

# Bathing Water Quality In Ireland

A Report For The Year 2015



## ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

### The work of the EPA can be divided into three main areas:

**Regulation:** *We implement effective regulation and environmental compliance systems to deliver good environmental outcomes and target those who don't comply.*

**Knowledge:** *We provide high quality, targeted and timely environmental data, information and assessment to inform decision making at all levels.*

**Advocacy:** *We work with others to advocate for a clean, productive and well protected environment and for sustainable environmental behaviour.*

## Our Responsibilities

### Licensing

We regulate the following activities so that they do not endanger human health or harm the environment:

- waste facilities (e.g. landfills, incinerators, waste transfer stations);
- large scale industrial activities (e.g. pharmaceutical, cement manufacturing, power plants);
- intensive agriculture (e.g. pigs, poultry);
- the contained use and controlled release of Genetically Modified Organisms (GMOs);
- sources of ionising radiation (e.g. x-ray and radiotherapy equipment, industrial sources);
- large petrol storage facilities;
- waste water discharges;
- dumping at sea activities.

### National Environmental Enforcement

- Conducting an annual programme of audits and inspections of EPA licensed facilities.
- Overseeing local authorities' environmental protection responsibilities.
- Supervising the supply of drinking water by public water suppliers.
- Working with local authorities and other agencies to tackle environmental crime by co-ordinating a national enforcement network, targeting offenders and overseeing remediation.
- Enforcing Regulations such as Waste Electrical and Electronic Equipment (WEEE), Restriction of Hazardous Substances (RoHS) and substances that deplete the ozone layer.
- Prosecuting those who flout environmental law and damage the environment.

### Water Management

- Monitoring and reporting on the quality of rivers, lakes, transitional and coastal waters of Ireland and groundwaters; measuring water levels and river flows.
- National coordination and oversight of the Water Framework Directive.
- Monitoring and reporting on Bathing Water Quality.

### Monitoring, Analysing and Reporting on the Environment

- Monitoring air quality and implementing the EU Clean Air for Europe (CAFÉ) Directive.
- Independent reporting to inform decision making by national and local government (e.g. *periodic reporting on the State of Ireland's Environment and Indicator Reports*).

### Regulating Ireland's Greenhouse Gas Emissions

- Preparing Ireland's greenhouse gas inventories and projections.
- Implementing the Emissions Trading Directive, for over 100 of the largest producers of carbon dioxide in Ireland.

### Environmental Research and Development

- Funding environmental research to identify pressures, inform policy and provide solutions in the areas of climate, water and sustainability.

### Strategic Environmental Assessment

- Assessing the impact of proposed plans and programmes on the Irish environment (e.g. *major development plans*).

### Radiological Protection

- Monitoring radiation levels, assessing exposure of people in Ireland to ionising radiation.
- Assisting in developing national plans for emergencies arising from nuclear accidents.
- Monitoring developments abroad relating to nuclear installations and radiological safety.
- Providing, or overseeing the provision of, specialist radiation protection services.

### Guidance, Accessible Information and Education

- Providing advice and guidance to industry and the public on environmental and radiological protection topics.
- Providing timely and easily accessible environmental information to encourage public participation in environmental decision-making (e.g. *My Local Environment, Radon Maps*).
- Advising Government on matters relating to radiological safety and emergency response.
- Developing a National Hazardous Waste Management Plan to prevent and manage hazardous waste.

### Awareness Raising and Behavioural Change

- Generating greater environmental awareness and influencing positive behavioural change by supporting businesses, communities and householders to become more resource efficient.
- Promoting radon testing in homes and workplaces and encouraging remediation where necessary.

### Management and structure of the EPA

The EPA is managed by a full time Board, consisting of a Director General and five Directors. The work is carried out across five Offices:

- Office of Environmental Sustainability
- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiological Protection
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.



## **Report on Bathing Water Quality for 2015**

### **Environmental Protection Agency**

An Ghníomhaireacht um Chaomhnú Comhshaoil  
P.O. Box 3000, Johnstown Castle Estate, County Wexford, Ireland

Telephone: +353 53 9160600 Fax: +353 53 9160699

E-mail: [info@epa.ie](mailto:info@epa.ie) Website:

[www.epa.ie](http://www.epa.ie) LoCall: 1890 335599

© Environmental Protection Agency 2016

## Report on Bathing Water Quality 2015

Authors: Mr. Peter Webster, Dr. Micheal Lehane

### Disclaimer

Every effort has been made to ensure the accuracy of the material contained in this publication however neither the Environmental Protection Agency, nor the authors, accept any responsibility whatsoever for loss or damage occasioned or claimed to have been occasioned, in part or in full, as a consequence of any person acting, or refraining from acting, as a result of a matter contained in this publication.

All or part of this publication may be reproduced without further permission, provided the source is acknowledged.

### Acknowledgements:

The bathing water information contained in this overview report and the EPA online bathing water system Splash ([splash.epa.ie](http://splash.epa.ie)) is provided by eighteen local authorities responsible for monitoring the quality of identified bathing waters within their functional areas.

The collation of data was undertaken by Brigid Flood and Annmarie Tuohy and the report was prepared by Mr. Peter Webster (Senior Scientist, Reporting & Assessment) under the direction of Dr. Andy Fanning (Programme Manager, Evidence & Assessment) and Dr. Micheál Lehane (former Program Manager, Evidence & Assessment) within the EPA Office of Evidence & Assessment.

The contributions from staff in the EPA's Office of Evidence Assessment and Office of Environmental Enforcement who assisted in the review of the information used in the compilation of this report, and in the management of the EPA's Bathing Water data management systems is acknowledged as is the cooperation of Local Authority staff and their contractors in the sampling and analysis of bathing waters. Thanks go to Richard Geoghegan (EPA contractor) for the preparation of the Bathing Water Quality maps.

Published by the Environmental Protection Agency, Ireland

ISBN: 978-1-84095-636-8      Web only

Cover Image: Rossbeigh Beach, Co. Kerry © Cian O'Mahony (EPA), used with permission

## Table of Contents

<b>Table of Contents</b> .....	1
<b>Key Findings 2015</b> .....	2
<b>1 Introduction</b> .....	3
<b>2 How was water quality in 2015?</b> .....	5
<b>3 Interpreting Water Quality</b>	
3.1 Who does what .....	6
3.2 What are the main sources of bacterial pollution?.....	8
3.3 What is measured and why? .....	9
3.4 How does weather influence bathing water quality? .....	10
3.5 What do the water quality classifications mean? .....	13
3.6 How can I be sure it's safe to bathe? .....	14
3.7 Warning signs and Incident management .....	15
3.8 Public Participation .....	18
3.9 Poor water quality – What does it really mean? .....	19
3.10 Management measures for Poor waters .....	20
3.11 Sources of further information .....	26
<b>4 Summary of Ireland's identified bathing waters</b> .....	27
<b>5 Summary of other monitored waters</b> .....	35
<b>6 Appendix 1: Examples of Signage</b> .....	39

Any queries relating to this report or its content should be directed to:

Peter Webster  
Senior Scientist (Reporting & Assessment)  
Environmental Protection Agency  
Cork Regional Inspectorate  
Co. Cork  
Ireland

Tel: 00353+(0)21 486 0802  
Email: [p.webster@epa.ie](mailto:p.webster@epa.ie)

Or alternatively email [BathingWater@epa.ie](mailto:BathingWater@epa.ie)

## Key Findings of 2015

### Bathing water Quality in Ireland

- **128** (93.4%) of Ireland's 137 identified bathing waters met the minimum required standard of 'Sufficient' water quality – the same as in 2014
- **114** (83.2%) bathing waters were classed as being of either 'Excellent' or 'Good' water quality in 2015 compared to 118 (86.7%) in 2014
- **6** bathing waters were classified as 'Poor' in 2015 compared to 7 in 2014
- **3** - Ardmore, Clifden, and Lilliput showed major improvements and were removed from 'Poor' classification however;
- **2** bathing waters - Merrion Strand and Loughshinny - were newly classed as 'Poor' in 2015

### Pollution Notifications

- 147 bathing water incident notifications were received in 2015
- 110 of these related to precautionary Short Term Pollution notifications. Just **5** of these events showed any evidence of pollution having occurred
- 29 bathing waters (21%) were affected by restrictions compared to just 15 (11%) in 2014 though most of these were related to STP notifications above
- Bathing restrictions applied over 131 days out of a total of 14,659 beach / days (0.9%) compared to 74 days (0.5%) in 2014

### Suspected Cause of Pollution Events

- 7 notifications related to suspected impacts from wastewater discharges
- 3 notifications related to suspected pollution from agricultural sources with the same number for Septic tanks
- Over half of all non - STP notifications were reported as suspected as being due to a combination of urban & agricultural discharges – mainly in the Dublin Bay area

# 1. Introduction

Good quality bathing water is a highly desirable natural resource for recreational use as well as being an important economic factor for tourism. Ireland possesses some of the best waters in northern Europe however modern lifestyle presents a number of challenges to maintaining this situation. In particular the impacts of pollution from urban run-off, wastewater discharges, and from agricultural sources - especially after heavy rain, are a continuing threat especially in our more built up areas.

In 2002 the European Commission (EC) undertook a major review of health information relating to bathing waters and in 2006 issued Directive 2006/7/EC, subsequently transposed into Irish legislation as the “Bathing Water Quality Regulations 2008” [S.I. No. 79 of 2008](#). These new Regulations came fully into effect on the 31<sup>st</sup> December 2014.

Their purpose is primarily three-fold:

- To improve health protection for bathers by introducing stricter standards for water quality and a new method of assessment;
- To establish a more pro-active approach to the assessment of possible pollution risks and the management of bathing waters;
- To promote increased public involvement and improved dissemination of information on bathing water quality to the general public.

In addition to using the microbiological parameters *E.coli* and Intestinal Enterococci, assessment of water quality now includes assessment based on compliance monitoring data for the current and 3 previous bathing seasons (on a rolling basis) rather than focusing solely on the most recent bathing season. Data used for this assessment encompasses results for 2012 - 2015. Bathing waters are classified in terms of water quality as either 'Excellent', 'Good', 'Sufficient', or 'Poor'.

This report presents the second assessment of all of Ireland's formally identified bathing waters under the full terms of the 2008 Bathing Water Regulations together with information on water quality at other locations where bathing is known to occur and the water quality monitoring is undertaken by local authorities as a public health measure.

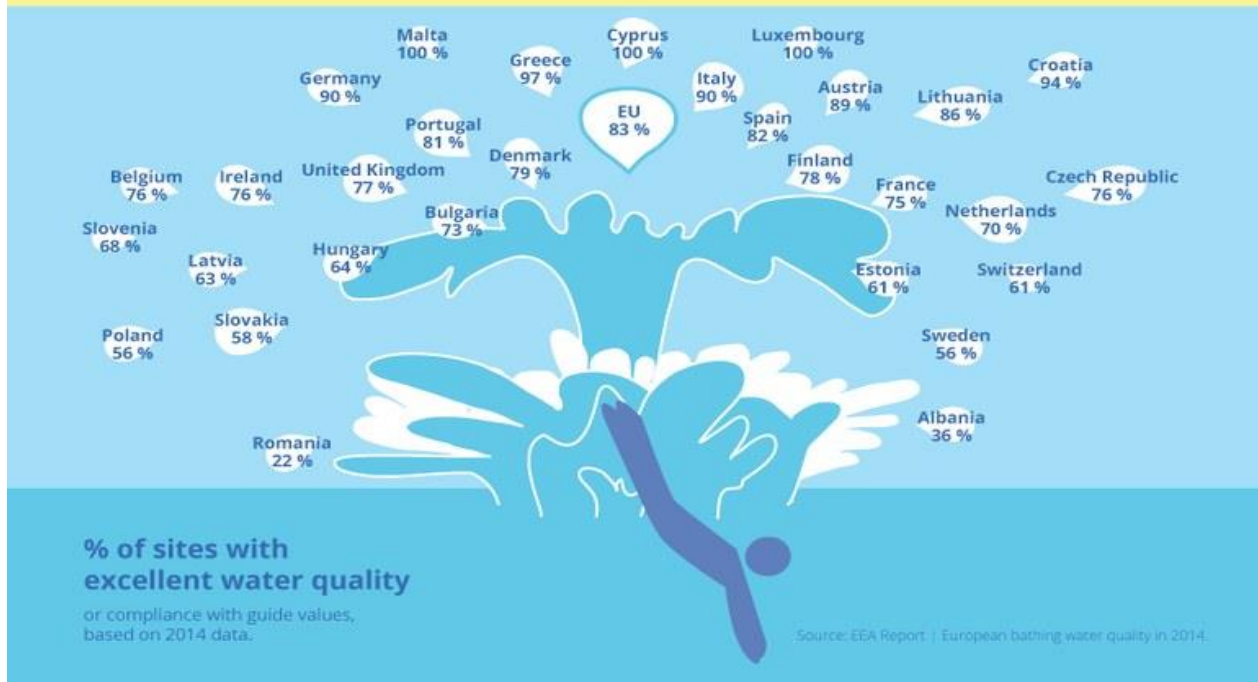
Bathing water quality in Ireland has consistently been of a high standard for many years. In 2014 Ireland was ranked 16<sup>th</sup> among the 30 European countries reporting bathing water data to the European Environment Agency. This ranking is based on the assessment of data complying with the 'Excellent' quality standard only. 2015 sees both the UK and Romania completing the listing and all countries are reporting to the revised Bathing Water Directive using the stricter water quality standards.

Information on the quality of European bathing waters is available from the European Environment Agency. [EEA 2014 BW Report](#)

## Excellent water quality at most of Europe's bathing sites

The water at Europe's beaches, rivers and lakes was generally of high quality in 2014, with 95% of these sites meeting minimum requirements. 83% met the more stringent 'excellent' level. Just 2% were rated as poor.

European Environment Agency 



Over the past few years the EPA has worked to provide improved information systems for the communication and management of bathing water data both for Local Authorities and in the provision of information to the general public. The national bathing water website Splash ([splash.epa.ie](http://splash.epa.ie)) has proved to be very popular. A Twitter™ based incident alert service was introduced in 2013 which allowed the public to be informed of the start and end of such events. In 2015 a dedicated Twitter account @EPABathingWater was created to provide this information service.

The 2006 Bathing Water Directive is designed to significantly reduce the potential risk of contracting gastro-intestinal illness from exposure to bacterial pollution while bathing. The acceptable thresholds represent an approximately two fold reduction in risk when compared to previously applied standards (See section 2.3).

