

European bathing water quality in 2014

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Foreword

The coming of spring across Europe prompts many of us to turn our thoughts to the outdoor activities we can enjoy now that the weather is improving. Some of us are already planning summer holidays and looking for our holiday destinations. The quality of outdoor swimming areas will play an important role in deciding destinations.



Photo: © Environmental Health Directorate, Malta

In order to help Europeans in their choices, every year before the start of the bathing season, the EU releases an assessment of bathing water quality in Europe. The report is a joint production of the European Environment Agency (EEA) and the European Commission.

This year's report assesses bathing water quality in 2014, indicating where the quality of bathing water is expected to be good in 2015. The report was compiled using information from more than 21 000 bathing waters in the 28 EU Member States. The report also covers bathing waters in Albania and Switzerland.

Happily, the main message of this report is that in 2014, bathing waters in Europe were generally of high quality, with 95% of the bathing water sites meeting minimum water quality standards (as specified in the EU's Bathing Water Directive).

More than 83% of the sites met the more stringent standard of 'excellent' bathing water quality, and less than 2% of bathing waters were rated as having poor bathing water quality.

We encourage citizens to explore this information in more detail by going to the EEA's bathing water homepage. Here they can find detailed information on bathing waters in their local area or further afield.

We wish you a wonderful summer, and don't forget to do your part to keep our beaches and inland bathing areas clean.

Karmenu Vella,
European Commissioner for the Environment, Maritime Affairs and Fisheries

Hans Bruyninckx,
Executive Director, European Environment Agency

Executive summary

Good bathing water quality is critically important for Europeans. It plays a large role in helping people to plan holidays and leisure activities. It is therefore also of great importance to Europe's tourism industry, as clean and safe water is a major factor in continuing to attract visitors from all over the world.

To allow citizens to make an informed choice of beach, the European Union (EU) publishes an annual report on the quality of coastal and inland bathing areas, based on data 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 prepared the report in cooperation with the European Commission's Directorate-General for the Environment.

This report provides a comprehensive summary of the quality of bathing waters in the Member States of the European Union (as well as in Switzerland and Albania) in the 2014 bathing season. It thus gives an indication of the areas where the quality of bathing water is expected to be good during 2015. The report also shows the evolution of bathing water quality from 1990 to 2014.

There were 21 538 bathing waters identified in Europe in 2014, 21 255 of which were in the 28 EU Member States. Switzerland and Albania have also monitored and reported on the quality of their bathing waters. In addition to coastal bathing sites, 27 countries reported on the quality of their inland bathing sites on lakes and rivers. No inland bathing waters were reported for Albania, Cyprus, and Malta. All 24 countries with access to the sea have monitored and reported data on their coastal bathing waters.

The main message of this report is that in 2014 bathing waters in Europe continued to be of high quality. In 2014, 95.1% of all bathing waters in the EU met the minimum water quality standards set by the Bathing Water Directive. This is an increase of 0.5 percentage

points compared with 2013. The proportion of bathing waters assessed as being of excellent quality was 83.3%, an increase of 0.6 percentage points compared with 2013.

The share of bathing waters assessed as being of poor quality in 2014 (i.e. those failing to meet the Bathing Water Directive's minimum standards) dropped to 1.9%. This represents a 0.1 percentage point decrease from the previous season. By the end of the 2015 bathing season ⁽¹⁾, all bathing waters should be at least 'sufficient' quality and bathing waters with poor quality will only be accepted unless measures to improve the quality are taken.

Looking solely at coastal bathing waters, 96.8% of these waters met the minimum quality standards established by the Bathing Water Directive, similar percentage to that achieved in the 2013 bathing season. On the other hand, the share of coastal bathing waters with excellent quality in 2014 increased by 0.3 percentage points compared with the previous year, from 85.2% to 85.5%.

A small share of coastal bathing waters (1.7%) were assessed as being of poor quality, and therefore did not comply with minimum standards. This represents a 0.2 percentage point decrease from 2013, when 1.9% of coastal bathing waters were of poor quality.

78.2% of inland bathing waters were of excellent quality in 2014, an increase of 1.6 percentage points compared with 2013. In 2014, the share (2.4%) of inland bathing waters of poor quality remained the same as in 2013. However, the longer-term trend in the share of inland bathing waters of excellent quality has been one of growth. The share of bathing waters of excellent quality has been constantly growing since 1991. In 1995, this share accounted for less than 40%. In 1998, it exceeded 60%, and this share was more or less stable until 2011. Since 2010, there has been a remarkable increase in the share of excellent bathing waters; increasing by almost 18 percentage points in this short time.

(1) Results to be published in the 2016 report.

There are six countries where 90% or more of bathing waters (whether coastal or inland) have reached excellent quality: Croatia, Cyprus, Germany, Greece, Luxembourg, and Malta. There are ten countries where all bathing waters are compliant with at least the minimum quality standards: Austria, Cyprus, Greece, Latvia, Lithuania, Luxembourg, Malta, Romania, Slovakia, and Slovenia.

In Europe, there were 409 bathing waters assessed as poor. The three countries with the highest numbers of poor bathing waters are Italy (107 bathing waters or 1.9%), France (105 bathing waters or 3.1%) and Spain (67 bathing waters or 3.1%). The highest rates of bathing waters with poor quality have been found in Estonia (3 bathing waters or 5.6%), Ireland (7 bathing waters or 5.1%), the Netherlands (35 bathing waters or 4.9%), and Sweden (16 bathing waters or 3.6%).

Albania reported its bathing water quality data for the first time in 2013. In 2014, only one bathing water (out of 73) did not meet the minimum standards, which is a significant improvement. In 2013, six (8.2%) Albanian bathing waters were assessed as not meeting minimum standards.

Switzerland identified 210 bathing water sites for the 2014 season, an increase of 25.7% compared with the 2013 season. Excellent quality was achieved by 128 (61%) bathing waters while only four (1.9%) were of poor quality. Quality classification of around one third of the Swiss bathing waters was not possible because they were new bathing waters and with not enough samples.



Photo: © Peter Kristensen

1 Bathing waters in Europe

There is a great diversity of coastal and inland beaches all over Europe. Every summer, millions of Europeans spend their weekends at their local beach, and go on holidays by the water for swimming, recreation, and relaxation. The start of the bathing season in the spring is therefore an appropriate time to draw attention to the quality of bathing waters.

Europe is the world's no. 1 tourist destination, and the tourism industry has become a key sector of the European economy, generating over 10% of EU GDP (directly or indirectly) and employing around 10 million citizens. The competitiveness of the European tourism industry is dependent on the quality of tourist destinations, including the quality of bathing water at those destinations. Happily, the main message of this report is that in 2014, bathing waters in Europe were generally of high quality, with 95% of the bathing water sites meeting minimum water quality standards (as specified in the EU's Bathing Water Directive).

The EU's water policy has played an important role in protecting water resources, and the quality of EU bathing sites is a good example of this. The first European bathing water legislation, in the form of the Bathing Water Directive ⁽²⁾, came into force in 1976. Revised European legislation on bathing waters (the New Bathing Water Directive) was adopted in 2006 ⁽³⁾. This new directive simplifies management and surveillance methods for bathing water sites. Under the directive, countries also prepare bathing

water profiles for all of their bathing water sites ⁽⁴⁾ and ensure they are available to the public. These bathing water profiles describe the physical and hydrological conditions of bathing areas and analyse potential impacts on (and potential threats to) their water quality. The bathing water profiles serve both as sources of information for citizens and as a management tool for the responsible authorities.

The bathing season usually begins in May and lasts until the end of September. Nevertheless, the length of the bathing season can vary significantly, especially between northern and southern Europe, due to the notable differences in air and water temperatures. Before the start of the bathing season, local or national governments begin to monitor bathing water quality and inform citizens about possible health risks arising from issues such as short-term pollution episodes. At the end of each year, they send data on bathing water quality and information on management measures to the European Commission (EC) and the European Environment Agency (EEA).

This report provides an overview of the quality of bathing waters in the Member States of the European Union, Switzerland, and Albania for the 2014 bathing season. It also presents a longer-term historical perspective of the evolution in bathing water quality since 1990. The report also gives an overview of changes in monitoring programmes, and in the efficiency of management measures, since the New Bathing Water Directive came into force.

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

⁽³⁾ 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.

⁽⁴⁾ A bathing water profile can cover a single site or more contiguous bathing water sites.

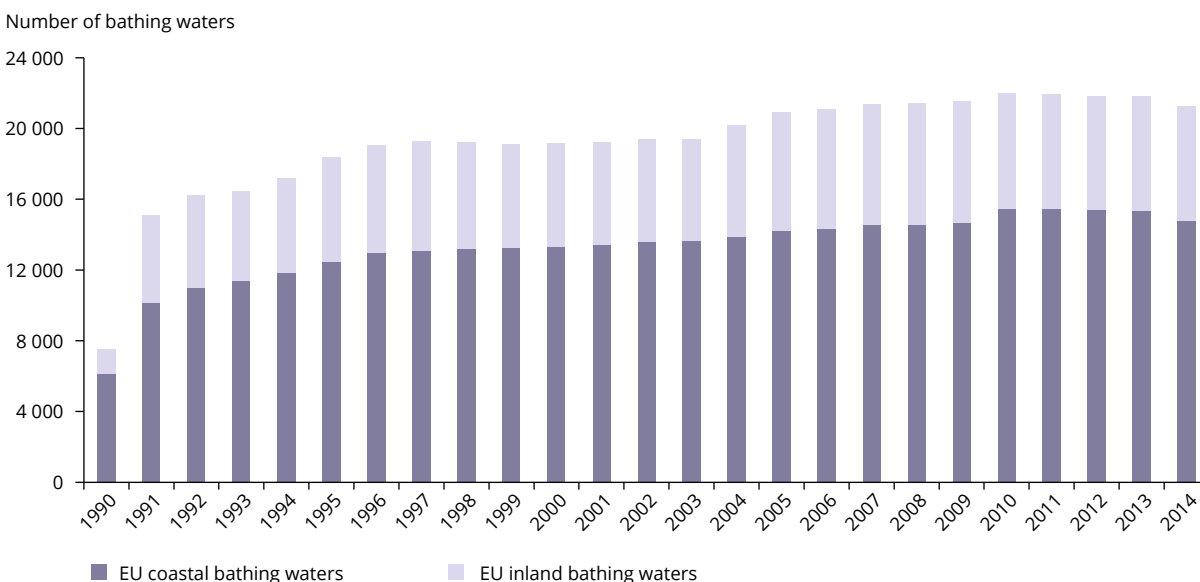
2 Monitoring and assessment under the European Union bathing water legislation in 2014

In the 2014 bathing season, all Member States monitored their bathing sites according to the provisions of the EU's New Bathing Water Directive (2006/7/EC). Countries identified national bathing waters, defined the length of their bathing season, and established a monitoring calendar for each bathing water site before the start of the 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 coastal and inland bathing waters are taken and analysed. Laboratories study these samples in order to assess the concentrations they contain of two bacteria, *Escherichia coli* ⁽⁵⁾ and intestinal enterococci. The presence of either of these bacteria in the samples may indicate pollution in the bathing water site, 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.

