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2023 Bathing Season Report

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Contents

| | |
|--|----|
| 1. Introduction..... | 1 |
| 2. Bathing Water Sampling | 2 |
| 2.1. Regulatory sampling requirements..... | 2 |
| 2.2. Parameters analysed and methodology | 3 |
| 2.3. Assessment and Reporting | 3 |
| 3. 2023 Bathing Water Results | 4 |
| 4. Summary of warnings raised | 5 |
| 5. PCR analysis..... | 6 |
| 6. Dog fouling and Public Information | 7 |
| 7. Communications with stakeholders | 8 |
| 8. Service Improvements | 9 |
| 9. Bathing Water Task Force | 10 |
| 10. Forecasted designated bathing water classification | 10 |
| Table 1: Breakdown of communications by stakeholder | 8 |
| Table 2: Bathing Water Classification | 10 |
| Figure 1 - Map of bathing locations and cabinets | 1 |
| Figure 2 - Single sample assessment criteria | 3 |
| Figure 3 - Single sample assessment criteria | 4 |
| Figure 4 - Summary of 2023 bathing water results expressed as percentage compliance..... | 4 |
| Figure 5 - Summary of 2023 bathing water warnings..... | 5 |
| Figure 6 - Acclimatize dog fouling campaign still | 7 |
| Photograph 1 - Water quality sampling | 2 |
| Photograph 2 - E-ink screen at Sandymount Strand | 9 |

2023 Bathing Water Summary Report

1. Introduction

Dublin City Council (DCC) manages and monitors water quality at six bathing water locations. This function is delivered by the Water Pollution Control Section of the Protection of Water Bodies Office in accordance with the *Bathing Water Regulations, SI 79 of 2008* (Regulations).

Dollymount and Sandymount Strands are designated bathing waters. The North Bull Wall, Half Moon, Shelley Banks and Merrion Strand are recognised by the Environmental Protection Agency (EPA) as other monitored waters. Bathing water information cabinets are in place at bathing water entrances (Figure 1). Statutory and supplementary bathing water quality information is posted therein.



Figure 1 - Map of bathing locations and cabinets

2. Bathing Water Sampling

2.1. Regulatory sampling requirements

Regulations require four samples to be taken per designated bathing water per season. The bathing season is defined by the Regulations as the period between June 1st to September 15th each year. DCC exceeds the statutory requirement and monitors water quality at six locations on twenty separate occasions during the season.

The sampling programme is comprehensive and far exceeds statutory requirements. The monitoring schedule is agreed with the EPA in advance of the season and is published online by Dublin City Council and the EPA. DCC monitors bathing water quality all year round, with water quality monitored on a fortnightly basis outside of the season.

DCC carries out investigative monitoring to further supplement scheduled sampling events. Investigative monitoring is conducted if a deterioration in bathing water quality is expected or has been confirmed.



Photograph 1 - Water quality sampling

2.2. Parameters analysed and methodology

In accordance with the Regulations, samples are analysed for two types of indicator bacteria, namely *Escherichia coli* (*E. coli*) and Intestinal Enterococci. *E.coli* results are available 21-24 hours following receipt of a sample to the Central Laboratory. Intestinal Enterococci results are available from 48 hours following receipt of the sample to the Central Laboratory, once the various confirmation tests have been completed.

The exception to this is when a sample is taken outside of working hours and is held over night before being analysed the next day, or where additional confirmation steps are required to complete the analysis. Both results are required for compliance with the 2008 Regulations and HSE Guidelines. Field measurements are also recorded and assessed on site. Any atypical conditions are reported to the bathing water section for further investigation.

