



An Ghníomhaireacht um Chaomhnú Comhshaoil

THE QUALITY OF BATHING WATER IN IRELAND (2001)

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**THE QUALITY OF BATHING WATER
IN IRELAND (2001)**

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The information contained in the report was provided by the local authorities responsible for monitoring the quality of bathing waters. The local authorities are listed in Appendix 1.

The co-operation of the Department of Environment and Local Government, An Taisce and Met Éireann is appreciated.

The photograph on the cover is of Portsalon beach, Co. Donegal and was provided courtesy of the Coastal Research Group, University of Ulster.

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SUMMARY

During the 2001 bathing season, monitoring of water quality at designated bathing sites in Ireland was as usual undertaken in accordance with the EC Directive concerning the quality of bathing waters (76/160/EEC). The purpose of the Directive is to ensure that bathing water quality is maintained and if necessary improved so that it complies with specified standards designed to protect public health and the environment.

The number of designated areas has increased over the years to a total of 131 sites in 2001 (this number includes both sea water and freshwater areas).

Local authorities are responsible for sampling (or arranging the sampling) of waters at the bathing sites in their areas. They are also required to conduct periodic investigations to determine the volume, nature and effect of all possible potential polluting discharges at the bathing areas. The role of the Environmental Protection Agency is to collate the water quality results from each local authority involved and to compile a national report which is sent to the European Commission. A single European wide report is published annually by the Commission.

Sampling of waters must be undertaken every two weeks between mid May and 31 August. The minimum number of samples is therefore seven although this may be reduced to four under certain conditions. Increased monitoring is required where there is a deterioration in the quality of the water. Each sample obtained must be analysed for the following microbiological and physico-chemical parameters:

- total coliforms
- faecal coliforms
- mineral oils
- surface active substances
- phenols
- transparency
- colour
- tarry residues and floating materials

Over the bathing season, water quality at each area must comply with the mandatory standards specified in the Directive for these parameters. In addition guide values have also been specified, which are more stringent than the mandatory values. These guide values can be regarded as quality objectives which all bathing sites should endeavour to achieve. Under Irish legislation additional national standards have also been established for a number of parameters.

The results for the 2001 bathing season are summarised in the following table and figure:

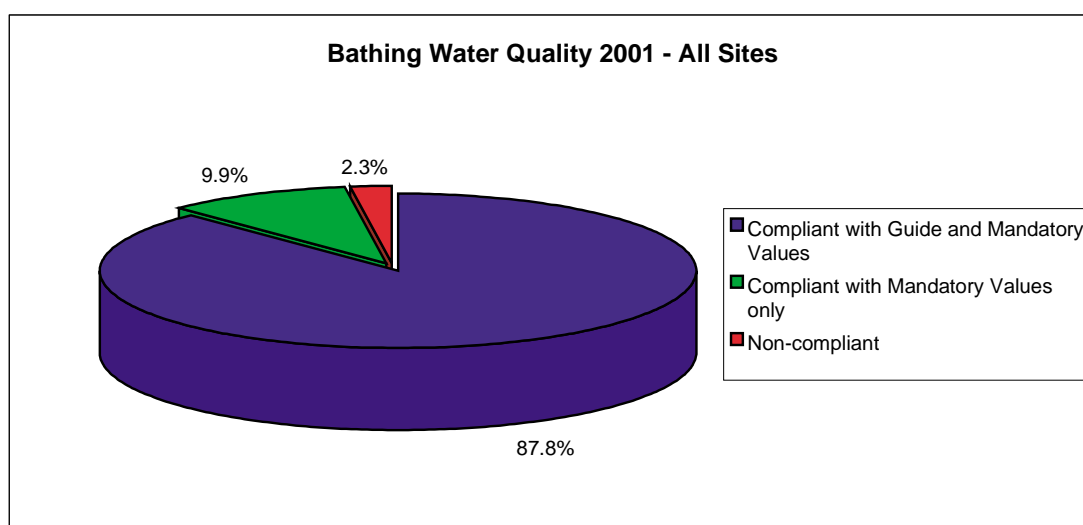
Ireland - 2001	Sea Water	Freshwater	Combined
Number of sampling points	122	9	131
Number of points complying with mandatory values	119	9	128
Number of points complying with guide values	107	8	115

In general the quality of the bathing water in Ireland is very good with most of the bathing areas (97.7 per cent) complying with the minimum mandatory standards. In addition, 87.8 per cent of the bathing areas also complied with the guide values for the parameters total and faecal coliforms, mineral oils, surface active substances and phenols. This is a decline from the 2000 figure of 91.5 per cent.

Local authorities carried out regular monitoring of the numbers of faecal streptococci (an indicator of human or animal faecal pollution) at 130 of the 131 bathing points and found that 83.8 per cent of the sites tested complied with the guide value in the Directive.

An assessment of the water quality with respect to the additional national standards prescribed under Irish legislation indicates that all 131 bathing sites complied with the National Limit Values for faecal coliforms and all but one (99.2%) complied with the National Limit Values for total coliforms. In addition, 91.6 per cent of the sites complied with the National Limit Value for faecal streptococci and while only 89 sites were tested for dissolved oxygen, 87.6 per cent of these complied with the limit value.

Information from Met Éireann indicates that rainfall figures for Ireland during the 2001 bathing season were very variable over the country; relatively dry in June and wetter than normal in July and August. Sunshine totals for the season were near normal in most places; June was dull, July was normal and August was relatively sunny. June temperatures were around average while July and August were a little warmer than normal.



1. INTRODUCTION

In Ireland, monitoring of the water quality at designated bathing areas is undertaken in accordance with the provisions of the European Council Directive concerning the quality of bathing waters (76/160/EEC). The purpose of the Directive is to ensure that the quality of bathing water is maintained and, where necessary, improved so that it complies with specified standards designed to protect public health and the environment. This Directive has been given effect in Ireland through the enactment of the Quality of Bathing Water Regulations (1988) which have subsequently been amended and superseded by Regulations made in 1989, 1992, 1994, 1996, 1998 and 2001.

The Directive and Regulations apply to water in which

- a) bathing is explicitly authorised; or
- b) bathing is not prohibited and is traditionally practised by a large number of bathers.

The second definition (i.e. where bathing is not prohibited and is traditionally practised by a large number of bathers) has been used as the basis for determining the beaches to which the Directive applies.

