# Annual Environmental Report





Inniskeen

D0348-01

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# **1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER**

This Annual Environmental Report has been prepared for D0348-01, Inniskeen, in Monaghan 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
Small Stream Risk Score Assessment	Yes

## **1.2 Treatment Type**

The agglomeration is served by a wastewater treatment plant INNISKEEN WWTP with a Plant Capacity PE of 1800. The treatment process includes the following:

#### 1.2.1 INNISKEEN WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Screens (manual)
Primary Treatment	No	
Secondary Treatment	Yes	Aeration
Nutrient Removal	Yes	Chemical dosing for phosphorus removal
Tertiary Treatment	No	

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 INNISKEEN WWTP

Compliance Status	
Were all parameters compliant for INNISKEEN WWTP treatment plant	No
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
INNISKEEN WWTP	Cake Sludge	58.36	Weight (Tonnes)	10.5	Biocore

#### **Annual Statement of Measures**

There were no major capital or operational changes undertaken

# **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 - INNISKEEN WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/I	11	3657	357.53
COD-Cr mg/l	11	8150	853.14
Suspended Solids mg/l	11	8223	519.95
Total Nitrogen mg/l	11	151.8	31.77
Total Phosphorus (as P) mg/l	10	81.4	7.32
Hydraulic Capacity	0	1809	233

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.

# 2.2 Discharges from the agglomeration

# 2.2.1 Effluent Monitoring Summary - INNISKEEN 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	12	0	0	8.73	Pass
Faecal coliforms cfu/100ml	0	0	0	2	0	0	23889.09	Pass
Total Nitrogen mg/l	0	0	0	12	0	0	12.4	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	10	20	0	12	0	0	1.22	Pass
E. Coli MPN/100ml	0	0	0	2	0	0	8296.99	Pass
Enterococci (Intestinal) cfu/100ml	0	0	0	2	0	0	591.68	Pass
Ammonia-Total (as N) mg/l	2	2.4	0	12	1	0	0.17	Pass
pH pH units	0	0	0	14	1	0	7.65	Fail
Temperature °C	0	0	0	8	0	0	7.38	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)
ortho-Phosphate (as P) - unspecified mg/l	1.5	1.8	0	12	0	0	0.08	Pass
Total Phosphorus (as P) mg/l	2	2.4	0	12	0	0	0.15	Pass
Nitrite (as N) mg/l	0	0	0	12	0	0	0.03	Pass
Nitrate (as NO3) mg/l	0	0	0	8	0	0	16.38	Pass
Suspended Solids mg/l	10	25	0	12	2	1	4.35	Fail
Nitrate (as N) mg/l	0	0	0	4	0	0	8.13	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):

pH variations on influent caused a pH failure, suspended solids failure cause unknown

#### Significance of Results:

The WWTP was non-compliant with the ELV's set in the wastewater discharge licence. There were 4 exceedances in relation to the suspended solids, ammonia and ph parameter ELV, 2 of which were above the Condition 2 ELV. The Impact on receiving water is assessed further in Section 2.3.

## 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 - INNISKEEN 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
Upstream	293998, 306647	TPEFF2400D0348SW001	No	No	No	No	Good
Downstream	293998, 306647	TPEFF2400D0348SW001	No	No	No	No	Good

#### 2.3.2 Ambient Monitoring Parameter Summary - INNISKEEN WWTP

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
ortho-Phosphate (as P) - unspecified mg/l	RS06F010650	0.05	RS06F010670	0.04	0.075	-13.8
Faecal coliforms no./100mls	RS06F010650	0	RS06F010670	0		
Coliform Bacteria (Total) MPN/100ml	RS06F010650	2421	RS06F010670	1535		

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	RS06F010650	1.94	RS06F010670	2.33	2.6	14.7
Ammonia-Total (as N) mg/l	RS06F010650	0.01	RS06F010670	0.02	0.14	2.5
Total Nitrogen mg/l	RS06F010650	1.9	RS06F010670	1.75		
E. Coli MPN/100ml	RS06F010650	1860.5	RS06F010670	1273.5		
Enterococci (Intestinal) MPN/100ml	RS06F010650	118	RS06F010670	86.5		
Temperature °C	RS06F010650	11.23	RS06F010670	11.36		
Dissolved Oxygen mg/l	RS06F010650	10.49	RS06F010670	10.43		
pH pH units	RS06F010650	7.95	RS06F010670	7.95		

#### 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 negative 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 - INNISKEEN WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
cBOD	29634.72	98.4	99.67	
COD	70715.6	706.12	99	
ТN	2633.6	1002.88	61.92	
SS	43098.04	351.69	99.18	
ТР	541.24	11.87	97.81	

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.

INNISKEEN WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	1226

INNISKEEN WWTP	
DWF to the Treatment Plant (m3/day)	409
Current Hydraulic Loading - annual max (m3/day)	1809
Average Hydraulic loading to the Treatment Plant (m3/day)	233
Organic Capacity (PE) - As Constructed	1800
Organic Capacity (PE) - Collected Load (peak week)	325
Organic Capacity (PE) - Remaining	1475
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			
There is no Complaint data included in the AER.						

# 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	Plant or equipment breakdown at WWTP	1	No	Yes
Non-compliance	Other	1	No	Yes
Non-compliance Other		1	No	No

## 3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	3
Number of Incidents reported to the EPA via EDEN in 2018	3
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
SW-2	293928, 306704	Yes	Low	Meeting	0	0	Monitored

#### 4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	0.00
Is each SWO identified as non meeting DoEHLG Guidance included in the Programme of Improvements?	Yes
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / charges 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 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		
There are no Specified Improvement Programmes for this Agglomeration.								

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).
Small Stream Risk Score Assessment	Yes	2017	Yes	5.1

# 5.1 Small Stream Risk Score Assessment

The Small Stream Risk Score Assessment Report is included in Appendix 7.1 - Small Stream Risk Score Assessment. A summary of the findings of this report is included below.