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).

⁽⁵⁾ *Escherichia coli*, when transmitted to the human body through contaminated water, can cause diarrhoea and other illnesses of the intestinal tract (CDC, 2015).

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.

There were 21 538 bathing waters identified in Europe in 2014, 21 255 of which were in the 28 EU Member States. Switzerland and Albania also monitored and reported on the quality of their bathing waters. In 2014, 27 countries reported inland bathing sites on lakes and rivers. There were no inland bathing waters reported in Albania, Cyprus, and Malta. All 24 countries with access to the sea monitored and reported data on their coastal bathing waters.

In the past 25 years, there has been an increase in the number of reported bathing waters. However, in the last five years there has been a decrease in reported bathing waters (see Section 4.2). The increase is due to both more EU Member States and more bathing waters being monitored, and was especially great between 1990 and 1996. 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). Since 2004, bathing water quality has been monitored in more than 20 000 locations. Out of all EU bathing water sites monitored in 2014, 69.4% were coastal bathing waters while 30.6% were inland waters (rivers, lakes, and transitional waters). 60% of all EU bathing waters were situated in France, Germany, Greece and Italy.

2.2 Assessment of bathing water quality

Member States are obliged to provide the results of their monitoring to the European Commission before 31 December of the same year that they took the samples and monitored their bathing waters. Every year before the start of the bathing season, the Commission, together with the EEA, publishes a Europe-wide report on these results. European bathing water quality as described in this report is based on an assessment of the data, measured and reported by countries in 2014.

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 Bathing Water Directive makes use of the values of these two parameters obtained in four consecutive years. For example, the quality of bathing waters in 2014 is assessed on the basis of samples taken from 2011 to

2014. The assessment methodology under the New Bathing Water Directive is further described in Box 2.1.

For the 2014 season, bathing water quality was assessed under the New Bathing Water Directive in 27 European countries, including Switzerland. Bathing water quality in the remaining three countries (Albania, Romania, and the United Kingdom) was assessed under a set of transitional rules, since the full set of data, sampled according to the new directive rules, is not yet available for four consecutive seasons.

Table 2.1 shows the number of bathing waters identified in each European country in the 2014 season, the number of bathing waters excluded from the monitoring programme, and the number of newly identified bathing waters. In the 2014 season, EU Member States identified 21 255 bathing water sites, out of which 198 are either new or recently re-opened bathing waters. The number of identified bathing waters is 2.7% fewer than in the 2013 season. This decrease is mainly a consequence of a revision to the bathing water monitoring programme carried out by Greece before the start of the 2014 bathing season (see Section 4.2).

210 bathing water sites were identified in Switzerland for the 2014 season. This represents a very large increase of 25.7% compared with the 2013 season. 2014 was the second year that Albania reported data on bathing water quality, and it identified 73 bathing water sites.

779 bathing waters have been excluded from the monitoring programme. There are two reasons why a water might be excluded. In some cases, the entire bathing water site has been delisted from the monitoring programme. However, some bathing waters are excluded because there has recently been a change in the precise location from where samples are taken for that bathing site. A change in sampling location is enough to exclude a water from the monitoring programme until four years of samples have been taken from that new location.

The conditions described in Box 2.1 (pre-season sample, four years of samples, and one sample per month) have been checked for all bathing waters. In cases where these criteria are not met, the bathing water is categorised as 'sampling frequency not satisfied'. The sampling frequency was not satisfied at 556 bathing water locations in EU Member States and at 34 bathing sites in Switzerland. Due to the lack of pre-season sampling, none of the Albanian bathing waters have met the frequency condition (Table 2.2). Italy and Sweden account for the highest number of bathing waters with 'sampling frequency not satisfied', at 247 and 94 respectively. The highest percentage of

EU bathing waters violating the frequency criteria are found in Sweden (21.2%) and Cyprus (17.0%), which have more than 10% of bathing waters with 'sampling frequency not satisfied'.

Quality assessment was not possible for 31 closed European bathing waters. The countries with the highest number of closed bathing waters are

Germany (9) and Italy (6). There are 265 new bathing waters where not enough samples for quality assessment are available yet. The countries with the highest shares of bathing waters categorised as 'new' are Switzerland (42 bathing waters; 20% of all identified), Latvia (7 bathing waters; 13% of all identified) and Poland (19 bathing waters; 9.4% of all identified).

Box 2.1 Monitoring requirements and assessment methodology for bathing water quality in the 2014 season

The monitoring requirements under the New Bathing Water Directive are:

- **taking of a pre-season sample** (taken shortly before the start of the bathing season);
- **a minimum of four samples per season** (three samples are sufficient if the season does not exceed eight weeks or if the region is subject to special geographical constraints);
- **a minimum of one sample per month** (if, for any reason, it is not possible to take the sample at the scheduled date, a delay of four extra days is allowed. Thus, the interval between two samples should not exceed 31 + 4 days).

The conditions described above must be met for all bathing waters. If these rules are satisfied, the bathing water is categorised as 'sampling frequency satisfied'. If at least one monitoring requirement is not fulfilled the bathing water is categorised as 'sampling frequency not satisfied'. In such cases, bathing water can still be quality assessed if at least four samples per season (three samples if the season does not exceed eight weeks or the region is subject to special geographical constraints) are available and are more or less equally distributed throughout the season. Assessment of bathing water quality is possible when the bathing-water sample dataset is available for four consecutive seasons. Bathing waters are accordingly classified to one of the bathing-water quality classes (excellent, good, sufficient, or poor).

Quality assessment is not possible for all bathing waters. In these cases, they are instead classified as either:

- 'not enough samples': not enough samples have been provided for the 2014 season or throughout the whole assessment period.
- 'new': classification not yet possible because bathing water is newly identified and a complete set of samples is not yet available.
- 'changes': classification is not yet possible after changes affecting bathing water quality have been implemented.
- 'closed': bathing water is closed temporarily or throughout the bathing season.

Transitional rules

If intestinal enterococci and *Escherichia coli* sample datasets for four consecutive seasons are not yet available, the assessment of bathing water quality is made by using the data from the latest year only. In this case, the assessment of bathing water quality is conducted under a set of transitional rules.

The parameter intestinal enterococci is evaluated according to the so-called '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 value' (corresponding to a rating that would classify a water body as having 'sufficient' quality) and 'guide' values for the parameter faecal coliforms given in Directive 76/160/EEC. The results for both parameters are classified in the following three quality categories: compliant with the mandatory value (CI), compliant with the guide values (CG), and not compliant with the mandatory value (NC).

A first classification according to the requirements of the New 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).

Quality assessment is similarly not possible for 73 bathing waters after changes affecting bathing water quality have been implemented. Such 'changes' have been reported by 14 countries. Almost half of these bathing waters (32) are reported by Italy. More

than five bathing waters with 'changes' have been reported also from France (9) and Germany (7). Such bathing waters will be quality assessed when the dataset taken after reported changes contains at least 16 samples ⁽⁶⁾.

Table 2.1 Number of bathing waters in Europe by country

Country	Total number of bathing waters in 2014	Total number of bathing waters in 2013	Excluded from the monitoring programme in 2014	Newly identified or re-opened bathing waters in 2014
AT (Austria)	266	266	0	0
BE (Belgium)	110	113	4	1
BG (Bulgaria)	94	94	0	0
CY (Cyprus)	112	112	0	0
CZ (Czech Republic)	152	157	7	2
DE (Germany)	2 290	2 296	13	7
DK (Denmark)	1 028	1 037	15	6
EE (Estonia)	54	53	0	1
ES (Spain)	2 178	2 161	4	21
FI (Finland)	310	315	8	3
FR (France)	3 345	3 331	20	34
GR (Greece)	1 540	2 162	644	22
HR (Croatia)	945	927	8	26
HU (Hungary)	244	241	7	10
IE (Ireland)	136	135	0	1
IT (Italy)	5 507	5 511	20	16
LT (Lithuania)	112	112	0	0
LU (Luxembourg)	11	11	0	0
LV (Latvia)	54	51	0	3
MT (Malta)	87	87	0	0
NL (Netherlands)	715	711	5	9
PL (Poland)	201	205	14	10
PT (Portugal)	558	543	4	19
RO (Romania)	50	50	0	0
SE (Sweden)	444	446	4	2
SI (Slovenia)	47	47	0	0
SK (Slovakia)	33	33	0	0
UK (United Kingdom)	632	629	2	5
EU	21 255	21 836	779	198
AL (Albania)	73	73	2	2
CH (Switzerland)	210	167	4	47
Europe	21 538	22 076	785	247

Source: EEA.

⁽⁶⁾ Eight samples are sufficient if the conditions from the New Bathing Directive, article 4, paragraph 4 are satisfied.

Table 2.2 Number of bathing waters in the 2014 season with requirement on sampling frequency satisfied and not satisfied

Country	Total number of bathing waters in 2014	Bathing waters with 'sampling frequency satisfied'*	Bathing waters with 'sampling frequency not satisfied'***	Bathing waters that are new, changed or closed***		
				Closed	New	Changes
AT (Austria)	266	264	0	0	0	2
BE (Belgium)	110	109	0	0	1	0
BG (Bulgaria)	94	94	0	0	0	0
CY (Cyprus)	112	93	19	0	0	0
CZ (Czech Republic)	152	142	2	2	2	4
DE (Germany)	2 290	2 241	16	9	17	7
DK (Denmark)	1 028	1 017	4	0	6	1
EE (Estonia)	54	48	3	1	1	1
ES (Spain)	2 178	2 125	25	2	22	4
FI (Finland)	310	274	28	0	4	4
FR (France)	3 345	3 246	38	5	47	9
GR (Greece)	1 540	1 518	0	0	22	0
HR (Croatia)	945	915	2	0	28	0
HU (Hungary)	244	200	21	0	20	3
IE (Ireland)	136	135	0	0	1	0
IT (Italy)	5 507	5 200	247	6	22	32
LT (Lithuania)	112	102	8	2	0	0
LU (Luxembourg)	11	11	0	0	0	0
LV (Latvia)	54	47	0	0	7	0
MT (Malta)	87	87	0	0	0	0
NL (Netherlands)	715	678	18	1	18	0
PL (Poland)	201	165	15	0	19	2
PT (Portugal)	558	531	1	0	25	1
RO (Romania)	50	50	0	0	0	0
SE (Sweden)	444	345	94	0	3	2
SI (Slovenia)	47	47	0	0	0	0
SK (Slovakia)	33	30	0	2	0	1
UK (United Kingdom)	632	631	0	1	0	0
EU	21 255	20 345	541	31	265	73
AL (Albania)	73	0	73	0	0	0
CH (Switzerland)	210	134	34	0	42	0
Europe	21 538	20 479	648	31	307	73

- Note:**
- * These bathing waters have been monitored according to NBWD provisions (monitoring frequency satisfied and have pre-season sample) are not new, have no changes, and were not closed in 2014. Such bathing waters have been quality-classified (excellent, good, sufficient, poor).
 - ** These bathing waters have either not been monitored according to NBWD provisions (monitoring frequency not satisfied) are not new, have no changes, or were closed in 2014. They may be quality-classified if there is a reasonable volume of samples available.
 - *** These bathing waters are closed, new, or have been subject to changes that could affect bathing water quality (see Box 2.1).

