

Annual Environmental Report

2022



Killybegs

D0011-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2022 AER

This Annual Environmental Report has been prepared for D0011-01, Killybegs, in Donegal in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

There were no major capital or operational changes undertaken in 2022.

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- KILLYBEGS WWTP with a Plant Capacity PE of 4200, the treatment type is 2 - Secondary treatment.

1.3 ELV OVERVIEW

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.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF0600D0011SW100	KILLYBEGS WWTP	Treated Municipal	Compliant	N/A
TPEFF0600D0011SW001	KILLYBEGS WWTP	Combined	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report

There are no Licence Specific Reports included in this AER.

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 KILLYBEGS WWTP

2.1.1 INFLUENT MONITORING SUMMARY - KILLYBEGS WWTP

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

Parameters	Number of Samples	Annual Max	Annual Mean
Ammonia (Total an N) mg/l	26	43.20	16.86
BOD 5 days with Inhibition (Carbonaceous)	26	274.00	115.92
COD-Cr mg/l	26	529.00	250.08
Suspended Solids mg/l	26	484.00	140.13
Total Nitrogen mg/l	26	60.10	22.23
Total Oxidised Nitrogen (as N) mg/l	26	1.18	0.30
Total Phosphorus (as P) mg/l	26	7.80	2.82

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is greater than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional 'Operational Performance Summary'.

2.1.2 EFFLUENT MONITORING SUMMARY – TPEFF0600D0011SW100 (TREATED MUNICIPAL)

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
BOD 5 days with Inhibition (Carbonaceous) mg/l	25	50	26	0	0	1.34	Pass
COD-Cr mg/l	125	250	26	0	0	30.69	Pass
Suspended Solids mg/l	35	87.50	26	0	0	8.34	Pass
Ammonia (Total an N) mg/l	-	-	26	-	-	0.55	
Temperature °C	>25	>25	26	-	-	4.6	
ortho-Phosphate (as P) - unspecified mg/l	-	-	26	-	-	1.17	
pH pH units	6 – 9	6 – 9	26	0	0	7.1	Pass
Total Phosphorus (as P) mg/l	-	-	26	-	-	1.38	

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Total Nitrogen mg/l	-	-	26	-	-	3.98	
Nitrate (as N) mg/l	-	-	26	-	-	1.09	
Nitrite (as N) mg/l	-	-	26	-	-	0.11	
Dissolved Inorganic Nitrogen (as N) mg/l	-	-	25	-	-	1.72	

Notes:

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

Cause of Exceedance(s):

Not applicable

Significance of Results:

The WWTP is compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 EFFLUENT MONITORING SUMMARY - COMBINED - TPEFF0600D0011SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
BOD 5 days with Inhibition (Carbonaceous) kg/hr	675	1350	26	0	0	125.92	Pass
COD-Cr mg/l	-	-	26	-	-	275.31	
Suspended Solids mg/l	-	-	26	-	-	83.80	
Ammonia (Total an N) kg/hr	25.2	30.24	26	0	0	1.37	Pass
Temperature °C	>25	>25	26	-	-	4.6	
ortho-Phosphate (as P) - unspecified mg/l	-	-	26	-	-	3.88	
pH pH units	6 - 9	6 - 9	26	-	-	7.2	
Total Phosphorus (as P) mg/l	-	-	26	-	-	7.04	
Total Nitrogen mg/l	-	-	26	-	-	28.02	

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Nitrate (as N) mg/l	-	-	26	-	-	0.42	
Nitrite (as N) mg/l	-	-	26	-	-	0.07	
Dissolved Inorganic Nitrogen (as N) kg/hr	27.15	32.5	26	0	0	0.02	Pass

Notes:

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

Cause of Exceedance(s):

Not applicable

Significance of Results:

The WWTP is compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.4 AMBIENT MONITORING SUMMARY FOR THE COMBINED DISCHARGE TPEFF0600D0011SW001

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.