Parameter	Value			
SSRS Required?	Yes			
What is Upstream SSRS?	8.8			
Condition 5 Improvement Programme Reference				
Does SSRS indicate discharges are posing a pollution risk?				
Does improvement programme include any procedural and/or infrastructal works?				
Downstream SSRS Water Quality Risk	not at risk			

Parameter	Value
Upstream SSRS Water Quality Risk	not at risk
What is Downstream SSRS?	8

# 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?	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: 14/03/2019

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

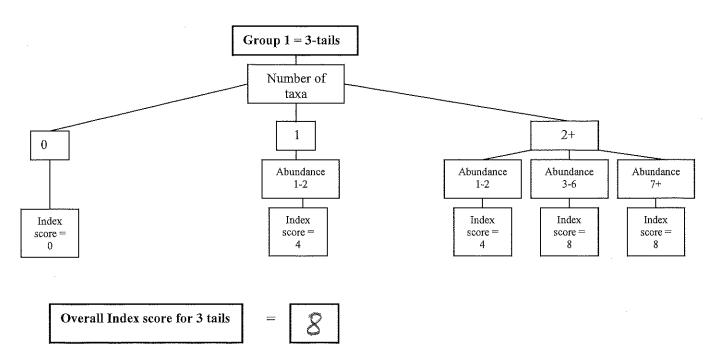
Appendix

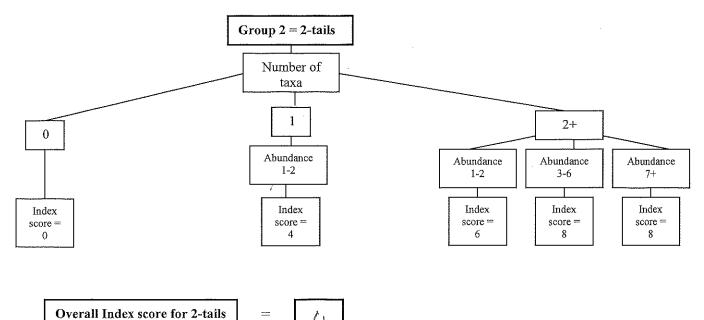
Appendix 7.1 - Small Stream Risk Score Assessment

