

Appendix 3 Styx Mill reserve 2003/2004 insect survey										
Section 1 Woodland -4 sites, 3 with different sampling										
	Nearest freshwater: ms =main styx; sc= stony creek mc=muddy creek;									
LT=light trap			pc =peaty creek;po = pool; md =muddy ditch							
MT =Malaise trap	South	willow	Hemlock	Planted woods	Flax &	Kanuka				
PT= Pan trap	wood	land			river	flowers	Total			
Collecting method	PT	Malaise	Sweep	PT	MT	PT,LT	Sweep			
Site no & freshwater	17,pc	17,pc	23,sc	12,po	12,po	6,sc	5,sc			
SPECIES OR TAXA	Freshwater insects								#REF!	
Chironomidae*	*	*				2	2			
Orthocladinae	*	*		5	6	6	34	51		
"Tanypodinae" orange	*	*			3			3		
Dasyhela -small	*	*	3				1	4		
Palpomyia brown legs	*	*					6	6		
Medium sized Ceratopogonidae	*	*					3	3		
Tipulidae small	*	*			5			5		
Trichoptera unidentified	*	*			1		2	3		
<i>Oxythera albiceps</i> #	*	*			4			4		
<i>Chironomus</i> sp	*	*			2	2	1	5		
<i>Hydrophorus praecox</i> (A)	*	*			2			2		
TOTAL	0	0	3	5	23	10	47	88	18	
	Mud and wetland inhabitants									
Dolichopodidae other	*	*		3		1		4		
<i>Sympycnus</i>	*	*		1				1		
<i>Hilarempis</i> sp 1	*	*	3					3		
<i>Hilarempis</i> sp 2	*	*	2					2		
<i>Hilarempis</i> sp 3	*	*	1					1		
<i>Hilara</i> species 1	*	*	1					1		
<i>Empididae</i> - dance fly	*	*				1		1		
<i>Leptocera</i> spp#	*	*		3				3		
<i>Millerina</i> sp 1	*	*	3					3		
<i>Millerina</i> sp 2	*	*	3					3		
<i>Millerina</i> sp 3	*	*	4					4		
<i>Millerina</i>	*	*		1	6			7		
Tipulidae small	*	*			3			3		
Helodidae? -Marsh beetles	*	*			1			1		
Total muddy area	0	0	17	8	9	2	0	36	16	
* = in waterways section 2									34	

