

Annual Environmental Report

2021



Westport

D0055-01

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7.1 AMBIENT MONITORING SUMMARY

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2021 AER

This Annual Environmental Report has been prepared for D0055-01, Westport, in Mayo 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 was no major capital or operational changes undertaken

1.2 TREATMENT SUMMARY

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

- WESTPORT WWTP with a Plant Capacity PE of 15042, the treatment type is 3NP - Tertiary N&P removal

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
TPEFF2200D0055SW001	WESTPORT WWTP	Treated	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 WESTPORT WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - WESTPORT 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
COD-Cr mg/l	12	413	173
Suspended Solids mg/l	12	190	87
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	211	80
Total Phosphorus (as P) mg/l	12	6.00	2.60
Total Nitrogen mg/l	12	28	12
Hydraulic Capacity	N/A	20868	6064

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 less 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 - TPEFF2200D0055SW001

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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	17	Pass
Suspended Solids mg/l	35	88	N/A	12	N/A	N/A	4.61	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	12	N/A	N/A	2.00	Pass
pH units	9.00	9.00	N/A	12	N/A	N/A	7.42	Pass
Ammonia-Total (as N) mg/l	5.00	6.00	N/A	12	N/A	N/A	0.203	Pass
Mercury - unspecified µg/l	0.400	N/A	N/A	1	1	1	0.007	Pass
Copper - unspecified mg/l	0.010	0.010	N/A	1	N/A	N/A	0.002	Pass
Lead - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	0.354	
Faecal coliforms cfu/100ml	N/A	N/A	N/A	1	N/A	N/A	1060	

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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
PCBs (Total) µg/l	N/A	N/A	N/A	1	N/A	N/A	0.021	
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	12	N/A	N/A	0.595	
Cadmium - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	0.354	
Chromium - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	0.354	
Conductivity @20°C µS/cm	N/A	N/A	N/A	12	N/A	N/A	1144	
E. Coli MPN/100ml	N/A	N/A	N/A	1	N/A	N/A	990	
Nickel - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	1.00	
Zinc - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	16	
Arsenic - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	1.00	
Nitrite (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	0.052	
Fats, Oils & Greases mg/l	N/A	N/A	N/A	4	N/A	N/A	13	

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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Enterococci (Intestinal) cfu/100ml	N/A	N/A	N/A	1	N/A	N/A	97	
Total Nitrogen mg/l	N/A	N/A	N/A	12	N/A	N/A	5.90	
Nitrate (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	4.73	
True Colour PtCo Units	N/A	N/A	N/A	4	N/A	N/A	51	
Salinity PSU	N/A	N/A	N/A	12	N/A	N/A	0.743	
Total Phosphorus (as P) mg/l	N/A	N/A	N/A	12	N/A	N/A	0.735	
Silver - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	0.495	

Notes:

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

2 – For pH the WWDA specifies a range of pH 6 - 9

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 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF2200D0055SW001

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
Downstream	97738, 285114	TW22005283WT1001	No	No	No	Yes	High

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 compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results 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.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - WESTPORT WWTP

2.1.4.1 Treatment Efficiency Report - WESTPORT 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.

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

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
cBOD	181763	3694	98
TP	5915	1354	77
TN	28476	10865	62
SS	197283	8500	96
COD	393908	31168	92

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

2.1.4.2 Treatment Capacity Report Summary - WESTPORT 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.

WESTPORT WWTP	
Peak Hydraulic Capacity (m³/day) - As Constructed	13650
DWF to the Treatment Plant (m³/day)	4550
Current Hydraulic Loading - annual max (m³/day)	20868
Average Hydraulic loading to the Treatment Plant (m³/day)	6064
Organic Capacity (PE) - As Constructed	15042
Organic Capacity (PE) - Collected Load (peak week)^{Note1}	10017
Organic Capacity (PE) - Remaining	5025
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.

2.1.5 SLUDGE / OTHER INPUTS - WESTPORT 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)
Domestic /Septic Tank Sludge	918	Volume (m3)	11.18	0.04	Yes	Yes	No
Other	1320	Volume (m3)	16.07	0.06	Yes	Yes	No

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 2021.			

