## Bathing Water Quality

in England and Wales, 1999

A Summary Report



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Et: Water Quality-Box 2



# Bathing Water Quality in

### North West Region

- Skinburness
- Silloth
- Allonby
- 4 Allonby South
- **5**
- ◆6 Windermere, Fellfoot
- Windermere, Millerground Landing
- ◆8 Windermere, Lakeside YMCA
- 9 Seascale
- 10 Silecroft
- 11 Haverigg
- 12 Askam-in-Furness
- 13 Roan Head
- 14 Walney West Shore ■ 15 Walney Sandy Gap
- 16 Walney Biggar Bank
- 17 Newbiggin
- 18 Aldingham
- 19 Bardsea

- 20 Morecambe North 21 Morecambe South
- 22 Heysham Half Moon Bay
- 23 Fleetwood
- 25 Bispham
- 26 Blackpool North
  - Blackpool Central
- 28 Blackpool South
- 29 St Annes North
- 30 St Annes
- 31 Southport
- 32 Ainsdale 33 Formby
- 34 New Brighton
- 35 Moreton
- 36 Meols
- 37 West Kirby

### **Environment Agency Wales**

- 02
- 3 Kinmel Bay (Sandy Cove)
- 4 Colwyn Bay
- Llandudno North Shore
- Llandudno West Shore
- ♦8 Llanddona 9 Benllech
- 10 Cemaes
- 11 Porth Dafarch
- 12 Trearddur Bay
- ◆ 13 Rhosneigr
- ◆ 14 Llanddwyn
- ♠ 15 Morfa Dinlle
- 16 Abersoch
- 18 Criccieth
- ♦ 19 Morfa Bychan
- ◆ 20 Harlech
- 21 Llandanwo
- 22 Dyffryn (Llanendwyn)
- 23 Tal-y-Bont 24 Barmouth
- 25 Fairbourne
- 26 Tywyn
- 27 Aberdyfi
- 29 Clarach South
- 30 Aberystwyth North
- 31 Aberystwyth South
- 32 Traeth Gwyn New Quay
- ♦ 33 Newquay Harbour
- 35 Tresaith
- 36 Aberporth ◆ 37 Poppit Sands
- ♦ 38 Newport
- 39 Whitesands
- 40 Caerfai ◆ 41 Newgale
- 42 Broadhaven
- 43 Marloes
- ◆ 44 Broadhaven South
- 45 Freshwater East \*
- 46 Manorbier
- ◆ 47 Lvdstep
- 48 Tenby South
- 49 Castle Beach, Tenby \*
- 50 Tenby North 51 Saundersfoot
- ◆ 52 Amroth
- ◆ 53 Pendine
- ♦ 54 Pembrey ♦ 55 Rhossili
- 56 Port Eynon Bay ◆ 57 Oxwich Bay
- ◆ 58 Caswell Bay
- ♦ 59 Langland Bay

- Bathing waters which meet the guideline coliform and faecal streptococci standards are indicated by a blue diamond.
- Those which met the mandatory coliform standards are indicated by a green circle.
- Those which did not meet the mandatory coliform standards are indicated by a red square.
- Those where the bathing water has been closed for a year due to health and safety reasons (eg.unstable cliffs) are indicated by a black circle.
- New bathing waters for the 1999 bathing season are indicated by an asterisk in the text boxes.



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### 1. Introduction

### 1.1 The role of the Environment Agency

As the competent authority for England and Wales, the Agency plays an important part in the implementation of the EC Bathing Water Directive (76/160/EEC). Under the directions given in May 1992 and notices given in May 1992 and February 1996 by the Secretary of State, the Agency is required to sample and analyse bathing waters in accordance with the requirements of the Directive. The results are reported annually to the Department of the Environment, Transport and the Regions (DETR) and the National Assembly for Wales (NAW). The DETR uses these data to assess compliance of individual bathing waters and transmits the results annually to the European Commission.

The Agency also has statutory duties and powers under the Water Resources Act 1991 to regulate discharges to controlled waters with respect to relevant water quality objectives. For bathing waters, water quality objectives were set out in the Bathing Water (Classification) Regulations 1991 (SI 91/1597), which came into force in August 1991 (DoE, 1991).

The results of the 1999 bathing water quality survey in England and Wales are also available on the Agency's interactive internet site. Details of compliance on individual bathing waters are shown on the Agency's World Wide Web site at http://www.environmentagency.gov.uk. Sample results will continue to be updated over the course of the 2000 bathing season. The Agency compiles data from the annual sampling programme via its National Centre for Environmental Data and Surveillance in Bath, and the reports are prepared by the Environmental Strategy Directorate as part of its role in assessing the state of the environment and the pressures placed upon it.