2.3. Assessment and Reporting

E.coli and Intestinal Enterococci results are expressed as a count. The total count aligns with a classification group of Excellent, Good, Sufficient and Poor. Table 1 details the thresholds values for each group.





| | |
|---|---|
|  | Indicates excellent water quality – Samples should not exceed 250 MPN <i>E. Coli</i> and 100 CFU Intestinal Enterococci per 100 ml. |
|  | Indicates good water quality – Samples should not exceed 500 MPN <i>E. Coli</i> and 200 CFU Intestinal Enterococci per 100 ml. |
|  | Indicates sufficient water quality - samples should not exceed 1,000 MPN <i>E. coli</i> and 250 CFU Intestinal Enterococci per 100 ml |
|  | Indicates poor water quality - samples exceed 1,000 MPN <i>E. coli</i> and 250 CFU Intestinal Enterococci per 100 ml |
| Date* | Additional Investigative Sampling carried out |
| MPN = Most Probable Number CFU = Colony Forming Unit | |

Figure 2 - Single sample assessment criteria

Bathing water results are published both online and in hardcopy format in the aforementioned dedicated bathing water cabinets. Softcopy results are available on the Dublin City Council website, www.dublincity.ie/bathingwater and on the EPA's National Bathing Water website www.beaches.ie.

3. 2023 Bathing Water Results

A total of 120 scheduled samples and 10 investigative samples were taken across 6 bathing locations between 22/05/23 and 11/09/23. A total of 19 warnings were raised during the 2023 bathing season, which are summarised in Section 4.



Figure 3 - Single sample assessment criteria

90% of samples taken at Sandymount and Dollymount Strands returned as Excellent or Good. 80% of samples taken at Merrion Strand and Shelley Banks returned as Excellent or Good, 95% at the Half Moon and 60% at the North Bull Wall.

Sandymount Strand was the only bathing water which reported no *Poor* water quality results during the 2023 season. Table 3 below summarises the results.

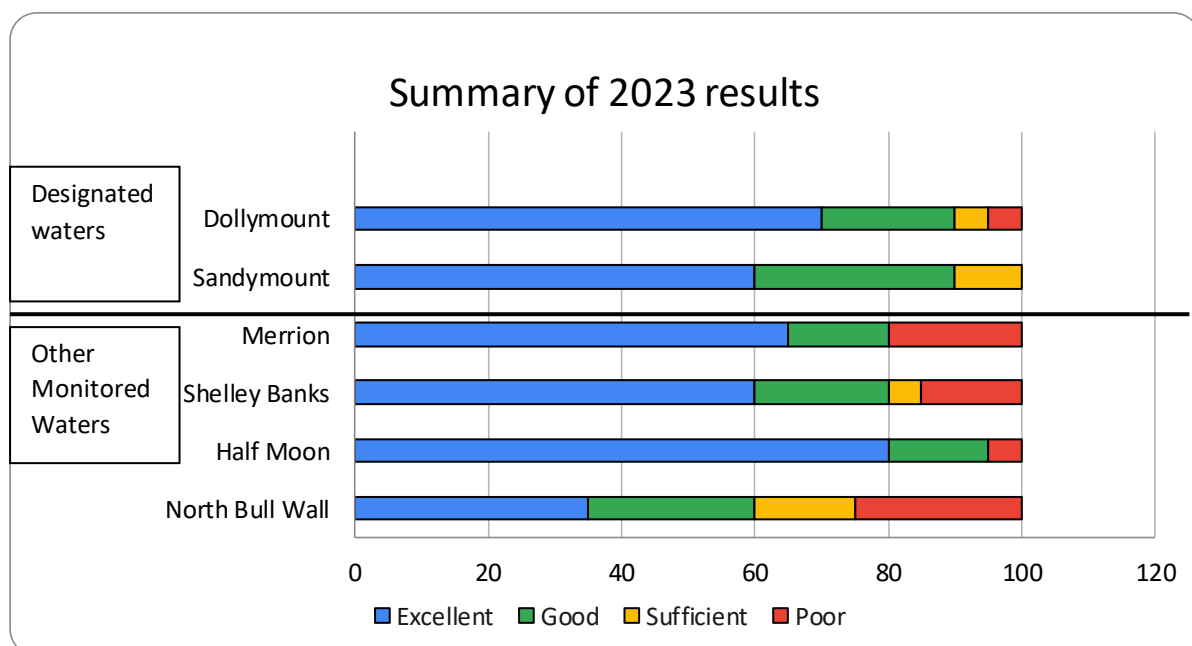


Figure 4 - Summary of 2023 bathing water results expressed as percentage compliance

4. Summary of warnings raised

DCC raises warnings when a temporary deterioration in bathing water quality has or is expected to occur. Warnings are put in place to prevent or limit bather exposure to suspected poor water quality. Warnings are only raised at designated bathing waters.