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 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.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
There were no reportable incidents in 2021.				

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2021	0
Number of Incidents reported to the EPA via EDEN in 2021	0
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 2021 (No. of events)	Total volume discharged in 2021 (m3)	Monitoring Status
TBC	101163, 283164	No	Low	Not Meeting	Unknown	Unknown	Not Monitored
TBC	100898, 283880	No	Low	Meeting	Unknown	Unknown	Monitored
TBC	97793, 284161	No	Low	Meeting	Unknown	Unknown	Monitored
TBC	99760, 285282	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	98068, 284545	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	100616, 284091	No	Low	Meeting	Unknown	Unknown	Monitored

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 2021 (No. of events)	Total volume discharged in 2021 (m3)	Monitoring Status
TBC	97332, 284349	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	97157, 283952	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	96642, 283265	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	98940.771, 283710.606	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	97528.071, 284776.301	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	100861.521, 284304.704	No	Medium	Meeting	Unknown	Unknown	Not Monitored
SW2	98049, 285025	Yes	Low	Meeting	Unknown	Unknown	Not 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 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?	N/A

SWO Summary

Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?

N/A

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
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There are no Specified Improvement Programmes for this Agglomeration.

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
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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
Shellfish Impact Assessment	Yes	2011	No
Toxicity of Final Effluent	Yes	2017	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
Has a Technical amendment/licence review application been submitted to the Agency by IW?	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

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

Signed: Date: 22/06/2022

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 ,

Katherine Walshe

Acting Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

Classification monitoring data for Clew Bay.

Clew Bay has a number of different Classified sites which include:

Inisquirk, Corrie Channel, Rosslaher, Mynah, Inishlaughil, Carrowholly and Murrisk, and each have a separate worksheet.

Some of these sites are classified for both Oysters and Mussels.

Please also note that Results column, (ECShell), are expressed as Most Probable Number *E. coli* / Gram shellfish flesh so multiply this result by 100 to get the regulatory MPN *E. coli* /100grams shellfish flesh and intervalvular fluid.

B classification results are in **bold**

Hereunder are the sampling coordinates in order that you may geolocate your information:

Clew Bay (Mussels)		
Clew Bay (Inishlaughil) Mussels	Mussels	53°.881583N 009°.632083W
Clew Bay (Corrie channel) Mussels	Mussels	53°.86180N 009°.56690W
Clew Bay (Rosslaher) Mussels	Mussels	53°.85710N 009°.56410W
Clew Bay (Oysters)		
Clew Bay (Murrisk)	Pacific Oysters	53°.809166N 009°.624666W
Clew Bay (Carrowholly)	Pacific Oysters	53.804194 9.581101
Clew Bay (Corrie Channel)	Pacific Oysters	53°.86180N 009°.56690W
Clew Bay (Inisquirk)	Pacific Oysters	53°.88320N 009°.67500W
Clew Bay (Mynah)	Pacific Oysters	53°.84640N 009°.57750W

The second attachment is the current list of Classified production areas in Ireland with their associated Classification. There is a table explaining Classification at the end of this email.

From the 2021 microbiological results attached the Classification monitoring programme for 2021 in Clew bay is of good water quality and consequently, is mainly of A classification.

Classification Table:

Category	Microbiological Standard (MPN 100g ⁻¹ shellfish flesh)	Treatment required
Class A	<230 <i>E.coli</i>	May go direct for human consumption
Class B	<4,600 <i>E.coli</i> (90% compliance)	Must be depurated, heat treated or relayed to meet class A requirements
Class C	<46,000 <i>E.coli</i>	Must be relayed for 2 months to meet class A or B requirements or may also be heat treated

