

BATHING WATER QUALITY IN ENGLAND AND WALES - 1993



**Report of the
National Rivers Authority**

May 1994



NRA

National Rivers Authority

WATER QUALITY SERIES No.18

National Rivers Authority

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IN ENGLAND AND WALES
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CONTENTS

	Page
EXECUTIVE SUMMARY	1
1 INTRODUCTION	3
1.1 The Role of the NRA	3
1.2 Developments Since 1992	3
1.3 Recreational Waters	3
2 THE 1993 EC IDENTIFIED BATHING WATER QUALITY SURVEY	5
2.1 Sampling and Analysis	5
2.2 Survey Results: Compliance with Directive	5
2.3 NRA Region by Region Analysis 1993	7
3 TRENDS AND VARIATIONS IN BATHING WATER SURVEY RESULTS	15
3.1 Trends in Compliance 1987 to 1993	15
3.2 Variation in Compliance	15
3.3 Assessment of Bathing Water Quality Using Median Coliform Values	17
4 BLUE FLAG AND SEASIDE AWARD SCHEMES AND STANDARDS	18
4.1 The European Blue Flag Scheme	18
4.2 The Tidy Britain Group Seaside Award Scheme	18
4.3 Comparison of Identified Bathing Waters in England and Wales with Microbiological Standards Required for Blue Flag and Premier Seaside Awards	19
4.4 Comparison of Identified Bathing Waters with Directive Faecal Streptococci Standards	20
5 OTHER ISSUES RELATING TO BATHING WATER QUALITY	22
5.1 Implementation of the Directive in EC Member States	22
5.2 The NRA's Research and Development Programme	23
5.3 Revision of the Directive	25

EXECUTIVE SUMMARY

This is the fourth annual report on Bathing Water Quality published by the NRA presenting the results of the 1993 bathing water survey.

For the 1993 bathing season, three new bathing waters were identified in England and Wales giving a total of 419 bathing waters for the purpose of Directive 76/160/EEC. Lyme Regis (Church) Beach was, however, closed in May due to engineering work and was therefore not monitored or included in compliance assessment. The 1993 data, as assessed by DoE in accordance with the Directive show a slight increase in compliance (79.4%) with the mandatory standards compared with 1992 (78.8%). There were an additional four compliant bathing waters. The NRA expects a more dramatic increase in compliance after the majority of capital schemes being undertaken by the Water Service Companies are completed in 1995.

Trend data show that although the percentage of bathing waters consistently complying with the mandatory standards has remained at around 64%, the number consistently failing has reduced. Analysis of median faecal coliform values suggests that the improved water quality has been maintained over the last four years.

Details of the European Blue Flag and Tidy Britain Group Seaside Award schemes for high quality bathing beaches are given in this report, together with an analysis of bathing waters meeting the water quality requirements of those award schemes during the 1993 season.

The European Commission's report on the "Quality of Bathing Water 1992" which allows comparison between Member States based on compliance of bathing waters with the mandatory coliform standards of the Directive, has again shown that the UK is one of the few Member States where sampling frequency at all bathing waters is above the minimum required by the Directive.

The Commission has stated its intention to revise the Bathing Water Directive and has agreed its proposals for updating the Directive. The NRA will play an active role in advising DoE on the implications of the proposals to ensure that any new parameters and standards adopted after negotiations have a sound scientific basis.

1. INTRODUCTION

1.1 The Role of the NRA

The National Rivers Authority (NRA) is the "competent authority" in England and Wales to implement the EC Bathing Water Directive (76/160/EEC). Under the Direction and Notices given in May 1992 by the Secretary of State, the NRA is required to sample and analyse bathing waters in accordance with the requirements of the Directive and report the results annually to the Department of the Environment (DoE) and Welsh Office. The DoE uses these data to assess compliance of individual sites and transmits the results annually to the European Commission.

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

This is the fourth NRA Report on Bathing Water Quality in England and Wales, giving the results of the 1993 bathing season and an update on information contained in the 1990 (NRA 1991a), 1991 (NRA 1992a) and 1992 (NRA 1993a) Reports.

1.2 Developments Since 1992

In 1992 there were 416 bathing waters identified in England and Wales for the purposes of the Directive. An additional three bathing waters were identified for the 1993 bathing season. These are given in Table 1.

TABLE 1 - NEW IDENTIFIED BATHING WATERS IN 1993

Bathing Water	Region	National Grid Reference
Bournemouth Fisherman's Walk	South Western (Wessex)	SZ12809130
Bournemouth Boscombe Pier	South Western (Wessex)	SZ11209110
Bournemouth Durley Chine	South Western (Wessex)	SZ07859030

The summary of monitoring results for the 1993 season, as reported to Parliament (Appendix A) includes details for these three new bathing waters.

During 1993 there were changes to the regional structure of the NRA. NRA Northumbria and NRA Yorkshire Regions amalgamated on 1 January to form NRA Northumbria & Yorkshire Region with its main office in Leeds, whilst NRA South West and NRA Wessex Regions merged on 1 April to form NRA South Western with its main office in Exeter. The presentation of regional results in this report therefore reflects these changes in structure.

1.3 Recreational Waters

In addition to the 419 bathing waters in England and Wales identified to the Commission, bathing is practised at other recreational waters which have not formally been identified because they do not satisfy the criteria for an EC bathing water (*Official Journal*, 1985).

The NRA has for several years, monitored a number of these recreational waters in order to collect water quality data which might be required if a local authority wishes to propose such a recreational water to the DoE for identification. Data were also provided if the local authority wished to enter the Tidy Britain Group Seaside Award scheme (see section 4.2). However, there is no European reporting requirement for such recreational waters.

It is now NRA policy that where 3 years data have been collected, this is considered sufficient to describe the water quality at a recreational water and sampling and analysis will cease unless there are good operational reasons to continue, for example planning or modelling.

With regard to the Seaside Award scheme, the Tidy Britain Group will now accept data from non-NRA sources such as Public Health Laboratory services. However, where sampling has ceased for operational reasons and the local authority wishes the NRA to continue to monitor its recreational waters, this can be arranged under normal contract conditions. Analytical details of the monitoring of recreational waters by the NRA can be obtained from the public register maintained by the relevant NRA Region.

2. THE 1993 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. NRA 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 taken 30 cm below the surface, except in the case of samples used for testing for mineral oils. These are taken at the water's surface.

The results of the analyses of samples taken in the 1993 bathing season are given in the 1993 DoE Report to Parliament (Appendix A). Wherever possible, two samples per season were analysed for salmonellae, and a minimum of two samples were analysed for enteroviruses at any bathing water which had failed the mandatory coliform standards during the 1992 season. All coliform counts were confirmed using the methods set out in the NRA "Manual of Standard Methods for Microbiological Analysis" (NRA 1992b). Twenty samples from all identified bathing waters were also analysed for faecal streptococci for Blue Flag and Seaside Award scheme purposes (see section 4).

2.2 Survey Results: Compliance with Directive

The mandatory coliform standards given in the Directive and used by the DoE to assess compliance require there to be no more than 10,000 total coliforms per 100 ml and no more than 2,000 faecal coliforms per 100 ml. In order for a bathing water to comply with the Directive, 95% of samples taken must meet these standards.

During the 1993 bathing season, 418 identified bathing waters were examined in England and Wales. (Because of engineering work Lyme Regis (Church) Beach was closed from May and sampling was discontinued after two weeks. It is therefore not included in the assessment of compliance.) The number of bathing waters complying with the Directive, as determined by the DoE on the basis of the coliform parameters, was 332; that is to say, 79.4%. This is an increase of 0.6% compared with the results of the 1992 survey.

Table 2 gives details of the numbers and percentages of bathing waters complying with the Directive in 1993 by NRA Region. The changes in the number of bathing waters complying between 1992 and 1993 are also given.

The multi-million pound investment programme by the Water Service Companies to improve the quality of sewage discharges to coastal and estuarial waters is progressing, with a few of the capital schemes completed in 1993. Completion of the remaining remedial schemes over the next few years should contribute significantly to the improvement of bathing water quality in their localities. It is therefore anticipated that overall compliance with the Directive will gradually increase over the forthcoming years.

2.2.1 Abnormal weather waiver

Article 5.2 of the Directive states that "deviations from the values referred to in Article 3 shall not be taken into consideration in the calculation of the percentage referred to in paragraph 1 when they are the result of floods, other natural disasters or abnormal weather conditions". This is transcribed in paragraph 2 of Schedule 1 of the Bathing Waters (Classification) Regulations 1991 which states "for the purposes of paragraph 1 above samples shall be disregarded if they deviate from the parametric values specified in Schedule 3 as a result of abnormal weather conditions, floods or other natural disasters."

TABLE 2 - 1993 EC IDENTIFIED BATHING WATERS - COLIFORM RESULTS

NRA Region	Number of Bathing Waters	Complying		Non-Complying		Number of compliant bathing waters compared with 1992
		Number	%	Number	%	
Anglian	33	28	84.8	5	15.2	-3
Northumbria & Yorkshire	56	46	82.1	10	17.9	+6
North West	33	13	39.4	20	60.6	+2
Southern	67	58	86.6	9	13.4	+7
South Western *	175	142	81.1	33	18.9	-11
Thames	3	3	100.0	0	0.0	0
Welsh	51	42	82.4	9	17.6	+3
TOTAL *	418	332	79.4	86	20.6	+4

* excludes Lyme Regis (Church) Beach

There is no official definition of what constitutes abnormal weather, but DoE have advised that generally a "1 in 5 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 which equates to a 1 in 5 year event depends on the prevailing weather in a specific location.

With heavy rainfall throughout England and Wales this summer, NRA Regions were advised that if it was believed that such an event had occurred and had affected the quality of a bathing water, an application for a waiver should be made for that sample, as allowed in the Directive. Several requests for waivers were made to Regions by District Councils during the 1993 bathing season. Regions were then required to corroborate this and provide supporting evidence such as rainfall data or other suitable evidence for forwarding to DoE.

The recommendations of the NRA regarding the application of abnormal weather waivers have been considered by DoE. Where DoE believe that a waiver is justified, the sample taken following the abnormal weather event has been excluded from DoE's compliance calculations. For example, if 2 of 20 samples taken over the season exceeded either of the mandatory coliform standards and it has been agreed by DoE that one exceedence was directly related to abnormal weather, only one of the 20 samples will be regarded as having failed. In this instance the bathing water will therefore be assessed as compliant.

The only instance where an abnormal weather waiver resulted in a bathing water achieving compliance where it would otherwise have been non-compliant was at Swanpool, NRA South Western Region. Here, 79.3 mm of rain was recorded at a rain gauge at Falmouth (NGR SW80203230) in 72 hours between 24 and 26 May. In this location 72 mm of rainfall in 72 hours is considered to be a 1 in 5 year storm event.

Other bathing waters recording a substantiated abnormal weather event during the 1993 season were Marske Sands, Saltburn, Redcar Stray, Redcar Granville, Redcar Lifeboat Station and Redcar Coatham in NRA Northumbria & Yorkshire Region on 5 August, and Bude (Summerleaze), Bude (Crooklets), Bude (Sandymouth), Westward Ho! and Instow Beach in NRA South Western Region on 14 June. However, further exceedences of the mandatory total and/or faecal coliform standards at these bathing waters caused them to be non-compliant. In these cases therefore DoE did not include an abnormal weather waiver in its Report to Parliament.

2.3 NRA Region by Region Analysis 1993

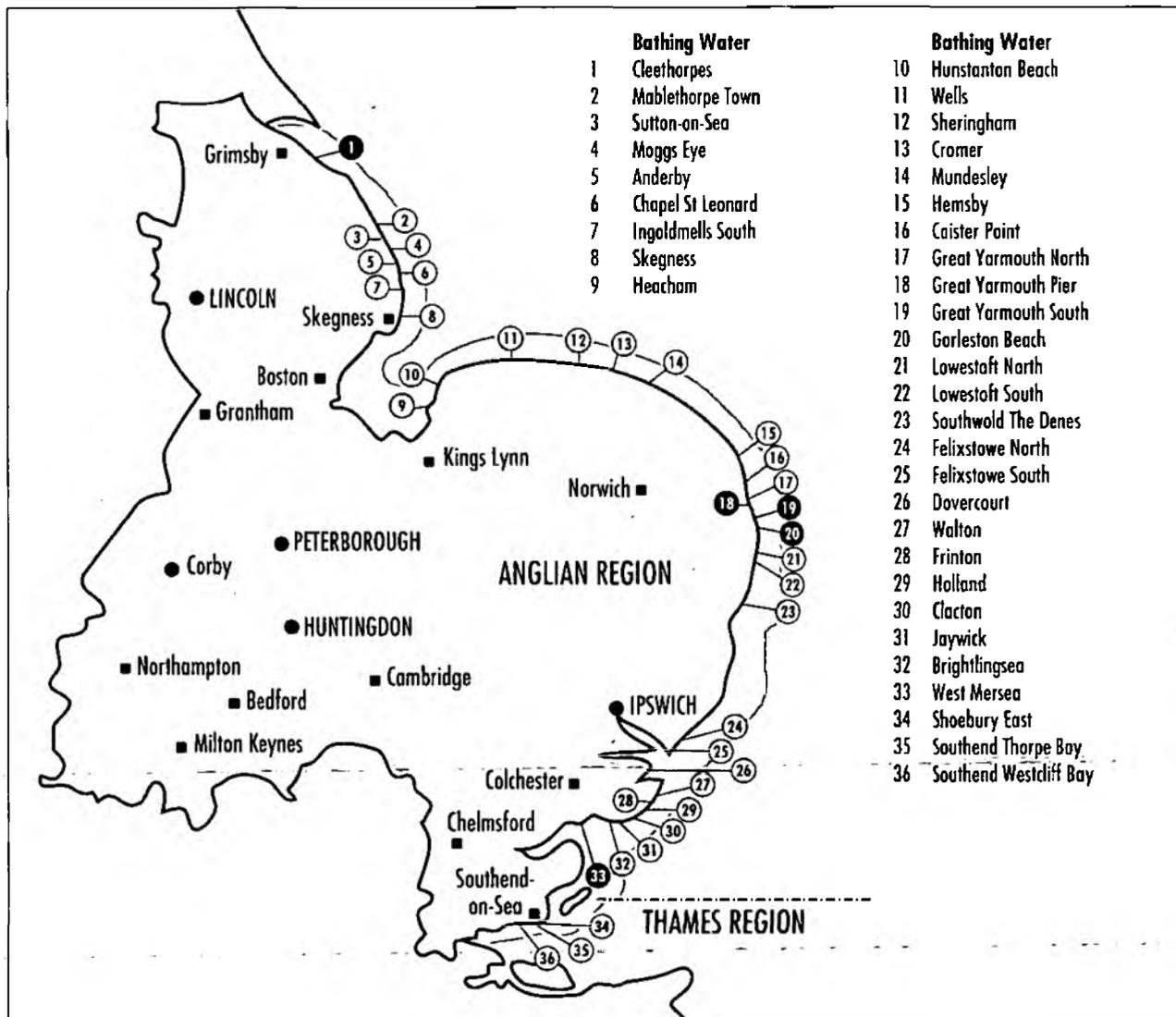
Maps are included for each NRA Region showing their identified bathing waters, and whether they complied (⊙), or did not comply (●), with the relevant parameters of the Directive for the 1993 bathing season.

Anglian Region

Of the 33 bathing waters in this Region, 28 complied with the Directive's mandatory coliform standards. This is three fewer compliant bathing waters than 1992, giving a percentage compliance of 84.8%. Figure 1 indicates the compliance of individual bathing waters within the Region in 1993.

All five non-compliant bathing waters have remedial capital schemes in progress by Anglian Water Ltd to ensure future compliance, although the scale of the engineering work being undertaken at Great Yarmouth means completion of the scheme is unlikely until 1997.

FIGURE 1 - NRA ANGLIAN REGION AND THAMES REGION

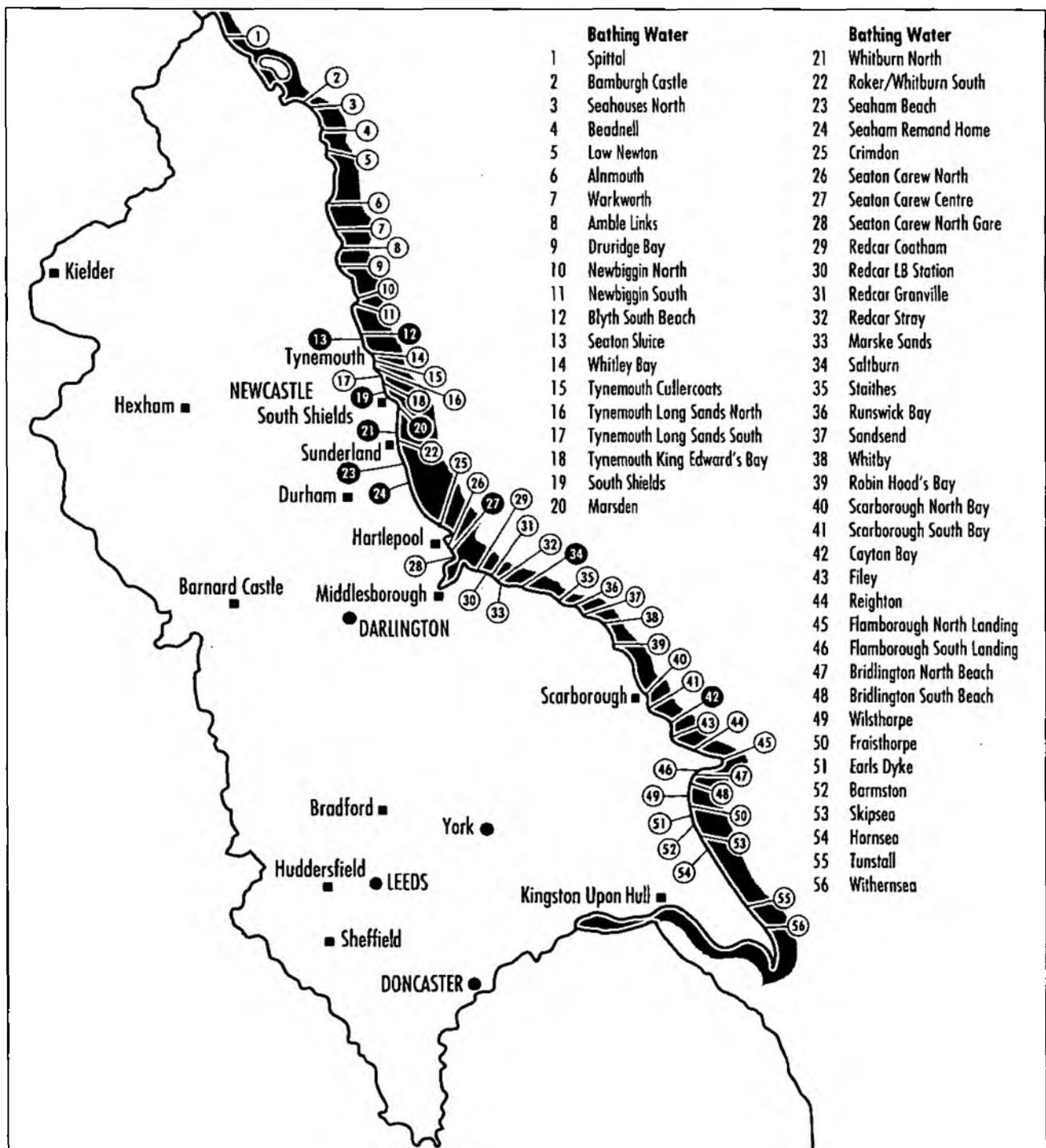


Northumbria & Yorkshire Region

The merging of Northumbria and Yorkshire Regions means that there were 56 bathing waters in the Northumbria & Yorkshire Region for the 1993 season. Of these, 46 (82.1%) complied with the Directive's mandatory coliform standards. This is six more compliant waters than the total of NRA Northumbria and NRA Yorkshire Region's compliant waters in 1992. Figure 2 shows the individual state of compliance for the identified bathing waters in Northumbria & Yorkshire Region in 1993.

