

Appendix A. Populations of Benthic Macroinvertebrates at Stations along Selai River, Endau-Rompin - Trip 2, 11/10/2002 to 14/10/2002 (Yap, 2003).

Macroinvertebrates		Stations	1	2	3	4	5	6	7	8	9	10	11	12	13
EPHEMEROPTERA (Mayflies)															
Baetidae	<i>Baetis</i>		6	1	1	1	3	3			2	1			
	<i>Centroptilum</i>		22												
	<i>Cloeon</i>														
	<i>Pseudocloeon</i>		2												
Caenidae	<i>Caenis</i>				1			2	3						
Ephemerellidae	<i>Serratella</i>														
Heptageniidae	<i>Cinygma</i>				1			2							
	<i>Cinygmula</i>														
	<i>Heptagenia</i>		3	7		5	6	8	3	4	17				
	<i>Nixe</i>									1					
	<i>Rhithrogena</i>		4												
Isonychiidae	<i>Isonychia</i>							1		4					
Leptophlebiidae	<i>Choroterpes</i>														
	<i>Habrophlebiodes</i>			1						1	1	1			
	<i>Leptophlebia</i>										1	1			
Potamanthidae	<i>Potamanthus</i>		1												
	<i>Rhoenanthus</i>						1			1					
Siphonuridae	<i>Siphonurus</i>				1	5					5				
PLECOPTERA (Stoneflies)															
Chloroperiidae	<i>Sweitsa</i>									1	1				
Nemouridae	<i>Mesonemura and</i>														
	<i>Indonemura</i>														
Peltoperlidae	<i>Cryptoperla</i>														
	<i>Peltoperlopsis</i>		1		1										
Perlidae	<i>Etrocorema</i>		5	1	1					4					
	<i>Neoperla</i>			3	2		1								
	<i>Phanoperla</i>		1	1	1			1		10					
	<i>Tetropina</i>			2											
Perlodidae	<i>Arcynopteryx</i>			4	4				1	2	1				
	<i>Isoperla</i>				1		1		1						
	<i>Pictetiella</i>		2												
	<i>Skwala</i>														
	<i>Stavsolus</i>							1		4					
Pteronarcyidae	<i>Pteronarcys</i>							1							
Styloperlidae	<i>Cerconychia</i>														
Taeniopterygidae	<i>Strophopteryx</i>			1	1					1	1				
	<i>Taeniopteryx</i>		7				2	1							
	<i>Taenionema & Mesyatsia</i>		1					8							
TRICHOPTERA (Caddisflies)															
Ecnomidae	<i>Ecnomus</i>										1			1	
Glossosomatidae	<i>Agapetus</i>		2												
Helicopsychidae	<i>Helicopsyche (case)</i>														
Hydropsychidae	<i>Aethalopsyche</i>														
	<i>Ceratopsyche</i>		2							4					
	<i>Cheumatopsyche</i>														

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Macroinvertebrates		Stations	1	2	3	4	5	6	7	8	9	10	11	12	13
Hydroptilidae	<i>Diplectrona</i>		2							7	1				
	<i>Hydropsyche</i>			3						2					
	<i>Amphipsyche</i>														
	<i>Potamyia</i>									14					
	<i>Orthotrichia</i> (+cases)		34												
	<i>Oxyethira</i> (pupalcases)		13												
	<i>Stactobia</i>														
	<i>Ugandatrichia</i>		4												
	<i>Leptocerus</i>		1												
	<i>Arctopora</i>														
Leptoceridae	<i>Dicosmoecus</i>		4		1	1		1							
	<i>Chimarra</i>			3				1		1					
Philopotamidae	<i>Dolophilodes</i>									1					
	<i>Wormaldia</i>									1					
	<i>Nyctiophylax</i>		2												
Psychomyiidae	<i>Psychomyia</i>		1												
	<i>Tinodes</i>			2											
Stenopsychidae	<i>Stenopsyche</i>						3			7					
ODONATA, ZYGOPTERA (Damselflies)															
Amphipterygidae	<i>Philoganga</i>			2		3				1		1			
Calopterygidae	<i>Neurobasis</i>		1												
	<i>Vestalis</i>														
Chlorocyphidae	<i>Libellago</i>														
	<i>Rhinocypha</i>													1	
Chlorolestidae	<i>Megalestes</i>													1	1
	<i>Sinolestes</i>													1	
Euphaeidae	<i>Anisopleura</i>		2		1		1								
	<i>Dysphae</i>		21	19	1	2		3		5	3	2			
	<i>Euphaea</i>					1									
	<i>Indolestes</i>												1		
Lestidae															
Megapodagrionidae															
ODONATA, ANISOPTERA (Dragonflies)															
Aeshnidae	<i>Boyerla</i>			1											
Cordulegastridae	<i>Cordulegaster</i>					1									
Corduliidae	<i>Epitheca</i>			1											
	<i>Idionyx</i>		1	1					1						
Gomphidae	<i>Labrogomphus</i>									3		1			
	<i>Leptogomphus</i>				1										
	<i>Merogomphus</i>				1							1		1	1
	<i>Macrogomphus</i>						2	2		4					2
Libellulidae	<i>Orthetrum</i>								1						
Macromiidae	<i>Macromia</i>						5	2							
LEPIDOPTERA (Aquatic moths)															
Pyralidae, Nymphulinae	<i>Elophila</i>		1					1		1					
	<i>Ecophyla</i>		8												

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Macroinvertebrates		Stations	1	2	3	4	5	6	7	8	9	10	11	12	13
	<i>Eristena</i>		1												
	<i>Nymphula</i>														
MEGALOPTERA (Alderflies/ Dobsonflies)															
Corydalidae	<i>Protohermes</i>		1	2	1					2					
HETEROPTERA (Aquatic bugs)															
Gelastocoridae	<i>Nerthra</i>													1	
Gerridae	Subfamily-Halobatine		2				3	1			1				
Helotrephidae	<i>Distotrephes</i>														
Hydrometridae	<i>Hydrometra</i>												1		
Nepidae	<i>Cercometus</i>													2	
	<i>Ranatra</i>								1						
Veliidae	<i>Rhagovelia</i>							1			1				
COLEOPTERA (Aquatic beetles)															
Elmidae/Elmidae	<i>Dryopomorphus</i>														
	<i>Ordobrevia</i>					2									
	<i>Pseudamophilus</i>					4									
Gyrinidae	<i>Dineutus</i>				1	1						5			
	<i>Porrorhynchus</i>			1							4				
Haliplidae	<i>Haliplus</i>												5		
Hydrophilidae	<i>Anacaena</i>														1
	<i>Paracymus</i>											1			
Psephenidae	<i>Eubrianax</i>												1		
	<i>Mataeopsephus</i>		9			2			2	1	2				
Scirtidae	<i>Cyphon</i>													1	
	<i>Prionocyphon</i>													1	
	<i>Scirtes</i>														
Staphylinidae	<i>Staphylinid larva</i>												1		
DIPTERA (2-wing true flies)															
Chaoboridae	<i>Chaoborus</i>					2									
Chironomidae	<i>Ablabesmyia</i>														1
	<i>Chironomus</i>														1
	<i>Cryptochironomus</i>												1		
	<i>Conchapelopia</i>												1		
Other sub-family	Tanypodinae														
Deuterophlebiidae	<i>Deuterophlebia</i>														
Simuliidae	<i>Prosimulium</i>					1									
	<i>Simulium</i>														
Stratiomyidae	<i>Stratiomys</i>									1					
Tipulidae	<i>Holorusia</i>												1		
	<i>Prionocera & Tipula</i>								1						
	<i>Trigma</i>										6		1		

Appendix A. Populations of Benthic Macroinvertebrates at Stations along Selai River, Endau-Rompin - Trip 2, 11/10/2002 to 14/10/2002 (Yap, 2003).

Macroinvertebrates	Stations	1	2	3	4	5	6	7	8	9	10	11	12	13
DECAPODA (Prawns & crab)														
Palaemonidae	<i>Macrobrachium</i>	4				1	1	1	1	8			6	
	<i>Palaemonetes</i>	1				1			1					
Potamoidea (Freshwater crab)			1			1		2		1		1	2	
GASTROPODA (Freshwater snails)														
Lymnaeidae 1	<i>Lymnaea</i>				3	2		8				2	4	1
Lymnaeidae 2		2	7		2	1							1	1
GNATHOBDELLIDA (Leech)														
Hirudinidae								1						
LUMBRICULIDA (Aquatic earthworm)														
Lumbriculidae													1	

Note: Station 1, Takah Pandan is the reference point of the rhithronic headwaters.
 Station 11, Upstream of a tributary Kelembai River is the reference point for the potamonic lower part of Selai River.

Appendix B. Populations of Benthic Macroinvertebrates at Stations along Selai River, Endau-Rompin - Trip 3, 02/05/2003 to 04/05/2003 (Chan and Yap, 2003).

