

EEA Core Set of Indicators - CSI 022

Bathing water quality

May 2005 assessment

working draft

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Generated on: 17 Jun 2005

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European Environment Agency





Key policy question: Is bathing water quality improving?

Key message: The quality of water at designated bathing beaches in Europe (coastal and inland) has improved throughout the 1990s and early 2000s. In 2003, 97% of coastal bathing waters and 92% of inland bathing waters complied with the mandatory standards.

The quality of EU bathing waters in terms of compliance with the mandatory standards laid down in the Bathing Waters Directive has improved but at a slower rate than initially envisaged. The original target of the 1975 Directive was for Member States to comply with standards by the end of 1985. This was not achieved, and even by 2003 not all bathing waters were in compliance. Member States have invested significant amounts of money to achieve the prescribed standards. The implementation of the Urban Waste Water Treatment Directive has also contributed significantly to the general improvement of surface water quality including bathing waters. However, in some cases the installation of sewage treatment works did not result in 100 % compliance with bathing water quality standards because of diffuse pollution which still remains a source of microbiological and other contamination (e.g. Morecambe Bay, UK; Jones et al 1999).

In addition, for some of the parameters listed in the directive a robust, analytical methodology has not been yet developed (e.g. for monitoring viruses). Therefore compliance with the mandatory standards does not necessarily mean that there is no risk to human health. In fact, a number of studies have shown that the concentration of faecal streptococci in bathing water is a more useful indication of the likelihood of illness than faecal coliforms (e.g. Cabelli, 1983 and Kay et al., 1994). There is a guide value in the directive for faecal streptococci (100 per 100ml) but Kay et al. (1994) found there was a significantly increased risk of gastroenteritis when faecal streptococci count was greater than 40ml per 100ml. That means that reaching the guide value does not necessarily protect human health. The proposed revised Bathing Water Directive (COM (2002)581) is expected to introduce a higher health standard than the old directive thereby reducing likelihood of illness.

Despite the significant improvement in bathing water quality, 11% of Europe's coastal bathing waters and 32% of Europe's inland bathing beaches still did not meet (non-mandatory) guide values in 2003 despite the fact that the bathing water directive was adopted over 25 years ago (Fig. 2).

The level of achievement of (non-mandatory) guide levels has been much lower than that for the mandatory standards. This is probably because the achievement of the guide levels would entail considerably more expenditure by Member States for sewage treatment works and the control of diffuse pollution sources.

Two countries (the Netherlands and Belgium) achieved 100 % compliance with mandatory standards in their coastal bathing waters in 2003. The worst performance in terms of coastal waters and mandatory standards was found in Finland with 93.2 % compliant bathing waters in 2003 (Fig. 3). In contrast to its 100 % compliance with mandatory standards, only 15.4 % of Belgium's coastal bathing water met the guide levels, being the lowest of the EU countries. In general, the guide levels were met in far fewer coastal bathing waters in comparison to mandatory standards.

Three countries, i.e. Ireland, Greece and UK, achieved 100 % compliance with mandatory standards in their inland bathing waters in 2003 (Fig. 4). It should, however, be noted that these countries have designated the least number of inland bathing waters in the EU (9, 4 and 11, respectively) compared to Germany (1 572) and France (1 405) who have designated the highest number. Italy had the lowest



compliance rate (70.6 %) for its inland bathing waters in 2003. As with coastal waters, in general, the guide levels were met in far fewer inland bathing waters as compared to mandatory standards, with Portugal having only 10.9 % of its inland bathing waters meeting the guide levels.

In 2003, the European Commission conducted the infringement proceedings against nine (Belgium, Denmark, Germany, Spain, France, Ireland, Netherlands, Portugal, and Sweden) of the EU 15 Member States for non-compliance with aspects of the Bathing Waters Directive. Common reasons were non-compliance with standards and insufficient sampling. The Commission also noted that the number of inland UK bathing waters is low by comparison with most other Member States.

