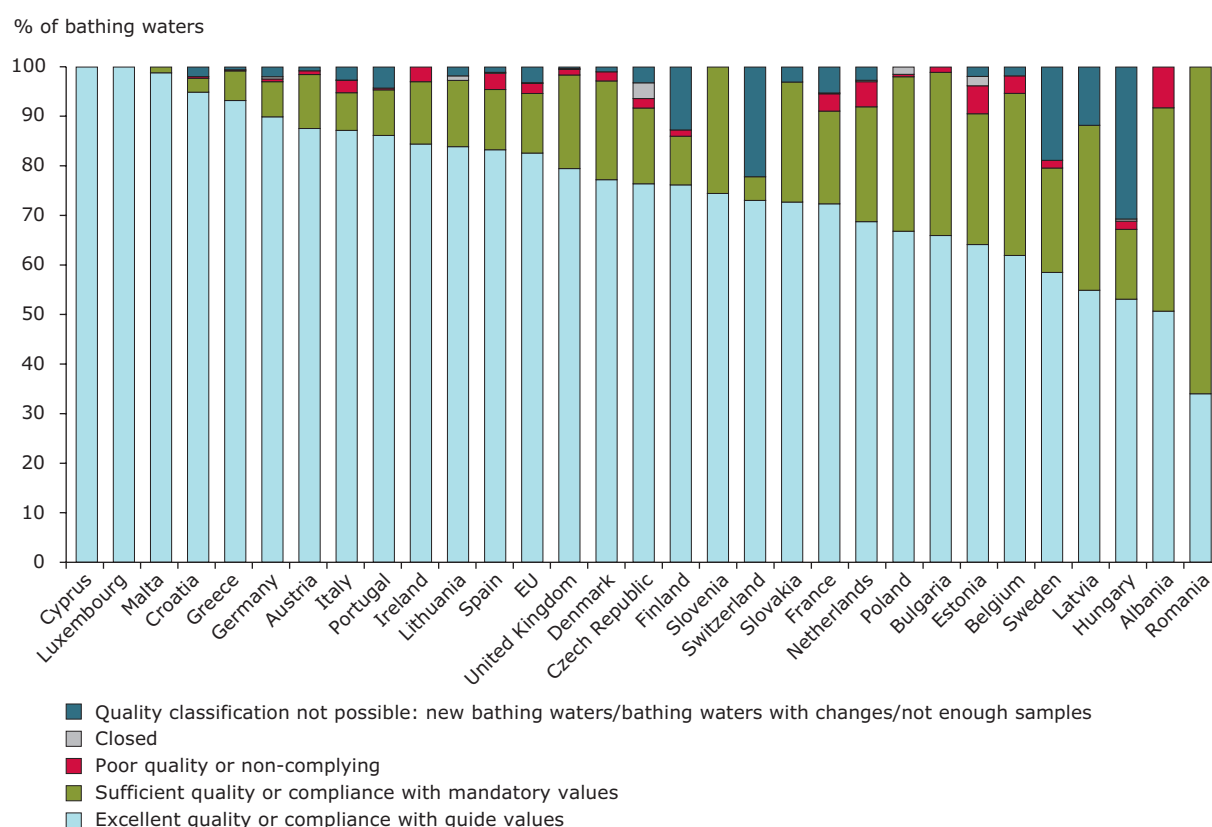
### 3.4 Bathing water quality by country in the 2013 season

European bathing water quality results for each country in the 2013 bathing season are shown in Figure 3.4. Nine countries had all their bathing waters classified as compliant with at least mandatory values (i.e. no poor quality or non-compliant bathing sites were found). They were: Cyprus, Latvia, Lithuania, Luxembourg, Malta, Romania, Slovakia, Slovenia and Switzerland. Five countries reached compliance levels with excellent quality or guide values above 90 %: Cyprus (100 %), Luxembourg (100 %), Malta (98.9 %), Croatia (94.9 %), Greece (93.2 %). However, in Croatia and Greece there are also some bathing waters with poor or non-compliant bathing waters (three bathing waters in Croatia and five in Greece).

The highest rates of poor or non-compliant bathing waters have been found in Estonia (5.7 %), the Netherlands (5.1 %), Belgium (3.5 %), France (3.5 %), Spain (3.3 %) and Ireland (3.0 %). In Albania, which reported for the first time in 2013, 8.2 % of the bathing waters were classified as non-compliant bathing. This rate of non-compliance is comparable to when other countries reported their bathing water quality for the first time.

The largest share of bathing waters where quality classification was not possible as they were newly opened, not yet assessed due to changes or did not provide the required amount of samples for assessment, are found in Hungary (30.7 %), Switzerland (22.2 %) and Sweden (18.8 %).

**Figure 3.4 Bathing water quality results in 2013 for the 28 EU Member States and other countries with bathing water quality results**



**Source:** WISE bathing water quality database (data from annual reports by reporting countries).

## 4 Management of bathing waters during the 2013 season

### 4.1 Flooding of bathing waters

The major sources of pollution responsible for faecal bacteria in bathing waters are pollution from sewage and water draining from farms and farmland. The pollution from sewage and from farmlands increases during heavy rains and floods, washing more pollution into the rivers and seas and overflowing sewage systems.

Extreme floods took place in Central Europe in late May and early June of 2013. The floods primarily affected regions along the Elbe and Danube rivers, including: southern and eastern German states, western regions of the Czech Republic and Austria. Switzerland, Slovakia, Belarus, Poland, Hungary and Republic of Serbia were also affected to a lesser degree. In the period 30 May to 1 June, these regions received up to 250 mm rainfall, which for some regions represents one fifth of the yearly average.



**Photo:** Flooded bathing water in Vienna, May-June 2013  
© Wolfgang Zoufal

The flooding affected bathing waters in the region, as well as the monitoring and management of water quality. Out of 313 abnormal situations which were reported to affect European bathing waters in the 2013 season due to flooding, at least 223 can be attributed to the 2013 Central European floods (128 in Germany, 77 in Austria, 7 in Hungary, 8 in the Czech Republic, 2 in Switzerland and 1 in Slovakia). These abnormal situation periods started as early as 27 May and ended as late as 30 August.