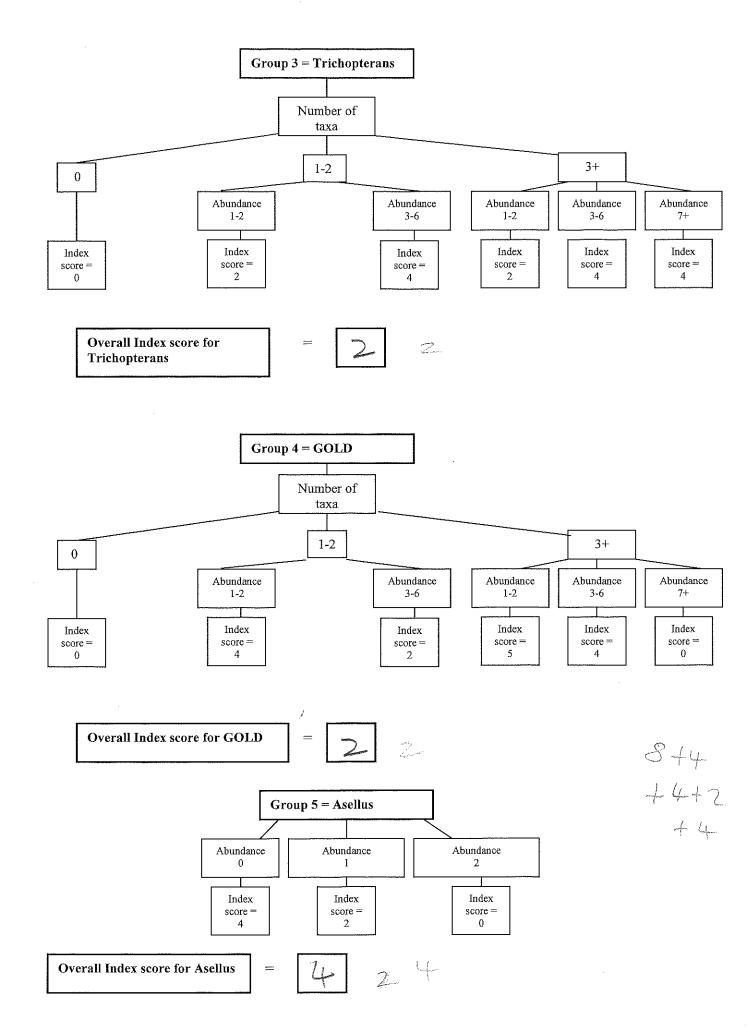
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Vedocity:       Colour:       Substration:       Maddy borom - Mud over stones         Past       Stight       Direct of silination:       Cattle access Y: us - d/s frame         Past       Stight       Moderate       Depth of mult:       Stoph: - Total: - Som: S-10cm: 10cm+         Stow       High       Liter:       P - M - A       Sewage fungue: (A - M - P (NO))         Cartiy:       Discharge       Moin land use u's       Sample retained:       Sample retained:         Yery slow       Flamentons Algae: (A - M - P (NO))       Sewage fungue: (A - M - P (NO))         Cartiy:       Discharge       Moin land use u's       Sample retained:       Sample retained:         Yery slow       Forestry       Urban       Carter access Y: u's - d/s frame         Stightly Turbid       Low       Care al Comments:       Pool       Sample retained:         Highty Turbid       Recent       Good Madde that       Very low       Discharge       Sample retained:         Yery low       Dre       Discharge       Sample retained:       Sample retained:       Sample retained:         Yery low       Dre       Care of Colours at the following 5 specific groups:       Sample retained:       Sample retained:       Pool         Coroup 1 = Ephemeroupteran (2-tails) - note that talls may be damaged du					Shading:			
Velocity:       Color:       Substrature:       Maddy bottom - Mad over stones       Cattle access Y: u/s - u/s (w)         Past       Stight       Stight       Darger of situation:       Phone         Past       Stight       Darger of situation:       Stight       Phone       Phone         Stow       High       Depth of multi-Go-1 cm: 15-om: 5-10 cm: 10 cm+       Stow       Phone       Phone         Very slow       Filamentous Algae: (A - M - P (w))       Sampler infinite:       Sampler infinite:       Phone       Phone </td <td></td> <td></td> <td>Calcareous – Compacted – Loose</td> <td></td> <td>H-M-L-</td> <td>N</td>			Calcareous – Compacted – Loose		H-M-L-	N		
Torrential       Degree of silution:         Fat       Slight         Moderate       Depth of multi-moderate - Heavy         Moderate       High         Slow       High         Very slow       Filamentous Algae: (A - M - P (NO)         Clarity:       Discharge         Main land use u/s       Sample retained:         Y N       Sample for multi-moderate         Very slow       Forestry         Very clear       Food         Forestry       No         Singhty Turbid       Recoart         Recoart       General Comments:         General Comments:       General Comments:         General Comments:       General Comments:         Group 1 = Ephenetropicana (3-tails) - note that tails may be damaged during sampling         Group 2 = Pleocopteran (2-tails) - note that tails may be damaged during sampling         Group 3 = Trickopteran       Total and total abundance of each macroinvertebrate group below:         Abundance - Ab : E sancoinvertebrates - Ab 1: So macroinvertebrate - Ab 2         Epheneropicana:       Expert Ab         Maytines       Food Abundance Ab         Abundance - Ab : So ancoinvertebrate - Ab 2         Epheneropicana:       Food Abundance Ab         Abundance - Ab : So ancoinvertebrat	Velocity:	Colour:		Aud over stones				
Fast       Slight       Depth of made Grap Slight - Moderate - Heavy       Photo: Yet of No         Slow       High       Litter: O P - M - A       Photo: Yet of No         Very slow       Filamentous Algae: (A - M - P NO)       Sewage fungus: (A - M - P NO)         Clarity:       Discharge       Main land use uis       Sample pretained:       Product Products         Very slow       Ford       Partice       Y N       Sewage fungus: (A - M - P NO)         Clarity:       Discharge       Main land use uis       Sample pretained:       Y N         Very clear       Flood       Beenror       Beenror       Beenror         Slighty Turbid       Low       Diban       Tillage       Other       Central Comments:         Highly Turbid       Recent       Good habitest       Very low       Dru       Macroinvertebrate Composition         The macroinvertebrates are divided into the following 5 specific groups:       Group 1 = Other orgoteran (3-tails) - note that tails may be damaged during sampling       Group 2 = Plecopteran (2-tails) - note that tails may be damaged during sampling         Group 5 = Asellus       Clastropoda, Oligochaeta and Diptera)       Ab       Apple contrar Ab         Group 5 = Asellus       Ab       Clastropode Ab       Apple contrar Ab         Mayfites       Fothergotera Ab	Torrential	None	And a second					
Moderate       Depth of mudi. Cong. <1cm: 1-5cm: 5-10m: 10cm+	Fast	Slight				ft Marine		
Very slow       Filamentous Algae: (A - M - P NO)       Sewage fungus: (A - M - P NO)         Charity:       Discharge       Main land use u's       Sampled in Minutes:         Very clar       Pood       Destry       Discharge       Main land use u's       Y N         Stightly Turbid       Low       Destry       Discharge       Pood net x         Stightly Turbid       Low       General Comments:       Pood met x         Highly Turbid       Rescart       General Comments:       General Comments:         General Comments:       General Comments:       General Comments:         Itage       General Comments:       General Comments:         0 Group 1 = Ephemeropteran (3-tails) – note that tails may be damaged during sampling       Group 2 = Plecopteran (2-tails) – note that tails may be damaged during sampling         Chroup 4 = GOLD (Gastropoda, Oligochaeta and Diptera)       Toroup 5 = Asellus       Calculate the total number of taxa and total abundance of each macroinvertebrate group below:         Abundance = Ab: L5 macroinvertebrate = Ab 1 > 6 macroinvertebrate = Ab 1 = 5 macroinvertebrate	Moderate	Moderate	Depth of mud: None <1cm: 1-5cm	n: 5-10cm: 10cm+	Photo: Yes c	nt No		
Flamentons Algae: (A - M - P (NO)         Sewage fungus: (A - M - P (NO)         Clarity:       Discharge       Main hnd we u's       Sample retained:       Sample in Minates:         Yery clear       Flood       Position:       Sample discretained:       Y       N       Pond net x         General Comments:       General Comments:       General Comments:       Flood       Very low       Weed sweep x         Main hnd wee u's       Y       N       N       New shark       Weed sweep x         Stightly Turbid       Recent       General Comments:       General Comments:       Pond net x       Weed sweep x         Highly Turbid       Recent       General Comments:       General Comments:       General Comments:       Pond net x       Weed sweep x         Group 1 = Ephemeropteran (3-tails) – note that tails may be damaged during sampling       Group 3 = Trichopteran       Calculate the total number of taxa and total abundance of each macroinvertebrate group below:       Abundance - Main - Ma	Slow	High	Litter: NO-P-M-A					
