

# Bathing water results 2008 – Cyprus

## 1. Introduction

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

During the transition period, samples of Intestinal enterococci and Escherichia coli are reported under the Directive 2006/7/EC, but assessment is done according to the assessment rules of Directive 76/160/EEC. For the conversion of reported parameters under Directive 2006/7/EC, Article 13.3 of the Directive 2006/7/EC foresees that the parameter Escherichia coli, reported under Directive 2006/7/EC, is assumed to be equivalent to the parameter Faecal coliforms of Directive 76/160/EEC. The parameter Intestinal enterococci reported under Directive 2006/7/EC is assumed to be equivalent to the parameter Faecal streptococci. This means that the parameters Intestinal enterococci and Escherichia coli are evaluated according to the guide and mandatory standards defined in the Annex to Directive 76/160/EEC for the parameters Faecal streptococci and Faecal coliforms respectively.

The results are classified in the following categories:

- Compliant with the mandatory value of the Directive 76/160/EEC for Escherichia coli and not compliant with the guide value of the Directive 76/160/EEC for Intestinal enterococci (class CI)
- 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 CG)
- Not compliant with the mandatory value of the Directive 76/160/EEC for Escherichia coli (class NC)
- Banned (temporarily closed) or closed throughout the season (class B)

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

For all bathing waters the bathing season lasted six months, from 1 May to 31 October 2008.

A total of 111 bathing waters were monitored in Cyprus during the 2008 bathing season, all coastal waters.

With 111 bathing waters Cyprus accounts for about 0.5% 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 Directive 2006/7/EC is presented in Table 1. The number of reported bathing waters increased since the start of the reporting from 100 in 2004 to 111 in 2008. There were 11 more bathing waters in 2008 than in four previous years: 15 new bathing waters were added to the list compared to the previous year and four bathing waters were de-listed.

## 3. Results of bathing water quality

The results of the bathing water quality in Cyprus for the period 2004-2007 as reported in 2008 report and for the bathing season of 2008 are presented in Figure 1.

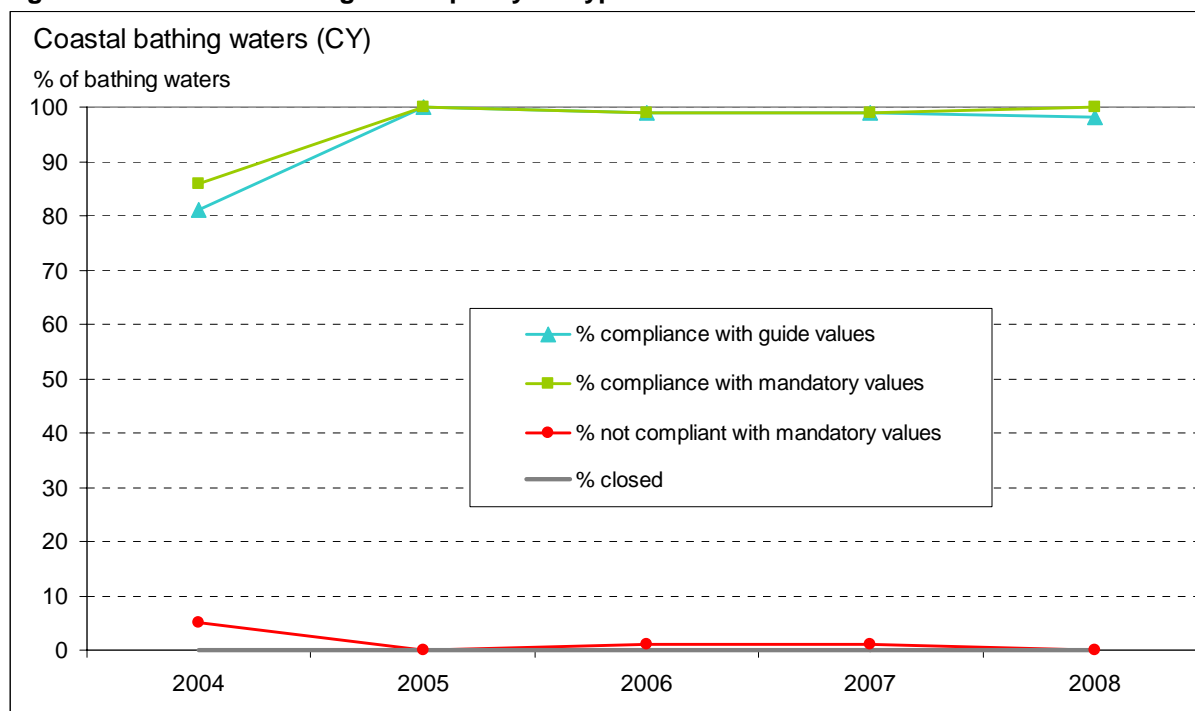
The graph shows, for coastal bathing waters:

- 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 (temporarily closed) or closed throughout the season (class B, grey line)

Table 1 and Table 2 show the same information in absolute numbers and in percentages for coastal bathing waters.

Map 1 shows the location of the reported bathing waters in Cyprus. The location of the bathing waters is based on the geographic coordinates reported by the Cypriot authorities.