However, there is no specific guidance in the Directive as to what constitutes “large numbers of bathers”. The Department of Environment and Local Government in an explanatory memorandum to the 1992 Regulations urged local authorities to adopt a liberal interpretation of the term in the interest of ensuring that the objectives of the Directive are attained. In addition, it was suggested that local authorities take account of a range of criteria which would assist in recognising the popularity of particular areas for bathing purposes. Such criteria include:

- a long established bathing tradition;
- an increased popularity of a location following improved treatment of sewage discharges, greater controls on agricultural and industrial discharges;
- major beach amenity and environmental works completed;
- the area is entered under the Blue Flag Scheme;
- facilities are provided for access to the beach;
- facilities such as toilets, parking spaces, life guards, shops and first aid services are available;
- the bathing area is newly created and specially equipped.

The number of designated bathing areas increased to 131 in 2001. 122 are sea water and the remaining nine are freshwater.

Analysis of bathing water in respect of the Directive is separate from, although complementary to, the European Blue Flag Scheme. The Blue Flag Scheme is a voluntary scheme administered in Ireland by An Taisce and at European level by the Foundation for Environmental Education in Europe (FEEE). To receive a blue flag, a bathing site, in addition to maintaining a high standard of water quality, must meet specified objectives with regard to the provision of safety services and facilities, environmental management of the beach area and environmental education. The Environmental Protection Agency has co-operated with An Taisce to check that all water quality results obtained by both organisations for the 2001 bathing season are comparable. The EPA also participates in the National Blue Flag Jury which assists in the initial assessment of the Irish applicants for the Blue Flag Award. A list of the bathing areas awarded a blue flag in 2001 is given in Appendix 2.

The bathing water Directive (76/160/EEC) is more than 25 years old and has, since its adoption, contributed greatly to improvement in water quality in the coastal and inland bathing areas in Europe. However, it is also recognised that the directive has a number of limitations and weaknesses that need to be addressed – particularly in relation to the specified water quality parameters for monitoring and their associated limit values. In the light of advances in science and technology, the European Commission (EC) has commenced a revision of the bathing water Directive. In 2000, the EC published a communication on the development of a new bathing water policy (http://www.europa.eu.int/water/water-bathing/index_en.html). This communication forms the first step of a four part process – communication, consultation, conference, proposal – in the revision of the directive. The communication and subsequent follow up provides an overview of the expected content and implications of the revised directive. In particular it outlines a number of specific areas which will be addressed in the revised directive. These include:

- developing clear unambiguous definitions of bathing water and bathing area to facilitate the identification of bathing sites for designation under the directive;
- the use by Member States of beach profiles which describe, quantify and map all potential sources of pollution or contamination on and in the vicinity of the bathing area; monitoring programmes in Member States can therefore be designed more efficiently and aimed at those bathing areas that have a higher risk of variable bathing water quality;
- the use of World Health Organisation guidelines to aid in the choice of indicators for microbiological contamination of bathing waters and in the setting of associated standards;
- improved information for the public.

2. ROLES AND RESPONSIBILITIES

The local authorities, the Environmental Protection Agency and the Department of Environment and Local Government each have specified roles in the administration of the legislation concerning the quality of bathing waters.

2.1 *Local Authorities*

Sampling and Investigations

Local authorities are required to sample (or arrange for the sampling of) waters at the bathing areas for which they are responsible. These samples must be taken at specified locations, at a required frequency and as far as possible, analysed using specified methodologies. Local authorities are also responsible for conducting periodic investigations of conditions which may affect the quality of bathing waters for the purpose of determining the volume, nature and effect of all potentially polluting discharges at the bathing areas.

Where bathing waters do not comply with the specified standards, local authorities are required to give public notice of this fact and to undertake the necessary measures to ensure compliance with standards. However, deviations of water quality standards caused by floods, other natural disasters or abnormal weather conditions should not be taken into consideration in determining compliance with the standards.

Access to Information

Each local authority involved in sampling of water at the designated bathing areas must establish and maintain a register of sampling results which should be made available for inspection by any person during office hours.

During the bathing season, the results of sampling should be displayed at or near the bathing area or alternative arrangements should be made for their availability to the public at the area concerned. The results displayed should be updated regularly, at least every four weeks and location of the sampling point(s) should be indicated on a map displayed at or near the bathing area.

Reporting of Results

Local Authorities are required to forward monitoring results and reports annually to the EPA at the end of the bathing season.

2.2 *Environmental Protection Agency*

The role of the Environmental Protection Agency is to collate the water quality results from each local authority involved and to compile a national report which is sent to the European Commission. The 2001 national report was sent to the European Commission in January 2002 as required and is incorporated in the present report which includes additional explanatory material for the general reader.

This national overview, together with similar reports from other member states are assembled into one single European-wide document which is published annually by the Commission.

An additional role extended to the Environmental Protection Agency in 2001 is the authorisation of departures from bathing water quality standards under specific circumstances. Prior to 2001, the Minister for the Environment and Local Government had this responsibility. These National Regulations allow the EPA to grant a departure to a local authority where

- deviations from the standards have arisen because the water concerned has undergone natural enrichment from the soil without human intervention; or
- in the case of the parameters pH, colour and transparency, where exceptional weather or geographical conditions have arisen.

The departure is only granted on condition that it does not constitute a public health hazard. The granting of the departure may also be subject to conditions specified by the EPA and may be restricted to a specified time period.

No application for a departure were made to the EPA in relation to the 2001 bathing season.

2.3 *Department of Environment and Local Government*

The role of the Minister for Environment and Local Government includes the preparation of the National Regulations and their updating according as the need arises.

3. MONITORING REQUIREMENTS AND STANDARDS

3.1 *Sampling Requirements*

Sampling of bathing areas is to begin in mid May each year, that is, two weeks in advance of the bathing season, traditionally regarded as commencing on the June bank holiday weekend and should continue until the end of August. Sampling must be undertaken at least every two weeks at each designated point. The minimum number of samples to be taken during the season is therefore seven, although this may be reduced to four if the water quality at the site for the previous two years has been of sufficiently high quality. More frequent sampling should be carried out where:

- (a) the results indicate, or an investigation finds, that a deterioration in the water quality has taken place or
- (b) where there appears to be a discharge of substances likely to lower the quality of the bathing waters.

All samples should be taken at pre-determined points on the beach, where the daily average density of bathers is considered to be at its highest. The water samples should be taken at a depth of approximately 30 cm below the surface, except for samples taken for presence of mineral oils analysis, which should be taken at the surface.

3.2 *Parameters For Assessment*

The samples, once obtained, must be analysed for the following eight microbiological and physico-chemical parameters

- Total coliforms
- Faecal coliforms
- Mineral oils
- Surface active substances
- Phenols
- Transparency
- Colour
- Tarry residues and floating material (such as wood, plastic, waste, bottles and other such substances).

The bacteriological parameters total coliforms and faecal coliforms are indicator organisms, the presence of which may indicate the possible occurrence of pathogens (infectious hazardous micro-organisms).