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

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Ecological Status
Upstream	171991, 373947	CW06007046KB2004	No	No	No	No	High
Downstream	170546, 373131	CW06007046KB2007	No	No	No	No	High
Downstream	169208, 372775	CW06007045KB3002	No	No	No	No	High
Downstream	171773, 375751	CW06007047KB1009	No	No	No	No	High
Downstream	171759, 375693	CW06007047KB1010	No	No	No	No	High
Downstream	170856, 373297	CW06007046KB2006	No	No	No	No	High
Downstream	171155, 373418	CW06007046KB2005	No	No	No	No	High
Downstream	170311, 372918	CW06007046KB2008	No	No	No	No	High

Where the receiving water body is not a river or where the data is not in EDEN – the Ambient data will be appended.

Significance of Results:

The coastal ambient monitoring results do meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

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.

2.1.5 OPERATIONAL PERFORMANCE SUMMARY - KILLYBEGS WWTP

2.1.5.1 Treatment Efficiency Report - KILLYBEGS WWTP

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.

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
cBOD	38,056	486	99%
TP	1,015	428	58%
TN	8,208	1,298	84%
COD	88,395	10,612	88%
SS	39,710	4,559	89%

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

2.1.5.2 Treatment Capacity Report Summary - KILLYBEGS WWTP

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.

KILLYBEGS WWTP	
Peak Hydraulic Capacity (m ³ /day) - As Constructed	3253
DWF to the Treatment Plant (m ³ /day)	1050
Current Hydraulic Loading - annual max (m ³ /day)	1935
Average Hydraulic loading to the Treatment Plant (m ³ /day)	879
Organic Capacity (PE) - As Constructed	4200
Organic Capacity (PE) - Collected Load (peak week) ^{Note1}	2091

KILLYBEGS WWTP	
Organic Capacity (PE) - Remaining	2109
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.6 SLUDGE / OTHER INPUTS - KILLYBEGS 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 no Sludge and Other Input data for the Treatment Plant included in the AER.							

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature related to the discharge(s) to water from the WWTP and network is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2022.			

3.2 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 Uisce Éireann 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.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Other	Shock load to the WWTP	1	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2022	1
Number of Incidents reported to the EPA via EDEN in 2022	1
Explanation of any discrepancies between the two numbers above	N/A

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:

4.1.1 SWO IDENTIFICATION

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2022 (No. of events)	Total volume discharged in 2022 (m3)	Monitoring Status
SW003	317190,185149	Yes	Medium Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW002	214479,394831	Yes	Medium Significance	Meeting Criteria	Unknown	Unknown	Monitored

Any TBC SWO(s) were identified as part of the on-going National SWO programme and will be updated in subsequent AER(s) once the information is confirmed.

SWO Summary	
How much sewage was discharged via monitored SWOs in the agglomeration in the year (m3)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	N/A
The SWO Assessment included the requirements of relevant of WWDL schedules?	Unknown
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	Unknown

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 a 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)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0011-SIP:01	Discharge to be discontinued: SW4 Manhole 2106	A	31/12/2011	Yes	Works Completed		
D0011-SIP:02	Discharge to be discontinued: SW6 pump station No.1, St Catherine's Road	A	31/12/2011	Yes	Works Completed		
D0011-SIP:03	Discharge to be discontinued: SW7 Pump station No.2, Shore Road	A	31/12/2011	Yes	Works Completed		
D0011-SIP:04	Discharge to be discontinued: SW1 Rough Point (new harbour development)	A	31/12/2011	Yes	Works Completed		
D0011-SIP:05	Discharge to be discontinued: SW3 Manhole 6605	A	31/12/2011	Yes	Works Completed		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0011-SIP:06	Discharge to be discontinued: SW5 Manhole 3903	A	31/12/2011	Yes	Works Completed		
D0011-SIP:07	Elimination of all other SWOs on the collection network	C	31/12/2011	Yes	Works Completed		
D0011-SIP:08	Municipal WWTP and ancillary work	C	31/12/2011	Yes	Works Completed		
D0011-SIP:09	New main pumping station (industrial & storm overflow pumping plant)	C	31/12/2010	Yes	Works Completed		
D0011-SIP:10	New marine outfall at Killybegs outer harbour	C	31/12/2010	Yes	Works Completed		
D0011-SIP:11	Provision of new storm water overflow (SW8) from main new pumping station in accordance with DoE SWO criteria	C	31/12/2010	Yes	Works Completed		
D0011-SIP:12	Separate industrial sewer network, including twin industrial rising mains & land based gravity outfall	C	31/12/2010	Yes	Works Completed		
D0011-SIP:13	SW6 (pump station No.1, St Catherine's Road) to operate as an emergency overflow only	A	31/12/2011	Yes	Works Completed		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0011-SIP:14	Upgrade existing sewage collection network	C	31/12/2011	Yes	Works Completed		

