

Annual Environmental Report

2021



Ennis North

D0048-01

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 ENNIS NORTH WWTP - TREATED DISCHARGE
 - 2.1.1 INFLUENT SUMMARY - ENNIS NORTH WWTP
 - 2.1.2 EFFLUENT MONITORING SUMMARY - ENNIS NORTH WWTP -
 - 2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE -
 - 2.1.4 OPERATIONAL REPORTS SUMMARY FOR ENNIS NORTH WWTP
 - 2.1.5 SLUDGE/OTHER INPUTS TO ENNIS NORTH 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

6 CERTIFICATION AND SIGN OFF

- 6.1 SUMMARY OF AER CONTENTS

7 APPENDIX

- 7.1 AMBIENT MONITORING SUMMARY

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2021 AER

This Annual Environmental Report has been prepared for D0048-01, Ennis North, in Clare 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.

1.2 TREATMENT SUMMARY

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

- ENNIS NORTH WWTP with a Plant Capacity PE of 31500, 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
TPEFF0300D0048SW001	ENNIS NORTH WWTP	Treated	Non-Compliant	Ammonia-Total (as N) mg/l ortho-Phosphate (as P) - unspecified mg/l

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 ENNIS NORTH WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - ENNIS NORTH 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
pH units	12	7.69	7.48
Total Nitrogen mg/l	12	37	20
Suspended Solids mg/l	12	186	58
Total Phosphorus (as P) mg/l	12	4.04	1.90
Ammonia-Total (as N) mg/l	12	30	14
COD-Cr mg/l	12	354	161
ortho-Phosphate (as P) - unspecified mg/l	12	4.77	1.77
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	264	73
Hydraulic Capacity	N/A	18748	10652

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 greater than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional 'Operational Performance Summary'.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF0300D0048SW001

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	19	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	5.70	Pass
Temperature °C	25	25	N/A	12	N/A	N/A	6.77	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	10	20	N/A	12	N/A	N/A	3.68	Pass
pH units	9.00	9.00	N/A	12	N/A	N/A	7.39	Pass
Total Phosphorus (as P) mg/l	2.00	2.40	N/A	12	N/A	N/A	0.393	Pass
ortho-Phosphate (as P) - unspecified mg/l	1.00	1.20	N/A	13	1	1	0.503	Fail
Ammonia-Total (as N) mg/l	1.00	1.20	N/A	13	2	2	0.604	Fail

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)
Conductivity @25°C µS/cm	N/A	N/A	N/A	11	N/A	N/A	737	
Dissolved Inorganic Nitrogen (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	10	
Total Nitrogen mg/l	N/A	N/A	N/A	12	N/A	N/A	13	

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):

Ammonia ELV Breach was due to changes in aeration levels. This was noticed and rectified immediately and the WWTP returned to full compliance.

Significance of Results:

The WWTP is not compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0300D0048SW001

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	133905, 177699	RS27F010680	No	No	No	No	Poor
Upstream	134524, 177884	RS27F010700	No	No	No	No	Poor
Upstream	134820, 177944	RS27F010710	No	No	No	No	Poor
Downstream	134888, 176818	RS27F010720	No	No	No	No	Poor

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
BOD - 5 days (Total) mg/l	RS27F010700	0.756	RS27F010720	0.964	1.50	
Ammonia-Total (as N) mg/l	RS27F010700	0.020	RS27F010720	0.057	0.065	57.8
ortho-Phosphate (as P) - unspecified mg/l	RS27F010700	0.014	RS27F010720	0.023	0.035	26.1
Dissolved Oxygen % Saturation	RS27F010700	93	RS27F010720	87	N/A	
Temperature °C	RS27F010700	12	RS27F010720	12	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Total Oxidised Nitrogen (as N) mg/l	RS27F010700	0.338	RS27F010720	0.506	N/A	
Total Hardness (as CaCO3) mg/l	RS27F010700	178	RS27F010720	188	N/A	
Nitrate (as N) mg/l	RS27F010700	0.336	RS27F010720	0.498	N/A	
Total Phosphorus (as P) mg/l	RS27F010700	0.031	RS27F010720	N/A	N/A	
Total Nitrogen mg/l	RS27F010700	0.813	RS27F010720	N/A	N/A	
Nitrite (as N) µg/l	RS27F010700	3.08	RS27F010720	5.96	N/A	
pH units	RS27F010700	7.92	RS27F010720	7.78	N/A	
Suspended Solids mg/l	RS27F010700	3.27	RS27F010720	N/A	N/A	

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence for the following: ortho-Phosphate (as P) - unspecified mg/l, Ammonia-Total (as N) mg/l.

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.

A deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP.

Other causes of deterioration in water quality in the area are unknown.

