Annual Environmental Report 2018



Malahide

D0021-01

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

- 1.1 LICENCE SPECIFIC REPORTING INCLUDED IN AER
- 1.2 TREATMENT TYPE
- 1.2.1 MALAHIDE WWTP
- 1.3 ELV OVERVIEW
- 1.3.1 MALAHIDE WWTP
- 1.4 SLUDGE REMOVAL

2 MONITORING REPORTS SUMMARY

- 2.1 Summary Report on Monthly Influent Monitoring
 - 2.1.1 INFLUENT MONITORING SUMMARY MALAHIDE WWTP
- 2.2 DISCHARGES FROM THE AGGLOMERATION
 - 2.2.1 EFFLUENT MONITORING SUMMARY MALAHIDE WWTP
- 2.3 Ambient Monitoring Summary
 - 2.3.1 Ambient Monitoring Report Summary MALAHIDE WWTP
 - 2.3.2 Ambient Monitoring Parameter Mean (mg/l) MALAHIDE WWTP

3 OPERATIONAL REPORTS SUMMARY

- 3.1 Treatment Efficiency Report
- 3.1.1 TREATMENT EFFICIENCY REPORT SUMMARY MALAHIDE WWTP
- 3.2 Treatment Capacity Report Summary
- 3.3 COMPLAINTS SUMMARY
- 3.4 REPORTED INCIDENTS SUMMARY
- 3.4.1 SUMMARY OF INCIDENTS
- 3.4.2 Summary of Overall Incidents
- 3.5 Sludge / Other Inputs to The WWTP

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

- 4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT
- 4.1.1 SWO IDENTIFICATION
- 4.1.2 INSPECTION SUMMARY REPORT
- 4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS
- 4.2.1 Specified Improvement Programme Summary
- 4.2.2 IMPROVEMENT PROGRAMME SUMMARY

4.2.3 SEWER INTEGRITY RISK ASSESSMENT SUMMARY

5 LICENCE SPECIFIC REPORTS

5.1 Priority Substances Assessment

6 CERTIFICATION AND SIGN OFF

- 6.1 SUMMARY OF AER CONTENTS
- 6.2 DECLARATION BY IRISH WATER

7 APPENDIX

7.1 Ambient monitoring summary

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0021-01, Malahide, in Dublin in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports are included as an appendix to the AER as follows:

1.1 Licence specific reporting included in AER

Assessment / Report	Included in AER

1.2 Treatment Type

The agglomeration is served by a wastewater treatment plant MALAHIDE WWTP with a Plant Capacity PE of 21000. The treatment process includes the following:

1.2.1 MALAHIDE WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Screening / Grit Removal
Primary Treatment	No	
Secondary Treatment	Yes	Conventional Activated Sludge
Nutrient Removal	Yes	
Tertiary Treatment	Yes	UV Treatment

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV's can be found in Section 2.2 Discharges from the agglomeration.

1.3 ELV Overview

1.3.1 MALAHIDE WWTP

Compliance Status	
Were all parameters compliant for MALAHIDE WWTP treatment plant	No
Where non compliant see Table 2.2.1 for details of parameters	

1.4 Sludge Removal

The amount of sludge removed from the wastewater treatment plant is shown below along with the transported destination of the sludge from the treatment plant.

Treatment Plant	Sludge type	Quantity	Unit	% Dry Solids	Destination	
MALAHIDE WWTP	Cake Sludge	154.76	Weight (Tonnes)	25.4	H&L Environmental Services Ltd, Moyne, Derryville, Thurles, Co. Tippera (Anaerobic Digestion)	
MALAHIDE WWTP	Cake Sludge	9.68	Weight (Tonnes)	25.4	Owens Quarry, Gaulsmoystown, Knockdrin, Mullingar, Co. Westmeath (Lin Stabilisation)	
MALAHIDE WWTP	Cake Sludge	921.84	Weight (Tonnes)	17	Carrollstown Estate, Trim, Co. Meath (Lime Stabilisation)	
MALAHIDE WWTP	Cake Sludge	308	Weight (Tonnes)	17	ENVA Ltd., Barrockstown, Co. Meath	

Annual Statement of Measures

Completion of Drainage Area Plan (DAP) in Q3 2019 will facilitate SWO upgrades deemed necessary. The project to divert flows from the Kinsealy Lane area to the North Fringe Sewer is ongoing, with an expected completion date of Q4 2020.