Macroinvertebrates		Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
EPHEMEROPTERA (Mayflies)															
Baetidae	<i>Baetis</i>			2				1	16	3	11	1		2	1
	<i>Centroptilum</i>														
	<i>Cloeon</i>										2	6	1		2
	<i>Pseudocloeon</i>														
Caenidae	<i>Caenis</i>											3	3	1	
Ephemerellidae	<i>Serratella</i>								6		3				
Heptageniidae	<i>Cinygma</i>		1					4	4		2				
	<i>Cinygmula</i>							1						3	
	<i>Heptagenia</i>		10	3	7	7	1	6	4	16	16	2	13		
	<i>Nixe</i>		1	1		1				5	3				
	<i>Rhithrogena</i>														
Isonychiidae	<i>Isonychia</i>		1					8							
Leptophlebiidae	<i>Choroterpes</i>							1							
	<i>Habrophlebiodes</i>		1		1	2	1	3		4	1				
	<i>Leptophlebia</i>				2						3	1	2		
Potamanthidae	<i>Potamanthus</i>														
	<i>Rhoenanthus</i>							6	2						
Siphonuridae	<i>Siphonurus</i>		1	9	4		1	1							
PLECOPTERA (Stoneflies)															
Chloroperlidae	<i>Sweitsa</i>														
Nemouridae	<i>Mesonemura and</i>										1				
	<i>Indonemura</i>														
Peltoperlidae	<i>Cryptoperla</i>										4				
	<i>Peltoperlopsis</i>			2	4										
Perlidae	<i>Etrocorema</i>		1	2	3						5				
	<i>Neoperla</i>				1		1	1	2	4	6	2			
	<i>Phanoperla</i>				1		6								
	<i>Tetropina</i>		4			3			1						
Perlodidae	<i>Arcynopteryx</i>														
	<i>Isoperla</i>										1				
	<i>Pictetiella</i>														
	<i>Skwala</i>			3							7				
	<i>Stavsolus</i>			1	1		1				7				
Pteronarcyidae	<i>Pteronarcys</i>														
Styloperlidae	<i>Cerconychia</i>					1									
Taeniopterygidae	<i>Strophopteryx</i>		1	1	2		2	1	2		2				
	<i>Taeniopteryx</i>				2										
	<i>Taenionema & Mesyatsia</i>		2		1		2				1				
TRICHOPTERA (Caddisflies)															
Ecnomidae	<i>Ecnomus</i>		2								5	1		2	2
Glossosomatidae	<i>Agapetus</i>		4												
Helicopsychidae	<i>Helicopsyche (case)</i>					1									
Hydropsychidae	<i>Aethalopsyche</i>								4					1	
	<i>Ceratopsyche</i>			2							4				
	<i>Cheumatopsyche</i>		6			4		7		2	38	2			1

Appendix B. Populations of Benthic Macroinvertebrates at Stations along Selai River, Endau-Rompin - Trip 3, 02/05/2003 to 04/05/2003 (Chan and Yap, 2003).

Macroinvertebrates		Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
	<i>Diplectrona</i>			11	1										
	<i>Hydropsyche</i>		8		1		32	1	5	1	1				
	<i>Amphipsyche</i>									1					
	<i>Potamyia</i>				2	3				2	1				
Hydroptilidae	<i>Orthotrichia</i> (+cases)		9												
	<i>Oxyethira</i> (+ cases)					1									
	<i>Stactobia</i>		1												
	<i>Ugandatrachia</i>														
Leptoceridae	<i>Leptocerus</i>														
Limnephilidae	<i>Arctopora</i>			1											
	<i>Dicosmoecus</i>		1		1										
Philopotamidae	<i>Chimarra</i>		33	35	59	20	25	3	10	6	44	8	3		2
	<i>Dolophilodes</i>				1										
	<i>Wormaldia</i>														
Polycentropodidae	<i>Nyctiophylax</i>														
Psychomyiidae	<i>Psychomyia</i>														
	<i>Tinodes</i>														
Stenopsychidae	<i>Stenopsyche</i>							4	1	18					
ODONATA, ZYGOPTERA (Damselflies)															
Amphipterygidae	<i>Philoganga</i>														
Calopterygidae	<i>Neurobasis</i>														
	<i>Vestalis</i>				1		1								
Chlorocyphidae	<i>Libellago</i>		1												
	<i>Rhinocypha</i>														
Chlorolestidae	<i>Megalestes</i>						1				1				
	<i>Sinolestes</i>														
Euphaeidae	<i>Anisopleura</i>														
	<i>Dysphae</i>		4	11	2	8		1		7	14	14			1
	<i>Euphaea</i>														
Lestidae	<i>Indolestes</i>												1		
Megapodagrionidae			1			1									
ODONATA, ANISOPTERA (Dragonflies)															
Aeshnidae	<i>Boyerla</i>														
Cordulegastridae	<i>Cordulegaster</i>														
Corduliidae	<i>Epithea</i>														
	<i>Idionyx</i>														
Gomphidae	<i>Labrogomphus</i>														
	<i>Leptogomphus</i>														
	<i>Merogomphus</i>														
	<i>Macrogomphus</i>														
Libellulidae	<i>Orthetrum</i>														
Macromiidae	<i>Macromia</i>														
LEPIDOPTERA (Aquatic moths)															
Pyrilidae, Nymphulinae	<i>Elophila</i>								1	1					
	<i>Eoophyla</i>										4	2			

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Macroinvertebrates		Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
	<i>Eristena</i>														
	<i>Nymphula</i>											1			
MEGALOPTERA (Alderflies/ Dobsonflies)															
Corydalidae	<i>Protohermes</i>		4	3	2				2						
HETEROPTERA (Aquatic bugs)															
Gelastocoridae	<i>Nerthra</i>														
Gerridae	Subfamily-Halobatine				1										
Helotrephidae	<i>Distotrephes</i>		2												
Hydrometridae	<i>Hydrometra</i>														
Nepidae	<i>Cercometus</i>														
	<i>Ranatra</i>						1								
Veliidae	<i>Rhagovelia</i>														
COLEOPTERA (Aquatic beetles)															
Elmidae/Elmidae	<i>Dryopomorphus</i>						1								
	<i>Ordobrevia</i>														
	<i>Pseudamophilus</i>														
Gyrinidae	<i>Dineutus</i>														
	<i>Porrorhynchus</i>														
Haliplidae	<i>Haliplus</i>														
Hydrophilidae	<i>Anacaena</i>														
	<i>Paracymus</i>														
Psephenidae	<i>Eubrianax</i>		6		1	4			3		9	5			
	<i>Mataeopsephus</i>			3				1							
Scirtidae	<i>Cyphon</i>											2			
	<i>Prionocyphon</i>										1				
	<i>Scirtes</i>														
Staphylinidae	<i>Staphylinid larva</i>														
DIPTERA (2-wing true flies)															
Chaoboridae	<i>Chaoborus</i>														
Chironomidae	<i>Ablabesmyia</i>														
	<i>Chironomus</i>		1	1	3				5	1				1	
	<i>Cryptochironomus</i>														
	<i>Conchapelopia</i>														
Other sub-family	Tanypodinae						1		3		2			1	
Deuterophlebiidae	<i>Deuterophlebia</i>				1										
Simuliidae	<i>Prosimulium</i>														
	<i>Simulium</i>				3	2			11		2	10			
Stratiomyidae	<i>Stratiomys</i>		1		1										
Tipulidae	<i>Holorusia</i>														
	<i>Prionocera & Tipula</i>		1	1			1								
	<i>Triogma</i>		4									1			

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Macroinvertebrates	Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
DECAPODA (Prawns & crab)														
Palaemonidae	<i>Macrobrachium</i>													1
	<i>Palaemonetes</i>													
Potamoidea (Freshwater crab)					1									
GASTROPODA (Freshwater snails)														
Lymnaeidae 1	<i>Lymnaea</i>					1	2		1		3	2	2	
Lymnaeidae 2		1	1	1	1				1	2		5	2	1
GNATHOBDELLIDA (Leech)														
Hirudinidae						1								
LUMBRICULIDA (Aquatic earthworm)														
Lumbriculidae														

Note: Station 1, Takah Pandan is the reference point of the rhithronic headwaters.
 Station 11, Upstream of a tributary Kelembai River is the reference point for the potamonic lower part of Selai River.

Appendix C. Standard Deviation of Mean Populations of Benthic Macroinvertebrates at Stations along Selai River, Endau-Rompin.

