

Annual Environmental Report

2021



Dungarvan

D0017-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2021 AER

- 1.1 ANNUAL STATEMENT OF MEASURES
- 1.2 TREATMENT SUMMARY
- 1.3 ELV OVERVIEW
- 1.4 LICENSE SPECIFIC REPORT INCLUDED IN AER

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

- 2.1 DUNGARVAN (WATERFORD COUNTY) WWTP - TREATED DISCHARGE
 - 2.1.1 INFLUENT SUMMARY - DUNGARVAN (WATERFORD COUNTY) WWTP
 - 2.1.2 EFFLUENT MONITORING SUMMARY - DUNGARVAN (WATERFORD COUNTY) WWTP -
 - 2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE -
 - 2.1.4 OPERATIONAL REPORTS SUMMARY FOR DUNGARVAN (WATERFORD COUNTY) WWTP
 - 2.1.5 SLUDGE/OTHER INPUTS TO DUNGARVAN (WATERFORD COUNTY) WWTP

3 COMPLAINTS AND INCIDENTS

- 3.1 COMPLAINTS SUMMARY
- 3.2 REPORTED INCIDENTS SUMMARY
 - 3.2.1 SUMMARY OF INCIDENTS
 - 3.2.2 SUMMARY OF OVERALL INCIDENTS

4 INFRASTRUCTURAL ASSESSMENT AND PROGRAMME OF IMPROVEMENTS

- 4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT
 - 4.1.1 SWO IDENTIFICATION AND INSPECTION SUMMARY REPORT
- 4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS
 - 4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY
 - 4.2.2 IMPROVEMENT PROGRAMME SUMMARY
 - 4.2.3 SEWER INTEGRITY RISK ASSESSMENT

5 LICENCE SPECIFIC REPORTS

- 5.1 PRIORITY SUBSTANCES ASSESSMENT
- 5.2 SHELLFISH IMPACT ASSESSMENT

6 CERTIFICATION AND SIGN OFF

- 6.1 SUMMARY OF AER CONTENTS

7 APPENDIX

7.1 AMBIENT MONITORING SUMMARY

Rev 1: Unaccredited Effluent samples removed from the Effluent Summary Table and replaced with accredited samples.

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2021 AER

This Annual Environmental Report has been prepared for D0017-01, Dungarvan, in Waterford 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.

Drainage Area Plan is currently underway, this will identify deficiencies in the agglomeration.

1.2 TREATMENT SUMMARY

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

- Dungarvan (Waterford County) WWTP with a Plant Capacity PE of 25000, 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
TPEFF3100D0017SW001	Dungarvan (Waterford County) WWTP	Treated	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report

Shellfish Impact Assessment

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 DUNGARVAN (WATERFORD COUNTY) WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - DUNGARVAN (WATERFORD COUNTY) 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
Suspended Solids mg/l	12	148	94
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	200	106
Total Nitrogen mg/l	11	15	11
COD-Cr mg/l	12	540	337
pH units	12	7.50	7.28
Total Phosphorus (as P) mg/l	12	3.13	2.37
Hydraulic Capacity	N/A	14586	10944

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 - TPEFF3100D0017SW001

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	32	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	14	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	12	N/A	N/A	2.73	Pass
Ammonia-Total (as N) mg/l	10	12	N/A	12	N/A	N/A	0.696	Pass
Total Oxidised Nitrogen (as N) mg/l	10	12	N/A	12	N/A	N/A	4.66	Pass
pH units	9.00	9.00	N/A	12	N/A	N/A	7.39	Pass
Enterococci (Intestinal) MPN/100ml	N/A	N/A	N/A	12	N/A	N/A	1539677	
Total Phosphorus (as P) mg/l	N/A	N/A	N/A	12	N/A	N/A	1.41	
E. Coli no./100mls	N/A	N/A	N/A	12	N/A	N/A	844340	

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 Nitrogen mg/l	N/A	N/A	N/A	1	N/A	N/A	13	
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	12	N/A	N/A	1.06	
Faecal coliforms no./100mls	N/A	N/A	N/A	12	N/A	N/A	2259387	

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 TPEFF3100D0017SW001

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
There is no Ambient data included in the AER.							

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - DUNGARVAN (WATERFORD COUNTY) WWTP

2.1.4.1 Treatment Efficiency Report - Dungarvan (Waterford County) 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	429558	10939	97
COD	1369821	127633	91

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
TN	45968	53992	-17.46
SS	382262	56836	85
TP	9658	5656	41

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

2.1.4.2 Treatment Capacity Report Summary - Dungarvan (Waterford County) 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.