2 MONITORING REPORTS SUMMARY

2.1 Summary report on monthly influent monitoring

A summary of influent monitoring for the treatment plant is presented in below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

2.1.1 Influent Monitoring Summary - MALAHIDE WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
Suspended Solids	17	361	207.66
COD-Cr	17	712	423.43
Total Nitrogen	17	51.8	39.68
BOD, 5 days with Inhibition (Carbonaceous BOD)	17	308	156.27
Total Phosphorus (as P)	17	8.98	6.11
Hydraulic Capacity	0	10266	5086

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 3.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2. The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2.

2.2 Discharges from the agglomeration

2.2.1 Effluent Monitoring Summary - MALAHIDE WWTP

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included ^{Note 1}	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Total Phosphorus (as P)	0	0	0	21	0	0	3.52	N/A
Ammonia-Total (as N)	5	6	0	21	1	1	1.9	Fail
BOD, 5 days with Inhibition (Carbonaceous BOD)	25	50	0	21	1	0	5.43	Pass
Conductivity 20 C	0	0	0	21	0	0	1455.39	N/A
Total Nitrogen	0	0	0	20	0	0	13.22	N/A
Suspended Solids	35	87.5	0	21	1	1	16.42	Fail
Nitrite (as N)	0	0	0	21	0	0	0.22	Pass
Dissolved Inorganic Nitrogen (as N)	0	0	0	21	0	0	12.57	N/A
COD-Cr	125	250	0	21	0	0	35.83	Pass
Total Oxidised	35	42	0	21	0	0	10.67	Pass

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included ^{Note 1}	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Nitrogen (as N)								
рН	6 to 9	0	0	21	0	0	7.67	Pass
Nitrate (as N)	0	0	0	21	0	0	10.47	N/A
ortho-Phosphate (as P) - unspecified	0	0	0	21	0	0	2.76	N/A

Notes:

Cause of Exceedance(s):

The ELV non-compliances were due to plant breakdown.

Significance of Results:

The WWTP was non compliant with the ELV's set in the Wastewater Discharge Licence. There was one sample non compliant with the Condition 2 ELV in relation to both TSS and Ammonia. The impact on receiving water is assessed in Section 2.3.

2.3 Ambient monitoring summary

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

2.3.1 Ambient Monitoring Report Summary - MALAHIDE WWTP

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

¹⁻ This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Downstream	322582, 246924	TPEFF0900D0021SW001	No	No	No	No	Moderate
Downstream	322731, 246527	TPEFF0900D0021SW001	No	No	No	No	Moderate

2.3.2 Ambient Monitoring Parameter Summary - MALAHIDE WWTP

The results for ambient results and / or additional monitoring data sets are included in the **Appendix 7.1 - Ambient Monitoring Summary.**

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence.

The discharge from the wastewater treatment plant does not have an observable impact on the water quality.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

Based on the ambient monitoring and effluent compliance results for 2018, it is reasonable to assume that the Malahide WWTP final effluent is not having a negative impact on the designated bathing water area.

3 OPERATIONAL REPORTS SUMMARY

3.1 Treatment Efficiency Report

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

3.1.1 Treatment Efficiency Report Summary - MALAHIDE WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
ТР	10410.6	6367.74	38.83
TN	67622.81	24215.22	64.19
COD	721632.16	64896.29	91.01
cBOD	323404.16	9832.82	96.96
ss	353909.26	34694.87	90.2

Note: The above data is based on sample results for the number of dates reported

3.2 Treatment Capacity Report Summary

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

MALAHIDE WWTP	
Peak Hydraulic Capacity (m³/day) - As Constructed	15033
DWF to the Treatment Plant (m³/day)	5011
Current Hydraulic Loading - annual max (m³/day)	10266
Average Hydraulic loading to the Treatment Plant (m³/day)	5086
Organic Capacity (PE) - As Constructed	21000
Organic Capacity (PE) - Collected Load (peak week)	21396
Organic Capacity (PE) - Remaining	0
Will the capacity be exceeded in the next three years? (Yes/No)	Yes

