

14. BATHING WATER QUALITY



Whiterocks, Co Antrim

Key Messages

- The vast majority of bathing waters in Northern Ireland meet the minimum standards of the Bathing Water Directive.
- Approximately half of these meet the tighter guideline standards required for the Blue Flag Award.
- Wet summers affected bathing water quality between 2007 and 2009.
- Over £136 million has been spent on improving coastal water quality in the last 5 years.
- The water quality problems at Ballyholme and Newcastle are being addressed.
- Tighter bathing water standards will soon be introduced by a revised Bathing Water Directive and will be challenging to meet.

Where are our bathing waters?

Northern Ireland has 24 identified bathing waters (Figure 14.1), all of which are coastal. NIEA is the competent authority for the monitoring and management of bathing waters under the EC Bathing Water Directive. More information of NIEA's activities can be obtained from <http://www.ni-environment.gov.uk/water-home/quality/bathingqualityni.htm>

How safe are they?

Bathing water quality is measured by the number of certain types of bacteria found in routine tests of the water during the summer months. These bacteria are key indicators of human sewage or animal faeces, which have the potential to affect the health of bathers and have been shown to cause gastro-intestinal problems and ear infections.

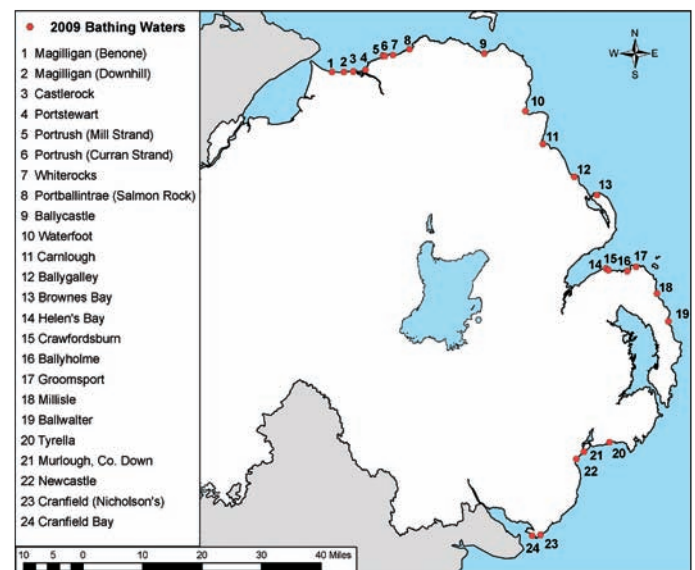


Figure 14.1 Northern Ireland's identified bathing waters.

To meet the minimum standard, known as the mandatory standard, the water must contain less than a prescribed number of these bacteria, which are called total coliforms, faecal coliforms and faecal *Streptococci*.

Compliance with this standard is generally accepted to indicate that waters are safe. To comply with the tighter guideline standard, even smaller numbers of these indicators are present.

Samples are taken on 20 occasions between 1st June and 15th September each year. Compliance against both standards is shown in Figure 14.2.

Compliance with the mandatory standards is fairly steady. However, compliance with the tighter guideline standards fluctuates more.

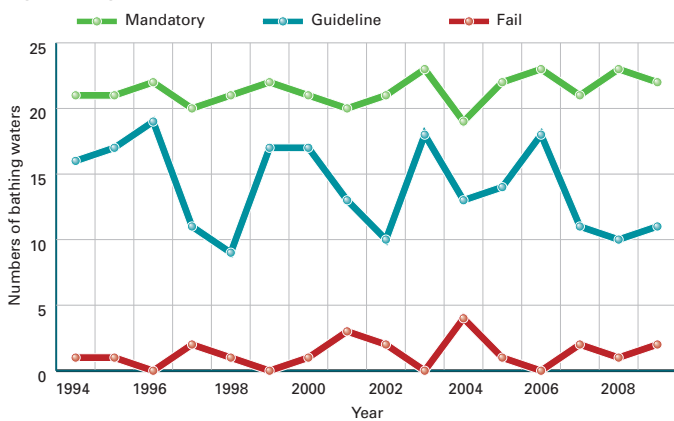


Figure 14.2 Northern Ireland Bathing Water Compliance, 1994-2009. Source NIEA

Where are our Blue Flag beaches?