It is expected that all remedial capital schemes in hand by Northumbrian Water Ltd will be completed by the end of 1995. This will bring non-compliant waters into compliance during 1996. Where failures have occurred at previously compliant bathing waters in the Region, detailed studies are being undertaken to identify possible reasons for exceedences.

FIGURE 2 - NRA NORTHUMBRIA & YORKSHIRE REGION

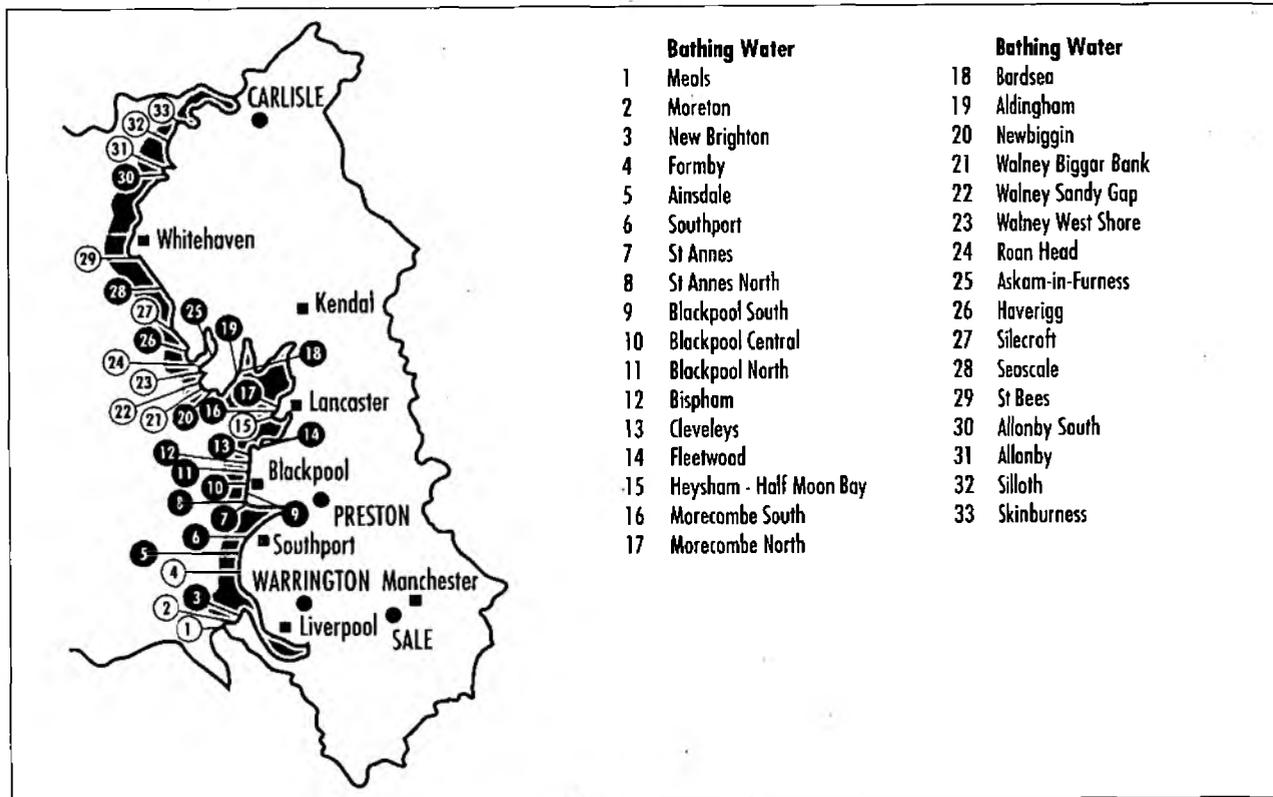


North West Region

There are 33 identified bathing waters in the Region, 13 (39.4%) of which met the coliform requirements of the Directive - two more compliant bathing waters than in 1992. Compliance for individual bathing waters in the Region for 1993 is illustrated in Figure 3.

The large capital investment programme being undertaken by North West Water has not yet been completed. However, it is expected that when the majority of remedial works are completed in 1996, most of the Region's bathing waters will be compliant. Possible reasons for failure are being investigated for two sites, Aldingham and New Brighton, which exhibit intermittent non-compliance.

FIGURE 3 - NRA NORTH WEST REGION



Severn Trent Region

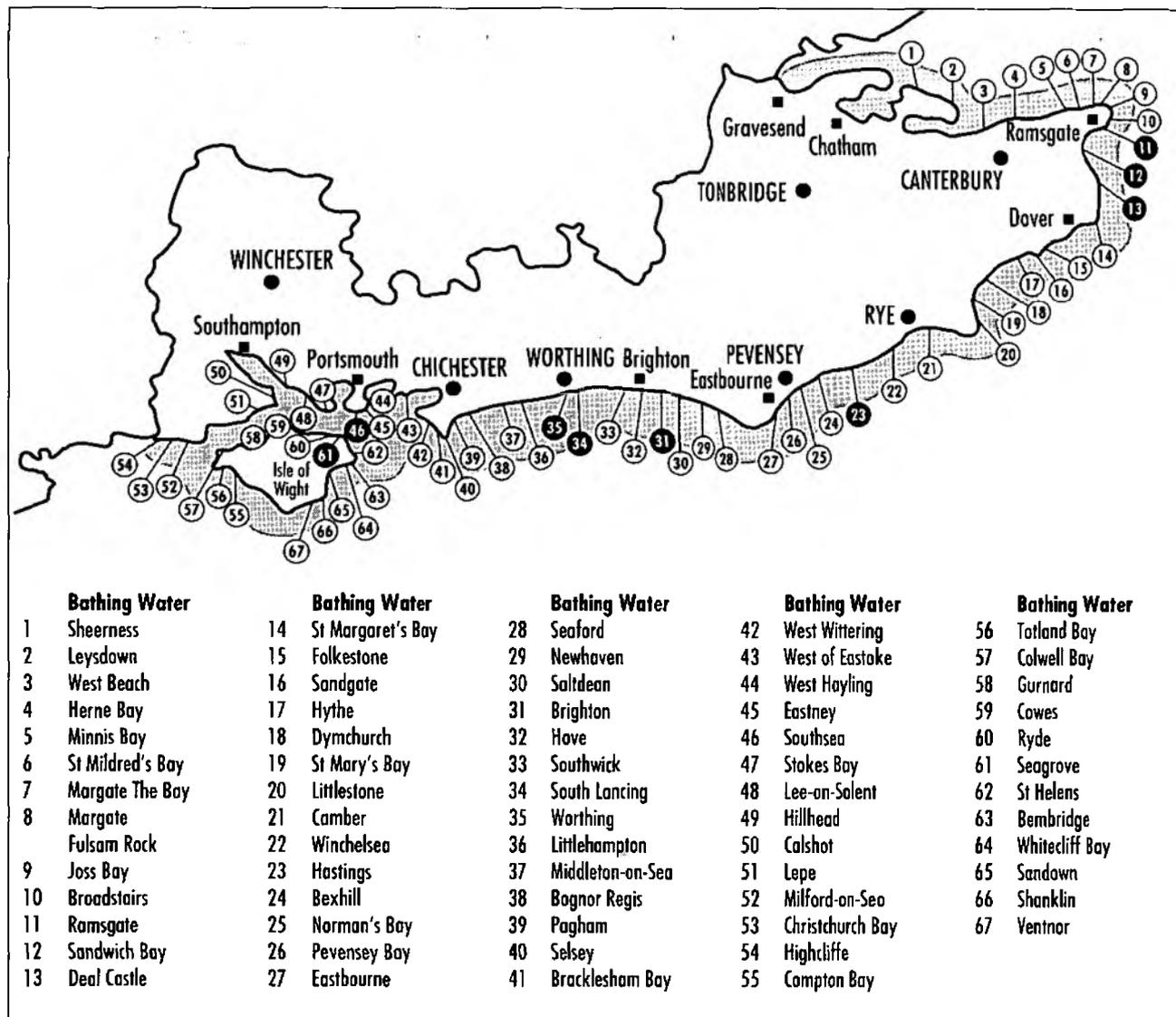
Severn Trent Region has no waters identified by the DoE as subject to the Bathing Water Directive.

Thames Region

Thames Region has only three identified bathing waters and as in 1992, all three passed the mandatory coliform standards of the Directive. The Anglian Water capital scheme underway at Southend is expected to be fully completed in 1998.

Thames bathing waters are shown in Figure 1 (along with those of Anglian Region).

FIGURE 4 - NRA SOUTHERN REGION



Southern Region

There are 67 identified bathing waters in Southern Region; 58 complied with the mandatory coliform standards of the Directive, seven more than in 1992. The percentage compliance for 1993 was 86.6%. Figure 4 shows the compliance of individual bathing waters in Southern Region for the 1993 bathing season.

Southern Water Services Ltd already has a large number of schemes planned or in progress to ensure improvements to bathing water quality, many of which are due for completion during 1994/5. The Region is progressing a number of investigations into the causes of non-compliance at bathing waters where remedial schemes have been completed. This includes two bathing waters which failed in 1993, Southsea and Seagrove.

South Western Region

South Western Region (the-merged Wessex and South West Regions) has over two fifths of the identified bathing waters in England and Wales, the total being 176. As Lyme Regis (Church) Beach was closed from May due to engineering work, the number of monitored bathing waters for the 1993 season was 175. Of these, 142 (81.1%) complied with the mandatory coliform standards. The individual compliance results for NRA South Western bathing waters in 1993 are shown in Figure 5.

Although in 1993 eleven fewer bathing waters complied than in 1992, this did no more than reverse the 1992 situation when twelve more waters were compliant than in 1991. This illustrates the variability in compliance which occurs from year to year because of the pass/fail method of compliance assessment (see 1990 Bathing Water Quality, NRA 1991a). Heavy rainfall in the South West during the 1993 bathing season may have influenced compliance because of the operation of storm overflows or runoff from land.

Most of the non-compliant bathing waters in this Region are being addressed by remedial schemes which, once completed, will improve local bathing water quality. Many of these schemes are due for completion in 1995. However, in the few cases where no scheme currently exists, the NRA is conducting detailed investigations to identify possible sources of faecal pollution. In the South West streams which run across bathing beaches are possible sources of bacterial loading. Wherever possible, remedial action will be taken to ensure future compliance.

Bathing Water

- 1 Christchurch
Highcliffe Castle
- 2 Christchurch
Friar's Cliff
- 3 Christchurch
Avon Beach
- 4 Christchurch Mudeford
Sandebank East
- 5 Bournemouth
Hengistbury East
- 6 Bournemouth
Fishermans Walk
- 7 Bournemouth
Boscombe Pier
- 8 Bournemouth Pier
- 9 Bournemouth
Durley Chine
- 10 Poole Shore
Road Sandbanks
- 11 Poole Harbour Sandbanks
- 12 Poole Harbour Lake
- 13 Poole Harbour Rockley
Sands
- 14 Shell Bay North
- 15 Studland Knoll House
- 16 Swanage Central
- 17 Kimmeridge Bay
- 18 Lulworth Cove
- 19 Durdle Door East
- 20 Durdle Door West

Bathing Water

- 21 Ringstead Bay
- 22 Bowleaze Cove
- 23 Church Ope Cove
- 24 Weymouth Lodmoor
- 25 Weymouth Central
- 26 Portland Harbour
Sandsfoot Castle
- 27 Portlands Harbour
Castle Cove
- 28 West Bay (West)
- 29 Eypemouth
- 30 Seatown
- 31 Charmouth West
- 32 Lyme Regis Church Beach
- 33 Lyme Regis Cobb
- 34 Seaton (Devon)
- 35 Beer
- 36 Sidmouth Town
- 37 Sidmouth Jacob's Ladder
- 38 Ladram Bay
- 39 Budleigh Salterton
- 40 Sandy Bay
- 41 Exmouth
- 42 Dawlish Warren
- 43 Dawlish Town
- 44 Dawlish Coryton Cove
- 45 Teignmouth Hokcombe
- 46 Teignmouth Town
- 47 Shaldon
- 48 Ness Cove

Bathing Water

- 49 Maidencombe
- 50 Watcombe
- 51 Oddicombe
- 52 Babbacombe
- 53 Redgate
- 54 Meadfoot
- 55 Beacon Cove
- 56 Torre Abbey
- 57 Hollicombe
- 58 Paignton
Preston Sands
- 59 Paignton Sands
- 60 Goodrington
- 61 Broadlands
- 62 Shaalstone
- 63 St Mary's Bay
- 64 Dartmouth Castle
and Sugary Cove
- 65 Blackpool Sands
- 66 Slapton Sands Monument
- 67 Slapton Sands Torcross
- 68 Mill Bay
- 69 Salcombe North Sands
- 70 Salcombe South Sands
- 71 Hope Cove
- 72 Thurlestone South
- 73 Thurlestone North
- 74 Bantham
- 75 Bigbury-on-Sea South
- 76 Bigbury-on-Sea North

Bathing Water

77 Challaborough
 78 Mothecombe
 79 Wembury
 80 Bovisand
 81 Plymouth Hoe East
 82 Plymouth Hoe West
 83 Portwrinkle
 84 Dowderry
 85 Seaton (Cornwall)
 86 Millendreath
 87 East Looe
 88 Readymaney
 89 Polkerris
 90 Par
 91 Crinnis Golf Links
 92 Crinnis Leisure Centre
 93 Charlestown
 94 Duporth
 95 Porthpean
 96 Pentewan
 97 Polstreath
 98 Portmellon
 99 Gorran Haven
 Little Perhaver
 100 Gorran Haven (Vault)
 101 Porthluney
 102 Pendower
 103 Gyllyngvase
 104 Swanpool
 105 Maenporth

Bathing Water

106 Porthallow
 107 Porthstock
 108 Coverack
 109 Kennack Sands
 110 Pollurian Cove
 111 Poldhu Cove
 112 Gunwalloe Cove
 113 Porthleven West
 114 Praa Sands East
 115 Praa Sands West
 116 Perran Sands
 117 Mounts Bay
 Little Holgus
 118 Mounts Bay Heliport
 119 Mounts Bay Penzance
 120 Mounts Bay
 Wherry Town
 121 Porthcurno
 122 Sennen
 123 Porthmeor
 124 Porthgidden
 125 Porthminster
 126 Carbis Bay
 Station Beach
 127 Carbis Beach Porth
 Kidney Sands
 128 The Towans (Hayle)
 129 The Towans (Godrevy)
 130 Portreath
 131 Porthtowan

Bathing Water

132 Trevaunance Cove
 133 Perranporth
 Village End
 134 Perranporth
 Penhale Sands
 135 Holywell Bay
 136 Crantock
 137 Fistril
 138 Towan
 139 Watergate
 140 Mawgan Porth
 141 Porthcothan
 142 Treyarnon Bay
 143 Constantine Bay
 144 Mother Ivey's Bay
 145 Harlyn Bay
 146 Trevane Bay
 147 Rock
 148 Daymer Bay
 149 Palzeath
 150 Widemouth Sand
 151 Bude Summerleaze
 152 Bude Crooklets
 153 Bude Sandy Mouth
 154 Hartland Quay
 155 Westward Ho!
 156 Instow
 157 Saunton Sands
 158 Croyde Bay
 159 Woolacombe Putsborough

Bathing Water

160 Woolacombe Village
 161 Ilfracombe
 Tunnels Beach
 162 Ilfracombe Capstone
 163 Ilfracombe Hele
 164 Combe Martin
 165 Lynmouth
 166 Porlock Weir
 167 Minehead Terminus
 168 Dunster North West
 169 Blue Anchor West
 170 Burnham Jetty
 171 Berron North
 of Unity Farm
 172 Brean
 173 Weston-super-Mare Uphill
 Slipway
 174 Weston-super-Mare
 Tropicana
 175 Weston-super-Mare
 Sand Bay
 176 Clevedon
 Swimming Pool

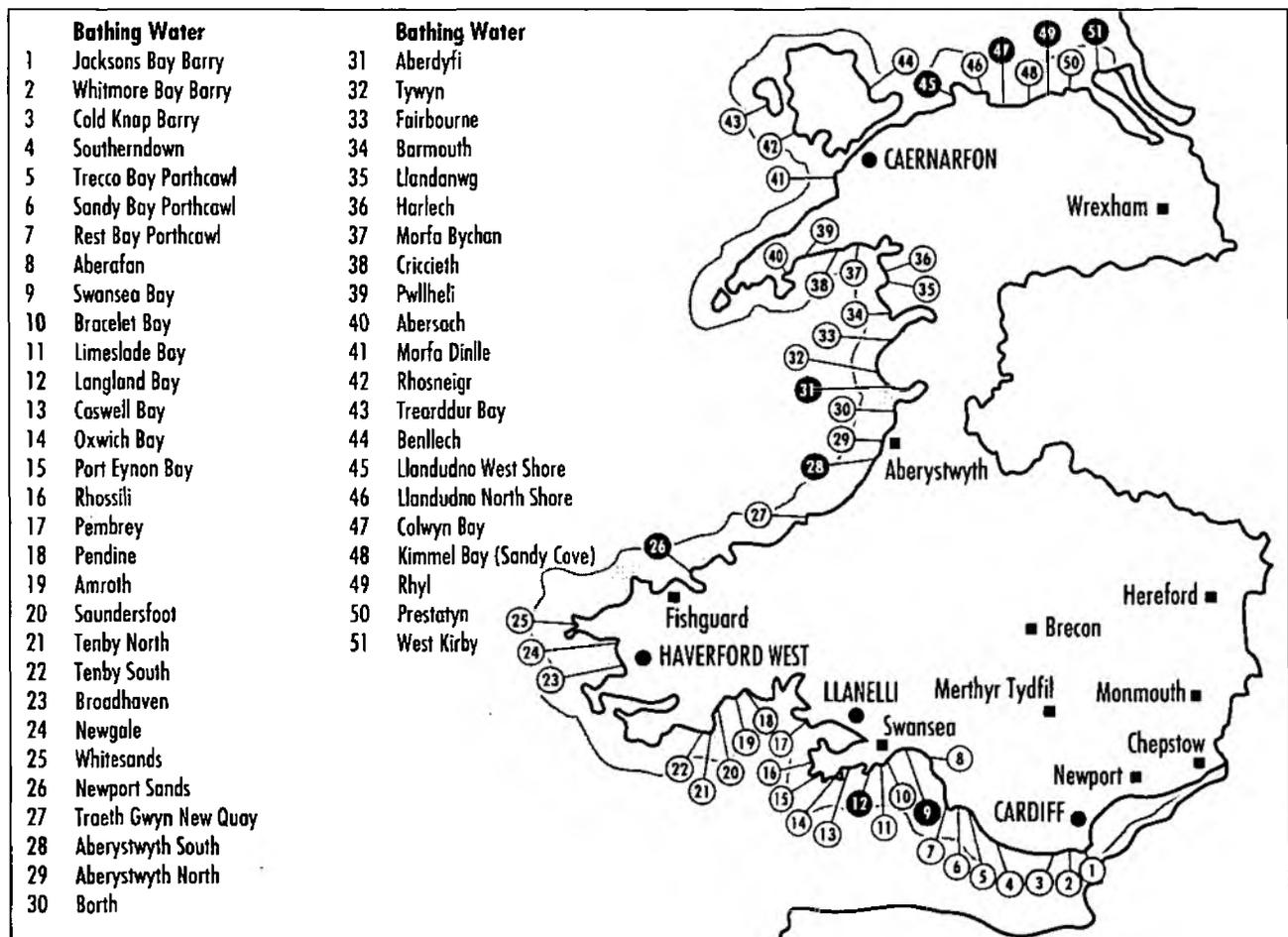
Welsh Region (Rhanbarth Cymru)

Welsh Region has 51 identified bathing waters (including West Kirby which is on the English coastline). A total of 42 (82.4%) complied with the mandatory coliform standards of the Directive in 1993. This is three more compliant waters than in 1992.

