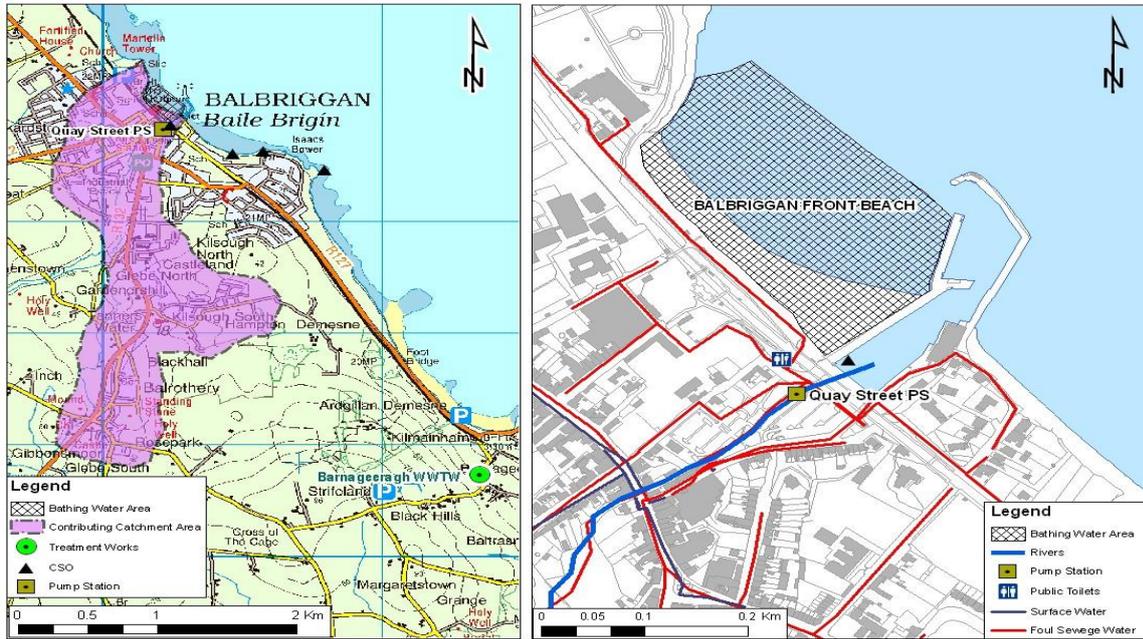


Fingal County Council

Bathing Water Management Plan for Front Strand Beach, Balbriggan



Map 1: Location and Extent of Front Strand, Balbriggan bathing water

Bathing Water Name	Front Strand Beach, Balbriggan
County	Dublin
River Basin District	Eastern River Basin District
Bathing Water ID (as per the WFD)	IEEABWC020_0000_0600
Year of Designation	1996
Location of Sampling Point incl. 6 digit grid ref	320340E, 264059N 
Responsible Authority	Fingal County Council
Responsible Authority	Fingal County Council

Status	Date	Prepared by	Reviewed by	Approved by
draft	20/1/22	Rita McGrath	Hazel Conway	James Walls
Final	27/1/22	Rita McGrath	Mortimer Loftus	James Walls

1.0 INTRODUCTION: EPA GUIDANCE ON MANAGEMENT OF POOR BATHING WATERS

Guidance was issued by the EPA to inform Fingal County Council of the

- *Legislative requirements to be undertaken following the classification of a bathing water as **Poor** and*
- *The management approach to be undertaken to improve the water quality of a Poor bathing water.*

The guidance advised that the management plan needs to address the following:

- a. **Local authority confirms** that there is a requirement for the bathing water to remain as identified bathing water
- b. **Local authority informs** of its decision on the **type of seasonal bathing restriction**, i.e. advice against bathing or bathing prohibition, to be issued at the Poor bathing water for the following season. The local authority's decision on the type of seasonal bathing restriction to issue at the Poor bathing water should be based on ensuring adequate bather protection.
- c. The **cause(s) of pollution** affecting the bathing water are clearly identified. Where causes of pollution require further investigation provide relevant details and timelines for completion of this task.
- d. The **measures**, including interim actions, proposed to prevent, reduce or eliminate the causes of pollution. Details of the measures proposed, timelines and responsible authority will need to be provided.
- e. Local authority **strategy for communicating** to the public (in addition to notice at the bathing water) of the:
 - *causes and reasons for Poor classification of the bathing water,*
 - *measures being undertaken and planned to improve the water quality of the bathing water*
 - *implications for bather health*
 - *where/who to contact for more information.*

2.0 DESCRIPTION OF BATHING WATER

Front Strand Beach is located in Balbriggan town which is situated in Fingal, North County Dublin. The beach is approx. 35km from Dublin City Centre.