Area	Result Number	Sample Position	Sampling Date	Sample Type	ECShell
CLEW BAY	42252	INISQUIRK	13-Jan-21	POY	0.2
CLEW BAY	42351	INISQUIRK	10-Feb-21	POY	0.2
CLEW BAY	42477	INISQUIRK	3-Mar-21	POY	0.2
CLEW BAY	42703	INISQUIRK	29-Apr-21	POY	0.18
CLEW BAY	42786	INISQUIRK	24-May-21	POY	1.3
CLEW BAY	42934	INISQUIRK	23-Jun-21	POY	0.18
CLEW BAY	43059	INISQUIRK	22-Jul-21	POY	0.2
CLEW BAY	43198	INISQUIRK	24-Aug-21	POY	0.18
CLEW BAY	43308	INISQUIRK	21-Sep-21	POY	0.18
CLEW BAY	43432	INISQUIRK	18-Oct-21	POY	2.3
CLEW BAY	43531	INISQUIRK	7-Nov-21	POY	0.45
CLEW BAY	43671	INISQUIRK	5-Dec-21	POY	0.2

Area	Result Number	Sample Position	Sampling Date	Sample Type	ECShell
CLEW BAY	42303	CORRIE CHANNEL	27-Jan-21	MUS	0.18
CLEW BAY	42394	CORRIE CHANNEL	18-Feb-21	MUS	0.18
CLEW BAY	42480	CORRIE CHANNEL	4-Mar-21	MUS	0.18
CLEW BAY	42597	CORRIE CHANNEL	12-Apr-21	MUS	0.18
CLEW BAY	42737	CORRIE CHANNEL	11-May-21	MUS	0.18
CLEW BAY	42859	CORRIE CHANNEL	9-Jun-21	MUS	0.18
CLEW BAY	42979	CORRIE CHANNEL	9-Jul-21	MUS	0.18
CLEW BAY	43164	CORRIE CHANNEL	20-Aug-21	MUS	0.2
CLEW BAY	43323	CORRIE CHANNEL	22-Sep-21	MUS	0.78
CLEW BAY	43454	CORRIE CHANNEL	20-Oct-21	MUS	0.78
CLEW BAY	43510	CORRIE CHANNEL	4-Nov-21	MUS	0.2
CLEW BAY	43700	CORRIE CHANNEL	9-Dec-21	MUS	0.18

Area	Result Number	Sample Position	Sampling Date	Sample Type	ECShell
CLEW BAY	42305	ROSSLAHER	27-Jan-21	MUS	0.2
CLEW BAY	42396	ROSSLAHER	18-Feb-21	MUS	0.18
CLEW BAY	42490	ROSSLAHER	4-Mar-21	MUS	0.18
CLEW BAY	42599	ROSSLAHER	12-Apr-21	MUS	0.18
CLEW BAY	42739	ROSSLAHER	11-May-21	MUS	0.18
CLEW BAY	42861	ROSSLAHER	9-Jun-21	MUS	0.18
CLEW BAY	42981	ROSSLAHER	9-Jul-21	MUS	0.18
CLEW BAY	43166	ROSSLAHER	20-Aug-21	MUS	0.78
CLEW BAY	43325	ROSSLAHER	23-Sep-21	MUS	2.2
CLEW BAY	43456	ROSLAHER	20-Oct-21	MUS	2.2
CLEW BAY	43512	ROSSLAHER	4-Nov-21	MUS	0.18
CLEW BAY	43702	ROSSLAHER	9-Dec-21	MUS	0.2

Area	Result Number	Sample Position	Sampling Date	Sample Type	ECShell
CLEW BAY	42275	MYNAH	20-Jan-21	POY	0.18
CLEW BAY	42381	MYNAH	14-Feb-21	POY	0.18
CLEW BAY	42529	MYNAH	19-Mar-21	POY	0.18
CLEW BAY	42638	MYNAH	16-Apr-21	POY	0.2
CLEW BAY	42809	MYNAH	25-May-21	POY	0.18
CLEW BAY	42935	MYNAH	23-Jun-21	POY	0.18
CLEW BAY	43030	MYNAH	15-Jul-21	POY	0.45
CLEW BAY	43209	MYNAH	26-Aug-21	POY	4.9
CLEW BAY	43273	MYNAH	13-Sep-21	POY	0.18
CLEW BAY	43451	MYNAH	21-Oct-21	POY	0.45
CLEW BAY	43618	MYNAH	29-Nov-21	POY	0.18
CLEW BAY	43719	MYNAH	15-Dec-21	POY	0.18

