

## Bathing water results 2010 – Spain

### 1. Reporting and assessment

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

Before the necessary data set for assessment of bathing water quality under the Directive 2006/7/EC is compiled (data for three or four consecutive years) the rules for transition period assessment are applied. This means that the classification of bathing waters is defined on the basis of concentrations of intestinal enterococci and *Escherichia coli* that are reported under the Directive 2006/7/EC. The limit values for the classification are taken from the Directive 76/160/EEC. For the conversion of reported parameters under the Directive 2006/7/EC, Article 13.3 of the Directive 2006/7/EC foresees that the parameter *Escherichia coli*, reported under the Directive 2006/7/EC, is assumed to be equivalent to the parameter faecal coliforms of the Directive 76/160/EEC. The parameter intestinal enterococci reported under the Directive 2006/7/EC is assumed to be equivalent to the parameter faecal streptococci.

The results are classified in the following categories:

- **Class CI:** Compliant with the mandatory value of the Directive 76/160/EEC for *Escherichia coli* and not compliant with the guide values of the Directive 76/160/EEC for *Escherichia coli* or intestinal enterococci;
- **Class CG:** Compliant with the mandatory value of the Directive 76/160/EEC for *Escherichia coli* and the more stringent guide values for the *Escherichia coli* and intestinal enterococci;
- **Class NC:** Not compliant with the mandatory value of the Directive 76/160/EEC for *Escherichia coli*;
- **Class B:** Banned or closed (temporary or throughout the season);
- **Class NF:** Insufficiently sampled;
- **Class NS:** Not sampled.

The new bathing water directive (2006/7/EC) requires Member States to start sampling shortly before the start of the bathing season. It also requires that the interval between sampling should not exceed one month. In some cases these required changes in regard to the old bathing water directive (76/160/EEC) have not yet been implemented, resulting in a late start date of sampling at some sites and/or insufficiently frequent sampling. For that reason two rules in regard to sampling frequency are considered in the assessment of monitoring results in 2010. By the first rule, 41 days were taken as a maximum difference between two samples (less strict rule), whereas by the second rule the maximum days between two samples considered were 32 days (strict rule). The new directive also requires that the first sample must be taken shortly before the start of a bathing season. However, in the assessment of bathing water quality in 2010, the first sample could be taken not later than 10 days after the start of the bathing season. If this was a case, the second sample should have been taken no later than 41 days after the start of the bathing season when the less strict rules or 32 days when the strict rules are used in the assessment. The bathing water is classified as insufficiently sampled or not sampled when the pre-season sample is missing or when the difference between two consecutive samples is larger than 41 days by the less strict rule or 32 days by the strict rule. In graphs results applying the less strict rules are presented.

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

In Spain the length of the bathing season varied widely. The earliest date of an opening of inland bathing waters was 15 May 2010 and of coastal waters 1 March 2010. The latest date of an opening of inland bathing waters was 12 July 2010 and of coastal waters 1 July 2010. Most inland bathing areas closed in September 2010, but some closed from 27 to 31 August 2010. Coastal bathing areas closed in September or October 2010. The latest closure of coastal bathing water was 30 November 2010.

A total of 2 144 bathing waters were reported in Spain during the 2010 bathing season, of which 1 930 were coastal (1889) or transitional bathing waters (41) and 214 inland bathing waters (124 on rivers; 90 on lakes).

With 2 144 bathing waters Spain accounts for about 10.2 % of the reported bathing waters of the European Union.

The evolution of the reported number of bathing waters since monitoring of the water quality began under the Directive 76/160/EEC and the Directive 2006/7/EC is presented in Table 1. There is a significant increase in number of coastal bathing waters since the start of the reporting from 1 189 in 1990 to 1 930 in 2010. There were 20 more coastal bathing waters in 2010 than in the previous year. In 2010 one bathing site was de-listed. The number of inland bathing waters decreased from 217 in 1990 to 165 in 2005. It increased afterwards to 214 in 2010, when seven new bathing waters were added to the list compared to the previous year.

### 3. Bathing water quality

The results of the bathing water quality in Spain for the period 1990-2009 as reported in the past reporting years and for the bathing season of 2010 are presented in Figure 1. The previous reports are available on the European Commission's bathing water quality website ([http://ec.europa.eu/environment/water/water-bathing/index\\_en.html](http://ec.europa.eu/environment/water/water-bathing/index_en.html); Water and Health/Bathing Water/2005-2010 reports) and the European Environment Agency's bathing water website (<http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>; reports for the 2008 and 2009 bathing seasons).

