Annual Environmental Report

2019

Wexford town

D0030-02

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2019 AER

This Annual Environmental Report has been prepared for D0030-02, Wexford town, in Wexford 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.

Discharged from Murntown WWTP ceased on the 14th of February 2019, and wastewater loading transferred to Wexford WWTP following completion of the new wastewater pumping station to the Wastewater Treatment plant in accordance with Schedule A.2 of D0030-02

1.2 TREATMENT SUMMARY

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

- Murntown WWTP (Wexford) with a Plant Capacity PE of 0, the treatment type is 2 - Secondary treatment
- Wexford town WWTP with a Plant Capacity PE of 45000, 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
TPEFF3300D0030SW002	Murntown WWTP (Wexford)	Treated	No monitoring was carried out for Murntown in 2019. Flows were transferred to the Wexford Town WWTP in February 2019.	N/A
TPEFF3300D0030SW001	Wexford Town WWTP	Treated	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING INCLUDED IN AER

Assessment / Report	Included in AER
There are no Licence Specific Reports included in the AER.	

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 MURNTOWN WWTP (WEXFORD) - TREATED DISCHARGE

No monitoring was carried out for Murntown in 2019. Flows were transferred to the Wexford Town WWTP in February 2019.

2.2 WEXFORD TOWN WWTP - TREATED DISCHARGE

2.2.1 INFLUENT MONITORING SUMMARY - WEXFORD TOWN 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	15	4060	389.02
Suspended Solids mg/l	15	3446	268.71
Total Phosphorus (as P) mg/l	15	8.29	3.35
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	15	135	56.3
Total Nitrogen mg/l	15	39.6	17.31
Hydraulic Capacity	N/A	27457	13021

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 tretament plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.2.2 EFFLUENT MONITORING SUMMARY - TPEFF3300D0030SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	32.76	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	7.11	Pass
Temperature °C	N/A	N/A	N/A	4	N/A	N/A	9.36	
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	12	N/A	N/A	2.43	Pass
Total Nitrogen mg/l	15	18	N/A	12	N/A	N/A	4.32	Pass
Total Oxidised Nitrogen (as N) mg/l	15	18	N/A	12	N/A	N/A	3.68	Pass
pH pH units	9	9	N/A	12	N/A	N/A	7.25	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	12	N/A	N/A	0.18	Pass

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Nitrite (as N) mg/l	N/A	N/A	N/A	1	N/A	N/A	0.37	
Enterococci (Intestinal) cfu/100ml	N/A	N/A	N/A	3	N/A	N/A	13.83	
Ammonia-Total (as N) mg/l	10	12	N/A	12	N/A	N/A	0.41	Pass
Visual Inspection Descriptive	N/A	N/A	N/A	15	N/A	N/A	N/A	
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	8	N/A	N/A	0.11	
E. Coli MPN/100ml	N/A	N/A	N/A	3	N/A	N/A	74.92	
Faecal coliforms no./100mls	N/A	N/A	N/A	7	N/A	N/A	96.84	

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.

2.2.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF3300D0030SW001

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 Status
Downstream	300646, 116011	RS12M660180	No	No	No	No	Poor
Downstream	301365, 123270	RS12M660720	No	No	No	No	Poor

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 does not 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.

2.2.4 OPERATIONAL PERFORMANCE SUMMARY - WEXFORD TOWN WWTP

2.2.4.1 Treatment Efficiency Report - Wexford town 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)
COD	2014908	181191	91
SS	1391765	39318	97
TN	89654	23915	73
TP	17335	990	94
cBOD	291631	13424	95

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

2.2.4.2 Treatment Capacity Report Summary - Wexford town 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.

Wexford town WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	30375
DWF to the Treatment Plant (m^3/day)	10125
Current Hydraulic Loading - annual max (m^3/day)	27457

Average Hydraulic loading to the Treatment Plant (m^3/day)	13021
Organic Capacity (PE) - As Constructed	45000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	30989
Organic Capacity (PE) - Remaining	14011
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.

2.2.5 SLUDGE / OTHER INPUTS - WEXFORD TOWN 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)
Landfill Leachate (delivered by sewer network)	21830	Volume (m3)	8.4	0.01	Yes	Yes	No
Landfill Leachate (delivered by sewer network)	3956	Volume (m3)	2.5	0.1	Yes	Yes	No

3 COMPLAINTS AND INCIDENTS

3.1 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
3	Blocked Sewer	0	3

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)
Uncontrolled release	EO caused by pump failure	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes

Uncontrolled release	Adverse Weather	1	No	No
Uncontrolled release	Blocked Sewer	1	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2019	5
Number of Incidents reported to the EPA via EDEN in 2019	5
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	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 2019 (No. of events)	Total volume discharged in 2019 (m3)	Monitoring Status
TBC	305534.44, 126825.5	No	Unknown	Not yet Assessed	Unknown	Unknown	Not Monitored
TBC	303705.965, 122671.52	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	292090, 119545	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	298979.99, 122741.56	No	Low	Meeting	Unknown	Unknown	Not Monitored
SW-2	305761, 119257	Yes	Unknown	Not yet Assessed	Unknown	Unknown	Not Monitored
SW-5	305379.42, 121458.42	Yes	Low	Not yet Assessed	Unknown	Unknown	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 2019 (No. of events)	Total volume discharged in 2019 (m3)	Monitoring Status
SW-6	305009, 118086	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
SW-8	303354.04, 116288.97	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	304781.74, 120996.01	No	Low	Not yet Assessed	Unknown	Unknown	Not Monitored
TBC	302920.26, 115654.29	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	305288.253, 122925.835	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	304969.4, 121456.7	No	Low	Not yet Assessed	Unknown	Unknown	Not Monitored

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?	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	No

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS.