Area	Result Number	Sample Position	Sampling Date	Sample Type	ECShell
CLEW BAY	42306	INISHLAUGHIL	28-Jan-21	MUS	1.3
CLEW BAY	42428	INISHLAUGHIL	25-Feb-21	MUS	0.18
CLEW BAY	42563	INISHLAUGHIL	29-Mar-21	MUS	4.9
CLEW BAY	42613	INISHLAUGHIL	14-Apr-21	MUS	0.18
CLEW BAY	42808	INISHLAUGHIL	25-May-21	MUS	0.18
CLEW BAY	42936	INISHLAUGHIL	23-Jun-21	MUS	0.18
CLEW BAY	43031	INISHLAUGHIL	15-Jul-21	MUS	0.18
CLEW BAY	43208	INISHLAUGHIL	26-Aug-21	MUS	0.18
CLEW BAY	43274	INISHLAUGHIL	14-Sep-21	MUS	0.2
CLEW BAY	43418	INISHLAUGHIL	14-Oct-21	MUS	0.2
CLEW BAY	43612	INISHLAUGHIL	24-Nov-21	MUS	0.18
CLEW BAY	43718	INISHLAUGHIL	14-Dec-21	MUS	0.18

Area	Result Number	Sample Position	Sampling Date	Sample Type	ECShell
CLEW BAY	42177	CARROWHOLLY/ ROSMALLEY POINT	8-Jan-21	POY	0.18
CLEW BAY	42460	CARROWHOLLY/ ROSMALLEY POINT	28-Feb-21	POY	0.2
CLEW BAY	42528	CARROWHOLLY/ ROSMALLEY POINT	18-Mar-21	POY	0.18
CLEW BAY	42673	CARROWHOLLY/ ROSMALLEY POINT	26-Apr-21	POY	0.18
CLEW BAY	42758	CARROWHOLLY/ ROSMALLEY POINT	17-May-21	POY	0.18
CLEW BAY	42937	CARROWHOLLY/ ROSMALLEY POINT	24-Jun-21	POY	2.1
CLEW BAY	43056	CARROWHOLLY/ ROSMALLEY POINT	22-Jul-21	POY	0.18
CLEW BAY	43210	CARROWHOLLY/ ROSMALLEY POINT	27-Aug-21	POY	0.2
CLEW BAY	43260	CARROWHOLLY/ ROSMALLEY POINT	8-Sep-21	POY	1.7
CLEW BAY	43450	CARROWHOLLY/ ROSMALLEY POINT	21-Oct-21	POY	4.6
CLEW BAY	43611	CARROWHOLLY/ ROSMALLEY POINT	24-Nov-21	POY	0.18
CLEW BAY	43672	CARROWHOLLY/ ROSMALLEY POINT	5-Dec-21	POY	0.18

Area	Result Number	Sample Position	Sampling Date	Sample Type	ECShell
CLEW BAY	42176	MURRISK	8-Jan-21	POY	0.18
CLEW BAY	42423	MURRISK	25-Feb-21	POY	0.18
CLEW BAY	42527	MURRISK	18-Mar-21	POY	0.18
CLEW BAY	42672	MURRISK	26-Apr-21	POY	0.18
CLEW BAY	42757	MURRISK	17-May-21	POY	0.18
CLEW BAY	42862	MURRISK	10-Jun-21	POY	0.2
CLEW BAY	43057	MURRISK	22-Jul-21	POY	0.45
CLEW BAY	43199	MURRISK	24-Aug-21	POY	0.45
CLEW BAY	43258	MURRISK	8-Sep-21	POY	1.3
CLEW BAY	43433	MURRISK	17-Oct-21	POY	0.18
CLEW BAY	43610	MURRISK	23-Nov-21	POY	0.18
CLEW BAY	43673	MURRISK	5-Dec-21	POY	0.18