Clarify:       Discharge       Main land use u/s       Sampler trained:       Sampled in Minutes:         Very clear       Flood       Brear       Forstry       Pointer       Pointer         Slightly Turbid       Low       General Comments:       Forstry       Pointer       Stage of the st	Very slow			JAN .		Jan Barra		
Very claar       Flood       Petitier       Pond net x         Stone wash x       Weed sweep x         Slightly Turbid       Low       Other         Flightly Turbid       Low       General Comments:         Highly Turbid       Recent       Good Mabitat         Macroinvertebrate Composition       Macroinvertebrate Composition         The macroinvertebrates are divided into the following 5 specific groups:         Group 1 = Ephemeropteran (3-tails) - note that tails may be damaged during sampling         Group 2 = Piccopteran (2-tails) - note that tails may be damaged during sampling       Group 3 = Trichopteran         Group 4 = GOLD (Gastropoda, Oligochaeta and Diptera)       Group 5 = Asellus         Calculate tho total number of taxa and total abundance of each macroinvertebrate group below:         Abundance - Ab: 1-5 macroinvertebrates - Ab 1-5 fomeroina Ab       Stonethes - Ab         Mayflies       Total no. of taxa       Total         Ab       Total no. of taxa       Total       Total no. of taxa         Group 4 = Golzhid (Ab       Sinulin Ab       Total no. of taxa       Dipteran         Pelopotering ab       Total no. of taxa       Total no. of taxa       Dipteran         Phelopotenric Ab       Sinulin Ab       Chironomia Ab       Dipteran         Radiptrophica Ab <td></td> <td></td> <td>Filamentous Algae: (A – M – P 🐇</td> <td>NO)</td> <td>Sewage fung</td> <td colspan="2">Sewage fungus: (A – M – P (NO))</td>			Filamentous Algae: (A – M – P 🐇	NO)	Sewage fung	Sewage fungus: (A – M – P (NO))		
Very clear       Flood       Pore try         Slighdy Turbid       Low       Pore try       Urban         Highly Turbid       Recent       Good       Macroinvertebrate         Biood       Werd       Werd       Werd         Werd       Werd       Werd       Werd         Highly Turbid       Recent       Good       Macroinvertebrate         Dry       Macroinvertebrate Composition         The macroinvertebrates are divided into the following 5 specific groups:       Good       Good         • Group 1 = Ephemeropteran (2-tails) - note that tails may be damaged during sampling       Group 2 = Plecopteran (2-tails) - note that tails may be damaged during sampling         • Group 3 = Trichopteran       Calculate the total number of taxa and total abundance of each macroinvertebrate group below:         Abundance - Ak: 1-5 macroinvertebrate = Ab 1; >6 macroinvertebrate = Ab 2         Pethemeropteran       Economa Ab         Mayfiles       Proteineran Ab         Proteineran Ab       Proteineran Ab         Proteineran Ab       Proteineran Ab         Calculate the total number of taxa and total abundance of each macroinvertebrate group below:         Abundance - Ak: 1-5 macroinvertebrate = Ab 1; 5 macroinvertebrate = Ab 2         Proteineran Ab       Proteineran Ab         Rephemerella Ab	Clarity:	Discharge			Sampled in 1	Minutes:		
Cter       Forestry         Slightly Turbid       Low         Highly Turbid       Recent         Brein flood       Ceneral Comments:         General Comments:       Good         Highly Turbid       Recent         Brein Park       Good         Very low       Dry         Dry       Macroinvertebrate Composition         The macroinvertebrates are divided into the following 5 specific groups:       Group 1 = Ephemeropteran (3-tails) – note that tails may be damaged during sampling         Group 2 = Plecopteran (2-tails) – note that tails may be damaged during sampling       Group 3 = Trichopteran         Group 5 = Aselhs       Stonewretbrates = Ab 1 = 5 macroinvertebrates = Ab 2         Ephemeropteran (2-tails) – note that tails may be damaged during sampling       Group 4 = GOLD (Gastropoda, Oligochaeta and Diptera)         Group 5 = Aselhs       Calculate the total number of taxa and total abundance of each macroinvertebrates are bit : 5 macroinvertebrates = Ab 2         Ephemeropteran (2-tails) – bit : 5 macroinvertebrates = Ab 2       Plecopteran (2-tails) – bit : 5 macroinvertebrates = Ab 2         Ephemeropteran (2-tails) – bit : 5 macroinvertebrates = Ab 2       Eucora Ab       Hight = Ab (2-tails) – bit : 5 macroinvertebrates = Ab 2         Ephemeropteran (2-tails) – bit is for an constructure as a bit : 5 macroinvertebrates = Ab 2       Eucora Ab       Hight = Ab (2-tails) – bit = Ab (2-tails) – bit =	Very clear	Flood		Y - N	Pond net x			
Slightly Turbid       Low       Tillage         Highly Turbid       Recent       Good       Macroinvertebrate         Highly Turbid       Recent       Good       Macroinvertebrate Composition         Macroinvertebrate Composition         The macroinvertebrates are divided into the following 5 specific groups:         • Group 1 = Ephemeropteran (3-tails) - note that tails may be damaged during sampling         • Group 2 = Plecopteran (2-tails) - note that tails may be damaged during sampling         • Group 3 = Trichopteran         • Group 5 = Asellus         Calculate the total number of taxa and total abundance of each macroinvertebrate group below:         Abundance Ab 1: 5 macroinvertebrate Ab 1: 50 macroinvertebrate = Ab 2         Ephemeropteran: <i>Fectoranus Ab</i> Plecopteran         Mayflies       Paralegrophilia Ab         Paralegrophilia Ab       Placoptera Ab         Pricopteran       Ab         Trichopteran       Ab         Trichopteran       Ab         Paralegrophilia Ab       Prodomara Ab         Prodomara Ab       Priconomida Ab         Prodomara Ab       Priconomida Ab         Prodomara Ab       Chironomida Ab         Prodomara Ab       Similia         Prodomara Ab       Chironomida Ab	Clear	Normal						
Highly Turbid       Recent flood       General Comments: Good, Mabitat         Highly Turbid       Recent flood       Good, Mabitat         Dry       Macroinvertebrate Composition         The macroinvertebrates are divided into the following 5 specific groups:       Group 1 = Ephemeropteran (3-tails) - note that tails may be damaged during sampling         Group 2 = Plecopteran (2-tails) - note that tails may be damaged during sampling       Group 3 = Trichopteran         Group 3 = Trichopteran       Good, Mabitat         Group 4 = GOLD (Gastropoda, Oligochaeta and Diptera)       Group 5 = Aselhus         Calculate the total number of taxa and total abundance of each macroinvertebrate group below:         Abudaace = Ab: 1-5 macroinvertebrates = Ab 1:> 6 macroinvertebrates = Ab 2         Ephemeropteran       Eleventran / E	North Control of Contr		Tillage		n oou shoop			
