Annual Environmental Report

2024

Uisce Éireann
Irish Water

Convoy

D0344-01

CONTENTS

7.2 Small Stream Risk Score Assessment

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2024 AER

This Annual Environmental Report has been prepared for D0344-01, Convoy, in Donegal 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)

- Convoy WWTP with a Plant Capacity PE of 3500, 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
TPEFF0600D0344SW004	Convoy WWTP	Treated	Non-Compliant	Ammonia-Total (as N) 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 CONVOY WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - CONVOY 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
Ammonia-Total (as N) mg/l	12	42	17
pH pH units	12	8.30	7.66
Suspended Solids mg/l	12	317	150
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	216	86
COD-Cr mg/l	12	386	227
ortho-Phosphate (as P) - unspecified mg/l	12	2.49	1.03
Hydraulic Capacity	N/A	1327	750

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 - TPEFF0600D0344SW001

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	38	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	8.27	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	12	N/A	N/A	8.34	Pass
pH pH units	9	9	N/A	12	N/A	N/A	7.44	Pass
Ammonia-Total (as N) mg/l	4	4.8	N/A	12	4	3	2.88	Fail
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	N/A	12	N/A	N/A	0.027	Pass
Conductivity @20°C µS/cm	N/A	N/A	N/A	12	N/A	N/A	750	

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):

Refer to Incident Section of the Report.

Significance of Results:

The WWTP is non compliant with the ELVs set in the Wastewater Discharge Licence. The impact on receiving waters is assessed further in Section 2.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0600D0344SW001

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	222245, 401274	RS01D010404	No	No	No	No	Moderate
Downstream	222344, 401226	RS01D010410	No	No	No	No	Moderate

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 for the following: Ammonia-Total (as N) mg/l.

The ambient monitoring results do not meet the required EQS at the upstream and the downstream monitoring locations. 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 - CONVOY WWTP

2.1.4.1 Treatment Efficiency Report - Convoy 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	42612	2306	95
COD	64623	10641	84
TP	N/A	N/A	N/A
TN	N/A	N/A	N/A
cBOD	24589	2328	91

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

2.1.4.2 Treatment Capacity Report Summary - Convoy 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.

Convoy WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	875

Convoy WWTP	
DWF to the Treatment Plant (m³/day)	875
Current Hydraulic Loading - annual max (m³/day)	1327
Average Hydraulic loading to the Treatment Plant (m³/day)	749.6
Organic Capacity (PE) - As Constructed	3500
Organic Capacity (PE) - Collected Load (peak week)[Note1]	1713
Organic Capacity (PE) - Remaining	1787
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 - CONVOY 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 2024.			

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 Uisce Éireann 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	Recurring (Y/N)	Closed (Y/N)
Breach of ELV	Inadequate Operational Procedures/Training	No	Yes
Breach of ELV	Inadequate Operational Procedures/Training	Yes	No
Uncontrolled release	Emergency overflow caused by power failure	No	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2024	3
Number of Incidents reported to the EPA via EDEN in 2024	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 2024 (No. of events)	Total volume discharged in 2024 (m3)	Monitoring Status
SW003	222180, 401335	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored

The contents presented in this table include the most up to date information available at the time of writing. 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 wastewater discharge by metered SWOs during the year (m3)?	31449
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
D0344-SIP:01	SW001 Primary Discharge Point Convert to Storm Water overflow	C	31/12/2015	No	Works Completed		
D0344-SIP:02	Upgrade of storm water overflow (associated with discharge point SW001/SW005) to comply with the criteria outlined in the DoECLG 'Procedures and Criteria in relation to Storm Water Overflows' (1995)	C	31/12/2015	Yes	Works Completed		
D0344-SIP:03	Upgrade of storm water overflow (associated with discharge point SW002) to comply with the criteria outlined in the DoECLG 'Procedures and Criteria in relation to Storm Water Overflows' (1995)	C	31/12/2015	Yes	Works Completed		
D0344-SIP:04	Upgrade of storm water overflow (associated with discharge point SW003) to comply with the criteria	C	31/12/2015	Yes	Not Started		