WFD Chemistry Monitoring

Waterbody Name	Sample Date	Parameter Name	Parameter Unit Short Code	Result	Text Result	Limit Of Detection	Report Result	Report Text Result	Report Limit
Clew Bay	14/07/2021	Ammonia-Total (as N)	mg/l	0.038		0.01	0.038		0.01
Clew Bay	14/07/2021	Ammonia-Total (as N)	mg/l	0.037		0.01	0.037		0.01
Clew Bay	14/07/2021	Ammonia-Total (as N)	mg/l	0.049		0.01	0.049		0.01
Clew Bay	14/07/2021	Ammonia-Total (as N)	mg/l	0.033		0.01	0.033		0.01
Clew Bay	14/07/2021	Ammonia-Total (as N)	mg/l	0.028		0.01	0.028		0.01
Clew Bay	14/07/2021	Chlorophyll a (Fluorescence)	Âµg/l	0.21		0.01	0.21		0.01
Clew Bay	14/07/2021	BOD - 5 days (Total)	mg/l		<1	1	0.5	<1	1
Clew Bay	14/07/2021	BOD - 5 days (Total)	mg/l		<1	1	0.5	<1	1
Clew Bay	14/07/2021	Chlorophyll a (Fluorescence)	Âµg/l	0.26		0.01	0.26		0.01
Clew Bay	14/07/2021	Chlorophyll a (Fluorescence)	Âµg/l	0.96		0.01	0.96		0.01
Clew Bay	14/07/2021	Chlorophyll a (Fluorescence)	Âµg/l	0.91		0.01	0.91		0.01
Clew Bay	14/07/2021	Depth	m	0			0		
Clew Bay	14/07/2021	Depth	m	0			0		
Clew Bay	14/07/2021	Depth	m	28.4			28.4		

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Clew Bay	14/07/20 21	Depth	m	0			0		
Clew Bay	14/07/20 21	Chlorophyll a (Fluorescence)	Âµg/l	1.7		0.01	1.7		0.01
Clew Bay	14/07/20 21	Chlorophyll a (Fluorescence)	Âµg/l	2.4		0.01	2.4		0.01
Clew Bay	14/07/20 21	Chlorophyll a (Fluorescence)	Âµg/l	0.13		0.01	0.13		0.01
Clew Bay	14/07/20 21	Dissolved Oxygen	% Saturation	105		1	105		1
Clew Bay	14/07/20 21	Dissolved Oxygen	% Saturation	104		1	104		1
Clew Bay	14/07/20 21	Dissolved Oxygen	% Saturation	106		1	106		1
Clew Bay	14/07/20 21	Dissolved Oxygen	% Saturation	103		1	103		1
Clew Bay	14/07/20 21	Depth	m	0			0		
Clew Bay	14/07/20 21	Depth	m	27.5			27.5		
Clew Bay	14/07/20 21	Depth	m	0			0		
Clew Bay	14/07/20 21	Depth	m	0			0		
Clew Bay	14/07/20 21	ortho-Phosphate (as P) - unspecified	mg/l		<0.005	0.005	0.0025	<0.005	0.005
Clew Bay	14/07/20 21	ortho-Phosphate (as P) - unspecified	mg/l		<0.005	0.005	0.0025	<0.005	0.005
Clew Bay	14/07/20 21	ortho-Phosphate (as P) - unspecified	mg/l		<0.005	0.005	0.0025	<0.005	0.005