The compliance and location of the Region's bathing waters is shown in Figure 6.

Dwr Cymru (Welsh Water) has drawn up an investment programme designed to achieve compliance at those identified bathing waters currently failing, or at risk of failing, the Directive and investigations are underway at those failing waters which had previously been compliant.

FIGURE 6 - NRA WELSH REGION



3. TRENDS AND VARIATIONS IN BATHING WATER SURVEY RESULTS

3.1 - Trends in Compliance 1987 to 1993

The percentage compliance for 1993 improved slightly from 1992. The slight reduction experienced in 1991 after several years of a steady increase in compliance (56% in 1987 to 78% in 1990) appears to have been reversed and compliance has continued its steady improvement to around 80%.

The 1992 Bathing Water Quality Report indicated that the NRA expects compliance to continue to rise until 1995 when the majority of improvement schemes being carried out by the Water Service Companies will have been completed. As only a few of the schemes were completed before the 1993 bathing season it is not surprising that the increase in compliance has been modest, especially in view of the wet cool, conditions experienced for much of the bathing season.

Only when a significant number of remedial schemes have been completed can the percentage compliance be expected to rise dramatically.

3.2 Variation in Compliance

Previous Bathing Water Quality Reports showed that there was a significant number of bathing waters on the borderline between compliance and non-compliance. These bathing waters pass the Directive's standards one year and fail the next (or vice versa). This volatility is caused by a combination of the inherent variability of the data collected over the bathing season and the way in which compliance within the Directive is assessed on a "pass/fail" basis. Changes in compliance can therefore be caused simply for no other reason than the laws of chance.

It is interesting therefore to examine the number of bathing waters that have failed the Directive in three, two, one or none of the previous three bathing seasons. Figure 7 illustrates this for the period 1991-1993. The number of bathing waters failing none of the last three years is 63%, whilst the number failing all three years is 9%. However, 28% of bathing waters fail for one or two of the three years; in other words, they switch between compliance and non-compliance. It is not clear whether these bathing waters fail as a result of changed water quality or because of the volatility of the assessment methods used in the Directive.

As more remedial schemes are completed in areas where the water quality is close to the standards in the Directive, the number of these 'borderline' bathing waters should decrease and the true picture of the quality of bathing waters will become clearer, subject only to the limitations of the monitoring regime required under the Directive.

Previous Bathing Water Quality reports contained similar pie charts illustrating the consistency of compliance for the periods 1988-1990, 1989-1991 and 1990 to 1992. Table 3 is an update of the summary table which first appeared in last year's report, and includes the 1991-1993 period. From this, the changes in consistent compliance which have occurred in recent years can clearly be seen.

FIGURE 7 - COMPARISON OF BATHING WATER FAILURES 1991-1993

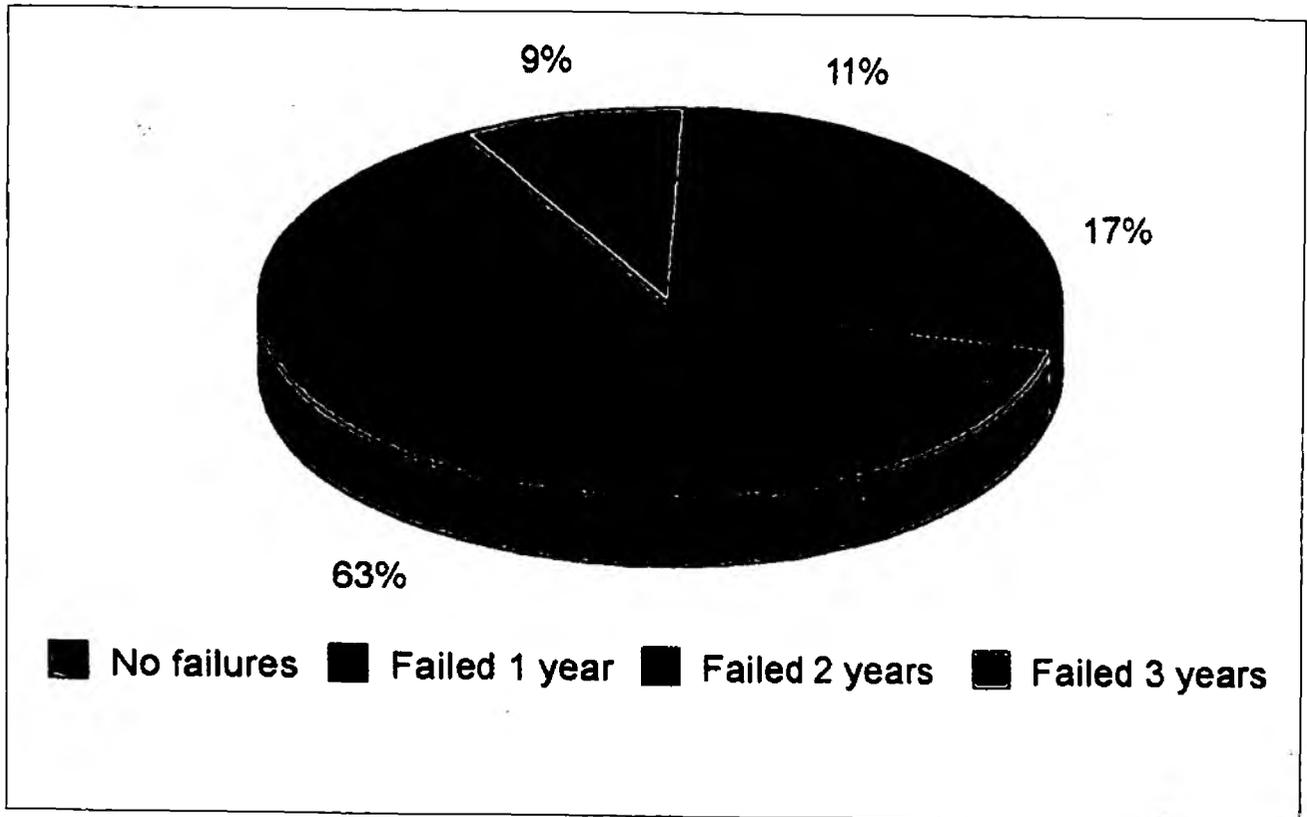


FIGURE 8 - BATHING WATER QUALITY 1987-1993
EXPRESSED IN TERMS OF MEDIAN FAECAL COLIFORM VALUES

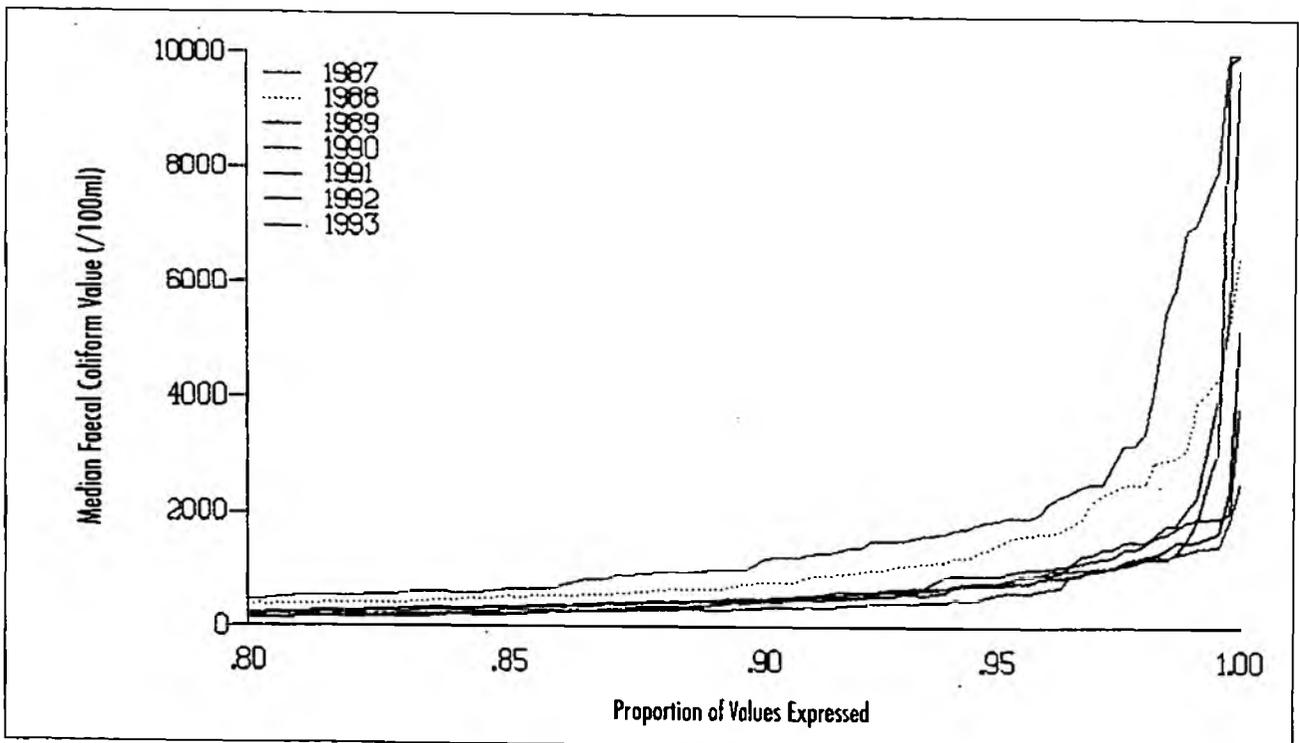


TABLE 3 - CONSISTENCY OF COMPLIANCE OVER THREE YEAR PERIODS

	1988-1990	1989-1991	1990-1992	1991-1993
No failures at all	57%	60%	64%	63%
Failed 1 year	18%	22%	16%	17%
Failed 2 years	12%	6%	8%	11%
Failed 3 years	13%	13%	12%	9%

It is expected that as more remedial schemes are completed over the next few years then more bathing waters will be brought into compliance. The percentage of waters consistently failing will continue to decrease and the percentage consistently passing will increase further.

3.3 Assessment of Bathing Water Quality Using Median Coliform Values

The use of ranked median faecal coliform values (one from each bathing water) was first discussed in the 1990 Report. It is one way of overcoming the statistical drawbacks in the Directive's "pass/fail" method of assessing compliance and, by inference, the general bathing water quality in the assessed area.

The three main advantages in using the median faecal coliform value are:

- it offers a stable estimate of trend;
- it is relatively insensitive to changes in sampling rate; and thus
- it is a good way of comparing bathing water quality between countries.

Figure 8 illustrates the trend in median values of faecal coliforms over the past seven years. It shows the ranked median faecal coliform values for the years 1987 to 1993 inclusive. The further to the right of the graph a particular year's plot is, the lower are the highest medians for that year, and therefore the better the bathing water quality.

As in the 1992 report, the graph represents only the highest 20% of median values for each year, to illustrate more clearly the difference between years. Adjustments have also been made to take into account the increase in the number of identified bathing waters during the assessed period.

Figure 8 shows that between 1987 and 1990 there was a steady improvement in bathing water quality as revealed by assessment of median faecal coliform values. However, there has been little change in quality over the last four years. This is likely to continue until the majority of remedial schemes by the Water Service Plcs are completed in 1995.

4. BLUE FLAG AND SEASIDE AWARD SCHEMES AND STANDARDS

4.1 The European Blue Flag Scheme

The European Blue Flag Scheme is organised by the Federation of Environmental Education in Europe (FEEE). In 1993 it continued to be administered in the UK by the Tidy Britain Group (TBG), a registered charity and an independent voluntary body, part-funded by the DoE. European Blue Flags are awarded to high quality EC identified bathing beaches which meet the water quality and land-based requirements of the award scheme. Beaches are only considered for an award if an application is made and if any criterion of the award scheme is no longer met during the bathing season the Blue Flag has to be removed.

Water quality is judged on the results of the analyses of samples taken throughout the previous bathing season (ie the 1994 awards will be based on 1993 water quality). The water quality standards for the 1993 awards were compliance with the G values of the Directive for the microbiological parameters total and faecal coliforms and faecal streptococci. The award does not require compliance with Directive standards for salmonella or enteroviruses. Twenty resorts in the UK (eighteen of them in England and Wales) entered for a Blue Flag in 1993, and all were successful (see Table 4).

4.2 The Tidy Britain Group Seaside Award Scheme

The Seaside Award scheme was introduced in 1992 and is also administered by the Tidy Britain Group. It is intended to complement the European Blue Flag Awards and aims to recognise resorts and beaches (not necessarily EC identified bathing waters) which attain high standards of facilities and management (where appropriate), beach cleanliness, and water quality. Again, water quality is judged on the results of the analyses of samples taken throughout the previous bathing season.

The Seaside Award scheme has two categories, Resort and Rural, the former encompassing managed tourist resorts and the latter awarded to smaller beaches which have limited facilities but still offer clean water and whose attraction lies in their undeveloped character.

The Resort Beach award is given to those beaches which attain the water quality standards and comply with 28 land-based criteria (covering aspects such as public information and access, dog control and hygiene, and beach management and safety). The Rural Beach award is given to those beaches which attain water quality standards and fulfil 8 land-based criteria.

Within each category, there are two types of award which reflect different levels of water quality. The "Seaside Award" acknowledges water quality which meets the mandatory standards for the faecal and total coliform parameters of the EC Bathing Water Directive, and also complies with the land-based criteria. The "Premier Seaside Award" acknowledges water quality which meets the mandatory and guideline standards for coliforms and faecal streptococci, and also fulfils the land-based criteria. Neither award requires compliance with the standards in the Directive for salmonellae, enteroviruses or physico-chemical parameters.

In 1993, 132 beaches in the UK attained awards as shown in Table 4. In the Resort category, 21 attained the Premier Award, and 33 received the Seaside Award. In the Rural category there were 35 Premier Awards and 43 Seaside Awards.

TABLE 4 - BEACHES ATTAINING 1993 TIDY BRITAIN GROUP SEASIDE AWARDS

Category	Award	Beaches
Resort	Premier	Tynemouth Longsands South ^{BF} , Whitby West Cliff, Hunstanton ^{BF} , Southwold ^{BF} , Sheerness ^{BF} , Hayling Island West ^{BF} , Colwell Bay ^{BF} , Bournemouth ^{BF} , Poole Sandbanks ^{BF} , Dawlish Warren ^{BF} , Oddicombe ^{BF} , Meadfoot ^{BF} , Crinnis ^{BF} , Sennen Cove ^{BF} , Porthmear ^{BF} , Woolacombe ^{BF} , Cefn Sidan (Pembrey) ^{BF} , Tenby North ^{BF} , Whitesands St Davids ^{BF} , West Bay Strand Portrush ^{BF} , Benone ^{BF}
	Seaside	Nairn, Fraserburgh, Peterhead Lido, Stonehaven, St. Andrews, Sandhaven, Scarborough North Bay, Scarborough South Bay, Filey, Bridlington North, Bridlington South, Wells-next-the-Sea, Lowestoft South, Southend-on-Sea, Margate, Viking Bay Broadstairs, Bexhill, Eastbourne, Littlehampton, Bognor Regis, Southsea, Ryde East, Sandown, Friars Cliff, Boscombe, Swanage Bay, Weymouth, Redgate, Paignton, Goodrington South Sands, Broadsands, Traeth Y Gogledd, Ainsdale
Rural	Premier	Bamburgh, Beadnell Bay, Newton Haven, Warkworth, Kessingland, Aldeburgh, Shoberyness, Birling Gap, Maidencombe, Strete Gate, Blackpool Sands, Torcross, Bantham, Treyarnon, Constantine Bay, Polzeath, Widemouth Sand, Sandymouth, Port Eynon, Amroth, Lydstep, Skrinkle, Manorbier, Barafundle, Broadhaven, West Angle Bay, Broadhaven (Haverfordwest), Newgale, Caerfai St Davids, Abereddy, Newport, Mwnt, Aberdaron, Morfa Dinlle, Rhosneigr
	Seaside	Sandend, Inverboyndie, Balmedie, Gullane Bents, Runswick Bay, Sandsend, Snettisham, Dunwich, Dymchurch, Romney Sands, Camber, Winchelsea, Pevensey Bay, Lepe, East Cowes, Springvale, Yaverland, Port Soif, Pembroke, Highcliffe Castle, Watcombe, Harlyn Bay, Trebarwith Strand, Crooklets, Southerndown, Rest Bay Porthcawl, Tenby South, Dale, Poppit, Tresait, Penbryn, Cwmttydu, Llangrannog, Traethgwyn Cei Newydd, Yr Harbwr Cei Newydd, Cei Bach, Traeth Y De Aberaeron, Gilfach Yr Halen, Borth, Llandanwg, Trearddur Bay, Benllech, Cranfield

^{BF} indicates a 1993 European Blue Flag Award

4.3 Comparison of Identified Bathing Waters in England and Wales with Microbiological Standards Required for Blue Flag and Premier Seaside Awards

To be eligible for a Blue Flag or Premier Seaside Award a beach must now (amongst the other criteria) have a water quality which meets the mandatory and guideline microbiological standards of the Bathing Waters Directive for total and faecal coliforms and faecal streptococci.

Table 5 lists the 110 bathing waters which met these guideline standards during the 1993 bathing season. Because the microbiological standards are not the sole criteria on which awards are based, not all of these bathing waters - if submitted - may attain a 1994 award. It should be noted that there will, in addition to those bathing waters in Table 5, be bathing waters eligible for the Seaside Award on the basis of compliance with the mandatory standards for total and faecal coliforms.