Appropriate information was provided to the public regarding the temporary suspension of monitoring information for affected bathing waters in these cases. Monitoring could resume and adequate quality assessment samples were available for some affected bathing waters after the floods.

For the EU Directive on the assessment and management of flood risk (2007/60/EC), Member States made a preliminary flood risk analysis looking at the consequences on human health, the environment, cultural heritage and economic activity of past floods, as well as for potential future floods. For areas with a potential significant flood risk, the flood hazards and risks were mapped for different scenarios. These flood risk maps show the locations where accidental pollution could be caused by flooding and the potentially affected areas. Flooding of bathing water sites can be reported as 'adverse consequences to the community' (human health) and/or 'adverse consequences on protected areas' (environment).

This directive requires flood risk management plans to be submitted by Member States by the end of 2015. These plans are to be coordinated with the second generation of river basin management plans, and with the measures and actions concerning preventing, protecting and preparing against the adverse consequences of flooding.

**Map 4.1 Bathing water areas with abnormal situations caused by Central European floods in 2013**



**Reported abnormal situations – Central European floods**

- Bathing waters with reported abnormal situation

**Note:** Map visualises just those abnormal situations which were caused by Central European floods.

**Source:** National boundaries: EEA; bathing water data and coordinates: reporting countries' authorities; large rivers and lakes: EEA.

## 4.2 Littering of coastal bathing waters

Marine litter is persistent, manufactured or processed solid material that ends up in the marine and coastal environment after being discarded, disposed of or abandoned. It includes plastic, metal, glass, construction materials, paper, rubber, textile, timber and hazardous materials such as munitions, asbestos and medical waste. Various human activities at sea generate litter, including aquaculture facilities, shipping and fixed installations such as mining and oil extraction platforms. Land-based activities account for up to 80 % of marine litter.

Marine litter pollution is not yet assessed in a synchronized harmonized way on European or regional level. Reporting under the Marine Strategy Framework Directive (MSFD) in 2012 is the first Europe-wide attempt to get an overview of the state of marine pollution with litter. Overall results, although incomplete and with data comparability issues, indicate that 45 % of water areas are affected by litter. This means that almost 7 000 coastal bathing waters might be affected by marine litter. The most impacted are coastal waters in the Mediterranean Sea and in the North-East Atlantic Ocean.

Marine litter has trans-boundary impacts on wildlife and habitats, as well as on human safety, health and some human activities (e.g. accidents caused by floating litter, tourism affected by accumulation of litter on beaches). Plastics are of particular concern for their toxicity and uptake in the food chain. According to Member States that reported in the MSFD, the most important sources of marine litter are shipping, tourism and recreation, fisheries followed by and urban and industrial activities. Most Member States reported high pressure and significant impacts caused by litter pollution. Italy reports that up to 62 % of investigated sea turtles had litter in their stomachs, and 22 % of sea turtles had litter in their faeces. A long series of observations on Helgoland Island, Germany (ANS), found that 29 % of all dead gannet birds observed were entangled in marine debris.

Although some information can be presented about the state and impacts of marine litter in European coasts, at present there are insufficient data to properly assess the problem of marine litter. Citizens can play a major role in enriching the data and information needed to support marine litter management and prevention. By being actively engaged in data collection activities, citizens and communities may become aware of environmental issues prevailing in their local areas. This awareness is key to help support changes towards sustainable practices and behaviour.

Reflecting on the need to fill data gaps as well as the aims of involving citizens in environmental issues such as marine litter, the EEA developed the Marine LitterWatch (MLW). This approach combines citizen engagement and modern technology to help tackle the problem of marine litter (See [http://www.eea.europa.eu/themes/coast\\_sea/marine-litterwatch](http://www.eea.europa.eu/themes/coast_sea/marine-litterwatch)).

A number of clean-up campaigns have been organised in Europe in recent years to tackle the litter problem. The 'Let's Clean Up Europe!' campaign, organised by the European Commission, held a Europe-wide clean-up campaign in May 2014. The campaign brought together localised initiatives tackling marine litter and aimed to reach as many Europeans as possible. More information on the campaign is available here: <http://www.letscleanupeurope.eu>.

## 4.3 Short-term pollution events and other management measures

Short-term pollution means microbiological contamination that has clearly identifiable causes and is normally expected to affect bathing water quality for less than 72 hours after the first impact. Short-term pollution requires the competent authority to establish procedures to predict and deal with the contamination. In the bathing water profiles that should be available for all bathing waters, the pollution from sewage, from storm water overflows and from nearby farmlands is described. Based on the characterisation of pollution sources, the local authorities should implement remedying measures.

Where short-term pollution occurs at bathing water sites, the new Bathing Water Directive requires that management measures such as warnings, bathing prohibitions or stopping the pollution are implemented. Such measures are intended to reduce or eliminate causes of pollution or prevent bather's exposure to polluted bathing water.

In most cases, short-term pollution occurs after periods of heavy rain when a mixture of surface water and foul sewage can be discharged to the environment via combined sewer flows.

In 2013, EU Member States and Switzerland reported 430 short-term pollution events at 366 bathing water locations (Map 4.2). Countries which reported the highest amount of short-term pollution events are Italy (158), France (87), Spain (79) and Belgium (39).

**Map 4.2 Bathing water areas with short-term pollution events in 2013**



**Reported short-term pollution events in 2013**

- Bathing waters with short-term pollution events
- EU Member States and other countries with results

**Note:** Circle symbols represent both coastal and inland bathing water locations.

**Source:** National boundaries: EEA; bathing water data and coordinates: reporting countries' authorities.

Management measures are primarily implemented at those bathing waters that have only sufficient or poor water quality. In the case of bathing waters with several years of poor quality, it is imperative that the sources of pollution be assessed. Bathing waters that are classified as 'poor' for five consecutive years must receive a permanent bathing prohibition or permanent advice against bathing. A Member State can place a prohibition earlier than this if they wish.