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
	outlined in the DoECLG 'Procedures and Criteria in relation to Storm Water Overflows' (1995)						
D0344-SIP:05	WWTP upgrade to provide secondary treatment	C	31/12/2015	Yes	Works Completed		

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	Included in this AER
D0344-01-Priority Substances Assessment	Yes	No
D0344-01-Small Stream Risk Score Assessment	Yes	No

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?	N/A
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	N/A
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: 15/04/2025

This AER has been produced by Uisce Éireann's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of ,

Eleanor Roche

Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary
Appendix 7.2 - Small Stream Risk Score Assessment

Convoy WWTP

Ambient Monitoring Points from WWDL (or as agreed by EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)				WFD Status
			Bathing Water	Drinking Water	FWPM	Shellfish	
Upstream Monitoring Station	222245E 401274N	RS01D010404	No	No	No	No	Moderate
Downstream Monitoring Station	222344E 401226N	RS01D010410	No	No	No	No	Moderate

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS (mean)	% EQS
cBOD mg/l	222245E 401274N	1.3	222344E 401226N	1.5	1.5	13.3
Ortho-Phosphate (as P) mg/l	222245E 401274N	0.037	222344E 401226N	0.038	0.035	2.8
Ammonia (as N) mg/l	222245E 401274N	0.018	222344E 401226N	0.023	0.065	-7.69