Macroinvertebrates		Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
EPHEMEROPTERA (Mayflies)															
Baetidae	<i>Baetis</i>		4	1	1	1	2	1	11	2	6	0	0	1	1
	<i>Centroptilum</i>		16	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Cloeon</i>		0	0	0	0	0	0	0	0	0	1	4	1	0
	<i>Pseudocloeon</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
Caenidae	<i>Caenis</i>		0	0	1	0	0	1	2	0	0	2	2	1	0
Ephemerellidae	<i>Serratella</i>		0	0	0	0	0	0	4	0	2	0	0	0	0
Heptageniidae	<i>Cinygma</i>		1	0	1	0	3	1	0	1	0	0	0	0	0
	<i>Cinygmula</i>		0	0	0	0	0	1	0	0	0	0	2	0	0
	<i>Heptagenia</i>		5	3	5	1	4	1	1	8	1	1	9	0	0
	<i>Nixe</i>		1	1	0	1	0	0	0	3	2	0	0	0	0
	<i>Rhithrogena</i>		3	0	0	0	0	0	0	0	0	0	0	0	0
Isonychiidae	<i>Isonychia</i>		1	0	0	0	6	1	0	3	0	0	0	0	0
Leptophlebiidae	<i>Choroterpes</i>		0	0	0	0	1	0	0	0	0	0	0	0	0
	<i>Habrophlebiodes</i>		1	1	1	1	1	2	1	2	0	0	0	0	0
	<i>Leptophlebia</i>		0	0	1	0	0	0	0	1	1	1	1	0	0
Potamanthidae	<i>Potamanthus</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Rhoenanthus</i>		0	0	0	0	4	1	0	1	0	0	0	0	0
Siphonuridae	<i>Siphonurus</i>		1	6	2	4	1	1	0	0	4	0	0	0	0
PLECOPTERA (Stoneflies)															
Chloroperlidae	<i>Sweitsa</i>		0	0	0	0	0	0	0	1	1	0	0	0	0
Nemouridae	<i>Mesonemura and</i>		0	0	0	0	0	0	0	0	1	0	0	0	0
	<i>Indonemura</i>		0	0	0	0	0	0	0	0	0	0	0	0	0
Peltoperlidae	<i>Cryptoperla</i>		0	0	0	0	0	0	0	0	3	0	0	0	0
	<i>Peltoperlopsis</i>		1	1	2	0	0	0	0	0	0	0	0	0	0
Perlidae	<i>Etrocorema</i>		3	1	1	0	0	0	0	3	4	0	0	0	0
	<i>Neoperla</i>		0	2	1	0	0	0	1	3	4	1	0	0	0
	<i>Phanoperla</i>		1	1	0	0	4	1	0	7	0	0	0	0	0
	<i>Tetropina</i>		3	1	0	2	0	0	1	0	0	0	0	0	0
Perlodidae	<i>Arcynopteryx</i>		0	3	3	0	0	0	1	1	1	0	0	0	0
	<i>Isoperla</i>		0	0	1	0	1	0	1	1	0	0	0	0	0
	<i>Pictetiella</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Skwala</i>		0	2	0	0	0	0	0	5	0	0	0	0	0
	<i>Stavsolus</i>		0	1	1	0	1	1	0	2	0	0	0	0	0
Pteronarcyidae	<i>Pteronarcys</i>		0	0	0	0	0	1	0	0	0	0	0	0	0
Styloperlidae	<i>Cerconychia</i>		0	0	0	1	0	0	0	0	0	0	0	0	0
Taeniopterygidae	<i>Strophopteryx</i>		1	0	1	0	1	1	1	1	1	0	0	0	0
	<i>Taeniopteryx</i>		5	0	1	0	1	1	0	0	0	0	0	0	0
	<i>Taenionema & Mesyatsia</i>		1	0	1	0	1	6	0	0	1	0	0	0	0
TRICHOPTERA (Caddisflies)															
Ecnomidae	<i>Ecnomus</i>		1	0	0	0	0	0	0	0	4	0	0	1	1
Glossosomatidae	<i>Agapetus</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
Helicopsychidae	<i>Helicopsyche (case)</i>		0	0	0	1	0	0	0	0	0	0	0	0	0
Hydropsychidae	<i>Aethalopsyche</i>		0	0	0	0	0	0	3	0	0	0	0	1	0
	<i>Ceratopsyche</i>		1	1	0	0	0	0	0	0	0	0	0	0	0
	<i>Cheumatopsyche</i>		4	0	0	3	0	5	0	1	27	1	0	0	1

Appendix C. Standard Deviation of Mean Populations of Benthic Macroinvertebrates at Stations along Selai River, Endau-Rompin.

Macroinvertebrates		Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
	<i>Diplectrona</i>		1	8	1	0	0	0	0	5	1	0	0	0	0
	<i>Hydropsyche</i>		6	2	1	0	23	1	4	1	1	0	0	0	0
	<i>Amphipsyche</i>		0	0	0	0	0	0	0	1	0	0	0	0	0
	<i>Potamyia</i>		0	0	1	2	0	0	0	8	1	0	0	0	0
Hydroptilidae	<i>Orthotrichia</i> (+cases)		18	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Oxyethira</i> (+ cases)		9	0	0	1	0	0	0	0	0	0	0	0	0
	<i>Stactobia</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Ugandatrachia</i>		3	0	0	0	0	0	0	0	0	0	0	0	0
Leptoceridae	<i>Leptocerus</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
Limnephilidae	<i>Arctopora</i>		0	1	0	0	0	0	0	0	0	0	0	0	0
	<i>Dicosmoecus</i>		2	0	0	1	0	1	0	0	0	0	0	0	0
Philopotamidae	<i>Chimarra</i>		23	23	42	14	18	1	7	4	31	6	2	0	1
	<i>Dolophilodes</i>		0	0	1	0	0	0	0	1	0	0	0	0	0
	<i>Wormaldia</i>		0	0	0	0	0	0	0	1	0	0	0	0	0
Polycentropodidae	<i>Nyctiophylax</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
Psychomyiidae	<i>Psychomyia</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Tinodes</i>		0	1	0	0	0	0	0	0	0	0	0	0	0
Stenopsychidae	<i>Stenopsyche</i>		0	0	0	0	2	3	1	8	0	0	0	0	0
ODONATA, ZYGOTERA (Damselflies)															
Amphipterygidae	<i>Philoganga</i>		0	1	0	2	0	0	0	1	0	1	0	0	0
Calopterygidae	<i>Neurobasis</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Vestalis</i>		0	0	1	0	1	0	0	0	0	0	0	0	0
Chlorocyphidae	<i>Libellago</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Rhinocypha</i>		0	0	0	0	0	0	0	0	0	0	0	1	0
Chlorolestidae	<i>Megalestes</i>		0	0	0	0	1	0	0	0	1	0	0	1	1
	<i>Sinolestes</i>		0	0	0	0	0	0	0	0	0	0	0	1	0
Euphaeidae	<i>Anisopleura</i>		1	0	1	0	1	0	0	0	0	0	0	0	0
	<i>Dysphae</i>		12	6	1	4	0	1	0	1	8	8	0	0	1
	<i>Euphaea</i>		0	0	0	1	0	0	0	0	0	0	0	0	0
Lestidae	<i>Indolestes</i>		0	0	0	0	0	0	0	0	0	1	1	0	0
Megapodagrionidae			1	0	0	1	0	0	0	0	0	0	0	0	0
ODONATA, ANISOPTERA (Dragonflies)															
Aeshnidae	<i>Boyerla</i>		0	1	0	0	0	0	0	0	0	0	0	0	0
Cordulegastridae	<i>Cordulegaster</i>		0	0	0	1	0	0	0	0	0	0	0	0	0
Corduliidae	<i>Epitheca</i>		0	1	0	0	0	0	0	0	0	0	0	0	0
	<i>Idionyx</i>		1	1	0	0	0	0	1	0	0	0	0	0	0
Gomphidae	<i>Labrogomphus</i>		0	0	0	0	0	0	0	2	0	1	0	0	0
	<i>Leptogomphus</i>		0	0	1	0	0	0	0	0	0	0	0	0	0
	<i>Merogomphus</i>		0	0	1	0	0	0	0	0	0	1	0	1	1
	<i>Macrogomphus</i>		0	0	0	0	1	1	0	3	0	0	0	0	1
Libellulidae	<i>Orthetrum</i>		0	0	0	0	0	0	1	0	0	0	0	0	0
Macromiidae	<i>Macromia</i>		0	0	0	0	4	1	0	0	0	0	0	0	0
LEPIDOPTERA (Aquatic moths)															
Pyralidae, Nymphulinae	<i>Elophila</i>		1	0	0	0	0	1	1	0	0	0	0	0	0
	<i>Eoophyla</i>		6	0	0	0	0	0	0	3	1	0	0	0	0

Appendix C. Standard Deviation of Mean Populations of Benthic Macroinvertebrates at Stations along Selai River, Endau-Rompin.

