



APPENDIX 7-4

**MACROINVERTEBRATE LISTS
AND Q VALUES**

Appendix 7-4 - Macroinvertebrate Lists and Q-values

Table A6.3 Macroinvertebrate List – Roughty Sub-catchment (Roughty River)

	EPA Quality	Roughty River (main channel)					
		K19 US	K19 DS	K23 US	K23 DS	K27 US	K27 DS
Sample Date		04-May-22	04-May-22	04-May-22	04-May-22	04-May-22	04-May-22
Easting (ITM)		507276	507156	506802	506679	506029	505770
Northing (ITM)		574468	574720	575107	575282	575696	575764
Width (m)		10.0-12.0	8.0-12.0	9.0-12.0	8.0-10.0	12	10
Depth (m) (riffle)		0.1-0.15	0.1	0.15	0.15	0.15-0.2	0.15-0.3
MAY FLIES (Ephemeroptera)							
<i>Rhithrogena semicolorata</i>	A	N/D	N	F/C	N	C/N	N/D
<i>Ecdyonurus sp.</i>	A	+		+/F		F	+
<i>Seratella ignita</i>	C		F				
<i>Baetis</i>	C	C/N	C	+/F	N	C/N	C/N
<i>Caenis</i>	C				F	+/F	
STONE FLIES (Plecoptera)							
<i>Perla bipunctata</i>	A	+	+/F	F	+	+	+
<i>Siphonoperla sp.</i>	A	C/N	N	F/C	C/N	F/C	F/C
<i>Isoperla sp.</i>	A	+/F	+		F		
<i>Amphinemoura sp.</i>	A				+		F
<i>Leuctra spp.</i>	B			F/C		F	
CADDIS FLIES (Trichoptera)							
Goeridae	B			+			
<i>Sericostoma personatum</i>	B						+
<i>Lepidostoma</i>	B						+
Rhyacophilidae	C	+	F/C	+	+	F/C	
Hydropsychidae	C	+		C		F/C	+/F
Glossosomatidae	C						
<i>Polycentropidae</i>	C			F			+
<i>Philopotamidae</i>	C		+				
Limnephilidae	C			+			
TRUE FLIES (Diptera)							
<i>Dicranota sp.</i>	C					+	
Chironomidae	C	C	C/N	C		F	F
Simuliidae	C	C	F		F/C	F	C
Tipulidae	C				+		
BEETLES (Coleoptera)							
Elmidae	C			F	F	F	F/C
F/W SHRIMPS (Crustacea)							
<i>Gammarus sp.</i>	C			F			
SNAILS (Mollusca)							
<i>Ancylus fluviatilis</i>	C						+
Hirudinae (Leeches)							
Erpobdellidae	D		+			+	
WORMS (Annelida)							
Tubificidae	E	+/F			+		
Q-Value		Q4-5	Q4-5	Q4-5	Q4-5	Q4-5	Q4-5

+ = Present (one or two individuals), F = Few (5%), C = Common (6-20%), N = Numerous (21-50%), D = Dominant (51-75%) E = Excessive (>75%)

Table A6.2 Macroinvertebrate List – Roughty Sub-catchment (Glanlee)

	EPA Quality	Glanlee Tributary						
		K9	K13	K16	K17A	K18B	K20A	K19
Sample Date		05-May-22	05-May-22	05-May-22	05-May-22	05-May-22	05-May-22	04-May-22
Easting (ITM)		509976	509061	508928	508870	508078	509786	507240
Northing (ITM)		576170	576218	575840	575242	575311	576634	574589
Width (m)		0.8-1.0	1.5-3.0	2.5-3.8	2.0-3.0	0.9-1.5	1.0-2.4	4.5-5.5
Depth (m) (riffle)		0.03	0.05-0.15	0.25	0.03-0.1	<0.05	0.07	0.1
MAY FLIES (Ephemeroptera)								
<i>Rhithrogena semicolorata</i>	A		C/N	N	C/N	F	F	N/D
<i>Ecdyonurus sp.</i>	A	+	F	C	+			
<i>Heptagenia sp.</i>	A	+						
<i>Siphonurus lacustris</i>	A	+				+		
<i>Baetis</i>	C	C	N/D	C/N	N/D	C	N/D	C
STONE FLIES (Plecoptera)								
<i>Perla bipunctata</i>	A							F
<i>Siphonoperla sp.</i>	A	+		F	F	C	F/C	F/C
<i>Isoperla sp.</i>	A		F	F/C	F		F/C	
<i>Amphinemoura sp.</i>	A						+/F	
<i>Leuctra spp.</i>	B		F	+	+		+/F	F/C
CADDIS FLIES (Trichoptera)								
Goeridae	B			+	+			
<i>Sericostoma personatum</i>	B			+				+
Rhyacophilidae	C		+				+	
Hydropsychidae	C		F	F	+			F
Glossosomatidae	C	N				C		
<i>Polycentropidae</i>	C	F		+/F	+	+	+	
<i>Philopotamidae</i>	C		F/C			F		
Limnephilidae:	C	+/F				F	+/F	+
TRUE FLIES (Diptera)								
Chironomidae	C		F				F	C
Simuliidae	C		F	F/C			C	F
BEETLES (Coleoptera)								
Elmidae	C	F	F/C	F	F/C	C	C	F
F/W SHRIMPS (Crustacea)								
<i>Gammarus sp.</i>	C	F	+	F	C	C	F/C	
SNAILS (Mollusca)								
<i>Ancylus fluviatilis</i>	C				F			
WORMS (Annelida)								
Lumbriculus	E					+		
Q-Value		Q4	Q4	Q4 (4-5)	Q4	Q4	Q4 (4-5)	Q4-5