### 1.2 Identified bathing waters for the 1999 season

In 1999 there were 463 coastal bathing waters identified in England and Wales for the purposes of the Directive, five more than the 1998 bathing season. A single bathing water was de-designated at Alnmouth, in the Agency's North East Region on safety grounds. The new identified coastal bathing waters are indicated on the map of England and Wales. During the 1999 season, nine inland bathing waters were monitored in England and Wales.

### The 1999 EC Identified Bathing Water Quality Survey

### 2.1 Sampling and analysis

The bathing season in England and Wales runs from 15 May to 30 September and sampling commences two weeks before the start of the season. Agency policy is that 20 samples are taken at regular intervals throughout the season at each site. All samples are taken at predetermined points off the beach of the identified bathing

water where the daily average density of bathers is at its highest.

Samples are normally taken at a water depth of one metre and

30cm below the water's surface.

The results of the analyses of samples taken in the 1999 bathing season have been supplied to DETR for publication in the 1999 DETR Report to Parliament. Twenty samples were taken for coliform and faecal streptococci analysis at each bathing water (except for Runswick Bay in North East Region and Redgate Beach in South West Region - see below). A minimum of two samples are analysed for enteroviruses at those bathing waters that failed the mandatory coliform standards during the 1998 season or that failed the coliform standards in 1999. All coliform counts were confirmed using the methods set out in the Manual of Standard Methods for Microbiological Analysis (NRA 1992b).

### 2.2 Survey results: compliance with Directive

The mandatory coliform standards given in the Directive that are generally used to assess compliance require there to be no more than 10,000 total coliforms per 100ml and no more than 2,000 faecal coliforms per 100ml. For a bathing water to comply, 95 per cent of samples taken must meet these standards.

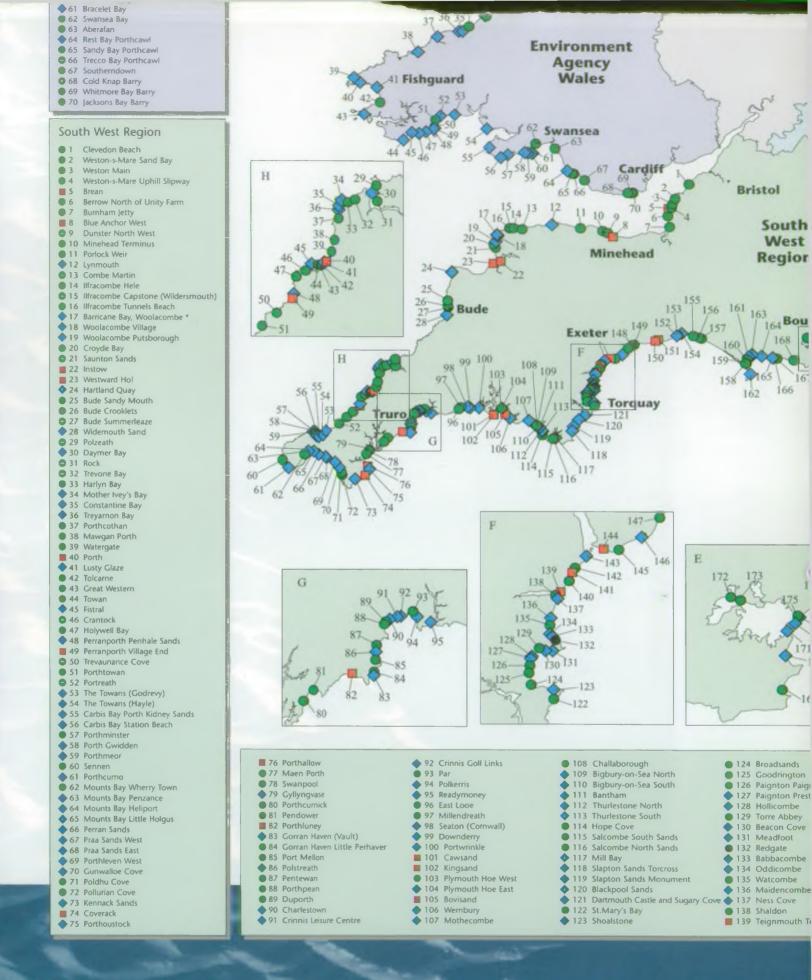
The more stringent guideline coliform and faecal streptococci standards given in the Directive are as follows: 80 per cent of samples must not contain more than 500 total coliforms or 100 faecal coliforms per 100ml and 90 per cent of samples must not contain more than 100 faecal streptococci per 100ml.

During the 1999 bathing season, 461 identified coastal bathing waters were examined in England and Wales. The number of bathing waters complying with the Directive, as determined by the DETR on the basis of the coliform parameters, was 422, that is to say, 91.5 per cent. This is an increase of 1.1 per cent compared with the results of the 1998 survey. Runswick Bay in North East Region and Redgate Beach in South West Region were closed for the season due to safety considerations and no sampling could take place. These bathing waters have not been included in the assessment and therefore percentage compliance has been calculated for a total of 461 bathing waters. All but one of the nine inland bathing waters complied with the coliform parameters, giving a compliance percentage of 88.9 per cent.