Balbriggan Front Beach lies adjacent to Balbriggan Harbour. The Matt River (known locally as the Bracken River) discharges through the harbour, immediately south of the identified bathing area. Visitors access the beach by passing under an arch limestone and brick railway viaduct.

Balbriggan Front Beach is approximately 350m wide and 0.06 sq. km in area. Balbriggan Front Beach is a small flat sandy beach, sloping gently towards the sea. The adjacent harbour is a working fishing harbour. There is a rocky shore to the north of the identified beach.

A more detailed description of the bathing water and contributing catchment and pressures can be found in the Front Strand Beach, Balbriggan bathing water profile on the EPA's Beaches.ie website.

Fingal County Council confirms that Front Strand, Balbriggan bathing water will remain as an Identified Bathing Water for 2022.

3.0 DESCRIPTION OF THE CONTRIBUTING CATCHMENT

Land use in the contributing catchment area consists of industrial, agricultural, commercial and residential elements, including Balrothery village and Balbriggan town.

Balbriggan Front Beach is located in the Nanny-Delvin catchment area. The main surface water body is the Bracken (Matt) River and its catchment is approximately 28 sq. km. in area. The contributing catchment for Balbriggan Front Beach is limited to Balbriggan and Balrothery areas.

The Bracken (Matt) River is the main water body discharging adjacent to the bathing area. The river discharges to the harbour at the south end of Balbriggan Front Beach. There is no surface water discharge directly to the beach.

4.0 BATHING WATER QUALITY ASSESSMENT

4.1 Bathing Water Regulations 2008

The Bathing Water Regulations 2008 specifies that two parameters Escherichia coli and Intestinal enterococci are monitored at identified bathing waters throughout the bathing season. Laboratory reported bacterial counts from samples taken during the bathing season define water quality. Table 1 provides an explanation of water quality for each of these parameters.

Parameter	Excellent Quality	Good Quality	Sufficient Quality
Escherichia coli (mpn/100ml)	250(*)	500(*)	500(**)
Intestinal enterococci (cfu/100ml)	100(*)	200(*)	185(**)

Table 1 Water Quality as per Bathing Water Regulations

(*) Based upon a 95-percentile evaluation

(**) Based upon a 90-percentile evaluation

The classification of water quality status for Front Strand, Balbriggan for the period 2018-2021 is as follows:

2018 – Sufficient

2019 – Sufficient

2020 – Poor

2021 - Poor

4.2 Bathing Water Quality 2018-2021

Bathing Water Quality data collected for Front Strand, Balbriggan beach has been compared to the in-season single sample status assessment limits (Refer to Table 2). These limits are for informational purposes throughout the bathing season only. The annual classification is based on a 4 year assessment (Refer to Section 4.1).

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

Table 2 Single Sample Limits for In-Season Water Quality Status Assessment

Bathing Water Quality data which has been collected for Front Strand, Balbriggan beach and is compared to the single sample status assessment limits is presented in Table 2 (Source: www.beaches.ie).

Date	Escherichia Coli	Intestinal Enterococci	Sample Status*	Quality
6/9/21	20	5	Excellent	
31/8/21	10	18	Excellent	
17/8/21	30	13	Excellent	
3/8/21	241	71	Excellent	
19/7/21	345	64	Good	
5/7/21	496	250	Sufficient	
21/6/21	10	5	Excellent	
8/6/21	10	4	Excellent	
24/5/21	98	5	Excellent	
1/9/2020	121	12	Excellent	
25/8/2020	7701	2000	Poor	
11/8/2020	110	210	Sufficient	
27/7/2020	109	29	Excellent	
13/7/2020	62	4	Excellent	
29/6/2020	171	66	Excellent	
15/6/2020	10	2	Excellent	
2/6/2020	10	1	Excellent	
25/5/2020	10	1	Excellent	
09/09/2019	771	480	Poor	
26/08/2019	331	88	Good	
12/08/2019	836	270	Poor	
29/07/2019	31	13	Excellent	
15/07/2019	31	38	Excellent	
01/07/2019	10	7	Excellent	
17/06/2019	52	11	Excellent	
11/06/2019	10	12	Excellent	
28/05/2019	10	23	Excellent	