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

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

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0030-SIP:01	Discharge to be discontinued: SW002 (A0269SW001)	C2	31/12/2018	Y	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 / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
There are no Improvements Programme for this Agglomeration.				

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

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

5 LICENCE SPECIFIC REPORTS

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

5.a Licence Specific Reports Summary Table

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER
Priority Substances Assessment	Yes	2014	No	
Shellfish Impact Assessment	Yes	2016	No	

5.1 PRIORITY SUBSTANCES ASSESSMENT

The Priority Substances Assessment Report has been included in the AER 2014

5.2 SHELLFISH IMPACT ASSESSMENT

The Shellfish Impact Assessment Report has been included in the AER 2016

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?	Yes
List reason e.g. additional SWO identified	New SWO at Murntown following transfer to WWTP
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?	No
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: 15/04/2020

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

					Ammonia N	BOD, 5 days with Inhibition (Carbonaceous)	COD Chemical Oxygen Demand	pH	Suspended Solids	Total Nitrogen N	Total Phosphate P	Dissolved Inorganic Nitrogen DIN	Visual Inspection	Faecal Coliforms	E Coli	Enterococci	Biological Oxygen Demand
Entity	Station	Station Reference	Sample Reference	Sample Date	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	mg/l	mg/l	Descriptive	no./100mls	MPN/100mls	cfu/100mls	mg/l
Lower Slaney Estuary	US SW Wexford SW1	TW33002085SY2003	25924-62b	10-Jan-2019									Yellow Tint, Few SS				
Lower Slaney Estuary	US SW Wexford SW1	TW33002085SY2003	25924-62	10-Jan-2019	0.05	2	5	8.07	67.8	4.1	0.12	0.7	Yellow Tint, Few SS				
Lower Slaney Estuary	US SW Wexford SW1	TW33002085SY2003	26373-43b	12-June-2019									Yellow tint, some SS				
Lower Slaney Estuary	US SW Wexford SW1	TW33002085SY2003	26373-43	12-June-2019	0.02	44.2	262	8.1	36.1	2.5	0.12	1.1					
Lower Slaney Estuary	US SW Wexford SW1	TW33002085SY2003	26637-65b	3-Sep-2019									Yellow tint, Few SS				
Lower Slaney Estuary	US SW Wexford SW1	TW33002085SY2003	26637-65	3-Sep-2019	0.25	3.2	34	8.16	42.7	1.9	0.12	0.6					
Lower Slaney Estuary	US SW Wexford SW1	TW33002085SY2003	26871-60	7-Nov-2019	0.03	2		7.59	3.8	3.9	0.12	0.2	Yellow tint, few ss	816	727	180	
Lower Slaney Estuary	US SW Wexford SW1	TW33002085SY2003	26969-47	3-Dec-2019	0.05			7.68	5.9	4.9	0.12	0.3	Clear, Few Ss	435	276	74	2
Annual Mean					***0.080***	***12.850***	***100.333***	***7.920***	***31.260***	***3.460***	***0.120***	***0.580***		625.500	501.500	127.000	**2.000**
Lower Slaney Estuary	DS Wexford SW1	TW33002085SY2014	25924-63b	10-Jan-2019									Clear, No SS				
Lower Slaney Estuary	DS Wexford SW1	TW33002085SY2014	25924-63	10-Jan-2019	0.04	2	5	8.15	51.2	2.5	0.12	0.7	Clear, No SS				
Lower Slaney Estuary	DS Wexford SW1	TW33002085SY2014	26373-44b	12-June-2019									Yellow tint, some SS				
Lower Slaney Estuary	DS Wexford SW1	TW33002085SY2014	26373-44	12-June-2019	0.02	42.1	8	8.18	23.8	1.6	0.12	1.5					
Lower Slaney Estuary	DS Wexford SW1	TW33002085SY2014	26637-66	3-Sep-2019	0.17	2.1	1544	8.2	91.5	0.5	0.12	0.4					
Lower Slaney Estuary	DS Wexford SW1	TW33002085SY2014	26637-66b	3-Sep-2019									Yellow tint, Few SS				
Lower Slaney Estuary	DS Wexford SW1	TW33002085SY2014	26871-61	7-Nov-2019	0.04	2		8.22	7.5	1.5	0.12	0.6	Clear, no ss	111	25	23	
Lower Slaney Estuary	DS Wexford SW1	TW33002085SY2014	26969-48	3-Dec-2019	0.06			7.67	4.3	5	0.12	0.3	Clear, Few Ss	435	158	52	2
Annual Mean					***0.066***	***12.050***	***519.000***	***8.084***	***35.660***	***2.220***	***0.120***	***0.700***		***273.000***	***91.500***	***37.500***	***2.000***

Ambient Monitoring Point from WWDL (or as agreed with EPA)	*Irish Grid Reference*	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)				WFD Status
			Bathing Water	Drinking Water	FWPM	Shellfish	
TW33002085SY2003	301365, 123270	TPEFF3300D0030SW001	No	No	No	Yes	Poor
TW33002085SY2014	307402, 121085	TPEFF3300D0030SW001	No	No	No	Yes	Poor

Ambient Impact Assessment Table

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS (95%Ile)	%EQS
cBOD mg/l	TW330020855SY2003	12.85	TW330020855SY2014	12.05	4.0	-20.00
Ortho-Phosphate (as P) mg/l	n/a	0.120	n/a	0.120	n/a	0.00
Ammonia (as N) mg/l	TW330020855SY2003	0.080	TW330020855SY2014	0.066	0.140	-17.50