Annual Environmental Report

2024

Ballybofey Stranorlar

D0120-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2024 AER

This Annual Environmental Report has been prepared for D0120-01, Ballybofey Stranorlar, 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)

- Ballybofey Stranorlar WWTP with a Plant Capacity PE of 9200, 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
TPEFF0600D0120SW001	Ballybofey Stranorlar WWTP	Treated	Non-Compliant	Ammonia-Total (as N) mg/l

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report
Small Stream Risk Score Assessment

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 BALLYBOFEY STRANORLAR WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - BALLYBOFEY STRANORLAR 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 pH units	12	7.80	7.46
COD-Cr mg/l	12	366	209
ortho-Phosphate (as P) - unspecified mg/l	12	4.56	1.60
Suspended Solids mg/l	12	457	152
BOD, 5 days with Inhibition (Carbonaceo mg/l	12	180	103
Ammonia-Total (as N) mg/l	12	42	18
Hydraulic Capacity	N/A	4846	3006

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 greater 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 - TPEFF0600D0120SW001

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	29	Pass
Suspended Solids mg/l	35	87.5	N/A	12	1	N/A	13	Pass
Temperature °C	25	30	N/A	8	N/A	N/A	6.61	Pass
BOD, 5 days with Inhibition (Carbonaceo mg/l	25	50	N/A	12	1	N/A	7.43	Pass
pH pH units	9	9	N/A	12	N/A	N/A	6.90	Pass
Ammonia-Total (as N) mg/l	2	2.4	N/A	12	2	2	0.750	Fail
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	N/A	12	N/A	N/A	0.218	Pass
Conductivity @20°C µS/cm	N/A	N/A	N/A	12	N/A	N/A	528	

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 complaint with the ELVs set in the Wastewater Discharge License. The impact on receiving waters is assessed further in Section 2.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0600D0120SW001

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	214444, 394835	RS01F010700	No	No	No	No	Poor
Downstream	215246, 394601	RS01F010800	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	RS01F010700	1.50	RS01F010800	1.68	1.50	12

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Ammonia-Total (as N) mg/l	RS01F010700	0.013	RS01F010800	0.075	0.065	96.2
ortho-Phosphate (as P) - unspecified mg/l	RS01F010700	0.030	RS01F010800	0.037	0.035	19.6
Total Nitrogen mg/l	RS01F010700	0.671	RS01F010800	0.682	N/A	
Conductivity @20°C µS/cm	RS01F010700	84	RS01F010800	82	N/A	
Nitrate (as N) mg/l	RS01F010700	0.177	RS01F010800	0.177	N/A	
Temperature °C	RS01F010700	12	RS01F010800	12	N/A	
Suspended Solids mg/l	RS01F010700	5.69	RS01F010800	7.15	N/A	
Nitrite (as N) mg/l	RS01F010700	0.005	RS01F010800	0.004	N/A	
pH pH units	RS01F010700	7.04	RS01F010800	6.98	N/A	
Dissolved Oxygen % Saturation	RS01F010700	106	RS01F010800	104	N/A	

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 downstream monitoring location. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in BOD5 mg/l, Ammonia-Total mg/l, ortho-Phosphate mg/l, concentrations downstream of the effluent discharge is noted.

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 have an observable negative impact on the Water Framework Directive status.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - BALLYBOFEY STRANORLAR WWTP

2.1.4.1 Treatment Efficiency Report - Ballybofey Stranorlar 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)
TP	N/A	N/A	N/A
cBOD	113356	10368	91
COD	229859	40551	82
SS	166572	18630	89
TN	N/A	N/A	N/A

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

2.1.4.2 Treatment Capacity Report Summary - Ballybofey Stranorlar 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.

Ballybofey Stranorlar WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	3000
DWF to the Treatment Plant (m^3/day)	1000
Current Hydraulic Loading - annual max (m^3/day)	4846
Average Hydraulic loading to the Treatment Plant (m^3/day)	3006.5
Organic Capacity (PE) - As Constructed	9200
Organic Capacity (PE) - Collected Load (peak week)[Note1]	2292
Organic Capacity (PE) - Remaining	6908
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 - BALLYBOFEY STRANORLAR 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)
Uncontrolled release	Emergency overflow caused by pump failure	No	Yes
Breach of ELV	Inadequate Operational Procedures/Training	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	No