The Water Framework Directive (2000/60/EC) sets out requirements on all EU member states for the improvement of natural waters. Changes to agricultural practices aimed at reducing accidental pollution from animal manures, together with major investment by both local authorities and Irish Water in the upgrading of wastewater infrastructure should result in an improvement in some of our poorer and more vulnerable waters over the next few years.

The public too can play an important role in improving water quality and can help by better managing their waste from beach visits ( e.g. by taking your rubbish home for disposal) and by controlling domestic animals such as dogs (e.g. bagging dog poo – don't bury it in the sand). As well as being unsightly food waste can also attract seabirds which are well recognized as a potential source of bacterial pollution.

Bathing in Ireland remains a safe and pleasurable activity, but we all need to take an active part to ensure that quality improvements are delivered.



## 2. How was water quality in 2015?

For the 2015 bathing season there were **137** identified bathing waters which were assessed. 128 of these are coastal waters and 9 are inland freshwaters.

Overall, **128** (93.4%) of waters met the minimum required standard of 'Sufficient' – the same number as in 2014. The change in percentage terms from 94.1% to 93.4% is not significant since this reflects the addition of Ballinesker in 2015.

- **101** (73.7%) of bathing waters were classified as 'Excellent' compared with 103 (75.7%) in 2014
- **13** (9.5%) were classified as 'Good' compared with 15 (11.0%) in 2014
- **14** were classified as 'Sufficient' compared to 10 (7.4%) in 2014
- **6** were classified as 'Poor' just as in 2014 compared to 8 in 2014. Merrion Strand and Loughshinny were newly classified as 'Poor' in 2015 with Ardmore, Clifden, and Lilliput all improved in quality and removed from this class
- **2** bathing waters (Clifden and Lilliput) were classified in 2015 as 'Changes' (1.5%)
- **1** (Trá Inis Oirr) was classified as 'New' in 2014 and has yet to be formally classified due to insufficient numbers of samples to date

The breakdown between coastal and freshwater bathing areas was is shown below.

Classification	Coastal (No.)	Coastal (%)	Inland (No.)	Inland (%)	Total	% (rounded)
Excellent	93	72.7%	8	88.9%	101	<b>73.7%</b>
Good	13	10.2%	-	-	13	<b>9.5%</b>
Sufficient	14	10.9%	-	-	14	<b>10.2%</b>
Poor	6	4.7%	-	-	6	<b>4.4%</b>
New / Changes	2 (1+1)	1.5%	1	11.1%	3	<b>2.2%</b>
Overall	128		9		137	100%

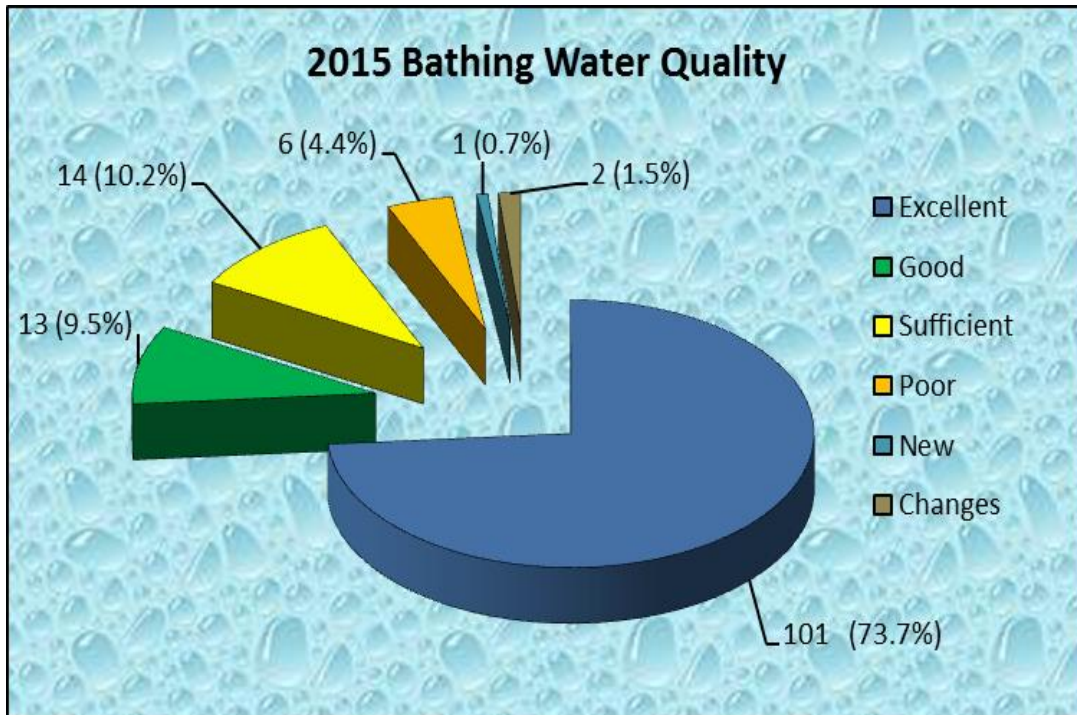
**Note:** Percentage values are rounded for reporting purposes.

Despite being a relatively poor summer weather-wise, overall water quality was generally similar to that observed in 2014.

The slight reduction in the number of waters achieving 'Good' classification (down 2) and the corresponding increase in the number of waters achieving 'Sufficient' status (up 4) can be attributed, in part, to the combined effects of the inclusion of results from the very wet summer of 2012 and the impacts of July storms during 2015 which led to several urban bathing waters, particularly in the Dublin area, seeing an increase in episodic pollution events.

Along the South coast many bathing waters had bathing restrictions imposed by lifeguards on safety grounds with Red flags being flown on several occasions.

**What is extremely encouraging is that the number of waters achieving 'Excellent' classification is little changed from 103 in 2014 down just 2 to 101. This reflects that around three quarters of Ireland's bathing waters appear to be relatively unaffected by pollution impacts from weather.**



### 3. Interpreting bathing water quality

This section presents supplemental information relating the assessment, interpretation, and significance of the many factors which can influence bathing water quality.

#### 3.1 Who does what?

In Ireland, Local authorities have the primary responsibility for the management and monitoring of bathing waters and for the implementation of management measures to reduce or eliminate sources of pollution. They undertake the sampling and analysis of bathing waters as well as the day to day practical aspects of litter removal, the maintenance of facilities, and the investigation of any pollution events. .

The EPA's role, as regulator, is to ensure that the requirements placed on local authorities are carried out in accordance with the Bathing Water Regulations. We collate the monitored data and undertake the formal assessment of water quality together with reviewing any actions taken by local authorities in relation to bathing water pollution incidents. Finally we report this data to the European Commission in December of each year. We also provide, and support, the Splash national bathing water website and its associated Twitter™ account.

Bathing in Ireland is an all year round activity in some locations; however, for the purposes of compliance with the Bathing Water Regulations, the bathing season in Ireland runs from 1<sup>st</sup> June to 15<sup>th</sup> September each year. In other European countries it varies widely from just a few weeks in mid-summer in Scandinavia to several months in the Mediterranean regions. The public can make representation to local authorities for the identification of new bathing areas and each year during the bathing season local authorities will open a window for such submissions. Information can be found on local authority websites – usually in their Environment sections. In 2016 the EPA intend issuing guidance for both the public and local authorities on what information should be provided and how this should be assessed.

Many coastal waters are used for recreational activities such as surfing outside of this period and, in general, these are not monitored by local authorities for bacteriological quality. Recreational users should be mindful of the possible deterioration in water quality, especially after heavy rainfall, due to potential pollution from agricultural sources or from the impacts of discharges from sewage overflows.

By 24<sup>th</sup> March of each year local authorities are required to identify to the EPA all bathing areas that they wish to be formally identified to the EU. Any newly identified bathing areas require the provision of additional supporting material including a bathing water profile which identifies the characteristics of the bathing water and its catchment area including an assessment of potential pollution risks. Identified bathing waters would generally be those which have historically been used for bathing and where a large number of bathers would be expected. These would, in most cases, also have adequate car parking and facilities such as toilets, picnic areas etc.

Some smaller, or more remote, bathing water locations which are important for eco-tourism may also be included by local authorities in their monitoring programmes and where this information has been reported to the EPA the water quality has been reviewed - see 'Other monitored waters' – Section 5.

Local authorities provide the EPA with details of their planned sampling programme (their annual monitoring calendar) prior to the start of each bathing season. Sampling is required to be undertaken within 4 days of the planned date to allow for contingencies such as stormy conditions which would render sampling unsafe or where, especially for those island bathing waters, air or ferry transport schedules are disrupted by bad weather. A 'pre-season' sample is taken in late May and thereafter with a requirement for a minimum of monthly sampling

Most local authorities in Ireland sample at frequencies of typically fortnightly, even weekly in some areas, – which is more than in many other European Member States. While this provides a greater certainty as to the overall water quality it also carries a higher risk of finding occasional unsatisfactory values.

Local authorities report their bathing water results to the EPA via the Environmental Data Exchange Network (EDEN) shared service and the results are reported on the Splash website; however, there is always a short time delay between sampling and the availability of results. It can take up to 72 hours for results to be available once samples have been received by the laboratory due to the time it takes to culture the relevant bacteria and, unlike other areas of water quality assessment; there are **no** quick alternatives to microbiological testing.

Local authorities are encouraged to report their results promptly so that the data on Splash is kept up to date but the display of information and status assessment depends on how quickly data is reported. When a pollution incident occurs, or when sampling identifies a pollution risk which could have an impact on bather health local authorities will take action based on the microbiological thresholds established in conjunction with the HSE. Both the HSE and EPA are notified of the incident and may advise the local authority on any potential bathing restrictions. They actively monitor weather forecasts in an effort to predict possible pollution events e.g. as the result of heavy rainfall, and will often put in place 'Prior Warning' notices to advise the public of possible pollution risks. In the likelihood of any such short term pollution local authorities are required to advise the EPA. Details of these and any other pollution incidents are notified by local authorities via a dedicated EPA Compliance and Risk Information System (CRIS) and subsequently notified to the public via the Splash website and the @EPABathingWater Twitter™ account.

The public will be notified by means of signage located at the beach notice boards or main access routes. Notices are also displayed on local authority websites and may also include media broadcasts. Splash automatically issues Twitter™ alerts and the relevant details will be displayed on the Splash website. Where the pollution is considered to be linked to wastewater discharges the local authority is required to contact with Irish Water staff.

Incident details are regularly updated by local authorities via the EPA incidents notification system and their impacts will be assessed by the EPA Bathing Water Unit and depending on the source of the pollution, the EPA Office of Evidence & Assessment (OEA) or the EPA Office of Environmental Enforcement (OEE). At the end of each season the EPA undertakes a review of water quality information and submits the monitoring data and the water quality status assessments to the EC, along with details of any bathing restrictions, and management measures taken in respect of any incidents.

### 3.2 What are the main sources of bacterial pollution?

Faecal bacterial pollution can occur at any time but these impacts are often much more prevalent after heavy rainfall when bacteria present in animal faeces can be washed into streams or watercourses that may in turn drain to the sea, or where the hydraulic capacity of sewer networks is exceeded causing storm outfalls to operate to prevent sewer flooding. The principal sources of bacterial pollution that affect bathing waters are:

- Wastewater (sewage) discharges, discharges from storm water outfalls, and drainage from domestic wastewater systems (e.g. septic tanks).
- Urban run-off from hard surfaces such as pavements, road gutters, and from streams which can run through built-up areas into which there can often be unauthorised discharges such as misconnections from housing.
- Agricultural run-off from fields where animals are grazing, resulting from the land-spreading of animal manures, or as a result of animal access to streams. Direct pollution of beaches (e.g. by dogs, horses, or seabirds) can also be a significant pollution source.
- High numbers of bathers (bather density) and associated beach litter
- Extreme weather which may cause disruption to coastal environments which may alter tidal currents affecting the dispersion of wastewater discharges.



Recent research has also shown that faecal bacteria can also exist for some time in moist sand and even on seaweed though the contribution to the loading in the open water is likely to be small when compared to the main sources. In stormy conditions re-suspension of sand can result in very cloudy water with a higher bacterial risk than in calm conditions.

Animal faeces can contain typically between 2 - 10 million or more *E.coli* per gram of faeces and the faeces of some seabirds can be even higher. By contrast to the large numbers of bacteria found in these wastes the bathing water quality standard for Sufficient quality (the minimum mandatory standard) requires compliance with a 90 percentile target of just 500 *E.coli* per 100ml (a large glass of water) for coastal areas, and 900 *E.coli* per 100ml for freshwaters. Standards for Intestinal enterococci are even tighter at a 90 percentile of 185 per 100ml for coastal waters, and 330 per 100ml for freshwater.

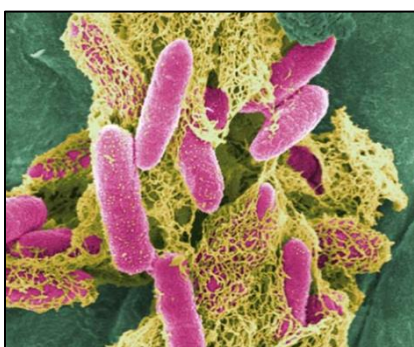
Local authorities are required to prepare bathing water profiles in which they identify the key sources of pollution, their risk potential, their likely impacts on bathing water quality and the management measures aimed at minimizing any impacts. The profiles are available on the Splash website ([splash.epa.ie](http://splash.epa.ie)) and can also be found on local authority websites.

### 3.3 What is measured and why?

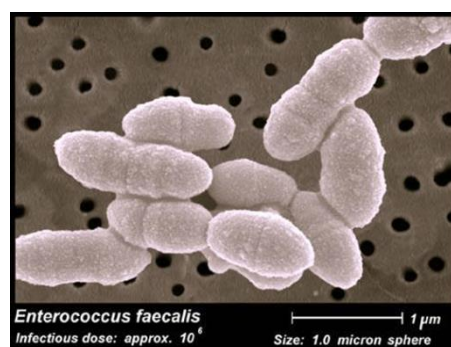
The new regulations require the monitoring of Escherichia coli (*E.coli*) and Intestinal enterococci. These organisms have been shown to be closely linked to bather health. In saline / coastal waters Intestinal enterococci have been shown to have a very strong correlation with gastro-intestinal illness whereas in freshwater *E.coli* is considered to be a better indicator. Other symptoms can include respiratory illness or dermatological symptoms such as “bathers itch” – a common skin irritation.