Once a permanent prohibition has been placed on a bathing water site, no obligation remains with regard to monitoring or assessment since the site is not considered to be a bathing water site any longer. In 2013, there were nine bathing water sites classified as poor or non-compliant for five consecutive years. Five are located in Netherlands, two in Belgium one in France and one in Spain.

In 2012, 398 bathing sites in 19 Member States achieved poor quality status or were non-compliant with mandatory values. As reported, 142 of those bathing waters received a better quality classification in 2013 (Map 4.3). This represents 35.7 % of all poor/non-compliant bathing waters in 2012. The remaining bathing waters (64.3 %) were permanently closed or still classified as poor or non-compliant in

2013. In 15 EU Member States, at least one bathing water classified as poor or non-compliant in 2012 achieved at least sufficient quality or compliance with mandatory values in 2013.

In 2012, the United Kingdom reported 36 non-compliant bathing waters; 34 of these bathing waters achieved compliance with mandatory values in 2013. With this achievement, the United Kingdom had markedly reduced number of non-compliant bathing waters from 36 in 2012 to 7 in 2013 (with the addition of 5 new non-compliant bathing waters).

Denmark reported 34 bathing waters which were classified as poor in 2012. Nine of these bathing waters achieved at least sufficient quality in 2013. In 2013, 19 bathing waters in Denmark were classified as poor (15 less than in 2012) due to achievement of at least sufficient quality class at 9 bathing water locations and the permanent closure of some bathing waters.

However, despite the developments outlined above, the number of bathing waters with poor status across the EU is rising. In 2012, 398 bathing water sites in the EU were classified as poor or non-compliant. In 2013, this figure increased to 443.

### Box 4.1 Information about the management of bathing waters in Portugal

During the 2013 bathing season, there were only a few bathing waters that were temporarily closed or had advice against bathing issued in Portugal. The short-term pollution episodes occurred mainly as a result of intense rainfall events, which caused microbiological contamination due to illegal discharges of domestic wastewater into rivers and urban pluvial drainage systems. Other causes included accidental discharges of domestic and urban wastewater treatment systems and overflows from sewage systems.

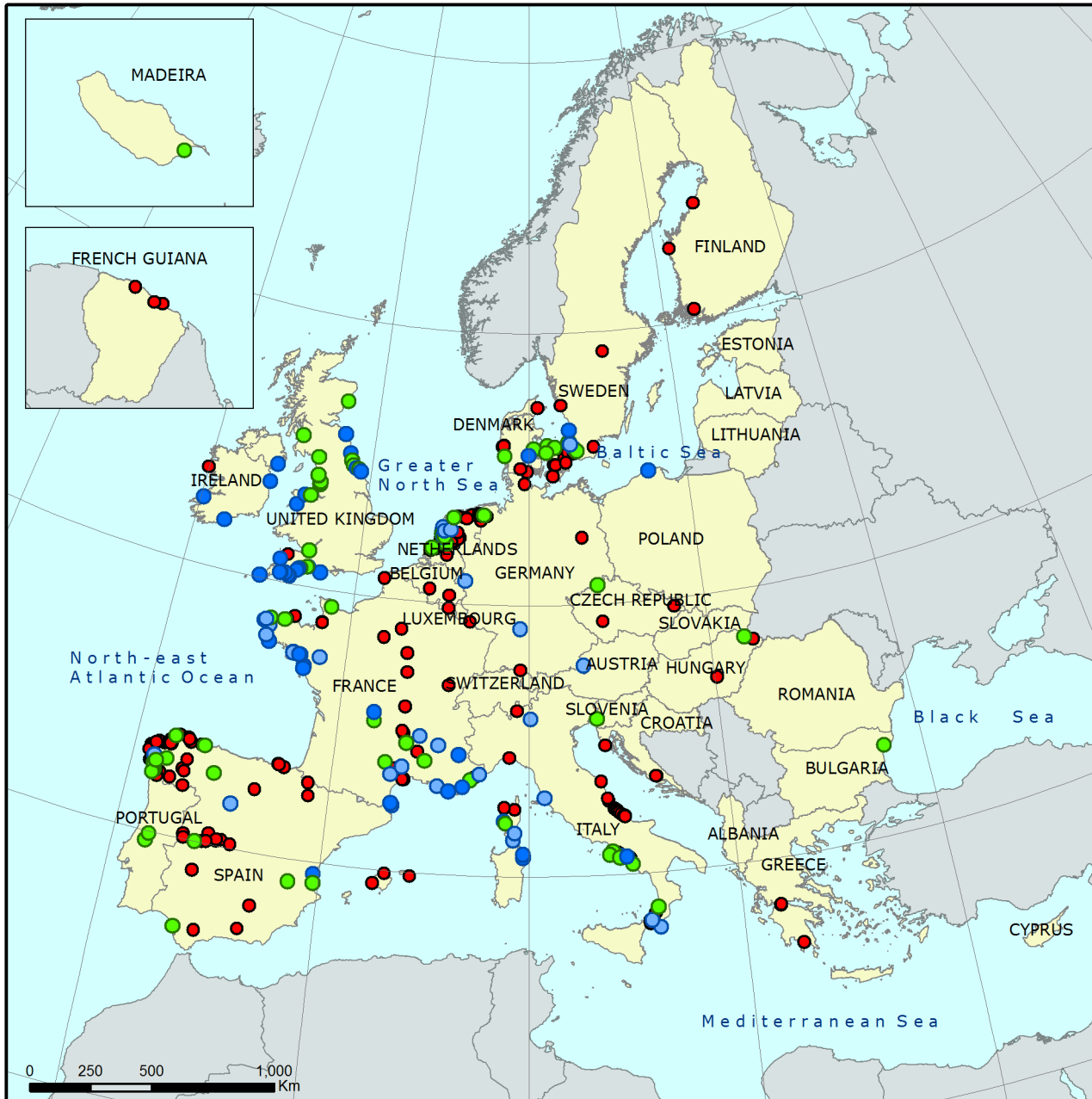
When causes for pollution incidents were detected, the local authority concerned implemented measures such as the control of illegal discharges, improvements with waste water collection and treatment of the contaminated areas. Bathing water profiles were also revised. When the causes were not clearly identified, the local authorities increased inspection actions and investigated the reasons for the short-term pollution events. They also raised public awareness about the negative impacts of illegal discharges of domestic waste water into rivers.