In addition to the eight parameters listed above, further parameters may also be assessed if there are grounds for believing or an investigation shows that the water quality has deteriorated in respect of the particular parameter(s). These additional parameters are:

- Faecal streptococci
- *Salmonella*
- Enteroviruses
- pH
- Dissolved oxygen
- Pesticides (parathion, HCH, dieldrin)
- Heavy metals such as arsenic, cadmium, chrome VI, lead, mercury
- Nitrates
- Phosphates
- Ammonia
- Nitrogen

Assessment of ammonia and nitrogen is only required where there is a tendency towards eutrophication of the bathing water (i.e. over-enrichment of the water by nutrients).

Bathing areas sampled in Ireland are monitored for faecal streptococci on a regular basis as this parameter is required for assessment under the Blue Flag Scheme.

3.3 Water Quality Standards

During the bathing season, the water quality at each designated point must be assessed in accordance with specified standards. Three types of standards have been established under European and national legislation:

- | | |
|-------------------------------|--|
| Mandatory Values: | These are values which must be observed if the bathing area is to be deemed compliant. |
| Guide Values: | Guide values are more stringent than the mandatory values and can be regarded as quality objectives which all bathing sites should endeavour to achieve. |
| National Limit Values: | National limit values are additional standards set by Ireland for a number of parameters (dissolved oxygen, total coliforms, faecal coliforms, faecal streptococci). |

The list of water quality parameters along with the guide, mandatory and national limit values is given in Appendix 3.

4. RESULTS FOR THE 2001 BATHING SEASON

The results for the 2001 bathing season were assessed on the basis of the mandatory values laid down in the Directive, except for faecal streptococci, dissolved oxygen and floating materials for which the guide values were used (the Directive lays down no mandatory values for these parameters). In addition the results were assessed against National Limit Values as prescribed under the National Regulations.

The European Commission approach since 1996 is such that the compliance status of a bathing area is determined by the assessment of the results reported for five parameters (total coliforms, faecal coliforms, surface active substances, mineral oils and phenols). This differs from earlier years where the compliance rate was based on the results for the parameters total and faecal coliforms only. Therefore, comparing results since 1996 with those of previous years is not necessarily comparing like with like. A summary of the compliance status of the designated bathing areas is given in Appendix 1 and is illustrated in the maps in Appendix 5.

4.1 Sea Water Bathing Areas

The number of designated sea water bathing areas increased to 122 in 2001.

Table 1 below provides a summary of the national results reported for the sea water bathing areas for 2001 along with comparative results from 1998-2001

In total, 119 of the 122 designated sites (97.5%) complied with the mandatory values laid down in the Directive for the five parameters: total coliforms, faecal coliforms, mineral oils, surface active substances and phenols. This is a slight deterioration on the compliance rate in 2000 (98.3%).

The beaches that failed in 2001 were Merrion Strand and Sandymount Strand in Dublin and Clifden, Co. Galway. All three failed the mandatory value for both total and faecal coliforms. Clifden also failed the mandatory value for total coliforms and faecal coliforms in 2000. This bathing site was also designated non-compliant for the 1997 bathing season (faecal coliforms) and the 1992 bathing season (faecal coliforms).

Merrion Strand and Sandymount Strand both complied with mandatory values for total and faecal coliforms in the 1998, 1999 and 2000 bathing seasons.

In relation to the guide values specified in the Directive for these parameters, 87.7 per cent of the seawater areas complied. This represents a decline from the 2000 figure which was 91.7%.

Tests for *Salmonella* were carried out in 23 (19 per cent) of the sea water bathing areas and were positive at one of the sites tested. This site was Silver Strand, Galway.

The local authorities did not consider it necessary to monitor for enteroviruses at most of the sites because of the general high quality of the bathing water throughout the country. In Dublin city and county, five sites were sampled and all sites complied with the requirement that enteroviruses should be absent.

Local authorities also carried out systematic tests on the numbers of faecal streptococci at all 122 bathing points and found that 103 (84.4 per cent) complied with the guide value as specified in the Directive.

The following bathing areas did not reach the guide for faecal streptococci:

1. Redbarn, Cork County Council
2. Coolmaine, Cork County Council
3. Seapoint, Dun Laoighre
4. Killiney, Dun Laoighre
5. Dollymount, Dublin Corporation
6. Sandymount, Dublin Corporation
7. Merrion, Dublin Corporation
8. Balbriggan, Dublin Fingal
9. Donabate, Dublin Fingal
10. Loughshinny, Dublin Fingal
11. Skerries, Dublin Fingal
12. Sutton, Dublin Fingal
13. Portmarnock, Dublin Fingal
14. Rush, Dublin Fingal
15. Salthill, Galway Corporation
16. Clifden, Galway County Council
17. An Cnoc, Inverin, Galway County Council
18. Inny, Waterville, Kerry County Council
19. Bray, Wicklow County Council

An assessment of the water quality with regard to the additional national standards, prescribed under Irish legislation, indicates that 121 of 122 seawater bathing areas (99.1%) complied with the national standards for total coliforms and all 122 sites complied with these standards for faecal coliforms. 72 of the 83 bathing areas tested (86.7%), complied with the specified values for dissolved oxygen and 91 per cent of the bathing points tested complied with the national limit value for faecal streptococci.

Table 1: Summary of the Results Reported for Sea Water Bathing Areas (1998-2001)

Sea Water	1998		1999		2000		2001	
Parameters	T	NC	T	NC	T	NC	T	NC
Microbiological								
Total coliforms	121	0	121	2	121	2	122	3
Faecal coliforms	121	1	121	2	121	2	122	3
Faecal streptococci ¹	121	12	121	17	120	27	122	19
<i>Salmonella</i>	21	3	23	2	23	4	23	1
Enteroviruses	8	0	6	1	4	0	5	0
Physicochemical								
pH	97	1	96	0	88	0	97	0
Colour	84	11	88	4	103	1	103	2
Mineral oils	120	0	121	0	121	0	122	0
Surface-active substances	120	0	121	0	121	0	122	0
Phenols	120	0	121	0	121	0	122	0
Transparency	104	16	106	16	121	9	122	16
Dissolved oxygen ¹	66	4	81	1	81	4	83	7
Floating materials ¹	119	3	119	1	120	0	121	0

¹ Guide value only.

[**Note:** T = Total number of points sampled at the required frequency;
NC = number of points not complying with the Directive.]

4.2 Freshwater Bathing Areas

The number of inland bathing areas designated under the Directive remained at nine in 2001. A summary of the results reported for 2001 and other years is given in Table 2.