TABLE 5 - BATHING WATERS BY REGION WITHIN THE GUIDELINE MICROBIOLOGICAL STANDARDS REQUIRED FOR BLUE FLAG AND PREMIER SEASIDE AWARDS DURING THE 1993 BATHING SEASON

Region	Bathing waters
North West	None
Northumbria & Yorkshire	Bamburgh Castle, Seahouses North, Beadnell, Low Newton, Warkworth, Amble Links, Newbiggin South, Whitby, Reighton, Flamborough South Landing, Fraisthorpe
Anglian	Hunstanton, Sheringham, Southwold the Denes, Felixstowe North, Brightlingsea
Thames	None
Southern	Sheerness, Leysdown, West Beach, Minnis Bay, St Mildreds Bay, Margate Fulsam Rock, Joss Bay, St Margarets Bay, Winchelsea, Seaford, Saltdean, Selsey, Bracklesham Bay, West of Eastoke, West Hayling, Eastney, Stokes Bay, Lee-on-Solent, Hillhead, Lepe, Highcliffe, Compton Bay
South Western	Bournemouth Hengistbury East, Bournemouth Fishermans Walk, Bournemouth Durley Chine, Poole Road Sandbanks, Shell Bay, Studland, Durdle Door East, Durdle Door West, Ringstead, Church Ope Cove, Weymouth Lodmoor, Eypemouth, Porlock Weir, Seaton (Devon), Dawlish (Coryton Cove), Ness Cove, Maidencombe, Oddicombe, Meadfoot, Broadsands, Shoalstone, Blackpool Sands, Slapton Sands (Monument), Slapton Sands (Tarcross), Mill Bay, Thurlestone (South), Thurlestone (North), Bigbury-on-Sea (North), Challaborough, Dawnderry, Crinnis (Golflinks), Crinnis (Leisure Centre), Charlestown, Porthpean, Pentewan, Port Mellon, Gorran Haven (Vault), Gyllyngvase, Porthoustock, Kennack Sands, Gunwalloe Cove, Praa Sands (East), Praa Sands (West), Perron Sands, Sennen, Porthmeor St Ives, Carbis Bay (Station), Carbis Bay (Porth Kidney Sands), The Towans (Hayle), Portreath, Porthtowan, Perranporth (Penhale Sands), Fistral Beach Newquay, Constantine Bay, Mother Ivey's Bay, Polzeath, Widemouth Sand, Bude (Sandymouth), Hartland Quay, Woolacombe (Putsborough), Woolacombe (Village)
Welsh	Rest Bay, Oxwich, Port Eynon, Rhossili, Pembrey (Cefn Sidan), Pendine, Newgale, Whitesands, Harlech, Dinas Dinlle, Rhosneigr

4.4 Comparison of Identified Bathing Waters with Directive Faecal Streptococci Standards

Compliance of bathing waters as assessed by DoE is currently based solely on the mandatory standards set in the Directive for faecal and total coliforms. As faecal streptococci currently has only a guideline standard, compliance with the standard set for this parameter does not effect the overall compliance of a bathing water. Faecal streptococci analysis was carried out to enable Blue Flag and Seaside Awards to be made at those bathing beaches entering the schemes.

Table 6 shows the number of identified bathing waters within each Region in the 1993 bathing season which attained the Blue Flag and Premier Seaside Award standard of 90% of samples having not more than 100 faecal streptococci per 100 ml.

TABLE 6 - NUMBER OF BATHING WATERS BY REGION WITHIN GUIDELINE FAECAL STREPTOCOCCI STANDARD

Region	Number within Guideline standard	% within Guideline standard
Anglian	11	33%
Northumbria & Yorkshire	15	27%
North West	5	15%
Southern	29	43%
South Western	95	54%
Thames	0	0%
Welsh	18	35%
TOTAL	173	41%

5 OTHER ISSUES RELATING TO BATHING WATER QUALITY

5.1 Implementation of the Directive in EC Member States

The Commission of the European Communities published in 1993 a report entitled "Quality of Bathing Water 1992" (CEC 1993). This is the tenth report in the series and covers the 1992 data from the 12 Member States.

In order to provide objective and comparable information, the 1992 report concentrates on conformity of bathing waters with the mandatory values given in the Annex of Directive 76/160/EEC. Before 1991, previous reports had referred to the more stringent standards which some Member States had set under the provisions made in Articles 3 and 7 of the Directive. This approach had led to some confusion in the comparison of bathing water quality between Member States.

Table 7 shows the sampling frequency required and achieved for marine bathing waters in each of the Member States. There are still a number of Member States with an inadequate sampling frequency at some of their marine bathing waters.

TABLE 7 - COMPARISON OF SAMPLING FREQUENCY AT MARINE WATERS IN EC MEMBER STATES

Member State ^(a)	No. of marine sampling points ^(b)	Required Frequency ^(c)	No. with inadequate sampling frequency	Average No. of Samples Taken
Belgium	39	13 (7)	0	40.6
Denmark	1173	9 (5)	0	12.0
Germany	447	9 (5)	13	12.2
Greece	1203	11 (6) or 13 (7)	6	14.0
Spain	1335	7-21	0	14.7
France	1932	8 (5) or 24 (12)	176	10.5
Ireland	90	7 (4)	0	9.0
Italy	4033	11 (6) or 13 (7)	33	10.8
Netherlands	44	9 (5)	3	9.2
Portugal	226	9 (5)	18	12.0
United Kingdom	455	10 (6) or 6 (4)	0	20.8

(a) Luxembourg is not included as it has no marine bathing waters.

(b) The number of sampling points is not necessarily the same as the number of identified bathing waters.

(c) The minimum number of samples required depends on the length of bathing season which can differ between regions of a Member State because of geographical and climatical conditions (eg. in England and Wales 15 May to 30 September, in Scotland and Northern Ireland 1 June to 15 September). The required frequency may therefore differ between regions of a Member State. Also, if the water quality has, in previous years, been appreciably better than the standards laid down in the Annex, the Directive allows sampling frequency to be reduced to the values given in brackets.

TABLE 8 - COMPARISON OF COMPLIANCE OF MARINE WATERS WITH MANDATORY (I VALUE) COLIFORM STANDARDS OF DIRECTIVE

Member State ^(a)	No. of marine sampling points ^(b)	No. complying with 'I' values	% compliance
Belgium	39	35	90%
Denmark ^(c)	1173	1113	95%
Germany	447	328	73%
Greece	1203	1165	97%
Spain	1335	1239	93%
France	1932	1519	79%
Ireland	90	85	94%
Italy	4033	3691	92%
Netherlands ^(c)	44	38	86%
Portugal	226	188	83%
United Kingdom	455	358	79%

(a) Luxembourg is not included as it has no marine bathing waters.

(b) The number of sampling points is not necessarily the same as the number of identified bathing waters.

(c) Denmark and the Netherlands did not analyse for total coliforms as they have concluded that in all cases where a water met the required standard for faecal coliforms it also complied with the limits for total coliforms. This table therefore represents compliance with the mandatory faecal coliform standard only in these Member States.

The methods of coliform analysis recommended by the Directive leaves some flexibility for Member States, which means that compliance with Directive standards may not be directly comparable. This has been recognised by the European Commission and a programme of analytical quality control has been instigated to highlight differences and promote comparability between Member States.

5.2 The NRA's Research and Development Programme

The NRA continues to place great emphasis on the development and continuation of an effective, operationally driven, Research and Development (R&D) programme. The R&D programme covers all NRA functions from Flood Defence to Water Quality, and is a mixture of projects inherited at its formation and new projects subsequently developed. Full details of the R&D programme, since the formation of the NRA, can be found in the Annual R&D Reviews (NRA 1991b, NRA 1992c, NRA 1993b; NRA 1994).

Bathing water related R&D continues to be an area on which the NRA places a high importance. This is reflected by the wide range of projects which have been undertaken which address various aspects of recreational water quality. In addition to developing projects itself, the NRA also contributes, in terms of both expertise and finance, to ongoing projects with other agencies. Such joint initiatives are being pursued both with Government Departments, such as the Department of Health, and with the Water Service Companies. In this way the NRA is able to ensure that its resources are targeted in the most effective way towards achieving a real and consistent improvement in bathing water quality.

Table 9 gives details of recent NRA funded R&D projects which have direct or indirect implications for the improvement of bathing water quality. Because the NRA programme is operationally

driven, the list of projects in Table 9 may change with time as projects are finished, redefined, removed, and new projects proposed. Many of the projects listed have now been completed and outputs have either been produced or will be produced in the near future.

One of the products of the existing R&D programme has been the Manual of Standard Methods for Microbiological analysis (NRA, 1992b). The Manual is a compilation of techniques tested both by NRA and WRc and representing current best practice in the field of microbiological sampling, analysis and quality control procedures. Phase II was completed in September 1993 and a further phase is scheduled for 1994/5.

Another long-term R&D project is wastewater disinfection in which possible methods of disinfection of sewage effluents are being assessed. The results from this project will be used to assist the NRA in developing its policy on the consenting of disinfection processes.

The NRA is committed to R&D into improving bathing water quality and during the current and next financial year, will be spending approximately £0.1 million on continuing projects.

TABLE 9 - NRA FUNDED BATHING WATER RELATED R&D PROJECTS

Project Title	Description	Date	Output
Bathing Water Epidemiology (Project 228)	To determine the health effects of sea bathing.	6/93	DOE 3412/2
Wastewater Disinfection (Project 456)	To undertake field and laboratory studies of the efficacy and environmental effects of candidate disinfection processes.	Phase 3 due 6/94 Phase 4 due 94/95	
Microbiological Techniques - phase II (Project 062)	To update a manual of standard microbiological techniques for the NRA which includes sampling analysis and quality control procedures.	9/93 Phase 3 due 95/96	In publication
Aesthetic pollution (Project 415)	To develop, validate and apply methods for identification of aesthetic contamination and propose suitable standards and control measures.	Due 3/94	
Freshwater epidemiology (Project 320).	To determine the health effects of water contact sports in freshwaters.	12/92	The Lancet June 92
Survival of Viruses in Seawater (Project 485)	To assess the extent to which viruses can survive in seawater & sewage-derived debris.	Scoping study being finalized Further phase due 94/95	
Evaluation of F-Specific Bacteriophages as a Model for Enteric Viruses (Project 476)	To undertake a laboratory study of the suitability of F-specific bacteriophages as an index of viral pathogens.	6/93	
Correlation between Enterovirus Concentrations & Faecal Indicator Bacteria (Project 411)	To define the strength & nature of correlations between faecal indicator bacteria concentrations and enterovirus concentrations in seawater.	11/93	R&D Note 188

5.2.1 Bathing Water Epidemiology Study

The four year national study into bathing water epidemiology was completed in 1993. This research project, co-funded by the DoE, Department of Health, the Welsh Office and the NRA, was intended to give some assessment of the risk associated with bathing in coastal waters. The final report was published by WRc in January 1994 (WRc 1994).

The study confirmed the known relationship between the level of particular microorganisms in sea water and the reporting of gastro-intestinal symptoms and diarrhoea. However, the report concludes that the current mandatory Directive standards give adequate health protection and that any additional benefit to be gained by tightening EC standards is likely to be insignificant. The study also demonstrated for the first time that sea water itself has effects on sea bathers, causing an increase in reported eye irritations, sore ears and skin rashes.

5.3 Revision of the Directive

At the European Summit held on 10/11 December 1993 in Brussels European Heads of State and Government examined, amongst other issues, the European Commission's review of EC laws in the light of the principle of subsidiarity enshrined in the new Maastricht Treaty on European Union.

The Commission were given a mandate at the December 1992 European Summit in Edinburgh to review water quality Directives "in the light of scientific knowledge and technical progress". The aim was not to weaken existing standards, but to devolve responsibility of standard setting to the national, regional and local level under the principle of subsidiarity.

On 16 February 1994 the European Commission approved proposals for a new Bathing Water Directive which will streamline the Directive and bring it into line with current scientific thinking. Member States will have a period of time to consider the proposals before negotiations on the requirements of the proposed Directive commence.

The proposals include dropping the total coliforms parameter which is not felt to be a particularly useful indicator of sewage pollution. Salmonella and certain physico-chemical parameters which are not considered suitable measures of water quality have also been removed. The standards for faecal coliforms (*E. coli*) and enteroviruses have, however, been retained.

The proposals also contain a mandatory standard for faecal streptococci of no more than 400 per 100ml. This new standard would undoubtedly have implications for Member States in terms of compliance. It must be stressed however that such amendments to the Directive are currently only a proposal and are subject to negotiations between Member States before the final text is adopted.

The NRA will be active in advising DoE on the implications of these proposals to ensure that new parameters and standards have a sound scientific basis. It is particularly important to use the depth of information collected by the NRA to provide a sound basis for the improvements to the Directive.

New environmental Directives will now be passed by qualified majority vote, whereas unanimity was required in previous years.

7. REFERENCES

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APPENDIX A

BATHING WATER DIRECTIVE DETAILED SUMMARY OF MONITORING RESULTS IN 1993

The following information forms the basis of the Report to Parliament made by the Department of the Environment in pursuance of Article 13 of the Bathing Water Directive. It provides a summary of the results of the survey during 1993 of the quality of bathing waters in England and Wales included within the scope of Council Directive 76/160/EEC.

Section 1: Changes from 1992 List of Identified Waters

Three additional bathing waters have been identified in 1993 as follows:

Bathing Water	Region
Bournemouth Fisherman's Walk	NRA South Western (Wessex)
Bournemouth Boscombe Pier	NRA South Western (Wessex)
Bournemouth Durley Chine	NRA South Western (Wessex)

The name of the bathing water formerly known as Weston-Super-Mare Grand Pier has been changed to Weston-Super-Mare Tropicana to reflect a small change in the location of the sampling point.

No results are recorded for Porthleven East and Lyme Regis Church Beach, both in NRA South Western (South West) Region. Access to Porthleven East has been impossible for a number of years and Lyme Regis Church Beach was closed for engineering works from May 1993.

Although Northumbrian and Yorkshire, and South West and Wessex NRA Regions have amalgamated, results are recorded separately here.

Section 2: Bathing Season and Sampling Frequency

The bathing season is generally taken as being from 15 May to 30 September in England and Wales and from 1 June to 15 September in Scotland and Northern Ireland. However, the competent authorities may vary the length of the season depending on local conditions.

In order to satisfy the requirements of the Directive the minimum sampling frequency was considered to be 20 samples during the course of the bathing season. In the event, a higher sampling frequency was applied for a few waters:

There are no cases where sampling frequency was reduced in accordance with footnote (1) to the Annex to the Directive.

The "Article 13" report is divided into two sections, dealing with coliform and other mandatory parameters.

Section 3: Coliform Parameters

The tables contain a numerical summary of the information required to assess compliance with the Directive's mandatory coliform standards. The tables are arranged to show the bathing waters in

clockwise order, starting at Spittal, which is the most north-easterly bathing water in NRA Northumbria & Yorkshire Region and proceeding around England and Wales to Skinburness in NRA North West Region. The Isle of Wight waters are placed in the report between Highcliffe and Christchurch, that is to say, as the last waters in the NRA Southern Region.

For each water, the following information is given:

1. The grid references

TOTAL COLIFORMS

2. Number of results
3. Median of results
4. Range of results (minimum and maximum)
5. Number of results failing to conform to the Directive's standard.

FAECAL COLIFORMS

6. Number of results
7. Median of results
8. Range of results (minimum and maximum)
9. Number of results failing to conform to the Directive's standard.

Derivations from the values referred to in Article 3 may, in accordance with Article 5(2), be excluded from the assessment of compliance if they arise as a result of abnormal weather conditions. For one bathing water (Swanpool in NRA South Western (South West) Region) the results from one sample have been excluded under this provision.

Section 4: Other Mandatory Parameters

The tables contain the numerical summary of results for the other mandatory parameters covered by the Directive. The bathing waters are set out as in Section 3.

The Annex to the Directive provides that these parameters do not have to be measured in every case. The results for each parameter are given as the number of observations and, in the columns headed "F", the number failing to comply with the Directive's mandatory requirements. As with section 3, the results for only one sample have been excluded this year as a result of abnormal weather conditions.

Article 8 states that the Directive may be waived in the case of certain parameters to take account local weather, geographic conditions or natural enrichment. Waivers for transparency and colour (indicated by an asterisk) have been granted and are likely to be permanent.

Section 3

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): COLIFORM STANDARDS

Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Northumbrian Region											
Spittal	NU0805150	20	733	0	17000	1	20	147	0	2480	1
Bamburgh Castle	NU18503530	20	24	0	392	0	20	13	0	136	0
Seahouses North	NU21103300	20	44	1	2410	0	20	12	0	376	0
Beadnell	NU23302840	20	47	5	>3000	0	20	25	1	2740	1
Low Newton	NU24202450	20	7	0	270	0	20	2	0	176	0
Alnmouth	NU25301070	20	151	2	>3000	0	20	38	0	610	0
Warkworth	NU25900650	20	3	0	1450	0	20	2	0	650	0
Ambleinks	NU27600440	20	25	1	864	0	20	13	0	456	0
Druridge Bay	NZ27909640	20	84	2	1215	0	20	30	0	594	0
Newbiggin North	NZ31308780	20	210	20	6700	0	20	131	20	6100	1
Newbiggin South	NZ31108730	20	63	13	470	0	20	35	0	270	0
Blyth South Beach	NZ32207950	20	578	0	25200	2	20	138	0	9520	2
Seaton Sluice	NZ33407710	20	441	30	16800	2	20	245	10	7800	2
Whitley Bay	NZ35307340	20	107	1	808	0	20	70	0	279	0
Tynemouth Cullercoats	NZ36507130	20	76	2	4500	0	20	34	2	900	0
Tynemouth Long Sands North	NZ36607080	20	99	10	21700	1	20	46	<10	2430	1
Tynemouth Long Sands South	NZ36907020	20	73	12	27900	1	20	36	2	4400	1
Tynemouth King Edwards Bay	NZ37306960	20	129	15	27600	1	20	58	4	4410	1
South Shields	NZ37906740	20	392	25	55800	2	20	132	1	10080	2
Marsden	NZ40006500	20	184	10	92000	2	20	47	10	11500	2
Whitburn North	NZ40706050	20	1210	30	73800	3	20	419	0	15200	3
Roker/Whitburn South	NZ40705930	20	428	10	53100	1	20	141	0	21000	1
Seaham Beach	NZ42405080	20	141	10	36000	3	20	45	0	18000	4
Seaham Remand Home	NZ42605050	20	107	0	31500	3	20	75	0	9900	3
Crimdon	NZ48503730	20	1134	10	31200	1	20	259	0	3000	1
Seaton Carew North	NZ52503050	20	144	20	96000	1	20	45	0	12500	1
Seaton Carew Centre	NZ53102960	20	224	10	94000	1	20	52	0	12690	3
Seaton Carew North Gare	NZ54002860	21	250	10	77000	1	21	72	0	11970	1
Redcar Coatham	NZ59202570	20	197	8	3500	0	20	61	1	1400	0
Redcar LB Station	NZ60602550	20	195	14	37800	1	20	115	3	5940	1
Redcar Granville	NZ61302510	20	196	10	32400	1	20	104	3	15300	1
Redcar Stray	NZ62502380	20	132	18	5400	0	20	62	9	1062	0
Sea at Marske Sands	NZ63602320	20	537	46	58000	1	20	114	14	17000	1
Saltburn	NZ66602170	20	772	18	648000	2	20	334	6	261000	5