3.3 Complaints Summary

A summary of complaints of an environmental nature is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
12	Blocked Sewer	0	12

3.4 Reported Incidents Summary

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Irish Water but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

3.4.1 Summary of Incidents

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	EO caused by pump failure	1	No	Yes
Uncontrolled release	EO caused by ragging or blocking	2	No	Yes
Uncontrolled release	Other	1	No	Yes
Uncontrolled release	EO caused by pump failure	1	No	Yes
Non-compliance	Plant or equipment breakdown at WWTP	1	Yes	No
Other	EO caused by pump failure	1	No	Yes
Uncontrolled release	EO caused by pump failure	1	No	Yes
Uncontrolled release	Plant or equipment breakdown at WWTP	1	No	No

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	9
Number of Incidents reported to the EPA via EDEN in 2018	9
Explanation of any discrepancies between the two numbers above	N/A

3.5 Sludge / Other inputs to the WWTP

'Other inputs' to the waste water treatment plant are summarised in table below

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)			
There is	There is no Sludge and Other Input data for the Treatment Plant included in the AER.									

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 Storm Water Overflow Identification and Inspection Report

A summary of the operation of the storm water overflows and their significance where known is included below:

No Appendix Included.

4.1.1 SWO Identification

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2018 (No. of events)	Total volume discharged in 2018 (m³)	Monitoring Status
FLORAVILLE PUMP STATION S8	321690, 243279	Yes	Unknown	Not Meeting			Not Monitored
MALAHIDE WWTP SW35	322579, 246302	Yes	Unknown	Meeting			Not Monitored
SAINT JAMES' TERRACE S2	322852, 246228	Yes	Unknown	Not Meeting			Not Monitored
THE DIAMOND S3	322716, 246089	Yes	Unknown	Meeting			Not Monitored

4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m³)?	Not Monitored
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	Yes
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	No

4.2 Report on progress made and proposals being developed to meet the improvement programme requirements.

4.2.1 Specified Improvement Programme Summary

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
Implementation of the measure(s) identified in Condition 5.3(a)(v)	С	14/03/2011	No	Works Completed		
Network improvements under the Malahide Sewerage Scheme	С	30/07/2014	Yes	At Planning Stage	01/11/2020	
S2 - Upgrade of Stormwater Overflows to comply with the criteria outlined in the DoEHLG 'Procedures and Criteria in relation to Storm Water Overflows', 1995	С	30/07/2014	Yes	At Planning Stage	02/10/2019	

S3 - Upgrade of Stormwater Overflows to comply with the criteria outlined in the DoEHLG 'Procedures and Criteria in relation to Storm Water Overflows', 1995	С	30/07/2014	Yes	At Planning Stage	02/10/2019	
S35 - Upgrade of Stormwater Overflows to comply with the criteria outlined in the DoEHLG 'Procedures and Criteria in relation to Storm Water Overflows', 1995	С	30/07/2014	Yes	At Planning Stage	02/10/2019	
S8 - Upgrade of Stormwater Overflows to comply with the criteria outlined in the DoEHLG 'Procedures and Criteria in relation to Storm Water Overflows', 1995	С	30/07/2014	Yes	Works Completed		

A summary of the status of any improvements identified by under Condition 5.2 is included below.

4.2.2 Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Expected Completion Date	Comments
There are no Improvements Pr	rogramme for this Agglomeration.			

4.2.3 Sewer Integrity Risk Assessment

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Table.

5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

5.a Licence Specific Reports Summary Table

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER
Priority Substances Assessment	Yes	2014	No	

6 CERTIFICATION AND SIGN OFF

6.1 Summary of AER Contents

Parameter	Answer
Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a Technical Amendment / Review of the licence?	No
List reason e.g. additional SWO identified	N/A
Is there a need to request/advise the EPA of any modifications to the existing WWDL?	No
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	N/A

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Date: 20/03/2019

This AER has been produced by Irish Water's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of,

Eleanor Roche

Acting Head of Environmental Regulation.