Table 1 gives details of the numbers and percentages of coastal bathing waters complying with the mandatory standards of the Directive in 1999 by Agency region. The changes in the number of bathing waters complying between 1998 and 1999 are also given.

The number of coastal bathing waters during the 1999 season complying with the more stringent guideline standards in the Directive was 185, or 40.1 per cent. This represents an increase of 2.7 per cent compared with the results of the 1998 survey.

Table 2 gives details of the numbers and percentages of coastal bathing waters complying with the guideline standards of the Directive in 1999 by Agency region. The changes in the number of bathing waters complying between 1998 and 1999 are also given.



For more information on the water quality at your look beach go to our internet site: www.environment-agen and follow "What's in your backyard."

Table 1 - 1999 EC Identified coastal bathing waters - mandatory compliance

Agency region	No. of bathing waters	Complying	Non- complying No. %	No. of compliant waters compared with 1998
Anglian	36	34 94.4	2 5.6	-2
North East	55	52 94.5	3 5,5	+5
North West	34	23 67.6	11 32.4	+2
Southern	79	74 93.7	5 6.3	-1
South West	184	167 90.8	17 9.2	0
Thames	3	3 100.0	0 0.0	0
Wales	70	69 98.6	1 1.4	45
TOTAL	461	422 91.5	40 8.5	+9

Table 2 - 1999 EC identified coastal bathing waters - guideline compliance

Agency region	No. of bathing waters	Complying No. %	Non- complying No. %	No. of compliant waters compared with 1998
Anglian	36	18 50.0	18 50.0	+1
North East	55	5 9.1	50 90.9	+3
North West	34	2 5.9	32 94.1	+1
Southern	79	38 48.1	41 51.9	0
South West	184	83 45.1	101 54.9	-5
Thames	3	0 0.0	3 100.0	0
Wales	70	39 55.7	31 44.3	+14
TOTAL	461	185 40.1	276 59.9	+14

### 2.2.1 Abnormal weather waiver

Article 5.2 of the Directive states that deviations from imperative and guideline standards shall not be taken into consideration in compliance calculations "... when they are the result of floods, other natural disasters or abnormal weather conditions."

There is no official definition of what constitutes abnormal weather, but the DETR has advised that generally a one-in-five-year storm event can be regarded as exceptional weather, that is a storm which is statistically likely to occur only once in every five years. The amount of rainfall that equates to a one-in-five-year event depends on the prevailing weather in a specific location. In 1999, the Environment Agency applied 12 abnormal weather waivers following exceptionally heavy rainfall. Six of these waivers concerned exceeding mandatory coliform standards (Bembridge, Ryde, Ventnor, Seaton (Devon), Newgale, Broadhaven Central), and six concerned exceeding guideline bacterial standards

(Seagrove, St Helens, Whitecliff Bay, Shoebury East, Thorpe Bay, Westcliff). Consequently these sample results were excluded from compliance assessment. The Agency also recommended that two abnormal weather waiver applications for exceeding mandatory standards should be rejected. A single bathing water, Ventnor, passed the Directive as a result of an abnormal weather waiver.

### 2.3 Water quality trends

During the 1999 bathing season, 17 previously compliant bathing waters became non-compliant for the first time in several seasons. It has always been the case that a number of bathing waters pass the Directive's mandatory coliform standards in one year and fail the next (or vice versa). This is due to the inherent variability of the data collected over the bathing season and the way in which compliance is assessed as a "pass/fail" on the basis of 20 samples. The laws of chance can therefore play a significant part in determining the overall compliance level, as can weather conditions that affect bacterial die-off.