Macroinvertebrates		Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
	<i>Eristena</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Nymphula</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
MEGALOPTERA (Alderflies/ Dobsonflies)															
Corydalidae	<i>Protohermes</i>		2	1	1	0	0	0	1	1	0	0	0	0	0
HETEROPTERA (Aquatic bugs)															
Gelastocoridae	<i>Nerthra</i>		0	0	0	0	0	0	0	0	0	0	0	1	0
Gerridae	Subfamily-Halobatine		1	1	0	0	2	1	0	0	1	0	0	0	0
Helotrephidae	<i>Distotrephes</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
Hydrometridae	<i>Hydrometra</i>		0	0	0	0	0	0	0	0	0	0	1	0	0
Nepidae	<i>Cercometus</i>		0	0	0	0	0	0	0	0	0	0	0	1	0
	<i>Ranatra</i>		0	0	0	0	1	0	1	0	0	0	0	0	0
Veliidae	<i>Rhagovelia</i>		0	0	0	0	0	1	0	0	1	0	0	0	0
COLEOPTERA (Aquatic beetles)															
Elmidae/Elmidae	<i>Dryopomorphus</i>		0	0	0	0	1	0	0	0	0	0	0	0	0
	<i>Ordobrevia</i>		0	0	0	1	0	0	0	0	0	0	0	0	0
	<i>Pseudamophilus</i>		0	0	0	3	0	0	0	0	0	0	0	0	0
Gyrinidae	<i>Dineutus</i>		0	0	1	1	0	0	0	0	0	4	0	0	0
	<i>Porrorhynchus</i>		0	1	0	0	0	0	0	0	3	0	0	0	0
Halipidae	<i>Halipius</i>		0	0	0	0	0	0	0	0	0	0	0	4	0
Hydrophilidae	<i>Anacaena</i>		0	0	0	0	0	0	0	0	0	0	0	0	1
	<i>Paracymus</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
Psephenidae	<i>Eubrianax</i>		4	0	1	3	0	0	2	0	6	4	1	0	0
	<i>Mataeopsephus</i>		6	2	0	1	0	1	1	1	1	0	0	0	0
Scirtidae	<i>Cyphon</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
	<i>Prionocyphon</i>		0	0	0	0	0	0	0	0	1	1	0	0	0
	<i>Scirtes</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
Staphylinidae	<i>Staphylinid larva</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
DIPTERA (2-wing true flies)															
Chaoboridae	<i>Chaoborus</i>		0	0	0	1	0	0	0	0	0	0	0	0	0
Chironomidae	<i>Ablabesmyia</i>		0	0	0	0	0	0	0	0	0	0	0	0	1
	<i>Chironomus</i>		1	1	2	0	0	0	4	1	0	0	0	0	0
	<i>Cryptochironomus</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
	<i>Conchapelopia</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
Other sub-family	Tanytopodinae		0	0	0	0	1	0	2	0	0	1	0	0	1
Deuterophlebiidae	<i>Deuterophlebia</i>		0	0	1	0	0	0	0	0	0	0	0	0	0
Simuliidae	<i>Prosimulium</i>		0	0	0	1	0	0	0	0	0	0	0	0	0
	<i>Simulium</i>		0	0	2	1	0	0	8	0	1	7	0	0	0
Stratiomyidae	<i>Stratiomys</i>		1	0	1	0	0	0	0	1	0	0	0	0	0
Tipulidae	<i>Holorusia</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
	<i>Prionocera & Tipula</i>		1	1	0	0	1	0	1	0	0	0	0	0	0
	<i>Triogma</i>		3	0	0	0	0	0	0	4	0	0	0	0	0

Appendix C. Standard Deviation of Mean Populations of Benthic Macroinvertebrates at Stations along Selai River, Endau-Rompin.

Macroinvertebrates	Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
DECAPODA (Prawns & crab)														
Palaemonidae	<i>Macrobrachium</i>	3	0	0	0	1	1	1	1	6	0	1	4	0
	<i>Palaemonetes</i>	1	0	0	0	1	0	0	1	0	0	0	0	0
Potamoidea (Freshwater crab)		0	1	1	0	1	0	1	0	1	0	1	1	0
GASTROPODA (Freshwater snails)														
Lymnaeidae 1	<i>Lymnaea</i>	0	0	0	2	1	1	6	1	0	2	0	1	1
Lymnaeidae 2		1	4	1	1	1	0	0	1	1	0	4	1	0
GNATHOBDELLIDA (Leech)														
Hirudinidae		0	0	0	0	1	0	1	0	0	0	0	0	0
LUMBRICULIDA (Aquatic earthworm)														
Lumbriculidae		0	0	0	0	0	0	0	0	0	0	0	1	0

Note: Station 1, Takah Pandan is the reference point of the rhithronic headwaters.
 Station 11, Upstream of a tributary Kelembai River is the reference point for the potamonic lower part of Selai River.

Appendix D. Composition of Benthic Macroinvertebrates at Stations along Selai River, Endau-Rompin

Macroinvertebrates	Station No.													Total No.	Overall %
	1	2	3	4	5	6	7	8	9	10	11	12	13		
Group															
EPHEMEROPTERA	30	14	12	12	19	19	18	23	35	8	13	2	2	207	22.33
PLECOPTERA	15	13	16	3	9	10	5	23	14	1	0	0	0	109	11.76
TRICHOPTERA	68	30	35	17	31	10	11	39	47	6	2	2	4	302	32.58
ODONATA	18	19	6	10	8	4	2	11	10	12	1	4	4	109	11.76
LEPIDOPTERA	6	0	0	0	0	1	1	3	1	1	0	0	0	13	1.40
MEGALOPTERA	3	3	2	0	0	0	1	1	0	0	0	0	0	10	1.08
HETEROPTERA	2	1	0	0	3	2	1	0	2	0	1	2	0	14	1.51
COLEOPTERA	8	3	2	7	1	1	3	1	9	11	1	3	1	51	5.50
DIPTERA	5	2	6	3	2	0	12	5	1	10	0	0	3	49	5.29
DECAPODA	3	1	1	0	3	1	2	2	5	0	2	4	0	24	2.59
GASTROPODA	2	4	1	4	3	1	4	2	1	2	5	5	2	36	3.88
GNATHOBDELLIDA	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0.22
LUMBRICULIDA	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.11
Grand Total														927	100.00

Appendix E: Newman-Keuls Test
(a) Plecoptera

STAT. BASIC STATS	Newman-Keuls test; Variable: PLEC (stat) Marked differences are significant at $p < .05000$					
STN	(1) M=1.1048	(2) M=1.0570	(3) M=1.1417	(4) M=.34949	(5) M=.90646	(6) M=.79553
G_1:1 (1)		.865855	.896248	.167004	.889176	.795603
G_2:2 (2)	.865855		.950101	.178177	.851730	.782558
G_3:3 (3)	.896248	.950101		.161143	.910278	.805855
G_4:4 (4)	.167004	.170177	.161143		.233969	.276553
G_5:5 (5)	.889176	.851730	.910278	.233969		.695549
G_6:6 (6)	.795603	.782558	.805855	.276553	.695549	
G_7:7 (7)	.541991	.551338	.538229	.333887	.586062	.555131
G_8:8 (8)	.699008	.757427	.505693	.062030	.650956	.494022
G_9:9 (9)	.846867	.709855	.900619	.243107	.873354	.841762
G_10:10 (10)	.105184	.116019	.099255	.695549	.173389	.233969
G_11:11 (11)	.034218*	.039279*	.031405*	.601560	.068359	.106787
G_12:12 (12)	.029305*	.032969*	.027342*	.440440	.054112	.081069
G_13:13 (13)	.039220*	.045724*	.035503*	.717757	.082813	.132605

STAT. BASIC STATS	Newman-Keuls test; Variable: PLEC (stat) Marked differences are significant at $p < .05000$					
STN	(7) M=.62764	(8) M=1.3314	(9) M=.95155	(10) M=.23856	(11) M=0.0000	(12) M=0.0000
G_1:1 (1)	.541991	.699008	.846867	.105184	.034218*	.029305*
G_2:2 (2)	.551338	.757427	.709855	.116019	.039279*	.032969*
G_3:3 (3)	.538229	.505693	.900619	.099255	.031405*	.027342*
G_4:4 (4)	.333887	.062030	.249107	.695549	.601560	.440440
G_5:5 (5)	.586062	.650956	.873354	.173389	.068359	.106787
G_6:6 (6)	.555131	.494022	.841762	.233969	.106787	.081069
G_7:7 (7)		.259911	.655744	.367412	.217013	.157296
G_8:8 (8)			.655183	.036794*	.011413*	.010050*
G_9:9 (9)		.655183		.172747	.063054	.051782
G_10:10 (10)		.367412	.172747		.673258	1.000000
G_11:11 (11)		.217013	.011413*	.063054		.405034
G_12:12 (12)		.157296	.010050*	.051782	1.000000	
G_13:13 (13)		.274113	.012835*	.074451	.824559	1.000000

STAT. BASIC STATS	Newman-Keuls test; Variable: PLEC (stat) Marked differences are significant at $p < .05000$	
STN	(13) M=0.0000	
G_1:1 (1)	.039220*	
G_2:2 (2)	.045724*	
G_3:3 (3)	.035503*	
G_4:4 (4)	.717757	
G_5:5 (5)	.082813	
G_6:6 (6)	.132605	
G_7:7 (7)	.274113	
G_8:8 (8)	.012835*	
G_9:9 (9)	.074451	
G_10:10 (10)	.824559	
G_11:11 (11)	1.000000	
G_12:12 (12)	1.000000	
G_13:13 (13)		

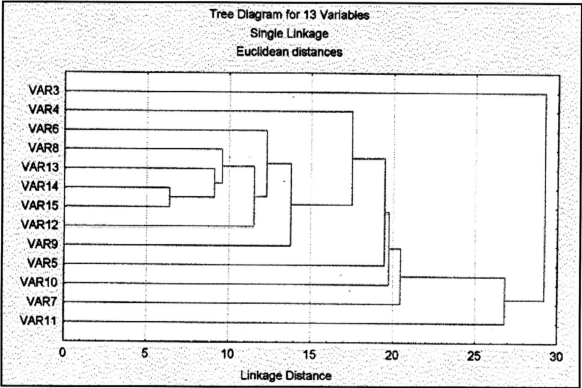
Appendix E: Newman-Keuls Test
(b) Megaloptera

STAT. BASIC STATS	Newman-Keuls test; Variable: MEGA (stat) Marked differences are significant at p < .05000					
STN	(1) M=.50000	(2) M=.53959	(3) M=.38908	(4) M=0.0000	(5) M=0.0000	(6) M=0.0000
G_1:1 (1)		.807814	.498811	.068132	.120790	.103249
G_2:2 (2)	.807814		.623084	.056235	.092890	.080635
G_3:3 (3)	.498811	.623084		.165097	.298405	.256137
G_4:4 (4)	.068132	.056235	.165097		1.000000	1.000000
G_5:5 (5)	.120790	.092890	.298405	1.000000		1.000000
G_6:6 (6)	.103249	.080635	.256137	1.000000	1.000000	
G_7:7 (7)	.391485	.369457	.623084	.324254	.672025	.581737
G_8:8 (8)	.264490	.279417	.362314	.466819	.742220	.672025
G_9:9 (9)	.051076	.044356*	.117782	1.000000	1.000000	1.000000
G_10:10 (10)	.155204	.117190	.375509	1.000000	1.000000	1.000000
G_11:11 (11)	.171906	.129113	.410249	1.000000	1.000000	1.000000
G_12:12 (12)	.085634	.068384	.211537	1.000000	1.000000	1.000000
G_13:13 (13)	.138137	.105105	.338168	1.000000	1.000000	1.000000