Several areas show consistently excellent water quality (Benone, Whiterocks, Tyrella, Murlough, Portstewart, Portrush and Cranfield Nicholsons) and are eligible to apply for the coveted Blue Flag Awards. Water quality is only one of many beach management parameters but without excellent water quality, sites are not eligible. Sites where councils regularly apply for this award are highlighted in Figure 14.3 although the actual sites awarded change annually. Further details on the Blue Flag and other beach award schemes, which are administered by the Tidy Northern Ireland group, can be found at: <http://www.tidynorthernireland.org/beaches/>

What are the problems?

Bathing waters in Northern Ireland are generally of good or excellent water quality. However, some bathing waters, like Ballyholme and Newcastle may be susceptible to poor water quality after rain. Heavy rainfall can cause spillages at combined sewer overflows in addition to increased run-off from agricultural land.

It is difficult to correlate rainfall with bathing water quality directly because the 2 sets of data are gathered in different ways. Nevertheless, in the driest summers, over 70% of bathing

Beach	Blue Flag *	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
Magilligan (Benone)	Blue Flag	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Magilligan (Downhill)		Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Castlerock		Guideline	Guideline	Guideline	Guideline	Guideline	Fail	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Portstewart	Blue Flag	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Portrush (Mill) West	Blue Flag	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Portrush (Curran) East		Fail	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Portrush (Whiterocks)		Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Portballintrae		Fail	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Ballycastle	Blue Flag	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Waterfoot		Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Carnlough		Guideline	Guideline	Guideline	Guideline	Guideline	Fail	Guideline	Guideline	Guideline	Fail	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Ballygally		Guideline	Guideline	Guideline	Guideline	Guideline	Fail	Guideline	Fail	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Brown's Bay		Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Helen's Bay		Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Fail	Fail	Guideline	Guideline	Guideline
Crawfordsburn		Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Ballyholme		Guideline	Fail	Fail	Guideline	Guideline	Fail	Guideline	Guideline	Fail	Guideline	Guideline	Guideline	Fail	Guideline	Guideline	Guideline
Groomsport		Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Millisle	Blue Flag	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Ballywalter		Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Tyrella	Blue Flag	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Murlough Co. Down		Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Newcastle		Guideline	Guideline	Fail	Guideline	Fail	Guideline	Guideline	Fail	Fail	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Cranfield (Nicholson's)		Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline
Cranfield Bay	Blue Flag	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Guideline	Fail

Figure 14.3 Compliance between 1994-2009 at each site.

Fail (Red), Mandatory (Green), Guideline (Blue), No Data (Grey)

* The Blue Flag symbol shows beaches which regularly apply for the Blue Flag Award. These Awards vary slightly from year to year.



North coast bathing waters

waters met the highest standards (Figure 14.4). On the other hand, although 2007, 2008 and 2009 were some of the wettest summers since Met Office rainfall records began in 1910, compliance with the guideline standards in those years remained between 40 and 50%.

www.metoffice.gov.uk

In addition, it has taken time for Northern Ireland to comply with the treatment standards prescribed by the Urban Waste Water Treatment Directive at coastal sites.

A significant investment of £136 million in coastal waste water treatment sites since 2005 alone has made a positive contribution to water quality standards. Northern Ireland Water has taken on major improvement schemes at Larne, the North Coast, Bangor/Donaghadee and Carrickfergus/Whitehouse.

What of the future?

The EC Bathing Water Directive was first introduced in 1976, requiring Member States to both monitor and manage bathing water quality. In 2006, the Directive was revised setting tighter numerical standards, with more emphasis placed on management and in particular, making more information available to the public.

The parameters measured will be refined and compliance will be measured over a 4 year period, rather than a 1 year period only. Quality will be split into 4 classifications: Excellent, Good, Sufficient and Poor with the first classification due in 2015. Estimates of how Northern Ireland's bathing waters would have performed against the new standards, had they been in place between 2004-2009, are presented in Figure 14.5.