flood       Good Makitat         Very low       Dry         Macroinvertebrate Composition         The macroinvertebrates are divided into the following 5 specific groups:         • Group 1 = Ephemeropteran (3-tails) – note that tails may be damaged during sampling         • Group 3 = Trichopteran         • Group 4 = GOLD (Gastropoda, Oligochaeta and Diptera)         • Group 5 = Asellus         Calculate the total number of taxa and total abundance of each macroinvertebrate group below:         Abudance = Ab: 1-5 macroinvertebrates = Ab 1; >6 macroinvertebrates = Ab 2         Ephemeropteran:       Ecohomic Ab         Mayflies       Pricopteran (2-tails)         Philtrogen Ab       Proomemura Ab         Ab       Ab         Total no. of taxa       Total         Caseless       Polycoentropsis Ab         Polycoentropsis Ab       Sinnellies         Pricopteran:       Total no. of taxa         Caseles       Polycoentropsis Ab         Caseles       Sinnelline Ab         Pricopteran: Ab       Sinnelline Ab         Caseles       Polycoentropsis Ab         Caseles       Polycoentropsis Ab         Caseles       Polycoentropsis Ab         Caseles       Ab         Cased <t< td=""><td>Slightly Turbid</td><td>Low</td><td></td><td></td><td></td><td></td></t<>	Slightly Turbid	Low						
Macroinvertebrate Composition         The macroinvertebrates are divided into the following 5 specific groups:         • Group 1 = Ephemeropteran (3-tails) - note that tails may be damaged during sampling         • Group 2 = Plecopteran (2-tails) - note that tails may be damaged during sampling         • Group 3 = Trichopteran         • Group 4 = GOLD (Gastropoda, Oligochaeta and Diptera)         • Group 5 = Asellus         Calculate the total number of taxa and total abundance of each macroinvertebrate group below:         Abundance - Ab: 1-5 macroinvertebrates - Ab 1; -5 macroinvertebrates - Ab 2         Ephemeropteran, Colymans Ab	Highly Turbid		Good habitat					
Macroinvertebrate Composition         The macroinvertebrates are divided into the following 5 specific groups:            Group 1 = Ephemeropteran (3-tails) – note that tails may be damaged during sampling            Group 2 = Plecopteran (2-tails) – note that tails may be damaged during sampling            Group 3 = Trichopteran            Group 5 = Asellus             Calculate the total number of taxa and total abundance of each macroinvertebrate group below:             Abudance = Ab: 1-5 macroinvertebrates = Ab 1 > 5 macroinvertebrates = Ab 2             Ephemeropteran             Rithrogena Ab             Plecopteran             Ratification Ab             Abi             Caeles Ab             Rayacaphila             Caeles             Caedes		Very low						
The macroinvertebrates are divided into the following 5 specific groups: Group 1 = Ephemeropteran (3-tails) - note that tails may be damaged during sampling Group 2 = Plecopteran (2-tails) - note that tails may be damaged during sampling Group 3 = Trichopteran Group 4 = GOLD (Gastropoda, Oligochaeta and Diptera) Group 5 = Asellus Calculate the total number of taxa and total abundance of each macroinvertebrate group below: Abundance = Ab: 1-5 macroinvertebrates = Ab 1;>6 macroinvertebrates = Ab 2 Ephemeropteran Economica Ab Mayflies Cateria Ab Caenis Ab Caenis Ab Caseless Ab Caseless Caddis Caenis Ab Caenis Ab Chironomidae Ab		Dry						
<ul> <li>Group 1 = Ephemeropteran (3-tails) - note that tails may be damaged during sampling</li> <li>Group 2 = Plecopteran (2-tails) - note that tails may be damaged during sampling</li> <li>Group 3 = Trichopteran</li> <li>Group 5 = Asellus</li> <li>Calculate the total number of taxa and total abundance of each macroinvertebrate group below:</li> <li>Abundance = Ab: 1-5 macroinvertebrates = Ab 1; -5 6 macroinvertebrates = Ab 2</li> <li>Ephemeropteran: <i>Flactonarus</i> Ab</li> <li><i>Plecopteran: Leavertebrates</i> = Ab 1; -5 6 macroinvertebrates = Ab 2</li> <li>Ephemeropteran: <i>Flactonarus</i> Ab</li> <li><i>Reviseptophelia</i> Ab</li> <li><i>Total no. of taxa</i> 2. Total</li> <li>Caseles</li> <li>Caseles</li> <li><i>Caseles</i></li> <li><i>Caseles</i></li> <li><i>Caseles</i></li> <li><i>Caseles</i></li> <li><i>Caseles</i></li> <li><i>Caseles</i></li> <li><i>Caseles</i></li> <li><i>Caseles</i></li> <li><i>Constitute</i> Ab</li> <li><i>Leptostomatidae</i> Ab</li> <li><i>Leptostomatidae</i> Ab</li> <li><i>Leptostomatidae</i> Ab</li> <li><i>Leptostomatidae</i> Ab</li> <li><i>Leptostomatidae</i> Ab</li> <li><i>Total no. of taxa</i> 3. Total</li> <li>Total no. of taxa 3. Total</li> </ul>			Macroinvert	ebrate Composition				
<ul> <li>Group 1 = Ephemeropteran (3-tails) - note that tails may be damaged during sampling</li> <li>Group 2 = Plecopteran (2-tails) - note that tails may be damaged during sampling</li> <li>Group 3 = Trichopteran</li> <li>Group 5 = Asellus</li> <li>Calculate the total number of taxa and total abundance of each macroinvertebrate group below:</li> <li>Abundance = Ab: 1-5 macroinvertebrates = Ab 1; -56 macroinvertebrates = Ab 2</li> <li>Ephemeropteran: <i>Flextonarus</i> Ab</li> <li><i>Plecopteran: Ab</i></li> <li><i>Plecopteran: Ab</i></li> <li><i>Protonemura</i> Ab</li> <li><i>Ab</i></li> <li>Total no. of taxa</li> <li>Cased</li> <li>Cased</li> <li>Group Ab</li> <li><i>Cased</i></li> <li><i>Cased</i></li> <li><i>Ab</i></li> <li><i>Cased</i></li> <li><i>Ab</i></li> <li><i>Ab</i></li> <li><i>Ab</i></li> <li><i>Ab</i></li> <li><i>Ab</i></li> <li><i>Total no. of taxa</i></li> <li><i>Total no</i></li></ul>	The macroinver	tebrates are	divided into the following 5 sp	ecific groups:				
<ul> <li>Group 3 = Trichopteran</li> <li>Group 4 = GOLD (Gastropoda, Oligochaeta and Diptera)</li> <li>Group 5 = Asellus</li> <li>Calculate the total number of taxa and total abundance of each macroinvertebrate group below:</li> <li>Abundance = Ab: 1-5 macroinvertebrates = Ab 1; &gt;6 macroinvertebrates = Ab 2</li> <li>Ephemeropteran, Ecdyomurus Ab</li> <li><i>Ecdyomurus Ab</i></li> <li><i>Fotomemura Ab</i></li> <li><i>Perotomemura Ab</i></li> <li><i>Protomemura Ab</i></li> <li></li></ul>	<ul> <li>Group 1 = J</li> </ul>	Ephemeropte	eran (3-tails) – note that tails n	nay be damaged during san				
<ul> <li>Group 4 = GOLD (Gastropoda, Oligochaeta and Diptera)</li> <li>Group 5 = Asellus</li> <li>Calculate the total number of taxa and total abundance of each macroinvertebrate group below:         Abundance = Ab 1: 5 macroinvertebrates = Ab 2     </li> <li>Ephemeropteran, Ecdyonurus Ab         Flecopteran: Leuctra Ab     </li> <li>Mayflies Ephemerolla Ab         Caenis Ab     </li> <li>Total no. of taxa 2 Total     </li> <li>Trichopteran: Flydropsyche Ab         Polycentropus Ab     </li> <li>Total no. of taxa 4b</li> <li>Caseless Ab</li> <li>Glossosomatidae Ab</li> <li>Glossosomatidae Ab</li> <li>Glossosomatidae Ab</li> <li>Gosta Ab</li> <li>Total no. of taxa 3 Total</li> <li>Total no. of taxa 2 Total</li> </ul>				e damaged during samplin				
Group 5 = Asellus Calculate the total number of taxa and total abundance of each macroinvertebrate group below: Abundance = Ab 1.5 macroinvertebrates = Ab 2 Ephemeropteran: Ecdyonurus Ab     Heptagenia Ab     Caenis Ab     Total no. of taxa     Total     Trichopteran:     Thydropsyche Ab     Caseless     Rhyacophila Ab     Caseless     Rhyacophila Ab     Caseles     Rhyacop				era)				