A summary of the status of any other improvements identified by under Condition 5 assessments- is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
No additional improvements planned at this time.				

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 Tables 4.2.1 and 4.2.2.

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 a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Licence Specific Report	Required by licence	Year included in AER	Included in this AER
Priority Substances Assessment	Yes	2015	No
Toxicity of Final Effluent	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?	N/A
List reason e.g. additional SWO identified	N/A
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	N/A
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

7 APPENDIX

7.1 Ambient Monitoring Results 2022

Station	Date	Ammonia (as N)	BOD	Chlorophyll	Dissolved Inorganic Nitrogen (as N)	Dissolved Oxygen % Saturation	E coli	Intestinal Enterococci	Faecal Coliforms	Ortho-phosphate	Temperature	Total Oxidised Nitrogen N	Total Nitrogen N	pH	Suspended Solids	COD Chemical Oxygen Demand
Killybegs - Asw-2 (Sea 1)	18-Jan-22	0.02	<1	5.48	<0.1	103.3	NT	NT	NT	0.02	8.1	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 2)	18-Jan-22	0.02	<1	5.77	<0.1	100.5	NT	NT	NT	<0.01	8.1	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 3)	18-Jan-22	<0.01	<1	6.16	<0.1	100.9	5	<1	5	0.01	8.1	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 4)	18-Jan-22	<0.01	<1	6.2	<0.1	100.5	<1	<1	<1	<0.01	8.1	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 5)	18-Jan-22	0.02	1	9.44	<0.1	99.9	NT	NT	NT	0.01	8.1	<0.1	NT	NT	NT	NT
Killybegs - Asw-2(Sea 6)	18-Jan-22	0.02	<1	8.43	<0.1	101.3	NT	NT	NT	0.01	8.1	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 1)	18-Jan-22	0.02	<1	10.05	<0.1	100.7	<1	<1	<1	0.01	8.1	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 2)	18-Jan-22	0.02	1	14.96	<0.1	100.1	<1	<1	<1	0.01	8.1	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 3)	18-Jan-22	0.01	1	11.21	<0.1	100.3	<1	<1	<1	0.01	8.1	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 4)	18-Jan-22	0.03	<1	9.28	<0.1	101	<1	<1	<1	<0.01	8.1	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (1)	18-Jan-22	0.14	6	31.3	0.14	87.7	25	<1	25	0.34	8.1	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (2)	18-Jan-22	0.03	1	13.87	<0.1	87.5	5	<1	2	0.03	8	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (1)	23-Feb-22	0.1	1	6.4	0.38	92.8	40	<1	40	0.03	8.4	0.28	NT	NT	NT	NT
Killybegs - Asw-8 (2)	23-Feb-22	0.02	<1	8.41	<0.1	93.2	5	20	5	0.02	8.4	<0.1	NT	NT	NT	NT
Kilcar	8-Mar-22	NT	<2	NT	<0.52	NT	NT	NT	NT	NT	NT	NT	NT	7.2	25	NT
Killybegs - Asw-8 (1)	15-Mar-22	0.12	12	56.6	0.39	95	NT	NT	NT	0.44	8	0.27	NT	NT	NT	NT
Killybegs - Asw-8 (2)	15-Mar-22	0.06	2	14.91	0.4	97	NT	NT	NT	0.07	8.2	0.34	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 1)	19-Apr-22	<0.01	2	14.51	<0.1	107.6	NT	NT	NT	<0.01	11	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 2)	19-Apr-22	<0.01	1	15.23	<0.1	106.4	NT	NT	NT	<0.01	11	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 3)	19-Apr-22	<0.01	1	18.55	<0.1	108.2	NT	NT	NT	<0.01	11	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 4)	19-Apr-22	<0.01	1	15.93	<0.1	108.5	NT	NT	NT	<0.01	11	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 5)	19-Apr-22	<0.01	1	19.22	<0.1	106.7	NT	NT	NT	<0.01	11	<0.1	NT	NT	NT	NT