5/09/2018	148	15	Excellent
20/08/2018	1274	170	Poor
7/08/2018	857	85	Sufficient
23/07/2018	109	24	Excellent
9/07/2018	52	14	Excellent
25/06/2018	52	7	Excellent
11/06/2018	52	29	Excellent
6/06/2018	148	44	Excellent
23/05/2018	31	6	Excellent

Table 3 Bathing Water Quality at Front Strand, Balbriggan Beach 2018-2021

*From 2014 onwards bathing water sample results were categorised as 'excellent', 'good', 'sufficient' or 'poor'. Prior to 2014, bathing water sample results were categorised as 'good', 'sufficient' or 'poor'.

4.3 Bathing Water Assessment 2022

In December 2021 the EPA advised that the classification of water quality status for Front Strand, Balbriggan beach for the 2022 bathing season is **Poor** (based on the assessment of 2018-2021 data).

4.4 Seasonal Bathing Restriction for 2022

During the period 2018 – 2021, there were a total of 36 samples analysed for bathing water quality. Of these, 4 were classified as 'Poor', 3 as 'Sufficient', 2 as 'Good' and the remaining 27 samples classified as 'Excellent'.

On the basis of the above results, the Principal Environmental Health Officer has agreed with Fingal County Council that an Advisory Notice be placed at the beach for the duration of the bathing season 2022 as a measure to protect bathers' health.

5.0 REVIEW OF POLLUTION SOURCES

The main causes of pollution that may affect the bathing water are outlined in Table 4:

Pressure No	Pressure Source
1	Surface Water Streams within the beach catchment
2	Agricultural run-off
3	Foul water network and Pumpstations
4	Animal Fouling
5	Bird Colony

Table 4 Summary of pressure sources within the catchment posing a quantifiable microbial risk

1. Surface water streams within the beach catchment

There are no direct surface water outfalls onto the beach. However, the Bracken (Matt River) enters Balbriggan Harbour adjacent to the bathing water and there are a number of surface water outfalls to this and these could pose a risk to the bathing water quality due to misconnections into the surface water system discharging to it. Risk is highest after heavy rainfall events.

A report on the assessment of pollution sources within the Bracken (Matt) River was commissioned by the Balbriggan Tidy Towns Committee from CDM Smith in 2020 which will assist in further investigations. Microbial source tracking (MST) analysis was used to identify the type of faecal bacterial sources in the bathing water (following the "Poor" results in 2020). MST results were positive for 'human marker' indicating a pollutant source of human origin was present. Further Microbial Source tracking (MST) was carried out in 2021 using faecal markers for Human, Ruminant, Dog and Gull and identified positive results for all markers tested during the bathing season at this bathing water. Combined storm overflows in the catchment may contribute to pollution of streams within the catchment and consequently may affect the bathing water.

A work programme will be prepared by the Local Authority Waters Programme Office to meet the restoration objective for the Bracken (Matt) River if this waterbody is included on the list of proposed Areas for Action in the final issue of River Basin Management Plan for the 3rd cycle (2022-2027) in 2022.

2. Agricultural run-off

Poor farming practice may contribute to pollution of streams within the catchment (pasture and mixed farming primarily) and consequently may affect Bracken River and ultimately the bathing water. The risk is highest during intense rainfall events (MST results in 2021 showed positive for 'ruminant markers' on sampling dates when rainfall within previous 2 days of sample date).