References

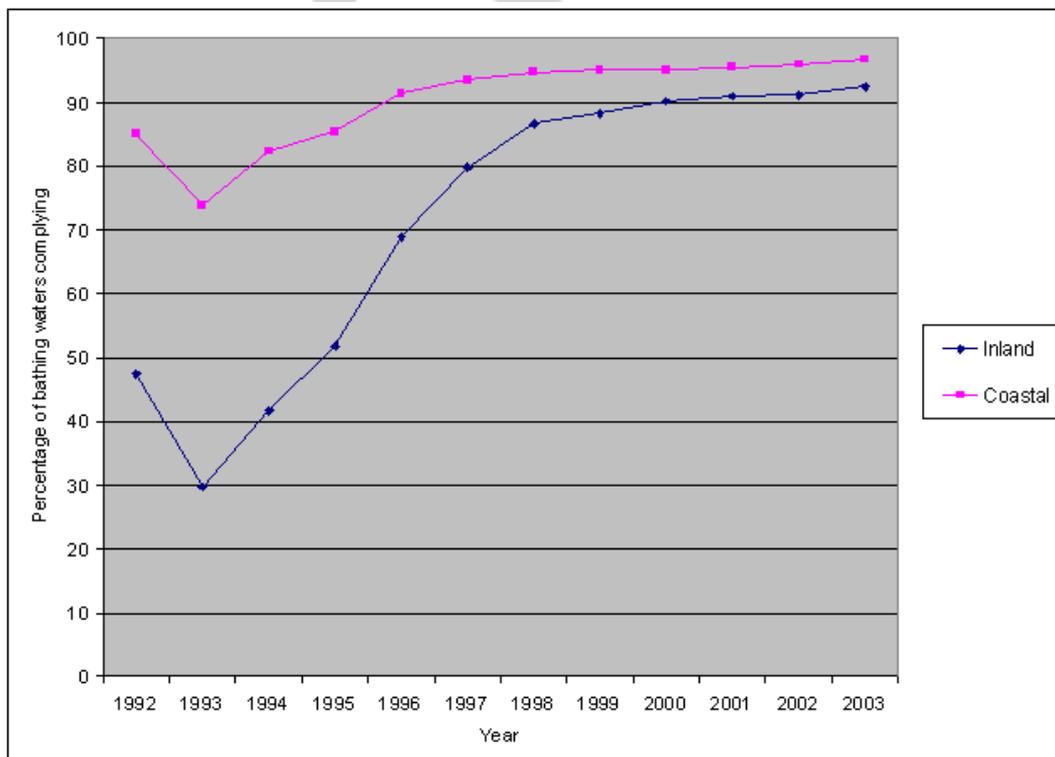
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Jones, K. and Obiri-Danso, K. (1999) Non-compliance of beaches with the EU directives of bathing water quality: Evidence of non-point sources in Morecambe Bay Journal of Applied Microbiology Symposium Supplement, Vol 85, issue 28 pp 101S-107S.

Kay, D., Fleischer, J. M., Salomon, R. L., Jones, F., Wyer, M. D., Goodfree, A. F., Zelenau-Jacquotte, Z. and Shore, R. (1994). Predicting likelihood of gastro-enteritis from sea bathing results from randomised exposure. Lancet 344, pp 905-909.

<http://europa.eu.int/water/water-bathing/report/eu.html>

Fig. 1: Percentage compliance of EU coastal and inland bathing waters with mandatory standards of the Bathing Water Directive, 1992 to 2003 for EU-15.

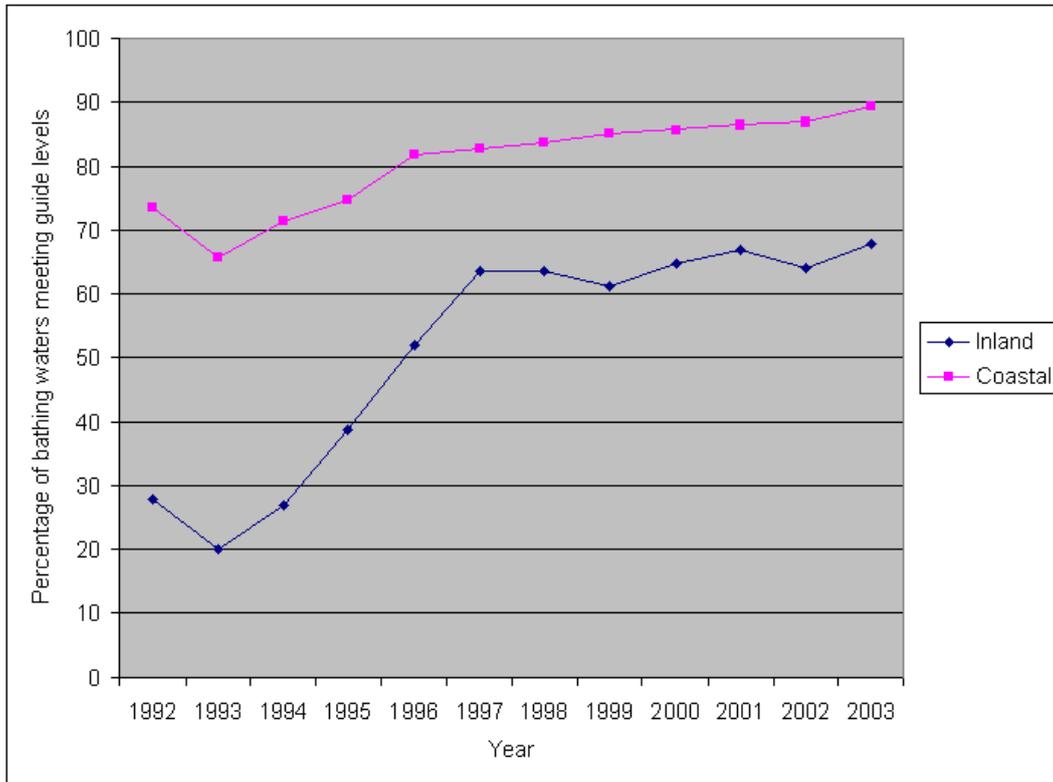


Data source: DG Environment from annual Member State reports

Note: 1992 to 1994, 12 EU Member States, 1995/96, 14 EU Member States, 1997 onwards, 15 EU Member States



Fig. 2: Percentage of EU coastal and inland bathing waters meeting the non-mandatory guide levels of the Bathing Water Directive, 1992 to 2003 for EU-15.