Section 3

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): COLIFORM STANDARDS

Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Yorkshire Region											
Staithe	NZ78701900	20	1215	20	11300	1	20	397	10	4320	1
Runswick Bay	NZ81101590	20	80	<10	12240	1	20	35	<10	2400	1
Sandsend	NZ86401260	20	80	<10	3570	0	20	31	<10	1900	0
Whitby	NZ89701170	20	40	<10	1600	0	20	10	<10	252	0
Robin Hoods Bay	NZ95900450	20	455	110	2160	0	20	258	48	1440	0
Scarborough North Bay	TA03709000	20	92	<10	1980	0	20	35	<10	342	0
Scarborough South Bay	TA04608860	20	326	20	4900	0	20	101	<10	2430	1
Cayton Bay	TA06708450	20	70	<10	35400	2	20	25	<10	7560	2
Filey	TA12008060	20	50	<10	3780	0	20	40	<10	1620	0
Reighton	TA14407630	20	35	<10	1750	0	20	10	<10	371	0
Flamborough											
North Landing	TA23B07220	20	210	20	1100	0	20	156	<10	840	0
Flamborough											
South Landing	TA23106920	20	50	<10	9800	0	20	15	<10	6600	1
Bridlington North Beach	TA19006720	20	171	10	1900	0	20	39	<10	720	0
Bridlington South Beach	TA18106610	20	99	<10	5850	0	20	30	<10	2070	1
Wilsthorpe	TA17206400	20	40	<10	590	0	20	30	<10	580	0
Fraisthorpe	TA17106290	20	65	<10	380	0	20	20	<10	310	0
Earls Dyke	TA17006150	20	40	<10	2000	0	20	30	<10	720	0
Barmston	TA17205940	20	70	<10	1100	0	20	30	<10	600	0
Skipsea	TA17705720	20	110	<10	2430	0	20	65	<10	1710	0
Hornsea	TA21004780	20	40	10	1680	0	20	15	<10	700	0
Tunstall	TA32203120	20	20	<10	900	0	20	10	<10	500	0
Withernsea	TA34402810	20	135	<10	2500	0	20	65	<10	1350	0

Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Anglian Region											
Cleethorpes	TA31050860	20	7870	770	34500	9	20	3190	280	18000	11
Mablethorpe Town	TF50808540	20	325	20	2700	0	20	85	<10	770	0
Sutton-on-sea	TF52258210	20	133	<10	2400	0	20	33	<10	500	0
Moggs Eye	TF55007760	20	50	0	2800	0	20	15	<10	700	0
Anderby	TF55307620	20	40	10	7020	0	20	35	0	1450	0
Chapel St Leonard	TF56407220	20	85	10	6300	0	20	50	<10	1360	0
Ingoldmells South	TF57406855	20	94	<10	4720	0	20	60	<10	1280	0
Skegness	TF57206345	20	50	<10	4300	0	20	20	<10	1060	0
Heacham	TF66303750	20	150	<10	1400	0	20	90	<10	700	0
Hunstanton Beach	TF67804250	20	70	<10	560	0	20	35	<10	190	0
Wells	TF91404560	20	36	<9	810	0	20	31	<9	654	0
Sheringham	TG16204360	20	41	<9	1200	0	20	18	<9	545	0
Cromer	TG21904250	20	677	43	3600	0	20	320	36	2800	1
Mundesley	TG31703660	20	119	<9	2600	0	20	67	<9	2800	1
Hemsby	TG50901740	20	9	<9	964	0	20	13	<9	382	0

Section 3

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): COLIFORM STANDARDS

Anglian Region (contd)											
Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Caister Point	TG53001200	20	90	<9	664	0	20	68	<9	436	0
Great Yarmouth North	TG53501050	20	153	<9	2400	0	20	72	<9	1310	0
Great Yarmouth Pier	TG53300740	20	732	9	6700	0	20	339	47	2500	2
Great Yarmouth South	TG53300640	20	952	188	6660	0	20	548	106	4000	3
Garleston Beach	TG53200310	20	1100	356	8460	0	20	496	102	2800	2
Lowestoft North	TM55309500	20	291	22	3600	0	20	124	<9	910	0
Lowestoft South	TM54509170	20	68	<9	1820	0	20	49	<9	649	0
Southwold The Denes	TM50807540	20	71	<9	327	0	20	31	<9	245	0
Felixstowe North	TM30503430	20	101	9	627	0	20	59	<9	509	0
Felixstowe South	TM29703370	20	140	9	1440	0	20	51	<9	773	0
Dovercourt	TM25173064	20	268	18	1200	0	20	201	<9	664	0
Walton	TM25552156	20	336	18	4320	0	20	150	9	3870	1
Frinton	TM23791941	20	209	<9	1520	0	20	101	<9	800	0
Holland	TM22451765	20	65	<9	3870	0	20	40	<9	3280	1
Clacton	TM18791525	20	127	<9	800	0	20	54	9	590	0
Jaywick	TM14851280	20	182	18	1900	0	20	121	<9	673	0
Brightlingsea	TM07631616	20	27	<9	960	0	20	9	<9	445	0
West Mersea	TM02271203	20	225	9	>20000	1	20	97	<9	3700	2

Thames Region											
Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Shoebury East	TQ94508520	20	63	10	1000	0	20	22	1	234	0
Southend Thorpe Bay	TQ91108470	20	285	50	2300	0	20	77	12	2300	1
Southend Westcliff Bay	TQ86458525	20	535	60	1700	0	20	265	6	1500	0

Southern Region											
Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Sheerness	TQ92507500	20	30	3	450	0	20	10	3	40	0
Leysdown	TR03407080	20	45	5	3500	0	20	17	2	760	0
West Beach	TR09806600	20	37	4	2700	0	20	15	3	240	0
Herne Bay	TR18606860	20	895	65	8300	0	20	280	20	3600	1
Minnis Bay	TR28606970	20	22	1	500	0	20	15	<1	200	0
St Mildred's Bay	TR32807050	20	75	5	740	0	20	45	<1	170	0
Margate The Bay	TR34707080	20	145	<10	3600	0	20	77	<10	2700	1
Margate Fulsam Rock	TR35607150	20	70	1	2600	0	20	35	<1	1400	0
Joss Bay	TR39907020	20	135	30	460	0	20	45	15	190	0
Broadstairs	TR39806770	20	330	50	6100	0	20	160	10	1300	0

Section 3
Bathing Waters Survey — 1993 Results (United Kingdom)
Compliance with Bathing Water Directive (76/160/EEC): COLIFORM STANDARDS

Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Ramsgate	TR37206400	20	2950	<100	8400	0	20	930	<10	2300	3
Sandwich Bay	TR35805900	20	3900	200	844000	8	20	1900	180	76800	8
Deal Castle	TR37805270	20	2850	90	16200	2	20	1150	20	7700	7
St Margaret's Bay	TR36804440	20	115	15	890	0	20	32	5	220	0
Folkestone	TR23703630	20	1025	100	10000	0	20	410	30	4900	1
Sandgate	TR18803480	20	285	9	6600	0	20	50	1	450	0
Hythe	TR16003400	20	45	7	900	0	20	25	2	560	0
Dymchurch	TR11303040	20	445	15	1800	0	20	100	2	1500	0
St Mary's Bay	TR09302770	20	140	10	8200	0	20	55	7	7600	1
Littlestone	TR08402390	20	200	1	2600	0	20	115	1	2600	1
Camber	TQ97301840	20	205	2	1400	0	20	80	2	520	0
Winchelsea	TQ91201540	20	60	20	850	0	20	40	<1	200	0
Hastings	TQ81900920	20	455	25	15300	2	20	135	<10	5400	2
Bexhill	TQ73700680	20	290	30	2500	0	20	97	<10	820	0
Norman's Bay	TQ68200530	20	490	75	3300	0	20	180	20	2900	1
Pevensey Bay	TQ65700370	20	400	50	4300	0	20	215	10	2600	1
Eastbourne	TV61409820	20	245	55	6200	0	20	110	<1	370	0
Seaford	TV48809820	20	87	9	4100	0	20	25	3	600	0
Newhaven	TV44909980	20	475	30	6400	0	20	65	10	1200	0
Saldean	TQ38100180	20	82	<1	5800	0	20	27	<1	1900	0
Brighton	TQ32300340	20	305	<1	12100	1	20	70	<1	7100	2
Hove	TQ28800430	20	370	10	8800	0	20	100	<9	2900	1
Southwick	TQ24200480	20	830	40	35100	1	20	350	10	10200	1
South Lancing	TQ18300360	20	220	10	70500	5	20	127	<10	12800	7
Worthing	TQ13900210	20	455	30	22800	2	20	290	10	8100	4
Littlehampton	TQ04000130	20	95	<10	5500	0	20	50	<10	2500	1
Middleton-on-sea	SZ98509990	20	90	<10	3700	0	20	65	<10	2300	1
Bognor Regis	SZ92309850	20	290	<10	5600	0	20	165	<10	1900	0
Pagham	SZ89209720	20	20	9	4700	0	20	10	<10	3200	1
Selsey	SZ86809370	20	27	<10	2000	0	20	10	<10	340	0
Bracklesham Bay	SZ80509630	20	35	<10	2300	0	20	15	<10	1900	0
West Wittering	SZ76809800	20	20	<10	1800	0	20	10	<10	1200	0
West of Eastoke	SZ72909840	20	10	<10	3900	0	20	10	<1	3200	1
West Hayling	SZ70509870	20	20	9	<100	0	20	10	<1	30	0
Eastney	SZ67509880	20	15	<10	770	0	20	10	1	390	0
Southsea	SZ65309820	20	195	<10	2500	0	20	170	<10	2500	2
Stokes Bay	SZ60009790	20	50	10	3200	0	20	20	<10	270	0
Lee-on-Solent	SU56200050	20	47	<10	550	0	20	25	5	300	0
Hillhead	SU54000220	20	40	<10	480	0	20	10	<1	250	0
Calshot	SU48100120	20	77	<10	5900	0	20	30	1	1400	0
Lepe	SZ45609850	20	47	<10	280	0	20	20	1	180	0
Milford-on-sea	SZ28309150	20	205	10	5700	0	20	80	<10	4800	1
Christchurch Bay	SZ23909280	20	80	<10	2100	0	20	30	<1	980	0
Highcliffe	SZ21609310	20	20	<10	980	0	20	15	<1	640	0
Compton Bay	SZ37708410	20	30	<10	1500	0	20	10	<10	1300	0

Section 3

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): COLIFORM STANDARDS

Southern Region (contd)											
Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Totland Bay	SZ32208710	20	90	<10	18900	1	20	47	<10	2600	1
Cobwell Bay	SZ32808790	20	95	10	7000	0	20	35	<10	5600	1
Gurnard	SZ47709590	20	170	20	3600	0	20	75	<10	1700	0
Cowes	SZ48809670	20	140	40	3000	0	20	55	10	580	0
Ryde	SZ60109270	20	57	<10	1500	0	20	20	3	580	0
Seagrove	SZ63209120	20	140	<10	9600	0	20	65	<10	5300	2
St Helens	SZ63708920	20	220	30	4000	0	20	105	20	1000	0
Bembridge	SZ65708810	20	60	10	2900	0	20	52	<10	1300	0
Whitecliff Bay	SZ64108620	20	235	<10	8300	0	20	140	<10	3700	1
Sandown	SZ60108430	20	260	20	8400	0	20	135	<10	1900	0
Shanklin	SZ58508110	20	205	<10	3000	0	20	72	<10	670	0
Ventnor	SZ56207730	20	1350	370	10500	1	20	630	20	2800	1

Wessex Region - South Coast											
Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Christchurch											
Highcliffe Castle	SZ20009290	21	40	2	3070	0	21	21	<1	1720	0
Christchurch Friar's Cliff	SZ19209252	21	135	<10	3870	0	21	60	3	3300	1
Christchurch Avon Beach	SZ18889223	21	112	<10	5400	0	21	50	<10	1980	0
Christchurch Mudeford											
Sandbank East	SZ18259121	21	52	<10	49000	1	21	20	<10	48000	1
Bournemouth											
Hengistbury East	SZ17009060	21	11	<1	60	0	21	5	<1	70	0
Bournemouth											
Fisherman's Walk	SZ12809130	21	15	<1	180	0	21	7	<1	128	0
Bournemouth											
Boscombe Pier	SZ11209110	21	120	2	26600	2	21	90	2	10640	2
Bournemouth Pier	SZ08859065	21	40	<10	19260	1	21	20	<10	1400	0
Bournemouth											
Durley Chine	SZ07859030	21	7	<1	360	0	21	2	<1	105	0
Poole Shore Rd											
Sandbanks	SZ05108830	21	8	<1	7380	0	21	5	<1	960	0
Poole Harbour											
Sandbanks	SZ04908850	21	60	1	1900	0	21	64	2	1800	0
Poole Harbour Lake	SY98329040	21	231	22	2870	0	21	144	10	840	0
Poole Harbour											
Rockley Sands	SY97209080	21	300	20	11500	1	21	168	20	7740	1
Shell Bay North	SZ03708660	21	6	<1	950	0	21	4	<1	830	0
Studland Knoll House	SZ03488353	21	5	<1	290	0	21	2	<1	240	0
Swanage Central	SZ03297910	21	70	<1	16300	1	21	61	4	3520	2
Kimmeridge Bay	SY90707905	21	70	<1	18500	1	21	78	<1	17000	2
Lutworth Cove	SY82477995	21	189	21	>3000	0	21	144	22	1050	0
Durdle Door East	SY80808030	21	13	<1	312	0	21	7	<1	280	0
Durdle Door West	SY80408030	21	7	<1	200	0	21	3	<1	60	0

Section 3
Bathing Waters Survey — 1993 Results (United Kingdom)
Compliance with Bathing Water Directive (76/160/EEC): COLIFORM STANDARDS

Wessex Region - South Coast (contd)											
Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Ringstead Bay	SY75198132	21	19	2	14490	1	21	8	2	18700	1
Bowleaze Cove	SY70428189	21	70	<1	1980	0	21	24	<1	770	0
Church Ope Cove	SY69767100	21	6	<1	186	0	21	3	<1	56	0
Weymouth Lodmoor	SY68806710	21	7	<1	280	0	21	6	<1	78	0
Weymouth Central	SY68107940	21	26	<1	460	0	21	19	<1	333	0
Portland Harbour											
Castle Cove	SY67607750	21	190	4	1500	0	21	75	5	1300	0
Portland Harbour											
Sandsfoot Castle	SY67307720	21	96	10	7360	0	21	40	9	4690	2
West Bay (West)	SY45909040	21	41	1	>30000	1	21	20	1	>30000	1
Eyemouth	SY44689100	21	49	1	552	0	21	9	1	270	0
Seatown	SY41879165	21	50	<1	>27000	1	21	20	<1	5760	1
Charmouth West	SY36309300	21	160	<1	>30000	1	21	91	<1	15750	1

South West Region											
Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Lyme Regis Church Beach		0	0	0	0	0	0	0	0	0	0
Lyme Regis Cobb	SY33909185	20	174	<10	3000	0	20	48	<10	4800	1
Seaton (Devon)	SY24508985	20	60	<10	568	0	20	30	<10	380	0
Beer	SY23158910	20	125	<10	2880	0	20	30	8	940	0
Sidmouth Town	SY12708720	20	327	20	7800	0	20	157	7	8800	1
Sidmouth Jacobs Ladder	SY11908695	20	55	8	2400	0	20	43	4	1350	0
Ladram Bay	SY09728515	20	130	<10	3360	0	20	89	10	3900	1
Budleigh Salterton	SY06958190	20	108	<10	>30000	2	20	66	7	19700	2
Sandy Bay	SY03357980	20	143	<10	>30000	1	20	70	1	9720	2
Exmouth	SY00987995	20	45	5	>30000	1	20	15	2	>30000	2
Dawlish Warren	SX98307875	20	20	3	3570	0	20	10	2	540	0
Dawlish Town	SX96557680	20	108	6	7000	0	20	104	3	2000	0
Dawlish Coryton Cove	SX96117606	20	25	<10	11000	1	20	35	1	12600	1
Teignmouth Holcombe	SX95657461	20	150	2	2700	0	20	106	3	2900	1
Teignmouth Town	SX94307285	20	135	2	6000	0	20	75	2	2700	1
Shaldon	SX93507230	20	82	<10	21600	1	20	85	<10	16100	1
Ness Cove	SX93857170	20	25	<1	1350	0	20	15	<1	700	0
Maidencombe	SX92786850	20	50	4	1200	0	20	20	<1	1280	0
Watcombe	SX92626730	21	28	2	800	0	21	24	1	720	0
Oddicombe	SX92656585	22	12	<1	1080	0	22	9	<1	1170	0
Babbacombe	SX93006545	20	22	1	1470	0	20	14	<1	880	0
Redgate	SX93506480	20	80	2	2160	0	20	50	<1	1260	0
Meadfoot	SX93056305	20	36	<10	1400	0	20	20	1	312	0
Beacon Cove	SX91956307	20	39	2	190	0	20	20	<1	100	0
Torre Abbey	SX90956351	20	155	<10	1890	0	20	105	<10	580	0

Section 3

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): COLIFORM STANDARDS

South West Region (contd)											
Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Hollicombe	SX89806215	20	84	2	790	0	20	40	<1	792	0
Paignton Preston Sands	SX89646177	21	200	<10	1260	0	21	130	<1	760	0
Paignton Paignton Sands	SX89496063	21	216	30	7920	0	21	162	<10	3400	1
Goodrington	SX89355940	20	93	<10	10500	1	20	60	6	3300	1
Broadsands	SX89705745	20	35	<10	1200	0	20	33	<10	909	0
Shoalstone	SX93205662	20	25	3	200	0	20	15	1	162	0
St Mary's Bay	SX93205510	20	176	<10	1500	0	20	187	7	800	0
Dartmouth Castle and Sugary Cove	SX88655020	20	157	10	1020	0	20	69	3	890	0
Blackpool Sands	SX85504785	20	11	1	60	0	20	7	<1	34	0
Slapton Sands Monument	SX82954430	20	6	1	80	0	20	2	1	49	0
Slapton Sands Torcross	SXB2354195	20	40	<10	1020	0	20	20	7	486	0
Mill Bay	SX74073825	20	55	1	480	0	21	34	5	560	0
Salcombe North Sands	SX73103820	20	194	10	2600	0	21	80	<10	1280	0
Salcombe South Sands	SX72853775	20	339	44	17100	1	20	184	<10	3760	2
Hope Cove	SX67553975	20	162	<10	2100	0	20	106	<10	1100	0
Thurlestone South	SX67654170	20	10	<1	184	0	20	10	<1	130	0
Thurlestone North	SX67404210	20	45	<10	600	0	20	20	<10	340	0
Bantham	SX66234380	21	54	8	5600	0	21	23	<1	3330	1
Bigbury-on-Sea South	SX65104415	20	21	<1	1440	0	20	20	1	1200	0
Bigbury-on-Sea North	SX64954430	20	19	<1	1700	0	20	14	<1	1900	0
Challaborough	SX64924480	20	55	16	800	0	20	33	<10	400	0
Mothecombe	SX61054734	20	206	<1	5200	0	20	69	<1	1890	0
Wembury	SX51604850	20	183	5	6400	0	20	75	1	4410	3
Bovisand	SX49305050	21	216	9	4880	0	21	135	2	4240	3
Plymouth Hoe East	SX47805370	20	1000	<10	90600	4	20	382	<10	14400	5
Plymouth Hoe West	SX47505370	20	2400	99	24800	4	20	1235	20	17100	9
Portwrinkle	SX35905380	20	86	0	1600	0	20	46	0	800	0
Dowderry	SX31405380	20	70	0	6000	0	20	36	0	1700	0
Seaton (Cornwall)	SX30305430	20	220	6	3000	0	20	44	1	2300	1
Millendreath	SX26805410	20	105	2	2610	0	20	63	1	1000	0
East Looe	SX25705320	20	125	6	10000	0	20	111	5	8800	3
Readymaney	SX11805110	20	650	60	13000	1	20	215	6	9000	2
Polkerris	SX09285210	20	62	3	3000	0	20	39	1	2500	1
Par	SX08305330	20	500	12	19000	1	20	150	3	3500	1
Crinnis Golf Links	SX06305220	20	34	0	800	0	20	26	0	300	0
Crinnis Leisure Centre	SX05605210	20	12	0	5040	0	20	3	0	900	0
Charlestown	SX04205160	20	64	1	2250	0	20	12	0	200	0
Duporth	SX03505120	20	42	2	2900	0	20	30	0	1080	0
Porthpean	SX03205070	20	33	0	1200	0	20	18	0	200	0
Pentewan	SX01804670	20	85	1	2610	0	20	29	0	400	0
Polstreath	SX01704540	20	116	2	1700	0	20	55	0	1700	0
Port Mellon	SX01604390	20	41	4	9720	0	20	22	0	6400	1
Gorran Haven											
Little Perhaver	SX01304170	20	230	16	7200	0	20	75	5	1300	0
Gorran Haven (Vault)	SX01004080	20	3	0	216	0	20	1	0	30	0
Porthluney	SW97304130	20	280	12	6400	0	20	170	4	4000	1