The Portuguese Environment Agency (APA I.P.) and the Portuguese Institute of Ocean and Atmosphere (IPMA) intensively monitored other water quality parameters including the presence of phytoplankton and zooplankton.

Some bathers reported minor skin problems when swimming in bathing waters along the Atlantic Ocean near Lisbon. Therefore, seven bathing water sites were temporarily closed in July 2013. Laboratory analyses showed that there was no microbiological contamination of water and no bathers were in contact with toxic species. Phytoplankton concentrations were low. It was suspected that the reasons could be medusa larvae. The symptoms of those that reported the skin problems disappeared after 10 days.

**Source:** Annex to Management Measures; The Environment Portuguese Agency, I.P. and the Portuguese Institute of Ocean and Atmosphere.

**Map 4.3 Bathing water sites with poor or non-compliant status in 2012 and their status in 2013**



**Bathing water sites with improved quality from poor to at least sufficient quality or compliant with mandatory values and bathing waters with poor quality in 2012 and 2013**

- Excellent water quality or compliant with the guide values (CG)
- Good water quality
- Sufficient water quality or compliant with the mandatory values but not guide values (CI)
- Bathing waters with poor quality in 2012 and 2013
- EU Member States and other countries with results

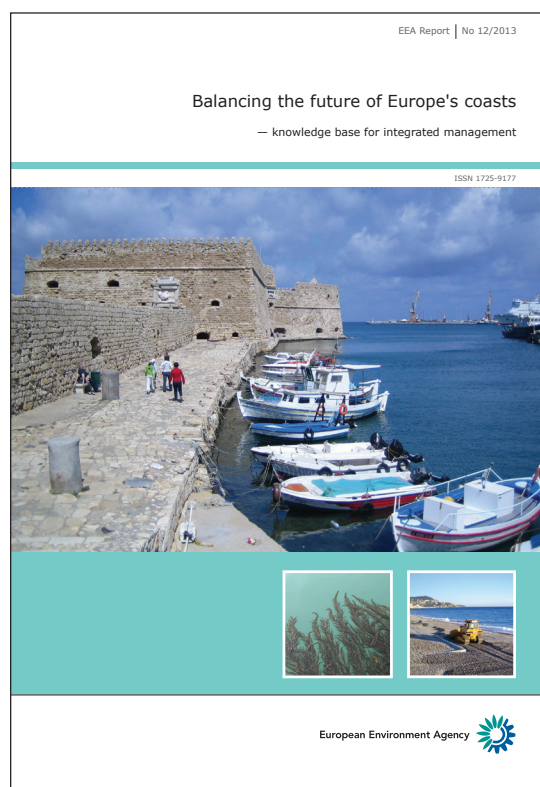
**Note:** Circle symbols represent both coastal and inland bathing water locations.

**Source:** National boundaries: EEA; bathing water data and coordinates: reporting countries' authorities.

#### 4.4 European coastlines are home for multiple interests

In addition to using beaches for bathing and other leisure activities, a range of activities have a growing interest in European coastal areas. 'Balancing the future of Europe's coasts', a 2013 report from the EEA, provides a comprehensive overview of current socio-economic drivers influencing European coasts. For example, coastal regions generate around 40 % of EU GDP. Europe is a major player in many intensive maritime industries, including shipping and ports, fisheries, energy and coastal tourism. However, the report also notes that some of the costs – namely habitat destruction, overfishing, pollution, coastal erosion, and infrastructure development – have damaged coastal ecosystems.

The 2013 coasts report highlights the need for a consolidated knowledge base and widespread information-sharing to support informed policy development and management actions to meet the sustainability challenge facing European coastal areas and waters. Europe needs to improve its knowledge to better understand the long-term effects of current human and economic pressures on the coastal environments.



**Note:** EEA Report No 12/2013 *Balancing the future of Europe's coasts — knowledge base for integrated management*. Available at <http://www.eea.europa.eu/publications/balancing-the-future-of-europes>.



## 5 Information on bathing water quality to public

This report sets out the results and trends in bathing water quality in 2013. More information on bathing water quality in EU Member States — including the reports for the 28 EU Member States as well as Albania and Switzerland — can be found on the EEA's bathing water website <sup>(4)</sup>.