3. Foul Sewer Network and Pumpstations

The sewer network at Balbriggan, particularly the older parts of the town in the vicinity the Harbour have been identified in Irish Water's National Sewer Rehabilitation Programme as needing repairs/rehabilitation. The risk of surcharge exists in heavy rain. There are three pumpstations within the catchment. The closest pumpstation to the bathing area is Quay Street pumpstation. This pumps directly to the Dublin Road pumpstation for delivery to Balbriggan WWTP (70,000pe) ref. D0023-01. The Quay Street pumpstation conveys flows via a storm tank (capacity of 1,500m³) and when it overflows exits into the River Bracken. The River Bracken flows into Balbriggan harbour adjacent to the southern end of the bathing water. Risk of stormwater overflows to bathing water is highest during intense rainfall events.

4. Animal fouling at the beach

Use of the beach by dog and horses and subsequent fouling may pose a risk to bathing water quality. MST results were positive for 'dog marker' and were present on all dates sampled in 2021 during the bathing season at the bathing water. In addition, 'ruminant markers' were identified in the River Bracken and at the bathing water on sampling dates in 2021 (where there was rainfall two days prior to sampling). Findings to date have found 'horse marker' and 'dog marker' and 'ruminant marker' as a pollution pressure at this beach.

5. Bird Colony

Balbriggan is a well-known area for urban breeding gulls with records showing as many as 57 nests as far back as 1996. According to a recent Technical Report entitled 'National Urban Gull Survey 2021' the figures surveyed have increased and refer to the Herring Gull population to be 1,485 AONs (Apparently Occupied Nests) and 10 AONs for the Lesser Black-backed Gull breeding population. Reference was made to centres of breeding activity in Balbriggan such as the Wavin factory compound, Ardgillan Community College/Bracken Educate Together site and the Hampton Cove/Fancourt estates. Seven of the nine samples tested in 2021 using MST were positive for 'gull marker'. Any outdoor eating activities (picnics and takeaways) are known to attract bird populations however during beach inspections the birds, when sighted, were mostly congregating in the adjacent Balbriggan Harbour area rather than the bathing water.

6.0 PROPOSED MEASURES TO IMPROVE BATHING WATER QUALITY AT FRONT STRAND, BALBRIGGAN BEACH

Details of the proposed measures, timelines and responsible authorities are outlined in Appendix 1.

The programme of measures will be reviewed annually.

7.0 COMMUNICATIONS STRATEGY

Fingal County Council proposes to promote public awareness of the poor status of Front Strand, Balbriggan by implementing those actions as outlined in Table 5. These have been devised in conjunction with the Council's Communications Department. The nominated point of contact for further information is: Executive Scientist, Environment, Climate Action and Active Travel Department, Water Pollution Control Section, Fingal County Council, phone no. 01-8905000.

Item	Description	Action by
1	Place the appropriate <i>EPA-standard poor bathing water template sign for seasonal bathing water restriction</i> with information regarding the causes of the pollution affecting the bathing water and measures taken on the beach notice board	HSE/Environment Division
2	Train lifeguards in the significance of water quality data and providing advice to the public on how to obtain further information	Operations Department and Environment Division
3	Provide information on bathing waters on the EPA's national website; beaches.ie and Fingal Website; www.fingal.ie	Environment Division/Communications Department
4	Direct communications to the Elected Members through the 'Our Balbriggan' project	Environment Division/Operations Department/Economic Development
5	Use social media to circulate updated information and provide information on bathing water results and warning notices to registered users through the Fingal Alerts system	Environment Division/Communications Department
6	General Bathing Water Awareness Programme at the beach (including Dog Warden patrols – subject to resources available)	Environment Division/Communications Department