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2024	4
Number of Incidents reported to the EPA via EDEN in 2024	4
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
SW002	214479, 394831	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
SW003	214058, 394836	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW004	215270, 394651	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW005	214761, 395304	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW006	214511, 394631	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW007	214908, 394442	Yes	Low Significance	Not Meeting Criteria	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 2024 (No. of events)	Total volume discharged in 2024 (m3)	Monitoring Status
SW010	214371, 394253	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not 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)?	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?	No
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
D0120-SIP:01	Expansion and upgrade of WWTP to 6,000 p.e. capacity (stage 2) and ancillary works	C	31/12/2015	Yes	Works Completed		
D0120-SIP:02	Upgrading of emergency overflows from pumping station so that the overflows do not activate in response to rainfall events or lack of capacity in the sewer network.	C	31/12/2012	Yes	Works Completed		
D0120-SIP:03	Upgrading of storm water overflows to comply with the criteria outlined in the DoEHLG 'Procedures and Criteria in relation to Storm Water Overflows, 1995'	C	31/12/2012	Yes	Works Completed		
D0120-SIP:04	Waste water sewer network improvements (including upgrade of pumping station)	C	31/12/2012	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
D0120-01-Priority Substances Assessment	Yes	No
D0120-01-Small Stream Risk Score Assessment	Yes	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
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	EPA Initiated Review
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?	Yes
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: 18/06/2025

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 - Small Stream Risk Score Assessment

10.4

River: Finn	Code:	Date: 17/2/24	Time: 11:00
Station no.	**Location:** Up stream Ballybofey		**Grid (6 figure):**
	Stream Order:		**Stream flow:** Riffle / Riffle/Glide / Slow flow

Field Chemistry	
DO%	100
DO mg/l	10.0
Temp (°C)	16
Conductivity	75
pH	6.5
Bank width (cm)	
Wet width (cm)	
Avg Depth (cm)	
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

Shading: High – Moderate – Low – None

Cattle access Y: upstream – downstream or N

Photo: Y / N

Filamentous Algae:
None – Present – Moderate - Abundant

Sewage Fungus:
None – Present – Moderate - Abundant

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

Sample retained: Y / N

Sampled in Minutes:
Pond net x
Stone wash x
Weed sweep x

General Comments:
Up- stream Ballybofey

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

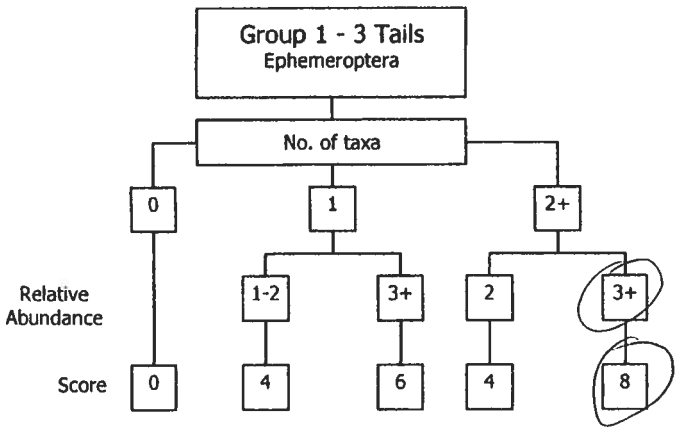
Ephemeroptera:		**Plecoptera:**	
Ecdyonurus Ab	1	*Leuctra* Ab	1
Rhithrogena Ab	2	*Isoperla* Ab	
Heptagenia Ab	1	*Protonemura* Ab	
Ephemerella Ab		*Amphinemura* Ab	
Caenis Ab		*Perla* Ab	
Paraleptophlebia Ab		*Dinocras* Ab	1
Ephemera danica Ab		Other Plecop Ab	
Other Ephem Ab		Other Plecop Ab	
Total no. of taxa	3	**Total Relative Abundance**	4	**Total no. of Taxa**	2	**Total Relative Abundance**	2