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Clew Bay	14/07/20 21	ortho-Phosphate (as P) - unspecified	mg/l		<0.005	0.005	0.0025	<0.005	0.005
Clew Bay	14/07/20 21	Dissolved Oxygen	% Saturation	104		1	104		1
Clew Bay	14/07/20 21	Dissolved Oxygen	% Saturation	92		1	92		1
Clew Bay	14/07/20 21	Dissolved Oxygen	% Saturation	102		1	102		1
Clew Bay	14/07/20 21	Dissolved Oxygen	% Saturation	90		1	90		1
Clew Bay	14/07/20 21	pH	pH units	8.1		2	8.1		2
Clew Bay	14/07/20 21	pH	pH units	8.1		2	8.1		2
Clew Bay	14/07/20 21	Pheophytin a	Âµg/l	0.58		0.01	0.58		0.01
Clew Bay	14/07/20 21	Pheophytin a	Âµg/l	0.53		0.01	0.53		0.01
Clew Bay	14/07/20 21	Pheophytin a	Âµg/l	1.2		0.01	1.2		0.01
Clew Bay	14/07/20 21	Pheophytin a	Âµg/l	0.73		0.01	0.73		0.01
Clew Bay	14/07/20 21	Pheophytin a	Âµg/l	0.46		0.01	0.46		0.01
Clew Bay	14/07/20 21	ortho-Phosphate (as P) - unspecified	mg/l		<0.005	0.005	0.0025	<0.005	0.005
Clew Bay	14/07/20 21	ortho-Phosphate (as P) - unspecified	mg/l		<0.005	0.005	0.0025	<0.005	0.005
Clew Bay	14/07/20 21	ortho-Phosphate (as P) - unspecified	mg/l		<0.005	0.005	0.0025	<0.005	0.005

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Clew Bay	14/07/20 21	Salinity	PSU	32.8		0.1	32.8		0.1
Clew Bay	14/07/20 21	Salinity	PSU	32.7		0.1	32.7		0.1
Clew Bay	14/07/20 21	Salinity	PSU	32.6		0.1	32.6		0.1
Clew Bay	14/07/20 21	Salinity	PSU	32.5		0.1	32.5		0.1
Clew Bay	14/07/20 21	Salinity	PSU	32.9		0.1	32.9		0.1
Clew Bay	14/07/20 21	pH	pH units	8.1		2	8.1		2
Clew Bay	14/07/20 21	pH	pH units	8.1		2	8.1		2
Clew Bay	14/07/20 21	pH	pH units	8.1		2	8.1		2
Clew Bay	14/07/20 21	Salinity(Lab)	0/oo	34.8		0.1	34.8		0.1
Clew Bay	14/07/20 21	Pheophytin a	Âµg/l	0.52		0.01	0.52		0.01
Clew Bay	14/07/20 21	Pheophytin a	Âµg/l	0.24		0.01	0.24		0.01
Clew Bay	14/07/20 21	Pheophytin a	Âµg/l	1		0.01	1		0.01
Clew Bay	14/07/20 21	ortho-Phosphate (as P) - unspecified	mg/l		<0.005	0.005	0.0025	<0.005	0.005
Clew Bay	14/07/20 21	Salinity	PSU	32.5		0.1	32.5		0.1
Clew Bay	14/07/20 21	Salinity	PSU	32.4		0.1	32.4		0.1

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Clew Bay	14/07/20 21	Silica (as SiO2)	mg/l		<0.1	0.1	0.05	<0.1	0.1
Clew Bay	14/07/20 21	Silica (as SiO2)	mg/l		<0.1	0.1	0.05	<0.1	0.1
Clew Bay	14/07/20 21	Silica (as SiO2)	mg/l	0.13		0.1	0.13		0.1
Clew Bay	14/07/20 21	Salinity(Lab)	0/oo	35.3		0.1	35.3		0.1
Clew Bay	14/07/20 21	Salinity(Lab)	0/oo	35.1		0.1	35.1		0.1
Clew Bay	14/07/20 21	Salinity(Lab)	0/oo	35.7		0.1	35.7		0.1
Clew Bay	14/07/20 21	Salinity(Lab)	0/oo	35.7		0.1	35.7		0.1
Clew Bay	14/07/20 21	Salinity(Lab)	0/oo	35.6		0.1	35.6		0.1
Clew Bay	14/07/20 21	Salinity(Lab)	0/oo	35.4		0.1	35.4		0.1
Clew Bay	14/07/20 21	Salinity(Lab)	0/oo	36		0.1	36		0.1
Clew Bay	14/07/20 21	StationDepth	m	28		0.1	28		0.1
Clew Bay	14/07/20 21	Temperature	Â°C	16			16		
Clew Bay	14/07/20 21	pH	pH units	8		2	8		2
Clew Bay	14/07/20 21	pH	pH units	8.1		2	8.1		2
Clew Bay	25/08/20 21	pH	pH units	8.1		2	8.1		2