Table 2: Summary of the Results Reported for Freshwater Bathing Areas (1998-2001)

Freshwater	1998		1999		2000		2001	
Parameters	T	NC	T	NC	T	NC	T	NC
Microbiological								
Total coliforms	9	0	9	0	9	0	9	0
Faecal coliforms	9	0	9	0	9	0	9	0
Faecal streptococci ¹	9	1	9	0	8	0	8	2
<i>Salmonella</i>	3	0	3	0	3	0	3	0
Enteroviruses	0	-	0	-	0	-	0	-
Physicochemical								
pH	9	0	6	0	9	0	9	0
Colour	9	0	9	0	9	0	9	0
Mineral oils	9	0	9	0	9	0	9	0
Surface-active substances	9	0	9	0	9	0	9	0
Phenols	9	0	9	0	9	0	9	0
Transparency	8	1	9	2	9	2	9	2
Dissolved oxygen ¹	3	0	3	0	6	1	6	1
Floating materials ¹	8	0	9	1	9	0	9	1

¹ Guide value only.

[**Note:** T = Total number of points sampled at the required frequency;
NC = number of points not complying with the Directive.]

During the 2001 bathing season, all the inland water bathing areas (100 per cent) complied with the mandatory values laid down for the five parameters - total coliforms, faecal coliforms, mineral oils, surface active substances and phenols. Eight of the nine areas (88.9 per cent) also complied with the more stringent guide values for these parameters.

Tests for *Salmonella* were carried out in 3 of the 9 bathing areas and it was not found at any of the sites tested. In addition, systematic tests on the number of faecal streptococci were carried out in 8 of the 9 bathing areas and it was found that 6 sites complied with the guide value specified in the Directive. Those that exceeded the guide value were Portumna, County Galway and Lilliput, Lough Ennel, County Westmeath.

An assessment of the water quality against the prescribed national standards, indicates that all of the freshwater bathing areas complied with the specified values for total coliforms, faecal coliforms and faecal streptococci. One of the six sites (Loughrea, Co. Galway) sampled for dissolved oxygen failed the national standards for dissolved oxygen.

5. DISCUSSION

A summary of the sea water and freshwater bathing water quality results for 2001 is provided in Table 3 below and in the succeeding figures. A comparison of the 2001 results with those of other years is given in Appendix 4. It should be stressed that since 1996, the compliance of a bathing site is based on the assessment of the parameters total coliforms, faecal coliforms, surface active substances, mineral oils and phenols. In earlier years compliance was based solely on the assessment of total and faecal coliforms.

Table 3 - Summary Results for the 2001 Bathing Season

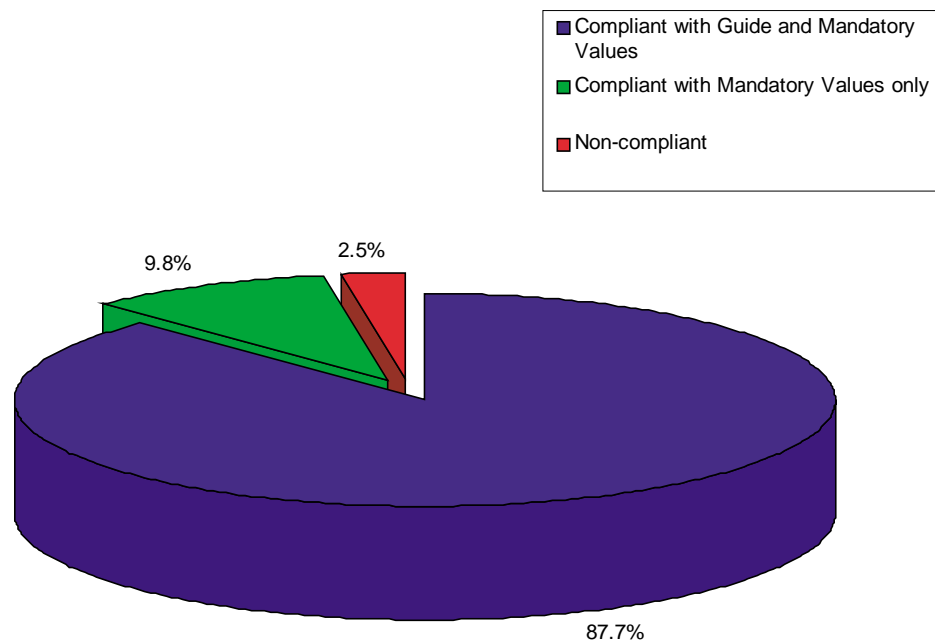
Ireland - 2001	Sea Water	Freshwater
Number of sampling points	122	9
Number of points complying with mandatory values	119	9
Number of points complying with guide values	107	8

The quality of bathing water in Ireland is generally very good, with most of the 131 bathing areas (97.7 per cent) complying with the minimum mandatory standards laid down in the Directive for the parameters total coliforms, faecal coliforms, mineral oils, surface active substances and phenols. This level of compliance represents a slight decline from 2000 levels. In addition, 87.8 per cent of the bathing areas also complied with the guide values for these parameters. This also represents a decline when compared with the 2000 figure of 91.5 per cent and the 1999 figure of 89.2 per cent.

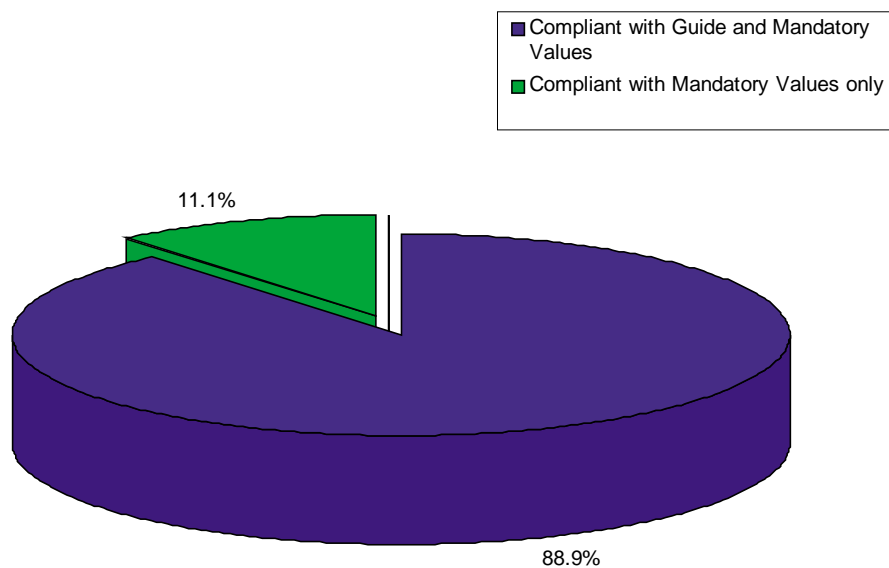
The three beaches that failed to comply with the mandatory standards in the 2001 season were Clifden, Co. Galway and Merrion Strand and Sandymount Strand in Dublin. In the 2000 season, Clifden also failed while Merrion Strand and Sandymount Strand complied with mandatory values.