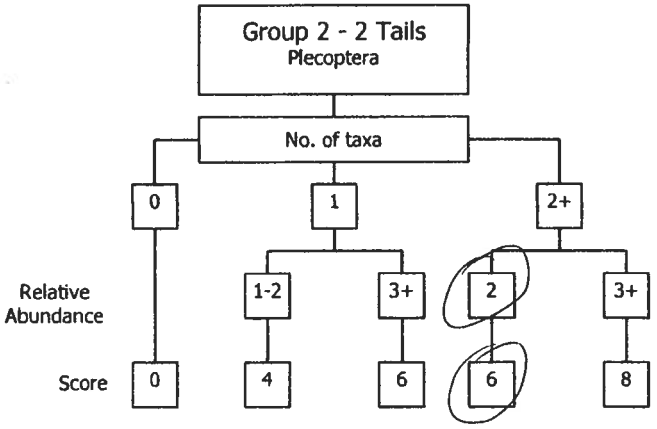
Trichoptera:		**G.OL.D:**				**Asellus:**	
Hydropsychidae Ab	1	*Lymnaea* (G) Ab		Chironomidae (D) Ab		Absent	✓
Polycentropodidae Ab		*Potamopyrgus* (G) Ab		*Chironomus* (D) Ab		Few/Low	
Rhyacophila Ab	1	*Planorbis* (G) Ab		Simullidae (D) Ab	1	Common/ Numerous	
Philopotamidae Ab		*Ancylus* (G) Ab		*Dicranota* (D) Ab	1		
Limnephilidae Ab		*Physa* (G) Ab		Tipulidae (D) Ab	1		
Sericostomatidae Ab	1	*Lumbriculus* (Ol) Ab		Ceratopogonidae (D) Ab			
Glossosomatidae Ab		*Eiseniella* (Ol) Ab	1	Other GOLD Ab		**NOTE:** *Asellus* must be recorded as absent if none are found	
Lepidostomatidae Ab		Tubificidae (Ol) Ab					
Other Trichoptera Ab							
Total no. of Taxa	3	**Total Relative Abundance**	3	**Total no. of Taxa**	4	**Total Relative Abundance**	4

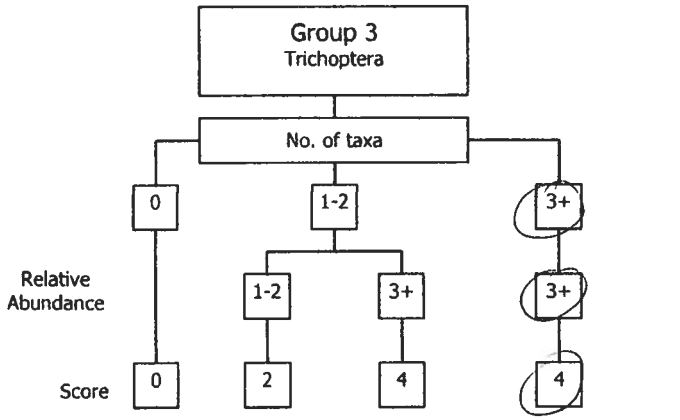
NOTE *Baetis* is an Ephemeropteran and is the most commonly occurring invertebrate genus in streams in Ireland. It is vital that *Baetis* is not counted in SSRS. See Appendix B for more details on how to identify *Baetis*.

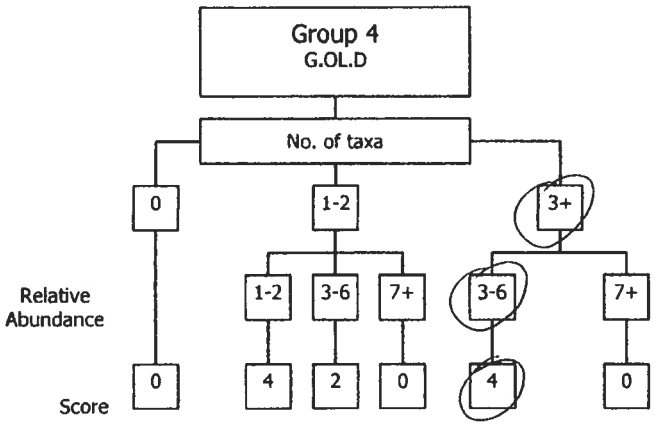
u/s Ballybofey

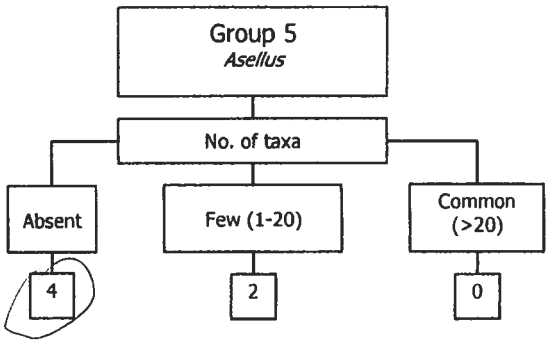
Step 1. Calculate the Index Score by circling the appropriate box representing the total number of taxa and the total abundance calculated from ***each macroinvertebrate group*** calculated from page 1 of the recording sheet and enter in to the boxes in Step 2.











