Annual Environmental Report

2018

Ballina

D0016-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0016-01, Ballina, in Mayo 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
Toxicity of Final Effluent	Yes

1.2 Treatment Type

The agglomeration is served by a wastewater treatment plant BALLINA (MAYO) WWTP with a Plant Capacity PE of 25000. The treatment process includes the following:

1.2.1 BALLINA (MAYO) WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Screening and grit removal
Primary Treatment	Yes	3 primary settlement tanks
Secondary Treatment	Yes	Conventional activated sludge
Nutrient Removal	Yes	Ferric Sulphate dosing for phosphorus removal
Tertiary Treatment	No	

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 BALLINA (MAYO) WWTP

Compliance Status	
Were all parameters compliant for BALLINA (MAYO) WWTP treatment plant	Yes
Where noncompliant 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
BALLINA (MAYO) WWTP	Dried Sludge	137.4	Weight (Tonnes)	14.5	Eras Eco, Foxhole, Youghal Co.Cork
BALLINA (MAYO) WWTP	Dried Sludge	6.77	Weight (Tonnes)	14.9	Athboy, Ballivor, Co.Meath
BALLINA (MAYO) WWTP	Dried Sludge	39.52	Weight (Tonnes)	14.9	Tibohine, Ballaghadereen, Co. Roscommon

Annual Statement of Measures

New Inlet Screen Installed. No further works planned.

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 - BALLINA (MAYO) WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	406	155.3
Total Nitrogen mg/l	12	97.7	48.24
Suspended Solids mg/l	12	323	135.22
COD-Cr mg/l	12	769	438.41
Hydraulic Capacity	0	8768	5537

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. 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.

2.2 Discharges from the agglomeration

2.2.1 Effluent Monitoring Summary - BALLINA (MAYO) 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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Suspended Solids mg/l	35	87.5	0	12	0	0	5.69	Pass
Nitrate (as N) mg/l	0	0	0	12	0	0	4.36	Pass
E. Coli MPN/100ml	0	0	0	2	0	0	7521.95	Pass
Enterococci (Intestinal) cfu/100ml	0	0	0	2	0	0	1826.96	Pass
Conductivity 20 C µS/cm	0	0	0	12	0	0	561.99	Pass
COD-Cr mg/l	125	250	0	12	0	0	22.82	Pass
Nitrite (as N) mg/l	0	0	0	12	0	0	0.09	Pass
pH pH units	0	0	0	12	0	0	7.4	Pass
ortho-Phosphate (as P) - unspecified mg/l	5	6	0	12	0	0	0.26	Pass
Visual Inspection	0	0	0	6	0	0	0	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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Descriptive								
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	0	12	0	0	2	Pass
Total Phosphorus (as P) mg/l	0	0	0	12	0	0	0.5	Pass
Ammonia-Total (as N) mg/l	10	12	0	12	0	0	2.46	Pass
Faecal coliforms cfu/100ml	0	0	0	2	0	0	7521.95	Pass
Total Nitrogen mg/l	0	0	0	12	0	0	8.36	Pass

Notes:
1– This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 - For parameters where a mean ELV applies

Cause of Exceedance(s):

Not Applicable

Significance of Results:

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

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 - BALLINA (MAYO) WWTP

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	Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	125292, 319885	TPEFF2200D0016SW001	No	No	No	No	Moderate
Downstream	125292, 320420	TPEFF2200D0016SW001	No	No	No	No	Moderate

2.3.2 Ambient Monitoring Parameter Summary - BALLINA (MAYO) 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 compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results meet the required EQS.

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.

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 - BALLINA (MAYO) WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TN	120709.92	20925.58	82.66	
SS	338321.86	14241.51	95.79	
COD	1096932.18	57099.87	94.79	
cBOD	388559.22	5007.08	98.71	
TP		1253.17		

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.

BALLINA (MAYO) WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	13620

BALLINA (MAYO) WWTP	
DWF to the Treatment Plant (m3/day)	4540
Current Hydraulic Loading - annual max (m3/day)	8768
Average Hydraulic loading to the Treatment Plant (m3/day)	5537
Organic Capacity (PE) - As Constructed	25000
Organic Capacity (PE) - Collected Load (peak week)	15470
Organic Capacity (PE) - Remaining	9530
Will the capacity be exceeded in the next three years? (Yes/No)	No

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
There is no Complaint data included in the AER.			

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	Plant or equipment breakdown at WWTP	2	No	Yes
Other	Other	1	No	Yes
Uncontrolled release	Other	1	No	Yes

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	4
Number of Incidents reported to the EPA via EDEN in 2018	4
Explanation of any discrepancies between the two numbers above	

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)
Other	941	Volume (m3)	11.45	0.05	Yes	No	No
Other	97.64	Volume (m3)	1.19	0	Yes	No	No

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)
Other	523.64	Volume (m3)	7.03	0.03	Yes	No	No
Waterworks Sludge	260	Volume (m3)	3.17	0.01	Yes	No	No
Landfill Leachate (delivered by sewer network)	62394	Volume (m3)	760	3.08	Yes	No	No
Domestic /Septic Tank Sludge	10	Volume (m3)	0	0	No	No	No

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
SW002	124978, 319144	Yes	Low	Meeting			Not Monitored
SW004	125420, 319502	Yes	Low	Meeting			Not Monitored
SW005	125068, 319270	Yes	Low	Meeting			Not Monitored
SW006	124856, 319021	Yes	High	Meeting			Not Monitored
SW007	124621, 318765	Yes	Low	Meeting			Not Monitored
SW008	124667, 318731	Yes	Low	Meeting			Not Monitored

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
SW009	124634, 318674	Yes	Low	Meeting			Not Monitored
SW010	124409, 318541	Yes	Low	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)?	
Is each SWO identified as non 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 / charges 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
Upgrade SWOs to comply with DoE criteria (SW2)	C	31/12/2011	Yes	Works Completed		
Upgrading of pumping station at Bachelor's Walk (SW2)	C	30/04/2009	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
D0016-IP:30	A new Inlet Screen was installed.	Other	9/1/2018	

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 (e.g. Appendix X).
Toxicity of Final Effluent	Yes	2017	Yes	Appendix 7.2

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	Yes

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

Signed: Date: 13/03/2019

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

Appendix
Appendix 7.2 - Toxicity of Final Effluent

Appendix
Appendix 7.3 - Other