

What can we expect from water quality at our beaches this year?

Ahead of a summer of staycations in Ireland, it is likely that Irish beaches will be busier than ever. But what can we expect from our bathing water quality this year? The 2020 Bathing Water Annual Report has just been published by the Environmental Protection Agency (EPA) which indicates a slight improvement in bathing water quality relative to 2019. In 2020, 148 beaches and inland bathing areas were monitored as part of the Blue Flag Programme, where 75% had 'Excellent' water quality, and 96% met or exceeded the minimum required standard.

What does it mean to have a Blue Flag?

Under the Blue Flag Programme, beaches and inland bathing areas must achieve Excellent standards in water quality, safety, environmental management and education. An Taisce operates The Programme under the European Bathing Water Directive, while local authorities provide the resources for environmental management, education campaigns, lifeguards and safety equipment, along with routine monitoring of water quality throughout the bathing season. The EPA are the environmental regulator, while the Health Service Executive (HSE) provides advice on public and environmental health issues, advising on swimming prohibitions and restrictions based on the levels of bacteria in bathing water samples.

Monitoring is carried out by local authorities, who design a sampling calendar that is submitted to the EPA in March of each year, which outlines the dates water quality will be tested over the bathing season, which runs from the 1st of June through to the 15th of September. Water samples are analysed for bacteria, specifically E. Coli and Intestinal Enterococci, both of which can cause gastroenteritis (upset stomach), and eye, ear, nose or throat infections. An Excellent standard in water quality means low levels of bacteria on a regular basis, and the rating of water quality status at each Blue Flag beach is calculated from a 4-year average. Bathing water samples are also analysed for salinity, indicating how much freshwater is present, along with turbidity and colour, indicative of the visual quality of the bathing water.

Applications for new designated bathing areas can be sought annually and can come from local authorities, public bodies, and community groups. Local authorities submit proposals for new bathing areas to the EPA for inclusion in the following seasons monitoring program. These will only be considered if they meet the list of criteria of use and available facilities required under the Bathing Water Regulations. Local authorities may also monitor water quality at sites that do not meet Blue Flag criteria, such as those involved in the Green Coast Award Scheme, where the same monitoring and reporting policies of Blue Flag bathing areas are followed. If a bathing area is not monitored under any of these programs, it is difficult to know what the water quality is as it will depend on a range of factors that impact local watercourses.



Photo; Sile Murphy, Clare County Council, collecting a sample on Spanish Point beach in Co. Clare.

What impacts water quality at our beaches and lakes?

Many beaches have streams or rivers flowing onto them that can impact coastal water quality. After heavy rainfall, surface water washes into our streams, rivers and lakes from both urban centres and rural areas, with increased runoff of agricultural manures from fields and sewage from domestic septic tanks. Wastewater treatment plants in Ireland typically have a combined sewer system, where excess surface water, along with sewage, is pumped into treatment plants, that may not have the capacity to manage the increased volumes. This leads to wastewater bypassing the treatment process and flowing into local watercourses, referred to as stormwater overflow. Tides and wind influence the direction of pollution travel, while sunshine can help to decay bacteria in bathing waters. The influence of weather and increased rain was particularly evident in 2012, one of the wettest summers in 40 years, which resulted in some of the poorest water quality nationally since monitoring began in 1992.

Local authority staff monitor rainfall forecasts over the bathing season. If there is a high volume of rain forecast, short term pollution events can be issued at beaches which have an inlet, stream or river flowing into it as a precautionary measure. These 'Prior Warning' Notices are distributed on beaches and on social media, to indicate there may be a reduction in water quality due to heavy rain forecast. The HSE recommend waiting for 48 hours after such a high rainfall event to avoid recreational water illnesses, particularly if you are in a vulnerable group.

If levels of bacteria reach particularly high levels in bathing water samples, bathing restrictions or prohibitions may apply. Local authorities continue to monitor levels until they have reached at least 'Good' standard, before the HSE can advise on lifting restrictions. It is important to also note that bacteria samples must be incubated for 48 hours before results can be analysed, therefore there is a time lag after samples are collected before any restrictions can be lifted.