The graphs show, for coastal and inland bathing waters separately:

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

Table 1 shows the same information in absolute numbers and in percentages separately for coastal and inland bathing waters. The numbers and percentages of insufficiently sampled or not sampled bathing waters are also presented. Table 2 shows the bathing water quality results for the 2009 and 2010 season in Spain for all bathing waters.

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

#### Coastal bathing waters

In Spain, 94.1 % of the coastal bathing waters met the mandatory water quality in 2010. This is a decrease of 4.5 % compared to the previous year. The rate of compliance with the guide values was 82.6 %, which is a decrease of 5.9 %. The number of non-compliant bathing waters with the mandatory value for *Escherichia coli* increased from nine (0.5 %) to 12 (0.6 %). Six coastal bathing waters (0.3 %) were closed during the season compared to two (0.1 %) in 2009.

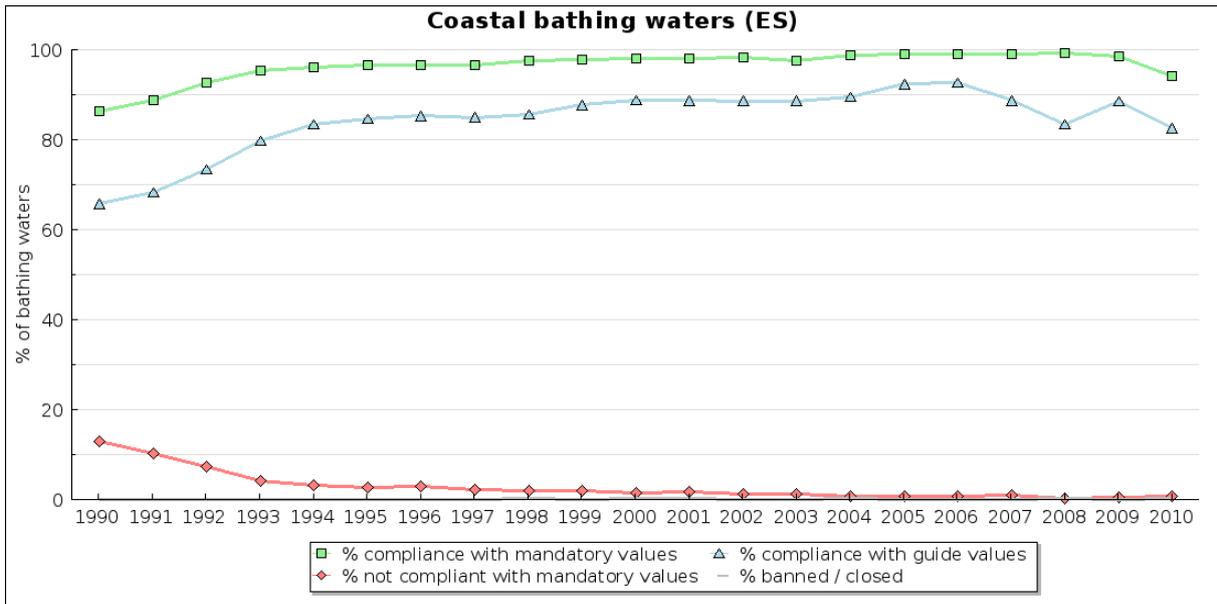
Since 1990, bathing water quality improved in the Spanish coastal bathing waters. Since 2004, around 99 % of the bathing waters met the mandatory water quality. In 2010, it decreased below 95 %, when 5 % of bathing waters were insufficiently sampled compared to less than 1 % since 2004. The compliance with the guide values reached above 90 % in 2005 and 2006. Since 1998, less than 0.5 % of the bathing waters were closed during the season, except for the 2006 season with no closed bathing water.