An assessment of the water quality with respect to the additional national standards prescribed under Irish legislation indicates that 130 of the 131 bathing areas (99.2 per cent) complied with the prescribed national standards for total coliforms. 87.6 per cent of the bathing areas sampled complied with the specified values for dissolved oxygen (89 sites were tested) and 91.5 per cent of the bathing points complied with the national limit value for faecal streptococci.

Bathing Water Quality 2001 - Seawater Sites



Bathing Water Quality 2001 - Freshwater Sites



APPENDIX 1 COMPLIANCE STATUS OF BATHING AREAS FOR THE 2001 BATHING SEASON

<i>Responsible Local Authority</i>	<i>Bathing Area</i>	<i>Compliance With:</i>		
		Mandatory	Guide	NLV ¹
Clare County Council	Ballyallia	✓	✓	✓
	Ballycuggeran	✓	✓	✓
	Bishopsquarter	✓	✓	✓
	Cappagh Pier, Kilrush	✓	✓	✓
	Fanore	✓	✓	✓
	Kilkee	✓	✓	✓
	Lahinch	✓	✓	✓
	Mountshannon	✓	✓	✓
	Spanish Point	✓	✓	✓
	White Strand, Doonbeg	✓	✓	✓
	White Strand, Miltown Malbay	✓	✓	✓
Cork County Council	Barley Cove	✓	✓	✓
	Claycastle	✓	✓	✓
	Coolmaine	✓	✓	✓
	Fountainstown	✓	✓	✓
	Garretstown	✓	✓	✓
	Garrylucas, White Strand	✓	✓	✓
	Garryvoe	✓	✓	✓
	Inchydoney	✓	✓	✓
	Owenahincha	✓	✓	✓
	Redbarn	✓	✗	✓
	Tragumna	✓	✓	✓
	Warren	✓	✓	✓
	Youghal, Main Beach	✓	✓	✓

¹ National Limit Value as specified in SI 155 of 1992.

<i>Responsible Local Authority</i>	<i>Bathing Area</i>	<i>Compliance With:</i>		
		Mandatory	Guide	NLV
Donegal County Council	Ballyhernan	✓	✓	✓
	Bundoran	✓	✓	✓
	Carrickfinn	✓	✓	✓
	Culdaff	✓	✓	✓
	Downings	✓	✓	✓
	Drumatinny	✓	✓	✓
	Fintra	✓	✓	✓
	Killahoey	✓	✓	✓
	Lady's Bay	✓	✗	✓
	Lisfannon	✓	✓	✓
	Marble Hill	✓	✓	✓
	Murvagh	✓	✓	✓
	Naran, Portnoo	✓	✓	✓
	Port Arthur	✓	✓	✓
	Portnablagh	✓	✓	✓
	Portsalon	✓	✓	✓
	Rathmullan	✓	✓	✓
	Rossnowlagh	✓	✓	✓
	Shroove	✓	✓	✓
Dublin Corporation	Dollymount Strand	✓	✗	✗
	Merrion Strand	✗	✗	✗
	Sandymount Strand	✗	✗	✗
Dun Laoghaire-Rathdown County Council	Killiney	✓	✓	✓
	Seapoint	✓	✗	✓

<i>Responsible Local Authority</i>	<i>Bathing Area</i>	<i>Compliance With:</i>		
		Mandatory	Guide	NLV
Fingal County Council	Balbriggan	✓	✗	✗
	Donabate	✓	✓	✗
	Loughshinny	✓	✗	✗
	Malahide	✓	✗	✗
	Portmarnock	✓	✓	✓
	Portrane	✓	✓	✓
	Rush, South Beach	✓	✓	✗
	Skerries	✓	✓	✗
	Sutton, Burrow Beach	✓	✓	✗
Galway County Council	An Cnoc, Inverin	✓	✓	✗
	Bathing Place at Loughrea Lake	✓	✓	✗
	Bathing Place at Portumna	✓	✓	✓
	Beach at Spiddal Pier	✓	✓	✓
	Cill Muirbhte, Inis Mor	✓	✓	✓
	Clifden	✗	✗	✗
	Gortin, Cloch Na Ron	✓	✓	✓
	Na Forbacha	✓	✓	✗
	Spiddal, Main Beach	✓	✓	✓
	Tra An Doilin, Ceathru Rua	✓	✓	✓
	Tra Chaladh Bhfuinnse	✓	✓	✓
	Traught, Kinvara	✓	✓	✓
Galway Corporation	Salthill	✓	✗	✓
	Silver Strand	✓	✓	✓

<i>Responsible Local Authority</i>	<i>Bathing Area</i>	<i>Compliance With:</i>		
		Mandatory	Guide	NLV
Kerry County Council	Ballinskelligs	✓	✓	✓
	Ballybunion North	✓	✓	✓
	Ballybunion South	✓	✓	✓
	Ballyheigue	✓	✓	✓
	Banna Strand	✓	✓	✓
	Castlegregory	✓	✓	✓
	Derrynane	✓	✓	✓
	Fenit	✓	✓	✓
	Inch	✓	✓	✓
	Inny, Waterville	✓	X	✓
	Kells	✓	✓	✓
	Maharabeg	✓	✓	✓
	Rossbeigh, White Strand	✓	✓	✓
	Ventry	✓	✓	✓
	White Strand, Caherciveen	✓	✓	✓
Leitrim County Council	Keeldra	✓	✓	✓
Louth County Council	Clogherhead	✓	✓	✓
	Port, Lurganboy	✓	✓	✓
	Seapoint	✓	✓	✓
	Shelling Hill/, Templetown	✓	✓	✓

<i>Responsible Local Authority</i>	<i>Bathing Area</i>	<i>Compliance With:</i>		
		Mandatory	Guide	NLV
Mayo County Council	Bertra	✓	✓	✓
	Carrawmore	✓	✓	✓
	Doogort	✓	✓	✓
	Dooega, Achill	✓	✓	✓
	Elly Bay, Belmullet	✓	✓	✓
	Golden Strand, Achill	✓	✓	✓
	Keel, Achill	✓	✓	✓
	Keem, Achill	✓	✓	✓
	Killala, Ross Strand	✓	✓	✓
	Louisburgh, Old Head Beach	✓	✓	✓
	Louisburgh, Silver Strand	✓	✓	✓
	Mullaghroe	✓	✓	✓
	Mulranny	✓	✓	✓
	Rinroe, Carratigue	✓	✓	✓
	The Harbour , Clare Island	✓	✓	✓
Meath County Council	Laytown/Bettystown	✓	✓	X
Sligo County Council	Enniscrone	✓	✓	X
	Mullaghmore	✓	✓	✓
	Rosses Point	✓	✓	X
Waterford County Council	Ardmore	✓	✓	✓
	Bonmahon	✓	✓	✓
	Clonea, East	✓	✓	✓
	Dunmore East, Counsellors Strand	✓	X	✓
	Dunmore East, Main Strand	✓	✓	✓
	Tramore, Main Strand	✓	X	✓
Westmeath County Council	Lilliput, Lough Ennel	✓	X	✓
	Portnashangan, Lough Owel	✓	✓	✓
	The Cut, Lough Lene	✓	✓	✓