Appendix 3 Styx Mill reserve 2003/2004 insect survey										A = adventive species			
Section 2 Waterways - 11 sites, site 22 sampled in two years													
Sites in bold are the same	pc =peaty creek;po = pool; md =muddy ditch or site						Styx R			North wetland			
LT = UV Light trap	Central creek	East creek	East 2004	ditch 2005	South open	creek willow	Water trough	Red-wood	East rush	by pool	in bog	Total	
PT = pan trap	PT	PT,LT	PT	PT	PT	wood	PT	PT	MT	PT,LT	PT,LT		
Site no & near by vegetation	7,8 G	3 W/G	20,GW	22/23 GW	18W/Wo	17 Wo	2 G	25 W/G	19W	14W	15W		
Waterway bed	sc	po	sc	md	md	peaty	MT,PT	md	river	mc	md	nil	
Habitat codes for sites G = grassland	W = wetland Wo = woods												
Species or taxa	Running freshwater						Nd = not determined throughout samples						
Orthocladinae (5 spp)	15	2	22	34	19	4	127	2	2	2	3	232	
Orthocladinae black male											7	7	
Orthocladinae 3 brown stripes											24	24	
Orthocladinae patterned wing											16	16	
Orthocladinae orangy, little pattern											16	16	
Large Orthocladinae											6	6	
<i>Corynoneura scutellata</i> A	1		3		4			8				16	
Tanypodinae							5		2	2	3	12	
<i>Palpomyia</i> black, long cell		1	3	1	3		3				1	12	
<i>Palpomyia</i> brown, short cell			1				19		2			22	
<i>Dasyhelea</i> sp orangy small			5	4	15		1		1	5		31	
<i>Dasyhelea</i> sp evenly black			2				2					4	
<i>Paralimnophora skusei</i>				4	1							5	
<i>Neolimnia sigma</i>							1		1			2	
TOTAL	16	3	36	43	42	4	158	10	2	6	10	75	405
Freshwater -favour still or slow flowing water													
<i>Oxythera albiceps</i>		5	10		8	3				116	9	8	159
<i>Paraoxythera hendersoni</i>			1							24			25
Caddisfly other sp											1		1
<i>Chironomus</i> sp	10	10					8		28	19			75
Culicidae -mosquitoes				1			1						2
<i>Chelifera ?fontanalis</i>	9		3	1	1	1				1			16
<i>Ceratomerus crassinervis</i>				9	1		4						14
<i>Hydrophorus praecox</i> A			5	1								2	8
<i>Hercostomus</i> new species		2					1		4				7
<i>Paradixa neozelandica</i>							2						2
<i>Xanthocnemis zelandica</i>										1			1
TOTAL	19	17	19	12	10	4	16	0	32	161	10	10	310
# = not identified	Muddy fringes and wetland												
<i>Scatella nebeculosa</i>		12		33	59		1	54		6	2		167
<i>Scatella</i> other species	3	20	126	77	159			169	3	3	12	1	573
<i>Hyadina irrorata</i>				29	1								30
<i>Parahyadina</i> sp			5	10	6					1			22
<i>?Eleleides chloris</i>					1								1
<i>Ephydrella</i> sp		6			6		1	10				1	24
<i>Diaphorus</i> large new sp 1	2	11	13	5	11	1	14			3	2	91	153
<i>Diaphorus</i> brown leg n. sp 2			22	42	25			6	2		2	7	106
<i>Tetrachaetus bipunctatus</i>		36	56	147	20	13		9		2	2		285
<i>Sympycnus</i> species	2	43	16		6	3	39			2		4	115
<i>Hilara</i> species 1		12			2	1	1			1			17
<i>Hilara</i> species 2	8												8
<i>Isodrapetes</i> new sp.		1				4					1		6
<i>Eristalis tenax</i> drone fly A										19	26	26	71
<i>Helophilus hotchstetteri</i>	3		1							40			44
<i>Phthitia ?lobcerus</i>	4	4	10	16	27	1		6		2			70
<i>P. thomasi/notthomasi</i>		10		3	3		2	1					19
<i>Pullimosina heteroneura</i>						2							2

Appendix 3 Styx Mill reserve 2003/2004 insect survey																
Section 2 Waterways - 11 sites, site 22 sampled in two years																
Sites in bold are the same	pc =peaty creek;po = pool; md =muddy ditch or site								Styx R		North wetland					
	Central creek	East	East	ditch	South	creek	Water	Red-	East	by	in					
LT = UV Light trap		creek	yr 1	yr 2	open	willow	trough	wood	rush	pool	bog	Total				
PT = pan trap	PT	PT	PT,LT	PT	PT	PT	wood	PT	PT	MT	PT,LT	PT,LT				
Site no & near by vegetation	7-9 G	5 W/G	20,GW	22/23	GW	18W/Wo	17 Wo	2 G	25 W/G	19W	14W	15W				
Waterway bed	sc	po	sc	md	md	peaty	MT,PT	md	river	mc	md	nil				
Habitat codes for sites G = grassland							W = wetland Wo = woods									
# = not identified	Muddy fringes and wetland															
Limnosinae species 1		1	4	3	18	1		36		5	18		86			
Limnosinae species 2				2	1			1				2	6			
<i>Limnohelina</i> sp.	3		12				3		18				36			
<i>Gynoplistia pedestris</i>	1						5			2		7	15			
<i>Millerina</i> ? <i>aucklandica</i>	28	75	44	23	83	17	2	3		9	4	1	289			
<i>Millerina</i> ? <i>melas</i>	5	6	16	9	4		1			11	1		53			
<i>Millerina</i> 2 dark wing spots	1		1	1	2								5			
<i>Millerina</i> 1 dark spot					2								2			
<i>Millerina</i> shorter 3rd ant	3		22										25			
<i>Millerina</i> small brownly					1								1			
<i>Saldula</i> sp. - shore bug			6	7	2						1		16			
Helodidae beetle					1								1			
TOTAL muddy fringe	63	237	354	407	440	43	69	295	23	106	71	140	2248			
<i>Millerina</i> spp	22	site 7														
<i>Millerina</i> spp	16	site 8														
<i>Millerina</i> spp	6	site 9														

