Annual Environmental Report

2021

Dunglow

D0208-01

CONTENTS

7.2 OTHER

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2021 AER

This Annual Environmental Report has been prepared for D0208-01, Dungloe, 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 was no major capital or operational changes undertaken.

1.2 TREATMENT SUMMARY

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

- Dungloe WWTP with a Plant Capacity PE of 2400, the treatment type is 3P - Tertiary 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
TPEFF0600D0208SW001	Dungloe 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 DUNGLOE WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - DUNGLOE 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 (as N) mg/l	6	42	19
ortho-Phosphate (as P) - unspecified mg/l	6	4.30	2.12
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	6	175	140
Suspended Solids mg/l	6	262	143
Total Phosphorus (as P) mg/l	6	7.06	3.29
COD-Cr mg/l	6	451	385
pH units	6	7.40	7.23
Total Nitrogen mg/l	6	46	25
Hydraulic Capacity	N/A	1175	562

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 less than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional 'Operational Performance Summary'. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF0600D0208SW000

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	6	N/A	N/A	22	Pass
Suspended Solids mg/l	35	88	N/A	6	N/A	N/A	4.44	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	20	40	N/A	6	N/A	N/A	1.00	Pass
pH units	9	9	N/A	6	N/A	N/A	7.18	Pass
Ammonia-Total (as N) mg/l	1.7	2.04	N/A	6	N/A	N/A	0.326	Pass
ortho-Phosphate (as P) - unspecified mg/l	0.6	0.72	N/A	6	N/A	N/A	0.088	Pass
Conductivity @20°C µS/cm	N/A	N/A	N/A	6	N/A	N/A	484	

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)
Total Phosphorus (as P) mg/l	N/A	N/A	N/A	6	N/A	N/A	0.196	
Total Nitrogen mg/l	N/A	N/A	N/A	6	N/A	N/A	4.24	

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 TPEFF0600D0208SW000

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	176915, 411525	RS38D020250	No	No	No	Yes	Moderate
Downstream	176739, 411432	RS38D020300	No	No	No	Yes	Moderate

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 - DUNGLOE WWTP

2.1.4.1 Treatment Efficiency Report - Dungloe 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)
TN	5281	872	83
COD	81554	4566	94
SS	30391	912	97

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
cBOD	29713	205	99
TP	698	40	94

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

2.1.4.2 Treatment Capacity Report Summary - Dungloe 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.

Dungloe WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	1704
DWF to the Treatment Plant (m^3/day)	284
Current Hydraulic Loading - annual max (m^3/day)	1175
Average Hydraulic loading to the Treatment Plant (m^3/day)	562
Organic Capacity (PE) - As Constructed	2400
Organic Capacity (PE) - Collected Load (peak week)[Note1]	1517
Organic Capacity (PE) - Remaining	883
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 - DUNGLOE 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 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	176747, 411196	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	176924, 411526	No	Low	Meeting	Unknown	Unknown	Not Monitored
SW3	176744, 411430	Yes	Low	Meeting	Unknown	73039	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)?	73039
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?	Yes

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
D0208-SIP:01	Provision of new WWTP to provide secondary and tertiary level waste water treatment.	C	31/12/2014	Yes	Works Completed		
D0208-SIP:02	Provision of storm water holding tank (with associated new storm water overflow) at Pumping Station No. 1	C	31/12/2014	Yes	Works Completed		
D0208-SIP:03	SW000 located at 100m from the Courthouse, near the mouth of the Dungloe River to be discontinued	A	31/12/2014	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
D0208-SIP:04	SW002 Discharge from Septic Tank serving dwelling on Quay road, south west of the town to be discontinued.	A	31/12/2014	Yes	Works Completed		
D0208-SIP:05	The secondary waste water discharge (SW2) shall be connected to the main drainage network by 31/12/2014. thereafter, there shall be no secondary waste water discharges.	C	31/12/2014	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
D0208-IP:88	Planting to provide visual screening of plant in the future	Other	31/12/2022	Will take a number of years to grow
D0208-IP:96	Planting around treatment plant to provide future screening	Other	30/12/2022	Will take a few years to grow

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
Shellfish Impact Assessment	Yes		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?	No
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	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:

Signed: Date: 27/04/2022

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
Appendix 7.2 - Other

MONTH	Category	Station	Lab Ref	Date	Ammonia (as N)	BOD	Chlorophyll	COD Chemical Oxygen Demand	Dissolved Inorganic Nitrogen (as N)	Dissolved Oxygen % Saturation	E coli	Intestinal Enterococci	Faecal Coliforms (E. coli)	Orthophosphate	Temperature	Total Oxidised Nitrogen N	Total Nitrogen N	Salinity	pH	Suspended Solids	Chlorophyll
March	Coastal Water Body	Dungloe - Point 1	212501038	02-Mar-21	0.17	4.6	<4	NT	<0.5	103.1	NT	NT	NT	<0.02	NT	NT	NT	NT	6.88	NT	NT
May	Coastal Water Body	Dungloe - Point 1	212501995	19-May-21	0.06	<2	NT	NT	0.09	91.5	NT	NT	NT	<0.02	NT	NT	NT	NT	6.8	NT	<4
March	Coastal Water Body	Dungloe - Point 2	212501039	02-Mar-21	0.05	2.4	<4	NT	<0.5	103.3	NT	NT	NT	0.02	NT	NT	NT	NT	7.19	NT	NT
May	Coastal Water Body	Dungloe - Point 2	212501996	19-May-21	0.03	<2	NT	NT	0.05	91.7	NT	NT	NT	<0.02	NT	NT	NT	NT	6.7	NT	<4
					(mg/l)	(mg/l)	mg/m3	(mg/l)	(mg/l)	(mg/l)	mpn/100mls	cfu/100	cfu/100mls	(mg/l)	°C	(mg/l)	(mg/l)	PSU	pH units	(mg/l)	µg/L