STAT. BASIC STATS	Newman-Keuls test; Variable: MEGA (stat) Marked differences are significant at p < .05000					
STN	(7) M=.23856	(8) M=.23856	(9) M=0.0000	(10) M=0.0000	(11) M=0.0000	(12) M=0.0000
G_1:1 (1)	.391485	.264490	.051076	.155204	.171906	.085634
G_2:2 (2)	.369457	.279417	.044356*	.117190	.129113	.068384
G_3:3 (3)	.623084	.362314	.117782	.375509	.410249	.211537
G_4:4 (4)	.324254	.466819	1.000000	1.000000	1.000000	1.000000
G_5:5 (5)	.672025	.742220	1.000000	1.000000	1.000000	1.000000
G_6:6 (6)	.581737	.672025	1.000000	1.000000	1.000000	1.000000
G_7:7 (7)		1.000000	.158418	.796637	.838811	.466819
G_8:8 (8)	1.000000		.324254	.838811	.871614	.581737
G_9:9 (9)	.158418	.324254		1.000000	1.000000	1.000000
G_10:10 (10)	.796637	.838811	1.000000		1.000000	1.000000
G_11:11 (11)	.838811	.871614	1.000000	1.000000		1.000000
G_12:12 (12)	.466819	.581737	1.000000	1.000000	1.000000	
G_13:13 (13)	.742220	.796637	1.000000	1.000000	1.000000	1.000000

STAT. BASIC STATS	Newman-Keuls test; Variable: MEGA (stat) Marked differences are significant at p < .05000	
STN	(13) M=0.0000	
G_1:1 (1)	.138137	
G_2:2 (2)	.105105	
G_3:3 (3)	.338168	
G_4:4 (4)	1.000000	
G_5:5 (5)	1.000000	
G_6:6 (6)	1.000000	
G_7:7 (7)	.742220	
G_8:8 (8)	.796637	
G_9:9 (9)	1.000000	
G_10:10 (10)	1.000000	
G_11:11 (11)	1.000000	
G_12:12 (12)	1.000000	
G_13:13 (13)		

Appendix F. Dendrogram Constructed based on the Genera of Macroinvertebrates Showing Clusters of Similar Stations along Selai River and its Tributaries



Legend

- | | | | |
|---------|-----------|----------|------------|
| Var.3 = | Station 1 | Var.10 = | Station 8 |
| Var.4 = | Station 2 | Var.11 = | Station 9 |
| Var.5 = | Station 3 | Var.12 = | Station 10 |
| Var.6 = | Station 4 | Var.13 = | Station 11 |
| Var.7 = | Station 5 | Var.14 = | Station 12 |
| Var.8 = | Station 6 | Var.15 = | Station 13 |
| Var.9 = | Station 7 | | |

Appendix G. Populations of Benthic Macroinvertebrates at Stations along Selai River used for Estimation of Family Biotic Index (FBI)

Macroinvertebrates	Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
EPHEMEROPTERA (Mayflies)														
Baetidae		15	2	1	1	2	2	8	2	8	4	1	1	2
Caenidae		0	0	1	0	0	1	2	0	0	2	2	1	0
Ephemerellidae		0	0	0	0	0	0	3	0	2	0	0	0	0
Heptageniidae		11	6	5	7	6	11	4	14	19	1	9	0	0
Isonychiidae		1	0	0	0	4	1	0	2	0	0	0	0	0
Leptophlebiidae		1	1	2	1	2	2	1	4	3	1	1	0	0
Potamanthidae		1	0	0	0	4	1	0	1	0	0	0	0	0
Siphonuridae		1	5	3	3	1	1	0	0	3	0	0	0	0
PLECOPTERA (Stoneflies)														
Chloroperlidae		0	0	0	0	0	0	0	1	1	0	0	0	0
Nemouridae		0	0	0	0	0	0	0	0	1	0	0	0	0
Peltoperlidae		1	1	3	0	0	0	0	0	2	0	0	0	0
Perlidae		6	6	5	2	4	2	2	9	6	1	0	0	0
Perlodidae		1	5	4	0	2	1	2	12	1	0	0	0	0
Pteronarcyidae		0	0	0	0	0	1	0	0	0	0	0	0	0
Styloperlidae		0	0	0	1	0	0	0	0	0	0	0	0	0
Taeniopterygidae		7	1	4	0	3	6	1	1	3	0	0	0	0
TRICHOPTERA (Caddisflies)														
Ecmonidae		1	0	0	0	0	0	0	0	3	1	0	1	2
Glossosomatidae		3	0	0	0	0	0	0	0	0	0	0	0	0
Helicopsychidae		0	0	0	1	0	0	0	0	0	0	0	0	0
Hydropsychidae		9	9	3	4	16	5	5	20	22	1	0	1	1
Hydroptilidae		32	0	0	1	0	0	0	0	0	0	0	0	0
Leptoceridae		1	0	0	0	0	0	0	0	0	0	0	0	0
Limnephilidae		3	1	1	1	0	1	0	0	0	0	0	0	0
Philopotamidae		17	19	31	10	13	2	5	6	22	4	2	0	1
Polycentropodidae		1	0	0	0	0	0	0	0	0	0	0	0	0
Psychomyiidae		1	1	0	0	0	0	0	0	0	0	0	0	0
Stenopsychidae		0	0	0	0	2	2	1	13	0	0	0	0	0
ODONATA, ZYGOPTERA (Damselflies)														
Amphipterygidae		0	1	0	2	0	0	0	1	0	1	0	0	0
Calopterygidae		1	0	1	0	1	0	0	0	0	0	0	0	0
Chlorocyphidae		1	0	0	0	0	0	0	0	0	0	0	1	0
Chlorolestidae		0	0	0	0	1	0	0	0	1	0	0	2	1
Euphaeidae		14	15	3	6	1	2	0	6	9	8	0	0	1
Lestidae		0	0	0	0	0	0	0	0	0	1	1	0	0
Megapodagrionidae		1	0	0	1	0	0	0	0	0	0	0	0	0
ODONATA, ANISOPTERA (Dragonflies)														
Aeshnidae		0	1	0	0	0	0	0	0	0	0	0	0	0
Cordulegastridae		0	0	0	1	0	0	0	0	0	0	0	0	0
Corduliidae		1	2	0	0	0	0	1	0	0	0	0	0	0
Gomphidae		0	0	2	0	1	1	0	4	0	2	0	1	2

Appendix G. Populations of Benthic Macroinvertebrates at Stations along Selai River used for Estimation of Family Biotic Index (FBI)

Macroinvertebrates	Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
Libellulidae		0	0	0	0	0	0	1	0	0	0	0	0	0
Macromiidae		0	0	0	0	3	1	0	0	0	0	0	0	0
LEPIDOPTERA (Aquatic moths)														
Pyralidae, Nymphulinae		6	0	0	0	0	1	1	3	1	1	0	0	0
MEGALOPTERA (Alderflies/ Dobsonflies)														
Corydalidae		3	3	2	0	0	0	1	1	0	0	0	0	0
HETEROPTERA (Aquatic bugs)														
Nepidae		0	0	0	0	1	0	1	0	0	0	0	1	0
COLEOPTERA (Aquatic beetles)														
Elmidae/Elmidae		0	0	0	3	1	0	0	0	0	0	0	0	0
Gyrinidae		0	1	1	1	0	0	0	0	2	3	0	0	0
Halophilidae		0	0	0	0	0	0	0	0	0	0	0	3	0
Hydrophilidae		0	0	0	0	0	0	0	0	0	1	0	0	1
Psephenidae		8	2	1	3	0	1	3	1	6	3	1	0	0
DIPTERA (2-wing true flies)														
Chaoboridae		0	0	0	1	0	0	0	0	0	0	0	0	0
Chironomidae		1	1	2	0	1	0	5	1	0	3	0	0	3
Deuterophlebiidae		0	0	1	0	0	0	0	0	0	0	0	0	0
Simuliidae		0	0	2	2	0	0	6	0	1	5	0	0	0
Stratiomyidae		1	0	1	0	0	0	0	1	0	0	0	0	0
Tipulidae		3	1	0	0	1	0	1	3	0	2	0	0	0
Total Taxa Richness (N)		153	84	79	52	70	45	54	106	116	45	17	12	14
Family Biotic Index (FBI)		3.6	3.5	3.2	4.0	3.9	3.5	4.5	3.4	3.9	4.5	4.4	6.2	5.4

Note: Tolerance scores of selected families are reproduced in Appendix I.