+ = Present (one or two individuals), F = Few (5%), C = Common (6-20%), N = Numerous (21-50%), D = Dominant (51-75%) E = Excessive (>75%)

Table A6.3 Macroinvertebrate List – Roughty Sub-catchment (Thurehouma & Lettercannon)

	EPA Quality	Thurehouma Tributary			Lettercannon Trib.	
		K4	K5	K27	K23	K25
Sample Date		05-May-22	05-May-22	04-May-22	04-May-22	05-May-22
Easting (ITM)		506766	506526	505850	509750	507494
Northing (ITM)		577119	577031	575788	575270	575666
Width (m)		0.9-1.5	2.5-3.0	3.0	1.0-1.5	0.9-1.2
Depth (m) (riffle or run)		0.05-0.1	0.05-0.1	0.1	0.05	0.03-0.1
MAY FLIES (Ephemeroptera)						
<i>Rhithrogena semicolorata</i>	A	F/C		F	F/C	C
<i>Ecdyonurus sp.</i>	A	F/C	C/N	C	+F	
<i>Heptagenia sp.</i>	A		F			
<i>Baetis</i>	C	C	F/C	F	+F	C/N
STONE FLIES (Plecoptera)						
<i>Perla bipunctata</i>	A			+	F	
<i>Siphonoperla sp.</i>	A			F	F/C	F/C
<i>Isoperla sp.</i>	A	C	F/C	+F		+
Nemouridae	A			N		+
<i>Leuctra spp.</i>	B	+	+	+	F/C	+
CADDIS FLIES (Trichoptera)						
Goeridae	B				+	+
<i>Sericostoma personatum</i>	B			+		
<i>Lepidostoma</i>	B			+		
Rhyacophilidae	C	F/C	+		+	
Hydropsychidae	C	+	+	F/C	C	+
<i>Polycentropidae</i>	C			F	F	+
<i>Philopotidae</i>	C					+
Limnephilidae:	C				+	
TRUE FLIES (Diptera)						
<i>Dicranota sp.</i>	C					
Chironomidae	C	F/C	+		C	
Simuliidae	C					F
BEETLES (Coleoptera)						
Elmidae	C	C/N	F/C		F	F
WATER MITES (Hydracarina)						
<i>F/W SHRIMPS (Crustacea)</i>	C		F/C			
<i>Gammarus sp.</i>	C	F/C	C	F/C	F	F/C
SNAILS (Mollusca)						
<i>Ancylus fluviatilis</i>	C					+
Q-Value		Q4-5	Q4-5	Q4-5	Q4-5	Q4 (4-5)

++ = Present (one or two individuals), F = Few (5%), C = Common (6-20%), N = Numerous (21-50%), D = Dominant (51-75%) E = Excessive (>75%)

Table A6.4 Macroinvertebrate List - Fleck & Sullane Sites

	EPA Quality	Fleck Sub-catchment						Sullane
		F2	F4	F5	F6	F7	F8	S1
Sample Date		03/10/2022	23/09/2022			03/10/2022		03/10/2022
Easting (ITM)		509534	510632	510560	511012	509714	510278	513553
Northing (ITM)		581783	582024	581867	581963	581792	581020	576865
Width (m)		16.0-18.0	1.6	1.5	0.5	6.0	1.8	2.2-3.0
Depth (m) (riffle or run)		0.15-0.2	0.05	0.15	0.05	0.18	0.05	0.22
MAY FLIES (Ephemeroptera)								
<i>Rhithrogena semicolorata</i>	A		F/C	F/C		F	C	C/N
<i>Ecdyonurus sp.</i>	A	C/N				N	C	C/N
<i>Heptagenia sp.</i>	A	C		F		C	C	
<i>Baetis</i>	C	N	N	C	N	N/D	C/N	N
STONE FLIES (Plecoptera)								
<i>Perla bipunctata</i>	A	C						
<i>Siphonoperla sp.</i>	A		(+)			F	F	(+)
<i>Protonemoura spp.</i>	A	F				C		
<i>Leuctra spp.</i>	B	F/C	F	F/C	F		F	F
CADDIS FLIES (Trichoptera)								
Rhyacophilidae	C				F	F	(+)	F
Hydropsychidae	C	(+)						
Polycentropidae	C	F	(+)	C	C		F	
Philopotamidae	C	F	C/N		F	F/C	F	F/C
Psychomyiidae	C	F			F	F		
TRUE FLIES (Diptera)								
<i>Dicranota sp.</i>	C		F		F			
Chironomidae	C	F	F/C			F	F	
Simuliidae	C	F	C/N	F	F	C	F/C	
BEETLES (Coleoptera)								
Elmidae	C				F			
Hydraenidae	C	(+)						(+)
F/W SHRIMPS (Crustacea)								
<i>Gammarus sp.</i>	C		C/N	F	C	F	C	(+)
SNAILS (Mollusca)								
<i>Ancylus fluviatilis</i>	C	F/C	C/N					
WORMS (Annelida)								
Tubificidae	E	(+)						
Q-Value		Q4-5	Q4	Q4	Q3-4	Q4-5	Q4-5	Q4-5

+ = Present (one or two individuals), F = Few (5%), C = Common (6-20%), N = Numerous (21-50%), D = Dominant (51-75%) E = Excessive (>75%)