County	Licence Ref.	Agglomeratic	Receiving Water Bo	Monitoring Location	Monitoring Result Source	Date	pH	Temperatur e (°C)	BOD mg/l	COD mg/l	SS mg/l	Total Nitrogen (as N) mg/l	Total Phosphorus (as P) mg/l	Ammonia (as N) mg/l	Orthophosp hate (as P) mg/l	Dissolved Oxygen mg/l	Dissolved Oxygen %Sat	Total Oxidised Nitrogen (as N) mg/l	Dissolved Inorganic Nitrogen (as N) mg/l	Faecal Coliforms cfu/100ml	Escherichia coli cfu/100ml	Intestinal Enterococci cfu/100ml	Visual Inspection	SSRS	Water level	Conductivity	Chloride	Fluoride	Ammonium (NH4)	Major anions	Major Cations	Priority Subs	Metals & Organic Compounds	Salinity	Nitrate	Nitrite	Chlorophyll (ug/l)	Chlorophyll (mg/m3)
Donegal	d0344-01	Convoy	River Deele	**Number of samples Required**			6	0	0	0	6	6	6	6	6	6		6	6	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1
Issued on	23/11/2012			**Upstream: SW1u ()**																																		
				Downstream:SW1d ()																																		
				Convoy - Upstream	Email	03/01/2024	7.3	6.4	1	NT	6	1	NT	0.015	0.05		101.4	NT	NT	NT	NT	NT		NT		126								NT	NT	NT	NT	
				Convoy - Downstream	Email	03/01/2024	7.5	6.4	1	NT	6	1	NT	0.015	0.05		100.5	NT	NT	NT	NT	NT		NT		143								NT	NT	NT	NT	
				Convoy - Downstream	Email	14-Feb-2024	7.6	10	2	NT	11	1.3	NT	0.05	0.01		101	NT	NT	NT	NT	NT		NT		229								NT	NT	NT	NT	
				Convoy - Upstream	Email	14-Feb-2024	7.6	10	1	NT	20	1	NT	0.04	0.01		102	NT	NT	NT	NT	NT		NT		216								NT	NT	NT	NT	
				Ballindrait - Upstream	Email	08/03/2024	7.6	7.5	1	NT	6	NT	NT	0.015	0.05		98	NT	NT	NT	NT	NT		NT		367								NT	NT	NT	NT	
				Ballindrait - Downstream	Email	08/03/2024	7.6	7.4	1	NT	6	NT	NT	0.015	0.05		97	NT	NT	NT	NT	NT		NT		367								NT	NT	NT	NT	
				Convoy - Upstream	Email	22/03/2024	7.6	9	1	NT	6	NT	NT	0.015	0.05		103	NT	NT	NT	NT	NT		NT		230								NT	NT	NT	NT	
				Convoy - Downstream	Email	22/03/2024	7.8	9	1	NT	6	NT	NT	0.015	0.05		102	NT	NT	NT	NT	NT		NT		231								NT	NT	NT	NT	
				Convoy - Upstream	Email	17-Apr-24	7.6	8.5	2	NT	6	1	NT	0.015	0.05		104.7	NT	NT	NT	NT	NT		NT		196								NT	NT	NT	NT	
				Convoy - Downstream	Email	17-Apr-24	7.7	8.8	3	NT	6	1	NT	0.015	0.05		104.3	NT	NT	NT	NT	NT		NT		206								NT	NT	NT	NT	
				Convoy - Upstream	Email	29-May-24	8	13.1	6	NT	7	1	NT	0.015	0.05		103.1	NT	NT	NT	NT	NT		NT		214								NT	NT	NT	NT	
				Convoy - Downstream	Email	29-May-24	8	13.5	4	NT	6	1	NT	0.015	0.05		100.6	NT	NT	NT	NT	NT		NT		231								NT	NT	NT	NT	
				Convoy - Upstream	Email	12-Jun-24	7.6	10.9	1	NT	6	1	NT	0.015	0.015		101.9	NT	NT	NT	NT	NT		NT		207								NT	NT	NT	NT	
				Convoy - Downstream	Email	12-Jun-24	7.7	11.2	2	NT	6	1	NT	0.015	0.015		100.4	NT	NT	NT	NT	NT		NT		222								NT	NT	NT	NT	
				Convoy - Upstream	Email	11-Jul-24	7.4	13.4	1	NT	6	1	NT	0.015	0.05		105.3	NT	NT	NT	NT	NT		NT		132								NT	NT	NT	NT	
				Convoy - Downstream	Email	11-Jul-24	7.6	13.4	1	NT	6	1	NT	0.029	0.05		103.3	NT	NT	NT	NT	NT		NT		143								NT	NT	NT	NT	
				Convoy - Upstream	Email	21-Aug-24	7.3	15.6	1	NT	6	1	NT	0.015	0.05		107.1	NT	NT	NT	NT	NT		NT		133								NT	NT	NT	NT	
				Convoy - Downstream	Email	21-Aug-24	7.5	15.9	1	NT	6	1	NT	0.016	0.05		105.1	NT	NT	NT	NT	NT		NT		141								NT	NT	NT	NT	
				Convoy - Upstream	Email	25-Sep-24	7.8	14.6	1	NT	6	1	NT	0.015	0.05		104.7	NT	NT	NT	NT	NT		NT		319								NT	NT	NT	NT	
				Convoy - Downstream	Email	25-Sep-24	7.9	15.1	1	NT	6	1	NT	0.081	0.05		106.6	NT	NT	NT	NT	NT		NT		320								NT	NT	NT	NT	
				Convoy - Downstream	Email	25-Oct-2024	7.9	11.8	1	NT	6	0.8	NT	0.02	0.01		99.9	NT	NT	NT	NT	NT		NT		243								NT	NT	NT	NT	
				Convoy - Upstream	Email	25-Oct-2024	7.9	11.9	1	NT	6	0.8	NT	0.02	0.01		101.4	NT	NT	NT	NT	NT		NT		231								NT	NT	NT	NT	
				Convoy - Upstream	Email	04-Dec-24	7.8	3.9	1	NT	6	1.2	NT	0.02	0.03		103.2	NT	NT	NT	NT	NT		NT		179								NT	NT	NT	NT	
				Convoy - Upstream	Email	06-Nov-24	8	11.6	1	NT	6	0.8	NT	0.02	0.02		100	NT	NT	NT	NT	NT		NT		257								NT	NT	NT	NT	
				Convoy - Downstream	Email	06/11/2024	8	11.7	1	NT	6	0.8	NT	0.02	0.01		99.2	NT	NT	NT	NT	NT		NT		273								NT	NT	NT	NT	
				Convoy - Downstream	Email	04/12/2024	7.8	4.3	1	NT	6	1.4	NT	0.03	0.06		104.4	NT	NT	NT	NT	NT		NT		197								NT	NT	NT	NT	

River: Deele River | **Code:** | **Date:** 04/04/24 | **Time:** 13:00

Station no. 21250414 9

Location: D/S Convoy.