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 - ENNIS NORTH WWTP

2.1.4.1 Treatment Efficiency Report - ENNIS NORTH 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)
SS	210738	19197	91
TN	74397	44505	40
cBOD	265091	12402	95
TP	6931	1325	81
COD	588242	63896	89

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

2.1.4.2 Treatment Capacity Report Summary - ENNIS NORTH 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.

ENNIS NORTH WWTP	
Peak Hydraulic Capacity (m ³ /day) - As Constructed	16272
DWF to the Treatment Plant (m ³ /day)	6784
Current Hydraulic Loading - annual max (m ³ /day)	18748

ENNIS NORTH WWTP	
Average Hydraulic loading to the Treatment Plant (m ³ /day)	10652
Organic Capacity (PE) - As Constructed	31500
Organic Capacity (PE) - Collected Load (peak week) ^{Note1}	24303
Organic Capacity (PE) - Remaining	7197
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 - ENNIS NORTH 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)
Breach of ELV	Other	1	No	Yes
Breach of ELV	Plant or equipment maintenance at WWTP	1	No	No
Uncontrolled release	EO caused by pump failure	1	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2021	3
Number of Incidents reported to the EPA via EDEN in 2021	3
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	134436, 180553	No	Medium	Not Meeting	Unknown	Unknown	Monitored
TBC	134851, 177466	No	High	Not Meeting	Unknown	Unknown	Not Monitored
TBC	134350, 177741	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
SW002	134851, 177466	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW3	134354, 177744	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW4	134682, 177994	Yes	High	Not Meeting	Unknown	Unknown	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?	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
D0048-SIP:01	Clonroadmore WWTP installation of tertiary treatment system.	C	31/12/2010	Yes	Works Completed		
D0048-SIP:02	Clonroadmore WWTP rehabilitation of the storm/balance tanks	C	31/12/2010	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
D0048-SIP:03	Clonroadmore WWTP upgrade of the inlet works	C	31/12/2010	Yes	Works Completed		
D0048-SIP:04	Clonroadmore WWTP upgrade of the sludge handling facilities	C	31/12/2010	Yes	Works Completed		
D0048-SIP:05	Clonroadmore WWTP upgrade of the treatment capacity of the current aerator and clarifier tanks to cater for the existing and the short term increase in wastewater loading	C	31/12/2010	Yes	Works Completed		
D0048-SIP:06	collection systems: rehabilitation of sewers with high levels of infiltration.	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0048-SIP:07	collection systems: separation of known surface water connections from the main combined sewer where feasible.	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

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
D0048-SIP:08	collection systems: upgrade of satellite pump station overflows	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0048-SIP:09	Secondary discharge from SW2 to be upgraded to a SWO, as defined in DoEHLG 'Procedures & criteria in relation to SWOs'	A	01/01/2011	Yes	Works Completed		
D0048-SIP:10	Tulla road and Francis st pump stations: diversion of surface water away from pump stations	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0048-SIP:11	Tulla road and Francis st pump stations: repair of grit traps	C	31/12/2010	Yes	Works Completed		
D0048-SIP:12	Tulla road and Francis st pump stations: replacement of pumps and improving the pump controls	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the

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
							2025-2029 investment period.
D0048-SIP:13	Tulla road and Francis st pump stations: upgrade of the combined sewer overflow regime at the pump stations	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

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
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
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	Yes
List reason e.g. changes to monitoring requirements	Ambient Monitoring Location Changes
Have these processes commenced?	No
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: 07/04/2022

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 Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)		
			Bathing Water	Drinking Water	FWPM
Upstream Monitoring Point (SW3) Club Bridge	133906, 177700	RS27F01680	No	No	No
Downstream Monitoring Point (SW3) Doora Bridge	134888, 1768090	RS27F010720	No	No	No

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)		
			Bathing Water	Drinking Water	FWPM
Upstream Monitoring Point (SW1) Clonroad Br	134520, 177880	RS27F010700	No	No	No
Downstream Monitoring Point (SW3) Doora Bridge	134888, 1768090	RS27F010720	No	No	No

SW3 Assessment

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% EQS
cBOD mg/l	RS27F01680	2.3	RS27F010720	2.4	1.50	6.67%
Ortho-Phosphate (as P) mg/l	RS27F01680	0.02	RS27F010720	0.04	0.035	57.14%
Ammonia (as N) mg/l	RS27F01680	0.07	RS27F010720	0.08	0.065	15.38%
Dissolved Oxygen (% SAT)	RS27F01680	93.15	RS27F010720	86.74		
Dissolved Oxygen (mg/l)	RS27F01680	10	RS27F010720	9.21		
Total Nitrogen (mg/l)	RS27F01680	0.97	RS27F010720	1.15		
Temperature (OC)	RS27F01680	12.77	RS27F010720	13.3		
Total Phosphorus (mg/l)	RS27F01680	0.06	RS27F010720	0.1		
pH (pH units)	RS27F01680	7.89	RS27F010720	7.81		

SW1 Assessment

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% EQS
cBOD mg/l	RS27F010700	2.35	RS27F010720	2.4	1.50	3.33%
Ortho-Phosphate (as P) mg/l	RS27F010700	0.02	RS27F010720	0.04	0.035	57.14%
Ammonia (as N) mg/l	RS27F010700	0.04	RS27F010720	0.08	0.065	61.54%
Dissolved Oxygen (% SAT)	RS27F010700	89.68	RS27F010720	86.74		
Dissolved Oxygen (mg/l)	RS27F010700	9.49	RS27F010720	9.21		
Total Nitrogen (mg/l)	RS27F010700	0.94	RS27F010720	1.15		
Temperature (OC)	RS27F010700	13.49	RS27F010720	13.3		
Total Phosphorus (mg/l)	RS27F010700	0.08	RS27F010720	0.1		
pH (pH units)	RS27F010700	7.86	RS27F010720	7.81		