Viruses and other pathogenic organisms such as Cryptosporidium are **not** routinely monitored in bathing waters due to the complexity of their assay though some local authorities are now using genetic profiling techniques such as Microbial Source Tracking (MST) to identify the species origin of bacterial pollution.

It only takes a relatively small amount of faecal matter, whether from human or animal origin, to potentially contaminate bathing waters; however the analytical methods used can detect just a few bacteria in 100ml of water.



*E.coli*



Intestinal Enterococci

A comparison of the relative risks of contracting illness from the standards applied in the original 1976 Directive and the revised Bathing Water Directive is shown below:

Original Bathing Water Directive 76/160/EEC	Risk of Gastro-intestinal illness	Revised Bathing Water Directive 2006/7/EC	Risk of Gastro-intestinal illness
n/a	n/a	Excellent	3%
Guide value (Good)	5%	Good	5%
Mandatory (Sufficient)	12 - 15%	Sufficient	8 - 9%
Poor	> 15%	Poor	> 10%

As can be seen above the new bathing standards afford a much improved protection of public health.

### Open water / Wild water swimming

In recent years there have been an increasing number of incidents reported internationally of illness among competitors in open water events held in locations which were not identified as bathing waters whether these are rivers, loughs or in the sea. Most recently an outbreak of gastrointestinal illness was reported for an event held on the River Thames in central London. In many cases levels of faecal bacterial pollution have not been particularly high, though often above bathing water standards, and illness has often been attributed to viruses such as Norovirus.

**Any waters being used for such purposes should be routinely tested for faecal indicator bacteria by the event organizers in the days ahead of such events to minimize the potential for illness among participants – particularly if there has been recent heavy rainfall or where there are nearby wastewater discharges.**

### 3.4 How does weather influence bathing water quality?

As with many aspects of Irish life the weather plays an important part in determining the bacteriological quality of bathing waters. Both direct sunlight (UV) and water temperatures can influence the rate at which bacteria die off while the natural ebb and flood patterns observed at coastal locations can influence the degree of dilution and dispersion of any pollution. In storm conditions, or strong onshore winds, large breaking waves can churn up the sea causing the potential for release of bacteria from beach sands.

While the added safeguard of stricter standards to protect public health is welcomed, the down side is that it makes it much more likely that any random sampling event will turn up a poorer result simply due to the natural variation in bacterial quality across the day as bathing waters are subject to the influences of wind and weather. It is well noted that bacterial populations can fluctuate during the day (diurnal variation) and this is more prominent where the impact is from wastewaters.

Rainfall across Ireland can vary dramatically even in the course of just a few miles. This spatial variability can play a significant role depending on the location of the bathing water. Waters on the South and South West coasts are particularly susceptible as these lie in the face of most of our weather systems.

In July 2015 strong onshore winds led to multiple beach closures in Co. Cork, due to safety considerations with lifeguards hoisting Red flags. The pattern of weekly rainfall at several Met Éireann synoptic stations is shown opposite.

The beginning of June saw heavy rainfall in parts of the west but thereafter comparatively little rainfall and warm sunny days. By contrast, July was considerably poorer with very low sunshine levels across the entire country but perhaps the most striking example of the influence of weather was in the closing days of the 2015 bathing season where the south of the country experienced rainfall of up to 100mm over a few days with the north and east escaping much of the force of this storm event which produced extreme flooding in the southwest and prompted several local authorities to post 'Prior Warning' notices advising of a possible deterioration in water quality even though their formal monitoring programmes had been completed by that stage.

The Met Éireann rainfall radar image below captures the violence of these type of downpours.

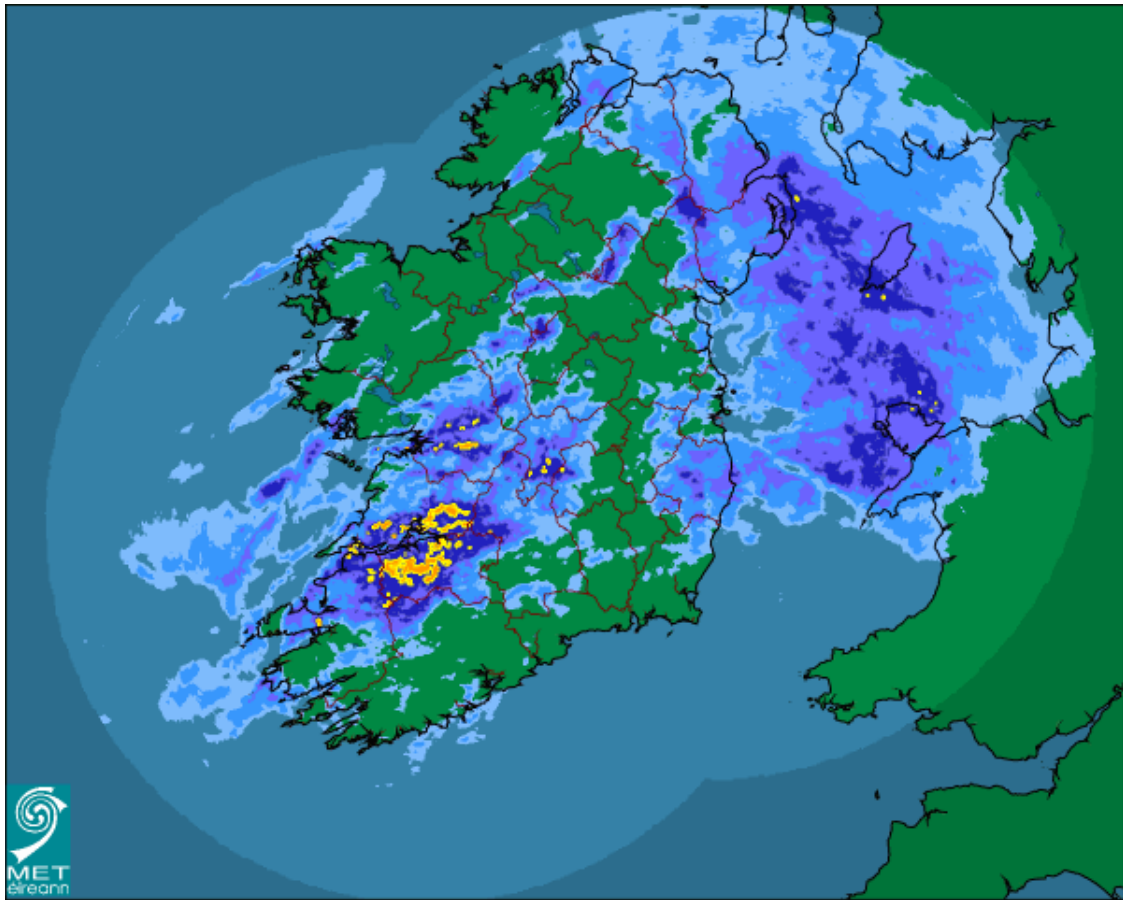
Rainfall patterns (mm) at Met Éireann synoptic stations (2015)

Region / Station	South-West			West	Northwest	North	East
	Roches Pt.	Sherkin	Valentia	Shannon	Bemullet	Malin Head	Dublin
11 - 17 May	16	20.6	16.8	12.4	10.7	12.7	3.7
18-24 May	7.5	7.9	22.3	12.7	17.5	19.8	4.5
25 May - 31 May	6.4	7.8	25.2	19.7	27.8	28.5	12.5
1 - 7 Jun	26	33.5	29.3	15.7	38.2	29.8	7.9
8 - 14 Jun	3.9	5.1	2.9	0.7	0	0	0
15 -21 Jun	7.4	8.6	17.5	15.6	8.5	12	1.3
22- 28 Jun	21.6	24.4	25.3	5	11.1	13.4	4.9
29 Jun - 5 July	16.4	21.2	28.5	12.7	9.8	23.8	4.9
6 - 12 July	35.2	43.3	35.3	20.3	49.5	25.8	12
13 - 19 July	31.8	26.5	37.3	28.2	33.3	37.4	29
20 - 26 July	43.3	35.9	15.9	10.3	25.1	21.4	12.4
27 July - 2 Aug	18	22.6	36.1	23	28.3	27.1	16.9
3 - 9 Aug	14.8	25	44.6	27	25.4	22.1	7.4
10 - 16 Aug	3.3	5	6.8	11.5	5.7	12.8	0.4
17 - 23 Aug	29.6	18.3	20.2	20.5	22.5	50.4	47.4
24 - 30 Aug	29.2	22	27.4	22	28.6	21.8	28.3
31 Aug -6 Sept	0	0.2	1.4	1.7	4.3	4.1	13.8
7 - 15 Sept	52	96.8	113.7	64.4	86.5	10.2	25.4

**Note:** The more intense the red coloration the higher the rainfall. Yellow = lowest , Red = highest

For August Met Éireann reported that in some parts of the country August 2015 was the wettest for six years, particularly along the Atlantic coast. Despite this there was of appreciable increase in the numbers of waters exhibiting satisfactory results though in a few there was evidence of increased levels of bacterial pollution. The 'Poulter Index' - a formula based on mean temperature, sunshine, and rainfall - was the 18<sup>th</sup> lowest in the last 50 years with the wet summer of 2012 being the lowest in recent times.

Radar image of rainfall - Source: Met Éireann



While weather (rainfall) is not the only influence on bacteriological quality it is inexorably linked to the likelihood of bacteria entering bathing waters through surface waters and from sewage discharges. The variability of our climate is one of the principal reasons why, as with our neighbors both in the UK and northern Europe, we can find it difficult to achieve the same standard of compliance as do many of the Mediterranean countries where generally lower rainfall and more intense sunlight provides an crucial disinfecting influence on bathing waters.

By way of example; the average annual rainfall in Malta (with all of its bathing waters of Excellent quality) is around 600 mm with just ca. **90mm** falling during April - September whereas in the west of Ireland the annual yearly figure is closer to 1000 -1250 mm annually and between 700 -1000mm on the east coast. Of this between **350 and 550mm** can be expected to fall over the duration of the bathing season! Met Éireann data indicates that the south east is historically the sunniest region with averaged sunshine of about **7** hours per day in early summer. By contrast Malta has around **13** hours over the summer period.

The weather cannot be controlled but its impacts can be minimized by improvements in agricultural practices and investment in the upgrade of wastewater discharges as well as the use of Short Term Pollution notifications to the public. Of these it is likely to be the upgrade of wastewater facilities which yields the largest gains – albeit at a significant price however such work is necessary for Ireland to fully comply with the requirements other EU directives such as the Urban Wastewater Treatment Directive.



### 3.5 What do the water quality classifications mean?

One of the major changes in the 2006 Bathing Water Directive has been the move to classify bathing waters into four quality categories - 'Excellent', 'Good', 'Sufficient', and 'Poor' rather than just whether or not they met the mandatory or guideline values as was previously the case. This extended classification recognizes, for the first time, those pristine quality waters, of which Ireland has a significant number.

Under the new Directive, water quality classifications are being made using data covering a 4 year period rather than just the past season's data and against more stringent bacterial limits designed to afford additional protection to public health (Section 2.3 refers). Member States across the EU are required to ensure that their bathing waters are of 'Sufficient' standard or better by September 2015. In Ireland, all 'Poor' bathing waters require a program of adequate management measures to be implemented to avoid being in non-compliance with Regulation 13 of the 2008 Bathing Water Regulations.

Any bathing water which is classified as 'Poor' for 5 consecutive years will require a permanent bathing prohibition or 'advice against bathing' to be introduced thereby effectively excluding any bathing at this location.

At present it is not envisaged that this would apply to any identified Irish bathing waters however for some at risk of achieving 'Poor' quality based on episodic pollution will require work to identify and remediate the sources of pollution. This is likely to be most challenging for those local authorities with beaches in major urban environments such as Dublin City, Fingal, and Galway.

#### EU Bathing Water Classification signs

Each of the bathing water classifications carries an EU pictogram which will be displayed both on the Splash website and on beach noticeboards to indicate the 4yr water quality assessment:



'Excellent' quality



'Good' water quality



'Sufficient' water quality



'Poor' water quality

#### "New" Classification

When an area where bathing occurs is first reported by local authorities for identification under the Bathing Water Regulations it is given a classification of "New". Once a minimum of 16 samples have been taken it can be formally classified.

### “Changes” classification

For bathing waters where major infrastructural improvements such as the commissioning of a new sewage works, or other activities which could significantly and materially bring about a change in water quality, a formal classification cannot be determined until at least 16 samples (post change) are available for review. This situation has been applied to the bathing water at Clifden (Co. Galway) where historically water quality was unsatisfactory for many years prior to infrastructural works to upgrade the sewage network and commission a new wastewater treatment plant. Compared to previous years all samples taken in 2015 met the ‘Excellent’ standard.

A new wastewater treatment plant was commissioned in late 2015 and this is expected to have a major impact on improving water quality in 2016. Clifden has therefore changed and has, for the time being, been assigned this ‘Changes’ category in 2015.

Similarly at Lilliput (L. Ennell, Co. Westmeath) wastewater from a nearby treatment plant was removed for offsite treatment thus removing one of the main pollution pressures which gave rise to improved water quality in 2015. A commitment to continue this practice until a more permanent measure is undertaken has been received from Westmeath County Council and Lilliput has also been classed as being in the ‘Changes’ class in 2015.

Several of the other bathing areas which were classified as having Poor water quality in the 2014 assessment also showed improved water quality in 2015 however, in most cases, the pattern of bacterial results observed was comparable to that observed during the best periods of 2009 to 2015 and thus no implication can be made that their circumstances have significantly changed.

### 3.6 How can I be sure it is safe to bathe?

Most bathing waters are monitored by local authorities at frequencies in excess of those required by the Bathing Water Directive however, as with most environmental monitoring, this is aimed at providing an overall assessment of water quality and there is no absolute guarantee that on the day you choose to visit there may not be a problem.

Water quality can vary significantly during the day, and from day to day, due e.g. to the influences of tidal currents or sunshine and also the number of bathers using the water at any time. Bathing water quality is however at its most vulnerable after heavy rainfall, or in stormy conditions, which may give rise to higher bacterial counts than normal.

