

Appendix C9B.03

Aquatic Ecology Q Value Data

Appendix 9B.03 Aquatic Ecology Q-value Data

Section 1 Macroinvertebrate Data

Code		W1-02	W1-05	W1-06	W1-07	W1-08	W1-11
River		Burn Daurnett Trib	Cappry	River Finn	Dromboe Lower	Backlees	Magheracorrin
X (ITM)		610290	611267	612484	613089	613890	615960
Y (ITM)		892809	893506	895003	895391	896000	899582
Sample Date		16-Sep-24	10-Jun-20	15-Sep-24	16-Sep-24	16-Sep-24	16-Sep-24
Bank width (m)		1.50	1.50	32.00	1.00	2.80	1.80
Wet Width (m)		1.00	0.90	30.00	1.00	2.80	1.50
Depth (m)		0.16	0.03	0.4	0.09	0.15	0.05
Habitat		RN-G	S-P	P-R-G	R-RN	S-P-RN	R-RN
Substrate (dominant first)		C-G-SL	C-G-SL	B-C-G-SD	C-G-SD	B-C-G-SD	G-SD
Clarity		Clear	Turbid	Clear	Clear	Sl. turbid	Clear
Note		Peat, iron bacteria	Sewage smell, sewage fungus	Salmonids observed	Piped upstream	Rapids	Trout observed 2024
%Filamentous Green Algae		0	<i>Vaucheria</i> (+)	Fine diatom	<i>Vaucheria</i> (+)	0	0
MAY FLIES (Ephemeroptera)							
<i>Heptagenia sp.</i>	A						3
<i>Rhithrogena semicolorata</i>	A			21			7
<i>Ecdyonurus sp.</i>	A			10			
<i>Seratella ignita</i>	C						
Baetidae	C	25	1	55	80	100+	1
STONE FLIES (Plecoptera)							
<i>Protonemoura meyeri</i>	A			3			
<i>Brachyptera risi</i>	A		1				3
<i>Leuctra sp.</i>	B			2	6	3	
CADDIS FLIES (Trichoptera)							
<i>Sericostoma personatum</i>	B			2	1		
<i>Odontocerum albicorne</i>	B			2			
Rhyacophilidae	C			4	5	1	
Glossosomatidae	~	5					
Philopotomidae					3		
Polycentropidae	C			3	2	2	
Limnephilidae	C					1	
TRUE FLIES (Diptera)							
<i>Dicranota spp.</i>	~		2		7		
Ceratopogonidae	~			2			
Chironomidae	C	15	100+			5	
Simuliidae	C	4	25	5	100+		100+
Tipulidae	~					1	
BEETLES (Coleoptera)							
Elmidae	C					4	
Hydraenidae	C			8	3		

Code		W1-02	W1-05	W1-06	W1-07	W1-08	W1-11
Dytiscidae	C		3				
F/W SHRIMPS (Crustacea)							
<i>Gammarus duebeni</i>	C				21	100+	5
SNAILS (Mollusca)							
<i>Potamopyrgus jenkensii</i>	C	5			5		
<i>Lymnaea peregra</i>	D	9					
WORMS (Annelida)							
Oligochaetae	E		600+	2	4	2	3
EPA Q Value		Q3	Q2	Q4	Q3	Q3	Q4
Indicative WFD Status		Poor	Bad	Good	Poor	Poor	Good