Stream Order: Downstream.

Grid (6 figure):

Field Chemistry	
DO%	99.4
DO mg/l	11.12
Temp (°C)	11.4
Conductivity	196
pH	7.8
Bank width (cm)	1000
Wet width (cm)	600
Avg Depth (cm)	40
Staff gauge	

Velocity	Colour
Torrential	None
Fast	Slight
Moderate	Moderate
Slow	High
Very slow	

Clarity	Discharge
Very clear	Flood
Clear	Normal
Slightly turbid	Low
Highly turbid	Very Low
	Dry
	Recent Flood

Modifications: Y/N Canalised-widened-bank erosion-arterial drainage

Dominant Types:
Bedrock
Boulder (>128mm)
Cobble (32-128mm)
Gravel (8-32mm)
Fine Gravel (2-8mm)
Sand (0.25-2mm)
Silt (<0.25mm)

Slope: Low – Medium – High – Very High

Geology: Calcareous-Siliceous-Mixed

Substratum Condition: Calcareous-Compacted-Loose - Normal

Substratum: Stoney bottom-Muddy bottom-Mud over stones

Degree of siltation: Clean-Slight-Moderate-Heavy

Depth of mud: None <1cm: 1-5cm: 5-10cm: >10cm

Litter: None – Present – Moderate - Abundant

Filamentous Algae: None – Present – Moderate - Abundant

Main land use u/s:
Pasture
Bog
Forestry
Urban
Tillage
Other

Sample retained: Y / N

Stream flow:
Riffle
Riffle/Glide
Slow flow

Shading: High – Moderate – Low – None

Cattle access Y: upstream – downstream or N

Photo: Y / N

Sewage Fungus: None – Present – Moderate - Abundant

Sampled in Minutes: 3 minutes x 3
Pond net x
Stone wash x 6
Weed sweep x

General Comments:

Macroinvertebrate Composition

The macroinvertebrates are divided into the following 5 specific groups:
- Group 1 = Ephemeroptera (3-tails) – note that tails may be damaged during sampling
- Group 2 = Plecoptera (2-tails) - note that tails may be damaged during sampling
- Group 3 = Trichoptera
- Group 4 = G.OL.D (Gastropoda, Oligochaeta and Diptera)
- Group 5 = *Asellus*
- Calculate the total number of taxa and relative abundance of each macroinvertebrate group below: (Abundance – Ab)

Relative Abundance	
1-5	1
6-20	2
21-50	3
51-100	4
101+	5

Ephemeroptera:

	Ab
Ecdyonurus	
Rhithrogena	
Heptagenia	1
Ephemerella	
Caenis	
Paraleptophlebia	
Ephemera danica	
Other Ephem	

Total no. of taxa: 1 | Total Relative Abundance: 1

Plecoptera:

	Ab
Leuctra	
Isoperla	
Protonemura	
Amphinemura	
Perla	
Dinocras	
Other Plecop	
Other Plecop	

Total no. of Taxa: 0 | Total Relative Abundance: 0

Trichoptera:

	Ab
Hydropsychidae	
Polycentropodidae	
Rhyacophila	
Philopotamidae	
Limnephilidae	
Sericostomatidae	
Glossosomatidae	
Lepidostomatidae	
Other Trichoptera	

Total no. of Taxa: 0 | Total Relative Abundance: 0

G.OL.D:

	Ab
Lymnaea (G)	
Potamopyrgus (G)	
Planorbis (G)	
Ancylus (G)	
Physa (G)	
Lumbriculus (Ol)	1
Eiseniella (Ol)	
Tubificidae (Ol)	1

	Ab
Chironomidae (D)	
Chironomus (D)	
Simuliidae (D)	
Dicranota (D)	
Tipulidae (D)	
Ceratopogonidae (D)	
Other GOLD	

Total no. of Taxa: 2 | Total Relative Abundance: 2

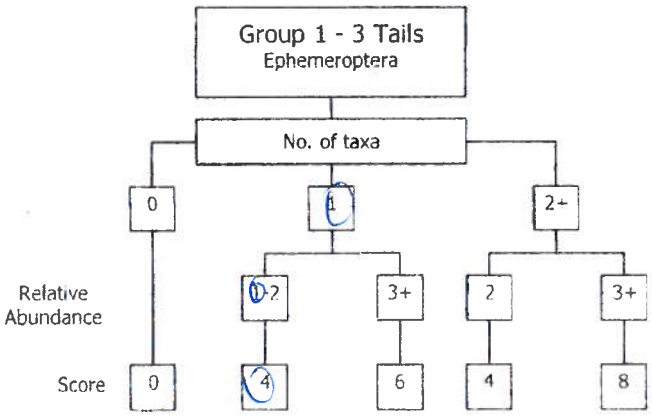
***Asellus*:**

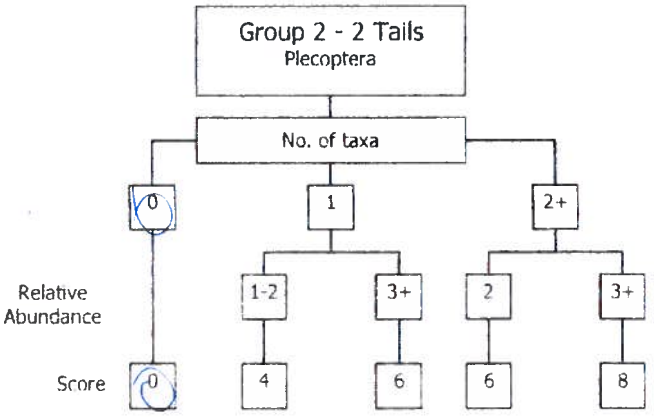
Absent	
Few/Low	
Common/ Numerous	

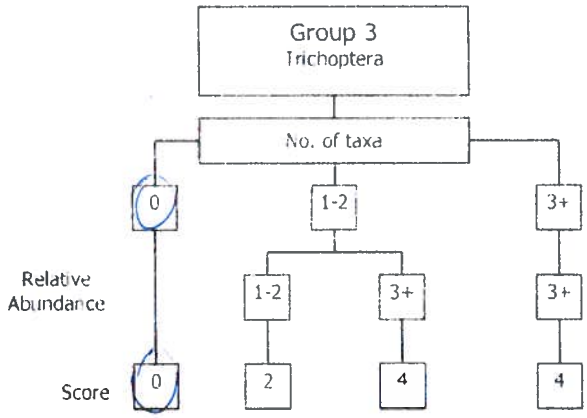
NOTE: *Asellus* must be recorded as absent if none are found

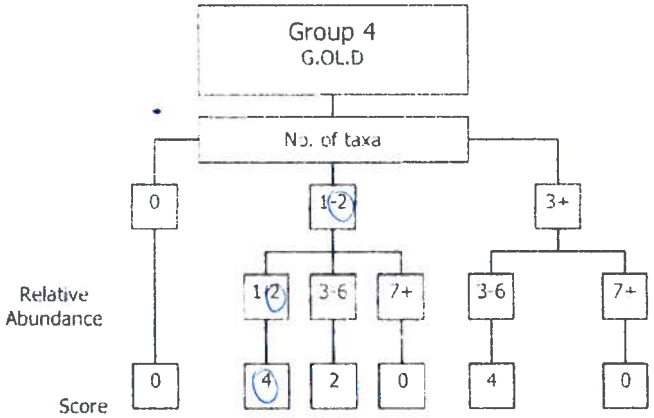
NOTE *Baetis* is an Ephemeropteran and is the most commonly occurring invertebrate genus in streams in Ireland. It is vital that *Baetis* is not counted in SSRS. See Appendix B for more details on how to identify *Baetis*.