3 Bathing water quality and trends in 2014

3.1 Overall bathing water quality in the European Union

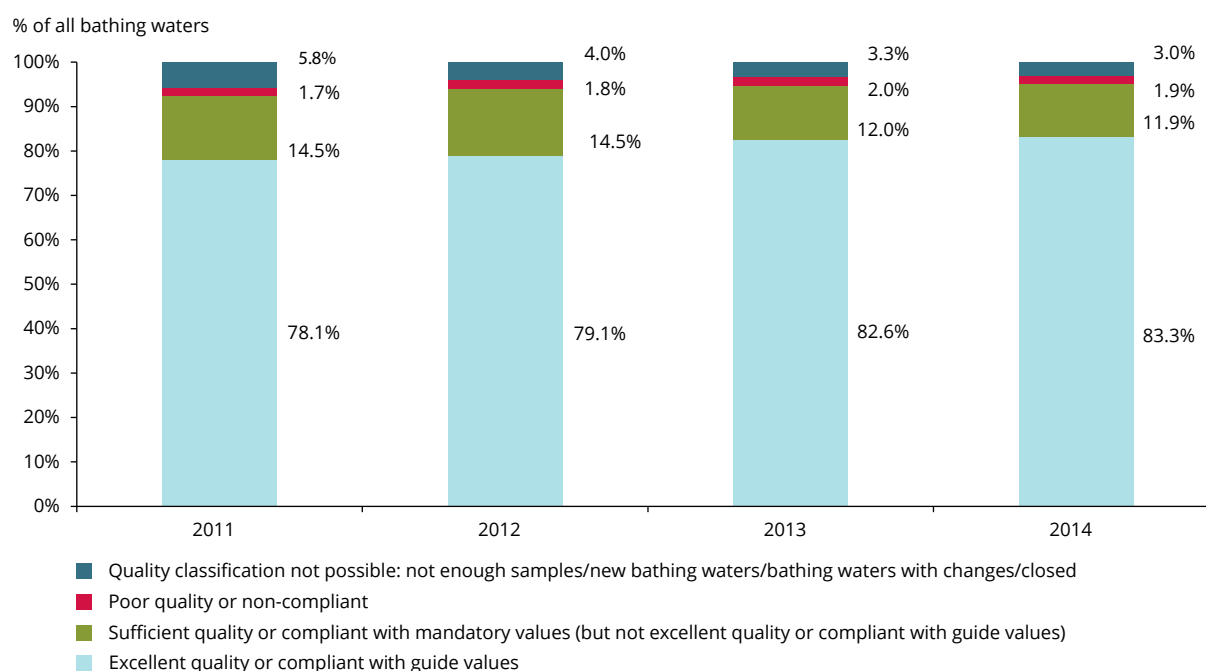
In 2014, 95.1% of all bathing waters in the EU met the minimum water quality standards (meaning they were of at least 'sufficient' bathing water quality) set by the Bathing Water Directives. This represents an increase of 0.5 percentage points compared with 2013. In 2014, the proportion of bathing waters with excellent quality (or complying with so-called 'guide' values) reached 83.3%, an increase of 0.6 percentage points compared with 2013.

The share of bathing waters with poor quality (also known as 'non-compliant') in 2014 dropped to 1.9%. This represents a 0.1 percentage point decrease from the previous season. The major sources of pollution

responsible for faecal bacteria and poor quality 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.

The quality status could not be calculated for 3.0% of bathing waters. This represented a 0.4 percentage point decrease from 2013. There are several reasons why quality status could not be calculated. For example, it could be because the bathing water was newly opened; was closed (temporarily or throughout the season); was not yet assessed due to changes implemented on the bathing site or its vicinity; or because the required number of samples for assessment was not provided.

Figure 3.1 Bathing water quality in the European Union in the period 2011–2014



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 2014

In 2014, monitoring was established on 14 755 coastal bathing waters within 23 Member States. 60% of reported EU coastal bathing water locations are situated in three countries: Italy (with 33%), France (with 13.8%), and Spain (with 13.1%). 'Sufficient' quality (the minimum quality standards established by the EU directives) was achieved for 96.8% of coastal bathing waters. This is similar to the situation in the 2013 bathing season. On the other hand, the share of bathing waters with excellent quality in 2014 was 85.5%. This is a minor increase of 0.3 percentage points compared with the previous year.

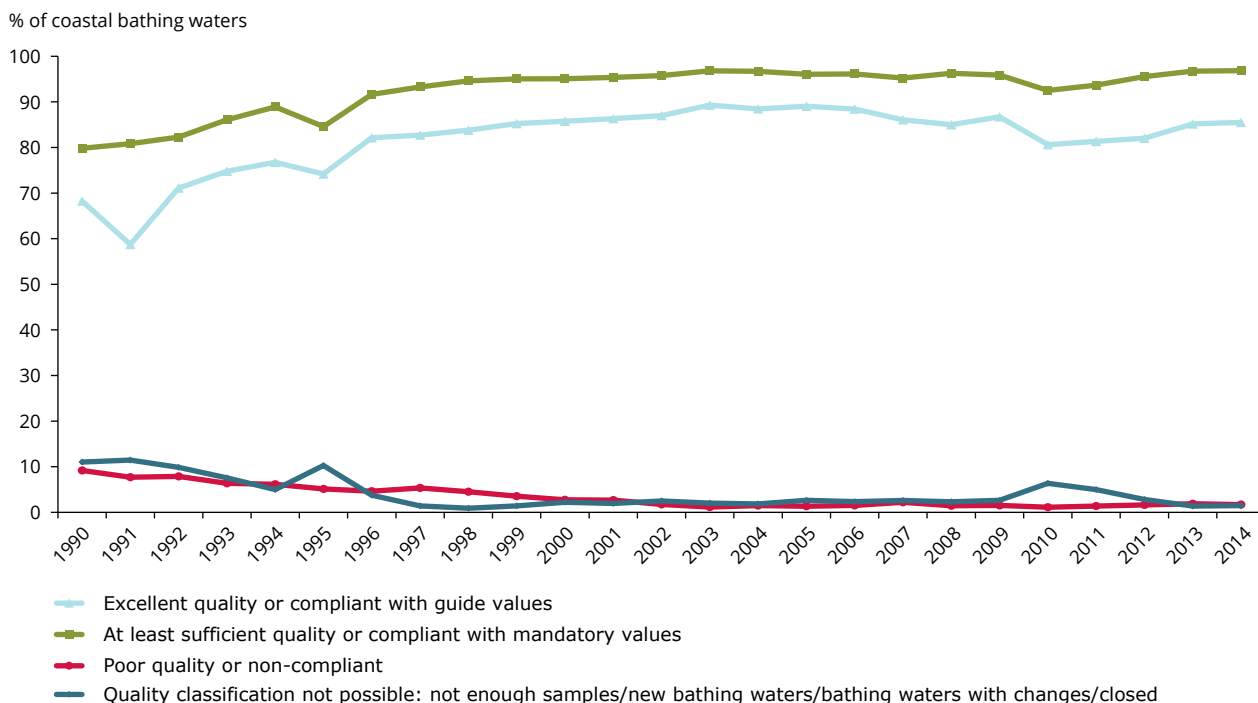
A small percentage of coastal bathing waters (1.7%) achieved poor quality and did not comply with mandatory values. This represents a 0.2 percentage point decrease from 2013. It also represents a change in direction from the trend of the previous three years, which saw the share of poor-quality bathing waters increase between 2010 (1.1%) and 2013 (1.9%).

However, the longer-term trend has been one of a decrease in the share of poor-quality coastal bathing waters. For example, the share of non-compliant bathing waters in 1997 was 5.3%.

Quality assessment cannot be made for the remaining 217 coastal bathing waters (which represent 1.5% of all coastal bathing waters), because they were newly opened; closed; not yet assessed due to changes; or the required number of samples for assessment was not provided.

The percentage of coastal bathing waters that achieved at least 'sufficient' quality (or were compliant with 'mandatory' values) increased from just under 80% in 1990 to over 96% in 2003, and has remained quite stable since then. The share of coastal bathing waters of excellent quality (compliant with the guide values) was also on an increasing path from 1990 to 2000, before reaching a plateau. It dropped below 81% in 2010. For the last four years, the trend has been positive again (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

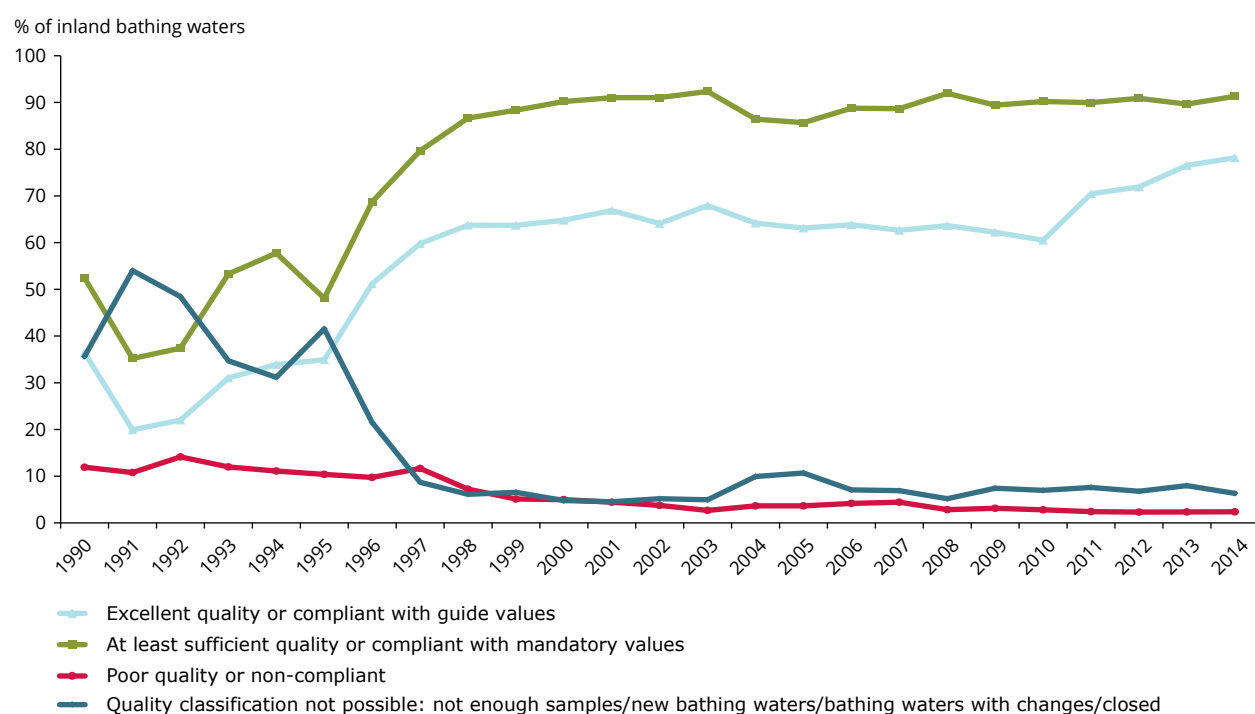
In 2014, 6 500 bathing sites situated on rivers and lakes across Europe were monitored by EU Member States. More than 80% of all inland bathing water locations are situated on lakes. 91.3% of inland bathing waters in the European Union achieved at least 'sufficient' quality in 2014. This represents a 1.6 percentage point increase in comparison to 2013 (Figure 3.3). The number of inland bathing waters that achieved 'excellent' quality (or complied with the 'guide' values) increased by 1.6 percentage points compared with 2013, reaching 78.2%. The percentage of inland bathing waters with poor quality in 2014 remained the same as in 2013 at 2.4%.