Depending on the type of incident, warnings can include prior warning notices or temporary bathing prohibitions. A prior warning notifies the public of a suspected deterioration in bathing water quality, typically prompted by poor weather. A temporary bathing prohibition advises swimmers of a confirmed or highly likely deterioration in bathing water quality. Bathers should pay head to such warnings which have been raised to protect their health.

Both notices remain in place until the quality of water can be verified by investigative sampling. DCC are required to consult with the Health Service Executive prior to raising or lifting a prior warning or temporary bathing prohibition.

A total of 19 warnings were raised during the 2023 bathing season. 37% of warnings raised were Prior Warnings, the remaining 63% were temporary prohibitions. The warnings were raised in response to incidents which may have or had caused a deterioration in bathing water quality.

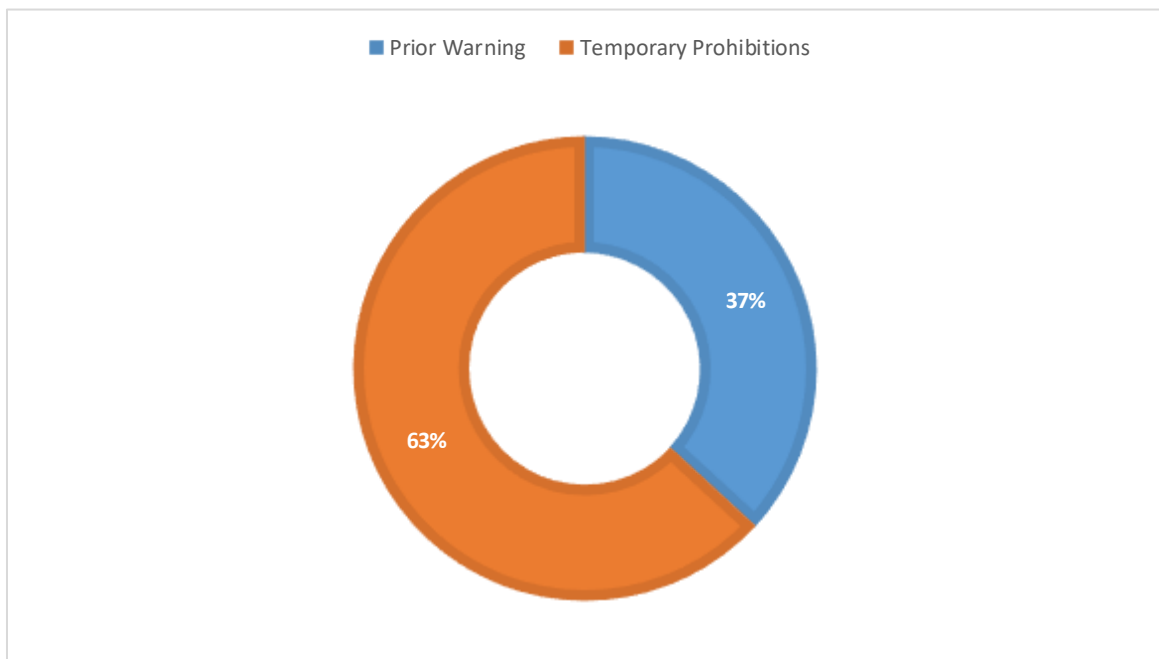


Figure 5 - Summary of 2023 bathing water warnings

5. PCR analysis

Since 2020, Dublin City Council, in collaboration with the UCD School of Biomolecular and Biomedical Science, has included new testing methodologies as part of its investigative monitoring programme to differentiate between faecal contamination of human and animal origin. This information has been particularly useful in identifying possible sources of pollution not attributable to the drainage infrastructure system.