Abundance = Ab: 1-5 macroinvertebrates = Ab 1; >6 macroinvertebrates = Ab 2         Ephemeropteran:       Ecdyonurus Ab         Mayfiles       Rhithrogena Ab         Mayfiles       Rhithrogena Ab         Mayfiles       Ephemerella Ab         Paraleptophlebia Ab       Stoneflies         Paraleptophlebia Ab       Dinocras Ab         Paraleptophlebia Ab       Ab         Ab       Ab         Total no. of taxa       Total no. of taxa         Caseless       Polycentropus Ab         Rhyaophilida Ab       Snails         Physa Ab       Dicaraota Ab         Limmephilidae Ab       Snails         Cased       Sericostomatidae Ab         Cased       Sericostomatidae Ab         Leptostomatidae Ab       Worms         Cased       Ab         Cased       Sericostomatidae Ab         Leptostomatidae Ab       Worms         Cased       Ab         Cased       Sericostomatidae Ab         Leptostomatidae Ab       Worms         Lambriculus Ab       Tibuificidae Ab         Lambriculus Ab       Ab         Ab       Ab         Total no. of taxa       Total no. of taxa         Ab								
Ephemeropteran:       Ecdyonurus Ab       2       Plecopteran:       Leuctra Ab         Mayflies       Rhithrogena Ab       2       Heptagenia Ab       Heptagenia Ab         Mayflies       Ephemerella Ab       Stoneflies       Frotomenura Ab       Amphinemura Ab         Paraleptophlebia Ab       Ab       Ab       Perla Ab       Heptagenia Ab         Ephemera danica Ab       Ab       Ab       Ab       Perla Ab         Total no. of taxa       Total       Total no. of taxa       Total       Total no. of taxa       Ab         Caseless       Hydrogsyche Ab       Immephilidae Ab       Snails       Floaronomidae Ab       Ploycentropus Ab       Ploycen	Calculate the total number of taxa and total abundance of each macroinvertebrate group below:							
Mayflies       Heptagenia Ab Ephemerella Ab Caenis Ab       Stoneflies       Protonemura Ab Amphinemura Ab         Perla Ab       Perla Ab         Paraleptophlebia Ab       Ab         Ab       Ab         Total no. of taxa       Total         Total no. of taxa       Total         Total no. of taxa       Total         Polycentropus Ab       Lymnaea Ab         Philopotamus Ab       Polycentropus Ab         Philopotamus Ab       Snails         Philopotamus Ab       Immobiliae Ab         Caseles       Philopotamus Ab         Casel       Sericostomatidae Ab         Glossosomatidae Ab       Worms         Leptostomatidae Ab       Worms         Ab       Ab         Total no. of taxa       Total no. of taxa         Ab       Ab         Ab       Ab         Philopotamus Ab       Dipteran         flies       Total Ab         Leptostomatidae Ab       Horizonatidae Ab         Goeridae Ab       Ab         Ab       Ab         Ab       Ab         Ab       Ab         Ab       Ab         Ab       Ab         Cased	Ephemeropteran: Cedyonurus Ab Plecopteran: Leuctra Ab							
Mayflies       Ephemerella Ab       Amphinemura Ab         Caenis Ab       Paraleptophlebia Ab       Perla Ab         Paraleptophlebia Ab       Ab       Ab         Ephemera danica Ab       Ab       Ab         Ab       Ab       Ab         Ab       Ab       Ab         Total no. of taxa       Total       Total no. of taxa       Total         Trichopteran:       Hydropsyche Ab       GOLD       Lymnaea Ab       Total no. of taxa       Ab         Caseless       Philopotamus Ab       Snails       Polamopyrgus Ab       Chironomidae Ab       Ab         Cased       Glossosomatidae Ab       Physa Ab       Direranoti Ab       Dipteran         Gaddis       Leptostomatidae Ab       Worms       Tipula Ab       Ab         Cased       Ab       Ab       Ab       Ab         Ab       Ab       Ab       Ab       Ab         Cased       Goeridae Ab       Ab       Ab       Ab         Cased       Ab       Ab       Ab       Ab         Ab       Ab       Ab       Ab       Ab         Cased       Glossosomatidae Ab       Total Ab       Tipula Ab       Ab         Cased	Rhithrogena Ab Isoperia Ab							
Paraleptophlebia Ab	Mayflies Ephemerella Ab Stoneflies Amphinemura Ab							
Ab	Paraleptophlebia Ab Dinocras Ab							
Total no. of taxa       Ab	<i>Ephemera danica</i> Ab <i>Taeniopterygidae</i> Ab							
Trichopteran:       Hydropsyche Ab        GOLD       Lymnaea Ab       Tubifex (Worm) Ab      Asellus: Ab	Ab							
Caseless       Polycentropus Ab       Polamopyrgus Ab       Chironomidae Ab         caddis       Rhyacophila Ab       Snails       Polamopyrgus Ab       Chironomidae Ab         Philopotamus Ab       Immephilidae Ab       Immephilidae Ab       Immephilidae Ab       Immephilidae Ab         Cased       Sericostomatidae Ab       Immephilidae Ab       Immephilidae Ab       Immephilidae Ab       Immephilidae Ab         Cased       Glossosomatidae Ab       Immercial Ab       Tipula Ab       Immercial Ab       Immercial Ab         Cased       Glossosomatidae Ab       Immercial Ab       Immercial Ab       Immercial Ab       Immercial Ab         Cased       Goeridae Ab       Immercial Ab       Immercial Ab       Immercial Ab       Immercial Ab         Cased       Ab       Immercial Ab       Immercial Ab       Immercial Ab       Immercial Ab         Cased       Glossosomatidae Ab       Immercial Ab       Immercial Ab       Immercial Ab       Immercial Ab         Laptostomatidae Ab       Immercial Ab       Immercial Ab       Immercial Ab       Immercial Ab       Immercial Ab         Ab       Immercial Ab       Immercial Ab       Immercial Ab       Immercial Ab       Immercial Ab       Immercial Ab         Total no. of taxa       Immercial Ab <td colspan="8"></td>								
caddis       Anyluophila       Ab        Philopotamus       Ab        Simulium Ab        Dipteran         Cased       Cased       Casco dissocomatidae       Ab        Morris       Ab        Dipteran       files         Cased       Glossosomatidae       Ab        Morris       Ab        Ab        Dipteran       files         Cased       Glossosomatidae       Ab        Ab        Ceratopogonidae       Ab	– Po		Potamopyrgus	U \	•	)		
Leptostomatidade Ab    Ab    Ab    Ab      Ab    Ab    Ab    Ab      Ab    Ab    Ab      Ab    Ab    Ab       Total no. of taxa    Ab    Ab       Baetis: @resent/AbsentAbundance    Abundance		Caseless Rhyacophila Ab Snails Planorbis Ab Chironomus Ab						
Leptostomatidade Ab    Ab    Ab    Ab      Ab    Ab    Ab    Ab      Ab    Ab    Ab      Ab    Ab    Ab       Total no. of taxa    Ab    Ab       Baetis: @resent/AbsentAbundance    Abundance	لنة Jin	<i>nnephilidae</i> At	Physa Ab	Dicranota Ab	······	1 1		
Leptostomatidade Ab    Ab    Ab    Ab      Ab    Ab    Ab    Ab      Ab    Ab    Ab      Ab    Ab    Ab       Total no. of taxa    Ab    Ab       Baetis: @resent/AbsentAbundance    Abundance	Cased Sericostomatidae Ab Lumbriculus Ab Tipula Ab Tipula Ab Interview Ab Lumbriculus Ab Tipula Ab Interview Ab							
Baetis: Present Absent Abundance	Lep		.o [1ubijiciade A	b <u>1</u>	AD			
Baetis: Present Absent Abundance	Ab Ab Ab Ab							
	Total no. of taxa Total Total no. of taxa Total							
Protected species:								