#### **Under such circumstances bathing may not be advisable.**

The EPA has worked closely with the HSE Public Health and Environmental Health working groups to ensure that the Splash website provides, not only the actual values reported, but also an indication of overall water quality at the time of sampling based on the values and their likelihood of presenting a significant health risk.

Because of the delay in the availability of results caused by the need to culture the bacteria (24 -72 hours) the results are inevitably out of date even before they are known so it is important that bathers look to at the water quality history and the possible impacts of recent weather conditions.

The table below shows the thresholds used by EPA to define **individual sample status** as opposed to overall water quality classification. Units of measurement are Number per 100ml.

Parameter	Excellent	Good	Sufficient	Poor
Escherichia coli	≤250	251 - 500	501 - 1000	>1000
Intestinal enterococci	≤ 100	101 - 200	201 – 250	>250

This information is available in the “Monitoring Results” section of Splash. Clicking on the information icon beside it brings up some additional explanatory text.

It is important to recognize that any assessment of the quality of an individual sample is just that - **it is a moment in time** whereas the overall classification of water quality is based on 4 years of data in all weather conditions. You can occasionally find an individually poorer sample from time to time even in very good waters however its impact on the overall water quality may be very limited if for most of the time the water quality is much better.

**For this reason you should preferably check both the overall quality and the latest individual sample quality before deciding on your trip to the beach.**

### 3.7 Warning signs and Incident management

A key requirement of the Bathing Water Regulations is the notification to the public of any potential risks to bathing water quality. This has necessitated the development of a range of signage to cover the following commonly occurring situations:

- Where a deterioration in water quality is predicted (in advance) as being likely to occur;
- When routine sampling shows a deterioration in water quality which indicates that bathing is not advisable and;
- When bacterial pollution is detected at concentrations which present an acute health risk and a bathing prohibition is required.

Examples of the signage displayed are given in Appendix 1.

It is not always possible to forecast or predict, with absolute certainty, when any deterioration in bathing water quality is likely to occur, or indeed how significant it might be, however local authorities have generally adopted either mathematical modelling or a risk-matrix linking the likely impacts of bacterial pollution to rainfall. Additionally protocols have been developed which take account of extreme weather warnings issued by Met Éireann. This allows local authorities to forewarn the public that pollution may be likely to occur over a particular time period and that bathing may not be advisable.

In the case of predicted possible pollution (e.g. forecasts of very heavy rainfall) many local authorities will erect ‘Prior Warning’ notices at bathing waters they consider likely to be affected. If any deterioration in quality is identified this may then be replaced by either an ‘Advice against bathing’ or a ‘Bathing prohibition’ notice depending on the severity of the pollution. ‘Prior Warning’ notices are very much a **precautionary** approach and do not necessarily mean that any pollution **will** definitely occur. Their purpose is simply to advise the public of possible Short Term Pollution which usually lasts for only a few days at most, however if the water remains discolored bathing would not be advisable.

Local authorities will generally monitor the bathing water to confirm whether or not pollution has actually occurred and also when it is no longer evident. They may update the signage to an 'Advice against bathing' or a 'Bathing prohibition' depending on the levels of pollution found and / or advice received from the HSE. Restrictions remain in place until it has been shown that pollution did not occur or that the water quality has returned to normal.

These signs (either as an A4 or A3 sized template) are available in both English and Irish and will normally be placed on the beach notice boards, at lifeguard stations, at entrances to car parks, and also on the local authority websites. Examples of each of the types of signs used are shown in Section 2.11. Electronic copies of any signage erected is also required to be submitted to the EPA along with full details of the incident, the likely source of pollution, and the expected duration of the event. The EPA closely monitors each incident as it is ongoing.

The following table shows the number and types of confirmed pollution incidents reported in 2015

Likely source of pollution	Number of incidents in 2015
Agricultural diffuse pollution	3
Urban Wastewater discharges	7
Septic tanks	3
Combination of Urban and Agricultural discharges	26
Urban diffuse pollution	1
Cyanobacteria (Algae) / Macroalgae (Seaweeds)	1
Private Wastewater discharges	1
<b>Total</b>	<b>42</b>

Throughout the 2015 bathing season there were 110 Short Term Pollution warnings notified. These and were generally linked to forecasts of wet or windy weather. In only 5 cases were any impacts actually observed but in taking such a precautionary approach local authorities are seeking to be proactive in protecting public health. In such circumstances there is a need to ensure that the assessment criteria used provide for an appropriate balance between the risk of not identifying potential problems and the imposition of unnecessary bathing restrictions but the primary focus should always be on bather protection. This is an important consideration for local authorities not only from a tourism perspective but also from a compliance perspective as any planned monitoring samples which indicate the occurrence of pollution can be replaced - but only if a 'prior warning' has been applied.

Pollution can also be detected in bathing waters through planned compliance monitoring and in such circumstances local authorities will take action based on HSE microbial thresholds while seeking their advice as to the nature of any bathing restrictions. Depending the severity this will either be an 'Advice against bathing' or, in the case of more serious pollution a 'Bathing prohibition'. In both cases the purpose of this signage is to advise the public of a possible increased risk to health as result of any deterioration in water quality.

Where incidents are reported as being potentially linked to wastewater discharges, diffuse pollution, or domestic wastewater treatment systems (septic tanks) then the EPA's Office of Environmental Enforcement is notified and may open an enforcement file depending on the severity and frequency of incident notification. A report on each incident, including the management measures and investigations undertaken by the local authority, is required prior to the EPA's assessment of bathing water quality and reporting to the EU at the end of each bathing season.

Where it is considered necessary the EPA will liaise with HSE Public Health staff to determine whether or not there was any increase in levels of community illness which could have been associated with a pollution incident.

These three types of signage are “temporary” in that they all relate to pollution incidents of short duration and will be withdrawn when sampling confirms that the water quality has returned to its normal quality. For those waters classified as ‘Poor’ (based on the 4 year assessment) there is an additional legal requirement that local authorities advise the public of this classification. To assist in this task two additional signs have been developed to help provide information on not only the likely pollution sources but what is being done to rectify the situation. Though similar in style the information they contain is much more detailed.

Feedback from the general public, and especially from tourism circles, is that these seasonal restriction notices can be somewhat confusing - especially so when the current water quality on any given day may well be of a high standard and thus present no significant health risk. This is quite understandable however the 2008 Bathing Water Regulations (Regulation 14, (1)) requires that such information to be provided in the format indicated.

### New developments in electronic signage



Electronic signage is widely used in the UK for the display of bathing water monitoring information and possible pollution warnings though this requires an extensive network of telemetric rain and flow gauges which is not yet available in Ireland

During 2015 Dublin City Council, in conjunction with Irish Water, are pioneering the development and use of electronic signage to advise bathers of possible deterioration in bathing water quality along with use of the notices shown in Appendix 1.

While the project is still in its early stages and, to date, has incorporated only the ‘Swim / No swim’ display further enhancements are being planned to allow the ability to provide additional text.

Responses from the public have been encouraging and Dublin City Council will be assessing the potential for the roll out of such systems to other bathing waters in the Dublin Bay area.

### 3.8 Public participation

The Ordnance Survey Ireland estimate of Ireland's coastline is approximately 5630 km (of which around 650 km is in Northern Ireland). Using this estimate equates to having, on average, an identified bathing water every 40 km of coastline though there are many more fine beaches in between. These beaches are often more remote and could present dangers e.g. from tidal currents.

#### Identification of new bathing areas

As indicated in Section 2.1 the Bathing Water Regulations provide for input from the general public to local authorities in highlighting areas where bathing takes place. Each year local authorities are required to seek submissions from the public. This is generally undertaken via notification on their websites during the bathing season but national / local media, and community meetings have also been used as communication channels.

To date, relatively few submissions have been made in this way however EPA is in the process of drafting guidance documents for both the public and local authorities as to how this can be implemented. These are expected to be available from the EPA website ([www.epa.ie](http://www.epa.ie)) prior to commencement of the 2016 bathing season.

If your particular local authority has not identified any bathing waters and you know that there are locations which are used for bathing on a regular basis then you should make this information known to them using the above guidance. Similarly, if you know of locations that are not currently being monitored, but where bathing is commonplace, then it is equally as important to make these locations known to the local authority. This information is extremely helpful to local authorities in determining whether the particular location meets the criteria for classification as an identified bathing water and requiring to be managed under the requirements of Bathing Water Regulations particularly so with regard to the number of bathers / beach users and facilities provided or other measures taken to promote bathing.

#### Communications alerts

In 2015 a Twitter™ feed, [@EPABathingWater](https://twitter.com/EPABathingWater), was introduced to keep bathers informed of bathing water related news items. This provides a means of alerting the public to any ongoing bathing issues or related items

#### Coastal restoration and clean-up projects

Throughout the year there are a large number of local and community-based coastal initiatives which rely on public participation for beach cleans / litter characterization projects, surveys of the coastal habitats and environmental pressures such as stream quality, catchment characteristics e.g. agricultural vs. urban, or simply the number of bathers.

These projects are coordinated by organizations such as Coastwatch and An Taisce and provide excellent examples of how "Citizen Science" can feed into the pool of knowledge of our coastal environments. Details of these events can be found on the organizational websites (See Section 3.12)

### 3.9 'Poor' water quality – What does it REALLY mean?

Formal assessment under the Bathing Water Regulations requires the application of a statistical method of appraisal of performance over a four year period. The use of such an approach is to accommodate the minimum required sampling frequency of 5 samples per season. In practice the majority of Irish bathing waters are sampled at typically 10 – 15 samples per season. The inclusion of these additional samples serves to give us greater confidence in the overall classification; however it does mean that e.g. a wet summer (such as that experienced in 2012) can have a long lasting impact on the overall classification even if current water quality is extremely good.

**The fact that a bathing water receives a classification of 'Poor' water quality reflects that, from time to time, these waters may be subject to more frequent, or more significant pollution events, than waters of better quality. This may reflect the sensitivity of the bathing water to diffuse pollution from surface waters, or from the impacts of nearby sewage discharges, most commonly as a result of heavy rainfall.**

**'Poor' classification means that the bathing water has not met the minimum required standard required under the Bathing Water Regulations and that adequate management measures to improve its quality require to be identified and implemented.**

**It is however important to note that a 'Poor' classification is based on a 4 year data set and is assessed on a rolling basis each year whereas the current water quality (as shown on Splash) is based on the last reported sample and is gauged against the criteria in section 2.7.**

For the assessment period 2012-2015 there are just 6 identified bathing waters currently classed as 'Poor'. Four of these also rated as 'Poor' in the 2014 assessment. In each case the problems have been linked to the impacts of pollution from either wastewater discharges or surface waters.

The EPA's "*Guidance on the Management of Poor Bathing waters*" prescribes the following actions to be undertaken by local authorities in such circumstances:

- An 'Advice against bathing' or 'Bathing prohibition' restriction be applied for the entire season;
- The local authority, in consultation with Irish Water (where relevant), establish a management plan for improving the water quality of the poor bathing water which includes both short and long term measures;
- EPA assessment of the proposed management plan;
- The responsible authority(s) implementation of the management plan. Where the plan is not assessed as appropriate by the EPA, then a local authority will be required to correct any outstanding deficiencies or issue a bathing prohibition for the following season.

In addition to these measures the local authority will be required to provide information to the public to reduce their potential exposure to pollution. This information includes:

- The causes and reasons for the poor classification;
- The measures taken or planned to improve the situation;
- The implications for bather health, and
- Contact details.

**Monitoring of these 'Poor' waters will continue to be undertaken throughout the bathing season and the results will be available on beach noticeboards and on the Splash website.**

While an 'advice against bathing' is the most likely restriction, a local authority may choose to implement a 'Bathing prohibition' which is, in effect, a ban on bathing.

**In neither case does this mean that the beach itself is “off-limits” since the restriction applies to bathing rather than use of the landward area of the beach.**

The EPA will meet with local authorities and Irish Water to review plans for the implementation of management measures in early 2016 with any management plans being submitted for assessment prior to the commencement of the 2016 bathing season. Assessment of the implementation and effectiveness of any management measures will be undertaken during the 2016 bathing season.

### 3.10 Management Measures for Poor waters

The following table shows the progress and issues relating to those 'Poor' waters classified in both 2014 and 2015.

Much of the investment required to rectify issues with wastewater discharges has been identified in Irish Water's Capital Investment Programs however in most cases the timeframe is several years off due to the conflicting priorities of balancing investment in other areas of drinking water and wastewater infrastructure.

On the positive side new wastewater infrastructure has been put in place at Ardmore (Co. Waterford) and Clifden (Co. Galway) which has resulted in marked improvements in bathing water quality. Irish Water has announced plans for major infrastructural works to improve water quality at Rush South Beach with a planned commencement date of autumn 2016.

Both Ballyloughane and Duncannon showed better water quality during the 2015 bathing season than in previous years which, if maintained, could possibly see them return to 'Sufficient' classification in 2016 having finally lost the elevated results of the wet 2012 season. For Rush and Youghal performance in the 2015 bathing season was also better and a good season in 2016 could also see them improve in overall classification however it must be said that all of these waters are vulnerable to wastewater impacts and their remediation is linked to investment in wastewater infrastructure.