<i>Responsible Local Authority</i>	<i>Bathing Area</i>	<i>Compliance With:</i>		
		Mandatory	Guide	NLV
Wexford County Council	Ballymoney	✓	✓	✓
	Courtown, North Beach	✓	✓	✓
	Curracloe	✓	✓	✓
	Duncannon	✓	✓	✓
	Morriscastle	✓	✓	✓
	Rosslare Strand	✓	✓	✓
Wicklow County Council	Bray Beach	✓	✗	✗
	Brittas Bay North	✓	✓	✓
	Brittas Bay South	✓	✓	✓
	Clogga Beach	✓	✓	✓
	Greystones	✓	✓	✓
	Silver Strand	✓	✓	✓

APPENDIX 2 BLUE FLAG BEACHES (2001)

Note: Blue Flags are awarded based on the previous years assessment.

County	Blue Flag Beach	County	Blue Flag Beach
Clare	Ballycuggeran	Kerry	Ballinskelligs
	Cappagh Pier, Kilrush		Ballybunion North
	Fanore		Ballybunion South
	Kilkee		Ballyheigue
	Lahinch		Banna Strand
	Mountshannon		Derrynane
	Spanish Point		Fenit
	White Strand, Doonbeg		Inch
	White Strand, Miltown Malbay		Kells
			Maharabeg
Cork	Barleycove		Rossbeigh
	Claycastle		Ventry
	Garrylucas		White Strand, Caherciveen
	Garryvoe	Mayo	Bertra
	Inchydoney		Carrawmore
	Owenahincha		Doogort
	Tragumna		Dooega, Achill
	Youghal, Main Beach		Elly Bay, Belmullet
	Warren		Golden Strand, Achill
			Keel, Achill
Donegal	Bundoran		Killala, Ross Strand
	Carrickfinn		Louisburgh, Old Head
	Culdaff		Mullaghroe
	Fintra		Mulranny
	Killahoey	Sligo	Enniscrone
	Lisfannon		Rosses Point
	Marble Hill	Waterford	Bonmahon
	Murvagh		Clonea, East
	Naran, Portnoo		Dunmore East, Counsellor's Strand
	Portsalon	Westmeath	The Cut, Lough Lene
	Rossnowlagh		
	Stroove	Wexford	Courtown
Dublin	Portrane		Curraclloe
	Seapoint		Duncannon
Galway	An Tra Mor, Inverin		Rosslare
	Bathing Place at Loughrea Lake	Wicklow	Brittas Bay North
	Cill Muirbhtthe, Inis Mor		Brittas Bay South
	Spiddal, Main Beach		Greystones
	Tra An Doilin, Ceathru Rua		
	Traught, Kinvara		



APPENDIX 3 QUALITY REQUIREMENTS FOR BATHING WATER

No	Parameters	Directive 76/160/EEC		National Limit Values (SI 155 of 1992)
		G (Guide)	I (Mandatory)	
Microbiological				
1	Total coliforms (no/100ml)	≤ 500	≤ 10,000	see notes
2	Faecal coliforms (no/100ml)	≤ 100	≤ 2,000	see notes
3	Faecal streptococci (no/100ml) *	≤ 100	-	≤ 300
4	Salmonella (no/1 litre) *	-	0	0
5	Enteroviruses (PFU/10 litres) *	-	0	0
Physicochemical				
6	pH *	-	6 to 9	≥ 6 and ≤ 9
7	colour	-	No abnormal change in colour	No abnormal change in colour
8	Mineral oils (mg/litre)	≤ 0.3	No film visible on the water surface and no odour	No film visible on the water surface and no odour
9	Surface active substances (mg/litre)	≤ 0.3	No lasting foam	No lasting foam
10	Phenol (mg/litre C ₄ H ₃ OH)	≤ 0.005	≤ 0.05 and no specific odour	≤ 0.05 and no specific odour
11	Transparency (m)	≥ 2	≥ 1	≥ 1
12	Dissolved oxygen * (per cent saturation O ₂)	80 to 120	-	≥ 70 and ≤ 120
13	Tarry residues and floating material	Absence	-	No offensive presence
14	Ammonia (mg/litre NH ₄)**	-	-	-
15	Nitrogen Kjeldahl (mg/litre N)**	-	-	-
Other Substances				
16	Pesticides (mg/litre) *	-	-	-
17	Heavy metals (mg/litre Cd, Cr VI, Pb, Hg) *	-	-	-
18	Cyanides (mg/litre Cn) *	-	-	-
19	Nitrates and phosphates (mg/litre NO ₃ , PO ₄) *	-	-	-

* to be sampled where an investigation shows or where there are other grounds for believing that water quality has deteriorated in respect of this parameter.

** to be sampled where there is a tendency towards eutrophication of bathing water.

Note:

1. In addition, the following levels of compliance must be achieved with the values for individual parameters:

Guide Values (G):

Parameters Nos. 1 and 2	≥ 80 per cent of samples
Parameters Nos. 3 and 12	≥ 90 per cent of samples
Parameters Nos. 8, 9, 10, 11, and 13	≥ 90 per cent of samples
<i>(In addition it is a requirement that results in respect of individual samples for these five parameters which breach the Guide Value do not exceed that value by more than 50%).</i>	

Mandatory Values (I):

Parameters Nos. 1, 2, 4, 5, and 6	≥ 95 per cent of samples
Parameters Nos. 7, 8, 9, 10, and 11	≥ 95 per cent of samples
<i>(In addition it is a requirement that results in respect of individual samples for these five parameters which breach the Mandatory Value do not exceed that value by more than 50 %.)</i>	

National Limit Values (NLV):

Parameter No. 1	≥ 80 per cent of samples must be ≤ 5,000/100ml; and ≥ 95 per cent of samples must be ≤ 10,000/100ml
Parameter No. 2	≥ 80 per cent of samples must be ≤ 1,000/100ml; and ≥ 95 per cent of samples must be ≤ 2,000/100ml
Parameters Nos. 3, 4, 5, 6, and 12	≥ 95 per cent of samples
Parameters Nos. 7, 8, 9, 10, 11, and 13	≥ 95 per cent of samples
<i>(In addition it is a requirement that results in respect of individual samples for these six parameters which breach the National Limit Value do not exceed that value by more than 50%).</i>	