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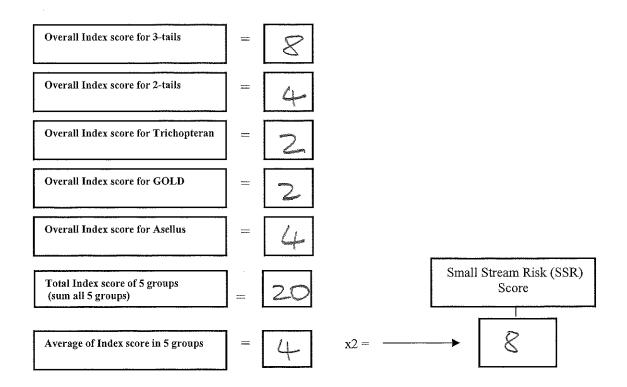
Calculate the Index score by circling the appropriate box representing the total number of taxa and the total abundance calculated from <u>each macroinvertebrate group</u> above and enter into the boxes provided below:







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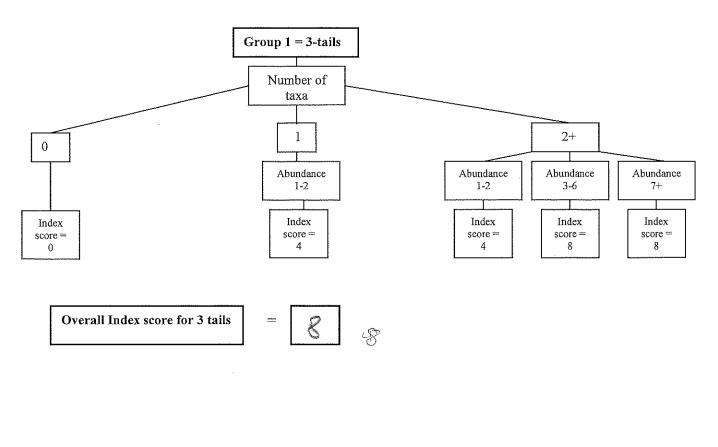