Bathing Water	Local Authority	First year classified as 'Poor' under 2006/7/EC	Summary of key management measures proposed	Action taken and Outcomes achieved	Performance using 2015 data only	Class 2012 -2015	Comment
<b>Ardmore</b>	Waterford City & County Council	2014	Improvements to be made to the wastewater treatment plant (WWTP) effluent disinfection systems with increased dosage and improved backup systems. A new WWTP and outfall upgrade is planned for 2017.	Disinfection dosing systems were upgraded and alarms and communication systems were installed. New wastewater treatment plant constructed and commissioned in late 2015.	8 Excellent 1 Poor	Sufficient	Improvements in <i>E.coli</i> levels were observed in 2015 as a result of the implementation of management measures.
<b>Ballyloughane</b>	Galway City Council	2014	Remedial works on combined storm overflows to limit their operation have been undertaken. Investigative surveys are to be undertaken to identify misconnections to adjacent streams together with interception / separation of foul discharges. Longer term plans for sewer network upgrades as required from investigative surveys. Upgrade of Mutton Island WWTP is current at process proving stage and is due for completion in Q2 of 2016	The main activities in 2015 have involved investigative surveys to identify and correct misconnections to surface water drainage systems. Detailed examination of the Merlin Park sewers is planned to be complete by Q3 of 2017.	14 Excellent 1 Poor	Poor	Ballyloughane showed a noticeable improvement in water quality in 2015 especially for <i>E.coli</i> . The bathing water is still classified as 'Poor' however it only just falls into this category due to one very high sample in each of the years 2013 and 2014.
<b>Clifden</b>	Galway County Council	2014	Extensive overhaul of the sewer network is now complete with separation of surface and foul water in the town centre. The new WWTP is operational since Q3 of 2015 with disinfection of the effluent discharge during the bathing season.	Extensive sewer network upgrading was completed in 2015. Operation of the new WWTP commenced in September 2015 (post bathing season) but is expected to significantly improve future bathing water quality.	5 Excellent	Changes	Clifden was sampled at the minimum required frequency however all samples were of Excellent quality. It is considered that this is likely to have been a consequence of sewer infrastructure upgrades.
<b>Duncannon</b>	Wexford County Council	2014	A temporary package WWTP is to be relocated to Duncannon with commissioning by Q3 of 2015. There are longer term plans for upgrading of the sewer network and construction of a permanent WWTP (expected 2017). Monitoring of water quality in the R. Barrow and increased monitoring of surface water discharges.	Objection to the location of the proposed WWTP meant no infrastructural remedial action was undertaken. Duncannon forms part of an 18 location review by Irish Water and treatment is not expected before 2017. Substantive investigative work undertaken in 2015 to identify possible pollution impacts.	14 Excellent 2 Good	Poor	Duncannon shows variable performance but seldom exhibits extremely high bacterial counts. In 2015 water quality was much better than in previous years however the absence of a suitable wastewater treatment system means this site remains at risk.

Bathing Water	Local Authority	First year classified as 'Poor' under 2006/7/EC	Summary of key management measures proposed	Action taken and Outcomes achieved	Performance using 2015 data only	Class 2012 -2015	Comment
Lilliput	Westmeath County Council	2014	Investigation of effluent flow paths has been undertaken together with process optimization of the WWTP. Plant maintenance and improvement of overhaul / replanting of reed bed effluent treatment system. Proposal to operate to trigger levels of <i>E.coli</i> before action with optional tankering and off-site disposal of effluent.	In 2015 Westmeath Co. Co. opted to tanker offsite all wastewaters from the small WWTP at Lilliput. Water quality was considerably better than that observed in 2013 / 2014.	13 Excellent 4 Good	Changes	The offsite treatment of wastewater significantly improved water quality based on 2015 data only. This allows its classification as 'Changes'.
Rush South Beach	Fingal County Council	2014	Inspections of septic tanks in the area of the beach catchment area are proposed together with dog fouling inspections and assessment of surface outfall quality.  Longer term (2018) proposals are to connect Rush agglomeration into the Portrane / Donabate / Rush / Lusk sewerage scheme.	No major infrastructure work in 2015. Water quality improved on that observed in 2014.  Construction contracts are at the pre-qualification stage and not expected to be complete before end 2018.  In February 2016 Irish water announced plans for Rush infrastructure improvements to commence in autumn 2016	7 Excellent 1 Good 1 Sufficient	Poor	While most of the 2015 samples showed Excellent quality Rush South beach continues to show episodic pollution which appears to be linked to wastewater discharges.
Youghal Front Strand	Cork County Council	2014	Proposed actions include the interception and separation of foul discharges and surface water discharges to outfalls in proximity of the bathing area.  An extensive upgrade of sewer network is underway and new WWTP is under construction. It is expected to be commissioned in 2017.	Interception of the main CSO to reduce likelihood of discharges to the Front Strand. Sewer network contract 90% completed.  Work on the construction of new WWTP commenced in Sept. 2015 with expected completion by late 2017.	9 Excellent 2 Good	Poor	Youghal Front Strand showed an improved performance in 2015 compared to previous years but it is drawn down due to the impacts of high bacterial counts from CSO operation during the wet summer of 2012.  If current performance is maintained during 2016 it is likely to return to at least 'Sufficient' classification.

Bathing Water	Local Authority	First year classified as 'Poor' under 2006/7/EC	Summary of key management measures proposed	Target dates for proposed outcomes	Performance using 2015 data only	Class 2012 -2015	Comment
Loughshinny	Fingal County Council	2015	<p>New classification for 2015. A management plan has been submitted to the EPA for assessment.</p> <p>Irish Water has two sewerage projects planned to facilitate the decommissioning of the septic tank at Loughshinny and provide transfer of existing pumping station discharges to other WWTP. Completion is expected in late 2017.</p>	<p>The Pump station project tender package will be complete at the end of Q3 2016. Construction should commence at the end of Q4 2016.</p> <p>Construction will take approximately 12 months, with commissioning expected to be complete by the end of Q4 2017.</p>	<p>6 Excellent 1 Good 2 Sufficient</p>	Poor	<p>Loughshinny was first identified in 2013 as at risk of being classed as 'Poor' due to impacts from Septic tanks and surface water drainage.</p> <p>There are possible impacts from wastewater discharges to north of the bathing area.</p>
Merrion Strand	Dublin City Council	2015	<p>New classification in 2015. A management plan has been submitted to EPA for assessment which focuses primarily on the identification and remediation of misconnections to the Elm Park and Trimleston streams draining to Merion Strand.</p> <p>Irish water has indicated their willingness to cooperate with the relevant Local Authorities into investigations required in ascertaining misconnections to the surface water systems. Irish Water will use and develop current network models to assess possible pressures on the bathing water quality.</p> <p>Irish Water propose to assess the current CSO spill data to the Elm Stream and correlate with the bathing water samples to check their impact and relevance</p>	<p>Q4 / 2017 for the misconnection program</p> <p>Irish water has implemented automatic warning signs linked to the existing Ailesbury pumping station warning the public of a pumped overflow to Merrion Strand. They have carried out a survey of the Ailesbury pumping station and are currently compiling this data to verify existing network models and ascertain its upgrade requirements.</p> <p>Further surveys will be required in the network and commencement is expected in April 2016</p>	<p>9 Excellent 5 Good 1 Sufficient 5 Poor</p>	Poor	<p>Merrion Strand exhibited a number of sporadic but significant pollution events during 2015 which appear to be largely linked the quality of nearby surface waters / streams or other urban run-off.</p> <p>Inputs from the Elm Park stream and changes in flow direction due to a build-up of near shore sandbars have been linked to these events.</p> <p>Microbiological profiling studies have shown the presence of faecal pollution from seabirds as well as from human origin.</p>

### Ardmore Beach

Improvements to the systems for the disinfection of sewage effluent at Ardmore in 2015 resulted in a notable improvement in water quality with only 1 sample of 9 showing 'Poor' quality. This sample was taken after heavy rainfall which may have impacted on the efficiency of the disinfection process. Following this further improvements were made to increase the dosage of chlorine solution if rainfall was expected.

### Ballyloughane Beach

There was a noticeable improvement in water quality at Ballyloughane in 2015 compared to previous years. Extensive civil engineering works have been undertaken on outfalls in the area and in 2016 this will involve camera surveys of the Merlin Park sewage network to identify possible misconnections. One poor sample was obtained on 4<sup>th</sup> August following heavy overnight rainfall.

### Clifden Beach

Remedial civil engineering works to provide a new wastewater treatment plant and upgrade the sewage network for Clifden have resulted in a marked improvement in water quality. This is expected to be maintained through the use of UV disinfection of effluent in the coming bathing season facilitating the removal of bathing prohibitions for this water.

### Duncannon

Water quality at Duncannon is seldom particularly bad however it shows generally low level pollution impacts on a regular basis and it is this which contributed to its Poor classification in 2014. Performance in 2015 was extremely good however the overall assessment is still one of 'Poor' quality. The proposed wastewater treatment plant is the subject on ongoing negotiations.

### Lilliput, Lough Ennel

Off-site treatment of wastewater from the small treatment system at Lilliput appears to have dramatically improved water quality in 2015 though some low level bacterial pollution is still evident – possibly from swans and birds. Water quality would have met criteria for 'Good' classification based on 2015 data only. This water has been formally classified as 'Changes' following confirmation by Westmeath County Council to continue with off-site treatment of wastewaters until a more permanent measure is implemented.

### Rush South Beach

Although overall water quality in 2015 was better than that observed in previous years Rush still exhibits episodic pollution events linked, most likely, to wastewater discharges. The combination of these periodic events and the poor quality observed in 2012 serves to influence the quality classification. Comparable performance to that observed in 2015 would be likely to return Rush to 'Sufficient' classification in 2016.

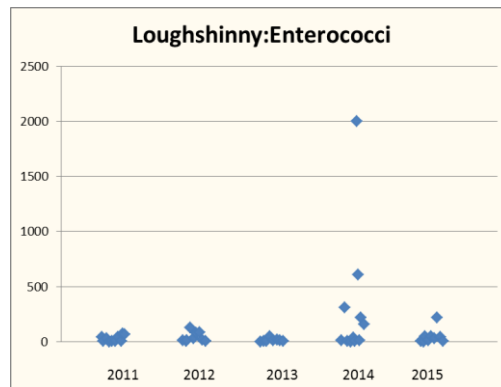
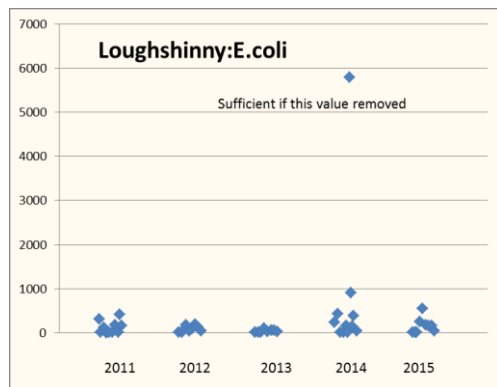
### Youghal Front Strand Beach

During the 2015 bathing season the water quality at Youghal Front Strand was considerably better than that experienced in several of the previous bathing seasons reflecting the benefits of the significant investment in improvements to the sewerage network within the town. The bathing water however is still formally classified as 'Poor' but this reflects the impacts of the wet summer of 2012 and isolated high counts in 2013 and 2014. If comparable quality to that observed in 2015 occurs in 2016 the bathing water is likely to return to at least 'Sufficient' classification.

Work on the construction of a wastewater treatment plant for the town should bring about further improvements in water quality however the proximity of the beach to the River Blackwater may mean that even with the new wastewater plant the possibility of low level bacterial pollution from agricultural inputs remains a potential pressure.

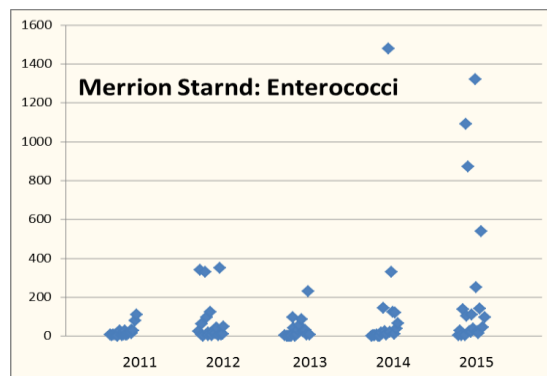
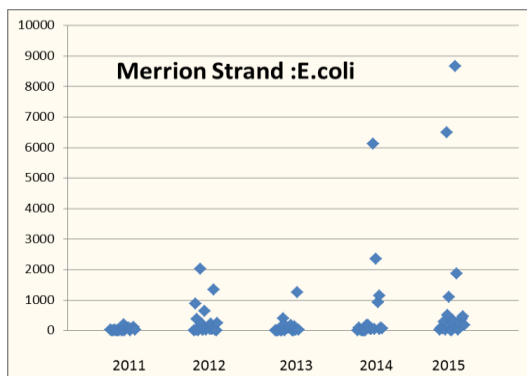
### Loughshinny Beach

In 2014, as with most of the bathing waters in Fingal, Loughshinny was badly affected by heavy rainfall over the August Bank Holiday weekend. This rainfall led to the operation of wastewater storm outfalls along much of the Dublin Bay coastline. Although wet weather had been forecast an extreme downpour on the morning of sampling was not anticipated. The significance of this event is clearly shown in the following dot plot. Exclusion of this uncharacteristically high value would have led to Loughshinny being classified as 'Sufficient' quality however the need for improved wastewater infrastructure renders this bathing area very vulnerable to sporadic pollution especially after heavy rainfall. Seasonal bathing restrictions will require to be applied in 2016.



### Merrion Strand

Merrion Strand, in common with the other Dublin City bathing areas, is very prone to the impacts of urban run-off, wastewater discharges, and surface water contamination especially after heavy rainfall. This bathing area has a gently sloping profile and even at high tide is comparatively shallow. In the last few years it has become noticeable that the course of the Elm Park Stream, which drains to the beach on its southern end, has changed and is now flowing across the area where sampling is carried out. Dublin City Council has identified bacterial contamination of this stream and efforts are being made to identify the source using genetic profiling techniques. In 2015 several pollution-related restrictions were applied as shown below and this has led to the bathing water being classified as 'Poor'. Seasonal bathing restrictions will require to be applied in 2016.



### 3.11 Sources of further information

Further information in relation to bathing waters both in Ireland and throughout the EU is available from the following sources.

1. **Europe's bathing water quality** (Country specific reports and an interactive data / map viewer):

EEA Water Information System for Europe (WISE)

<http://www.water.europa.eu/>

European Environment Agency

<http://www.eea.europa.eu>

2. **Ireland's environment**

Water Quality in Ireland 2010 - 2012 (EPA)

<http://www.epa.ie/pubs/reports/water/waterqua/wqr20102012/>

Ireland's Environment 2012: An Assessment (EPA)

<http://www.epa.ie/pubs/reports/indicators/irelandsenvironment2012.html>

3. **Other organisations with an interest in bathing water quality**

An Taisce (National Trust for Ireland) [www.antaisce.org](http://www.antaisce.org)

Foundation for Environmental Education (FEE) [www.fee-international.org](http://www.fee-international.org)

Clean Coasts Ireland [www.cleancoasts.org](http://www.cleancoasts.org)

Blue Flag and Green Coast schemes are available at [www.blueflagireland.org](http://www.blueflagireland.org)

and at [www.antaisce.org](http://www.antaisce.org)

Coastwatch Europe <http://coastwatch.org/europe/>

4. Water Safety - Irish Water Safety [www.iws.ie](http://www.iws.ie)

5. Uisce Éireann (Irish Water) <https://www.water.ie>

6. **National Regulatory bodies (UK and Northern Ireland)**

Scottish Environmental Protection Agency [http://www.sepa.org.uk/water/bathing\\_waters.aspx](http://www.sepa.org.uk/water/bathing_waters.aspx)

Environmental Agency (England)

<https://www.gov.uk/quality-of-local-bathing-water>

Natural Resources (Wales)

<http://environment.data.gov.uk/wales/bathing-waters/profiles/>

Department of Environment, Food & Rural Affairs (UK)

<https://www.gov.uk/search?q=Bathing+Water>

Department of Environment (Northern Ireland)

<http://www.nidirect.gov.uk/bathing-water-quality>

## 4. Summary of Ireland's identified bathing waters

Water quality assessments have been undertaken on all of the EU identified waters for the period 2012-2015 involving statistical assessment of the 95 and 90 percentile values following logarithmic transformation of the bacteriological results. This information is presented in the following table. All locations are coastal waters unless specified.