Dungarvan (Waterford County) WWTP	
Peak Hydraulic Capacity (m ³ /day) - As Constructed	15000
DWF to the Treatment Plant (m ³ /day)	4920
Current Hydraulic Loading - annual max (m ³ /day)	14586
Average Hydraulic loading to the Treatment Plant (m ³ /day)	10944
Organic Capacity (PE) - As Constructed	25000
Organic Capacity (PE) - Collected Load (peak week) ^{Note1}	16531
Organic Capacity (PE) - Remaining	8469
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 - DUNGARVAN (WATERFORD COUNTY) 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	6613	Weight (Tonnes)		0.17	No	Yes	Yes

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)
Abatement Equipment offline	Plant or equipment breakdown at WWTP	1	No	No
Spillage	Broken Sewer Pipe	1	No	Yes
Uncontrolled release	Inadequate Infrastructure	1	Yes	No

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Network Infrastructure	1	Yes	No
Uncontrolled release	EO caused by pump failure	1	No	Yes
Uncontrolled release	EO caused by pump failure	1	No	Yes
Uncontrolled release	Broken Sewer Pipe	1	No	No
Uncontrolled release	EO caused by power failure	1	No	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2021	8
Number of Incidents reported to the EPA via EDEN in 2021	8
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	226133, 92667	No	Unknown	Not yet Assessed	Unknown	230419	Monitored
TBC	226181, 93135	No	Low	Not Meeting	Unknown	Unknown	Not Monitored
TBC	225028, 92517	No	Unknown	Not yet Assessed	Unknown	Unknown	Monitored
TBC	225677, 93313	No	Low	Not Meeting	Unknown	Unknown	Not Monitored
TBC	226595, 92869	No	Low	Not Meeting	Unknown	Unknown	Not Monitored
TBC	226595, 92869	No	Low	Not Meeting	Unknown	Unknown	Not 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	225038, 92503	No	Low	Not Meeting	Unknown	Unknown	Monitored
TBC	229513, 92738	No	Low	Not Meeting	Unknown	Unknown	Not Monitored
TBC	229513, 92738	No	Unknown	Not yet Assessed	Unknown	Unknown	Monitored
TBC	228818, 93820	No	Low	Not Meeting	Unknown	Unknown	Not Monitored
TBC	228818, 93820	No	Unknown	Not yet Assessed	Unknown	Unknown	Monitored
TBC	230924, 92442	No	Medium	Meeting	Unknown	Unknown	Monitored
TBC	228659, 95009	No	Low	Not Meeting	Unknown	Unknown	Monitored
TBC	226027, 92488	No	Low	Not Meeting	Unknown	Unknown	Not Monitored
TBC	226196, 93757	No	Low	Not Meeting	Unknown	Unknown	Monitored
TBC	225523, 93366	No	Low	Not Meeting	Unknown	Unknown	Not 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
SW019	226595, 92869	Yes	Unknown	Not yet Assessed	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?	No
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?	Yes

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
D0017-SIP:01	Discharge from SW20 (Kilminnin North) to be discontinued	A	01/11/2011	Yes	Works Completed		
D0017-SIP:02	Implement a programme of works to ensure SW2 only discharge in the event of an emergency, that is, during pump failure at the associated pumping station (see Condition 5.6)	C	01/01/2011	Yes	At Planning Stage	2031	
D0017-SIP:03	Implement a programme of works to ensure SW3 only discharge in the event of an emergency, that is, during pump failure at the associated pumping station (see Condition 5.6)	C	01/01/2011	Yes	At Planning Stage	2031	
D0017-SIP:04	SW16 - Upgrading of sewer network, as required, to ensure Storm Water Overflows comply with the criteria outlined in the DoEHLG	C	01/11/2011	Yes	At Planning Stage	2031	
D0017-SIP:05	SW17 - Upgrading of sewer network, as required, to ensure Storm Water Overflows comply with the criteria outlined in the DoEHLG	C	01/11/2011	Yes	At Planning Stage	2031	
D0017-SIP:06	SW18 - Upgrading of sewer network, as required, to ensure Storm Water Overflows comply with the criteria outlined in the DoEHLG	C	01/11/2011	Yes	At Planning Stage	2031	

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
D0017-SIP:07	SW19 - Upgrading of sewer network, as required, to ensure Storm Water Overflows comply with the criteria outlined in the DoEHLG	C	01/11/2011	Yes	At Planning Stage	2031	

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	2014	No
Shellfish Impact Assessment	Yes	2020	Yes

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: 12/04/2022

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

Ambient Monitoring Summary

The WWDL has not specified Ambient Monitoring Locations.

Clonea Beach is located to the North of the WWTP Discharge Point, the beach retained its Blue Flag Status in 2021.

Bathing Season Water Quality



Excellent

Waterford City & County Council

Sampled on 01/09/2021

Results - 22 May to 15 September annually

The water quality of each sample is assessed as either 'Excellent', 'Good', 'Sufficient' or 'Poor'. When a local authority takes a water sample to check the bathing water quality, it takes at least 2-3 days to analyse the sample and publish the results below.

Sample Date	E. coli	Intestinal Enterococci	Water Quality
01/09/2021	<10	1	Excellent
16/08/2021	<10	<1	Excellent
03/08/2021	<10	9	Excellent
19/07/2021	<10	<1	Excellent
05/07/2021	42	1	Excellent
21/06/2021	124	62	Excellent

The latest Water Quality information [including historical] relating to Clonea Beach can be found on this website: https://www.beaches.ie/find-a-beach/#/beach/IESEBWC140_0000_0100

Clonea Strand - 2021 - Bathing Water Sampling Results

Sample Date	E.coli Result	Intestinal Enterococci Result	Water Quality
01/09/2021	<10	1	Excellent
16/08/2021	<10	<1	Excellent
03/08/2021	<10	9	Excellent
19/07/2021	<10	<1	Excellent
05/07/2021	42	1	Excellent
21/06/2021	124	62	Excellent
08/06/2021	10	25	Excellent
24/05/2021	10	<1	Excellent