The share of inland bathing waters of excellent quality (or compliant with the 'guide' values) has been

constantly growing since 1991. In 1995, less than 40% of inland bathing waters were of excellent quality. In 1998, this share exceeded 60%, and remained more or less stable until 2011. Since 2010, there has been a remarkable increase in the share of excellent quality inland bathing waters, with an increase of almost 18 percentage points.

It was not possible to classify the status of 411 (6.3%) inland bathing waters in 2014. This was because these waters were newly opened; closed; not yet assessed due to changes that affected or could have affected bathing water quality; or because the required amounts of samples for the assessment were not provided. This represents a decrease of 105 bathing waters (or 1.6 percentage points) from the previous year. The share of unclassified inland bathing waters has remained relatively stable in the past 18 years, and has exceeded 10% only once, in 2005.

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).

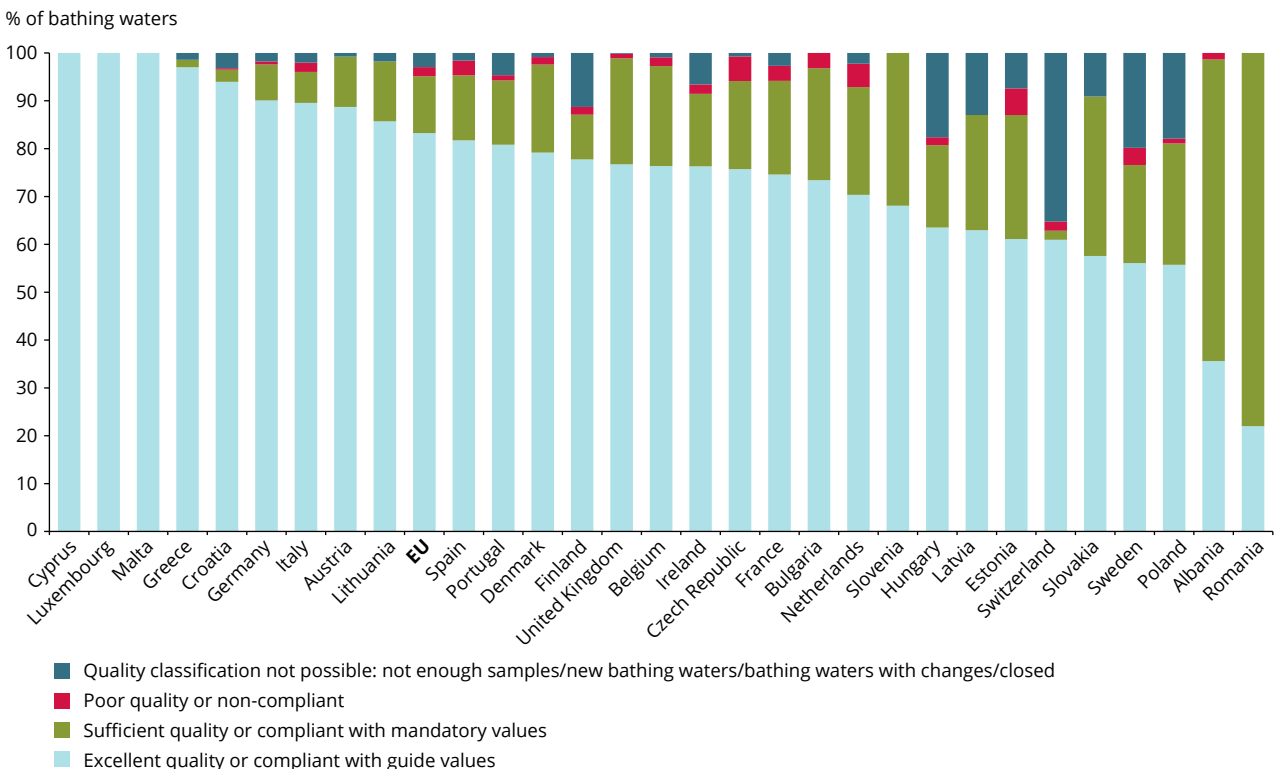
3.4 Bathing water quality by country in the 2014 season

Figure 3.4 shows European bathing water quality results for each country in 2014. In Austria, Cyprus, Greece, Latvia, Lithuania, Luxembourg, Malta, Romania, Slovakia, and Slovenia, all bathing waters were classified as compliant with at least 'mandatory' values (i.e. no bathing water in these countries was assessed as 'poor' or 'non-compliant').

All bathing waters achieved excellent status in Cyprus, Malta, and Luxembourg. In six countries, 90% or more of bathing waters were assessed as being of excellent quality (or complying with 'guide' values). These six countries were: Cyprus (where 100% of waters were of excellent quality); Luxembourg (where 100% of waters were of excellent quality); Malta (where 100% of waters were of excellent quality); Greece (where 97.0% of waters were of excellent quality); Croatia (where 94.0% of waters were of excellent quality); and Germany (where 90.1% of waters were of excellent quality). In spite of these good results, even within these countries there were also some poor or non-compliant bathing waters in 2014. For example, there were three poor-quality bathing waters in Croatia (0.3%) and 14 in Germany (0.6%).

In Europe, there were 409 bathing waters assessed as poor. The three countries with the highest numbers of poor bathing waters are Italy (107 bathing waters or 1.9%), France (105 bathing waters or 3.1%) and Spain (67 bathing waters or 3.1%). The highest rates of bathing waters with poor quality have been found in Estonia (3 bathing waters or 5.6%), Ireland (7 bathing waters or 5.1%), the Netherlands (35 bathing waters or 4.9%), and Sweden (16 bathing waters or 3.6%). Albania reported its bathing water quality data for the first time in 2013. In 2013, six (8.2%) Albanian bathing waters were assessed as not compliant with mandatory values. In 2014, five of these six bathing waters achieved compliance with mandatory values. The share of non-compliant Albanian bathing waters in 2014 has thus dropped down to 1.4% (one bathing water has remained non-compliant). There was a significant increase in the share of poor-quality bathing waters between 2013 and 2014 in Ireland and Sweden. In Ireland, the share of poor-quality bathing waters increased by 2.2 percentage points between 2013 and 2014, and in Sweden there was a 2.0 percentage point increase in the share of poor-quality bathing waters.

Figure 3.4 Bathing water quality results in 2014 for the 28 EU Member States and for other countries with bathing water quality results



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

Some countries had a large share of bathing waters where quality classification was not possible because the waters were newly opened; closed; not yet assessed due to changes; or because the required amount of samples for assessment had not been provided. The countries with the largest share of these types of waters were found in Switzerland (35.2%), Sweden (19.8%), Poland (17.9%) and Hungary (17.6%). More than half of Swiss

(56.7%) and Polish (52.7%) bathing waters where quality assessment is not possible are 'new' bathing waters. Three bathing waters in Hungary, three in Poland, and two in Sweden cannot be quality assessed, because changes that could affect bathing water quality have been reported. More than 94% of not-quality-assessed Swedish bathing waters cannot be assessed because not enough samples for assessment have been provided.



Photo: © Peter Kristensen

4 New aspects of bathing water management

The New Bathing Water Directive (Directive 2006/7/EC) contains a number of new requirements related to bathing water management. These new provisions oblige EU Member States to take certain actions with respect to their bathing waters. This chapter looks at some of these provisions and discusses the actions that Member States have taken to comply with them.

The new requirements relate to the following elements: mitigating adverse impacts to bathing water; changes to the monitoring programme when water bodies are closed or unsafe; excluding entire bathing water sites from the monitoring programme (with possibly a prohibition against bathing or an advice against bathing to protect bathers' health); and measures for improving our knowledge about bathing waters. In the following three sections of this chapter, we look at each of these elements in turn.

4.1 Mitigation of adverse impacts on bathing water and the monitoring programme adaptation

The New Bathing Water Directive requires Member States to implement large-scale management measures on a bathing water if it is found to be of persistently poor quality. These management measures can include the construction of adequate wastewater treatment plants, or limiting pollution from agriculture. A bathing water that is targeted with such measures might be temporarily closed for part or all of the bathing season.

When unexpected or uncontrollable conditions occur (heavy rain, sewage spills, hazardous waste spills, floods etc.), Member States are obliged to impose temporary management measures. In most cases, this means that local authorities must temporarily close bathing water locations, or at the very least, discourage bathing in those areas with the aim of protecting bathers' health.

The authorities can also close a bathing water for other reasons not connected to water quality. These reasons include: dangerous access to the bathing water because of erosion; damaged infrastructure surrounding the bathing water; engineering works; a reduction in water levels of a reservoir; or administrative/legal issues (see Box 4.1).

In cases where a bathing water is subject to temporary management measures or has to be closed, the Member State must make changes to its monitoring calendar. For example, the Member State may decide not to identify the site as a bathing water site for the current season, or it may choose to alter the duration of the bathing season. However, even if a bathing water is temporarily closed due to unexpected or uncontrollable reasons, the quality of that bathing water must still be monitored.

4.2 Exclusion of bathing waters from the monitoring programme

Some bathing waters are not operating as bathing waters, and are excluded from the monitoring programme. There are several reasons they might be excluded from the monitoring programme. For example, they may be visited by a rather low number of bathers or have no infrastructure in place. Bathing waters of poor quality can also be excluded from the monitoring programme if the management measures for quality improvement are disproportionately expensive or too difficult to perform. Once a permanent prohibition or permanent advice against bathing has been put in place, a bathing water is no longer considered an official bathing water and it is therefore excluded from the monitoring programme (the obligation to monitor and report under the Bathing Water Directive therefore ceases).