2012-2015 Status Assessment	E. coli Status	Intestinal Enterococci status	Overall	Change from 2014	Comments
<b>Clare County Council</b>					
Ballyallia Lake, Ennis (freshwater)	Excellent	Excellent	Excellent	No change	Overall water quality in Co. Clare bathing waters remains extremely high with all bathing waters showing Excellent classification.
Ballycuggeran (freshwater)	Excellent	Excellent	Excellent	No change	
Bishopsquarter	Excellent	Excellent	Excellent	No change	
Cappagh Pier Kilrush	Excellent	Excellent	Excellent	No change	
Fanore	Excellent	Excellent	Excellent	No change	
Kilkee	Excellent	Excellent	Excellent	No change	
Lahinch	Excellent	Excellent	Excellent	No change	
Mountshannon (L. Derg – freshwater)	Excellent	Excellent	Excellent	No change	
Spanish Point	Excellent	Excellent	Excellent	No change	
White Strand , Doonbeg	Excellent	Excellent	Excellent	No change	
White Strand, Miltown Malbay	Excellent	Excellent	Excellent	No change	
<b>Cork County Council</b>					
Barley Cove	Excellent	Excellent	Excellent	No change	
Coolmaine	Sufficient	Excellent	Sufficient	<i>E.coli</i> poorer	Coolmaine shows episodic elevated levels of <i>E.Coli</i>
Fountainstown	Sufficient	Good	Sufficient	No change	Fountainstown remains vulnerable to surface water impacts particularly after heavy rainfall
Garretstown	Good	Excellent	Good	<i>E.coli</i> poorer	
Garrylucas White Strand	Excellent	Excellent	Excellent	No change	
Garryvoe	Sufficient	Good	Sufficient	Both poorer	Garryvoe suffers from episodic pollution linked to impacts from surface water quality
Inchydoney	Excellent	Excellent	Excellent	No change	
Owenahincha Little Island Strand	Excellent	Excellent	Excellent	No change	

2012-2015 Status Assessment	E.Coli status	Intestinal Enterococci status	Overall	Change from 2014	Comments	
Redbarn	Good	Excellent	Good	<i>E.coli</i> poorer	Redbarn was visually impacted by presence of Sea lettuce ( <i>Ulva</i> sp.) at times during the 2015 bathing season.	
Tragumna	Excellent	Excellent	Excellent	No change	Tragumna was affected by surface water pollution at times during 2015. Investigations by Cork Co. Co.identified possible sources.	
Warren, Cregane Strand	Good	Excellent	Good	No change		
Youghal Claycastle	Sufficient	Excellent	Sufficient	No change		
Youghal Front Strand Beach	Poor	Excellent	Poor	No change	Significant improvement in quality in 2015 season however it is still formally classified as Poor based largely on the legacy impacts of the very wet 2012 season	
<b>Donegal County Council</b>						
Ballyhiernan, Fanad	Excellent	Excellent	Excellent	No change	These waters continue to be of extremely high quality with few pollution sources or events identified.	
Bundoran	Excellent	Excellent	Excellent	No change		
Carrickfinn	Excellent	Excellent	Excellent	No change		
Culdaff	Excellent	Excellent	Excellent	No change		
Downings	Excellent	Excellent	Excellent	No change		
Drumnatinny	Excellent	Excellent	Excellent	No change		
Fintra	Excellent	Excellent	Excellent	No change		
Killahoey	Excellent	Excellent	Excellent	No change		
Lady's Bay, Bunrana	Excellent	Sufficient	Sufficient	<i>E.coli</i> improved	Lady's Bay appears to exhibit elevated Enterococci counts which do not necessarily follow the same pattern as <i>E.coli</i>	
Lisfannon	Excellent	Excellent	Excellent	No change	These waters continue to be of extremely high quality with few pollution sources or events identified.	
Marble Hill	Excellent	Excellent	Excellent	No change		
Murvagh	Excellent	Excellent	Excellent	No change		
Naran	Excellent	Excellent	Excellent	No change		
Portarthur , Derrybeg	Excellent	Excellent	Excellent	No change		
Portnablagh	Excellent	Good	Good	No change		Portnablagh shows very variable Enterococci counts even with low <i>E. coli</i>
Portsalon	Excellent	Excellent	Excellent	No change		Rathmullen also shows very variable Enterococci counts even with low <i>E. coli</i>
Rathmullan	Excellent	Good	Good	No change		
Rossnowlagh	Excellent	Excellent	Excellent	No change		
Stroove	Excellent	Excellent	Excellent	No change		



2012-2015 Status Assessment	E.Coli status	Intestinal Enterococci status	Overall	Change from 2014	Comments
<b>Dublin City Council</b>					
Dollymount Strand	Good	Sufficient	Sufficient	I.E. poorer	Dollymount showed episodic elevated Enterococci counts in 2015
Merrion Strand	Poor	Poor	Poor	Both poorer	Several pollution incidents were reported for Merrion Strand in 2015 due mainly to impacts of surface water streams or seabirds
Sandymount Strand	Sufficient	Sufficient	Sufficient	Both poorer	Sandymount also exhibited a number of pollution incidents which may have been linked to wastewaters or urban runoff
<b>Dun Laoghaire Rathdown Co. Co.</b>					
Killiney	Excellent	Excellent	Excellent	No change	
Seapoint	Excellent	Excellent	Excellent	No change	
<b>Fingal County Council</b>					
Balbriggan, Front Strand Beach	Sufficient	Sufficient	Sufficient	I.E. poorer	Balbriggan remains extremely vulnerable to pollution from the Matt River and activities within Balbriggan harbour area
Claremont Beach	Good	Good	Good	No change	
Donabate, Balcarrick Beach	Excellent	Excellent	Excellent	No change	
Loughshinny Beach	Sufficient	Poor	Poor	I.E. poorer	Loughshinny downgraded to Poor status due to impacts of pollution events during 2015
Portmarnock, Velvet Strand Beach	Excellent	Excellent	Excellent	No change	
Portrane, the Brook Beach	Good	Good	Good	Both poorer	
Rush, South Beach	Sufficient	Poor	Poor	No change	Rush continues to be affected by wastewater discharges
Skerries, South Beach	Sufficient	Good	Sufficient	<i>E.coli</i> poorer	Skerries continues to show episodic elevated <i>E.coli</i> leading to an overall reduction in classification
Sutton, Burrow Beach	Excellent	Excellent	Excellent	No change	
<b>Galway City Council</b>					
Ballyloughane Beach	Poor	Poor	Poor	No change	Ballyloughane showed improved quality in 2015 but its classification is influenced by previous pollution incidents in 2013 / 2014
Grattan Road Beach	Sufficient	Excellent	Sufficient	I.E. poorer	
Salthill Beach	Excellent	Excellent	Excellent	No change	
Silverstrand Beach	Excellent	Excellent	Excellent	No change	
<b>Galway County Council</b>					
An Tra Mor, Coill Rua, Indreabhain	Excellent	Excellent	Excellent	No change	
Bathing Place at Portumna (freshwater)	Excellent	Excellent	Excellent	No change	
Céibh an Spidéil	Good	Good	Good	No change	

2012-2015 Status Assessment	E.Coli status	Intestinal Enterococci status	Overall	Change from 2014	Comments
Cill Mhuirbhígh, Inis Mór	Excellent	Excellent	Excellent	No change	
Clifden	Poor	Poor	Changes	New class	All 5 samples taken in 2015 showed Excellent quality. Classified in Changes category due to WWTP improvements
Goirtín, Cloch na Rón	Excellent	Excellent	Excellent	No change	
Loughrea Lake (freshwater)	Excellent	Excellent	Excellent	No change	
Trá an Dóilín, An Ceathrú Rua	Excellent	Excellent	Excellent	No change	
Trá Chaladh Finis, Carna	Excellent	Excellent	Excellent	No change	
Trá Inis Oirr	Excellent	Excellent	New	No change	Identified in 2014. Formal classification is not possible due to the number of samples taken currently less than 16 samples. Expected to be Excellent based on results to date.
Trá na bhForbacha , Na Forbacha	Sufficient	Good	Sufficient	No change	
Trá na mBan, An Spidéal	Sufficient	Good	Sufficient	No change	
Traught, Kinvara	Excellent	Excellent	Excellent	No change	
<b>Kerry County Council</b>					
Baile an Sceilig (Ballinskelligs)	Excellent	Excellent	Excellent	No change	All of Kerry County Council identified bathing waters continue to be of Excellent quality.
Ballybunnion North	Excellent	Excellent	Excellent	No change	
Ballybunnion South	Excellent	Excellent	Excellent	No change	
Ballyheigue	Excellent	Excellent	Excellent	No change	
Banna Strand	Excellent	Excellent	Excellent	No change	
Castlegregory	Excellent	Excellent	Excellent	No change	
Doire Fhionáin (Derrynane)	Excellent	Excellent	Excellent	No change	
Fenit	Excellent	Excellent	Excellent	No change	
Fiontrá (Ventry)	Excellent	Excellent	Excellent	No change	
Inch	Excellent	Excellent	Excellent	No change	
Kells	Excellent	Excellent	Excellent	No change	
Maharabeg	Excellent	Excellent	Excellent	No change	
Rossbeigh, White Strand	Excellent	Excellent	Excellent	No change	
Trá na hUíne (Inny Strand,Waterville)	Excellent	Excellent	Excellent	No change	
White Strand, Caherciveen	Excellent	Excellent	Excellent	No change	

2012-2015 Status Assessment	E.Coli status	Intestinal Enterococci status	Overall	Change from 2014	Comments
<b>Leitrim County Council</b>					
Keeldra Lough (freshwater)	Excellent	Excellent	Excellent	No change	
<b>Louth County Council</b>					
Clogherhead	Excellent	Excellent	Excellent	No change	Bathing waters in Co.Louth continue to be of a very high quality with few pollution sources having been identified.
Port Lurganboy	Excellent	Excellent	Excellent	No change	
Seapoint	Excellent	Excellent	Excellent	No change	
Shelling Hill/Templetown	Excellent	Excellent	Excellent	No change	
<b>Mayo County Council</b>					
Bertra Beach, Murrisk	Excellent	Excellent	Excellent	No change	Bathing waters in Co. Mayo continue to be of a very high quality with few pollution sources having been identified.
Carrowmore Beach, Louisburgh	Excellent	Excellent	Excellent	No change	
Carrowniskey, Louisburgh	Excellent	Excellent	Excellent	No change	
Clare Island, Louisburgh	Excellent	Excellent	Excellent	No change	
Dooega Beach, Achill Island	Excellent	Excellent	Excellent	No change	
Dugort Beach, Achill Island	Excellent	Excellent	Excellent	No change	
Elly Bay, Belmullet	Excellent	Excellent	Excellent	No change	
Golden Strand, Achill Island	Excellent	Excellent	Excellent	No change	
Keel Beach, Achill Island	Excellent	Excellent	Excellent	No change	
Keem Beach, Achill Island	Excellent	Excellent	Excellent	No change	
Mullaghroe Beach, Belmullet	Excellent	Excellent	Excellent	No change	
Mulranny Beach	Excellent	Excellent	Excellent	No change	
Old Head Beach, Louisburgh	Excellent	Good	Good	No change	
Rinroe Beach, Carrowtigue	Excellent	Excellent	Excellent	No change	
Ross Beach, Killala	Excellent	Excellent	Excellent	No change	
<b>Meath County Council</b>					
Laytown/Bettystown	Good	Excellent	Good	No change	
<b>Sligo County Council</b>					
Dunmorran Beach	Excellent	Excellent	Excellent	No change	

2012-2015 Status Assessment	E.Coli status	Intestinal Enterococci status	Overall	Change from 2014	Comments
Enniscrone Beach	Good	Excellent	Good	No change	
Mullaghmore Beach	Excellent	Excellent	Excellent	No change	
Rosses Point Beach	Excellent	Excellent	Excellent	No change	
Streedagh Beach	Excellent	Excellent	Excellent	No change	
<b>Waterford City and County Council</b>					
Ardmore Beach	Sufficient	Sufficient	Sufficient	<i>E.coli</i> improved	Ardmore showed much improved water quality in 2015 with only 1 sample not of Excellent quality. Change from Poor class in 2014.
Bunmahon Beach	Sufficient	Excellent	Sufficient	<i>E.coli</i> poorer	Bunmahon remains vulnerable to pollution arising from the Mahon rivers which drains adjacent to the bathing area
Clonea Beach	Excellent	Excellent	Excellent	No change	
Counsellors' Strand, Dunmore East	Excellent	Excellent	Excellent	No change	
Dunmore Strand, Dunmore East	Excellent	Excellent	Excellent	No change	
Tramore Beach	Excellent	Excellent	Excellent	No change	
<b>Westmeath County Council</b>					
Lilliput, L. Ennel (freshwater)	Poor	Good	Changes	New Class	Lilliput showed much improved quality in 2015 and is now classified as 'Changes' based on remedial actions taken in 2015
Portnashangan, L. Owel (freshwater)	Excellent	Excellent	Excellent	No change	
The Cut, L. Lene (freshwater)	Excellent	Excellent	Excellent	No change	
<b>Wexford County Council</b>					
Ballinesker	Excellent	Excellent	Excellent	New for 2015	Ballinesker has been monitored for several years but was only designated as an EU 'identified' bathing water in 2015
Ballymoney North Beach	Excellent	Excellent	Excellent	No change	
Courtown North Beach	Excellent	Excellent	Excellent	No change	
Curraclloe	Excellent	Excellent	Excellent	No change	
Duncannon	Poor	Sufficient	Poor	No change	Duncannon showed good water quality during 2015. Classification is influenced by episodic pollution events in previous years
Morriscastle	Excellent	Excellent	Excellent	No change	
Rosslare Strand	Excellent	Excellent	Excellent	No change	
<b>Wicklow County Council</b>					
Bray South Promenade	Good	Excellent	Good	No change	
Brittas Bay North	Excellent	Excellent	Excellent	Improved IE	Brittas Bay North returned to Excellent from being Good in 2014