### 5.1 Interactive information on bathing water quality

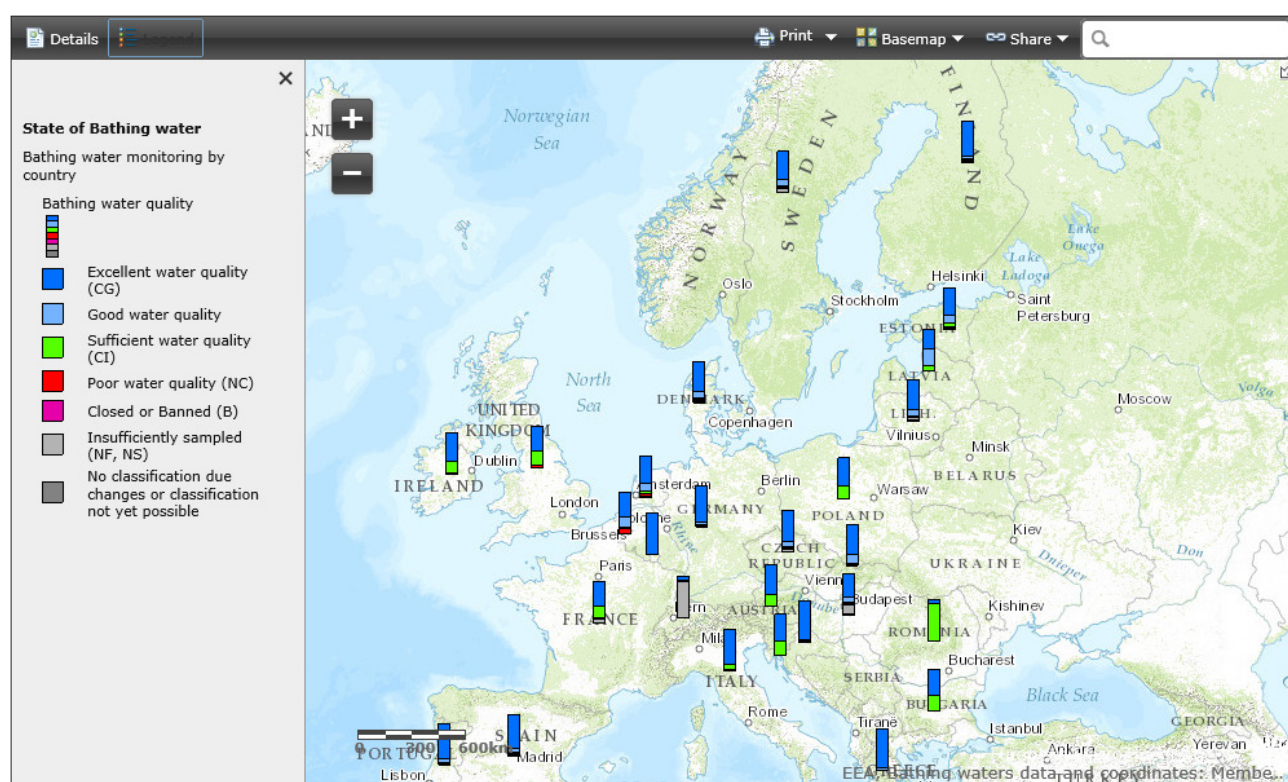
The bathing water section of the Water Information System for Europe (WISE), which is accessible at the EEA bathing water website, allows users to view the bathing water quality at more than 22 000 coastal beaches and inland sites across Europe. Users can

check bathing water quality on an interactive map, download data for a selected country or region, and make comparisons with previous years.

The WISE map viewer is an online map viewer for visualising European spatial water data (Figure 5.1). It includes many 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 bathing water sites are displayed.

Member States are, according to new Bathing Water Directive obligated to establish bathing water profiles. In bathing water profiles a description of geographical, hydrological and physical

**Figure 5.1** WISE bathing water map viewer



**Note:** WISE Bathing water map viewer application is available at <http://www.eea.europa.eu/themes/water/interactive/bathing/state-of-bathing-waters>.

<sup>(4)</sup> <http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>.

characteristics of the bathing water is provided, along with general description of bathing water site, monitoring results, potential causes of pollution and executed management measures. Each bathing water profile can cover a single site or more than one contiguous bathing water sites.

Bathing water profiles can be seen by clicking on a specific bathing water location using WISE interactive map, which links to the related bathing water profile.

The WISE bathing water quality data viewer combines text and graphical visualisation, providing a quick overview of the locations of coastal and inland bathing waters, as well as statistics on their quality. 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 country and bathing water location spatial level — and observe specific bathing water locations on Google Earth, Google maps or Bing maps.

In order to make information to the public more effective, all EU Member States have national or local web portals with detailed information for each bathing water site (Table 5.1). Websites generally include a map search function and public access to the monitoring results both in real time and for previous seasons.

Citizens now have access to more bathing water information than ever, giving them the tools to become more actively involved in protecting the environment and helping to improve Europe's bathing areas.