Appendix H. Populations of Benthic Macroinvertebrates at Stations along Selai River used for Estimation of Genus Biotic Index (GBI)

Macroinvertebrates		Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
EPHEMEROPTERA (Mayflies)															
Baetidae	<i>Baetis</i>		3	2	1	1	2	2	8	2	7	1	0	1	1
	<i>Centropilum</i>		11	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Cloeon</i>		0	0	0	0	0	0	0	0	1	3	1	0	1
	<i>Pseudocloeon</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
Caenidae	<i>Caenis</i>		0	0	1	0	0	1	2	0	0	2	2	1	0
Ephemerellidae	<i>Serratella</i>		0	0	0	0	0	0	3	0	2	0	0	0	0
Heptageniidae	<i>Cinygma</i>		1	0	1	0	2	3	0	1	0	0	0	0	0
	<i>Cinygmula</i>		0	0	0	0	0	1	0	0	0	0	2	0	0
	<i>Heptagenia</i>		7	5	4	6	4	7	4	10	17	1	7	0	0
	<i>Nixe</i>		1	1	0	1	0	0	0	3	2	0	0	0	0
	<i>Rhithrogena</i>		2	0	0	0	0	0	0	0	0	0	0	0	0
Isonychiidae	<i>Isonychia</i>		1	0	0	0	4	1	0	2	0	0	0	0	0
Leptophlebiidae	<i>Choroterpes</i>		0	0	0	0	1	0	0	0	0	0	0	0	0
	<i>Habrophlebiodes</i>		1	1	1	1	1	2	1	3	1	0	0	0	0
	<i>Leptophlebia</i>		0	0	1	0	0	0	0	1	2	1	1	0	0
Potamanthidae	<i>Potamanthus</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Rhoenanthus</i>		0	0	0	0	4	1	0	1	0	0	0	0	0
Siphonuridae	<i>Siphonurus</i>		1	5	3	3	1	1	0	0	3	0	0	0	0
PLECOPTERA (Stoneflies)															
Chloroperlidae	<i>Sweitsa</i>		0	0	0	0	0	0	0	1	1	0	0	0	0
Nemouridae	<i>Mesonemura</i> and		0	0	0	0	0	0	0	0	1	0	0	0	0
	<i>Indonemura</i>		0	0	0	0	0	0	0	0	0	0	0	0	0
Peltoperlidae	<i>Cryptoperla</i>		0	0	0	0	0	0	0	0	2	0	0	0	0
	<i>Peltoperlopsis</i>		1	1	3	0	0	0	0	0	0	0	0	0	0
Perlidae	<i>Etrocorema</i>		3	2	2	0	0	0	0	2	3	0	0	0	0
	<i>Neoperla</i>		0	2	2	0	1	1	1	2	3	1	0	0	0
	<i>Phanoperla</i>		1	1	1	0	3	1	0	5	0	0	0	0	0
	<i>Tetropina</i>		2	1	0	2	0	0	1	0	0	0	0	0	0
Perlodidae	<i>Arcynopteryx</i>		0	2	2	0	0	0	1	1	1	0	0	0	0
	<i>Isoperla</i>		0	0	1	0	1	0	1	1	0	0	0	0	0
	<i>Pictetiella</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Skwala</i>		0	2	0	0	0	0	0	4	0	0	0	0	0
	<i>Stavsolus</i>		0	1	1	0	1	1	0	6	0	0	0	0	0
Pteronarcyidae	<i>Pteronarcys</i>		0	0	0	0	0	1	0	0	0	0	0	0	0
Styloperlidae	<i>Cerconychia</i>		0	0	0	1	0	0	0	0	0	0	0	0	0
Taeniopterygidae	<i>Strophopteryx</i>		1	1	2	0	1	1	1	1	2	0	0	0	0
	<i>Taeniopteryx</i>		4	0	1	0	1	1	0	0	0	0	0	0	0
	<i>Taenionema</i> & <i>Mesyatsia</i>		2	0	1	0	1	4	0	0	1	0	0	0	0
TRICHOPTERA (Caddisflies)															
Ecnomidae	<i>Ecnomus</i>		1	0	0	0	0	0	0	0	3	1	0	1	2
Glossosomatidae	<i>Agapetus</i>		3	0	0	0	0	0	0	0	0	0	0	0	0
Helicopsychidae	<i>Helicopsyche</i> (case)		0	0	0	1	0	0	0	0	0	0	0	0	0
Hydropsychidae	<i>Aethalopsyche</i>		0	0	0	0	0	0	2	0	0	0	0	1	0
	<i>Ceratopsyche</i>		1	1	0	0	0	0	0	4	0	0	0	0	0
	<i>Cheumatopsyche</i>		3	0	0	2	0	4	0	1	19	1	0	0	1

Appendix H. Populations of Benthic Macroinvertebrates at Stations along Selai River used for Estimation of Genus Biotic Index (GBI)

Macroinvertebrates	Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
	<i>Diplectrona</i>	1	6	1	0	0	0	0	4	1	0	0	0	0
	<i>Hydropsyche</i>	4	2	1	0	16	1	3	2	1	0	0	0	0
	<i>Amphipsyche</i>	0	0	0	0	0	0	0	1	0	0	0	0	0
	<i>Potamyia</i>	0	0	1	2	0	0	0	8	1	0	0	0	0
Hydroptilidae	<i>Orthotrichia</i> (+cases)	22	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Oxyethira</i> (+ cases)	7	0	0	1	0	0	0	0	0	0	0	0	0
	<i>Stactobia</i>	1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Ugandatrachia</i>	2	0	0	0	0	0	0	0	0	0	0	0	0
Leptoceridae	<i>Leptocerus</i>	1	0	0	0	0	0	0	0	0	0	0	0	0
Limnephilidae	<i>Arctopora</i>	0	1	0	0	0	0	0	0	0	0	0	0	0
	<i>Dicosmoecus</i>	3	0	1	1	0	1	0	0	0	0	0	0	0
Philopotamidae	<i>Chimarra</i>	17	19	30	10	13	2	5	4	22	4	2	0	1
	<i>Dolophilodes</i>	0	0	1	0	0	0	0	1	0	0	0	0	0
	<i>Wormaldia</i>	0	0	0	0	0	0	0	1	0	0	0	0	0
Polycentropodidae	<i>Nyctiophylax</i>	1	0	0	0	0	0	0	0	0	0	0	0	0
Psychomyiidae	<i>Psychomyia</i>	1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Tinodes</i>	0	1	0	0	0	0	0	0	0	0	0	0	0
Stenopsychidae	<i>Stenopsyche</i>	0	0	0	0	2	2	1	13	0	0	0	0	0
ODONATA, ZYGOTERA (Damselflies)														
Amphipterygidae	<i>Philoganga</i>	0	1	0	2	0	0	0	1	0	1	0	0	0
Calopterygidae	<i>Neurobasis</i>	1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Vestalis</i>	0	0	1	0	1	0	0	0	0	0	0	0	0
Chlorocyphidae	<i>Libellago</i>	1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Rhinocypha</i>	0	0	0	0	0	0	0	0	0	0	0	1	0
Chlorolestidae	<i>Megalestes</i>	0	0	0	0	1	0	0	0	1	0	0	1	1
	<i>Sinolestes</i>	0	0	0	0	0	0	0	0	0	0	0	1	0
Euphaeidae	<i>Anisopleura</i>	1	0	1	0	1	0	0	0	0	0	0	0	0
	<i>Dysphae</i>	13	15	2	5	0	2	0	6	9	8	0	0	1
	<i>Euphaea</i>	0	0	0	1	0	0	0	0	0	0	0	0	0
Lestidae	<i>Indolestes</i>	0	0	0	0	0	0	0	0	0	1	1	0	0
Megapodagrionidae		1	0	0	1	0	0	0	0	0	0	0	0	0
ODONATA, ANISOPTERA (Dragonflies)														
Aeshnidae	<i>Boyerla</i>	0	1	0	0	0	0	0	0	0	0	0	0	0
Cordulegastridae	<i>Cordulegaster</i>	0	0	0	1	0	0	0	0	0	0	0	0	0
Corduliidae	<i>Epitheca</i>	0	1	0	0	0	0	0	0	0	0	0	0	0
	<i>Idionyx</i>	1	1	0	0	0	0	1	0	0	0	0	0	0
Gomphidae	<i>Labrogomphus</i>	0	0	0	0	0	0	0	2	0	1	0	0	0
	<i>Leptogomphus</i>	0	0	1	0	0	0	0	0	0	0	0	0	0
	<i>Merogomphus</i>	0	0	1	0	0	0	0	0	1	0	1	1	1
	<i>Macrogomphus</i>	0	0	0	0	2	1	0	2	0	0	0	0	1
Libellulidae	<i>Orthetrum</i>	0	0	0	0	0	0	1	0	0	0	0	0	0
Macromiidae	<i>Macromia</i>	0	0	0	0	3	1	0	0	0	0	0	0	0
LEPIDOPTERA (Aquatic moths)														
Pyralidae, Nymphulini	<i>Elophila</i>	1	0	0	0	0	1	1	1	0	0	0	0	0
	<i>Eoophyla</i>	4	0	0	0	0	0	0	2	1	0	0	0	0

Appendix H. Populations of Benthic Macroinvertebrates at Stations along Selai River used for Estimation of Genus Biotic Index (GBI)