Section 3

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): COLIFORM STANDARDS

Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Pendower	SW90503830	20	312	0	9100	0	20	190	0	1300	0
Gyllyngvase	SW80903160	20	38	2	24000	1	20	30	0	8400	1
Swanpool	SW80303130	20	53	4	21600	1*	20	18	0	14400	1*
Maen Porth	SW79002960	20	92	3	5920	0	20	44	0	4800	2
Porthallow	SW79702330	20	1520	9	12000	1	20	450	2	5300	2
Porthoustock	SW80702170	20	7	0	60	0	20	2	0	34	0
Coverack	SW78301840	20	250	12	1700	0	20	86	3	1400	0
Kennack Sands	SW73401650	20	17	0	1000	0	20	11	0	600	0
Pollurian Cove	SW66801870	20	93	0	2400	0	20	65	0	1350	0
Poldhu Cove	SW66501980	20	56	0	2720	0	20	38	0	2800	1
Gunwalloe Cove	SW65402250	20	3	0	1470	0	20	1	0	500	0
Porthleven East		0	0	0	0	0	0	0	0	0	0
Porthleven West	SW63202530	20	350	3	14400	2	20	126	1	6200	3
Praa Sands East	SW58502760	20	25	0	280	0	20	7	0	120	0
Praa Sands West	SW57702810	20	20	0	2160	0	20	8	0	500	0
Perran Sands	SW53902930	20	4	0	1360	0	20	3	0	700	0
Mounts Bay L Holgus	SW51303100	20	300	25	48000	2	20	96	14	40000	3
Mounts Bay Heliport	SW48503110	20	678	30	36800	3	20	190	7	16000	3
Mounts Bay Penzance	SW47502980	20	135	13	26000	5	20	30	3	18000	5
Mounts Bay Wherry Town	SW46702940	20	20000	73	78000	12	20	9900	14	36000	13
Porthcurno	SW38702230	20	28	0	1000	0	20	13	0	800	0
Sennen	SW35522645	20	26	0	900	0	20	19	0	500	0
Porthmear	SW51504103	20	10	0	1680	0	20	3	0	840	0
Porth Gwidden	SW52204110	20	72	6	9500	0	20	42	3	7300	3
Porthminster	SW52204025	20	51	5	14000	1	20	33	1	10800	1
Carbis Bay Station Beach	SW52803890	20	36	3	1330	0	20	22	0	700	0
Carbis Bay Porth											
Kidney Sands	SW54003850	20	37	1	220	0	20	18	0	150	0
The Towans (Hayle)	SW56303950	20	4	0	95	0	20	1	0	85	0
The Towans (Godrevy)	SW58104170	20	86	1	3040	0	20	53	0	700	0
Portreath	SW65304550	20	106	6	700	0	20	49	0	144	0
Porthtowan	SW69154812	20	71	0	1300	0	20	21	0	900	0
Trevaunance Cove	SW72305170	20	680	57	48000	2	20	300	15	28000	2
Perranporth Village End	SW75705480	20	119	0	20000	1	20	40	0	15000	1
Perranporth											
Penhale Sands	SW76205700	20	47	0	500	0	20	25	0	300	0
Holywell Bay	SW76505950	20	73	4	1080	0	20	28	1	500	0
Crantock	SW78406080	20	149	4	2300	0	20	49	0	1700	0
Fistral	SW79606230	20	37	3	1400	0	20	10	0	600	0
Towan	SW81006205	20	69	4	400	0	20	30	1	310	0
Watergate	SW84106490	20	112	0	7560	0	20	33	0	1800	0
Mawgan Porth	SW84806740	20	175	1	38000	1	20	78	0	13600	3
Porthcothan	SW85707202	20	300	2	60000	1	20	86	0	14000	3
Treyarnon Bay	SW85707390	20	34	1	1080	0	20	21	0	700	0
Constantine Bay	SW85807480	20	7	0	700	0	20	4	0	108	0
Mother Ivey's Bay	SW86307600	20	37	4	750	0	20	18	0	430	0
Harlyn Bay	SW87707550	20	85	0	25000	1	20	24	0	13500	1

Section 3

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): COLIFORM STANDARDS

South West Region (contd)											
Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Trevone Bay	SW89207610	20	615	40	60000	1	20	440	6	28000	3
Rock	SW92747586	20	412	27	37000	1	20	95	17	11000	1
Daymer Bay	SW92807760	20	82	6	2800	0	20	51	0	500	0
Polzeath	SW93607920	20	80	12	8600	0	20	29	5	4800	1
Widemouth Sand	SS19800240	20	10	<10	1080	0	20	10	3	656	0
Bude Summerleaze	SS20400660	20	40	<10	35000	2	20	40	<10	28000	3
Bude Crooklets	SS20300720	20	50	<10	66400	1	20	10	<10	35700	1
Bude Sandy Mouth	SS20200990	20	10	<10	5400	0	20	10	<1	3000	1
Hartland Quay	SS22302485	20	97	<10	440	0	21	20	5	440	0
Westward Ho!	SS43252940	20	55	<10	2900	0	20	40	<10	2500	1
Instow	SS47173044	20	570	<10	42600	6	20	353	<10	44100	6
Saunton Sands	SS44553760	20	140	7	8000	0	20	92	<10	7800	1
Croyde Bay	SS43473930	21	154	<10	4160	0	21	84	<10	2430	1
Woolacombe Putsborough	SS44754085	20	10	<10	100	0	20	10	<10	171	0
Woolacombe Village	SS45624370	20	35	<10	1200	0	20	24	<10	1600	0
Ilfracombe Tunnels Beach	SS51454780	21	70	<10	528	0	21	50	<10	297	0
Ilfracombe Capstone (Wildersmouth)	SS51824790	21	1280	119	64800	3	21	900	30	48000	5
Ilfracombe Hele	SS53554792	20	550	20	8000	0	20	366	<10	6000	1
Combe Martin	SS57724732	21	544	80	16000	1	21	350	30	9600	1
Lynmouth	SS72504975	20	600	<10	36000	2	20	275	5	25200	3

Wessex Region - North Coast											
Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Porlock Weir	SS86404790	22	50	<10	330	0	22	15	8	280	0
Minehead Terminus	SS97304650	22	155	10	1700	0	22	74	<10	1200	0
Dunster North West	SS99704550	22	370	50	2800	0	22	180	<10	3000	1
Blue Anchor West	ST02304350	22	270	10	2880	0	22	176	40	1710	0
Burnham Jetty	ST30204880	21	500	150	10800	1	22	213	60	8000	1
Berrow North of											
Unity Farm	ST29305450	22	342	85	3500	0	22	157	30	2520	1
Brean	ST29605850	22	122	40	6000	0	22	31	10	6000	1
Weston-s-Mare											
Uphill Slipway	ST31205880	21	342	100	2400	0	21	200	70	1200	0
Weston-s-Mare Tropicana	ST31606070	21	500	99	8400	0	21	340	70	5000	3
Weston-s-Mare Sand Bay	ST33006350	22	177	60	46000	1	22	155	30	44000	3
Clevedon Swimming Pool	ST39807120	22	860	390	14700	1	22	460	200	3000	2

Section 3

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): COLIFORM STANDARDS

Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures
			Median	Minimum	Maximum			Median	Minimum	Maximum	
Jacksons Bay Barry	ST12206657	20	1600	580	8000	0	20	320	90	2700	1
Whitmore Bay Barry	ST11456625	20	995	180	7000	0	20	310	100	2340	1
Cold Knap Barry	ST09656640	20	385	144	3500	0	20	65	20	1000	0
Southerndown	SS88407290	20	360	30	5600	0	20	95	<10	2000	0
Trecco Bay Porthcawl	SS83107630	20	230	<10	600	0	20	89	<10	320	0
Sandy Bay Porthcawl	SS82407650	20	235	20	2500	0	20	65	<10	300	0
Rest Bay Porthcawl	SS80007790	20	200	30	1000	0	20	20	<10	190	0
Aberafan	SS73908960	20	200	20	2000	0	20	125	10	1700	0
Swansea Bay	SS64409210	20	870	80	20000	3	20	285	10	11000	1
Bracelet Bay	SS63008710	20	765	100	10000	0	20	300	10	3400	1
Limeslade Bay	SS62508700	20	640	70	4800	0	20	220	30	2160	1
Langland Bay	SS60608710	20	625	30	4800	0	20	300	<10	2400	2
Caswell Bay	SS59108740	20	335	20	1600	0	20	60	<10	300	0
Oxwich Bay	SS50708620	20	15	<10	108	0	20	10	<10	50	0
Port Eynon Bay	SS47208480	20	25	<10	400	0	20	10	<10	190	0
Rhossili	SS41409000	20	15	<10	200	0	20	10	<10	180	0
Pembrey	SS40009980	20	40	<10	1300	0	20	10	<10	340	0
Pendine	SN23800740	20	50	<10	1300	0	20	25	<10	840	0
Amroth	SN16700680	20	130	<10	2000	0	20	30	<10	320	0
Saundersfoot	SN14100470	20	540	20	15000	1	20	190	10	1440	0
Tenby North	SN13450080	20	80	<10	2700	0	20	40	<10	350	0
Tenby South	SS13259985	20	80	<10	6400	0	20	30	<10	1080	0
Broadhaven	SM86101380	20	85	<10	1600	0	20	30	7	1400	0
Newgale	SM84602170	20	20	<10	200	0	20	10	<10	160	0
Whitesands	SM73002700	20	30	<10	160	0	20	10	<10	60	0
Newport	SN05304070	20	170	<10	8800	0	20	125	<10	5000	2
Traeth Gwyn New Quay	SN39805970	20	50	<10	22000	1	20	25	<10	19400	1
Aberystwyth South	SN57908140	20	980	63	10600	1	20	280	<10	5400	2
Aberystwyth North	SN58308220	20	305	<10	8800	0	20	80	<10	3300	1
Borth	SN60609010	20	120	<10	800	0	20	40	<10	600	0
Aberdyfi	SN60729580	20	505	60	6570	0	20	312	10	5300	2
Tywyn	SH57670032	20	115	<10	3700	0	20	55	<10	3000	1
Fairbourne	SH60911307	20	60	<10	810	0	20	45	<10	460	0
Barmouth	SH60841590	20	95	<10	1540	0	20	60	<10	1130	0
Llandanwg	SH56692818	20	151	40	4100	0	20	80	10	3700	1
Harlech	SH56763148	20	78	<10	1206	0	20	30	<10	570	0
Morfa Bychan	SH54213595	20	100	<10	3000	0	20	70	<10	1310	0
Criccieth	SH50333807	20	250	<10	6500	0	20	146	<10	2421	1
Pwllheli	SH37103407	20	42	<10	2560	0	20	10	<10	350	0
Abersoch	SH31682772	20	60	<10	4140	0	20	35	<10	2170	1
Morfa Dindle	SH43495669	20	30	<10	960	0	20	20	<10	850	0
Rhosneigr	SH32377212	21	10	<10	110	0	21	10	<10	70	0
Trearddur Bay	SH25567891	21	70	10	2200	0	21	50	<10	2200	1
Benllech	SH52688256	20	358	10	8100	0	20	188	<10	3200	1
Llandudno West Shore	SH76558165	22	2200	<10	>20000	6	22	650	<10	>20000	7

Section 3
Bathing Waters Survey — 1993 Results (United Kingdom)
Compliance with Bathing Water Directive (76/160/EEC): COLIFORM STANDARDS

Welsh Region (contd)												
Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures	
			Median	Minimum	Maximum			Median	Minimum	Maximum		
Llandudno North Shore	SH79188227	20	305	20	850	0	20	107	<10	560	0	
Colwyn Bay	SH85847917	20	175	20	8500	0	20	80	<10	6300	2	
Kimmel Bay (Sandy Cove)	SH97808060	20	1234	210	6000	0	20	685	40	2800	1	
Rhyl	SJ00208260	20	3300	40	>20000	5	20	1235	40	8800	7	
Prestatyn	SJ05408390	20	717	10	3600	0	20	396	<10	1480	0	
West Kirby	SJ21008680	20	590	140	27400	3	20	480	20	>20000	5	

Note: West Kirby is in England

North West Region												
Bathing Water	National Grid Reference	Number of Samples	Total Coliforms			Number of Failures	Number of Samples	Faecal Coliforms			Number of Failures	
			Median	Minimum	Maximum			Median	Minimum	Maximum		
Meals	SJ23009060	20	360	40	3900	0	20	220	20	3900	1	
Moreton	SJ25709180	20	100	<20	700	0	20	50	<5	300	0	
New Brighton	SJ28709370	20	330	<20	8100	0	20	125	15	3000	2	
Formby	SD27701000	20	320	20	6900	0	20	110	15	2000	0	
Ainsdale	SD29701290	20	510	20	14000	3	20	420	20	4000	4	
Southport	SD32201790	20	3700	320	13000	5	20	1570	110	2500	9	
St Annes	SD31802830	20	1200	160	20000	4	20	620	80	15000	4	
St Annes North	SD30403050	20	2450	<200	15000	1	20	1060	<50	15000	6	
Blackpool South	SD30403380	20	1900	240	>10000	1	20	1050	225	3000	5	
Blackpool Central	SD30603560	20	1630	<200	>10000	1	20	1050	<50	4000	3	
Blackpool North	SD30503640	20	550	160	11000	2	20	360	<50	6000	4	
Bispham	SD30703970	20	950	80	9000	0	20	710	80	8000	2	
Cleveleys	SD31204330	20	1050	60	8900	0	20	595	40	5000	3	
Fleetwood	SD33604850	20	860	180	15800	1	20	630	40	5800	5	
Heysham - Half Moon Bay	SD41306180	20	600	80	4300	0	20	220	<50	>2000	1	
Morecambe South	SD42206360	20	2300	200	10600	4	20	1200	120	5620	8	
Morecambe North	SD44106500	20	2800	1200	>10000	2	20	1330	712	2400	4	
Bardsea	SD30007400	20	1400	320	24400	4	20	1180	160	5000	6	
Aldingham	SD28307090	20	180	<20	9800	0	20	80	<5	4410	2	
Newbiggin	SD27306940	20	670	<20	10900	1	20	280	10	5200	2	
Walney Biggar Bank	SD17806730	20	150	<20	2700	0	20	60	<5	1480	0	
Walney Sandy Gap	SD17506810	20	200	<20	19000	1	20	50	<5	16000	1	
Walney West Shore	SD17007000	20	250	<20	>10000	1	20	180	5	>2000	1	
Roan Head	SD19807580	20	530	100	2800	0	20	370	<50	1200	0	
Askam-in-Furness	SD20907820	20	500	<20	4100	0	20	420	<20	3000	2	
Haverigg	SD16007780	20	450	20	15900	1	20	350	20	12000	2	
Silecroft	SD12008120	20	70	<20	2500	0	20	42	<5	2000	0	
Seascale	NY03400100	20	690	140	>10000	1	20	490	100	4120	3	
St Bees	NX95901170	20	170	<20	4200	0	20	115	<5	2400	1	
Allonby South	NY06604060	20	240	2	23200	1	20	141	0	5000	2	
Allonby	NY07804240	20	172	24	4960	0	20	106	10	2100	1	
Silloth	NY09405280	20	266	31	5200	0	20	157	32	1600	0	
Skinburness	NY12605650	20	505	70	5100	0	20	242	43	3500	1	

Section 4

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

Northumbrian Region																	
Bathing Water	National Grid Reference	pH		Transparency		Salmonella		Entero-Viruses		Colour		Mineral Oils		Surface Active Substances		Phenols	
		Number of Observations (Number of Failures - F)															
		F		F		F		F		F		F		F		F	
Spittal	NU00805150	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Bamburgh Castle	NU18503530	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Seahouses North	NU21103300	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Beadnell	NU23302840	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Low Newton	NU24202450	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Alnmouth	NU25301070	2	0	20	0*	2	1	0	0	20	0	20	0	20	0	20	0
Warkworth	NU25900650	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Amblelinks	NU27600440	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Druridge Bay	NZ27909640	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Newbiggin North	NZ31308780	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Newbiggin South	NZ31108730	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Blyth South Beach	NZ32207950	2	0	20	0*	2	1	2	2	20	0	20	0	20	0	20	0
Seaton Sluice	NZ33407710	2	0	20	0*	2	1	2	1	20	0	20	0	20	0	20	0
Whitley Bay	NZ35307340	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Tynemouth Cullercoats	NZ36507130	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Tynemouth Long Sands North	NZ36607080	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Tynemouth Long Sands South	NZ36907020	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Tynemouth King Edwards Bay	NZ37306960	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
South Shields	NZ37906740	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Marsden	NZ40006500	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Whitburn North	NZ40706050	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Roker/Whitburn South	NZ40705930	2	0	20	0*	2	1	0	0	20	0	20	0	20	0	20	0
Seaham Beach	NZ42405080	2	0	20	0*	2	1	0	0	20	0	20	0	20	0	20	0
Seaham Remand Home	NZ42605050	2	0	20	0*	2	1	2	0	20	0	20	0	20	0	20	0
Crimdon	NZ48503730	2	0	20	13	2	2	2	1	20	0	20	0	20	0	20	0
Seaton Carew North	NZ52503050	2	0	20	8	2	0	2	1	20	0	20	0	20	0	20	0
Seaton Carew Centre	NZ53102960	2	0	20	7	2	0	2	1	20	0	20	0	20	0	20	0
Seaton Carew North Gare	NZ54002860	2	0	21	6	2	1	2	2	21	0	21	0	21	0	21	0
Redcar Coatham	NZ59202570	2	0	21	0*	2	1	0	0	21	0	21	0	21	0	21	0
Redcar LB Station	NZ60602550	2	0	20	0*	2	1	0	0	20	0	20	0	20	0	20	0
Redcar Granville	NZ61302510	2	0	21	0*	2	0	2	1	21	0	21	0	21	0	21	0
Redcar Stray	NZ62502380	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Sea at Marske Sands	NZ63602320	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Saltburn	NZ66602170	2	0	20	0*	2	0	2	2	20	1	20	0	20	0	20	0