## **Inland bathing waters**

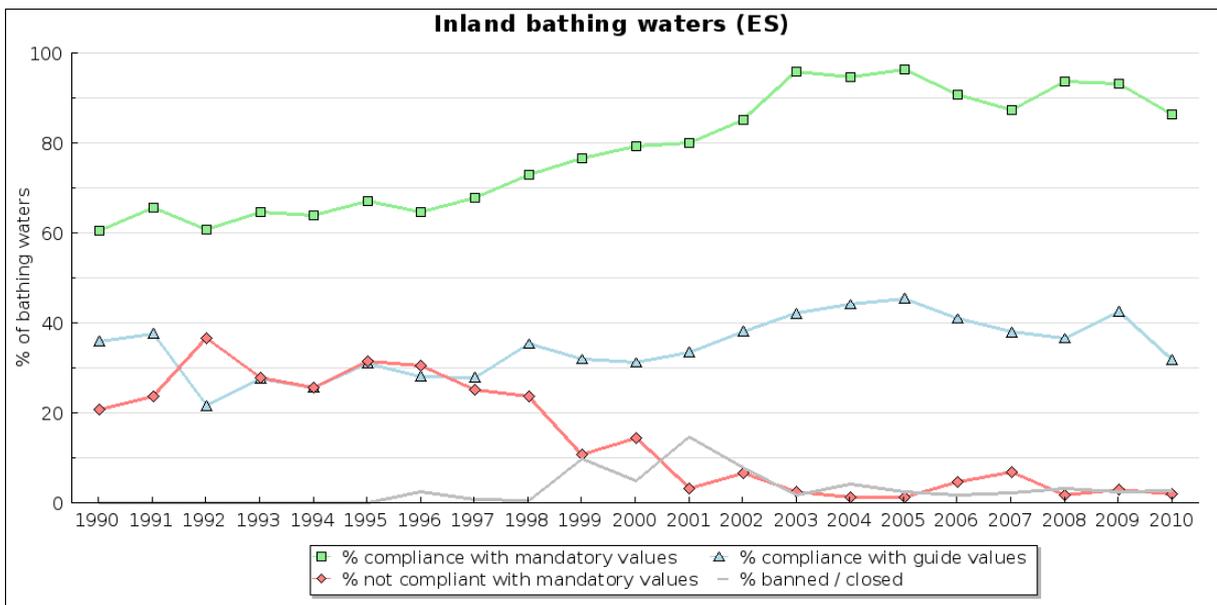
Some 86.4 % of the inland bathing waters met the mandatory water quality in 2010. This is a decrease of 6.8 % compared to the previous year. Some 31.8 % of the bathing waters met the more stringent guide values, which is a decrease of 10.7 %. The number of non-compliant bathing waters with the mandatory value for *Escherichia coli* decreased from six (2.9 %) to four bathing waters (1.9 %). Six bathing waters (2.8 %) had to be closed during the season, which is one more than in 2009 (2.4 %).

From 1990 onward there is an overall increase in the bathing water quality. The compliance with the mandatory values decreased in 2006 and 2007. This can be explained by the increasing number of inland bathing waters that did not comply with mandatory values. The compliance rate increased again in 2008 and 2009, almost reaching the level of around 95 % as in 2003, 2004 and 2005, but it decreased again below 90 % in 2010. The percentage of bathing waters compliant with the more stringent guide values is fluctuating around 40 % since 2002 with a drop to 31.8 % in 2010. The percentage of insufficiently sampled bathing waters (8.9 %) in 2010 was the highest since 1995. Since 1996, the number of inland bathing waters that were closed during the season fluctuated between one (0.5 %) in 1998 and 27 (14.6 %) in 2001.

**Figure 1: Results of bathing water quality in Spain from 1990 to 2010**



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



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**Table 1: Results of bathing water quality in Spain from 1990 to 2010**