Table 5 Communications Strategy

APPENDIX 1**DETAILS OF PROPOSED MEASURES TO IMPROVE BATHING WATER QUALITY AT
FRONT STRAND, BALBRIGGAN BEACH 2022**

PRESSURE 1 AND 2	SURFACE WATER STREAMS WITHIN THE BEACH CATCHMENT and AGRICULTURAL RUN-OFF		
PRESSURE TYPE	Contaminated Surface Water/Sewage		
Microbial Pollution Potential	HIGH		
Pressure Description	Surface water contaminated by misconnections or poor farming practices discharging onto the beach could pose a risk to bathing water quality.		
	Combined storm overflows in the catchment may also contribute to pollution of streams within the catchment and consequently may affect the bathing water.		
SHORT TERM ACTIONS	Agency responsible	Contact person	Target timeframe
Sampling of bathing water/surface water outfalls to determine water quality and test for pathogen speciation (in particular Bracken River) where identification of the source of pathogens will be investigated (UCD). Liaise with Irish Water for possible sources of sewage and field work.	Fingal County Council Environment Division	R. McGrath	Q2 -Q3/2022
The 2020 report commissioned by Balbriggan Tidy Towns Committee and produced by CDM Smith on the assessment of pollution sources in the River Bracken e.g. discharges arising from misconnections has been reviewed. Further water quality testing is proposed for 2022 at the River Bracken (weekly in Q1 and monthly testing Q2-Q4)	Fingal County Council Environment Division	R. McGrath/ J. Walls	Q1-Q4/2022
Irish Water propose to undertake a Drainage Action Plan in 2022. The work will involve a review of the network to identify misconnections or infiltration from the foul network, including unknown overflow points. An upgrade/rehabilitation of the Quay Street Pumping Station will also be progressed.	Irish Water	J. Doran, IW	Q2 starting tender/2022-2024
Inspection of farms and farm practices - as referred by LAWPRO. Additional reconnaissance surveys of slurry spreading in the catchment to be carried out.	Fingal County Council Environment Division	J. Walls	Q1-Q4 2022
Enforcement action where required.	Fingal County Council Environment Division	J. Walls	Q3-Q4/2022

PRESSURE 3	FOUL SEWER NETWORK AND PUMPING STATIONS		
PRESSURE TYPE	Sewage		
Microbial Pollution Potential	MODERATE		
Pressure Description	During overflow, effluent from Pump Station can discharge to the River Bracken and via Harbour to the Irish Sea.		
SHORT TERM ACTIONS	Agency responsible	Contact person	Target timeframe
The 2021 National Sewer Rehabilitation Programme was undertaken by Irish Water and included identifying works for the rehabilitation/repair of pipework in Balbriggan including the Harbour area. Irish Water's will be carrying out a Drainage Action Plan for Balbriggan in 2022 and works may be included in future rehabilitation programmes from this work.	Irish Water	J. Doran, IW	Q1 2022-24
All pumping stations are on a telemetry system which allows for notification of and rapid response to overflows from the Pumping Stations. There are also frequent inspections and maintenance of equipment at the Pumping Stations.	Fingal County Council Drainage Section	D.T.Byrne	Q2-Q4/2022
PRESSURE 4	ANIMAL FOULING AT THE BEACH		
PRESSURE TYPE	Fouling		
Microbial Pollution Potential	MODERATE		
Pressure Description	Use of the beach by dog walkers and horse riders and subsequent fouling may pose a risk to bathing water quality.		
SHORT TERM ACTIONS	Agency responsible	Contact person	Target timeframe
Public awareness campaign regarding the dangers of animal fouling.	Fingal County Council Environment Division	M. Hand	Q2/Q3/2022
Dog warden to target beach for inspections during the Bathing Season.	Fingal County Council Environment Division	M. Hand	Q2/Q3/2022
Duplicate sampling of bathing waters for pathogen speciation purposes.	Fingal County Council Environment Division	R. McGrath	Q2-Q4/2022
Medium term study to establish source of pathogens in Balbriggan catchment with a view to informing future management plans (Acclimatize/UCD)	Fingal County Council Environment Division	R. McGrath	2017-2022
PRESSURE 5	BIRD COLONY		
PRESSURE TYPE	Fouling		
Microbial Pollution Potential	LOW		
Pressure Description	Impact of gull population may pose a risk to bathing water quality.		
SHORT TERM ACTIONS	Agency responsible	Contact person	Target timeframe

A review of the locations of litter bins in/near the bathing water will be undertaken and information provided to Operations.	Fingal County Council Environment Division	R. McGrath	Q1 2022
A Seagull Information Leaflet on our website has information for the management of food waste relating to controlling bird nuisance (derogation for removal of nests ended April 2020). A Balbriggan location near the bathing water (Fingal County Council office) location will be requested to provide this leaflet for the public.	Fingal County Council Environment Division	R. McGrath	Q1 2022