Box 4.1 Temporary closure of bathing waters in Slovakia and the Czech Republic

Ružín in Slovakia (BWID SKREK018) is an example of a bathing water with excellent water quality that was closed for two consecutive seasons in 2011 and 2012. The reason for the closure was construction works in the vicinity of the bathing water. The bathing water is a reservoir for a pumped-storage hydropower plant. In 2011 and 2012, construction works led to the water level decreasing from 6.5m to 3.5m, rendering the location unsafe for human health and bathing. This prompted the authorities to close the bathing water. Since the reopening of the bathing water in the 2013 season, monitoring samples indicate that the water quality remains excellent. However, categorisation of the bathing water is impossible because there is no longer a four-year record of water sampling.

In the Czech Republic, Lhotka (BWID CZ_PK104051), Šeberák (BWID CZ_PK104052) and Popovice (BWID CZ_PK210251) are other examples of excellent quality bathing waters that were closed due to reasons not connected to water quality. In all three cases, the bathing waters act as reservoirs and were closed in 2014 because these reservoirs were empty.



Počuvadlianské Jazero



Vindsachtske Jazero

Photos: Bathing waters on lakes and reservoirs are typical for Central Europe. Such settings are prone to water level and other physical changes. Photos show bathing waters in Slovakia.
© Slovenká agentúra životného prostredia (SAŽP)

Source: Bathing water data: reporting countries' authorities.

Since 2009, there has been a decline in the number of monitored bathing waters reported to the European Commission and the EEA. In 2014, Member States reported 1 166 fewer bathing waters than in 2009, a decrease of 5.2%. The decline would be even larger if Member States had not identified new bathing waters in that period. Between 2009 and 2014, 2 741 bathing waters were excluded from the monitoring programme (accounting for 12% of the bathing waters monitored in 2009), but 1 386 bathing waters were newly identified in that period.

In some cases, bathing waters were excluded from the monitoring programme for just one season (in rare cases also for more than one season) but were monitored and reported again in subsequent seasons. Such bathing waters are not treated as new bathing waters.

There were two years in recent history in which there was an unusually high number of bathing waters excluded from the monitoring programme:

- 934 bathing waters were excluded from the monitoring programme in 2010 (which represented 4.1% of the bathing waters identified in 2009);
- 779 bathing waters were excluded from the monitoring programme in 2014 (which represented 3.6% of the bathing waters identified in 2013).

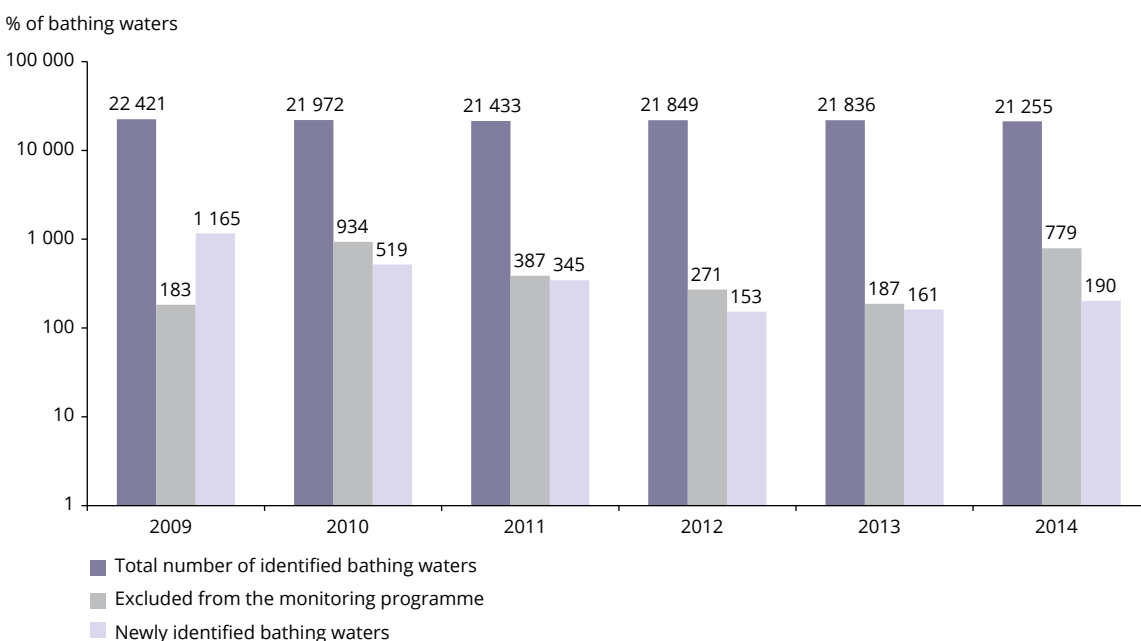
Although many bathing waters have been excluded from the monitoring programme, the absolute reduction in the number of bathing waters is lower, since new bathing waters have been also identified.

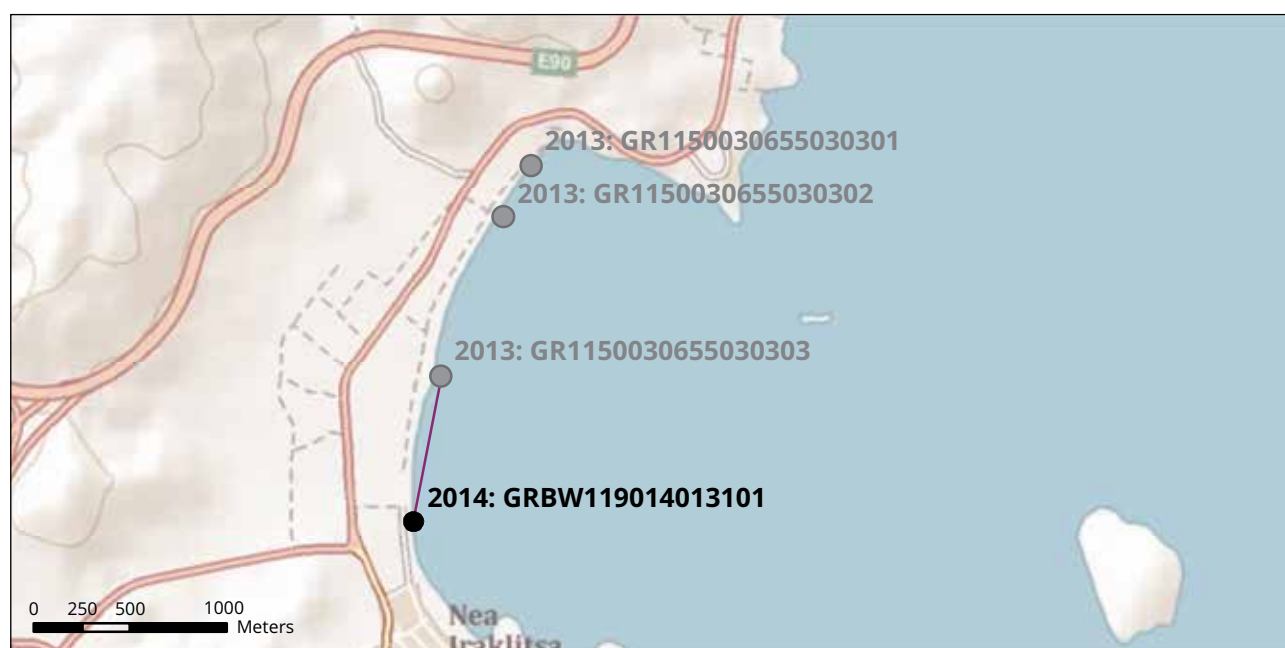
An absolute reduction in the number of bathing waters occurred in 14 EU Member States between 2009 and 2014. In seven countries, more than 10% of bathing waters monitored in 2009 were excluded from the monitoring programme in 2014. These were Latvia (80.3%), Luxembourg (45%), Poland (37.4%), Greece (26.9%), the Czech Republic (18.7%), Denmark 14.6%, and Belgium (12.7%). Other countries that reduced their number of bathing waters between 2009 and 2014 are Austria, Estonia, Finland, Hungary, Italy, Slovakia, and Sweden.

Nevertheless, in 12 Member States the number of identified bathing waters increased from 2009 to 2014 (percentage increase): Netherlands (11%), Slovenia (4.4%), Croatia (4.4%), the United Kingdom (3.9%), Ireland (3.8%), Portugal (3.5%), Spain (2.9%), Romania (2.0%), Bulgaria (1.0%), Cyprus (0.9%), Germany (0.4%) and France (0.03%).

The number of identified bathing waters remained constant in Lithuania and Malta between 2009 and 2014.

Figure 4.1 Number of identified bathing waters, bathing waters excluded from the monitoring programme and newly identified bathing waters in the EU-28



Map 4.1 Revision of bathing waters monitoring programme in Greece**Bathing water monitoring locations**

- Bathing waters monitored in 2013
- Bathing waters monitored in 2014
- Connection to the representative sampling point

Note: Map visualises selected bathing water monitoring locations identified and monitored in 2013 and 2014 in Greece.

The revision of bathing water monitoring is illustrated. Purple line visualises connection between bathing water identified in 2014 and respective 2013 sampling point. Monitoring point locations identified in 2014 have been relocated for approximately one kilometer.