APPENDIX 4 COMPLIANCE RATES FOR BATHING AREAS (1991-2001)

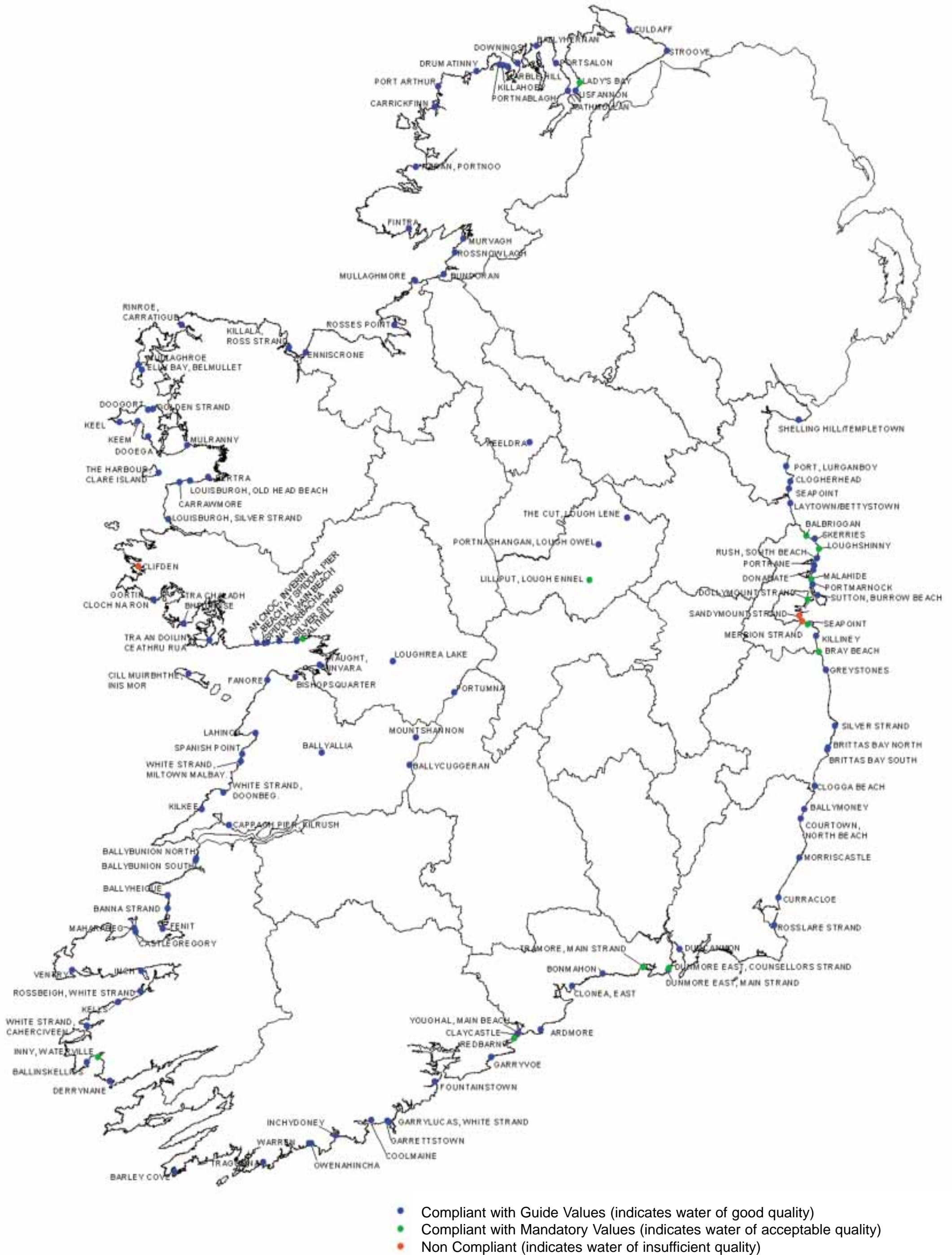
Ireland	Total	C(I) %	C(G) %	NS %
Sea Water				
1991	65	96.9	83.1	1.5
1992	90	94.4	86.7	0.0
1993	90	95.6	75.6	0.0
1994	108	100.0	89.8	0.0
1995	108	98.1	87.9	0.0
1996	115	95.6	89.5	0.0
1997	115	96.5	83.5	0.0
1998	121	98.4	80.2	0.8
1999	121	98.3	89.3	0.0
2000	121	98.3	91.7	0.0
2001	122	97.5	87.7	0.0
Freshwater				
1991	-	-	-	-
1992	5	100.0	80.0	0.0
1993	5	100.0	100.0	0.0
1994	9	100.0	88.9	0.0
1995	9	100.0	88.9	0.0
1996	9	100.0	88.9	0.0
1997	9	100.0	88.9	0.0
1998	9	100.0	88.9	0.0
1999	9	100.0	88.9	0.0
2000	9	100.0	88.9	0.0
2001	9	100.0	88.9	0.0
Note:				
Total: total number of sampling points;				
C(I) %: percentage of points, with sufficient sampling, complying with the mandatory (I) values;				
C(G) %: percentage of points, with sufficient sampling, complying with the guide (G) values;				
NS %: percentage of points not sampled or insufficiently sampled.				



APPENDIX 5 MAP SHOWING BATHING AREAS IN
IRELAND AND COMPLIANCE IN 2001



Irish Bathing Areas and Quality of Water in 2001



APPENDIX 6 WEATHER INFORMATION FROM MET
EIREANN FOR JUNE, JULY AND AUGUST 2001.



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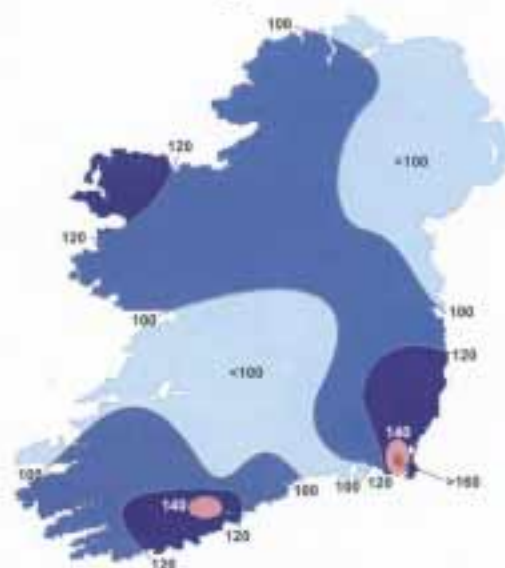
SUMMER SUMMARY

*The Weather of June, July and August 2001***Warm but generally dull;
wet in south and southeast**

Rainfall for the summer season was very variable over the country, while it was below normal over much of Ulster and north Munster, it was much higher than normal in parts of the south and southeast (see chart below). June was relatively dry but both July and August were wetter than normal at most stations, especially in the south. Although Cork Airport received almost 50% more than normal rainfall for the season, it was not as wet there as the summer of 1997; 120mm of its total of 330mm this season fell on just two days, July 17th and August 14th. The number of raindays during the season (days with 0.2mm or more rainfall) varied between 45 at Rosslare and 70 at Belmullet, above the normal summer range of 57 to 57 wetdays.