**Table 5.1 National or regional websites for bathing water quality**

Country	Region	Link to national or regional websites for bathing waters
AT (Austria)		<a href="http://www.ages.at/ages/gesundheit/badegewaesserueberwachung">http://www.ages.at/ages/gesundheit/badegewaesserueberwachung</a>
BE (Belgium)	Wallonia	<a href="http://aquabact.environnement.wallonie.be/GeneralPages.do?method=displayStationsList">http://aquabact.environnement.wallonie.be/GeneralPages.do?method=displayStationsList</a>
BE (Belgium)	Flanders	<a href="http://www.kwaliteitzwemwater.be">http://www.kwaliteitzwemwater.be</a>
BG (Bulgaria)		<a href="http://www.mh.government.bg/Articles.aspx?lang=bg-BG&amp;pageid=507">http://www.mh.government.bg/Articles.aspx?lang=bg-BG&amp;pageid=507</a>
CY (Cyprus)		<a href="http://www.moh.gov.cy/moh/mphs/phs.nsf/DMLwater1_gr/DMLwater1_gr?OpenDocument">http://www.moh.gov.cy/moh/mphs/phs.nsf/DMLwater1_gr/DMLwater1_gr?OpenDocument</a>
CZ (Czech Republic)		<a href="http://eagri.cz/public/web/mze/voda/povrchove-vody-vyuzivane-ke-koupani">http://eagri.cz/public/web/mze/voda/povrchove-vody-vyuzivane-ke-koupani</a>
DE (Germany)		<a href="http://www.umweltbundesamt.de/themen/wasser/schwimmen-baden/badegewaesser/wasserqualitaet-in-badegewaessern">http://www.umweltbundesamt.de/themen/wasser/schwimmen-baden/badegewaesser/wasserqualitaet-in-badegewaessern</a>
DK (Denmark)		<a href="http://naturstyrelsen.dk/vandmiljoe/badevand">http://naturstyrelsen.dk/vandmiljoe/badevand</a>
EE (Estonia)		<a href="http://www.terviseamet.ee/keskkonnatervis/vesi/suplusvesi/suplusvee-kvaliteet.html">http://www.terviseamet.ee/keskkonnatervis/vesi/suplusvesi/suplusvee-kvaliteet.html</a>
ES (Spain)		<a href="http://nayade.msssi.es/Splayas/ciudadano/ciudadanoZonaAction.do">http://nayade.msssi.es/Splayas/ciudadano/ciudadanoZonaAction.do</a>
FI (Finland)		<a href="http://www.valvira.fi/ohjaus_ja_valvonta/terveydensuojelu/uimavesi">http://www.valvira.fi/ohjaus_ja_valvonta/terveydensuojelu/uimavesi</a>
FR (France)		<a href="http://baignades.sante.gouv.fr/baignades/editorial/en/accueil.html">http://baignades.sante.gouv.fr/baignades/editorial/en/accueil.html</a>
GR (Greece)		<a href="http://www.bathingwaterprofiles.gr">http://www.bathingwaterprofiles.gr</a>
HR (Croatia)		<a href="http://baltazar.izor.hr/plazepub/kakvoća?p_jezik=eng">http://baltazar.izor.hr/plazepub/kakvoća?p_jezik=eng</a>
HU (Hungary)		<a href="http://oki.antsz.hu">http://oki.antsz.hu</a>
IE (Ireland)		<a href="http://splash.epa.ie/BathingWaters">http://splash.epa.ie/BathingWaters</a>
IT (Italy)		<a href="http://www.portaleacque.salute.gov.it/PortaleAcquePubblico/home.spring">http://www.portaleacque.salute.gov.it/PortaleAcquePubblico/home.spring</a>
LT (Lithuania)		<a href="http://www.smlpc.lt/lt/aplinkos_sveikata/maudyklos">http://www.smlpc.lt/lt/aplinkos_sveikata/maudyklos</a>
LU (Luxembourg)		<a href="http://www.eau.public.lu/actualites/2011/03/Profil_baignade/">http://www.eau.public.lu/actualites/2011/03/Profil_baignade/</a>
LV (Latvia)		<a href="http://www.vi.gov.lv/lv/vides-veseliba/peldudens">http://www.vi.gov.lv/lv/vides-veseliba/peldudens</a>
MT (Malta)		<a href="https://ehealth.gov.mt/healthportal/public_health/environmental-health/health_inspectorate/env._hlt._risk_management/bathing_water_profiles_report.aspx">https://ehealth.gov.mt/healthportal/public_health/environmental-health/health_inspectorate/env._hlt._risk_management/bathing_water_profiles_report.aspx</a>
NL (Netherlands)		<a href="http://www.zwemwater.nl">http://www.zwemwater.nl</a>
PL (Poland)		<a href="http://sk.gis.gov.pl/?go=content&amp;id=7">http://sk.gis.gov.pl/?go=content&amp;id=7</a>
PT (Portugal)		<a href="http://www.apambiente.pt/index.php?ref=19&amp;subref=906&amp;sub2ref=919&amp;sub3ref=920">http://www.apambiente.pt/index.php?ref=19&amp;subref=906&amp;sub2ref=919&amp;sub3ref=920</a>
PT (Portugal)	Azores	<a href="http://www.azores.gov.pt/Gra/srrn-mar/conteudos/livres/Perfis+das+%C3%81guas+Balneares+dos+A+%C3%A7ores.htm">http://www.azores.gov.pt/Gra/srrn-mar/conteudos/livres/Perfis+das+%C3%81guas+Balneares+dos+A+%C3%A7ores.htm</a>
PT (Portugal)	Madeira	<a href="http://dramb.gov-madeira.pt/berilio/berwpg0.desenvctt?pCtt=2082">http://dramb.gov-madeira.pt/berilio/berwpg0.desenvctt?pCtt=2082</a>
RO (Romania)		<a href="http://www.ms.gov.ro/?pag=182">http://www.ms.gov.ro/?pag=182</a>
SE (Sweden)		<a href="http://badplatsen.folkhalsomyndigheten.se">http://badplatsen.folkhalsomyndigheten.se</a>
SI (Slovenia)		<a href="http://www.arhiv.mop.gov.si/si/delovna_podrocja/voda/kopalne_vode/seznam_in_profili_kopalnih_voda/profili_kopalnih_voda">http://www.arhiv.mop.gov.si/si/delovna_podrocja/voda/kopalne_vode/seznam_in_profili_kopalnih_voda/profili_kopalnih_voda</a>
SK (Slovakia)		<a href="http://www.uvzsr.sk/index.php?option=com_content&amp;view=category&amp;layout=blog&amp;id=59&amp;Itemid=66">http://www.uvzsr.sk/index.php?option=com_content&amp;view=category&amp;layout=blog&amp;id=59&amp;Itemid=66</a>
UK (United Kingdom)	England and Wales	<a href="http://environment.data.gov.uk/bwq/explorer/index.html">http://environment.data.gov.uk/bwq/explorer/index.html</a>
UK (United Kingdom)	Scotland	<a href="http://www.sepa.org.uk/water/bathing_waters/sampling_and_results.aspx">http://www.sepa.org.uk/water/bathing_waters/sampling_and_results.aspx</a>