Step 2

a) Index Score Group 1	8
b) Index Score Group 2	6
c) Index Score Group 3	4
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)	26	Average Index Score (AIS) TIS/5 (5 for 5 groups)	5.2	**SSR Score** (AIS x 2)	10.4

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): P Gallagher Name (print): Pat Gallagher Date: 17 / 07 / 24

7.2

River: Finn	Code:	Date: 17/7/24	Time: 12:00
Station no. RS01F010800	**Location:** Br S of Stranorlar		**Grid (6 figure):**

Stream Order:

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

Stream flow:
Riffle
Riffle/Glide
Slow flow

Shading: High – Moderate – Low – None

Cattle access Y: upstream – downstream or N

Photo: Y / N

Field Chemistry	
DO%	97
DO mg/l	9.4
Temp (°C)	16
Conductivity	75
pH	6.5
Bank width (cm)	
Wet width (cm)	
Avg Depth (cm)	
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

Filamentous Algae: None – Present – Moderate - Abundant

Sewage Fungus: None – Present – Moderate - Abundant

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

Sample retained: Y / N

Sampled in Minutes:
Pond net x
Stone wash x
Weed sweep x

General Comments:
Down stream Ballybofey.

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:		**Plecoptera:**	
Ecdyonurus Ab		*Leuctra* Ab	
Rhithrogena Ab	3	*Isoperla* Ab	
Heptagenia Ab	1	*Protonemura* Ab	
Ephemerella Ab		*Amphinemura* Ab	
Caenis Ab		*Perla* Ab	
Paraleptophlebia Ab		*Dinocras* Ab	
Ephemera danica Ab		Other Plecop Ab	
Other Ephem Ab		Other Plecop Ab	
Total no. of taxa	2	**Total Relative Abundance**	4
Total no. of Taxa	0	**Total Relative Abundance**	0

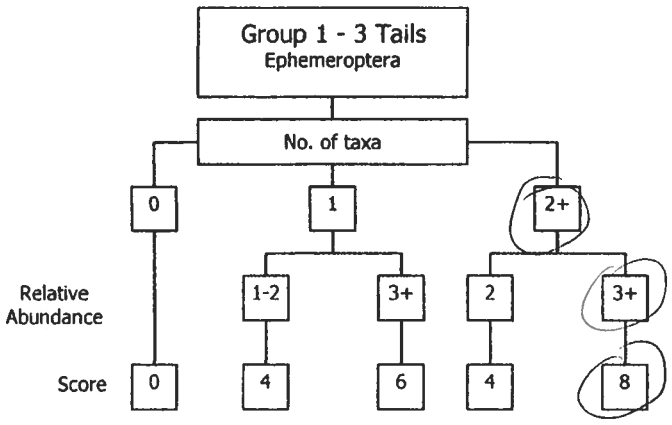
Trichoptera:		**G.OL.D:**				**Asellus:**	
Hydropsychidae Ab	1	*Lymnaea* (G) Ab		Chironomidae (D) Ab		Absent	✓
Polycentropodidae Ab		*Potamopyrgus* (G) Ab		*Chironomus* (D) Ab		Few/Low	
Rhyacophila Ab	1	*Planorbis* (G) Ab		Simuliidae (D) Ab	1	Common/ Numerous	
Philopotamidae Ab		*Ancylus* (G) Ab		*Dicranota* (D) Ab	1		
Limnephilidae Ab		*Physa* (G) Ab		Tipulidae (D) Ab			
Sericostomatidae Ab		*Lumbriculus* (Ol) Ab		Ceratopogonidae (D) Ab			
Glossosomatidae Ab		*Eiseniella* (Ol) Ab	2	Other GOLD Ab			
Lepidostomatidae Ab		Tubificidae (Ol) Ab					
Other Trichoptera Ab							
Total no. of Taxa	2	**Total Relative Abundance**	2	**Total no. of Taxa**	3	**Total Relative Abundance**	4