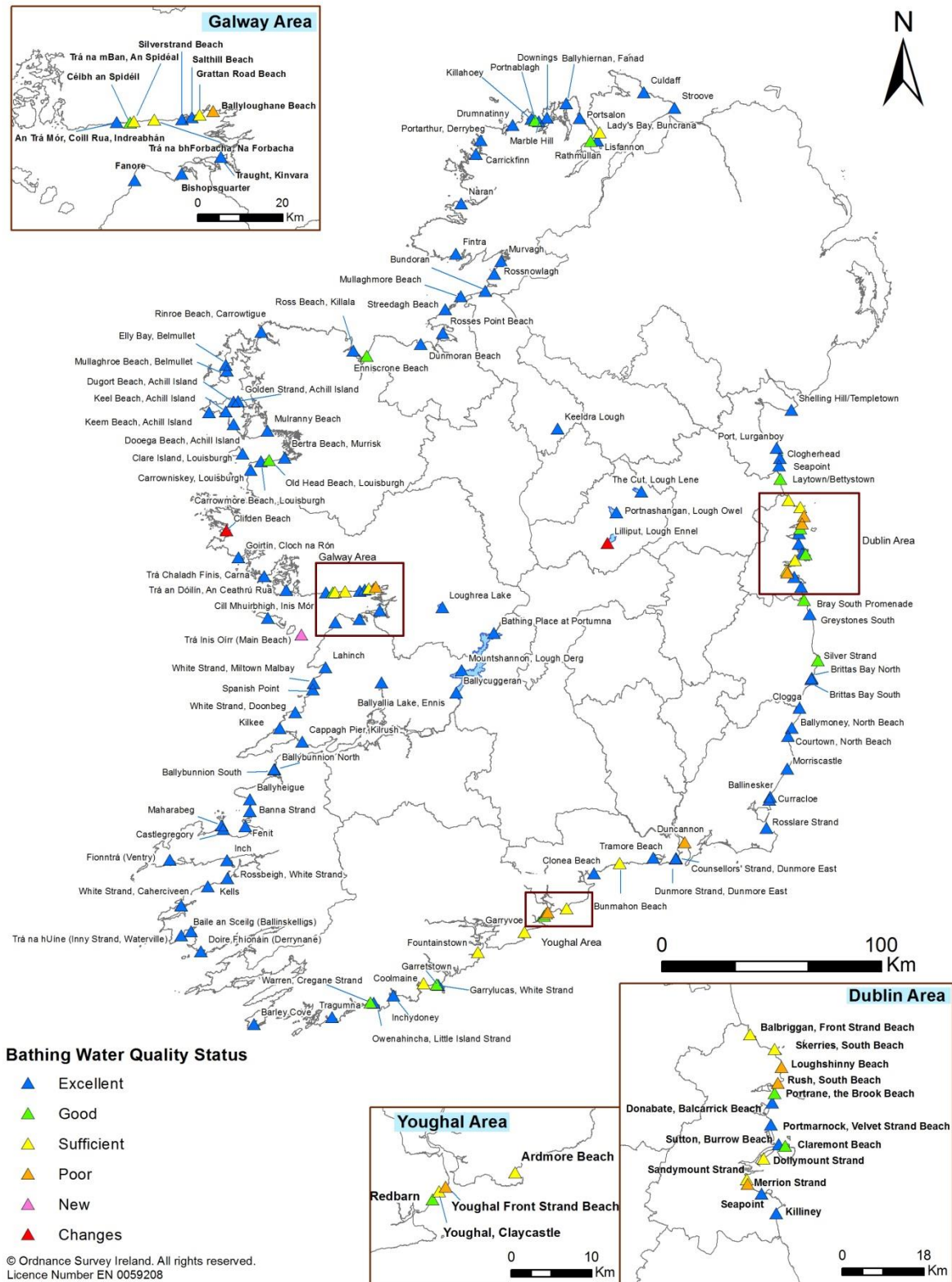
2012-2015 Status Assessment	E.Coli status	Intestinal Enterococci status	Overall	Change from 2014	Comments
Brittas Bay South	Excellent	Excellent	Excellent	No change	
Clogga	Excellent	Excellent	Excellent	No change	
Greystones South	Excellent	Excellent	Excellent	No change	
Silver Strand	Good	Excellent	Good	E coli poorer	Silver Strand only just failed to meet the Excellent standard for <i>E. coli</i>

A summary of the changes is presented below:

Annual Bathing Water Quality Classification	2014 (based on 2011-2014 samples)	2015 (based on 2012-2015 samples)	Bathing Waters which are new to this status classification in 2015		Bathing Waters which have moved from this status classification since 2014	
			Local Authority	Bathing Water	Local Authority	Bathing Water
Poor	7	6	Dublin City Co. Fingal Co. Co.	Merrion Strand Loughshinny Beach	Waterford City & Co. Co. Galway Co. Co. Westmeath Co. Co.	Ardmore Beach Clifden Beach Lilliput, Lough Ennel
Sufficient	9	14	Cork Co. Co.  Dublin City Council  Fingal Co. Co. Waterford City & Co. Co.	Coolmaine Garryvoe Dollymount Strand Sandymount Strand Skerries, South Beach Ardmore Beach Bunmahon Beach	Dublin City Co Fingal Co Co	Merrion Strand Loughshinny Beach
Good	16	13	Cork Co. Co.  Fingal Co. Co. Wicklow Co. Co.	Garretstown Redbarn Portrane, the Brook Beach Silver Strand	Cork Co. Co.  Dublin City Council  Fingal Co. Co. Waterford City & Co. Co. Wicklow Co. Co.	Coolmaine Garryvoe Dollymount Strand Sandymount Strand Skerries, South Beach Bunmahon Beach Brittas Bay North
Excellent	103	101	Wexford Co. Co. Wicklow Co. Co.	Ballinesker (new in 2015) Brittas Bay North	Cork Co. Co.  Fingal Co. Co. Wicklow Co. Co.	Garretstown Redbarn Portrane, the Brook Beach Silver Strand
New / Changed	1	3	Galway Co. Co. Westmeath Co. Co.	Clifden Lilliput	n/a	n/a
Total	137	136				

Figure 1: Map of Ireland's identified bathing waters

## Bathing Water Quality Map of Ireland 2015



## 5. Summary of other monitored waters

Although there are currently 137 waters which Ireland has formally identified to the EU as bathing waters there are many other waters around the country which are being monitored by local authorities because bathing is known to take place there. These are generally smaller, or more remote beaches or freshwater locations those where the infrastructure to cater for a large numbers of users (e.g. car parking facilities etc.) may not be as well developed as the popular bathing areas but which are considered important for eco-tourism purposes. Many of these waters are monitored in connection with the Green Coast award scheme.

Examination of data held in the EDEN database for the period 2012-2015 shows the quality **likely to be achieved** at these waters. This data is un-validated, unlike that used for identified bathing waters, though the same quality criteria have been applied. It should be stressed that these waters have no formal EU classification and thus their expected status is reflected solely by means of a comparison with the current bathing water standards. Blue highlight indicates a freshwater location.

The EPA is working with local authorities with the aim of bringing as many of these high quality waters as is practicable into the national monitoring program as identified bathing waters under the 2008 Bathing Water Quality Regulations. While they are presently monitored voluntarily by local authorities and generally at the minimum frequency required by the Bathing Water Regulations they are not specifically covered by the legislative and management requirements of the bathing water regulations although the same water quality standards have been applied.

**Note:** These bathing areas may not necessarily have the same signage that applies to the 137 identified bathing waters. Of these 'other monitored waters' just two, Stradbally and Ballyvooney - both in Co. Waterford, are indicated to be likely to be of 'Poor' quality at times due to impacts from nearby wastewater discharges into surface waters which subsequently impact on those bathing areas.

Sadly, each year there are always bathing related accidents which lead to loss of life. Swimming in waters not designated as being safe for bathing - such as rivers, flooded quarries, and canals, carries with it many possible dangers including hidden submerged objects, strong currents, and hypothermia in addition to a wide range of possible microbial hazards. However tempting it may be, do not swim alone - always let someone know where you are going, and above all be sensible around water. Further information can be obtained from Irish Water Safety.

**Many of the locations below may have no lifeguards, first aid / safety equipment, or general facilities such as those found at identified bathing waters. While water quality monitoring is undertaken by Local Authorities this is often at the minimum required frequency and bather discretion is advised.**

**It is strongly recommended that, before visiting any of these locations, bathers check with the local authority to identify any bathing restrictions which may be in place and check any local signage for information relating to water quality.**

Other waters monitored by local authorities (2012 – 2015 data)

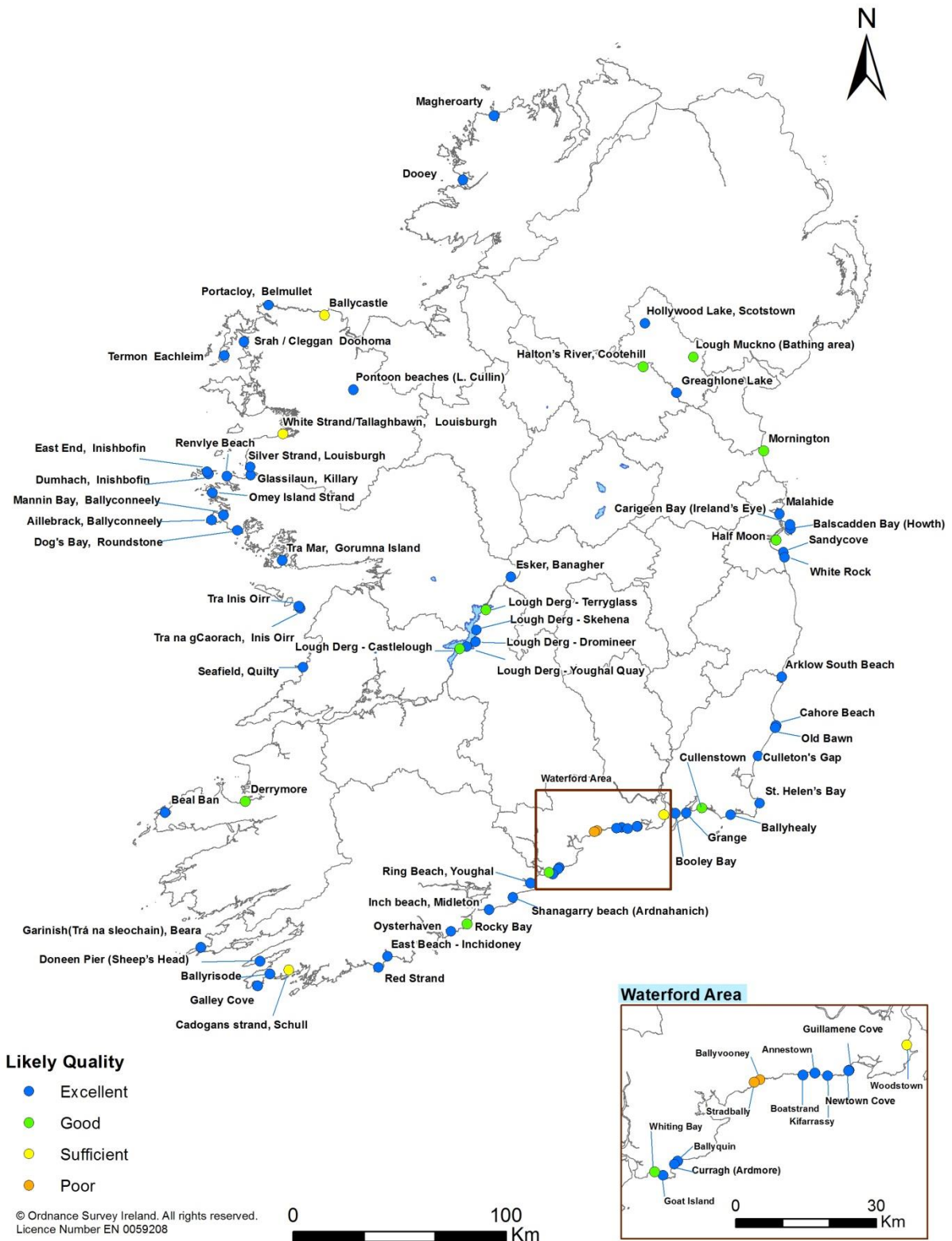
Local Authority	Bathing water	General Quality (2012 - 2015)
Clare County Council	Seafield, Quilty	Excellent
Cork County Council	Ballyrisode	Excellent
	Cadogans strand, Schull	Sufficient
	East Beach - Inchidoney	Excellent
	Galley Cove	Excellent
	Garinish(Trá na sleochain), Beara	Excellent
	Inch beach, Midleton	Excellent
	Oysterhaven	Excellent
	Red Strand	Excellent
	Ring Beach, Youghal	Excellent
	Rocky Bay	Good
	Shanagarry beach (Ardnahanich)	Excellent
	Doneen Pier (Sheep's Head)	Excellent
Donegal County Council	Dooley	Excellent
	Magheroarty	Excellent
Dublin City Council	Half Moon	Good
Dun Laoghaire - Rathdown County Council	Sandycove	Excellent
	White Rock	Excellent
Fingal County Council	Balscadden Bay (Howth)	Excellent
	Carigeen Bay (Ireland's Eye)	Excellent
	Malahide	Excellent
Galway County Council	Aillebrack, Ballyconneely	Excellent
	Dog's Bay, Roundstone	Excellent
	Dumhach, Inishbofin	Excellent
	East End, Inishbofin	Excellent
	Esker, Banagher	Excellent
	Glassilaun, Killary	Excellent
	Mannin Bay, Ballyconneely	Excellent
	Omey Island Strand	Excellent
	Tra na gCaorach, Inis Oirr	Excellent
	Renvlye Beach	Excellent
	Tra Inis Oirr	Excellent
	Tra Mar, Gorumna Island	Excellent
Kerry County Council	Beal Ban	Excellent
	Derrymore	Good
Mayo County Council	Ballycastle	Sufficient
	Pontoon beaches (L. Cullin)	Excellent
	Portacloy, Belmullet	Excellent
	Srah / Cleggan Doohoma	Excellent
	Termon Eachleim	Excellent
	White Strand/Tallaghbawn, Louisburgh	Sufficient
	Silver Strand, Louisburgh	Excellent
Meath County Council	Morington	Good
Monaghan County Council	Halton's River, Cootehill	Good
	Hollywood Lake	Excellent
	Lough Muckno (Bathing area only)	Good
	Greaghlonge Lake	Excellent
Tipperary County Council	Lough Derg - Terryglass	Good
	Lough Derg - Skehena	Excellent
	Lough Derg - Dromineer	Excellent
	Lough Derg - Youghal Quay	Excellent
	Lough Derg - Castlough	Good
Waterford City and County Council	Annestown	Excellent
	Ballyquin	Excellent
	Ballyvooney	Poor
	Boatstrand	Excellent