7 APPENDIX

Appendix

Appendix 7.1 - Ambient Monitoring Summary

Malahide Ambient Monitoring Data

Ambient Monitoring Report Summary Table

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Referenc	EPA Feature Coding Tool code	Bathing Water	Drinkin g Water	FWPM	Shellfis h	Current WFD Status
Title (et us agreea mai ±17.)	е		110101	g maio.			
Ambient Monitoring Point from	322582E,	CW09001007BM20	No	No	No	No	Moderate (Coastal Water Quality Status:
WWDL (or as agreed with EPA)	246924N	01					2010 - 2015)
BM210-Causeway Cascade	322731E,	CW09001007BM20	No	No	No	No	Moderate (Coastal Water Quality Status:
	246527N	02					2010 - 2015)
BM220-Malahide Marina	323482E,	CW09001007BM20	No	No	No	No	Moderate (Coastal Water Quality Status:
	246290N	03					2010 - 2015)
BM230-Malahide Navigation	325151E,	N/A	Yes	No	No	No	Good (Coastal Water Quality Status: 2010
Channel	249004N						- 2015)
Balcarrick Beach, Donabate	324034E,	N/A	Yes	No	No	No	Good (Coastal Water Quality Status: 2010
	246133N						- 2015)

Significance of Results

- The WWTP was non-compliant with the ELV's set out in the wastewater discharge licence in terms of TSS and Ammonia-N.
- The discharge from the wastewater treatment plant does not have an observable negative impact on the water quality.
- The discharge from the WWTP has no observable negative impact on the Water Framework Directive status.
- Based on results presented below, and effluent quality results, it is reasonable to assume that the Malahide WWTP final effluent is not having a negative impact on the designated bathing water area.

Report for Samples Taken During the Period: 01/01/2018 - 16/07/2018

Customer: Fingal Co. Co.

Results by Customer and Test List Sample Type: 123F_ESTUA

Sampling Point	Sampled Date	Received Date	mple Num	Ammonia	.O.D. Salin	hlorophyll	DIN	solved Oxy	рН	heophytin	phorus (Re	Salinity	emperatur	TON	B.O.D. (Sa	Total Nitrogen Saline
				μg/l as N	mg/l	mg/m3	μg/l	% Sat.	pН	mg/m3	g/I SRP as	PSU	°C	μg/I as N	mg/l	μg/I as N
(130420) Malahide Bay, Malahide Marina - Surface Sample (BM220)	18/01/2018 11:15	18/01/2018 14:59	1387045	20	<1	1.3	197	109	8.1	0.5	37	33.1	8.8	177		274
(130420) Malahide Bay, Malahide Marina - Surface Sample (BM220)	05/04/2018 11:40	05/04/2018 14:48	1415911	106	1	3.9	1439	106	8	2.7	25	21.6	8.1	1333		1490
(130420) Malahide Bay, Malahide Marina - Surface Sample (BM220)	01/05/2018 10:15	01/05/2018 14:49	1426647	32		4	333	104	8.2	2.5	10	30.2	12.2	301		402
(130420) Malahide Bay, Malahide Marina - Surface Sample (BM220)	31/05/2018 11:05	31/05/2018 14:46	1439762	40		6.9	40	104	8.2	3.6	<10	32.4	18.6	<40	1	197
(130420) Malahide Bay, Malahide Marina - Surface Sample (BM220)	07/06/2018 10:25	07/06/2018 14:45	1442134	43		1.9	100	103	8.2	0.9	11	33	18.5	57	1	208
		•	•	•						•					•	
(130430) Malahide Bay, Malahide Navigation Channel - Surface Sample (BM230)	05/04/2018 11:10	05/04/2018 14:48	1415912	42	1	3.2	674	110	8.1	2.2	37	23.8	9.4	632		814
(130430) Malahide Bay, Malahide Navigation Channel - Surface Sample (BM230)	01/05/2018 10:35	01/05/2018 14:49	1426648	<10		6.5	93	110	8.1	1.7	13	33.4	11.6	93		212
(130430) Malahide Bay, Malahide Navigation Channel - Surface Sample (BM230)	31/05/2018 10:15	31/05/2018 14:46	1439763	80		2.4	80	107	8.2	1.6	<10	33.3	18.7	<40	1	147
(130430) Malahide Bay, Malahide Navigation Channel - Surface Sample (BM230)	07/06/2018 10:05	07/06/2018 14:45	1442135	13		1.8	61	110	8.2	1.1	11	33.2	18.9	48	1	205