# Annex 1 Bathing water quality results in 2013

All bathing waters	Assessment type	Total number of bathing waters			Excellent quality or compliance with guide values		At least sufficient quality or compliance with mandatory values		Poor or non-complying		Closed		Quality classification not possible: new bathing waters/ bathing waters with changes/ not enough samples	
		Number	%		Number	%	Number	%	Number	%	Number	%		
AT (Austria)	New	266	233	87.6	262	98.5	2	0.8	0	0.0	2	0.8		
BE (Belgium)	New	113	70	61.9	107	94.7	4	3.5	0	0.0	2	1.8		
BG (Bulgaria)	Transition	94	62	66.0	93	98.9	1	1.1	0	0.0	0	0.0		
CY (Cyprus)	New	112	112	100.0	112	100.0	0	0.0	0	0.0	0	0.0		
CZ (Czech Republic)	New	157	120	76.4	144	91.7	3	1.9	5	3.2	5	3.2		
DE (Germany)	New	2 296	2 065	89.9	2 228	97.0	13	0.6	10	0.4	45	2.0		
DK (Denmark)	New	1 037	801	77.2	1 008	97.2	19	1.8	0	0.0	10	1.0		
EE (Estonia)	New	53	34	64.2	48	90.6	3	5.7	1	1.9	1	1.9		
ES (Spain)	New	2 161	1 800	83.3	2 063	95.5	71	3.3	4	0.2	23	1.1		
FI (Finland)	New	315	240	76.2	271	86.0	4	1.3	0	0.0	40	12.7		
FR (France)	New	3 331	2 411	72.4	3 035	91.1	116	3.5	6	0.2	174	5.2		
GR (Greece)	New	2 162	2 016	93.2	2 145	99.2	5	0.2	0	0.0	12	0.6		
HR (Croatia)	New	927	880	94.9	906	97.7	3	0.3	0	0.0	18	1.9		
HU (Hungary)	New	241	128	53.1	162	67.2	4	1.7	1	0.4	74	30.7		
IE (Ireland)	Transition	135	114	84.4	131	97.0	4	3.0	0	0.0	0	0.0		
IT (Italy)	New	5 511	4 806	87.2	5 226	94.8	138	2.5	2	0.0	145	2.6		
LT (Lithuania)	New	112	94	83.9	109	97.3	0	0.0	1	0.9	2	1.8		
LU (Luxembourg)	New	11	11	100.0	11	100.0	0	0.0	0	0.0	0	0.0		
LV (Latvia)	New	51	28	54.9	45	88.2	0	0.0	0	0.0	6	11.8		
MT (Malta)	New	87	86	98.9	87	100.0	0	0.0	0	0.0	0	0.0		
NL (Netherlands)	New	711	489	68.8	654	92.0	36	5.1	2	0.3	19	2.7		
PL (Poland)	Transition	205	137	66.8	201	98.0	1	0.5	3	1.5	0	0.0		
PT (Portugal)	New	543	468	86.2	518	95.4	2	0.4	0	0.0	23	4.2		
RO (Romania)	Transition	50	17	34.0	50	100.0	0	0.0	0	0.0	0	0.0		
SE (Sweden)	New	446	261	58.5	355	79.6	7	1.6	0	0.0	84	18.8		
SI (Slovenia)	New	47	35	74.5	47	100.0	0	0.0	0	0.0	0	0.0		
SK (Slovakia)	New	33	24	72.7	32	97.0	0	0.0	0	0.0	1	3.0		
UK (United Kingdom)	Transition	629	500	79.5	619	98.4	7	1.1	1	0.2	2	0.3		
<b>EU</b>		<b>21 836</b>	<b>18 042</b>	<b>82.6</b>	<b>20 669</b>	<b>94.7</b>	<b>443</b>	<b>2.0</b>	<b>36</b>	<b>0.2</b>	<b>688</b>	<b>3.2</b>		
AL (Albania)	Transition	73	37	50.7	67	91.8	6	8.2	0	0.0	0	0.0		
CH (Switzerland)	New	167	122	73.1	130	77.8	0	0.0	0	0.0	37	22.2		
<b>Europe</b>		<b>22 076</b>	<b>18 201</b>	<b>82.4</b>	<b>20 866</b>	<b>94.5</b>	<b>449</b>	<b>2.0</b>	<b>36</b>	<b>0.2</b>	<b>725</b>	<b>3.3</b>		

**Note:** 'New' indicates assessment under Directive 2006/7/EC. 'Transition' indicates assessment under the transition period rules.

More data on bathing water quality are available at <http://www.eea.europa.eu/themes/water/interactive/bathing>.

**Source:** EEA.

# Annex 2 Coastal bathing water quality results in 2013

Coastal bathing waters	Assessment type	Total number of bathing waters		Excellent quality or compliance with guide values		At least sufficient quality or compliance with mandatory values		Poor or non-complying		Closed		Quality classification not possible: new bathing waters/ bathing waters with changes/ not enough samples	
		Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
BE (Belgium)	New	42	20	47.6	42	100.0	0	0.0	0	0.0	0	0.0	
BG (Bulgaria)	Transition	90	59	65.6	89	98.9	1	1.1	0	0.0	0	0.0	
CY (Cyprus)	New	112	112	100.0	112	100.0	0	0.0	0	0.0	0	0.0	
DE (Germany)	New	367	290	79.0	357	97.3	5	1.4	0	0.0	5	1.4	
DK (Denmark)	New	923	694	75.2	898	97.3	18	2.0	0	0.0	7	0.8	
EE (Estonia)	New	26	11	42.3	23	88.5	2	7.7	0	0.0	1	3.8	
ES (Spain)	New	1931	1 684	87.2	1 872	96.9	41	2.1	2	0.1	16	0.8	
FI (Finland)	New	82	54	65.9	72	87.8	4	4.9	0	0.0	6	7.3	
FR (France)	New	2 034	1 535	75.5	1 914	94.1	57	2.8	1	0.0	62	3.0	
GR (Greece)	New	2 156	2 014	93.4	2 139	99.2	5	0.2	0	0.0	12	0.6	
HR (Croatia)	New	919	877	95.4	902	98.2	3	0.3	0	0.0	14	1.5	
IE (Ireland)	Transition	126	107	84.9	123	97.6	3	2.4	0	0.0	0	0.0	
IT (Italy)	New	4 867	4 309	88.5	4 703	96.6	135	2.8	0	0.0	29	0.6	
LT (Lithuania)	New	16	13	81.3	16	100.0	0	0.0	0	0.0	0	0.0	
LV (Latvia)	New	33	17	51.5	32	97.0	0	0.0	0	0.0	1	3.0	
MT (Malta)	New	87	86	98.9	87	100.0	0	0.0	0	0.0	0	0.0	
NL (Netherlands)	New	90	66	73.3	87	96.7	3	3.3	0	0.0	0	0.0	
PL (Poland)	Transition	83	63	75.9	83	100.0	0	0.0	0	0.0	0	0.0	
PT (Portugal)	New	446	410	91.9	436	97.8	0	0.0	0	0.0	10	2.2	
RO (Romania)	Transition	49	17	34.7	49	100.0	0	0.0	0	0.0	0	0.0	
SE (Sweden)	New	247	132	53.4	202	81.8	6	2.4	0	0.0	39	15.8	
SI (Slovenia)	New	21	21	100.0	21	100.0	0	0.0	0	0.0	0	0.0	
UK (United Kingdom)	Transition	616	496	80.5	606	98.4	7	1.1	1	0.2	2	0.3	
<b>EU</b>		<b>15 363</b>	<b>13 087</b>	<b>85.2</b>	<b>14 865</b>	<b>96.8</b>	<b>290</b>	<b>1.9</b>	<b>4</b>	<b>0.0</b>	<b>204</b>	<b>1.3</b>	
AL (Albania)	Transition	73	37	50.7	67.0	91.8	6	8.2	0.0	0.0	0	0.0	
<b>Europe</b>		<b>15 436</b>	<b>13 124</b>	<b>85.0</b>	<b>14 932</b>	<b>96.7</b>	<b>296</b>	<b>1.9</b>	<b>4</b>	<b>0.0</b>	<b>204</b>	<b>1.3</b>	