Code		W1-13	W1-14	W1-16	W1-18	W1-20	W1-22
River		Magheracran	Cloghroe	Tircallan	Mullagharry	Mullagharry	Burn Daurnett
X (ITM)		616103	615989	616185	616487	616583	612493
Y (ITM)		899750	900020	896990	896047	895207	893665
Sample Date		16_sept-24	16-Sep-24	10-Jun-20	10-Jun-20	16-Sept-25	15-Sep-24
Bank width (m)		1.80	4.20	2.80	3.00	3.50	5.00
Wet Width (m)		1.60	3.80	2.80	2.50	3.20	5.00
Depth (m)		0.05	0.2	0.05	0.17	0.13	0.18
Habitat		R-RN	P-R-G	R-RN	P-R-G	P-R-G	P-R-G
Substrate (dominant first)		G-SD	C-G-SD	C-G-SD	B-C-G	C-G-SD-SL	B-C-G-SD-SL
Clarity		Clear	Colour	Clear	Sl. Turbid	Sl. Turbid	Sl. turbid
Note		Trout obs. 2024	Natural	Trout obs. 2024	Trout obs. 2024	Good habitat	Sewage smell 2020
%Filamentous Green Algae		~	<i>Vaucheria</i> 10%	0	<i>Vaucheria</i> (+)	<i>Vaucheria</i> (+)	(+)
MAY FLIES (Ephemeroptera)							
Heptageniidae:	A						
<i>Heptagenia sp.</i>		2		3	50+	8	
<i>Rhithrogena semicolorata</i>						17	2
<i>Ecdyonurus sp.</i>		1				2	
<i>Seratella ignita</i>	C			10	25		
Baetidae	C	25	100+	50	75	100+	50
STONE FLIES (Plecoptera)							
<i>Siphonoperla torrentium</i>	A				4		
<i>Brachyptera risi</i>	A		2				
<i>Leuctra sp.</i>	B	3		6	16	7	3
CADDIS FLIES (Trichoptera)							
<i>Sericostoma personatum</i>	B				5		
Rhyacophilidae	C	3		2		2	
Glossosomatidae	~	10					
Polycentropidae	C	3		2			
Limnephilidae	C	4					
TRUE FLIES (Diptera)							

Code		W1-13	W1-14	W1-16	W1-18	W1-20	W1-22
<i>Dicranota</i> spp.	~	3		2			6
Ceratopogonidae	~	3		3			
Chironomidae	C	20	75	20	100+	50	10
Simuliidae	C	100+	100+			12	35
Tipulidae	~			2			
BEETLES (Coleoptera)							
Elmidae	C			12		3	
Hydraenidae	C				2	3	
Dytiscidae	C	14		3			
FW SHRIMPS (Crustacea)							
<i>Gammarus duebeni</i>	C	15		75	40	25	
SNAILS (Mollusca)							
<i>Ancylus fluviatilis</i>	C		5				3
<i>Potamopyrgus jenkinsii</i>	C		50				
WORMS (Annelida)							
Oligochaetae	E	6	18	7	5	12	15
EPA Q Value		Q3-4	Q3	Q3-4	Q4	Q4	Q3-4
Indicative WFD Status		Mod	Poor	Moderate	Good	Good	Moderate

Section 2 Macroinvertebrate Data

Code		W2-05		W2-11	
River		Swilly Trib		Farsetmore	
X (ITM)		619910		621239	
Y (ITM)		910942		911199	
Sample Date		11-Jun-20	16-Sep-24	11-Jun-20	17-Sep-24
Bank width (m)					2.00
Wet Width (m)		0.30	0.4	0.60	1
Depth (m)		0.02	0.03	0.05	0.08
Habitat		R-RN	R-RN	S-P/R-RN	S-P/R-RN
Substrate (dominant first)		G-SD-SL	G-SL	C-G-SD-SL	C-G-SD-SL
Clarity		Clear	Clear	Clear	Clear
Note		Trickle flow	Low flow	Low flow	Low flow
%Filamentous Green Algae		0	0	0	0
MAY FLIES (Ephemeroptera)	EPA Quality				
<i>Ecdyonurus</i>	A				
<i>Heptagenia</i> sp.	A				
<i>Rithrogena semicolorata</i>	A			6	
<i>Seratella ignita</i>	C				
Baetidae	C	50	100+	50	55
STONE FLIES (Plecoptera)					
<i>Siphonoperla torrentium</i>	A			2	3
<i>Leuctra</i> sp.	B				10
CADDIS FLIES (Trichoptera)					