Killybegs - Asw-2(Sea 6)	19-Apr-22	0.02	1	19.48	<0.1	107.2	NT	NT	NT	<0.01	11	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 1)	19-Apr-22	0.07	1	24.53	<0.1	104.5	NT	NT	NT	<0.01	11	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 2)	19-Apr-22	0.04	1	13.6	<0.1	106.7	NT	NT	NT	<0.01	11	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 3)	19-Apr-22	0.04	1	12.29	<0.1	102.5	NT	NT	NT	<0.01	11	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 4)	19-Apr-22	0.05	1	13.58	<0.1	102.1	NT	NT	NT	<0.01	11	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (1)	21-Apr-22	0.12	6	57.39	0.12	99.8	NT	NT	NT	0.29	12.4	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (2)	21-Apr-22	0.02	4	41.12	<0.1	99.3	NT	NT	NT	0.02	12.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (1)	19-May-22	0.02	1	28.03	<0.1	99.3	<1	<1	<1	<0.01	14	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (2)	19-May-22	0.02	1	8.67	<0.1	98.1	10	10	10	0.01	13.7	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 1)	14-Jun-22	0.02	<1	6.72	<0.1	100.9	NT	NT	NT	0.03	12.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 2)	14-Jun-22	0.01	1	8.32	<0.1	99.7	NT	NT	NT	0.03	12.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 3)	14-Jun-22	0.01	1	10.59	<0.1	100.1	<1	<1	<1	0.03	12.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 4)	14-Jun-22	<0.01	<1	7.23	<0.1	100.7	<1	<1	<1	0.03	12.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 5)	14-Jun-22	<0.01	1	7.59	<0.1	101	NT	NT	NT	0.03	12.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2(Sea 6)	14-Jun-22	0.02	<1	6.31	<0.1	100.8	NT	NT	NT	0.03	12.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 1)	14-Jun-22	0.01	2	9.65	<0.1	100.2	5	<1	5	0.03	12.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 2)	14-Jun-22	0.02	<1	9.43	<0.1	101.2	<1	<1	<1	0.03	12.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 3)	14-Jun-22	0.02	1	5.26	<0.1	100	<1	<1	<1	0.03	12.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 4)	14-Jun-22	0.01	<1	7.54	<0.1	100.9	5	<1	5	0.03	12.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (1)	15-Jun-22	0.05	1	11.07	<0.1	101	NT	NT	NT	0.04	15.4	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (2)	15-Jun-22	0.02	1	9.23	<0.1	99	NT	NT	NT	0.03	15.4	<0.1	NT	NT	NT	NT
Kilcar	14-Jun-22	NT	4	NT	<0.52	NT	NT	NT	NT	NT	NT	NT	NT	8.29	162	NT
Killybegs - Asw-2 (Sea 1)	12-Jul-22	<0.01	1	8.63	<0.1	103.5	NT	NT	NT	0.02	16.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 2)	12-Jul-22	<0.01	2	8.56	<0.1	104.9	NT	NT	NT	0.02	16.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 3)	12-Jul-22	<0.01	1	8.61	<0.1	103	NT	NT	NT	0.02	16.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 4)	12-Jul-22	<0.01	2	9.29	<0.1	102.6	NT	NT	NT	0.02	16.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 5)	12-Jul-22	<0.01	1	9.72	<0.1	103.5	NT	NT	NT	0.02	16.