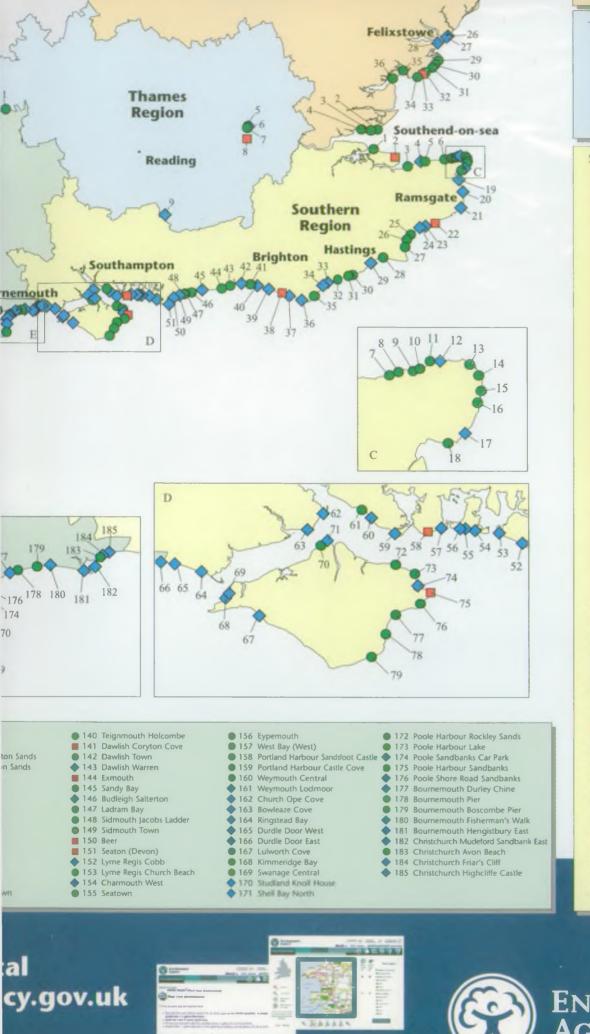
The variability in compliance is demonstrated by examining the number of bathing waters failing to meet the Directive standards in three, two, one or none of the previous three seasons. Figure 1 illustrates this for each three-year period since 1988.

It can be seen that a certain percentage of bathing waters (18.7 per cent for the period 1997-1999) switch between compliance and non-compliance and the real cause of this (whether due to volatility of the compliance assessment methods used in the Directive or real change in water quality) is difficult to determine. However, the figures indicate that this group of bathing waters has decreased in recent years.

Figure 1 also illustrates that the trend of increased consistency of compliance continues. The percentage of bathing waters complying each year from 1997-1999 now stands at 79 per cent and has risen markedly from the 57 per cent attained during 1988-1990. The percentage of bathing waters consistently failing has also been reduced to 2.25 per cent from 13 per cent. This indicates that the trend is for individual bathing waters to become more consistently compliant.

Figure 1





Thames Region ■ 1 Cotswolds Water Park Lake 2 Shoebury East3 Southend Thorpe Bay 4 Southend Westcliff Bay 5 Hampstead Heath (Ladies Pond) ♦ 6 Hampstead Heath (Mens Pond) 7 Hampstead Heath (Mixed Pond) ■ 8 The Serpentine - Hyde Park

◆ 9 Frensham Great Pond Southern Region 1 Sheemess 2 Leysdown 3 West Beach Herne Bay Central \* Herne Bay 6 Minnis Bay 7 Westgate Bay 8 St Mildred's Bay 9 Westbrook Bay 10 Margate The Bay 11 Margate Fulsam Rock Walpole Bay Botany Bay Joss Bay Stone Bay Broadstairs Ramsgate Main Sands Ramsgate \* Sandwich Bay Deal Castle St Margaret's Bay Folkestone Sandgate Dymchurch 25 0 Littlestone Camber Winchelsea 30 31 Hastings St Leonards 32 Bexhill Norman's Bay Pevensey Bay Eastbourne Birling Gap Seaford 36

35 Brightlingse36 West Merse

Littlehampton Middleton-on-sea 45 47 Felpham Bognor Regis East \* **Bognor Regis** 49 Pagham Selsey Bracklesham Bay West Wittering 50

South Lancing Worthing

Newhaven

Brighton

Hove Southwick

38 \*

39 40 Saltdean

41 42

43

West of Eastoke West Beachlands 56 57 West Hayling Eastney 58 Southsea

Stokes Bay 60 Lee-on-Solent Hillhead Calshot

62 Lepe Milford-on-sea Christchurch Bay

Highcliffe 66 Compton Bay Totland Bay 68 69

Colwell Bay Gurnard 70 Cowes Ryde

Seagrove St Helens Bembridge Whitecliffe Bay

76 Whitecli
77 Sandow
78 Shanklin
79 Ventnor Sandown

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# England and Wales, 1999



### 3. Agency Actions

The Agency will continue to investigate possible sources of contamination at all non-compliant bathing waters with a view to controlling them where statutory powers allow. Actions will focus on the need to:

- deliver compliance with standards according to agreed timescales
   for outstanding improvement schemes;
- examine options for upgrading coastal sewerage systems where combined sewer overflows (CSOs) continue to cause problems;
- target additional investment to achieve guideline standards where this can be justified through an analysis of costs and benefits;
- continue to assess what can be done to prevent pollution from diffuse sources that results in failure to meet the standards;
- instigate research programmes to address long-term water-quality problems.



The Environment Agency delivers a service to its customers, with the emphasis on authority and accountability at the most local level possible. It aims to be cost-effective and efficient and to offer the best service and value for money.

Head Office is responsible for overall policy and relationships with national bodies including Government.

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