Both humans and animals, including marine birds, have gut bacteria which are specific to the species. By using this genetic screening technique to identify and quantify these bacteria it is possible to determine whether the source of faecal contamination might be attributable to human or non-human sources (or a combination of both). It is not yet possible to accurately apportion the contribution made by specific sources when a combination of markers are found.

Polymerase Chain Reaction (PCR) analysis looks for a species specific genetic marker. During the bathing season, additional samples were taken by DCC and analysed by UCD to identify human, canine and marine bird markers. This work was investigative and complemented the scheduled monitoring programme. This valuable additional information has allowed DCC to identify the likely source or contributing factors to a poor bathing water sample.

An overview of the 2023 PCR results are being verified and will be published in due course. However, preliminary findings suggests that dog foul continues to be significant contributor to deteriorations in water quality.

6. Dog fouling and Public Information

The UCD Acclimatize project sought to determine the impact of dog fouling on bathing water quality. Dog faeces contains many dangerous pathogens that can pose a significant threat to public health. Their studies found that one dog foul has the potential to pollute a volume of water the size of a tennis court.

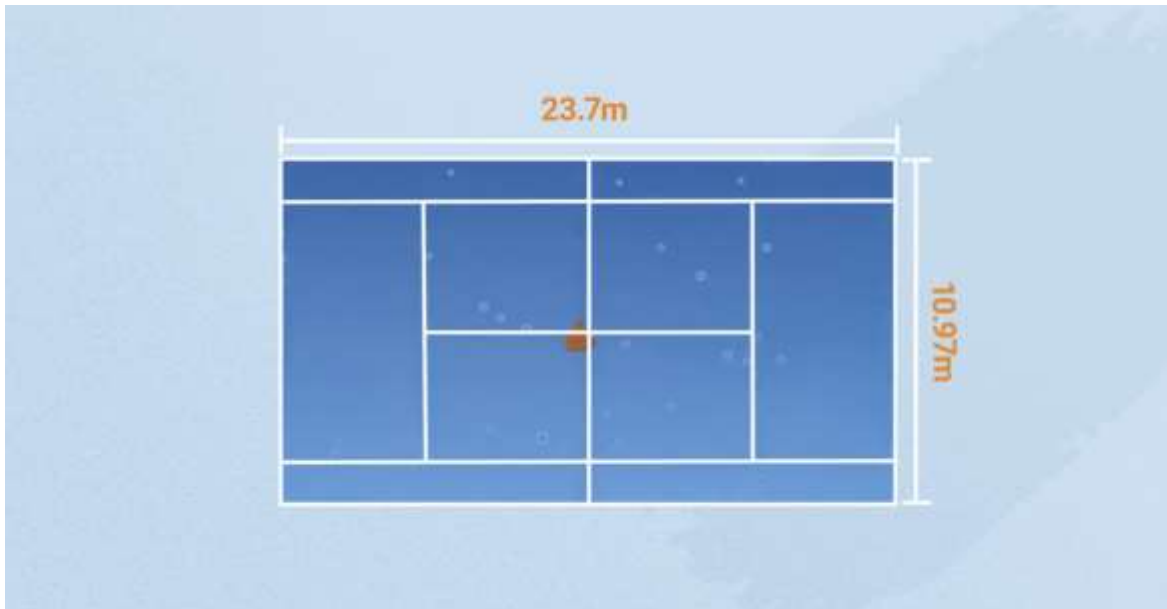


Figure 6 - Acclimatize dog fouling campaign still

Acclimatize in conjunction with Dublin City Council produced a short animation to highlight the impact dog fouling has on water quality. The campaign was supported and shared by DCC across various social media platforms. Further information can be found here - <https://www.acclimatize.eu/dogs/>.

While dog fouling is not the only pressure on bathing water quality, it is a significant contributor. Unlike other sources of pollution, dog foul can be easily removed by the pet owner to prevent contamination of a nearby waterbody. In an effort to encourage responsible dog management, Dublin City Council has installed *poo bag* dispensers on bathing water cabinets located at bathing water entrances.