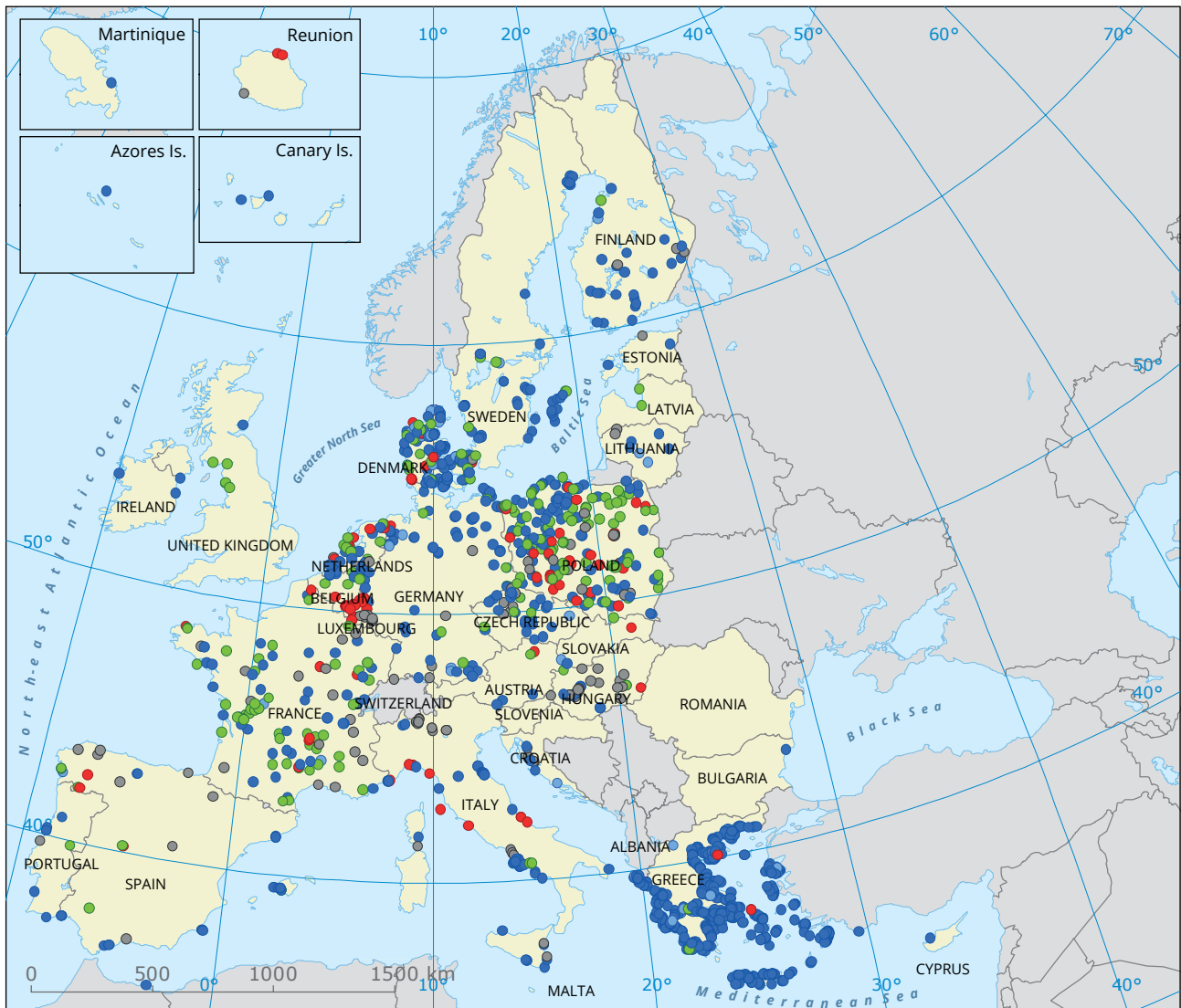
Source: Background map: Esri, DeLorme; bathing water data and coordinates: reporting countries' authorities.

One of the most notable declines in the number of monitored waters was in Greece, where the number of bathing water locations with established monitoring in 2014 fell by 27% compared with 2013. The reason for this abrupt decline was because the Greek bathing water monitoring network was revised for the 2014 bathing season. The main principle of this revision, as reported by Greek authorities, was to assign 'a single representative monitoring point at each bathing water' (Special Secretariat for Water, 2014). In accordance with this principle, the Greek authorities joined together into one reporting unit some bathing waters that were previously reported as separate bathing waters

(Map 4.1). This meant that these waters were 'new' for monitoring purposes.

Management measures that improve bathing water quality are primarily implemented at those bathing waters that are of poor quality. Nevertheless, countries are strongly encouraged to introduce management measures to improve quality to at least sufficient, or even good or excellent status. This practice is to the benefit of all bathers. In addition, the Bathing Water Directive requires the identification of sources of pollution and their disclosure through the bathing water profiles.

Map 4.2 Bathing waters excluded from the monitoring programme since 2009 in the EU-28



Bathing water status before exclusion from the monitoring programme

- Excellent quality or compliant with guide values
- Good quality
- Sufficient quality or compliant with mandatory values
- Poor quality or non-compliant
- Quality classification not possible: not enough samples/new bathing waters/bathing waters with changes/closed

EU Member States
 Non-EU countries

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



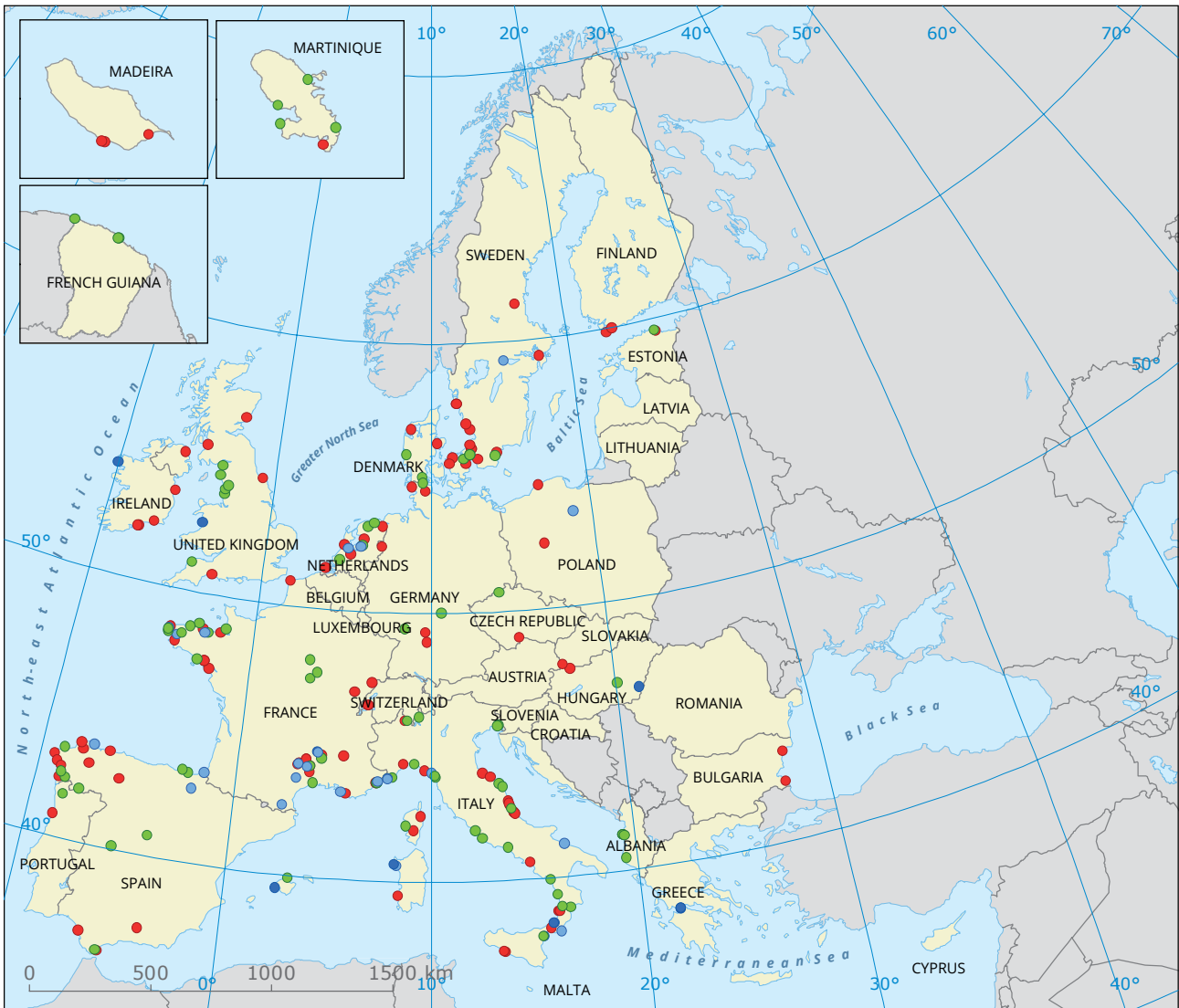
Photo: © Peter Kristensen

According to the Bathing Water Directive, all EU bathing waters should be of at least sufficient quality by the end of the 2015 bathing season. After this, only poor quality bathing waters may temporarily remain classified as such, if appropriate measures are taken to increase their quality (to at least sufficient). However, if the bathing water is classified as poor for five consecutive years, a permanent bathing prohibition or permanent advice against bathing shall be introduced by the Member State. However, Member States may introduce

a permanent bathing prohibition or permanent advice against bathing before the end of the five-year period if they wish to do so.

Between 2013 and 2014, 118 poor-quality bathing waters (not compliant with mandatory values) have changed their status from poor quality to sufficient quality or better (Map 4.3). However, in the same period, 107 bathing waters changed their status from sufficient quality or better to poor quality.

Map 4.3 Improvements and deteriorations in bathing water quality



Bathing water sites where quality improved from poor in 2013 to sufficient, good, or excellent in 2014; and bathing water sites where quality deteriorated from excellent, sufficient, or good in 2013 to poor in 2014

- EU Member States and other countries with results
- Outside coverage

Bathing waters where quality improved from poor in 2013 to sufficient, good, or excellent in 2014

- Excellent water quality or compliant with the guide values (CG)
- Good water quality
- Sufficient water quality or compliant with the mandatory values (CI)

Bathing waters where quality deteriorated from sufficient, good, or excellent in 2013 to poor in 2014

- Poor quality or non-compliant with the mandatory values (NC)

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

Box 4.2 Treatment of sources of diffuse pollution to protect bathing waters in the United Kingdom

UK authorities are working with farmers and others to develop measures to reduce diffuse water pollution from agricultural and urban sources, and to provide information and advice in order to achieve the goals of the New Bathing Water Directive and Water Framework Directive. Different mechanisms are used in different regions of the United Kingdom.

In England, the Rural Development Programme for England (RDPE) uses evidence of diffuse pollution from agriculture collected by the Environment Agency to implement measures in the water bodies where they will deliver the greatest benefit. A key project in this programme is Catchment Sensitive Farming (CSF), which provides advice and capital grants to reduce diffuse pollution from agriculture. CSF operates in 79 'priority catchments' and has nine catchment partnerships. The 'priority catchments' include a number of catchments with identified bathing sites. The capital grants scheme provides financial support for farmers investing in farm infrastructure items, such as watercourse fencing that restricts the entry of faecal indicator organisms (FIOs) to water. Farmers are able to apply for grants worth up to GBP 10 000 per holding, with applicants expected to contribute 50% towards the capital works. In addition, Defra funds significant research into understanding the relationships between agriculture, diffuse pollution, and water quality, and into evaluating the cost-effectiveness of mitigation measures. In Wales, the farm code requires land-managers and farmers to maintain a field record of all inputs that are applied to the land.

Scotland's programme to address rural diffuse pollution in priority catchment areas started in March 2010. The Scottish Environment Protection Agency is working with land managers, organising events and workshops to raise awareness and discuss actions. Scotland has also launched a 'Mind the Gap' campaign to remind land managers of their legal responsibilities to protect the water environment. The Scotland Rural Development Programme 2014–2020 also offers funding to land managers towards the cost of certain measures to reduce diffuse pollution.