Mean temperatures for the season were between 13.5°C and 15.0°C generally, a little higher than normal everywhere. June temperatures were around average, while both July and August were a little warmer than normal. The season began with some very cool weather, with many stations measuring their lowest summer air and ground temperatures for between 10 and 15 years during the first ten days of June. The highest temperatures of the season were measured during July, particularly during the final week of that month. Sunshine totals for the season were near normal in most places; June was dull except in the south and southwest, July totals were around

normal while August was relatively sunny. Unusually for summer, the highest daily values at many stations were measured during the last week of August, especially between the 26th and 28th. Mean wind speeds for the season of between 6 and 13 knots (7 and 15m.p.h.) were close to normal at most stations. Malin Head measured the highest gust of the season, 57 knots (66m.p.h.), on August 21st. Rosslare's gust of 54 knots (62m.p.h.) on July 18th was the highest summer gust there since 1986.

Summer Percentage of Normal Rainfall

County/ Station	RAINFALL (mm)			TEMPERATURE (°C)			SUNSHINE (HOURS)			NO. OF DAYS WITH:					
	Total	Days	Max in a day (date)	Mean	diff from average	Extremes Highest Lowest	Daily mean	% of normal	max in a day (date)	Rain	Snow	Ice/fog	Thundr	Fog	Clear part
CO. CLARE	189.8	59	17.4 18 Aug	15.7	+0.3	24.3 8.4	5.23	110	13.1 27 Aug	11	0	0	0	1	4
SHANON AIRPORT	189.8	59	17.4 18 Aug	15.7	+0.3	24.3 8.4	5.23	110	13.1 27 Aug	11	0	0	0	1	4
CO. COBB	336.1	148	45.3 17 Jul	14.7	+0.3	23.8 8.2	6.38	114	15.3 1 Jul	11	0	0	1	1	24
CORK AIRPORT	336.1	148	45.3 17 Jul	14.7	+0.3	23.8 8.2	6.38	114	15.3 1 Jul	11	0	0	1	1	24
CO. DONEGAL	222.8	87	27.4 18 Jul	13.5	+0.3	21.3 8.4	4.75	108	16.2 18 Jul	40	0	0	1	2	19
MALIN HEAD	222.8	87	27.4 18 Jul	13.5	+0.3	21.3 8.4	4.75	108	16.2 18 Jul	40	0	0	1	2	19
CO. DUBLIN	149.5	n/a	20.3 3 Aug	14.8	+0.4	24.3 8.2	5.14	94	12.9 28 Aug	12	0	0	1	2	9
DUBLIN AIRPORT	149.5	n/a	20.3 3 Aug	14.8	+0.4	24.3 8.2	5.14	94	12.9 28 Aug	12	0	0	1	2	9
CASIMIR SCAPONE	137.6	117	24.3 17 Jul	14.7	+0.3	24.3 8.2	4.86	95	12.9 28 Aug	13	0	0	1	3	4
CO. KERRY	243.5	151	33.8 21 Aug	14.8	+0.2	21.2 8.4	5.44	107	14.8 5 Jul	44	0	0	1	3	9
VALENTIA OBSERVATORY	243.5	151	33.8 21 Aug	14.8	+0.2	21.2 8.4	5.44	107	14.8 5 Jul	44	0	0	1	3	9
CO. KILKENNY	184.9	126	24.9 14 Aug	13.5	+0.4	23.8 8.2	5.10	105	13.2 24 Aug	58	n/a	0	n/a	n/a	n/a
ST. LOUIS	184.9	126	24.9 14 Aug	13.5	+0.4	23.8 8.2	5.10	105	13.2 24 Aug	58	n/a	0	n/a	n/a	n/a
CO. MAYO	166.5	104	25.8 21 Aug	14.3	+0.4	23.7 8.2	5.00	105	13.2 24 Aug	70	0	0	1	0	9
BELMULLET	166.5	104	25.8 21 Aug	14.3	+0.4	23.7 8.2	5.00	105	13.2 24 Aug	70	0	0	1	0	9
CO. MONAGHAN	218.6	n/a	18.3 10 Jul	13.3	+0.4	22.1 7.1	4.31	n/a	16.4 18 Jul	49	0	0	0	0	42
CONDAGH AIRPORT	218.6	n/a	18.3 10 Jul	13.3	+0.4	22.1 7.1	4.31	n/a	16.4 18 Jul	49	0	0	0	0	42
CO. MONAGHAN	218.6	n/a	18.3 10 Jul	13.3	+0.4	22.1 7.1	4.31	n/a	16.4 18 Jul	49	0	0	0	0	42
CLONES	209.4	86	25.8 8 Aug	14.4	+0.4	23.4 8.2	4.25	94	14.2 18 Jul	49	n/a	0	n/a	n/a	n/a
CO. OFFALY	209.4	86	25.8 8 Aug	14.4	+0.4	23.4 8.2	4.25	94	14.2 18 Jul	49	n/a	0	n/a	n/a	n/a
KING	189.2	86	23.2 18 Aug	14.6	+0.2	23.4 8.2	4.32	94	12.8 28 Aug	51	n/a	0	n/a	n/a	n/a
CO. WESTMIDLAND	212.4	110	24.3 8 Jul	14.2	+0.2	23.5 8.2	4.80	98	13.2 27 Aug	58	n/a	0	n/a	n/a	n/a
MULLINAH II	212.4	110	24.3 8 Jul	14.2	+0.2	23.5 8.2	4.80	98	13.2 27 Aug	58	n/a	0	n/a	n/a	n/a
CO. WEXFORD	219.8	127	34.7 17 Jul	15.0	+0.3	23.7 8.2	4.33	101	14.8 1 Jul	41	0	0	1	4	9
ROSSLARE	219.8	127	34.7 17 Jul	15.0	+0.3	23.7 8.2	4.33	101	14.8 1 Jul	41	0	0	1	4	9



USER COMMENT FORM

Completed comments to be forwarded to: The Environmental Monitoring and Laboratory Services Division, Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, County Wexford.

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NOTES

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