**Note:** 'New' indicates assessment under Directive 2006/7/EC. 'Transition' indicates assessment under the transition period rules.

More data on bathing water quality are available at <http://www.eea.europa.eu/themes/water/interactive/bathing>.

**Source:** EEA.

# Annex 3 Inland bathing water quality results in 2013

Inland bathing waters	Assessment type	Total number of bathing waters		Excellent quality or compliance with guide values		At least sufficient quality or compliance with mandatory values		Poor or non-complying		Closed		Quality classification not possible: new bathing waters/ bathing waters with changes/ not enough samples	
		Number	%	Number	%	Number	%	Number	%	Number	%		
AT (Austria)	New	266		233	87.6	262	98.5	2	0.8	0	0.0	2	0.8
BE (Belgium)	New	71		50	70.4	65	91.5	4	5.6	0	0.0	2	2.8
BG (Bulgaria)	Transition	4		3	75.0	4	100.0	0	0.0	0	0.0	0	0.0
CZ (Czech Republic)	New	157		120	76.4	144	91.7	3	1.9	5	3.2	5	3.2
DE (Germany)	New	1 929		1 775	92.0	1 871	97.0	8	0.4	10	0.5	40	2.1
DK (Denmark)	New	114		107	93.9	110	96.5	1	0.9	0	0.0	3	2.6
EE (Estonia)	New	27		23	85.2	25	92.6	1	3.7	1	3.7	0	0.0
ES (Spain)	New	230		116	50.4	191	83.0	30	13.0	2	0.9	7	3.0
FI (Finland)	New	233		186	79.8	199	85.4	0	0.0	0	0.0	34	14.6
FR (France)	New	1 297		876	67.5	1 121	86.4	59	4.5	5	0.4	112	8.6
GR (Greece)	New	6		2	33.3	6	100.0	0	0.0	0	0.0	0	0.0
HR (Croatia)	New	8		3	37.5	4	50.0	0	0.0	0	0.0	4	50.0
HU (Hungary)	New	241		128	53.1	162	67.2	4	1.7	1	0.4	74	30.7
IE (Ireland)	Transition	9		7	77.8	8	88.9	1	11.1	0	0.0	0	0.0
IT (Italy)	New	644		497	77.2	523	81.2	3	0.5	2	0.3	116	18.0
LT (Lithuania)	New	96		81	84.4	93	96.9	0	0.0	1	1.0	2	2.1
LU (Luxembourg)	New	11		11	100.0	11	100.0	0	0.0	0	0.0	0	0.0
LV (Latvia)	New	18		11	61.1	13	72.2	0	0.0	0	0.0	5	27.8
NL (Netherlands)	New	621		423	68.1	567	91.3	33	5.3	2	0.3	19	3.1
PL (Poland)	Transition	122		74	60.7	118	96.7	1	0.8	3	2.5	0	0.0
PT (Portugal)	New	97		58	59.8	82	84.5	2	2.1	0	0.0	13	13.4
RO (Romania)	Transition	1		0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
SE (Sweden)	New	199		129	64.8	153	76.9	1	0.5	0	0.0	45	22.6
SI (Slovenia)	New	26		14	53.8	26	100.0	0	0.0	0	0.0	0	0.0
SK (Slovakia)	New	33		24	72.7	32	97.0	0	0.0	0	0.0	1	3.0
UK (United Kingdom)	Transition	13		4	30.8	13	100.0	0	0.0	0	0.0	0	0.0
<b>EU</b>		<b>6 473</b>		<b>4 955</b>	<b>76.5</b>	<b>5 804</b>	<b>89.7</b>	<b>153</b>	<b>2.4</b>	<b>32</b>	<b>0.5</b>	<b>484</b>	<b>7.5</b>
CH (Switzerland)	New	167		122	73.1	130	77.8	0	0.0	0	0.0	37	22.2
<b>Europe</b>		<b>6 640</b>		<b>5 077</b>	<b>76.5</b>	<b>5 934</b>	<b>89.4</b>	<b>153</b>	<b>2.3</b>	<b>32</b>	<b>0.5</b>	<b>521</b>	<b>7.8</b>

**Note:** 'New' indicates assessment under Directive 2006/7/EC. 'Transition' indicates assessment under the transition period rules.  
More data on bathing water quality are available at <http://www.eea.europa.eu/themes/water/interactive/bathing>.

**Source:** EEA.



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