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Clew Bay	25/08/20 21	pH	pH units	8.1		2	8.1		2
Clew Bay	25/08/20 21	pH	pH units	8.1		2	8.1		2
Clew Bay	25/08/20 21	Pheophytin a	Âµg/l	0.89		0.01	0.89		0.01
Clew Bay	25/08/20 21	Silica (as SiO2)	mg/l	0.1		0.1	0.1		0.1
Clew Bay	25/08/20 21	Silica (as SiO2)	mg/l	0.33		0.1	0.33		0.1
Clew Bay	25/08/20 21	StationDepth	m	21		0.1	21		0.1
Clew Bay	25/08/20 21	StationDepth	m	22		0.1	22		0.1
Clew Bay	25/08/20 21	StationDepth	m	28.7		0.1	28.7		0.1
Clew Bay	25/08/20 21	Salinity	PSU	32.7		0.1	32.7		0.1
Clew Bay	25/08/20 21	Temperature	Â°C	14.9			14.9		
Clew Bay	25/08/20 21	Temperature	Â°C	15.6			15.6		
Clew Bay	25/08/20 21	Total Oxidised Nitrogen (as N)	mg/l	0.011		0.01	0.011		0.01
Clew Bay	25/08/20 21	Total Oxidised Nitrogen (as N)	mg/l	0.02		0.01	0.02		0.01
Clew Bay	25/08/20 21	Salinity	PSU	32.3		0.1	32.3		0.1
Clew Bay	25/08/20 21	Salinity(Lab)	0/oo	35		0.1	35		0.1

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Clew Bay	25/08/20 21	Salinity(Lab)	0/oo	35.1		0.1	35.1		0.1
Clew Bay	25/08/20 21	Total Oxidised Nitrogen (as N)	mg/l	0.017		0.01	0.017		0.01
Clew Bay	25/08/20 21	Total Oxidised Nitrogen (as N)	mg/l		<0.01	0.01	0.005	<0.01	0.01
Clew Bay	25/08/20 21	Total Oxidised Nitrogen (as N)	mg/l		<0.01	0.01	0.005	<0.01	0.01
Clew Bay	25/08/20 21	Silica (as SiO2)	mg/l		<0.1	0.1	0.05	<0.1	0.1
Clew Bay	25/08/20 21	Silica (as SiO2)	mg/l	0.16		0.1	0.16		0.1
Clew Bay	25/08/20 21	Transparency	m	8.1			8.1		
Clew Bay	25/08/20 21	Transparency	m	10			10		
Clew Bay	25/08/20 21	StationDepth	m	28		0.1	28		0.1
Clew Bay	25/08/20 21	StationDepth	m	21		0.1	21		0.1
Clew Bay	25/08/20 21	StationDepth	m	26		0.1	26		0.1
Clew Bay	25/08/20 21	StationDepth	m	21.1		0.1	21.1		0.1
Clew Bay	25/08/20 21	Temperature	Â°C	16.1			16.1		
Clew Bay	25/08/20 21	Temperature	Â°C	16.5			16.5		
Clew Bay	25/08/20 21	Temperature	Â°C	16.5			16.5		