**Figure 1: Results of bathing water quality in Cyprus from 2004 to 2008**



**Table 1: Results of bathing water quality in Cyprus from 2004 to 2008 as absolute numbers**

	CY/Coastal Bathing Waters				
	Total number of bathing waters	Compliance with guide values	Compliance with mandatory values	Not compliant	Banned/closed throughout the season
2004	100	81	86	5	0
2005	100	100	100	0	0
2006	100	99	99	1	0
2007	100	99	99	1	0
2008	111	109	111	0	0

**Table 2: Results of bathing water quality in Cyprus from 2004 to 2008 as percentages**

	CY/Coastal Bathing Waters				
	Total number of bathing waters	% compliance with guide values	% compliance with mandatory values	% not compliant	% banned/closed throughout the season
2004	100	81.0	86.0	5.0	0.0
2005	100	100.0	100.0	0.0	0.0
2006	100	99.0	99.0	1.0	0.0
2007	100	99.0	99.0	1.0	0.0
2008	111	98.2	100.0	0.0	0.0

#### **4. Development of bathing water quality**

In Cyprus, 100% of the coastal bathing waters (111) met the mandatory water quality in 2008. This is a slight increase compared to the previous year (+ 1%). The rate of compliance with the guide values decreased slightly (- 0.8%), reaching 98.2% of the bathing waters (109). Since the start of reporting in 2004, no coastal bathing water had to be closed during the season.

Cyprus has excellent bathing water quality for the fourth consecutive year. In 2006 and 2007, only one bathing water was not compliant with the mandatory values. In 2005 and 2008, all bathing waters were compliant with the mandatory values. The compliance with the guide values decreased slightly from 100% in 2005 to 98.2 % in 2008.

#### **5. General information as provided by the Cypriot authorities**

For the 2008 bathing season, Cyprus decided to introduce monitoring under the new Bathing Water Directive 2006/7/EC. The two parameters, "intestinal enterococci" and "Escherichia coli", were analysed at least monthly and once before the start of the bathing season according to Article 3.

For the "Escherichia coli" analysis the ISO 9308-3:1999 Water quality - Detection and enumeration of *Escherichia coli* and coliform bacteria - Part 3: Miniaturized method (Most Probable Number) for the detection and enumeration of *E. coli* in surface and waste water" is used. For the "enterococci" analysis, the ISO 7899 -2 (2000) Water quality- Detection and enumeration of intestinal enterococci-Part 2: Membrane filtration method" is used.

It is worth mentioning that the Cyprus climatic conditions (increased sunlight and high temperature) and the salinity of the coastal waters in the Eastern Mediterranean are quite unfavourable to the survival of microorganisms.

##### **Public information**

For the 2008 bathing season, Cyprus has implemented the requirements of the Directive 2006/7/EC regarding the establishment of the list of bathing areas. The bathing areas were, therefore, defined following public participation. The procedure included district and national conferences of all stakeholders including Governmental Departments, Local Authorities, NGOs, Cyprus Tourism Organization, etc. Following the conferences a committee comprised of the implementing authorities (Environment Service, Medical and Public Health Services and the General Laboratory), evaluated the suggestions proposed and prepared a draft list of bathing areas. The draft list of bathing water was then uploaded to the website of Environment Service for a period of 3 weeks, in order for the public to have the opportunity to submit suggestions, remarks or complains. Additionally there was a press release to local newspapers urging the public to participate in the preparation of the final list. Following the procedure above the final list of bathing areas was established. The monitoring calendar was uploaded at the beginning of the bathing season on the website of the Environment Service.

All monitoring results and other related information are available to the public on registers held by the Department of Medical and Public Health Services and the Environment Service or through the website of the Environment Service.

The 2008 Annual Report on the quality of bathing water in Cyprus to the E.U. will be published and will also be uploaded on the Internet.

##### **Wastewater treatment**

Wastewater treatment plants are in operation for the 4 large agglomerations on the coast of Cyprus. Wastewater effluent is almost entirely reused for irrigation. There is no disposal of untreated wastewater (municipal or industrial) to the sea. Two of these treatment plants, i.e. the Limassol/ Amathousa STP and the Larnaca STP, periodically dispose tertiary treated effluent to the sea during the winter months. The Urban Wastewater Treatment Directive (91/271/EEC) is under full implementation. Two sensitive areas have been designated.

## **Treatment of diffuse sources of pollution**

In implementing the Nitrates Directive (91/676/EEC) in 2008, five nitrate-vulnerable zones have been designated. An action programme has been developed for these areas, aimed at preventing and reducing nitrate pollution from agricultural sources. The analysis of pressures to water bodies performed under Article 5 of the WFD, has verified the occurrence of sea water intrusion in groundwater bodies in the coastal areas and, therefore, the limited influx of nutrients from aquifers to the sea. There is, however, some influx from runoff from agricultural areas during periods of heavy rainfall. Implementation of the action programme of 2008 to 2012 will further reduce this source of pollution to the sea.

## **6. More information on bathing water quality in the European Union**

More information on bathing water quality in the European Member States, including the reports for 27 Member States and the EU summary report, can be found on the 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)).

By 2015, Member States will have to comply with the stricter and more ambitious requirements laid out in the new Bathing Water Directive (Directive 2006/7/EC). This Directive requires more effective monitoring and management of bathing waters, greater public participation and improved information. More information on the new Directive can be found on the bathing water quality website and on <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:064:0037:0051:EN:PDF>.

Cyprus, Denmark, Estonia, Finland, Germany, Hungary, Latvia, Lithuania, Slovakia, Spain and Sweden started to report according to more stringent new requirements in 2008 bathing season, while Luxembourg already started in 2007 bathing season.

WISE - Water Information System for Europe ([www.water.europa.eu](http://www.water.europa.eu)) is a gateway to all water related information. Among other water related data, information on individual bathing water quality can be found in the WISE Map viewer and WISE Data viewer through interactive maps and graphs (<http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>).

**Map 1: Bathing waters reported during the 2008 bathing season in Cyprus**