(* Denotes waiver granted because of geographical conditions)

Section 4

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

Yorkshire Region																	
Bathing Water	National Grid Reference	pH	Transparency		Salmonella		Entero-Viruses		Colour		Mineral Oils		Surface Active Substances		Phenols		
		Number of Observations (Number of Failures - F)															
		F	F	F	F	F	F	F	F	F	F	F	F	F	F		
Staithe	NZ78701900	17	0	0	0*	2	1	2	0	20	0	21	0	21	0	20	0
Runswick Bay	NZ81101590	17	1	0	0*	2	0	2	0	20	0	20	0	20	0	20	0
Sandsend	NZ86401260	16	1	0	0*	2	0	2	0	20	0	20	0	20	0	20	0
Whitby	NZ89701170	16	1	0	0*	2	0	2	1	20	0	20	0	20	0	20	0
Robin Hoods Bay	NZ95900450	17	2	0	0*	2	0	2	0	19	0	20	0	20	0	20	0
Scarborough North Bay	TA03709000	17	0	0	0*	2	0	2	0	19	0	20	0	20	0	20	0
Scarborough South Bay	TA04608860	16	1	0	0*	2	0	2	0	19	0	20	0	20	0	20	0
Cayton Bay	TA06708450	18	0	0	0*	2	0	2	0	20	0	19	0	20	0	20	0
Filey	TA12008060	18	0	0	0*	2	0	2	0	20	0	19	0	20	0	20	0
Reighton	TA14407630	18	0	0	0*	2	0	2	0	20	0	19	0	20	0	20	0
Flamborough North Landing	TA23807220	14	0	0	0*	2	0	2	0	19	0	20	0	20	0	20	0
Flamborough South Landing	TA23106920	14	0	0	0*	2	1	2	0	19	0	20	0	20	0	20	0
Bridlington North Beach	TA19006720	14	0	0	0*	2	0	2	1	19	0	20	0	20	0	20	0
Bridlington South Beach	TA18106610	14	0	0	0*	2	0	2	0	19	0	20	0	20	0	20	0
Wilsthorpe	TA17206400	15	0	0	0*	2	0	2	0	20	0	19	0	20	0	20	0
Fraisthorpe	TA17106290	15	0	0	0*	2	0	2	0	20	0	19	0	20	0	20	0
Earls Dyke	TA17006150	15	0	0	0*	2	0	2	1	20	0	19	0	20	0	20	0
Barmston	TA17205940	15	0	0	0*	2	0	2	1	21	0	20	0	21	0	20	0
Skipsea	TA17705720	15	0	0	0*	2	0	2	0	20	0	19	0	20	0	20	0
Hornsea	TA21004780	14	0	0	0*	2	0	2	0	20	0	20	0	20	0	19	0
Tunstall	TA32203120	14	0	0	0*	2	0	2	1	20	0	20	0	20	0	19	0
Withernsea	TA34402810	14	0	0	0*	2	0	2	1	20	0	20	0	20	0	19	0

(* Denotes waiver granted because of geographical conditions)

Anglian Region																	
Bathing Water	National Grid Reference	pH	Transparency		Salmonella		Entero-Viruses		Colour		Mineral Oils		Surface Active Substances		Phenols		
		Number of Observations (Number of Failures - F)															
		F	F	F	F	F	F	F	F	F	F	F	F	F	F		
Cleethorpes	TA31050860	2	0	19	0*	2	2	2	2	20	0	20	0	20	0	20	0
Mablethorpe Town	TF50808540	2	0	19	0*	2	0	0	0	20	0	20	0	20	0	20	0
Sutton-on-sea	TF52258210	2	0	19	0*	2	0	0	0	20	0	20	0	20	0	20	0
Maggs Eye	TF55007760	2	0	19	0*	2	0	0	0	20	0	20	0	20	0	20	0
Anderby	TF55307620	2	0	19	0*	2	0	0	0	20	0	20	0	20	0	20	0
Chapel St Leonard	TF56407220	2	0	19	0*	2	0	0	0	20	0	20	0	20	0	20	0
Ingoldmells South	TF57406855	2	0	19	0*	2	0	0	0	20	0	20	0	20	0	20	0
Skegness	TF57206345	2	0	19	0*	2	0	0	0	20	0	20	0	20	0	20	0
Heacham	TF66303750	3	0	18	0*	2	0	0	0	20	0	20	0	20	0	20	0
Hunstanton Beach	TF67804250	3	0	18	0*	2	0	0	0	20	0	20	0	20	0	20	0

(* Denotes waiver granted because of geographical conditions)

Section 4
Bathing Waters Survey — 1993 Results (United Kingdom)
Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

Anglian Region (contd)																	
Bathing Water	National Grid Reference	pH		Transparency		Salmonella		Entero-Viruses		Colour		Mineral Oils		Surface Active Substances		Phenols	
		Number of Observations (Number of Failures - F)															
		F		F		F		F		F		F		F		F	
Wells	TF91404560	2	0	19	0*	3	0	0	0	19	0	19	0	19	0	19	0
Sheringham	TG16204360	2	0	20	0*	3	0	0	0	20	0	20	0	20	0	20	0
Cromer	TG21904250	2	0	20	0*	3	0	0	0	20	0	19	0	20	0	20	0
Mundesley	TG31703660	2	0	20	0*	3	0	0	0	20	0	20	0	20	0	20	0
Hemsby	TG50901740	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Caister Point	TG53001200	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Great Yarmouth North	TG53501050	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Great Yarmouth Pier	TG53300740	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Great Yarmouth South	TG53300640	2	0	20	0*	2	0	2	2	20	0	20	0	20	0	20	0
Gorleston Beach	TG53200310	2	0	19	0*	2	1	0	0	20	0	20	0	20	0	20	0
Lowestoft North	TM55309500	2	0	19	0*	2	0	0	0	20	0	20	0	20	0	20	0
Lowestoft South	TM54509170	2	0	19	0*	2	0	0	0	20	0	20	0	20	0	20	0
Southwold The Denes	TM50807540	2	0	19	0*	2	0	0	0	20	0	20	0	20	0	20	0
Felixstowe North	TM30503430	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Felixstowe South	TM29703370	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Dovercourt	TM25173064	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Walton	TM25552156	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Frinton	TM23791941	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Holland	TM22451765	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Clacton	TM18791525	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Jaywick	TM14851280	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Brightlingsea	TM07631616	2	0	20	0*	2	1	0	0	20	0	20	0	20	0	20	0
West Mersea	TM02271203	2	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0

(* Denotes waiver granted because of geographical conditions)

Thames Region																	
Bathing Water	National Grid Reference	pH		Transparency		Salmonella		Entero-Viruses		Colour		Mineral Oils		Surface Active Substances		Phenols	
		Number of Observations (Number of Failures - F)															
		F		F		F		F		F		F		F		F	
Shoebury East	TQ94508520	1	0	20	0*	20	6	20	8	20	0	20	0	20	0	20	0
Southend Thorpe Bay	TQ91108470	1	0	20	0*	20	3	19	3	20	0	20	0	20	0	20	0
Southend Westcliff Bay	TQ86458525	1	0	20	0*	20	3	20	6	20	0	20	0	20	0	20	0

(* Denotes waiver granted because of geographical conditions)

Section 4
Bathing Waters Survey — 1993 Results (United Kingdom)
Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

Southern Region													
Bathing Water	National Grid Reference	pH	Transparency	Salmonella	Enteroviruses	Colour	Mineral Oils	Surface Active Substances	Phenols				
		Number of Observations (Number of Failures - F)											
		F	F	F	F	F	F	F	F	F	F	F	F
Sheerness	TQ92507500	2	0	21	0*	2	0	2	0	21	0	21	0
Leysdown	TR03407080	2	0	21	0*	2	0	2	1	21	0	21	0
West Beach	TR09806600	2	0	21	0*	2	0	2	0	21	0	21	0
Herne Bay	TR18606860	1	0	21	0*	2	1	2	1	21	0	21	0
Minnis Bay	TR28606970	2	0	21	0*	2	0	2	0	21	0	21	0
St Mildred's Bay	TR32807050	2	0	21	0*	2	0	2	0	21	0	21	0
Margate The Bay	TR34707080	2	0	21	0*	2	0	2	1	21	0	21	0
Margate Fulsam Rock	TR35607150	2	0	21	0*	2	0	2	0	21	0*	21	0
Joss Bay	TR39907020	2	0	21	0*	2	0	2	0	21	0*	21	0
Broadstairs	TR39806770	2	0	21	0*	2	1	2	1	21	0	21	0
Ramsgate	TR37206400	2	0	20	0*	2	0	2	2	20	0	20	0
Sandwich Bay	TR35805900	2	0	20	0*	2	1	2	2	20	0	20	0
Deal Castle	TR37805270	2	0	20	0*	2	0	2	1	20	0	20	0
St Margaret's Bay	TR36804440	2	0	20	0*	2	1	2	1	20	0	20	0
Folkestone	TR23703630	2	0	20	0*	2	1	2	1	20	0	20	0
Sandgate	TR18803480	2	0	20	0*	2	0	2	1	20	0	20	0
Hythe	TR16003400	2	0	20	0*	2	0	2	0	20	0	20	0
Dymchurch	TR11303040	2	0	20	0*	2	1	2	1	20	0	20	0
St Mary's Bay	TR09302770	2	0	20	0*	2	0	2	0	20	0	20	0
Littlestone	TR08402390	2	0	20	0*	2	1	2	0	20	0	20	0
Camber	TQ97301840	2	0	20	0*	2	1	2	0	20	0	20	0
Winchelsea	TQ91201540	2	0	20	0*	2	0	2	1	20	0	20	0
Hastings	TQ81900920	2	0	21	0*	2	0	2	0	21	0	21	0
Bexhill	TQ73700680	2	0	21	0*	2	0	2	0	21	0	21	0
Norman's Bay	TQ68200530	2	0	21	0*	2	0	2	0	21	0	21	0
Pevensey Bay	TQ65700370	2	0	21	0*	2	0	2	0	21	0	21	0
Eastbourne	TV61409820	2	0	21	0*	2	0	2	0	21	0	21	0
Seaford	TV48809820	2	0	21	0*	2	0	2	1	21	0	21	0
Newhaven	TV44909980	2	0	21	0*	2	0	2	1	21	0	21	0
Saldean	TQ38100180	2	0	21	0*	2	0	2	1	21	0*	21	0
Brighton	TQ32300340	2	0	21	0*	2	0	2	0	21	0	21	0
Hove	TQ28800430	2	0	20	0*	2	1	2	1	20	0	20	0
Southwick	TQ24200480	2	0	20	0*	2	0	2	1	20	0	20	0
South Lancing	TQ18300360	2	0	20	0*	2	0	2	1	20	0	20	0
Worthing	TQ13900210	2	0	20	0*	2	0	2	1	20	0	20	0
Littlehampton	TQ04000130	2	0	20	0*	2	0	2	0	20	0	20	0
Middleton-on-sea	SZ98509990	2	0	20	0*	2	0	2	1	20	0	20	0
Bognor Regis	SZ92309850	2	0	20	0*	2	0	2	0	20	0	20	0
Pagham	SZ89209720	2	0	20	0*	2	0	2	0	20	0	20	0
Selsey	SZ86809370	2	0	20	0*	2	0	2	1	20	0	20	0

(* Denotes waiver granted because of geographical conditions)

Section 4
Bathing Waters Survey — 1993 Results (United Kingdom)
Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

Southern Region (contd)																	
Bathing Water	National Grid Reference	pH		Transparency		Salmonella		Entero-Viruses		Colour		Mineral Oils		Surface Active Substances		Phenols	
		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
Bracklesham Bay	SZ80509630	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
West Wittering	SZ76809800	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
West of Eastoke	SZ72909840	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
West Hayling	SZ70509870	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Eastney	SZ67509880	2	0	20	0*	2	1	2	1	20	0	20	0	20	0	20	0
Southsea	SZ65309820	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Stokes Bay	SZ60009790	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Lee-on-Solent	SU56200050	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Hillhead	SU54000220	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Calshot	SU48100120	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Lepe	SZ45609850	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Milford-on-sea	SZ28309150	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Christchurch Bay	SZ23909280	2	0	20	0*	2	0	2	2	20	0	20	0	20	0	20	0
Highcliffe	SZ21609310	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Compton Bay	SZ37708410	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Totland Bay	SZ32208710	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Colwell Bay	SZ32808790	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Gurnard	SZ47709590	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Cowes	SZ48809670	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Ryde	SZ60109270	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Seagrove	SZ63209120	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
St Helens	SZ63708920	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Bembridge	SZ65708810	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Whitecliff Bay	SZ64108620	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Sandown	SZ60108430	2	0	20	0*	2	0	2	2	20	0	20	0	20	0	20	0
Shanklin	SZ58508110	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Ventnor	SZ56207730	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0

(* Denotes waiver granted because of geographical conditions)

Wessex Region - South Coast																	
Bathing Water	National Grid Reference	pH		Transparency		Salmonella		Entero-Viruses		Colour		Mineral Oils		Surface Active Substances		Phenols	
		F	F	F	F	F	F	F	F	F	F	F	F	F	F		
Christchurch																	
Highcliffe Castle	SZ20009290	7	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Christchurch Friar's Cliff	SZ19209252	7	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Christchurch Avon Beach	SZ18889223	7	0	0	0*	2	0	2	1	23	0	23	0	23	0	23	0
Christchurch Mudeford																	
Sandbank East	SZ18259121	7	0	0	0*	2	0	2	1	23	0	23	0	23	0	23	0
Bournemouth																	
Hengistbury East	SZ17009060	7	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0

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Section 4
Bathing Waters Survey — 1993 Results (United Kingdom)
Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

Wessex Region - South Coast (contd)																	
Bathing Water	National Grid Reference	pH	Transparency		Salmonella		Enteroviruses		Colour		Mineral Oils		Surface Active Substances		Phenols		
			F	F	F	F	F	F	F	F	F	F	F	F			
Bournemouth																	
Fisherman's Walk	SZ12809130	7	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Bournemouth																	
Boscombe Pier	SZ11209110	7	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Bournemouth Pier	SZ08859065	7	0	0	0*	2	0	2	0	23	0	23	0	23	0	23	0
Bournemouth																	
Durley Chine	SZ07859030	7	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Paole Shore Rd																	
Sandbanks	SZ05108830	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Paole Harbour Sandbanks	SZ04908850	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Paole Harbour Lake	SY98329040	8	0	0	0*	2	0	2	0	23	0	23	0	23	0	23	0
Paole Harbour																	
Rockley Sands	SY97209080	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Shell Bay North	SZ03708660	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Studland Knoll House	SZ03488353	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Swanage Central	SZ03297910	8	0	0	0*	2	0	2	1	23	0	23	0	23	0	23	0
Kimmeridge Bay	SY90707905	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Lulworth Cove	SY82477995	8	0	0	0*	2	1	2	0	23	0	23	0	23	0	23	0
Durdle Door East	SY80808030	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Durdle Door West	SY80408030	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Ringstead Bay	SY75198132	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Bowleaze Cove	SY70428189	8	0	0	0*	2	0	0	0	20	0	21	0	21	0	21	0
Church Ope Cove	SY69767100	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Weymouth Lodmoor	SY68806710	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Weymouth Central	SY68107940	9	0	0	0*	2	0	2	0	23	0	23	0	23	0	23	0
Portland Harbour																	
Castle Cove	SY67607750	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Portland Harbour																	
Sandsfoot Castle	SY67307720	8	0	0	0*	2	2	2	0	22	0	22	0	22	0	22	0
West Bay (West)	SY45909040	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Eyemouth	SY44689100	8	0	0	0*	2	1	0	0	21	0	21	0	21	0	21	0
Seatown	SY41879165	8	0	0	0*	2	0	0	0	21	0	21	0	21	0	21	0
Charmouth West	SY36309300	8	0	0	0*	2	1	0	0	21	0	21	0	21	0	21	0

(* Denotes waiver granted because of geographical conditions)

Section 4

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

South West Region																	
Bathing Water	National Grid Reference	pH		Transparency		Salmonella		Enteroviruses		Colour		Mineral Oils		Surface Active Substances		Phenols	
		Number of Observations (Number of Failures - F)															
		F		F		F		F		F		F		F		F	
Lyme Regis Church Beach		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyme Regis Cobb	SY33909185	20	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Seaton (Devon)	SY24508985	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Beer	SY23158910	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Sidmouth Town	SY12708720	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Sidmouth Jacobs Ladder	SY11908695	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Ladram Bay	SY09728515	19	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Budleigh Salterton	SY06958190	20	0	20	0*	2	1	0	0	20	0	20	0	20	0	20	0
Sandy Bay	SY03357980	20	0	19	0*	2	0	0	0	20	0	20	0	20	0	20	0
Exmouth	SY00987995	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Dawlish Warren	SX98307875	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Dawlish Town	SX96557680	20	0	20	0*	2	1	2	1	20	0	20	0	20	0	20	0
Dawlish Coryton Cove	SX96117606	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Teignmouth Holcombe	SX95657461	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Teignmouth Town	SX94307285	20	0	20	0*	2	1	0	0	20	0	20	0	20	0	20	0
Shaldon	SX93507230	20	0	20	0*	2	1	0	0	20	0	20	0	20	0	20	0
Ness Cove	SX93857170	20	0	20	0*	2	1	0	0	20	0	20	0	20	0	20	0
Maidencombe	SX92786850	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Watcombe	SX92626730	21	0	21	0*	2	1	0	0	21	0	21	0	21	0	21	0
Oddicombe	SX92656585	22	0	22	0*	2	0	0	0	22	0	22	0	22	0	22	0
Babbacombe	SX93006545	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Redgate	SX93506480	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Meadfoot	SX93056305	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Beacon Cove	SX91956307	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Torre Abbey	SX90956351	20	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Hollicombe	SX89806215	20	0	20	0*	2	1	0	0	20	0	20	0	20	0	20	0
Paignton Preston Sands	SX89646177	21	0	21	0*	2	0	0	0	21	0	21	0	21	0	21	0
Paignton Paignton Sands	SX89496063	21	0	21	0*	2	0	0	0	21	0	21	0	21	0	21	0
Goodrington	SX89355940	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Broadsands	SX89705745	19	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Shoalstone	SX93205662	19	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
St Mary's Bay	SX93205510	20	0	20	0*	2	2	0	0	20	0	20	0	20	0	20	0
Dartmouth Castle and Sugary Cove	SX88655020	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Blackpool Sands	SX85504785	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Slapton Sands Monument	SX82954430	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Slapton Sands Torcross	SX82354195	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Mill Bay	SX74073825	21	0	21	0*	2	1	0	0	21	0	21	0	21	0	21	0
Salcombe North Sands	SX73103820	21	0	21	0*	2	0	0	0	21	0	21	0	21	0	21	0
Salcombe South Sands	SX72853775	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Hope Cove	SX67553975	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0