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2(Sea 6)	12-Jul-22	<0.01	1	8.51	<0.1	103.8	NT	NT	NT	0.02	16.5	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 1)	12-Jul-22	<0.01	1	12.52	<0.1	105.3	NT	NT	NT	0.02	17	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 2)	12-Jul-22	<0.01	1	8.75	<0.1	100.4	NT	NT	NT	0.03	17	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 3)	12-Jul-22	<0.01	2	11.91	<0.1	106.6	NT	NT	NT	0.02	17	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 4)	12-Jul-22	<0.01	2	12.61	<0.1	104.9	NT	NT	NT	0.02	17	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (1)	21-Jul-22	<0.1	2	19.38	<0.1	110.6	NT	NT	NT	0.03	17.9	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (2)	21-Jul-22	<0.01	1	9.9	<0.1	109.4	NT	NT	NT	0.03	17.7	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 1)	16-Aug-22	0.02	2	9.04	<0.1	99.8	NT	NT	NT	0.02	16	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 2)	16-Aug-22	<0.01	2	10.76	<0.1	100.5	NT	NT	NT	0.02	16	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 3)	16-Aug-22	<0.01	2	10.86	<0.1	100.8	NT	NT	NT	0.02	16	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 4)	16-Aug-22	<0.01	1	10.25	<0.1	100.9	NT	NT	NT	0.02	16	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 5)	16-Aug-22	<0.01	1	8.99	<0.1	101.2	NT	NT	NT	0.02	16	<0.1	NT	NT	NT	NT
Killybegs - Asw-2(Sea 6)	16-Aug-22	0.01	1	11.15	<0.1	100.3	NT	NT	NT	0.02	16	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 1)	16-Aug-22	<0.01	2	15.18	<0.1	98	NT	NT	NT	0.03	16	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 2)	16-Aug-22	<0.01	2	11.96	<0.1	100	NT	NT	NT	0.02	16	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 3)	16-Aug-22	<0.01	2	12.14	<0.1	100.8	NT	NT	NT	0.02	16	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 4)	16-Aug-22	<0.01	1	15.29	<0.1	100.2	NT	NT	NT	0.02	16	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (1)	18-Aug-22	<0.01	1	7.79	<0.1	97.9	NT	NT	NT	<0.01	17.7	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (2)	18-Aug-22	<0.01	1	9.75	<0.1	101.5	NT	NT	NT	<0.01	17.3	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 1)	30-Aug-22	<0.01	1	9.39	<0.1	100	NT	NT	NT	<0.01	15	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 2)	30-Aug-22	<0.01	1	11.51	<0.1	101.5	NT	NT	NT	<0.01	15	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 3)	30-Aug-22	<0.01	1	12.64	<0.1	100.2	NT	NT	NT	<0.01	15	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 4)	30-Aug-22	<0.01	1	13.56	<0.1	100.5	NT	NT	NT	<0.01	15	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 5)	30-Aug-22	<0.01	1	11.4	<0.1	99.9	NT	NT	NT	<0.01	15	<0.1	NT	NT	NT	NT
Killybegs - Asw-2(Sea 6)	30-Aug-22	<0.01	1	10.94	<0.1	100.6	NT	NT	NT	<0.01	15	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 1)	30-Aug-22	<0.01	1	7.36	<0.1	98.8	NT	NT	NT	<0.01	15	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 2)	30-Aug-22	<0.01	2	8.63	<0.1	101	NT	NT	NT	<0.01	15	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 3)	30-Aug-22	<0.01	1	7.03	<0.1	100.3	NT	NT	NT	<0.01	15	<0.1	NT	NT	NT	NT
Killybegs - Asw-2 (Shore 4)	30-Aug-22	<0.01	2	10.15	<0.1	100.5	NT	NT	NT	<0.01	15	<0.1	NT	NT	NT	NT
Killybegs - Asw-8 (1)	28-Sep-22	NT	1	AR	AR	AR	AR	AR	AR	AR	16	NT	NT	NT	NT	NT
Killybegs - Asw-8 (2)	28-Sep-22	NT	2	AR	AR	AR	AR	AR	AR	AR	15.4	NT	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 1)	13-Sep-22	<0.01	1	5.94	0.19	99.6	NT	NT	NT	<0.01	16	0.19	NT	NT	NT	NT
Killybegs - Asw-2 (Sea 2)	13-Sep-22	0.01	1	8.63	<0.1	98.9	NT	NT	NT	<						