While the overall status of Ireland's beaches is stable across the country, four bathing water sites were classified as 'poor'; Clifden Beach, Lilliput (Lough Ennell), Balbriggan (Front Strand Beach) and Cúas Crom, where Clifden will be declassified as a bathing area in 2021 due to 5 consecutive years of deteriorating water quality due to stormwater overflows. The EPA have also reported an increase in Pollution Incidents in 2020, along with an increased number of Prior Warnings being issued due to heavy rainfall. Climate models indicate there will be an increase in flooding events in Ireland, with changing weather patterns over the coming years. Bathing water restrictions can severely impact local water sports businesses, along with local tourism.

What needs to be done to protect our bathing waters and local businesses?

Bathing water profiles for every monitored beach or lake are available on www.beaches.ie, where identified pressures for each location are listed.

Stormwater overflows and urban and sewage discharges contribute to a significant proportion of bathing water restrictions nationally, illustrating the need for investments in improved wastewater treatment and infrastructure, particularly those failing the treatment standards. In the next Irish Water Capital Investment Plan, priority should be given to upgrading deficient wastewater treatment plants discharging into catchments where multiple bathing water incidents have occurred over recent years.

Agricultural run-off is also a significant contributor to bathing water incidents. Agricultural regulations and their enforcement must also be re-assessed to ensure they are effective at protecting water quality from farming activities, particularly slurry spreading during the bathing season. With increased resources, local authorities could increase farm inspections along catchments that impact bathing water to ensure compliance with Good Agricultural Practices Regulations and farmers should be made aware of the potential impacts to local bathing water sites.

Homeowners with septic tanks must also take ownership, and ensure their systems are serviced and working effectively. Business owners, such as hotels and B&Bs, with their own wastewater treatment plants, should also ensure their system is operating effectively and addresses enhanced capacity requirements. Local authorities should focus septic tank inspections to river catchments that impact vulnerable bathing waters. An education and awareness campaign targeted at homeowners, businesses and farmers, would increase understanding of sources of contamination, along with best practices in protecting our water resources.

An excellent example of a local pilot project is the Duncannon Blue Flag Farming and Communities Scheme, funded by the European Innovation Partnership scheme. The project, led by Wexford County Council, aims to recover the Blue Flag status of Duncannon beach, by reducing bacterial input in two coastal streams from both agricultural and domestic sources. Similarly, the Acclimatize research project, led by University College Dublin (UCD), is quantifying pollution streams in urban bathing waters in the Greater Dublin Area. The Water Institute at Dublin City University (DCU), are developing a water test to rapidly detect levels of E.coli, ColiSense, that can relay results rapidly and allows for daily updates on status. This could help lift bathing restrictions faster, which would be welcomed by impacted businesses. Clare County Council are proactively investigating local sources of contamination through genome sequencing, in collaboration with UCD, which can indicate if the primary source of E.coli contamination is from human or animal waste. This approach could aid local authorities to focus their efforts on the main culprits causing local water pollution. All efforts to address bathing water quality will also aid in the protection of drinking water sources and help to reduce pressures of agricultural activities and sewage discharges on local water environments.

All information on Blue Flag beaches, including water quality results from up to 200 bathing water sites and details of any restrictions or prohibitions, is published on www.beaches.ie.

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Note to editors

An Fóram Uisce|The Water Forum was established as a statutory body in June 2018 to facilitate stakeholder engagement and debate on issues relating to water as a resource, water quality, rural water concerns, issues affecting customers of Irish Water and issues associated with the implementation of the Water Framework Directive.

The Forum consists of 26 representatives from a wide range of organisations with direct connections to issues relating to water quality. These include consumer, community and water sports groups, business and trade unions, environmental sector, Irish Water consumers, the group water scheme sector and a range of other sectors including education, agriculture, fisheries and forestry. The Forum is chaired by Dr Tom Collins.

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