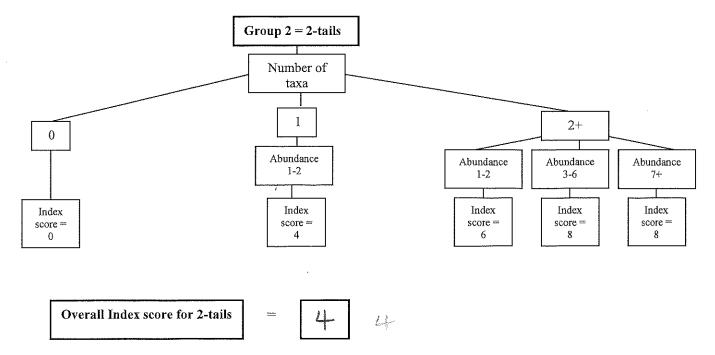
Assess the stream by comparing the final SSR Score calculated with the following categories:

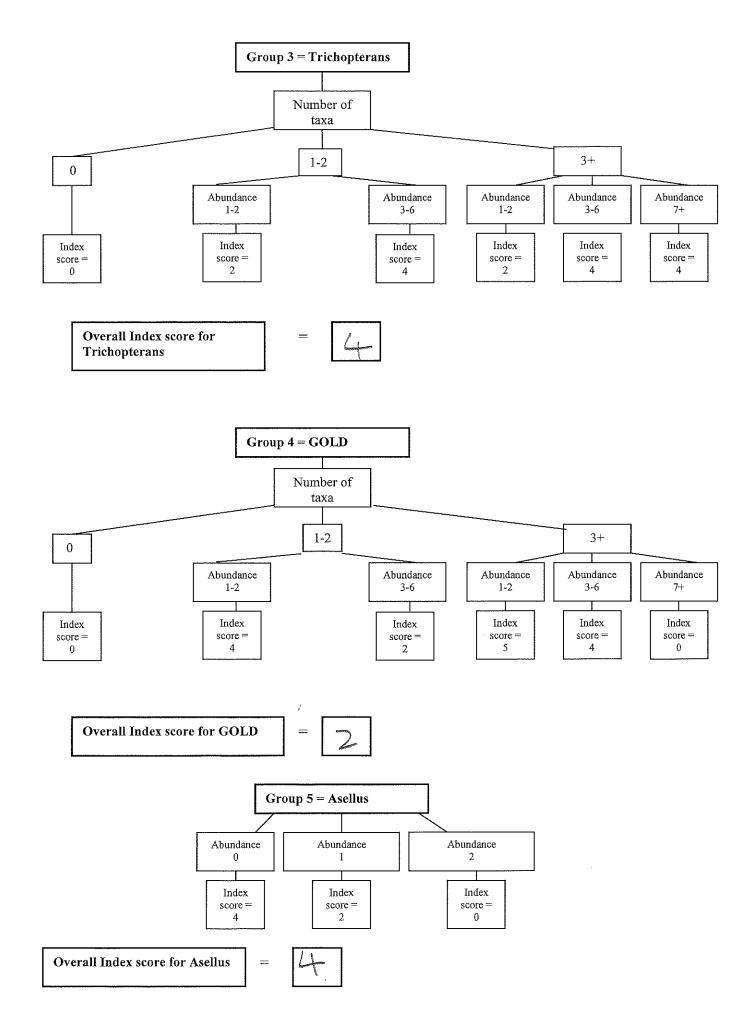
River code:	FANE	Date: 09/10/18	Time: 14:10	Grid: 2-93260, 307046			
Stream accessibility:		( 300°	sheen wurp	Stream Order:			
Inaccessible Modifications: YACanalised-widened-bank erosion-arteria				e Stream flow:			
DO%		Dominant Types: Bedrock		Riffle			
DO mg/l		Boulder (>128mm) Cobble (32-128mm)		Riffle/Glide Slow flow			
Temp Conductivity		Gravel (8-32mm) Fine Gravel (2-8mm)					
pH		Sand (0.25-2mm)					
Bank width		Silt (<0.25mm)					
Wet Width Avg Depth		Substratum condition:		Shading:			
Avg Depta		Calcareous - Compacted Loose		$H-M \neq L \geq N$			
Velocity:	Colour:	Substratum:	<b>.</b> .	and the second se			
Torrential	(None)	Stoney bottom - Muddy bottom - Mu	d over stones	Cattle access Y: u/s – d/s or N			
Fast	Slight	Degree of siltation: Clean Slight – Moderate – Heavy					
(Moderate)	Moderate	Depth of mud: None: 1.1cm: 1-5cm:	5-10cm: 10cm+	Photo: Yes or No			
Slow	High	Litter $(NO) - P - M - A$					
Very slow				~			
		Filamentous Algae: (A – M – P – No	0)	Sewage fungus: (A – M – P (NO)			
Clarity:	Discharge	Main land use u/s	Sample retained:	Sampled in Minutes:			
(Very clear)	Flood	Pasture Bog	Y-(N)	Pond net x			
Clear	(Normal)	Forestry Urban		Stone wash x Weed sweep x			
Slightly Turbid	Low	Tillage Other					
		General Comments:					
Highly Turbid	Recent flood	Good he	abitat				
	Very low						
	Dry						
		Macroinvertet	brate Composition				
The macroinver	tebrates are	divided into the following 5 spec	cific groups:				
<ul> <li>Group 1 = H</li> </ul>	Ephemeropte	eran (3-tails) – note that tails may	y be damaged during sam				
<ul> <li>Group 2 = Plecopteran (2-tails) – note that tails may be damaged during sampling</li> </ul>							
<ul> <li>Group 3 = Trichopteran</li> <li>Group 4 = GOLD (Gastropoda, Oligochaeta and Diptera)</li> </ul>							
• Group $5 = $ Asellus							
		f taxa and total abundance of each tebrates = $Ab 1: >6$ macroinvertebrat		ip below:			
Abundance = Ab: 1-5 macroinvertebrates = Ab 1; >6 macroinvertebrates = Ab 2         Ephemeropteran:       Ecdyonurus Ab         Plecopteran:       Leuctra Ab							
Rhithrogena Ab    /     Isoperla Ab       Heptagenia Ab      Protonemura Ab							
Mayflies Ephemerella Ab Stoneflies Amphinemura Ab Caenis Ab Perla Ab							
Paraleptophlebia Ab Dinocras Ab Ephemera danica Ab Taeniopterygidae Ab							
Ab							
Ab     Ab       Total no. of taxa							
Trichopteran: Hydropsyche Ab GOLD (Lymnaea Ab Tubifex (Worm) Ab Asellus: Ab							
Caseless Polycentropus Ab Snails Potamopyrgus Ab Chironomidae Ab Potamopyrgus Ab Chironomus Ab							
caddis Philopotamus Ab Ancylus Ab Simulium Ab Dipteran Dipteran							
Cased Sericostomatidae Ab Lumbriculus Ab Tipula Ab Illes							
Cased     Glossosomatidae Ab							
Goeridae Ab         Ab         Ab           Ab         Ab         Ab							
Ab     Total no. of taxa   Total     Total no. of taxa   Total   Total no. of taxa							
Baetis: Present/Absent <u>Present</u> Abundance							
Protected species:							

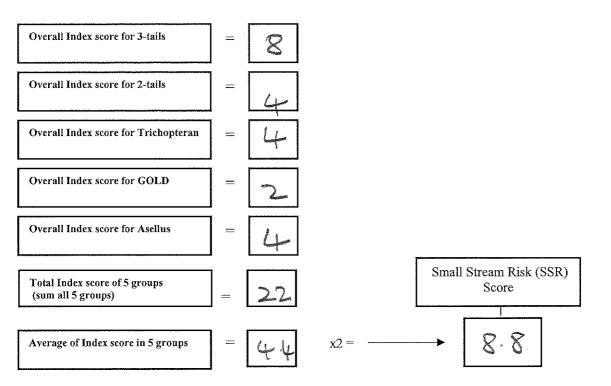
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Calculate the Index score by circling the appropriate box representing the total number of taxa and the total abundance calculated from <u>each macroinvertebrate group</u> above and enter into the boxes provided below:









Assess the stream by comparing the final SSR Score calculated with the following categories:

Signed:  $fl_{n}$   $fl_{n}$  fl