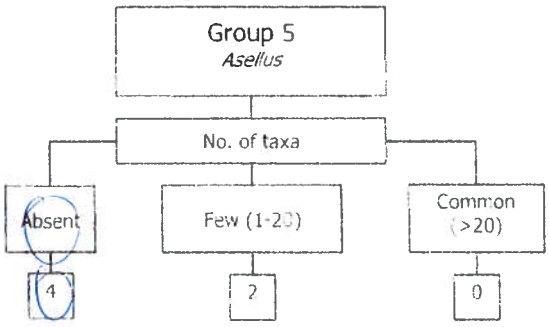
Step 1. Calculate the Index Score by circling the appropriate box representing the total number of taxa and the total abundance calculated from ***each macroinvertebrate group*** calculated from page 1 of the recording sheet and enter in to the boxes in Step 2.











Step 2

a) Index Score Group 1	4
b) Index Score Group 2	0
c) Index Score Group 3	0
d) Index Score Group 4	4
e) Index Score Group 5	4

Step 3. Calculate the Total Index Score, the Average Index Score and the SSR Score using the boxes below

Total Index Score (TIS) sum (a+b+c+d+e)	12	Average Index Score (AIS) TIS/5 (5 for 5 groups)	2.4	**SSR Score** (AIS x 2)	4.8

Step 4. Assess the stream by comparing the final SSR score with the categories below and tick the appropriate box

> 7.25 Probably not at risk	✓	> 6.5 – 7.25 Indeterminate Stream may be at risk		<6.5 Stream at risk	

Surveyor (signed): B Gault Name (print): BERNADETTE GAULT Date: 04 / 04 / 24

River: Deele River | **Code:** | **Date:** 4/4/24 | **Time:** 12:10

Station no. 21250414 8

Location: U/S Convoy

Stream Order:

Grid (6 figure):

Field Chemistry

DO%	99.8
DO mg/l	11.40
Temp (°C)	11.4
Conductivity	204
pH	8.0
Bank width (cm)	1000
Wet width (cm)	70
Avg Depth (cm)	50
Staff gauge	

Velocity	Colour
Torrential	None
Fast	Slight
Moderate	Moderate
Slow	High
Very slow	

Clarity	Discharge
Very clear	Flood
Clear	Normal
Slightly turbid	Low
Highly turbid	Very Low
	Dry
	Recent Flood

Modifications: Y/N Canalised-widened-bank erosion-arterial drainage

Dominant Types:
Bedrock
Boulder (>128mm)
Cobble (32-128mm)
Gravel (8-32mm)
Fine Gravel (2-8mm)
Sand (0.25-2mm)
Silt (<0.25mm)

Slope: Low – Medium – High – Very High

Geology: Calcareous-Siliceous-Mixed

Substratum Condition: Calcareous-Compacted-Loose - Normal

Substratum: Stoney bottom-Muddy bottom-Mud over stones

Degree of siltation: Clean-Slight-Moderate-Heavy

Depth of mud: None: <1cm: 1-5cm: 5-10cm: >10cm

Litter: None – Present – Moderate - Abundant

Filamentous Algae:
None – Present – Moderate - Abundant

Main land use u/s:
Pasture | Urban
Bog | Tillage
Forestry | Other

Sample retained: Y / N

Stream flow:
Riffle
Riffle/Glide
Slow flow

Shading: High – Moderate – Low - None

Cattle access Y: upstream – downstream or N

Photo: Y / N

Sewage Fungus:
None – Present – Moderate - Abundant

Sampled in Minutes:
Pond net x x3 3minutes
Stone wash x x4
Weed sweep x

General Comments:

Macroinvertebrate Composition

The macroinvertebrates are divided into the following 5 specific groups:
- Group 1 = Ephemeroptera (3-tails) – note that tails may be damaged during sampling
- Group 2 = Plecoptera (2-tails) - note that tails may be damaged during sampling
- Group 3 = Trichoptera
- Group 4 = G.OL.D (Gastropoda, Oligochaeta and Diptera)
- Group 5 = *Asellus*
- Calculate the total number of taxa and relative abundance of each macroinvertebrate group below: (Abundance – Ab)

Relative Abundance	
1-5	1
6-20	2
21-50	3
51-100	4
101+	5

Ephemeroptera:

Ecdyonurus Ab	1
Rhithrogena Ab	
Heptagenia Ab	
Ephemerella Ab	
Caenis Ab	
Paraleptophlebia Ab	
Ephemera danica Ab	
Other Ephem Ab	
Total no. of taxa	1
Total Relative Abundance	1

Plecoptera:

Leuctra Ab	
Isoperla Ab	
Protonemura Ab	
Amphinemura Ab	
Perla Ab	
Dinocras Ab	
Other Plecop Ab	
Other Plecop Ab	
Total no. of Taxa	0
Total Relative Abundance	0

Trichoptera:

Hydropsychidae Ab	
Polycentropodidae Ab	
Rhyacophila Ab	1
Philopotamidae Ab	
Limnephilidae Ab	
Sericostomatidae Ab	
Glossosomatidae Ab	
Lepidostomatidae Ab	
Other Trichoptera Ab	
Total no. of Taxa	1
Total Relative Abundance	1

G.OL.D:

Lymnaea (G) Ab	
Potamopyrgus (G) Ab	
Planorbis (G) Ab	
Ancylus (G) Ab	
Physa (G) Ab	
Lumbriculus (Ol) Ab	1
Eiseniella (Ol) Ab	
Tubificidae (Ol) Ab	1
Chironomidae (D) Ab	
Chironomus (D) Ab	
Simuliidae (D) Ab	
Dicranota (D) Ab	
Tipulidae (D) Ab	
Ceratopogonidae (D) Ab	
Other GOLD Ab	
Total no. of Taxa	2
Total Relative Abundance	2