ES												
	Total number of bathing waters	Compliance with guide and mandatory values**		Compliance with mandatory values		Not compliant		Banned/closed temporarily or throughout the season		Insufficiently sampled or not sampled		
		number	%	number	%	number	%	number	%	number	%	
Coastal bathing waters	1990	1189	782	65.8	1028	86.5	155	13	0	0	6	0.5
	1991	1302	889	68.3	1157	88.9	132	10.1	0	0	13	1.0
	1992	1334	979	73.4	1238	92.8	96	7.2	0	0	0	0.0
	1993	1404	1120	79.8	1340	95.4	58	4.1	0	0	6	0.4
	1994	1489	1242	83.4	1431	96.1	47	3.2	0	0	11	0.7
	1995	1517	1284	84.6	1465	96.6	41	2.7	0	0	11	0.7
	1996	1571	1340	85.3	1516	96.5	46	2.9	0	0	9	0.6
	1997	1587	1349	85	1531	96.5	33	2.1	0	0	23	1.4
	1998	1596	1366	85.6	1558	97.6	30	1.9	4	0.3	4	0.3
	1999	1623	1424	87.7	1587	97.8	31	1.9	2	0.1	3	0.2
	2000	1634	1451	88.8	1603	98.1	24	1.5	3	0.2	4	0.2
	2001	1638	1453	88.7	1605	98	26	1.6	4	0.2	3	0.2
	2002	1773	1571	88.6	1743	98.3	20	1.1	1	0.1	9	0.5
	2003	1779	1576	88.6	1737	97.6	21	1.2	1	0.1	20	1.1
	2004	1826	1634	89.5	1806	98.9	14	0.8	4	0.2	2	0.1
	2005	1824	1685	92.4	1808	99.1	14	0.8	1	0.1	1	0.1
	2006	1863	1727	92.7	1843	98.9	13	0.7	0	0	7	0.4
	2007	1901	1686	88.7	1883	99.1	17	0.9	1	0.1	0	0.0
	2008	1899	1584	83.4	1887	99.4	4	0.2	4	0.2	4	0.2
	2009	1910	1691	88.5	1883	98.6	9	0.5	2	0.1	16	0.8
2010*	1930	1594	82.6	1816	94.1	12	0.6	6	0.3	96	5.0	
2010	1930	1590	82.4	1811	93.8	11	0.6	6	0.3	102	5.3	
Inland bathing waters	1990	217	78	35.9	131	60.4	45	20.7	0	0	41	18.9
	1991	271	102	37.6	178	65.7	64	23.6	0	0	29	10.7
	1992	301	65	21.6	183	60.8	110	36.5	0	0	8	2.7
	1993	312	86	27.6	202	64.7	87	27.9	0	0	23	7.4
	1994	346	89	25.7	221	63.9	89	25.7	0	0	36	10.4
	1995	222	69	31.1	149	67.1	70	31.5	0	0	3	1.4
	1996	302	85	28.1	195	64.6	92	30.5	7	2.3	8	2.6
	1997	251	70	27.9	170	67.7	63	25.1	2	0.8	16	6.4
	1998	215	76	35.3	157	73	51	23.7	1	0.5	6	2.8
	1999	213	68	31.9	163	76.5	23	10.8	21	9.9	6	2.8
	2000	202	63	31.2	160	79.2	29	14.4	10	5	3	1.5
	2001	185	62	33.5	148	80	6	3.2	27	14.6	4	2.2
	2002	181	69	38.1	154	85.1	12	6.6	14	7.7	1	0.6
	2003	171	72	42.1	164	95.9	4	2.3	3	1.8	0	0.0
	2004	170	75	44.1	161	94.7	2	1.2	7	4.1	0	0.0
	2005	165	75	45.5	159	96.4	2	1.2	4	2.4	0	0.0
	2006	171	70	40.9	155	90.6	8	4.7	3	1.8	5	2.9
	2007	174	66	37.9	152	87.4	12	6.9	4	2.3	6	3.4
	2008	186	68	36.6	174	93.5	3	1.6	6	3.2	3	1.6
	2009	207	88	42.5	193	93.2	6	2.9	5	2.4	3	1.4
2010*	214	68	31.8	185	86.4	4	1.9	6	2.8	19	8.9	
2010	214	67	31.3	183	85.5	4	1.9	6	2.8	21	9.8	

\*Less strict rules applied (41 days taken as a maximum difference between two samples for reporting under Directive 2006/7/EC). \*\*Bathing waters which were compliant with the guide values were also compliant with the mandatory values for five parameters under the Directive 76/160/EEC (1990-2007) or the mandatory value for *Escherichia coli* (2008-2010).

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

ES												
		Total number of bathing waters	Compliance with guide and mandatory values**		Compliance with mandatory value		Not compliant		Banned/closed temporarily or throughout the season		Insufficiently sampled or not sampled	
			number	%	number	%	number	%	number	%	number	%
All bathing waters	2009	2117	1779	84.0	2076	98.1	15	0.7	7	0.3	19	0.9
	2010*	2144	1662	77.5	2001	93.3	16	0.7	12	0.6	115	5.4
	2010	2144	1657	77.3	1994	93.0	15	0.7	12	0.6	123	5.7