% of sites
91
nd
nd
nd
nd
nd
36
36
45
27
45
18
18
18
100
64
18
9
45
18
45
18
27
27
9
9
81
55
82
9
27
9
45
82
55
73
73
45
9
27
27
27
64
32
9

% of sites
55
27
36
32
91
64
27
9
18
9
18
9
100

Appendix 3 Styx Mill reserve 2003/2004 insect survey									
Section 4	Red-	Ungrazed & lax grazed						Average	
Site 11 resamp	wood	Long	Long	Central	creek	Total	per		
Co=cocksfoot	springs	grass	grass		Lumped	ungr-	sample		
Bt = brown top	G,b,d	Bt,Co	Bt		for aver	azed	ungr-	graz-	
Site no in Styx	Site 25	Site 10	site 5	Site 6	site 8		azed	ed	
PT = pan trap	Sweep	PT	PT	PT	PT				
ADDITIONAL RECORDS for Aquatic to waterway fringe species						* = results in waterways section 2			
<i>"Leptocera" sp</i>	1	0	0	0	0 *		1		
Dolichopodidae	0	2	5	2	2 *		7		
Total muddy a	1	2	5	2			10		
<i>Oxythera albica</i>	0	0	0	3	3 *		3		
<i>Palpomyia spec</i>	0	0	0	1	1 *		1		
Chironomidae	8	0	16	0	0 *		24		
Orthocladinae	0	0	5	1	1 *		6		
<i>Corynoneura se</i>	0	0	2	0	0 *		2		
<i>Scatella sp.</i>	0	0	1	0	0 *		1		
Total aquatic s	8	0	24	1			32		
<i>Tetrachaetus bipunctatus</i>					3		3		

Appendix 3 Styx Mill reserve 2003/2004 insect survey														
Section 4 Grassland					Grazed									
Site 11 resampled	Stock-	Stockyard		East	Yarrow	Dry	Dry	Dry	Total					
Co=cocksfoot	yard	Ditch	Ditch	creek	flowers	grazed	short	water	for	Average	% of			
Bt = brown top, d =dock		2004	2005	ford		pasture	grass	trough	grazed	per	sites			
Site no in Styx Reserve	Site 21	site 22	22/23	site 20	Site 13	Site 11	site 9	Site 2		sample	(7			
PT = pan trap	Sweep	PT	PT	PT	Sweep	PT	PT	PT			sites)			
SPECIES OR TAXA					Herbivores									
<i>Hydrellia enderbii</i>		122	656	184		11	1	33	1007	125.88	71			
<i>Hydrellia tritici</i> A	19	6	135	5				4	169	21.125	57			
<i>Hydrellia acutipennis</i>		5		38					43	5.375	29			
<i>Hydrellia</i> new species		10	152					6	168	21	29			
<i>Hydrellia</i> undetermined			18						18	2.25	14			
<i>Psilopa metallica</i>	10	29	14	119	5			1	178	22.25	71			
* = results in waterways section 2					Mud and wetland inhabitants									
<i>Eristalis tenax</i> - drone fly A	0	*	*	*	1	0	*	*						
<i>Helophilus hotchstetteri</i>	0	*	*	*	2	0	*	*						
"Leptocera" sp	0	*	*	*	0	1	*	*						
Dolichopodidae black	0	*	*	*	0	0	*	*						
Total muddy area	0	*	*	*	3	1	*	*						
<i>Oxythera albiceps</i>	0	*	*	*	0	0	*	*						
<i>Palpomyia species</i>	0	*	*	*	0	0	*	*						
Chironomidae	0	*	*	*	0	0	*	*						
Orthocladinae	0	*	*	*	0	0	*	*						
<i>Corynoneura scutellata</i>	0	*	*		0	1	*	*						
<i>Scatella</i> sp.	0	*	*	*	0	1	*	*						