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Clew Bay	25/08/20 21	Total Oxidised Nitrogen (as N)	mg/l		<0.01	0.01	0.005	<0.01	0.01
Clew Bay	25/08/20 21	Total Oxidised Nitrogen (as N)	mg/l		<0.01	0.01	0.005	<0.01	0.01
Clew Bay	25/08/20 21	Total Oxidised Nitrogen (as N)	mg/l	0.012		0.01	0.012		0.01
Clew Bay	25/08/20 21	Total Oxidised Nitrogen (as N)	mg/l		<0.01	0.01	0.005	<0.01	0.01
Clew Bay	25/08/20 21	Transparency	m	6.5			6.5		
Clew Bay	25/08/20 21	Transparency	m	6.5			6.5		
Clew Bay	25/08/20 21	Transparency	m	7.2			7.2		
Clew Bay	25/08/20 21	Ammonia-Total (as N)	mg/l	0.036		0.01	0.036		0.01
Clew Bay	25/08/20 21	Ammonia-Total (as N)	mg/l	0.037		0.01	0.037		0.01
Clew Bay	25/08/20 21	Ammonia-Total (as N)	mg/l	0.038		0.01	0.038		0.01
Clew Bay	25/08/20 21	Ammonia-Total (as N)	mg/l	0.039		0.01	0.039		0.01
Clew Bay	25/08/20 21	Ammonia-Total (as N)	mg/l	0.042		0.01	0.042		0.01
Clew Bay	25/08/20 21	BOD - 5 days (Total)	mg/l		<1	1	0.5	<1	1
Clew Bay	25/08/20 21	BOD - 5 days (Total)	mg/l		<1	1	0.5	<1	1
Clew Bay	25/08/20 21	BOD - 5 days (Total)	mg/l		<1	1	0.5	<1	1

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Clew Bay	25/08/20 21	Chlorophyll a (Fluorescence)	Âµg/l	2.3		0.01	2.3		0.01
Clew Bay	25/08/20 21	Chlorophyll a (Fluorescence)	Âµg/l	0.46		0.01	0.46		0.01
Clew Bay	25/08/20 21	Chlorophyll a (Fluorescence)	Âµg/l	0.54		0.01	0.54		0.01
Clew Bay	25/08/20 21	Depth	m	0			0		
Clew Bay	25/08/20 21	Depth	m	0			0		
Clew Bay	25/08/20 21	Dissolved Oxygen	% Saturation	105		1	105		1
Clew Bay	25/08/20 21	Dissolved Oxygen	% Saturation	105		1	105		1
Clew Bay	25/08/20 21	ortho-Phosphate (as P) - unspecified	mg/l		<0.005	0.005	0.0025	<0.005	0.005
Clew Bay	25/08/20 21	ortho-Phosphate (as P) - unspecified	mg/l		<0.005	0.005	0.0025	<0.005	0.005
Clew Bay	25/08/20 21	Pheophytin a	Âµg/l	0.42		0.01	0.42		0.01
Clew Bay	25/08/20 21	Salinity	PSU	32.7		0.1	32.7		0.1
Clew Bay	25/08/20 21	Silica (as SiO2)	mg/l		<0.1	0.1	0.05	<0.1	0.1
Clew Bay	25/08/20 21	Silica (as SiO2)	mg/l		<0.1	0.1	0.05	<0.1	0.1
Clew Bay	25/08/20 21	Silica (as SiO2)	mg/l	0.1		0.1	0.1		0.1
Clew Bay	25/08/20 21	StationDepth	m	25.5		0.1	25.5		0.1

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Clew Bay	25/08/20 21	StationDepth	m	28.7		0.1	28.7		0.1
Clew Bay	25/08/20 21	Temperature	Â°C	13.9			13.9		
Clew Bay	25/08/20 21	Temperature	Â°C	15.7			15.7		
Clew Bay	25/08/20 21	Temperature	Â°C	16.1			16.1		
Clew Bay	25/08/20 21	Temperature	Â°C	14.2			14.2		
Clew Bay	25/08/20 21	Total Oxidised Nitrogen (as N)	mg/l		<0.01	0.01	0.005	<0.01	0.01
Clew Bay	25/08/20 21	Transparency	m	6.5			6.5		
Clew Bay	25/08/20 21	Transparency	m	6.2			6.2		
Clew Bay	25/08/20 21	Transparency	m	7			7		
Clew Bay	25/08/20 21	Transparency	m	12.1			12.1		
Clew Bay	25/08/20 21	Transparency	m	10			10		