Municipal	Month	Category	Entity Name	Station	Lab Ref	Date	pH	Temperature	Conductivity @ 20°C	DO	BOD	COD	Suspended Solids	Ammonia (as N)	Nitrate (as N)	Nitrite (as N)	Orthophosphate	Total Nitrogen	TON	Dissolved Inorganic Nitrogen DIN	Total Phosphorus	E coli	Enterococci	Faecal Coliforms	Chlorophyll	Salinity	SSRS
District							pH units	°C	us/cm	% Sat	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	MPN/100mls	cfu/100mls	cfu/100mls	ug/l	PSU	Rating
Dungloe	January	River Quality	Dungloe River	Dungloe - Upstream	212500101	14-Jan-21	6.9	5.4	94	99.4	1	NT	<6	<0.02	NT	NT	<0.05	0.852	NT	NT	<0.05	NT	NT	NT	NT	NT	NT
Dungloe	March	River Quality	Dungloe River	Dungloe - Upstream	212500620	09-Mar-21	6.9	6.9	87	90.7	2	NT	<6	0.02	NT	NT	<0.05	0.417	NT	NT	<0.05	NT	NT	NT	NT	NT	NT
Dungloe	May	River Quality	Dungloe River	Dungloe - Upstream	212501656	25-May-21	7	12.7	96	94.1	2	NT	<6	0.02	NT	NT	<0.05	0.918	NT	NT	<0.05	NT	NT	NT	NT	NT	NT
Dungloe	July	River Quality	Dungloe River	Dungloe - Upstream	212502438	15-Jul-21	6.5	18.4	75	90.3	1	NT	<6	0.03	NT	NT	<0.05	1.63	NT	NT	<0.05	NT	NT	NT	NT	NT	NT
Dungloe	September	River Quality	Dungloe River	Dungloe - Upstream	212503377	21-Sep-21	7	15.7	88	94.6	1	NT	<6	0.02	NT	NT	<0.05	0.783	NT	NT	<0.05	NT	NT	NT	NT	NT	NT
Dungloe	November	River Quality	Dungloe River	Dungloe - Upstream	212504270	25-Nov-21	6.6	8	67	91.9	1	NT	<6	<0.02	NT	NT	<0.05	1.1	NT	NT	<0.05	NT	NT	NT	NT	NT	NT

Karen Mc Bride
Central Laboratory

"Orignal Test Report"

Sludge Data 2 - Sludge Collection, Storage and Transport

T19.3_UIIW	T19.3_Dat	T19.3_Loa	T19.3_Loa	T19.3_Origin WW	T19.3_Destin	T19.3_Destination (Locat	T19.3_Date of Colle	T19.3_Dry So	T19.3_Dry Solids (t)	T19.3_Volume
	22/01/21	1		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	22/01/21	4.17	1.2093	29
	09/02/21	2		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	09/02/21	3.86	1.158	30
	24/02/21	3		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	24/02/21	3.51	0.9477	27
	15/03/21	4		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	15/03/21	3.86	1.0808	28
	25/03/21	5		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	25/03/21	4.02	1.1658	29
	08/04/21	6		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	08/04/21	4.61	1.383	30
	19/04/21	7		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	19/04/21	4.28	1.2412	29
	10/05/21	8		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	10/05/21	3.97	1.191	30
	26/05/21	9		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	26/05/21	4.26	1.2354	29
	11/06/21	10		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	11/06/21	3.86	1.158	30
	17/06/21	11		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	17/06/21	3.62	1.086	30
	21/06/21	12		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	21/06/21	4.16	1.2064	29
	08/07/21	13		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	08/07/21	4.02	1.206	30
	13/07/21	14		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	13/07/21	3.97	1.1513	29
	20/07/21	15		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	20/07/21	3.87	1.161	30
	02/08/21	16		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	02/08/21	3.48	1.0092	29
	05/08/21	17		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	05/08/21	3.51	1.053	30
	10/08/21	18		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	10/08/21	3.38	0.9464	28
	19/01/00	19		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	19/08/21	4.17	1.251	30
	25/08/21	20		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	25/08/21	3.72	1.116	30
	29/08/21	21		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	29/08/21	4.05	1.1745	29
	02/09/21	22		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	02/09/21	3.97	1.191	30
	16/09/21	23		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	16/09/21	3.27	0.9156	28
	24/09/21	24		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	24/09/21	3.51	1.0179	29
	30/09/21	25		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	30/09/21	3.07	0.921	30
	19/10/21	26		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	19/10/21	2.91	0.873	30
	28/10/21	27		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	28/10/21	2.84	0.7952	28
	09/11/21	28		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	09/11/21	2.97	0.8613	29
	16/11/21	29		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	16/11/21	2.82	0.7896	28
	06/12/21	30		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	06/12/21	2.87	0.8036	28
	22/12/21	31		Dungloe WWTP	Sludge Hub	Donegal Town WWTP	22/12/21	2.85	0.8265	29