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

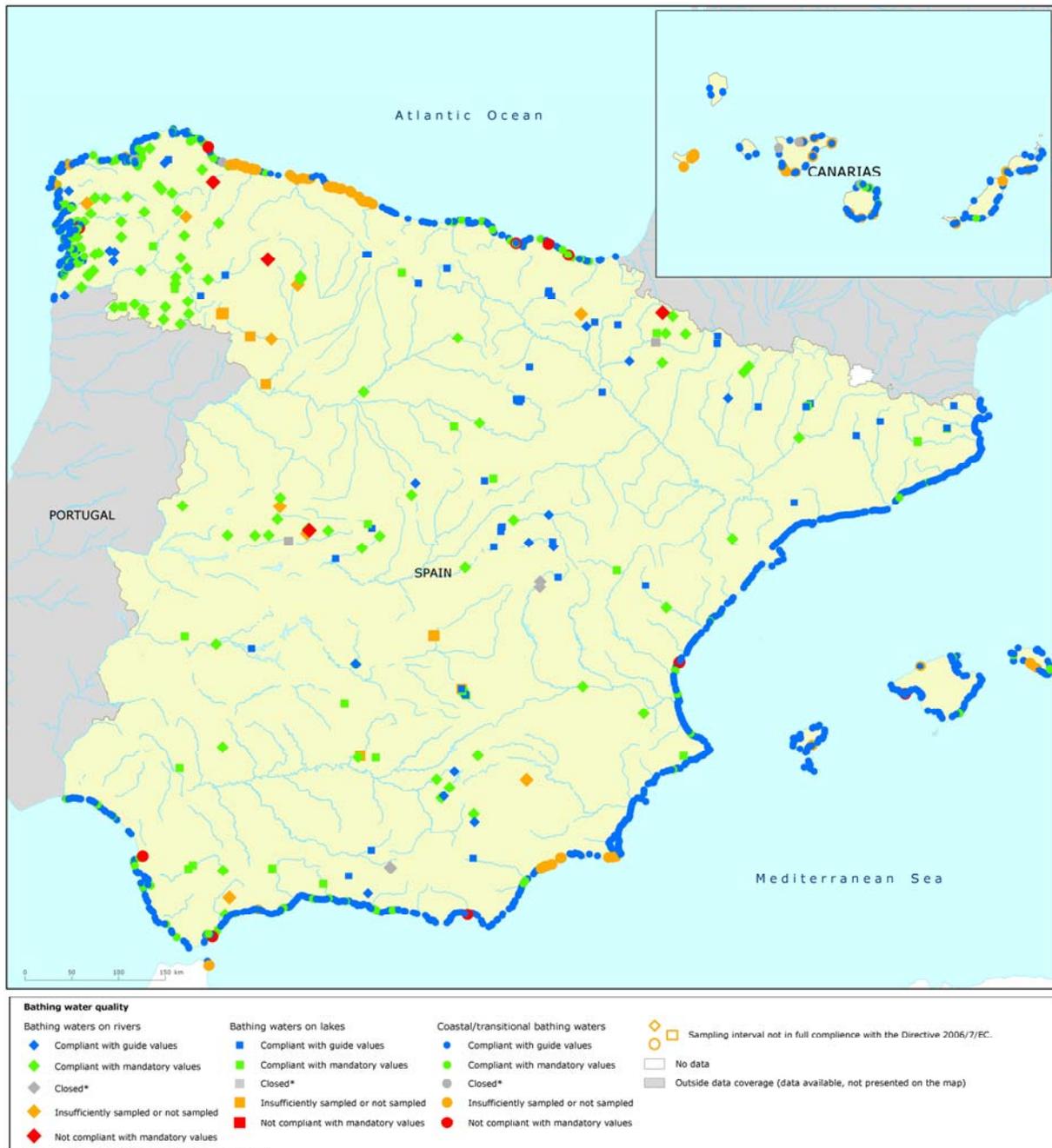
#### 4. Important information as provided by the Spanish authorities

The Spanish authorities reported reasons for closing and de-listing of bathing waters as follows:

Bathing water identification code	Bathing water name	Reasons for change
ES61400094C18094A1	RIO MAITENA GÜEJAR SIERRA PM1	Health reasons related to quality of water.
ES61400094C18094B1	RIO GENIL GÜEJAR SIERRA PM1	Health reasons related to quality of water.
ES24300245C50245A1	EMBALSE YESA SIGÜÉS PM1	The BW has been expropriated because of the project of rising of the dam were it is located (and will be flooded soon).
ES70100006M35006A1	PLAYA PUERTILLO (BAÑADEROS) PM1	Construction works at the vicinity, and health reasons related with quality of water.
ES70100009M35009D1	PLAYA BOCABARRANCO PM1	Health reasons related to quality of water.
ES70200031M38031A1	PLAYA SOCORRO (EL) PM1	Access limited because of stone falls at the access road that makes it dangerous and difficult.
ES70200040M38040B3	PLAYA GUIOS-LOS GIGANTES (ARGEL) PM3	Due to the small size of the BW, and considering the results of the previous years, it has been considered that one sampling point coming from the fusion of the two existing is adequate.
ES42300078C16078D1	RIO JUCAR CUENCA 02 PM1	Security reasons related to water drops from reservoirs upstream. River basin agency authorisation required.
ES42300078C16078E1	RIO JUCAR CUENCA 03 PM1	Security reasons related to water drops from reservoirs upstream. River basin agency authorisation required.
ES42500125C45125A1	EMBALSE ROSARITO OROPESA PM1	Health reasons related to presence of cyanobacteria.
ES11100075M15075E1	PLAYA LOURIDO - SADA PM1	Change of circumstances for which it was designated as a BW, due to an access that has become dangerous and difficult.
ES11200051M27051F1	PLAYA XUNCOS PM1	Change of circumstances for which it was designated as a BW, due to the complete removal of the sand beach.
ES21200061M20061B1	PLAYA DE ORIBARZAR PM1	De-listed. Permanent bathing prohibition for more than two entire consecutive seasons.

Other information can be found on a national information system of bathing waters "Nayade" [<http://nayade.msc.es>] launched in January 2008. It is used by the competent authorities. The data is provided by the regional authorities responsible for monitoring the quality of bathing water in its territory.

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



**Note:** \* banned or closed (temporarily or throughout the season)  
 More data on bathing water quality on: <http://www.eea.europa.eu/themes/water/mapviewers/bathing>

**Source:** National boundaries: GISCO; Large rivers and lakes: EEA, WFD Article 3; Bathing waters data and coordinates: Spanish authorities

The legislative action taken to reduce emissions of contaminants to the aquatic environment and thereby to help to improve the quality of bathing water has involved major amendments to the Water Act and the Regulation on Public Water Resources, which constitute the basic legislation on water, and the drafting of complementary legislation on the control and management of waste water discharges to the aquatic environment. In April 2005 the Environment Ministry launched an "Action plan" for waste water discharges. This consists of providing the Water Boards with the appropriate human, material and technical resources and setting priorities according to the volume of discharges and the danger they pose so that the action to be taken is as effective as possible and quickly benefits the receiving environment. These measures also make it possible to review discharge permits more quickly with a view to bringing them into line with the current legislation. Additionally, in cooperation with the Autonomous Communities, the Environment Ministry has drawn up the National water quality plan: waste-water disposal and treatment 2007-2015. The National water quality plan forms part of a series of measures aimed at full compliance with Directive 91/271/EEC and is intended to contribute to achieving the objective of good status by 2015 as provided for in the Water Framework Directive. The total budget estimation for the National water quality plan 2007-2015 is €19 000 million.

## 5. More information on bathing water quality in Europe

Of the more than 21 000 bathing areas monitored throughout the European Union in 2010, two-thirds were in coastal waters and the rest in rivers and lakes. The largest number of coastal bathing waters can be found in Italy, Greece, France, Spain and Denmark, while Germany and France have the highest number of inland bathing waters.

During recent years, including the 2010 bathing season, majority of Member States have adjusted their monitoring programmes to meet the requirements of the new bathing water directive (2006/7/EC). Luxembourg was the first country to report under this Directive in 2007. Cyprus, Denmark, Estonia, Finland, Germany, Hungary, Latvia, Lithuania, Slovakia, Spain and Sweden started to report under the new directive in 2008. Malta and the Netherlands started to report in 2009, while Austria, Belgium - Walloon Region, France, Greece, Italy, Portugal and Slovenia reported under this Directive for the first time in 2010. Historical data of two microbiological parameters, *Escherichia coli* and intestinal enterococci were sent by Sweden (since 2005), Luxembourg and Malta (since 2006), Belgium - Walloon Region, Greece, Hungary and Portugal (since 2007), and France (since 2009). To conclude, 20 Member States and the Walloon Region of Belgium monitored and reported under the new directive (Directive 2006/7/EC) in 2010.