Code		W2-05		W2-11	
Polycentropidae	C			3	7
Philopotomidae	C				2
Rhyacophilidae	C				
Limnephilidae	C			3	
TRUE FLIES (Diptera)					
<i>Dicranota</i> spp.	~	3		3	1
Ceratopogonidae	C		15		
Chironomidae	C	25	75	25	
Simuliidae	C	15	10	65	100+
BEETLES (Coleoptera)					
Dytiscidae	C	3			
Elmidae	C				2
Hydrophilidae	C	1			
FW SHRIMPS (Crustacea)					
<i>Gammarus duebeni</i>	C	30	3	16	15
WORMS (Annelida)					
Oligochaetae	E	15	12		
LEECHES (Hirudinea)					
<i>Trocheta</i> sp.	D		4		
EPA Q Value		Q3	Q3	Q3-4	Q3-4
Indicative WFD Status		Poor	Poor	Moderate	Moderate

Code		W2-24	W2-27	W2-28	W2-08
River		Lurgybrack	Magheraboy 39	Dooballagh Burn	Dromore Lower
X (ITM)		619265	622098	691374	620380
Y (ITM)		910335	909965	773420	910927
Sample Date		17-Sep-24	17-Sep-24	15-Sep-24	17-Sep-24
Bank width (m)		2.60	3.00	3.20	1.50
Wet Width (m)		2.00	1.80	2.5	1
Depth (m)		0.15	0.08	0.1	0.05
Habitat		S-P/R-RN	R-RN	P-R-RN	S-P
Substrate (dominant first)		G-C-SD	G-SD-SL	G-C-SD	C-G-B-SL
Clarity		Clear	Clear	Clear	Sl. turbid
Note		Wooded Gully	Stock access	Trout (8cm)	Sewage smell
%Filamentous Green Algae		0	0	0	0
MAY FLIES (Ephemeroptera)	EPA Quality				
<i>Ecdyonurus</i>	A	2		5	
<i>Heptagenia</i> sp.	A		3		
<i>Rithrogena semicolorata</i>	A	21	5	18	
<i>Seratella ignita</i>	C		2		
Baetidae	C	200+	100+	60	5
STONE FLIES (Plecoptera)					
<i>Siphonoperla torrentium</i>	A				

Code		W2-24	W2-27	W2-28	W2-08
<i>Leuctra sp.</i>	B	3	12	7	
CADDIS FLIES (Trichoptera)					
Polycentropidae	C		3		
Philopotomidae	C				
Rhyacophilidae	C	2	1		
Limnephilidae	C				3
TRUE FLIES (Diptera)					
<i>Dicranota spp.</i>	~	5			
Ceratopogonidae	C				2
Chironomidae	C				
Simuliidae	C	100+	200+	5	
BEETLES (Coleoptera)					
Dytiscidae	C			2	
Elmidae	C		3	3	
Hydrophilidae	C				
F/W SHRIMPS (Crustacea)					
<i>Gammarus duebeni</i>	C	25	23		100+
WORMS (Annelida)					
Oligochaetae	E		10		15
LEECHES (Hirudinea)					
<i>Trocheta sp.</i>	D				
EPA Q Value		Q3-4	Q3-4	Q4	Q3
Indicative WFD Status		Moderate	Moderate	Good	Poor

