Annual Environmental Report

2018

Belmullet

D0074-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0074-01, Belmullet, 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
There is no Licence Specific Reports included in the AER.	

1.2 Treatment Type

The agglomeration is served by a wastewater treatment plant Belmullet WWTP with a Plant Capacity PE of 2500. The treatment process includes the following:

1.2.1 Belmullet WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	No	
Primary Treatment	No	
Secondary Treatment	Yes	SBR
Nutrient Removal	No	
Tertiary Treatment	Yes	UV Filtration

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 Belmullet WWTP

Compliance Status	
Were all parameters compliant for Belmullet 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
Belmullet WWTP	Dried Sludge	22.12	Weight (Tonnes)		Coralstown, Co Meath

Annual Statement of Measures

The new WWTP was commissioned in 2018.

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 - Belmullet WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	13	291	74.51
Total Nitrogen mg/l	14	36.5	19.13
Suspended Solids mg/l	13	282	137.42
COD-Cr mg/l	14	2543	547.15
Total Phosphorus (as P) mg/l	7	5.6	1.9
Hydraulic Capacity	0	1852	873

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 greater 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 - Belmullet 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)
COD-Cr mg/l	125	250	0	13	0	0	47.35	Pass
Ammonia-Total (as N) mg/l	10	12	0	13	0	0	0.66	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	0	12	0	0	2.6	Pass
Faecal coliforms cfu/100ml	0	0	0	8	0	0	51.33	Pass
pH pH units	0	0	0	10	0	0	6.78	Pass
Nitrite (as N) mg/l	0	0	0	13	0	0	0.18	Pass
Nitrate (as N) mg/l	0	0	0	13	0	0	2.76	Pass
Total Nitrogen mg/l	15	18	0	13	0	0	4.79	Pass
Conductivity 20 C µS/cm	0	0	0	12	0	0	7141.97	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)
Suspended Solids mg/l	35	87.5	0	13	0	0	17.33	Pass
E. Coli MPN/100ml	0	0	0	5	0	0	49.49	Pass
Enterococci (Intestinal) cfu/100ml	0	0	0	5	0	0	274.94	Pass
Total Phosphorus (as P) mg/l	0	0	0	2	0	0	0.58	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 - Belmullet 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
There is no Ambient data included in the AER.							

2.3.2 Ambient Monitoring Parameter Summary - Belmullet 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 not 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 - Belmullet WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TN	6997.61	1891.62	72.97	
TP	762.99	307.77	59.66	
COD	200181.51	18720.04	90.65	
cBOD	27424.77	1073.65	96.09	
SS	50583.53	6850.69	86.46	

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.

Belmullet WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	1689

Belmullet WWTP	
DWF to the Treatment Plant (m3/day)	563
Current Hydraulic Loading - annual max (m3/day)	1852
Average Hydraulic loading to the Treatment Plant (m3/day)	873
Organic Capacity (PE) - As Constructed	2500
Organic Capacity (PE) - Collected Load (peak week)	1508
Organic Capacity (PE) - Remaining	992
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
1	Blocked Sewer	0	1

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)
Other	Shock load to WWTP	1	No	Yes
Uncontrolled release	EO caused by power failure	1	No	Yes
Uncontrolled release	Other	1	No	Yes
Other	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)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

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
SWO03	70134, 332282	Yes	Low	Not yet Assessed			Not Monitored
SWO04	70599, 332395	Yes	Low	Not yet Assessed			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?	No
The SWO Assessment included the requirements of relevant of WWDL schedules?	No
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
Extension of the collection network	C	31/12/2015	Yes	Works Completed	01/03/2018	
Provision of marine outfall (Primary Discharge Point SW005)	C	31/12/2015	Yes	Works Completed	01/03/2018	
Provision of primary, secondary and tertiary treatment	C	31/12/2015	Yes	Works Completed	01/03/2018	
Provision of two pumping stations - SW006 and SW007 -(Emergency overflows)	C	31/12/2015	Yes	Works Completed	01/03/2018	
SW001 (P) to be discontinued	A	31/12/2015	Yes	Works Completed	01/03/2018	Works Completed
SW002 to be discontinued	A	31/12/2015	Yes	Works Completed	01/03/2018	Works Completed
SW003 to be discontinued	A	31/12/2015	Yes	Works Completed	01/03/2018	Works Completed
SW004 to be discontinued	A	31/12/2015	Yes	Works Completed	01/03/2018	Works Completed

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
Waste Water Treatment plant and ancillary works	C	31/12/2015	Yes	Works Completed	01/03/2018	

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
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 (e.g. Appendix X).
There is no Licence Specific Report Required in this AER Annual Review.				

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	
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	
Have these processes commenced?	
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: 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

2018/19
List of Classified Bivalve Mollusc Production Areas in Ireland
(26 June 2018)

I	II	III	IV	V	VI
Production Area	**Boundaries**	**Bed Name**	**Species**	**Class**	**Notes**
Blacksod Bay (Belmullet)	Blacksod Point to Kanfinalta Point	All Beds	Oysters	A*	*Seasonal Classification 01 Dec – 01 Sept reverts to Class B at other times (Note 1).

Notes:

Note 1 Seasonal classifications

Where the data shows a clear seasonal trend over a number of seasons, different classification categories apply for different seasons. Details, where applicable, are given in column VI above.

Note 2 Preliminary classifications

Classifications are described as preliminary when an area is being classified for the first time or after a period in suspension. The term may also be used where an incomplete dataset of results was to hand.

Note 3 Dormant Fisheries

Fishery has been dormant for at least 12 months, and limited monitoring data is available. Sites that remain dormant are in danger of their Classification becoming lapsed due to a lack of monitoring data. Producers should contact their local SFPA office if Re-activating in order that monthly classification monitoring sampling may resume.

Classification process brief:
The SFPA classifies shellfish production areas for the commercial harvesting of bivalve shellfish annually, based on data obtained from a microbiological sampling programme for Live Bivalve Mollusc production areas in Ireland. The annual classification process employed by Ireland entails the review of micro results from a 3 x year dataset of monthly micro results obtained from some 147 sample locations located around the coast.

Shellfish Classification based on E. coli monitoring

Category	Microbiological Standard (MPN $100g^{-1}$ shellfish flesh)	Treatment required
Class A	<230 *E.coli*	May go direct for human consumption
Class B	<4,600 *E.coli* (90% compliance)	Must be depurated, heat treated or relayed to meet class A requirements
Class C	<46,000 *E.coli*	**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
BLACKSOD	37364	ELLY BAY	16-Jan-18	NOY	2.3
BLACKSOD	37514	ELLY BAY	21-Feb-18	NOY	0.18
BLACKSOD	37657	ELLY BAY	22-Mar-18	NOY	0.78
BLACKSOD	37842	ELLY BAY	25-Apr-18	NOY	0.18
BLACKSOD	37973	ELLY BAY	23-May-18	NOY	0.2
BLACKSOD	38090	ELLY BAY	21-Jun-18	NOY	0.78
BLACKSOD	38200	ELLY BAY	12-Jul-18	NOY	0.18
BLACKSOD	38406	ELLY BAY	28-Aug-18	NOY	0.18
BLACKSOD	38531	ELLY BAY	27-Sep-18	NOY	0.18
BLACKSOD	38657	ELLY BAY	24-Oct-18	NOY	0.2
BLACKSOD	38793	ELLY BAY	28-Nov-18	POY	0.45
BLACKSOD	38848	ELLY BAY	10-Dec-18	NOY	0.18