Macroinvertebrates		Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
	<i>Eristena</i>		1	0	0	0	0	0	0	0	0	0	0	0	0
	<i>Nymphula</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
MEGALOPTERA															
Corydalidae	<i>Protohermes</i>		3	3	2	0	0	0	1	1	0	0	0	0	0
HETEROPTERA (Aquatic bugs)															
Nepidae	<i>Cercometis</i>		0	0	0	0	0	0	0	0	0	0	0	1	0
	<i>Ranatra</i>		0	0	0	0	1	0	1	0	0	0	0	0	0
COLEOPTERA (Aquatic beetles)															
Elmidae/Elmidae	<i>Dryopomorphus</i>		0	0	0	0	1	0	0	0	0	0	0	0	0
	<i>Ordobrevia</i>		0	0	0	1	0	0	0	0	0	0	0	0	0
	<i>Pseudamophilus</i>		0	0	0	2	0	0	0	0	0	0	0	0	0
Gyrinidae	<i>Dineutus</i>		0	0	1	1	0	0	0	0	0	3	0	0	0
	<i>Porrorhynchus</i>		0	1	0	0	0	0	0	0	2	0	0	0	0
Halipidae	<i>Halipus</i>		0	0	0	0	0	0	0	0	0	0	0	3	0
Hydrophilidae	<i>Anacaena</i>		0	0	0	0	0	0	0	0	0	0	0	0	1
	<i>Paracymus</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
Psephenidae	<i>Eubrianax</i>		3	0	1	2	0	0	2	0	5	3	1	0	0
	<i>Mataeopsephus</i>		5	2	0	1	0	1	1	1	1	0	0	0	0
DIPTERA (2-wing true flies)															
Chaoboridae	<i>Chaoborus</i>		0	0	0	1	0	0	0	0	0	0	0	0	0
Chironomidae	<i>Ablabesmyia</i>		0	0	0	0	0	0	0	0	0	0	0	0	1
	<i>Chironomus</i>		1	1	2	0	0	0	3	1	0	0	0	0	1
	<i>Cryptochironomus</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
	<i>Conchapelopia</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
Deuterophlebiidae	<i>Deuterophlebia</i>		0	0	1	0	0	0	0	0	0	0	0	0	0
Simuliidae	<i>Prosimulium</i>		0	0	0	1	0	0	0	0	0	0	0	0	0
	<i>Simulium</i>		0	0	2	1	0	0	6	0	1	5	0	0	0
Stratiomyidae	<i>Stratiomys</i>		1	0	1	0	0	0	0	1	0	0	0	0	0
Tipulidae	<i>Holorusia</i>		0	0	0	0	0	0	0	0	0	1	0	0	0
	<i>Prionocera & Tipula</i>		1	1	0	0	1	0	1	0	0	0	0	0	0
	<i>Triogma</i>		2	0	0	0	0	0	0	3	0	1	0	0	0
Total Taxa Richness (N)			138	74	65	45	62	38	44	96	107	38	14	9	9
Genus Biotic Index (GBI)			3.6	3.0	3.0	3.7	3.3	3.0	5.0	2.6	3.9	4.4	2.9	5.5	5.5

Note: Tolerance scores of selected genera are reproduced in Appendix I

Appendix I. Tolerance Values (Ranging from 0 to 10) for FBI and GBI based on Aquatic Insects of Selai River at the Endau-Rompin National Park. Modified from the lists of Hilsenhoff (1988) and Lenat (1993).

Family	Genera
EPHEMEROPTERA	
2: Ephemerellidae;	<i>Serratella</i> 1.4
Isonychiidae;	<i>Isonychia</i> 3.8
Leptophlebiidae;	<i>Choroterpes</i> and <i>Habrophlebiodes</i> (2.0), <i>Leptophlebia</i> 6.4
3: Baetiscidae;	
4: Baetidae;	<i>Baetis</i> 4.6, <i>Centroptilum</i> 6.3, <i>Cloeon</i> 7.4; (<i>Pseudocloeon</i> 5.73)
Heptageniidae;	(<i>Cinygma</i> 1.07), <i>Cinygmula</i> 0.0, <i>Heptagenia</i> 2.8, (<i>Nixe</i> 1.07), <i>Rhithrogena</i> 0.4
Potamanthidae;	<i>Potamanthus</i> and <i>Rhoenanthus</i> 1.6
7: Caenidae;	<i>Caenis</i> 7.6
Siphonuridae;	<i>Siphonurus</i> (7.0)
PLECOPTERA	
0: Pteronarcyidae;	<i>Pteronarcys</i> 1.75
1: Chloroperliidae;	<i>Sweitsa</i> 0.0
(Peltoperlidae);	<i>Cryptoperla</i> and <i>Peltoperlopsis</i> (1.0)
Perlidae;	<i>Neoperla</i> 1.6, <i>Etrocorema</i> , <i>Phanoperla</i> and <i>Tetropina</i> (1.53)
(Styloperlidae);	<i>Cerconychia</i> 1.0)
2: Nemouridae;	<i>Mesonemura</i> and <i>Indonemura</i> (2.0)
Perlodidae;	<i>Isoperla</i> , <i>Arcynopteryx</i> , <i>Pictetiella</i> , <i>Skwala</i> and <i>Stavsolus</i> (2.8)
Taeniopterygidae;	<i>Taeniopteryx</i> 3.85, <i>Strophopteryx</i> , <i>Taenionema</i> and <i>Mesyatsia</i> (2.0)
TRICHOPTERA	
0: Glossosomatidae;	<i>Agapetus</i> 0.0, <i>Glossosoma</i> 1.5
1: Brachycentridae;	<i>Brachycentrus</i> 1.1
Lepidostomatidae;	<i>Lepidostoma</i> 1.0
2: Psychomyiidae;	<i>Psychomyia</i> 2.0, <i>Tinodes</i> (3.15)

- 3: Helicopsychidae; *Helicopsyche* 0.0
 Philopotamidae; *Chimarra* 2,8, *Dolophilodes* (1.6), *Wormaldia* 0.4
 (Stenopsychidae); *Stenopsyche* (3.0)
- 4: Hydroptilidae; *Hydroptila* 6.2, *Orthotrichia*, *Oxyethira*, *Stactobia* and
Ugandatrichia (4.0)
- Leptoceridae; *Leptocerus* (3.44)
- Limnephilidae; *Apatania* 0.6, *Arctopora* and *Dicosmoecus* (4.0)
- 6: (Ecnomidae); *Ecnomus* (6.0)
- Hydropsychidae; *Ceratopsyche* 1.6, *Cheumatopsyche* 6.6, *Diplectrona* 2.2,
Hydropsyche 4.05, *Macrostemum* 3.6, *Aethalopsyche* and
Potamyia (2.63)
- Polycentropodidae; *Nyctiophylax* 1.75

LEPIDOPTERA

- 4: Pyralidae; (*Elophila*, *Eoophyla*, *Eristena* and *Nymphula* 4.0)

MEGALOPTERA

- 0: Corydalidae; *Protohermes* (0.0)

- 4: Sialidae; *Sialis* 7.4

ODONATA

- 1: Gomphidae; *Stylogomphus* 4.8, *Labrogomphus*, *Leptogomphus*,
Merogomphus, *Macrogomphus* (1.0)

- 3: Aeshnidae; *Boyerla* (3.0)
- (Cordulegastridae); *Anotogaster* (3), *Cordulegaster* 6.1
- (Euphaeidae); *Anisopleura*, *Dysphae* and *Euphaea* (3.0)
- Macromidae; *Macromia* 6.7

- 5: (Amphipterygidae); *Philoganga* (5.0)
- Calopterygidae/Agriidae; *Neurobasis* and *Vestalis* (5.0)
- (Chlorocyphidae); *Libellago* and *Rhinocypha* (5.0)
- Corduliidae; *Epithea* and *Idionyx* (5.0), *Somatochlora* 8.9
- (Megapodagrionidae; *Pseudolestes* 5.0)
- 9: (Chlorolestidae); *Megalestes* and *Sinolestes* (9.0)
- (Coenagrionidae); *Ischnura* 9.4
- Lestidae; *Indolestes* (9.0)
- Libellulidae; *Orthetrum* (8.55)

DIPTERA

- 0: (Deuterophlebiidae); *Deuterophlebia* (0.0)
2: Athericidae; *Atherix* 2.1
3: Tipulidae; *Holorusia, Prionocera, Tipula and Triogma* (3.0)
4: Dolichopodidae; *Dolichopus* 9.7
6: (Chaoboridae); *Chaoborus* 8.5
pink Chironomidae; *Ablabesmyia* 6.1, *Cryptochironomus* 7.35
Simuliidae; *Prosimulium* 2.95, *Simulium* 6.55
(Stratiomyiidae); *Stratiomys* (6.0)
8: Blood-red Chironomidae; *Chironomus* 9.8, *Conchapelopia* 10.0
10: Psychodiidae; *Psychoda* 9.9

COLEOPTERA

- 4: Elmididae/Elmidae, *Dryopomorphus, Ordobrevia and Pseudamophilus* (4.0)
Psephenidae; *Eubrianax and Mataeopsephus* (4.0)
5: Dryophidae
6: (Gyrinidae); *Dineutus* 5.5, (*Porrorhynchus* 5.9)
(Haliplidae); *Haliplus* 6.25
8: (Hydrophilidae); *Anacaena and Paracymus* (8.25)

HETEROPTERA

- 9: (Nepidae); (*Ceercometus*) and *Ranatra* 7.5

-
- Note : Additional families and genera to the initially established lists of the North Carolina scheme, and the averaged values of the published scores are in bracket.