Under the Northern Ireland Rural Development Programme more than 12 000 farmers are participating in agri-environment schemes with over 450 000 hectares of land under management. All Northern Ireland Countryside Management Scheme (NICMS) participants must prepare and implement a farm-nutrient and waste-management plan. The Department of Agriculture and Rural Development's Code of Good Agricultural Practice for the Prevention of Pollution of Water, Air and Soil was published in August 2008. The Code provides practical advice for farmers on avoiding pollution.

4.3 Making information on bathing water quality available to the public

Monitoring data from bathing water management is reported every year by the Member States to the European Commission and the EEA, which assure that comprehensive and up-to-date bathing water reports are made available to European citizens.

The New Bathing Water Directive obliges Member States to inform citizens about bathing water management, bathing water quality, and potential threats to bathing water quality.

According to the Directive, Member States are obliged to establish bathing water profiles and make them available to the public. These profiles are most often made available online, but profiles can also be placed on more traditional media such as billboards. Bathing

water profiles give a description of the geographical, hydrological, and physical characteristics of the bathing water, along with general descriptions of the bathing water site, monitoring results, potential causes of pollution, and implemented management measures. Each bathing water profile can cover a single site or a group of contiguous bathing water sites.

In order to provide more comprehensive information to the public, all EU countries have national or local websites with detailed information for each bathing water site (Table 4.1). These websites generally include a map search function and allow public access to the monitoring results, both in real time and for previous seasons.

At the European level, one of the main ways that bathing water information is made available to the public is through the bathing water section of the Water

Information System for Europe (WISE). This section can be accessed through the EEA's bathing water website (7), and it allows users to view the bathing water quality at more than 21 000 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 that allows users to visualise spatial and qualitative data on European bathing waters (Figure 4.2). 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 monitoring stations are displayed. Online bathing water profiles can be seen by clicking on a specific bathing water location using

the 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 browse information on a country level or a bathing water-site level — and observe specific bathing water locations on Google Earth, Google Maps, or Bing Maps.

The public now has access to high-quality information on bathing water quality, and can thus become more actively involved in protecting the environment and helping to improve Europe's bathing areas.

Figure 4.2 WISE bathing water map viewer



Source: <http://www.eea.europa.eu/themes/water/interactive/bathing/state-of-bathing-waters>.

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

Table 4.1 National or regional websites for bathing water quality

Country	Region	Link to national or regional websites for bathing waters
AT (Austria)		http://www.ages.at/ages/gesundheit/badegewaesserueberwachung
BE (Belgium)	Wallonia	http://aquabact.environnement.wallonie.be/GeneralPages.do?method=displayStationsList
BE (Belgium)	Flanders	http://www.kwaliteitzwemwater.be
BG (Bulgaria)		http://www.mh.government.bg/Articles.aspx?lang=bg-BG&pageid=507
CH (Switzerland)		http://www.bafu.admin.ch/wassernutzung/02802/12555/index.html
CY (Cyprus)		http://www.moa.gov.cy/moa/environment/environment.nsf/All/1D1F9531D9C13AE3C22579180037063B?OpenDocument
CZ (Czech Republic)		http://www.mzcr.cz/verejne/obsah/koupani-ve-volne-prirode_1071_5.html
DE (Germany)		http://www.umweltbundesamt.de/themen/wasser/schwimmen-baden/badegewaesser/wasserqualitaet-in-badegewaessern
DK (Denmark)		http://naturstyrelsen.dk/vandmiljoe/badevand
EE (Estonia)		http://vtiav.sm.ee/index.php/?active_tab_id=SV
ES (Spain)		http://nayade.msssi.es/Splayas/ciudadano/ciudadanoZonaAction.do
FI (Finland)		http://www.valvira.fi/ohjaus_ja_valvonta/terveydensuojelu/uimavesi
FR (France)		http://baignades.sante.gouv.fr/baignades/editorial/en/accueil.html
GR (Greece)		http://www.bathingwaterprofiles.gr
HR (Croatia)		http://baltazar.izor.hr/plazepub/kakvoqa?p_jezik=eng
HU (Hungary)		http://oki.antsz.hu
IE (Ireland)		http://splash.epa.ie/BathingWaters
IT (Italy)		http://www.portaleacque.salute.gov.it/PortaleAcquePubblico/home.do
LT (Lithuania)		http://www.smlpc.lt/lt/aplinkos_sveikata/maudyklos
LU (Luxembourg)		http://www.eau.public.lu/actualites/2011/03/Profil_baignade
LV (Latvia)		http://www.vi.gov.lv/lv/vides-veseliba/peldudens
MT (Malta)		https://ehealth.gov.mt/HealthPortal/public_health/environmental-health/health_inspectorate/env_hlt_risk_management/bathing_water_profiles.aspx
NL (Netherlands)		http://www.zwemwater.nl
PL (Poland)		http://sk.gis.gov.pl/?go=content&id=7
PT (Portugal)		http://www.apambiente.pt/index.php?ref=19&subref=906&sub2ref=919&sub3ref=920
PT (Portugal)	Azores	http://www.azores.gov.pt/Gra/srrn-mar/conteudos/livres/Perfis+das+C3%81guas+Balneares+dos+A%C3%A7ores.htm
PT (Portugal)	Madeira	http://dramb.gov-madeira.pt/berilio/berwpag0.desenvctt?pCtt=2082
RO (Romania)		http://www.ms.gov.ro/?pag=182
SE (Sweden)		http://badplatsen.folkhalsomyndigheten.se
SI (Slovenia)		http://www.mop.gov.si/si/delovna_podrocja/voda/kopalne_vode/seznam_in_profili_kopalnih_voda/profili_kopalnih_voda
SK (Slovakia)		http://www.uvzsr.sk/index.php?option=com_content&view=article&id=1136:profily-vod-na-kupanie&catid=59:kupaliska&Itemid=66
UK (United Kingdom)	England	http://environment.data.gov.uk/bwq/explorer/index.html
UK (United Kingdom)	Northern Ireland	www.ni-environment.gov.uk/water/quality/bathingqualityni.htm
UK (United Kingdom)	Scotland	http://www.sepa.org.uk/environment/water/bathing-waters/sampling-and-results

4.4 State of Europe's seas and marine litter

In addition to using beaches for bathing and other leisure activities, a range of activities have a growing interest in European coastal areas. 'State of Europe's seas', a forthcoming report from the EEA, establishes a snapshot of the current state of Europe's seas by looking into the main ecosystem characteristics of our seas, i.e. species, habitats, processes, and functions. The report also assesses the pressures and impacts affecting marine ecosystems and the human activities causing these pressures. By providing a snapshot of the current state of Europe's seas, the report provides a 'baseline' reference, against which the implementation of current and future EU policies affecting Europe's seas can be measured.

Litter, plastics in particular, is accumulating in our seas and coasts. Information and data on marine litter is essential for tackling it. The European Environment Agency has developed Marine LitterWatch to strengthen Europe's knowledge base and thus provide support to European policy making. You find further information on MarineLitterWatch here: http://www.eea.europa.eu/themes/coast_sea/marine-litterwatch (see Figure 4.3).

4.5 Information on EU water legislation

EU Member States will have to comply with the stricter and more ambitious requirements laid out in the new bathing water directive by 2015 at the latest. The new legislation requires more effective monitoring and management of bathing

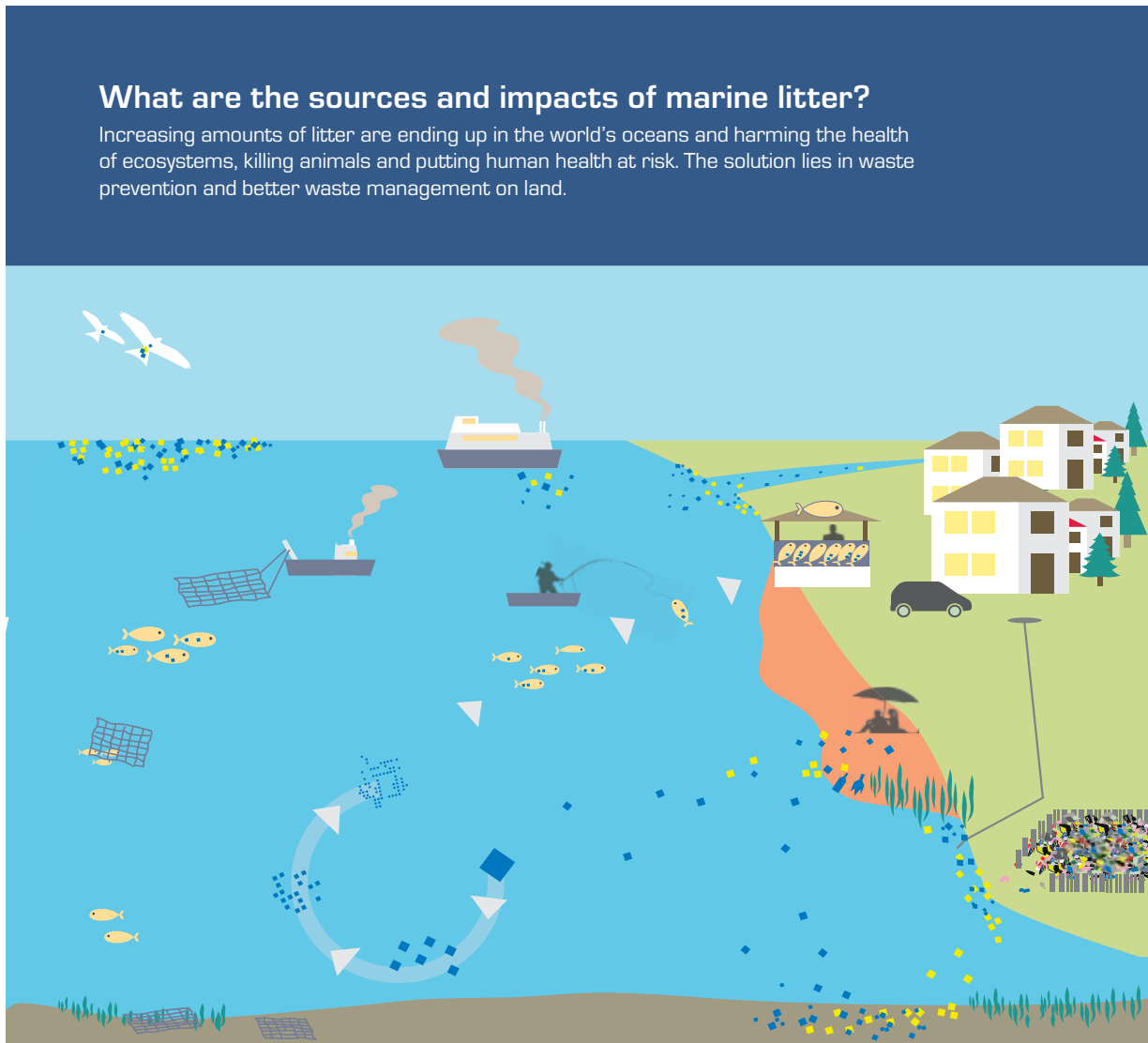
waters, greater public participation and improved information dissemination. More on the bathing and other water legislation can be found on the European Commission's website: http://ec.europa.eu/environment/water/index_en.htm.