Bathing Water Results 2018

Balcarrick Beach

Date	Escherichia coli	Intestinal enterococci	Sample Quality Status
05/09/2018	20	2	Excellent
20/08/2018	20	23	Excellent
07/08/2018	10	1	Excellent
23/07/2018	20	43	Excellent
09/07/2018	<10	16	Excellent
25/06/2018	<10	<1	Excellent
11/06/2018	20	3	Excellent
06/06/2018	<10	<1	Excellent
23/05/2018	<10	1	Excellent

(Source: Beaches.ie)

In order to assess these results, the Bathing Water Quality Regulations, 2008 (S.I No 79 of 2008), was consulted. It was found that in 9 cases, Balcarrick-Donabate Beach, achieved "Excellent" results in all cases for the Bathing Water season 2018. Donabate, Balcarrick Beach is classified as achieving Sufficient Water Quality in 2018 based on the assessment of bacteriological results for the period 2015 to 2018. Donabate, Balcarrick Beach had a Sufficient Water Quality rating in 2017, a Good Water Quality rating in 2016 and achieved an Excellent Water Quality rating in 2015.

FCC Bathing Water Monitoring Data

Location	Sampled Date	E. coli MPN/100ml	Enterococci	Floating	Mineral Oil	рН	Phenols	Salinity	Surfactants	Visual
Sampling Point	and Date of		CFU/100ml	Materials			Olfactory			Inspection
	Testing		0.07.00	matorialo	(visual)	pН		PSU		ороошо
(49912) Portrane Beach, The Brook	23/05/2018 07:35	<10	4	Absent	Absent	8.2	Absent	32.2	Absent	Normal
(49912) Portrane Beach, The Brook	06/06/2018 05:30	52	13	Absent	Absent	8.1	Absent	34.2	Absent	Normal
(49912) Portrane Beach, The Brook	11/06/2018 10:00	52	59	Absent	Absent	8.1	Absent	32.5	Absent	Normal
(49912) Portrane Beach, The Brook	25/06/2018 11:00	<10	<1	Absent	Absent	8.1	Absent	32.8	Absent	Normal
(49912) Portrane Beach, The Brook	09/07/2018 09:45	10	590	Absent	Absent	8.1	Absent	33.4	Absent	Normal
(49912) Portrane Beach, The Brook	23/07/2018 10:15	98	20	Absent	Absent	8.1	Absent	34.3	Absent	Normal
(49912) Portrane Beach, The Brook	07/08/2018 09:00	10	4	Absent	Absent	8.1	Absent	34.1	Absent	Normal
(49912) Portrane Beach, The Brook	20/08/2018 08:15	145	44	Absent	Absent	8	Absent	33.8	Absent	Normal
(49912) Portrane Beach, The Brook	05/09/2018 08:55	31	8	Absent	Absent	8.1	Absent	34.3	Absent	Normal
(49915) Malahide Beach	23/05/2018 06:55	20	5	Absent	Absent	8.2	Absent	31.2	Absent	Normal
(49915) Malahide Beach	06/06/2018 04:56	98	86	Absent	Absent	8.2	Absent	33.7	Absent	Normal
(49915) Malahide Beach	11/06/2018 09:45	31	17	Absent	Absent	8.1	Absent	32.5	Absent	Normal
(49915) Malahide Beach	25/06/2018 11:50	<10	6	Absent	Absent	8.2	Absent	34	Absent	Normal
(49915) Malahide Beach	09/07/2018 09:07	243	42	Absent	Absent	8.1	Absent	33.3	Absent	Normal
(49915) Malahide Beach	23/07/2018 09:20	85	33	Absent	Absent	8.1	Absent	34.2	Absent	Normal
(49915) Malahide Beach	07/08/2018 09:05	228	69	Absent	Absent	8.1	Absent	32.9	Absent	Normal
(49915) Malahide Beach	20/08/2018 07:30	41	40	Absent	Absent	8	Absent	33.5	Absent	Normal
(49915) Malahide Beach	05/09/2018 07:55	120	20	Absent	Absent	8	Absent	33	Absent	Normal