7. Communications with stakeholders

Dublin City Council continues to update its dedicated bathing water webpage with the latest bathing water information. An [FAQ section](#) was recently introduced which addresses most bathing related queries.

In conjunction with the DCC webpage, bathers are encouraged to visit the EPA's National Bathing Water webpage www.beaches.ie. The page contains most recent warnings and bathing water results for all bathing waters.

Dublin City Council liaised with the following stakeholders throughout the 2023 bathing season.

| Stakeholder | Communication |
|----------------------|--|
| Uisce Éireann | Wastewater reportable incidents |
| HSE | Consultation throughout bathing season |
| EPA | Reporting of bathing water incidents via BWIS which populates information for the EPA national bathing water website www.beaches.ie |
| Councillors | 8 x Councillor questions/motions were responded to during 2023 |
| Public | Statutory information provided in designated bathing water cabinets. Bathing water results available online at www.dublincity.ie/bathingwaters |
| Public | 4 bathing related queries were received from the public during the 2023 season. This is a reduction of approx. 70% compared to the previous season. It is believed the improved website and additional resources better informed the public and limited the need to enquire. |
| Public participation | The 2023 public participation period was held between 09/05/23 and 28/09/23. Details of the participation were published on DCC's dedicated webpage and across social media platforms. Furthermore, a newspaper notice was published in the Irish Independent on the 08/05/23 by the LGMA. Submissions were received for the North Bull Wall and the Half Moon. Assessment reports can be viewed on www.dublincity.ie |

Table 1: Breakdown of communications by stakeholder

8. Service Improvements

Each year DCC aims to make improve processes and engagement with the public. DCC initiated a pilot trialling two digital screens at Sandymount and Dollymount Strands. The screens are self-sustainable and powered by renewable energy generated by a turbine and solar panel installed on the installation.

They utilise e-ink technology (similar to a kindle) and are updated remotely by DCC staff (see photograph 1 below). Statutory information including bathing water results and warnings are published on the screens and supplemented by water safety campaigns, weather forecasts and tides. The pilot was extended to verify their viability during different seasons, weather conditions and to obtain a robust dataset from the trial.



Photograph 2 - E-ink screen at Sandymount Strand

Furthermore, the public can avail of a DCC alert service which sends subscribers pertinent bathing information, including water quality results and warning notifications when raised. Further information can be found on [DCC's website](#).

9. Bathing Water Task Force

In November 2019, Dublin City Council (DCC) set up a Task Force including representatives from Irish Water, Department of Housing, Planning and Local Government (DHPLG), Dun Laoghaire Rathdown County Council (DLRCC) and Fingal County Council (FCC).

The mission of the BWTF is to identify, assess, remediate or eliminate sources of pollution entering Dublin Bay. Sources that specifically affect bathing water quality and ultimately public health. The BWTF holds monthly meetings chaired by Dublin City Council.

The meetings provide stakeholders with an opportunity to report on progress made, challenges faced, review progress and coordinate activities. It is also a platform for local authorities and the Department to discuss current bathing water management issues and knowledge sharing.

The BWTF engages in high-level meetings with the Environmental Protection Agency, Health Service Executive, the National Bathing Water Expert Group and the Department of Housing, Local Government & Heritage, including participation and contributions to the National Bathing Waters Expert Group. The latest BWTF report is available to the public [here](#).

10. Forecasted designated bathing water classification

The EPA provide bathing water classifications to designated locations before the 31st December each year. The classification is based on water quality results over the previous four bathing seasons.

The bathing water can receive a classification as *Excellent*, *Good*, *Sufficient* or *Poor*. The below table details the current and predicted 2023 classification as set out in Schedule 4 of the bathing water regulations, <https://www.irishstatutebook.ie/eli/2008/si/79/made/en/print>.

| Designated Bathing Water | Current Classification | 2023 classification |
|--------------------------|------------------------|---------------------|
| Sandymount Strand | Sufficient | Poor |
| Dollymount Strand | Good | Good |

Table 2: Bathing Water Classification