Citizens now have access to more bathing water information than ever. 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.

Citizens also share a sincere interest in the quality of the marine environment and inland waters more generally. Efforts to improve the quality of bathing waters should therefore not be seen in isolation but in the context of the good ecological and environmental status we aim for in implementing the water and marine framework directives.

In addition to good quality of bathing waters, we need clean unpolluted water for our ecosystems and economic activities such as tourism. Plants and animals in freshwaters react to changes in their environment caused by changes in water quality. Having excellent bathing water quality does not necessarily imply that the water quality is good enough for our ecosystems. We need to manage our water resources well to sustain human and economic development and improve the essential functions of our water ecosystems. The solutions lie in more integrated and sustainable water resource management, including full implementation of the Water Framework Directive and the Marine Framework Strategy Directive.

Figure 4.3 MarineLitterWatch



Litter ends up in the sea via rivers and sewage pipes or with wind. Litter from ships and boats often also accumulates in the ocean.



Vast patches of litter and small plastic particles are funnelled together by ocean currents. Litter also accumulates on the sea bed and on beaches.



About 10 % of marine litter is discarded fishing gear, which often kills or injures marine animals and seabirds.



Many plastics break into ever smaller pieces, which can then enter the food chain.



Around 36 % of the world's seabird species and many species of fish have been reported to ingest marine litter.

Source: EEA, 2014.

Annex 1 Bathing water quality results in 2014

Country	Assessment type	Total number of bathing waters	Excellent quality or compliant with guide values		At least sufficient quality or compliant with mandatory values		Poor quality or non-compliant		Quality classification not possible: not enough samples /new bathing waters/bathing waters with changes /closed	
			Number	%	Number	%	Number	%	Number	%
AT (Austria)	New	266	236	88.7	264	99.2	0	0	2	0.8
BE (Belgium)	New	110	84	76.4	107	97.3	2	2	1	0.9
BG (Bulgaria)	New	94	69	73.4	91	96.8	3	3	0	0.0
CY (Cyprus)	New	112	112	100.0	112	100.0	0	0.0	0	0.0
CZ (Czech Republic)	New	152	116	76.3	139	91.4	3	2.0	10	6.6
DE (Germany)	New	2 290	2 063	90.1	2 235	97.6	14	0.6	41	1.8
DK (Denmark)	New	1 028	814	79.2	1 003	97.6	16	1.6	9	0.9
EE (Estonia)	New	54	33	61.1	47	87.0	3	5.6	4	7.4
ES (Spain)	New	2 178	1 780	81.7	2 076	95.3	67	3.1	35	1.6
FI (Finland)	New	310	241	77.7	270	87.1	5	1.6	35	11.3
FR (France)	New	3 345	2 495	74.6	3 150	94.2	105	3.1	90	2.7
GR (Greece)	New	1 540	1 494	97.0	1 518	98.6	0	0.0	22	1.4
HR (Croatia)	New	945	888	94.0	912	96.5	3	0.3	30	3.2
HU (Hungary)	New	244	155	63.5	197	80.7	4	1.6	43	17.6
IE (Ireland)	New	136	103	75.7	128	94.1	7	5.1	1	0.7
IT (Italy)	New	5 507	4 932	89.6	5 289	96.0	107	1.9	111	2.0
LT (Lithuania)	New	112	96	85.7	110	98.2	0	0.0	2	1.8
LU (Luxembourg)	New	11	11	100.0	11	100.0	0	0.0	0	0.0
LV (Latvia)	New	54	34	63.0	47	87.0	0	0.0	7	13.0
MT (Malta)	New	87	87	100.0	87	100.0	0	0.0	0	0.0
NL (Netherlands)	New	715	503	70.3	664	92.9	35	4.9	16	2.2
PL (Poland)	New	201	112	55.7	163	81.1	2	1.0	36	17.9
PT (Portugal)	New	558	451	80.8	526	94.3	6	1.1	26	4.7
RO (Romania)	Transition	50	11	22.0	50	100.0	0	0.0	0	0.0
SE (Sweden)	New	444	249	56.1	340	76.6	16	3.6	88	19.8
SI (Slovenia)	New	47	32	68.1	47	100.0	0	0.0	0	0.0
SK (Slovakia)	New	33	19	57.6	30	90.9	0	0.0	3	9.1
UK (United Kingdom)	Transition	632	485	76.7	625	98.9	6	0.9	1	0.2
EU		21 255	17 705	83.3	20 238	95.1	404	1.9	613	3.0
AL (Albania)	Transition	73	26	35.6	72	98.6	1	1.4	0	0.0
CH (Switzerland)	New	210	128	61.0	132	62.9	4	1.9	74	35.2
Europe		21 538	17 859	82.9	20 442	94.8	409	1.9	687	3.3

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>.

Annex 2 Coastal bathing water quality results in 2014

Country	Assessment type	Total number of bathing waters	Excellent quality or compliant with guide values		At least sufficient quality or compliant with mandatory values		Poor quality or non-compliant		Quality classification not possible: not enough samples/ new bathing waters /bathing waters with changes /closed	
			Number	%	Number	%	Number	%	Number	%
BE (Belgium)	New	42	29	69.0	42	100.0	0	0.0	0	0.0
BG (Bulgaria)	New	90	65	72.2	87	96.7	3	3.3	0	0.0
CY (Cyprus)	New	112	112	100.0	112	100.0	0	0.0	0	0.0
DE (Germany)	New	363	286	78.8	355	97.8	5	1.4	3	0.8
DK (Denmark)	New	917	709	77.3	894	97.5	15	1.6	8	0.9
EE (Estonia)	New	27	10	37.0	22	81.5	2	7.4	3	11.1
ES (Spain)	New	1 942	1 663	85.6	1 882	96.9	37	1.9	23	1.2
FI (Finland)	New	81	51	63.0	69	85.2	5	6.2	7	8.6
FR (France)	New	2 038	1 576	77.3	1 986	97.4	40	2.0	12	0.6
GR (Greece)	New	1 538	1 493	97.1	1 516	98.6	0	0.0	22	1.4
HR (Croatia)	New	918	885	96.4	905	98.6	3	0.3	10	1.1
IE (Ireland)	New	127	95	74.8	120	94.5	6	4.7	1	0.8
IT (Italy)	New	4 864	4 377	90.0	4 701	96.6	105	2.2	58	1.2
LT (Lithuania)	New	16	14	87.5	16	100.0	0	0.0	0	0.0
LV (Latvia)	New	33	21	63.6	32	97.0	0	0.0	1	3.0
MT (Malta)	New	87	87	100.0	87	100.0	0	0.0	0	0.0
NL (Netherlands)	New	91	62	68.1	87	95.6	3	3.3	1	1.1
PL (Poland)	New	85	51	60.0	76	89.4	1	1.2	8	9.4
PT (Portugal)	New	452	395	87.4	435	96.2	5	1.1	12	2.7
RO (Romania)	Transition	49	11	22.4	49	100.0	0	0.0	0	0.0
SE (Sweden)	New	245	124	50.6	184	75.1	14	5.7	47	19.2
SI (Slovenia)	New	21	21	100.0	21	100.0	0	0.0	0	0.0
UK (United Kingdom)	Transition	617	479	77.6	610	98.9	6	1.0	1	0.2
EU		14 755	12 616	85.5	14 288	96.8	250	1.7	217	1.5
AL (Albania)	Transition	73	26	35.6	72	98.6	1	1.4	0	0.0
Europe		14 828	12 642	85.3	14 360	96.8	251	1.7	217	1.5

Note: 'New' indicates assessment under Directive 20016/7/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>.

Annex 3 Inland bathing water quality results in 2014

Country	Assessment type	Total number of bathing waters	Excellent quality or compliant with guide values		At least sufficient quality or compliant with mandatory values		Poor quality or non-compliant		Quality classification not possible: not enough samples /new bathing waters/bathing waters with changes/closed	
			Number	%	Number	%	Number	%	Number	%
AT (Austria)	New	266	236	88.7	264	99.2	0	0.0	2	0.8
BE (Belgium)	New	68	55	80.9	65	95.6	2	2.9	1	1.5
BG (Bulgaria)	Transition	4	4	100.0	4	100.0	0	0.0	0	0.0
CZ (Czech Republic)	New	152	116	76.3	139	91.4	3	2.0	10	6.6
DE (Germany)	New	1 927	1 777	92.2	1 880	97.6	9	0.5	38	2.0
DK (Denmark)	New	111	105	94.6	109	98.2	1	0.9	1	0.9
EE (Estonia)	New	27	23	85.2	25	92.6	1	3.7	1	3.7
ES (Spain)	New	236	117	49.6	194	82.2	30	12.7	12	5.1
FI (Finland)	New	229	190	83.0	201	87.8	0	0.0	28	12.2
FR (France)	New	1 307	919	70.3	1 164	89.1	65	5.0	78	6.0
GR (Greece)	New	2	1	50.0	2	100.0	0	0.0	0	0.0
HR (Croatia)	New	27	3	11.1	7	25.9	0	0.0	20	74.1
HU (Hungary)	New	244	155	63.5	197	80.7	4	1.6	43	17.6
IE (Ireland)	Transition	9	8	88.9	8	88.9	1	11.1	0	0.0
IT (Italy)	New	643	555	86.3	588	91.4	2	0.3	53	8.2
LT (Lithuania)	New	96	82	85.4	94	97.9	0	0.0	2	2.1
LU (Luxembourg)	New	11	11	100.0	11	100.0	0	0.0	0	0.0
LV (Latvia)	New	21	13	61.9	15	71.4	0	0.0	6	28.6
NL (Netherlands)	New	624	441	70.7	577	92.5	32	5.1	15	2.4
PL (Poland)	Transition	116	61	52.6	87	75.0	1	0.9	28	24.1
PT (Portugal)	New	106	56	52.8	91	85.8	1	0.9	14	13.2
RO (Romania)	Transition	1	0	0.0	1	100.0	0	0.0	0	0.0
SE (Sweden)	New	199	125	62.8	156	78.4	2	1.0	41	20.6
SI (Slovenia)	New	26	11	42.3	26	100.0	0	0.0	0	0.0
SK (Slovakia)	New	33	19	57.6	30	90.9	0	0.0	3	9.1
UK (United Kingdom)	Transition	15	6	40.0	15	100.0	0	0.0	0	0.0
EU		6 500	5 089	78.2	5 950	91.3	154	2.4	396	6.3
CH (Switzerland)	New	210	128	61.0	132	62.9	4	1.9	74	35.2
Europe		6 710	5 217	77.6	6 082	90.4	158	2.4	470	7.2

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>.

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