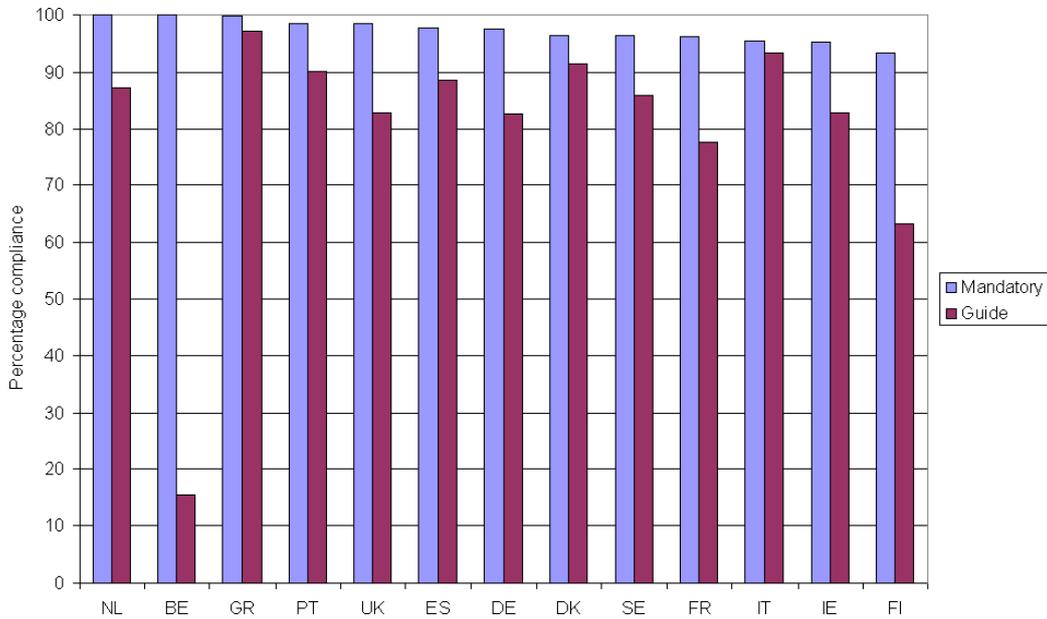


Data source: DG Environment from annual Member States reports

Note: 1992 to 1994, 12 EU Member States, 1995/96, 14 EU Member States, 1997 onwards, 15 EU Member States

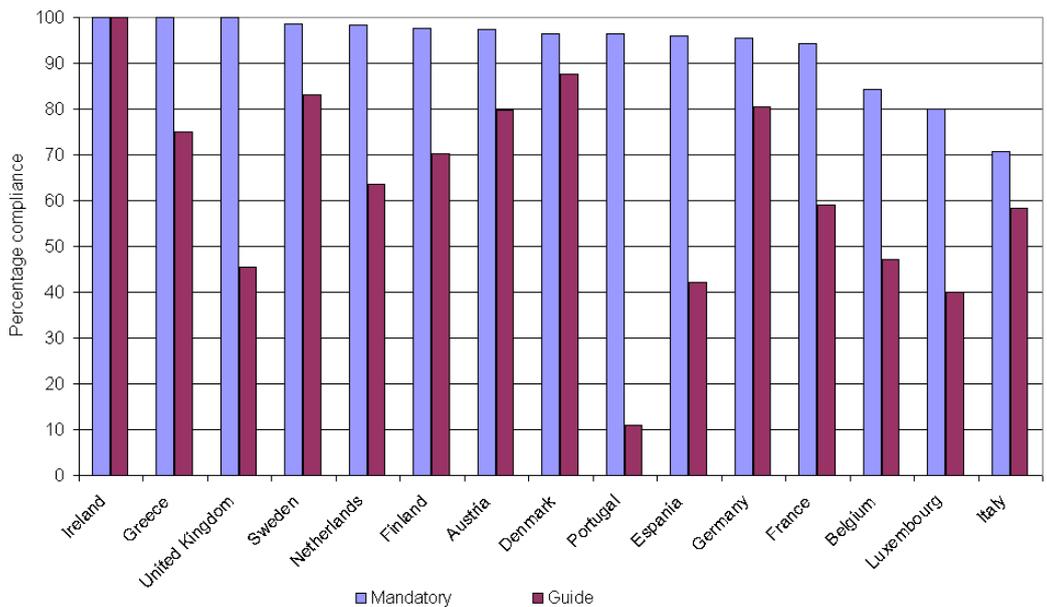


Fig. 3: Percentage of EU coastal bathing waters complying with mandatory standards and meeting guide levels of the Bathing Waters Directive for the year 2003 by country



Data source: DG Environment from annual Member State's reports
 Note:

Fig. 4: Percentage of EU inland bathing waters complying with mandatory standards and meeting guide levels of the Bathing Waters Directive for the year 2003 by country



Data source: DG Environment from annual Member State's reports