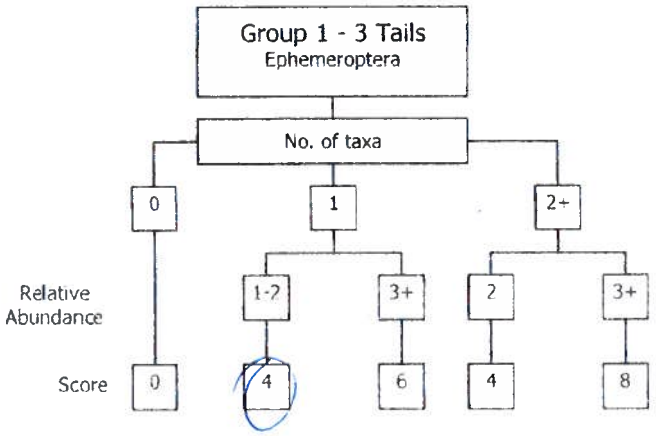
***Asellus*:**

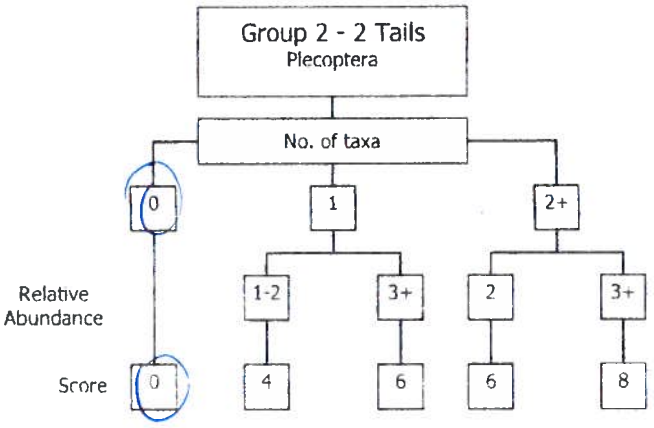
Absent	✓
Few/Low	
Common/ Numerous	

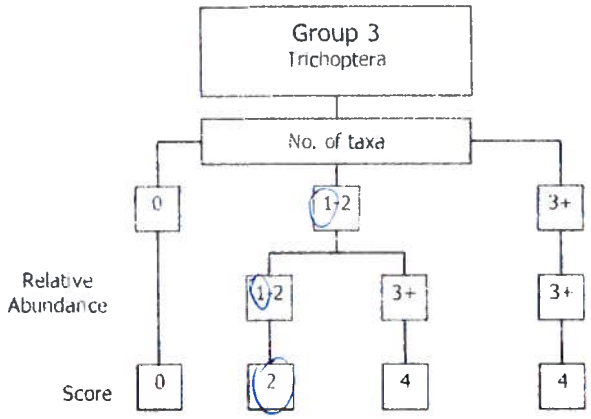
NOTE: *Asellus* must be recorded as absent if none are found

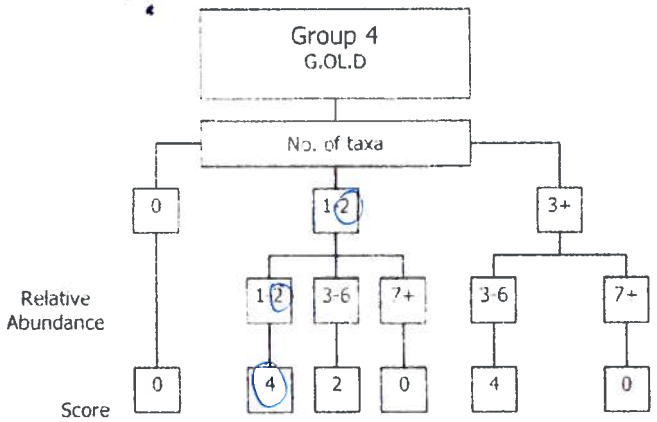
NOTE *Baetis* is an Ephemeropteran and is the most commonly occurring invertebrate genus in streams in Ireland. It is vital that *Baetis* is not counted in SSRS. See Appendix B for more details on how to identify *Baetis*.

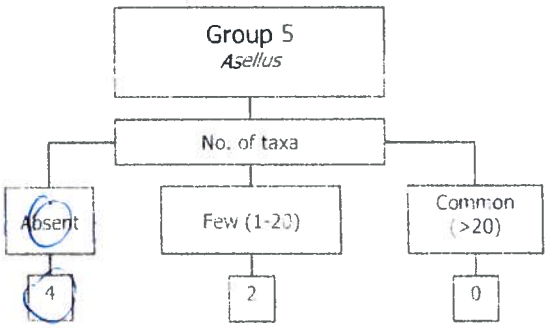
Step 1. Calculate the Index Score by circling the appropriate box representing the total number of taxa and the total abundance calculated from ***each macroinvertebrate group*** calculated from page 1 of the recording sheet and enter in to the boxes in Step 2.











Step 2

a) Index Score Group 1	4
b) Index Score Group 2	0
c) Index Score Group 3	2
d) Index Score Group 4	4
e) Index Score Group 5	~~5~~ 4

Step 3. Calculate the Total Index Score, the Average Index Score and the SSR Score using the boxes below

Total Index Score (TIS) sum (a+b+c+d+e)	14	Average Index Score (AIS) TIS/5 (5 for 5 groups)	2.8	**SSR Score** (AIS x 2)	5.6

Step 4. Assess the stream by comparing the final SSR score with the categories below and tick the appropriate box

> 7.25 Probably not at risk		> 6.5 – 7.25 Indeterminate Stream may be at risk		<6.5 Stream at risk	✓

Surveyor (signed): B. Gault Name (print): BERNADETTE GAULT Date: 04 / 04 / 24