Appendix J. Absence and Presence of Populations of Benthic Macroinvertebrates at Stations along Selai River used for Estimation of BMWP

Macroinvertebrates	Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
EPHEMEROPTERA (Mayflies)														
Baetidae		1	1	1	1	1	1	1	1	1	1	1	1	1
Caenidae		0	0	1	0	0	1	1	0	0	1	1	1	0
Ephemerellidae		0	0	0	0	0	0	1	0	1	0	0	0	0
Heptageniidae		1	1	1	1	1	1	1	1	1	1	1	0	0
Leptophlebiidae		1	1	1	1	1	1	1	1	1	1	1	0	0
Potamanthidae		1	0	0	0	1	1	0	1	0	0	0	0	0
Siphonuridae		1	1	1	1	1	1	0	0	1	0	0	0	0
PLECOPTERA (Stoneflies)														
Chloroperlidae		0	0	0	0	0	0	0	1	1	0	0	0	0
Nemouridae		0	0	0	0	0	0	0	0	1	0	0	0	0
Perlidae		1	1	1	1	1	1	1	1	1	1	0	0	0
Perlodidae		1	1	1	0	1	1	1	1	1	0	0	0	0
Taeniopterygidae		1	1	1	0	1	1	1	1	1	0	0	0	0
TRICHOPTERA (Caddisflies)														
Ecnomidae		1	0	0	0	0	0	0	0	1	1	0	1	1
Glossosomatidae		1	0	0	0	0	0	0	0	0	0	0	0	0
Hydropsychidae		1	1	1	1	1	1	1	1	1	1	0	1	1
Hydroptilidae		1	0	0	1	0	0	0	0	0	0	0	0	0
Leptoceridae		1	0	0	0	0	0	0	0	0	0	0	0	0
Limnephilidae		1	1	1	1	0	1	0	0	0	0	0	0	0
Philopotamidae		1	1	1	1	1	1	1	1	1	1	1	0	1
Polycentropodidae		1	0	0	0	0	0	0	0	0	0	0	0	0
Psychomyiidae		1	1	0	0	0	0	0	0	0	0	0	0	0
ODONATA, ZYGOPTERA (Damselflies)														
Lestidae		0	0	0	0	0	0	0	0	0	1	1	0	0
ODONATA, ANISOPTERA (Dragonflies)														
Aeshnidae		0	1	0	0	0	0	0	0	0	0	0	0	0
Cordulegastridae		0	0	0	1	0	0	0	0	0	0	0	0	0
Corduliidae		1	1	0	0	0	0	1	0	0	0	0	0	0
Gomphidae		1	1	1	0	1	1	1	1	1	1	0	1	1
Libellulidae		0	0	0	0	0	0	1	0	0	0	0	0	0
HETEROPTERA (Aquatic bugs)														
Gerridae		1	1	0	0	1	1	0	0	1	0	0	0	0
Hydrometridae		0	0	0	0	0	0	0	0	0	0	1	0	0
Nepidae		0	0	0	0	1	0	1	0	0	0	0	1	0
Veliidae		0	0	0	0	0	1	0	0	1	0	0	0	0

Appendix J. Absence and Presence of Populations of Benthic Macroinvertebrates at Stations along Selai River used for Estimation of BMWP

Macroinvertebrates	Stations:	1	2	3	4	5	6	7	8	9	10	11	12	13
COLEOPTERA (Aquatic beetles)														
Elmidae/Elmidae		0	0	0	1	1	0	0	0	0	0	0	0	0
Gyrinidae		0	1	1	1	0	0	0	0	1	1	0	0	0
Halplidae		0	0	0	0	0	0	0	0	0	0	0	1	0
Hydrophilidae		0	0	0	0	0	0	0	0	0	1	0	0	1
Scirtidae		0	0	0	0	0	0	0	0	1	1	0	0	0
DIPTERA (2-wing true flies)														
Chironomidae		1	1	1	0	1	0	1	1	0	1	0	0	1
Simuliidae		0	0	1	1	0	0	1	0	1	1	0	0	0
Tipulidae		1	1	0	0	1	0	1	1	0	1	0	0	0
GASTROPODA (Freshwater snails)														
Lymnaeidae		1	1	1	1	1	1	1	1	1	1	1	1	1
GNATHOBDELLIDA (Leech)														
Hirudinidae		0	0	0	0	1	0	1	0	0	0	0	0	0
Total Taxa Richness (N)		23	19	16	14	18	16	19	14	20	17	8	8	8
Biological Monitoring Working Party (BMWP)		171	136	114	96	123	122	131	105	148	108	55	45	43
Average Score Per Taxon (ASPT)		7.4	7.2	7.1	6.9	6.8	7.6	6.9	7.5	7.4	6.4	6.9	5.6	5.4

Appendix K. The Biological Scores Allocated to Groups of Organisms by the Biological Monitoring Working Party (BMWP) Score (Chapman *et al.*, 1996)

Score	Groups of organisms
10	Siphonuridae, Heptageniidae, Leptophlebiidae, Ephemerellidae, Potamanthidae, Ephemeridae Taeniopterygidae, Leuctridae, Capniidae, Perlodidae, Perlidae, Chloroperlidae Aphelocheiridae Phryganeidae, Molannidae, Beraeidae, Odontoceridae, Leptoceridae, Goeridae, Lepidostomatidae, Brachycentridae, Sericostomatidae
8	Astacidae Lestidae, Agriidae, Gomphidae, Cordulegasteridae, Aeshnidae, Corduliidae, Libellulidae Psychomyiidae (Ecnomidae), Phylopotamidae
7	Caenidae Nemouridae Rhyacophilidae (Glossosomatidae), Polycentropodidae, Limnephilidae
6	Neritidae, Viviparidae, Ancyliidae (Acroloxidae) Hydroptilidae Unionidae Corophiidae, Gammaridae (Crangonyctidae) Platycnemididae, Coenagriidae
5	Mesovelidae, Hydrometridae, Gerridae, Nepidae, Naucoridae, Notonectidae, Pleidae, Corixidae Haliplidae, Hygrobiiidae, Dytiscidae (Noteridae), Gyrinidae, Hydrophilidae (Hydraenidae), Clambidae, Scirtidae, Dryopidae, Elmidae Hydropsychidae Tipulidae, Simuliidae Planariidae (Dogesiidae), Dendrocoelidae
4	Baetidae Sialidae Pisicolidae
3	Valvatidae, Hydrobiidae (Bithyniidae), Lymnaeidae, Physidae, Planorbidae, Sphaeriidae Glossiphoniidae, Hirudinidae, Erpobdellidae Asellidae
2	Chironomidae
1	Oligochaeta

Groups in brackets are new groups of organisms that were previously contained in the group immediately before it in the list. These new groups are the result of developments in the taxonomic system since the BMWP score was originally prepared.

Appendix L. Typical Field Record Sheet for Biological Sampling and Ecological Surveys
(Based on an example used by Chapman *et al.*, 1996)

Water body		Date		Time	
Name and number of sample site		No			
weather	Rain	None	☐ Last 24 hours	☐	Duration
	Could cover	None or little	☐	Variable	☐ Extensive ☐

Water conditions	Width (m)	<1	☐	1-2	☐	3-5	☐	6-10	☐	11-20	☐	> 20	☐
	Depth (m)	<0.1	☐	0.1-0.3	☐	0.4-0.6	☐	0.7-1.0	☐	> 1.0	☐		
	Currents	No turbulence	☐	Still	☐	Turbulent	☐	Strong turbulence	☐				
	Estimated velocity	(ms ⁻¹)	<0.2	☐	0.2-0.4	☐	0.5-0.8	☐	> 0.8	☐			
	Turbidity	None	☐	Little	☐								
	Colour	Coloured	☐	Uncoloured	☐								
	Odour	Absent	☐	Present	☐	Chemical	☐	H ₂ S	☐	Other	☐		

Substrate	Boulders	☐	☐	☐	Silt	☐	☐	☐	Score	
	Large stones	☐	☐	☐	Detritus	☐	☐	☐	Rare <25%	☐
	Small stones	☐	☐	☐	Mosses	☐	☐	☐	Intermediate 25-50%	☐
	Filamentous algae	☐	☐	☐	Submerged plants	☐	☐	☐	Dominant > 50%	☐
	Emergent plants	☐	☐	☐	Marginal plants	☐	☐	☐		

Habitat	% still water	very little	☐	<25%	☐	26-50%	☐	>50%	☐
	% flowing water	very little	☐	<25%	☐	26-50%	☐	>50%	☐
	Shade	None	☐	Little	☐	Moderate	☐	Heavy	☐
	River protection measures	None	☐	Concrete banks	☐	Others	☐		

Reducing conditions	Reducing conditions absent	☐	Reducing conditions present	☐		
	Bubble-forming sediments	Yes	☐	No	☐	
	Black sediment	Superficial	☐	Below sediment surface	☐	
	Undersides of stones	None	☐	Partial	☐	Total

Signs of pollution	Open water	None	☐	Sewage	☐	Oil	☐	Others	☐
	margins	None	☐	Sewage	☐	Oil	☐	Others	☐

Other comments _____ Physical -chemical measurement:

_____ pH _____ Air Temp °C _____

_____ Diss.O₂ _____ Water Temp °C _____

Observer's signature _____ Conductivity (us cm⁻¹) _____