Assessment of the status of all bathing waters in 2010 under the rules of the new directive (Directive 2006/7/EC) is made for Luxembourg, Malta and Hungary. Assessment of the bathing water quality on a country level for the other countries that reported under the new directive has been done using transition rules. Bathing water quality for individual bathing waters having four year set of data can be seen on the interactive maps and data viewer that are described below.

Three non-EU countries, Croatia, Montenegro and Switzerland have reported monitoring results under the new directive. Switzerland sent data on *Escherichia coli* for all bathing waters but only for some data on intestinal enterococci.

Overall in 2010, 92.1 % of Europe's coastal bathing waters and 90.2 % of inland bathing waters met the minimum water quality standards set by the bathing water directives. During recent years there has been deterioration in bathing water quality but still more than nine in ten bathing waters meet the minimum quality standards. The share of non compliant bathing waters was 1.2 % for coastal bathing waters and 2.8 % for inland bathing waters. The decrease reflects in part year to year variation but also indicates that further work is necessary to ensure that the quality of bathing waters is constantly improved and maintained.

More information on bathing water quality in the European Member States, including the EU summary report, the reports for 27 Member States, Croatia, Montenegro and Switzerland, can be found on the European Commission's bathing water quality website ([http://ec.europa.eu/environment/water/water-bathing/index\\_en.html](http://ec.europa.eu/environment/water/water-bathing/index_en.html)) and the European Environment Agency's bathing water website (<http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>). The Institute for Water of the Republic of Slovenia (IWRS), a partner in the EEA European Topic Centre on Inland, Coastal and Marine Waters (ETC/ICM) has produced the reports for the bathing seasons from the

2008 bathing season on. Countries have collaborated in the assessment of bathing water quality and supplied additional information when needed.

### **Interactive information on bathing water quality**

The bathing water section of the Water Information System for Europe (WISE), which is accessible at the EEA bathing water website, allows users to view the quality of the bathing water at more than 22 000 coastal beaches and inland bathing sites across Europe. Users can check bathing water quality on an interactive map or can download data for a selected country or region and make comparisons with previous years.

The WISE map viewer (<http://www.eea.europa.eu/themes/water/interactive//bathing>) is an online map viewer for visualisation of European spatial water data. It includes a lot of interactive layers, allowing water themes to be visualised at different scales. Broad resolutions display the aggregated data by Member State. At finer resolutions the locations of monitoring stations are displayed.

The WISE Bathing Water Quality data viewer (<http://www.eea.europa.eu/themes/water/status-and-monitoring/bathing-water-data-viewer>) combines text and graphical visualisation, providing a quick check on locations and statistics on the quality of coastal and freshwater bathing waters. It also documents how bathing waters have changed throughout Europe in recent years and provides a full summary of Europe's bathing water quality. Users can search information at three spatial levels - country, region and province - and observe specific bathing water locations on the Google Earth, Google maps or Bing maps.

The Eye On Earth - Water Watch application (<http://www.eea.europa.eu/data-and-maps/explore-interactive-maps/eye-on-earth>) allows users to zoom in on a given section of the coast, riverbank or lake, both in street map or, where available, bird's eye viewing formats. A 'traffic-light' indicator (red, amber, green) of bathing water quality, based on the official bathing water data, is put alongside the ratings of people who have visited the bathing site, including any comments users wish to make. For historical data Water Watch uses a simplified index of bathing water quality data. The Czech Republic, Estonia, Finland (one municipality), Hungary, Lithuania, Luxembourg, Malta, the Netherlands, Norway (one municipality), Slovenia, Slovakia and England and Wales were also sending near real time information on bathing water quality to the Eye On Earth application. The bathing water quality from Austria, Belgium, Bulgaria, Croatia, Denmark, France, Germany, Ireland, Italy, Poland, Portugal, Spain, Sweden and Scotland and Northern Ireland was also presented on Eye on Earth Water Watch.

### **National and local information on bathing water quality**

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

### **Information on EU bathing water legislation**

EU Member States will have to comply with the stricter and more ambitious requirements laid out in Directive 2006/7/EC by 2015 at the latest. The new legislation requires more effective monitoring and management of bathing waters, greater public participation and improved information dissemination. By March 2011 Member States have to have established bathing water profiles. More on the new legislation can be found on the European Commission's websites and on <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:064:0037:0051:EN:PDF>.