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Section 4
Bathing Waters Survey — 1993 Results (United Kingdom)
Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

South West Region (contd)																	
Bathing Water	National Grid Reference	pH	Transparency		Salmonella		Entero-Viruses		Colour		Mineral Oils		Surface Active Substances		Phenols		
			F	F	F	F	F	F	F	F	F	F	F	F			
Thurlestane South	SX67654170	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Thurlestane North	SX67404210	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Bantham	SX66234380	21	0	21	0*	2	1	0	0	21	0	21	0	21	0	21	0
Bigbury-on-Sea South	SX65104415	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Bigbury-on-Sea North	SX64954430	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Challaborough	SX64924480	20	0	20	0*	2	1	0	0	20	0	20	0	20	0	20	0
Mothecombe	SX61054734	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Wembury	SX51604850	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Bovisand	SX49305050	21	0	21	0*	2	0	0	0	20	0	20	0	20	0	20	0
Plymouth Hoe East	SX47805370	20	0	20	0*	2	0	2	2	20	0	20	0	20	0	20	0
Plymouth Hoe West	SX47505370	20	0	20	0*	2	0	2	2	20	0	20	0	20	0	19	0
Portwrinkle	SX35905380	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Dowderry	SX31405380	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Seaton (Cornwall)	SX30305430	3	0	16	0*	2	0	2	1	20	0	20	0	20	0	20	0
Millendreath	SX26805410	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
East Looe	SX25705320	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Readymoney	SX11805110	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Polkerris	SX09285210	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Par	SX08305330	3	0	16	0*	2	1	2	1	20	0	20	0	20	0	20	0
Crinnis Golf Links	SX06305220	3	0	16	0*	2	1	0	0	20	0	20	0	20	0	20	0
Crinnis Leisure Centre	SX05605210	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Charlestown	SX04205160	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Duporth	SX03505120	3	0	16	0*	2	1	0	0	20	0	20	0	20	0	20	0
Porthpean	SX03205070	3	0	16	0*	2	1	0	0	20	0	20	0	20	0	20	0
Pentewan	SX01804670	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Polstreath	SX01704540	3	0	16	0*	2	1	0	0	20	0	20	0	20	0	20	0
Port Mellon	SX01604390	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Garran Haven																	
Little Perhaver	SX01304170	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Garran Haven (Vault)	SX01004080	3	0	17	0*	2	0	0	0	20	0	20	0	20	0	20	0
Porthluney	SW97304130	3	0	17	0*	2	1	0	0	20	0	20	0	20	0	20	0
Pendower	SW90503830	3	0	16	0*	2	1	0	0	20	0	20	0	20	0	20	0
Gyllyngvase	SW80903160	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Swanpool	SW80303130	3	0	16	0*	2	0	2	1	20	0	20	0	20	0	20	0
Maen Porth	SW79002960	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Porthallow	SW79702330	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Porthoustock	SW80702170	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Coverack	SW78301840	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Kennack Sands	SW73401650	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Pollurian Cove	SW66801870	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Poldhu Cove	SW66501980	3	0	16	0*	2	1	0	0	20	0	20	0	20	0	20	0

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Section 4
Bathing Waters Survey — 1993 Results (United Kingdom)
Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

South West Region (contd)																	
Bathing Water	National Grid Reference	pH		Transparency		Salmonella		Enteroviruses		Colour		Mineral Oils		Surface Active Substances		Phenols	
		Number of Observations (Number of Failures - F)															
		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
Gunwalloe Cove	SW65402250	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Porthleven East		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Porthleven West	SW63202530	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Praa Sands East	SWS8502760	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Praa Sands West	SWS7702810	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Perran Sands	SW53902930	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Mounts Bay L Holgus	SW51303100	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Mounts Bay Heliport	SW48503110	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Mounts Bay Penzance	SW47502980	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Mounts Bay Wherry Town	SW46702940	3	0	16	0*	2	0	2	0	20	0	20	0	20	0	20	0
Parthurno	SW38702230	3	0	15	0*	2	0	0	0	20	0	20	0	20	0	20	0
Sennen	SW35522645	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Porthmeor	SW51504103	3	0	16	0*	2	1	0	0	20	0	20	0	20	0	20	0
Parth Gwidden	SW52204110	3	0	16	0*	2	1	0	0	20	0	20	0	20	0	20	0
Porthminster	SW52204025	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Carbis Bay Station Beach	SW52803890	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Carbis Bay Parth																	
Kidney Sands	SW54003850	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
The Towans (Hayle)	SW56303950	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
The Towans (Godrevy)	SW58104170	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Portreath	SW65304550	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Porthtowan	SW69154812	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Trevaunance Cove	SW72305170	3	0	16	0*	2	0	2	1	20	0	20	0	20	0	20	0
Perranparth Village End	SW75705480	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Perranparth																	
Penhale Sands	SW76205700	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Holywell Bay	SW76505950	3	0	16	0*	2	1	0	0	19	0	19	0	19	0	19	0
Crantock	SW78406080	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Fistral	SW79606230	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Towan	SW81006205	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Watergate	SW84106490	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Mawgan Parth	SW84806740	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Porthcothan	SW85707202	3	0	16	0*	2	0	2	0	20	0	20	0	20	0	20	0
Treyarnon Bay	SW85707390	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Constantine Bay	SW85807480	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Mother Ivey's Bay	SW86307600	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Harlyn Bay	SW87707550	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Trevone Bay	SW89207610	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Rock	SW92747586	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Daymer Bay	SW92807760	3	0	16	0*	2	0	2	0	20	0	20	0	20	0	20	0
Polzeath	SW93607920	3	0	16	0*	2	0	0	0	20	0	20	0	20	0	20	0
Widemouth Sand	SS19800240	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0

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Section 4

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

South West Region (contd)																	
Bathing Water	National Grid Reference	pH	Transparency		Salmonella		Enteroviruses		Colour		Mineral Oils		Surface Active Substances		Phenols		
		Number of Observations (Number of Failures - F)															
		F	F	F	F	F	F	F	F	F	F	F	F	F	F		
Bude Summerleaze	SS20400660	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Bude Crooklets	SS20300720	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Bude Sandy Mouth	SS20200990	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Hartland Quay	SS22302485	20	0	21	0*	2	0	0	0	21	0	21	0	21	0	21	0
Westward Ho!	SS43252940	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Instow	SS47173044	20	0	20	0*	2	0	2	2	20	0	20	0	20	0	20	0
Saunton Sands	SS44553760	20	0	20	0*	2	2	0	0	20	0	20	0	20	0	20	0
Croyde Bay	SS43473930	21	0	21	0*	2	0	0	0	21	0	21	0	21	0	21	0
Woolacombe Putsborough	SS44754085	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Woolacombe Village	SS45624370	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0
Ilfracombe Tunnels Beach	SS51454780	20	0	21	0*	2	1	0	0	21	0	21	0	21	0	21	0
Ilfracombe Capstone (Wildersmouth)	SS51824790	21	0	21	0*	2	0	2	2	21	0	21	0	21	0	21	0
Ilfracombe Mele	SS53554792	20	0	20	0*	2	0	2	2	20	0	20	0	20	0	20	0
Combe Martin	SS57724732	21	0	21	0*	2	0	2	2	21	0	21	0	21	0	21	0
Lynmouth	SS72504975	20	0	20	0*	2	0	0	0	20	0	20	0	20	0	20	0

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Wessex Region - North Coast																	
Bathing Water	National Grid Reference	pH	Transparency		Salmonella		Enteroviruses		Colour		Mineral Oils		Surface Active Substances		Phenols		
		Number of Observations (Number of Failures - F)															
		F	F	F	F	F	F	F	F	F	F	F	F	F	F		
Porlock Weir	SS86404790	22	0	0	0*	2	0	0	0	22	0*	22	0	22	0	22	0
Minehead Terminus	SS97304650	22	0	0	0*	2	0	0	0	22	0*	22	0	22	0	22	0
Dunster North West	SS99704550	22	0	0	0*	2	0	0	0	22	0*	22	0	22	0	22	0
Blue Anchor West	ST02304350	22	0	0	0*	2	0	0	0	22	0*	22	0	22	0	22	0
Burnham Jetty	ST30204880	22	0	0	0*	2	1	0	0	22	0*	22	0	22	0	22	0
Berrow North of Unity Farm	ST29305450	22	0	0	0*	2	1	0	0	22	0*	22	0	22	0	22	0
Brean	ST29605850	22	0	0	0*	2	0	0	0	22	0*	22	0	22	0	22	0
Weston-s-Mare																	
Uphill Slipway	ST31205880	21	0	0	0*	3	0	2	0	21	0*	21	0	21	0	21	0
Weston-s-Mare Tropicana	ST31606070	21	0	0	0*	3	1	2	0	21	0*	21	0	21	0	21	0
Weston-s-Mare Sand Bay	ST33006350	21	0	0	0*	2	1	2	0	21	0*	21	0	20	0	21	0
Clevedon Swimming Pool	ST39807120	22	0	0	0*	2	2	2	0	22	0*	22	0	22	0	22	0

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Section 4
Bathing Waters Survey — 1993 Results (United Kingdom)
Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

Welsh Region																	
Bathing Water	National Grid Reference	pH		Transparency		Salmonella		Entero-Viruses		Colour		Mineral Oils		Surface Active Substances		Phenols	
		Number of Observations (Number of Failures - F)															
		F		F		F		F		F		F		F		F	
Jacksons Bay Barry	ST12206657	2	0	15	0*	2	1	2	1	20	0	20	0	20	0	20	0
Whitmore Bay Barry	ST11456625	2	0	15	0*	2	0	2	2	20	0	20	0	20	1	20	0
Cold Knap Barry	ST09656640	2	0	15	0*	2	0	0	0	20	0	20	0	20	0	20	0
Southerndown	SS88407290	2	0	12	0*	2	0	0	0	20	0	20	0	20	0	20	0
Trecco Bay Porthcawl	SS83107630	2	0	12	0*	2	0	0	0	20	0	18	0	20	0	20	0
Sandy Bay Porthcawl	SS82407650	2	0	12	0*	2	1	0	0	19	0	20	0	20	0	20	0
Rest Bay Porthcawl	SS80007790	2	0	12	0*	2	1	0	0	20	0	20	0	20	0	20	0
Aberafan	SS73908960	2	0	12	0*	2	0	0	0	20	0	20	0	20	0	20	0
Swansea Bay	SS64409210	2	0	9	0*	2	0	2	1	21	0	20	0	21	0	21	0
Bracelet Bay	SS63008710	2	0	12	0*	2	0	0	0	21	0	21	0	21	0	21	0
Limeslade Bay	SS62508700	2	0	12	0*	2	0	0	0	21	0	21	0	21	0	21	0
Langland Bay	SS60608710	2	0	12	0*	2	0	0	0	21	0	21	0	21	0	20	0
Caswell Bay	SS59108740	2	0	10	0*	2	0	2	1	20	0	20	0	20	0	20	0
Oxwich Bay	SS50708620	2	0	12	0*	2	0	0	0	20	0	20	0	20	0	20	0
Port Eynon Bay	SS47208480	2	0	12	0*	2	0	0	0	20	0	18	0	20	0	20	0
Rhossili	S41409000	2	0	12	0*	2	0	0	0	18	0	19	0	20	0	20	0
Pembrey	SS40009980	2	0	12	0*	2	0	0	0	20	0	20	0	20	0	20	0
Pendine	SN23800740	2	0	17	0*	2	0	0	0	17	0	18	0	18	0	17	0
Amroth	SN16700680	2	0	17	0*	2	1	0	0	20	0	20	0	20	0	20	0
Saundersfoot	SN14100470	2	0	17	0*	2	1	0	0	20	0	20	0	20	0	20	0
Tenby North	SN13450080	2	0	17	0*	2	0	0	0	20	0	20	0	20	0	20	0
Tenby South	SS13259985	2	0	17	0*	2	0	0	0	20	0	20	0	20	0	20	0
Broadhaven	SM86101380	2	0	18	0*	2	0	0	0	20	0	19	0	20	0	20	0
Newgale	SM84602170	2	0	18	0*	2	0	0	0	20	0	20	0	20	0	20	0
Whitesands	SM73002700	2	0	18	0*	2	1	0	0	20	0	20	0	20	0	20	0
Newport	SN05304070	2	0	18	0*	2	0	0	0	20	0	20	0	20	0	20	0
Traeth Gwyn New Quay	SN39805970	2	0	13	0*	2	1	0	0	19	0	20	0	20	0	20	0
Aberystwyth South	SN57908140	2	0	12	0*	2	0	2	1	20	0	20	0	20	0	20	0
Aberystwyth North	SN58308220	2	0	15	0*	2	0	0	0	18	0	20	0	19	0	19	0
Borth	SN60609010	2	0	13	0*	2	0	0	0	19	0	20	0	19	0	18	0
Aberdyfi	SN60729580	2	0	16	0*	2	0	2	2	20	0	20	0	20	0	20	0
Tywyn	SH57670032	2	0	18	0*	2	0	0	0	20	0	20	0	20	0	20	0
Fairbourne	SH60911307	2	0	18	0*	2	0	0	0	20	0	20	0	20	0	20	0
Barmouth	SH60841590	2	0	18	0*	2	0	0	0	20	0	20	0	20	0	20	0
Llandanwg	SH56692818	2	0	18	0*	2	0	0	0	20	0	20	0	20	0	20	0
Harlech	SH56763148	2	0	18	0*	2	0	0	0	20	0	20	0	20	0	20	0
Morfa Bychan	SH54213595	2	0	16	0*	2	0	2	0	20	0	20	0	20	0	20	0
Criccieth	SH50333807	2	0	16	0*	2	0	2	0	20	0	20	0	20	0	20	0
Pwllheli	SH37103407	2	0	18	0*	2	0	0	0	20	0	20	0	20	0	20	0
Abersoch	SH31682772	2	0	18	0*	2	0	0	0	20	0	20	0	20	0	20	0

(* Denotes waiver granted because of geographical conditions)

Section 4

Bathing Waters Survey — 1993 Results (United Kingdom)

Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

Welsh Region (contd)																
Bathing Water	National Grid Reference	pH	Transparency	Salmonella	Enteroviruses	Colour	Mineral Oils	Surface Active Substances	Phenols							
		Number of Observations					(Number of Failures - F)									
		F	F	F	F	F	F	F	F	F	F	F	F	F		
Morfo Dinlle	SH43495669	2	0	18	0*	2	0	0	0	20	0	20	0	20	0	
Rhosneigr	SH32377212	2	0	19	0*	2	0	0	0	21	0	21	0	21	0	
Trearddur Bay	SH25567891	2	0	19	0*	2	0	0	0	21	0	21	0	21	0	
Benllech	SH52688256	2	0	18	0*	2	0	0	0	20	0	20	0	20	0	
Llandudno West Shore	SH76558165	2	0	17	0*	2	0	2	1	22	0	22	0	22	0	
Llandudno North Shore	SH79188227	2	0	18	0*	2	0	0	0	20	0	20	0	20	0	
Colwyn Bay	SH85847917	3	0	16	0*	2	0	0	0	18	0	18	0	18	0	
Kimmel Bay (Sandy Cove)	SH97808060	3	0	15	0*	2	0	2	1	20	0	20	0	20	0	
Rhyl	SJ00208260	3	0	15	0*	2	1	2	2	20	0	20	0	20	0	
Prestatyn	SJ05408390	3	0	17	0*	2	1	0	0	20	0	20	0	20	0	
West Kirby	SJ21008680	2	0	16	0*	2	1	2	0	20	0	20	0	20	0	

Note: West Kirby is in England

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North West Region																
Bathing Water	National Grid Reference	pH	Transparency	Salmonella	Enteroviruses	Colour	Mineral Oils	Surface Active Substances	Phenols							
		Number of Observations					(Number of Failures - F)									
		F	F	F	F	F	F	F	F	F	F	F	F	F		
Meols	SJ23009060	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	
Moreton	SJ25709180	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	
New Brighton	SJ28709370	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	
Farmby	SD27701000	3	0	20	0*	2	0	2	0	20	0	20	0	20	0	
Ainsdale	SD29701290	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	
Southport	SD32201790	3	0	20	0*	2	0	2	0	20	0	20	0	20	0	
St Annes	SD31802830	1	0	20	0*	2	2	2	0	20	0	20	0	20	0	
St Annes North	SD30403050	1	0	20	0*	2	1	2	0	20	0	20	0	20	0	
Blackpool South	SD30403380	1	0	20	0*	2	1	2	1	20	0	20	0	20	0	
Blackpool Central	SD30603560	1	0	20	0*	2	1	2	2	20	0	20	0	20	0	
Blackpool North	SD30503640	1	0	20	0*	2	1	2	1	20	0	20	0	20	0	
Bispham	SD30703970	1	0	20	0*	2	1	2	1	20	0	20	0	20	0	
Cleveleys	SD31204330	1	0	20	0*	2	1	2	0	20	0	20	0	20	0	
Fleetwood	SD33604850	1	0	20	0*	2	2	2	0	20	0	20	0	20	0	
Heysham - Half Moon Bay	SD41306180	3	0	20	0*	2	0	2	2	20	0	20	0	20	0	
Morecambe South	SD42206360	3	0	20	0*	2	0	2	2	20	0	20	0	20	0	
Morecambe North	SD44106500	3	0	20	0*	2	1	2	2	20	0	20	0	20	0	
Bardsea	SD30007400	4	0	20	0*	2	1	2	1	20	0	20	0	20	0	
Aldingham	SD28307090	4	0	20	0*	2	0	2	1	20	0	20	0	20	0	
Newbiggin	SD27306940	4	0	20	0*	2	0	2	0	20	0	20	0	20	0	

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Section 4
Bathing Waters Survey — 1993 Results (United Kingdom)
Compliance with Bathing Water Directive (76/160/EEC): Other Parameters

North West Region (contd)																	
Bathing Water	National Grid Reference	pH		Transparency		Salmonella		Enteroviruses		Colour		Mineral Oils		Surface Active Substances		Phenols	
		Number of Observations				Number of Failures - F											
		F		F		F		F		F		F		F		F	
Walney Biggar Bank	SD17806730	4	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Walney Sandy Gap	SD17506810	4	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Walney West Shore	SD17007000	4	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Roan Head	SD19807580	4	0	20	0*	2	1	2	1	20	0	20	0	20	0	20	0
Askam-in-Furness	SD20907820	4	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Haverigg	SD16007780	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Silecroft	SD12008120	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Seascale	NY03400100	2	0	20	0*	2	0	2	2	20	0	20	0	20	0	20	0
St Bees	NX95901170	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Allonby South	NY06604060	2	0	20	0*	2	0	2	2	20	0	20	0	20	0	20	0
Allonby	NY07804240	2	0	20	0*	2	0	2	0	20	0	20	0	20	0	20	0
Silloth	NY09405280	2	0	20	0*	2	0	2	1	20	0	20	0	20	0	20	0
Skinburness	NY12605650	2	0	20	0*	2	0	2	2	20	0	20	0	20	0	20	0

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