Local Authority	Bathing water	General Quality (2012-2015)
	Curragh (Ardmore)	Excellent
	Goat Island	Excellent
	Guillamene Cove	Excellent
	Kilfrassy	Excellent
	Newtown Cove	Excellent
	Stradbally	Poor
	Whiting Bay	Good
	Woodstown	Sufficient
<b>Wexford County Council</b>	Cahore Beach	Excellent
	Cullenstown	Good
	Culleton's Gap	Excellent
	Old Bawn	Excellent
	St. Helen's Bay	Excellent
	Ballyhealy	Excellent
	Booley Bay	Excellent
	Grange	Excellent
<b>Wicklow County Council</b>	Arklow South Beach	Excellent

Figure 2: Map of 'Other monitored waters'


## Bathing Water Quality (Other Monitored Waters) 2015




# Appendix 1: Examples of signage

## 'Prior Warning' - Temporary and Precautionary


**KEEL**



BN3 Bathing Prior Warning Notice  
**DATE:** 21<sup>st</sup> August 2015



# PRIOR WARNING



Bathers are advised of the possibility of an increase in the levels of bacteria in the bathing water over the coming days due to forecasted heavy rainfall which may result in short term pollution.

To reduce the risk of illness, beach users should take the following precautions:

- **Avoid swallowing or splashing water**
- **Wash your hands before handling food**
- **Avoid swimming with an open cut or wound**
- **Avoid swimming if you are pregnant or have a weakened immune system.**

Higher levels of bacteria are usually short-lived and most bathers are unlikely to experience any illness.

**LIKELY CAUSE:** Diffuse pollution due to a possibility of heavy rainfall.


**EXPECTED DURATION:** 3 days

**ACTIONS TAKEN/PROPOSED:** Bathing Water quality will be monitored by Mayo County Council


For further information please contact: Environment Section, Mayo County Council Tel: 094 9024444  
 Visit: <http://splash.epa.ie> or [www.mayococo.ie](http://www.mayococo.ie)

## 'Advice against bathing' - Temporary duration (Donegal Co. Co.)


Portarthur Beach



Bathing Water Advisory Notice Temporary  
**29/07/15**



# ADVICE NOT TO SWIM



Bathers are advised not to swim at this bathing water due to an increase in the levels of bacteria found in bathing water sample taken on 28/07/15.

To reduce the risk of illness, beach users should take the following precautions:

- **Avoid swallowing or splashing water**
- **Wash your hands before handling food**
- **Avoid swimming with an open cut or wound,**
- **Avoid swimming if you are pregnant or have a weakened immune system**

Higher levels of bacteria are usually short-lived and most bathers are unlikely to experience any illness.

**LIKELY CAUSE:** Under Investigation.

**EXPECTED DURATION:** 48 hours.

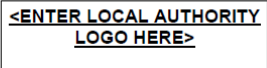


**ACTIONS TAKEN/PROPOSED:** Resample taken – notice will remain in place until incident has passed.

For further information please contact: Donegal County Council, Central Lab Tel: 0749122787  
 Visit: <http://splash.epa.ie> or [www.donegalcoco.ie](http://www.donegalcoco.ie)



**'Bathing prohibition' – Temporary duration (Cork Co. Co.)**

<u>Tragumna</u>	 CORK COUNTY COUNCIL	BN2 Bathing Prohibition Notice Temporary 7 <sup>th</sup> July 2015
 <div style="background-color: red; color: black; padding: 10px; display: inline-block; font-weight: bold; font-size: 2em;">WARNING</div> 		
<h2 style="margin: 0;">DO NOT SWIM</h2> <p style="margin: 0; background-color: #cccccc; padding: 2px;"><b>SWIMMING IN THIS WATER MAY CAUSE ILLNESS</b></p>		
<p><b>BATHING IS PROHIBITED DUE TO:</b> Elevated E. Coli level detected from a sample taken Monday July 6<sup>th</sup> 2015.</p> <p><b>LIKELY CAUSE:</b> Water quality affected due to heavy rain &amp; suspected septic tank/domestic wastewater contamination.</p> <p><b>EXPECTED DURATION:</b> 2 Days</p> <p><b>ACTIONS TAKEN/PROPOSED:</b> HSE notified &amp; prohibition notice advised.</p> <p>For further information please contact: Environment Department, Inniscarra, Co. Cork Tel: 021 4532700                  Visit: <a href="http://splash.epa.ie">http://splash.epa.ie</a> or <a href="http://www.corkcoco.ie">www.corkcoco.ie</a> e-mail: <a href="mailto:environ@corkcoco.ie">environ@corkcoco.ie</a></p>		

**Seasonal 'Advice against bathing' template – details are completed by the local authority**

<ENTER B WATER NAME HERE>	 <ENTER LOCAL AUTHORITY LOGO HERE>	Bathing Water Advisory Notice Entire Season BN4 <ENTER NOTICE DATE HERE>
 <div style="background-color: yellow; color: red; padding: 10px; display: inline-block; font-weight: bold; font-size: 2em;">ADVICE NOT TO SWIM</div> 		
<p style="margin: 0; background-color: #cccccc; padding: 2px;"><b>THIS BATHING RESTRICTION WILL REMAIN IN PLACE FOR THE &lt;ENTER YEAR&gt; BATHING SEASON</b></p> <p><b>REASON FOR RESTRICTION:</b> This bathing water was classed to be of 'Poor' quality following assessment of the last 4 years monitoring results. As per 2008 Bathing Water Quality Regulations, the bathing water must now have a bathing restriction in place for this entire season. The bathing water will continue to be monitored during the bathing season (1 June – 15 September) and current water quality results are available at the beach notice board and on the Splash website <a href="http://splash.epa.ie">http://splash.epa.ie</a>. <i>Water quality is not routinely monitored outside the bathing season.</i></p> <p><b>CAUSE(S) OF POLLUTION:</b></p> <p><b>MEASURES TAKEN/PLANNED:</b></p>		
To reduce the risk of illness, beach users should take the following precautions: <ul style="list-style-type: none"> <li>Avoid swallowing or splashing water</li> <li>Wash your hands before handling food</li> <li>Avoid swimming with an open cut or wound</li> <li>Avoid swimming if you are pregnant or have a weakened immune system.</li> </ul> Further information is available at <a href="http://www.hse.ie/water">www.hse.ie/water</a>		
<p>For further information please contact: &lt;enter LA contact details here&gt; Tel: &lt;enter tel no&gt;                  Visit: <a href="http://splash.epa.ie">http://splash.epa.ie</a> or &lt;enter the LA website details here&gt;</p>		

**Seasonal – Bathing Prohibition template – details are completed by the local authority**

<ENTER B WATER NAME HERE>	<ENTER LOCAL AUTHORITY LOGO HERE>	Bathing Prohibition Notice Entire Season BN5 <ENTER NOTICE DATE HERE>
	<b>WARNING</b>	
<b>DO NOT SWIM</b>		
<b>SWIMMING IN THIS WATER MAY CAUSE ILLNESS</b>		
<b>THIS BATHING RESTRICTION WILL REMAIN IN PLACE FOR THE &lt;ENTER YEAR&gt; BATHING SEASON</b>		
<b>REASON FOR RESTRICTION:</b> This bathing water was classed to be of 'Poor' quality following assessment of the last 4 years monitoring results. As per 2008 Bathing Water Quality Regulations, the bathing water must now have a bathing restriction in place for this entire season. The bathing water will continue to be monitored during the bathing season (1 June – 15 September) and current water quality results are available at the beach notice board and on the Splash website <a href="http://splash.epa.ie">http://splash.epa.ie</a> . <i>Water quality is not routinely monitored outside the bathing season.</i>		
<b>CAUSE(S) OF POLLUTION:</b>		
<b>MEASURES TAKEN/PLANNED:</b>		
For further information please contact: <enter LA contact details here>		Tel: <enter tel no>
Visit: <a href="http://splash.epa.ie">http://splash.epa.ie</a> or <enter the LA website details here>		

## AN GHNÍOMHAIREACHT UM CHAOMHNÚ COMHSHAOIL

Tá an Gníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaoil a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaoil a chosaint ó éifeachtaí díobhálacha na radaíochta agus an truaillithe.

## Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

**Rialú:** Déanaimid córais éifeachtacha rialaithe agus comhlionta comhshaoil a chur i bhfeidhm chun torthaí maithe comhshaoil a sholáthar agus chun díriú orthu siúd nach gcleoíonn leis na córais sin.

**Eolas:** Soláthraimid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhírthe agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.

**Tacaíocht:** Bimid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaoil atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaoil inbhuanaithe.

## Ár bhFreagrachtaí

### Ceadúnú

Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaoil:

- saoráidí dramhaíola (*m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistrithe dramhaíola*);
- gníomhaíochtaí tionsclaíocha ar scála mór (*m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta*);
- an diantalmhaíocht (*m.sh. muca, éanlaith*);
- úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe (*OGM*);
- foinsí radaíochta ianúcháin (*m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíocha*);
- áiseanna móra stórála peitрил;
- scardadh dramhuisece;
- gníomhaíochtaí dumpála ar farraige.

### Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil

- Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
- Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
- Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
- Obair le húdarás áitiúla agus le gníomhaireachtaí eile chun dul i ngleic le coireanna comhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, trí dhírú ar chiontóirí, agus trí mhaoirsiú a dhéanamh ar leasúchán.
- Cur i bhfeidhm rialachán ar nós na Rialachán um Dhramhthrealamh Leictreach agus Leictreonach (DTLL), um Shrian ar Shubstaintí Guaiseacha agus na Rialachán um rialú ar shubstaintí a ídionn an ciseal ózóin.
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaoil.

### Bainistíocht Uisce

- Monatóireacht agus tuairisciú a dhéanamh ar cháilíocht aibhneacha, lochanna, uisce idirchríosacha agus cósta na hÉireann, agus screamhuisece; leibhéal uisce agus sruthanna aibhneacha a thomhas.
- Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
- Monatóireacht agus tuairisciú a dhéanamh ar Cháilíocht an Uisce Snámha.

## Monatóireacht, Anailís agus Tuairisciú ar an gComhshaoil

- Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
- Tuairisciú neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus na n-údarás áitiúil (*m.sh. tuairisciú tréimhsiúil ar staid Chomhshaoil na hÉireann agus Tuarascálacha ar Tháscairí*).

## Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn

- Fardail agus réamh-mheastacháin na hÉireann maidir le gás ceaptha teasa a ullmhú.
- An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhair breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn.

## Taighde agus Forbairt Comhshaoil

- Taighde comhshaoil a chistiú chun brúnna a shainaitheint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

## Measúnacht Straitéiseach Timpeallachta

- Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaoil in Éirinn (*m.sh. mórfheleananna forbartha*).

## Cosaint Raideolaíoch

- Monatóireacht a dhéanamh ar leibhéal radaíochta, measúnacht a dhéanamh ar nochtadh mhuintir na hÉireann don radaíocht ianúcháin.
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha.
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
- Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

## Treoir, Faisnéis Inrochtana agus Oideachas

- Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
- Faisnéis thráthúil ar an gcomhshaoil ar a bhfuil fáil éasca a chur ar fáil chun rannpháirtíocht an phobail a spreagadh sa chinnteoireacht i ndáil leis an gcomhshaoil (*m.sh. Timpeall an Tí, léarscáileanna radóin*).
- Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
- Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt chun dramhail ghuaiseach a chosc agus a bhainistiú.

## Múscailt Feasachta agus Athrú Iompraíochta

- Feasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
- Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

## Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil

Tá an ghníomhaíocht á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóirí. Déantar an obair ar fud cúig cinn d'Oifigí:

- An Oifig um Inmharthanacht Comhshaoil
- An Oifig Forfheidhmithe i leith cúrsaí Comhshaoil
- An Oifig um Fianaise is Measúnú
- An Oifig um Cosaint Raideolaíoch
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltaí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair inmáige agus le comhairle a chur ar an mBord.



Headquarters  
PO Box 3000, Johnstown Castle Estate  
County Wexford, Y35 W821, Ireland  
Bosca Poist 3000, Eastát Chaisleán Bhaile Sheáin  
Contae Loch Garman, Y35 W821, Éire

T: +353 53 9160600  
F: +353 53 9160699  
E: [info@epa.ie](mailto:info@epa.ie)  
W: [www.epa.ie](http://www.epa.ie)  
Lo Call: 1890 33 55 99

EPA Regional Inspectorate Dublin  
McCumiskey House  
Richview  
Clonskeagh Road  
Dublin 14  
D14 YR62  
Tel: 01-268 0100  
Fax: 01-268 0199

EPA Regional Inspectorate Cork  
Inniscarra  
Co. Cork  
P31 VX59  
Tel: 021-4875540  
Fax: 021-4875545

EPA Regional Inspectorate Castlebar  
John Moore Road  
Castlebar  
Co. Mayo  
F23 KT91  
Tel: 094-9048400  
Fax: 094-9021934

EPA Regional Inspectorate Kilkenny  
Seville Lodge  
Callan Road  
Kilkenny  
R95 ED28  
Tel: 056-7796700  
Fax: 056-7796798

EPA Regional Inspectorate Monaghan  
The Glen  
Monaghan  
H18 YT02  
Tel: 047-77600  
Fax: 047-84987

E: [info@epa.ie](mailto:info@epa.ie)  
W: [www.epa.ie](http://www.epa.ie)  
LoCall: 1890 33 55 99