Compared to the existing scheme, the new classification scheme shows steadier compliance rates within each classification. There are 8 sites that consistently meet the new "Excellent" standard; Benone, Portstewart, Portrush Mill, Whiterocks, Tyrella, Murlough, Cranfield Nicholsons and Cranfield Bay.

Ballygally, Ballyholme and Newcastle are consistently "Poor" under the new scheme. Between the 2008 and 2009 assessments the number of "Poor" sites increased to 6. Other sites generally meet the "Sufficient" or "Good" classifications. It is generally accepted that these new classifications are tighter, although most sites meet the "Sufficient" classification.

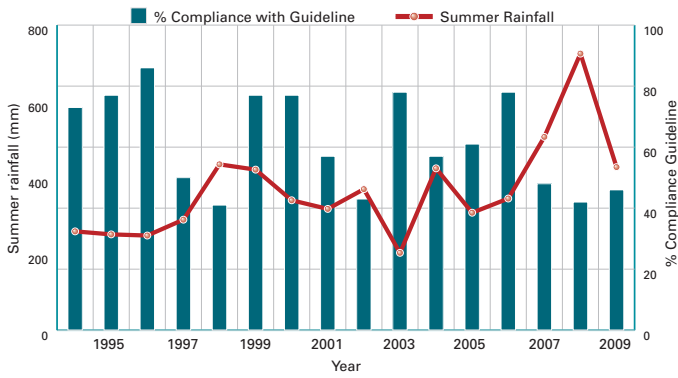


Figure 14.4 Summer rainfall (June – September) from Met Office summary statistics and percentage compliance with guideline standards, NIEA.

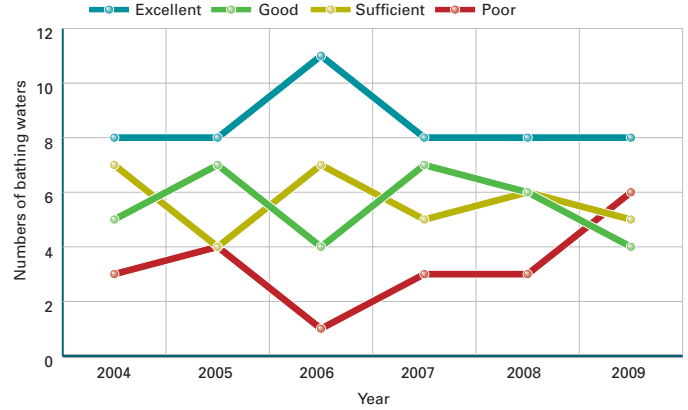


Figure 14.5 Estimates of compliance with revised Bathing Water Directive standards

The revised Directive must be fully implemented by 2015.

The number of bathing waters which would be classified as excellent remains consistent. However, if climate change results in wetter summers with more frequent, heavier downpours, it may present new challenges in meeting the standards of the revised Bathing Water Directive. This is because bathing water

quality is closely linked to rainfall events. However, the revised Directive does allow for more active management of bathing waters. Where heavy rain is predicted and bathers are warned of the increased risk of poor water quality, samples taken around these events may be discounted. This will be an extremely useful measure in Northern Ireland, where summer rainfall is all too common.

Legislation

Legislation	Comments
EC Directives – full references and corresponding regulations – Appendix II	
Bathing Water Directive	Protecting public health and the environment from faecal pollution
Revised Bathing Water Directive	Bringing in tighter standards for bathing waters by 2015
Urban Waste Water Treatment Directive	Driving tighter standards in sewage treatment & some industrial effluents
Nitrates Directive	Driving programmes to reduce nutrient losses, including organic wastes from agriculture
Water Framework Directive	Driving overall improvements in water quality. Bathing waters are protected areas
Local legislation	
Water (Northern Ireland) Order 1999	Allowing NIEA to set appropriate consent conditions for sewage and industrial effluent treatment, which protects bathing waters