Section 3 Macroinvertebrate Data

Code		W3-02	W3-03	W3-04	W3-05	W3-08	W3-11
River		Lesliehill Stream Tributary	Lesliehill Stream Tributary	Lesliehill Stream Tributary	Lesliehill Stream Tributary	Lesliehill Stream Tributary	Swilly Burn Tributary
X (ITM)		624077	624483	625288	625372	626626	628072
Y (ITM)		910524	910296	910060	909799	908233	905774
Sample Date		20-05-20	23-09-25	10-06-20	23-09-25	23-09-25	23-09-25
Bank width (m)		4-5	4-5	3-4	1.5	1.5	2-3
Wet Width (m)		4	4	2-3	1.2	1.2	1.5-2
Depth (cm)		15-40	15-40	10-50	5-15	5-15	5-15
Habitat		R-G	R-G	R-G-P	G-P-R	G-R	G-R
Substrate (dominant first)		G-C-SL	C-SL	B-C-G-SD	G-S-C-ST	G-C-SL	C-SL
Clarity		Clear	Clear	Slightly turbid	Clear	Clear	Slightly turbid
Note					Minor flow	Iron floc.	
%Filamentous Green Algae		10	20	15			30
MAY FLIES (Ephemeroptera)	EPA Quality						
<i>Heptagenia sp.</i>	A	18	18	3			

Code		W3-02	W3-03	W3-04	W3-05	W3-08	W3-11
<i>Rhithrogena semicolorata</i>	A					20	
Baetidae	C	100+	100+	25	27	50+	200+
CADDIS FLIES (Trichoptera)							
Rhyacophilidae	C			2	7	4	
TRUE FLIES (Diptera)							
Chironomidae	C	5	20		10		50+
Simuliidae	C			100+			37
BEETLES (Coleoptera)							
Elmidae	C	6	4	5	2	7	
F/W SHRIMPS (Crustacea)							
<i>Gammarus duebeni</i>	C	100+	100+	50+	50+	11	50+
SNAILS (Mollusca)							
<i>Potamopyrgus jenkinsii</i>	C	5	42				
WORMS (Annelida)							
Oligochaetae	E				6		
EPA Q Value		3-4	3-4	3-4	3-4	4	3-4
Indicative WFD Status		Mod	Mod	Mod	Mod	Good	Mod

Code		W3-12	W3-13	W3-14	W3-17	W3-18
River		Swilly Burn Tributary	Swilly Burn Tributary	Swilly Burn	River Deelee	River Deelee Tributary
X (ITM)		628891	629265	628409	630393	631419
Y (ITM)		687904	903386	901768	899784	899467
Sample Date		19-05-20	22-09-25	22-09-25	22-09-25	19-05-25
Bank width (m)		3.5	4	10	15	2
Wet Width (m)		3	3	7-8	12	1-1.5
Depth (cm)		10-20	5-15	>50	20-50	5-20
Habitat		R-G-P-S	G-R-S	G	G	R-P-S
Substrate (dominant first)		C-B-SL	G-C-SL-B	C-SL	G-C-B	SL-SD
Clarity		Clear	Clear	Turbid	Clear	Clear
Note				Inaccessible	Inaccessible	
%Filamentous Green Algae		15	20	20		
MAY FLIES (Ephemeroptera)	EPA Quality					
Baetidae	C	200+	200+			25
CADDIS FLIES (Trichoptera)						
Rhyacophilidae	C		12			3
Polycentropidae	C					17
TRUE FLIES (Diptera)						
Chironomidae	C	50+	20			
Simuliidae	C	100+	100+			6
BEETLES (Coleoptera)						
Elmidae	C		8			4

Code		W3-12	W3-13	W3-14	W3-17	W3-18
F/W SHRIMPS (Crustacea)						
<i>Gammarus duebeni</i>	C		24			33
WORMS (Annelida)						
Oligochaetae	E					2
Q Value		3	3-4	2-3 (EPA 2022)	3-4 (EPA 2022)	3
Indicative WFD Status		Poor	Mod	Poor	Mod	Poor

Key:

Habitat Codes	
R	Riffle
RN	Run
G	Glide
P	Pool
S	Step

Substrate Codes		
B	Boulder	>256mm
C	Cobble	>64-256mm
G	Gravel	>2-64mm
SD	Sand	<2mm
SL	Silt	<0.063mm