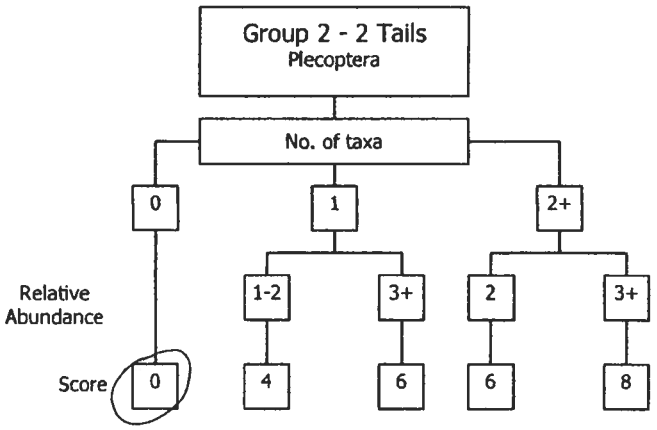
NOTE: *Asellus* must be recorded as absent if none are found

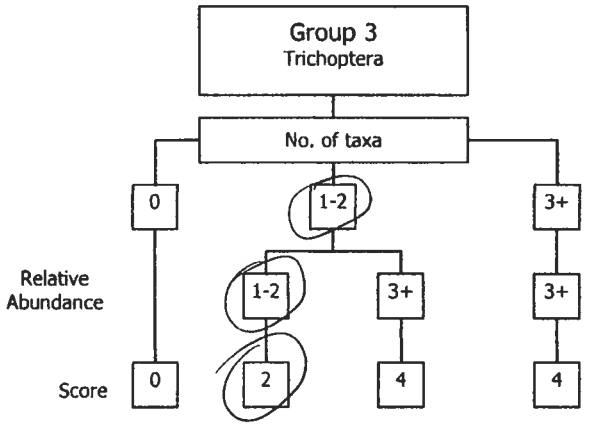
NOTE *Baetis* is an Ephemeropteran and is the most commonly occurring invertebrate genus in streams in Ireland. It is vital that *Baetis* is not counted in SSRS. See Appendix B for more details on how to identify *Baetis*.

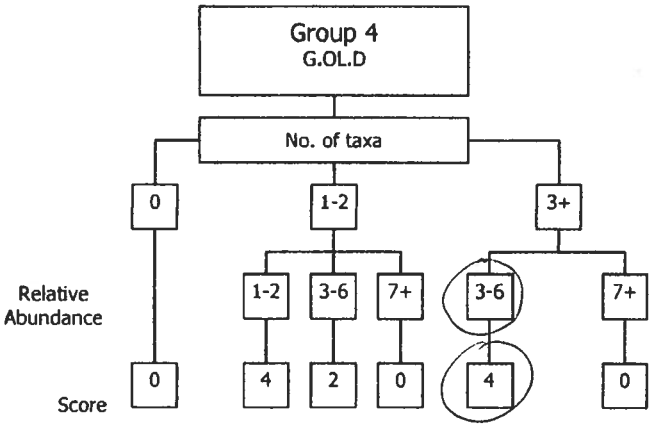
DS Ballybofey

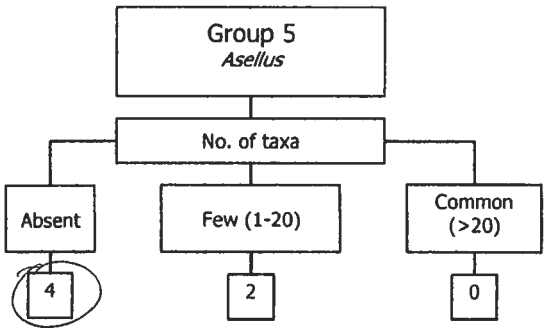
Step 1. Calculate the Index Score by circling the appropriate box representing the total number of taxa and the total abundance calculated from ***each macroinvertebrate group*** calculated from page 1 of the recording sheet and enter in to the boxes in Step 2.











Step 2

a) Index Score Group 1	8
b) Index Score Group 2	0
c) Index Score Group 3	2
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)	18	Average Index Score (AIS) TIS/5 (5 for 5 groups)	3.6	**SSR Score** (AIS x 2)	7.2

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): P Gallagher Name (print): Pat Gallagher Date: 17 / 07 / 24