

Appendix 1

TAXON LIST

Invertebrate survey of Silver Island (Lake Hawea) and Te Peka Karara/Stevensons Island (Lake Wanaka), 3 April to 13 May 1998. Carried out by R. Logan and E. Edwards.

Key to habitat

kg = kanuka in open vegetation
 k = kanuka with no understorey
 kc = manuka with *Corokia cotoneaster*
 ku = kanuka with understorey shrubs
 mf = mixed broadleaf forest
 b = beech forest
 r = near shore (riparian)
 a = aquatic—from lake

Key to collection method

L = light trap
 H = hand collected
 P = pitfall trap
 Pt = pan trap
 Ls = litter sample

S = Silver Island
 T = Te Peka Karara/Stevensons Island
 n = number of individuals
 m.l. = mean length (mm)

ORDER/ CLASS	FAMILY	GENERA	SPECIES	COMMON NAME	n	m.l.	S or T	HABITAT	COLLECTION METHOD	WEKA FOOD?
Thysanura		Unidentified	sp.	silverfish	5	8.4	S,T	ku,kg	Ls	x
Odonata	Lestidae	<i>Austrolestes</i>	<i>colenonis</i>				S	kg,ku	H	
	Cordulidae	<i>Procordulia</i>	<i>grayi</i>	yellow spotted dragonfly			S			
	Coenagrionidae	<i>Xanthocnemis</i>	<i>zealandica</i>				T	r,kg	H	
Mantodea	Mantidae	<i>Orthodera</i>	<i>ministralis</i>	praying mantis			S,T	kg,ku	H	x
Dictyoptera		<i>Celatoblatta</i>	sp.				T	r	H	
Dermaptera	Forficulaceae	<i>Forficula</i>	<i>auricularis</i>	common earwig			S,T	r	H	x
Orthoptera	Gryllidinae	<i>?Pteronemobius</i>	<i>bigelowii</i>				S,T	r,ku,kg	H,Pt,L	
	Acrididae	<i>Conocephalus</i>	<i>semivittatus</i>	green grasshopper			T	kg,r	H	x
	Acrididae	<i>Pboulacridium</i>	<i>marginale</i>				S	kg	H	x
	Acrididae	<i>Sigaus</i>	<i>australis</i>				S	kg	H	x
Hemiptera	Lygaeidae	unidentified	sp.		1	6.5	T	kg	Ls	x
	Pseudococcidae	unidentified	sp.		1	9	T	ku	Ls	x
Coleoptera	Carabidae	<i>Hyparpax</i>	<i>australis</i>				T	k,ku,kg	P	x
	Carabidae	<i>Mecodema</i>	<i>lucidum</i>				S	b,k	P	x
	Carabidae	<i>Oregus</i>	<i>aureus</i>				S	b,k,ku	P	x
	Carabidae	<i>Metaglymma</i>	<i>tibiale</i>				S,T	kg	P	x
	Carabidae	<i>Holcasps</i>	<i>ovatella</i>				S,T	k,b,ku	P	x
	Carabidae	<i>Agonum</i>	<i>otagoense</i>				S,T	kg,k,ku,r	P	x
	Carabidae	<i>Laemostenus</i>	<i>complanatus</i>				T	r	P	x
	Carabidae	<i>Notagonum</i>	<i>?feredayii</i>				S	k	P	x
	Carabidae	<i>Mecyclothorax</i>	<i>rotundicollis</i>				T	kg	P	x
	Carabidae	<i>Megadromus</i>	<i>fultoni</i>				S,T	b,k,ku,kg	P	x
	Carabidae	<i>Megadromus</i>	<i>sandageri</i>				T	k	P	x
	Carabidae	<i>Scopodes</i>	<i>elaphroides</i>				S	r	H	
	Carabidae	<i>Holcasps</i>	<i>punctigera</i>				S,T	b,k,ku	P	x
	Carabidae	<i>Holcasps</i>	<i>placida</i>				S	b,ku	P	x
	Staphylinidae	unidentified	sp. A				T	kg	H	x
	Staphylinidae	unidentified	sp. B		7	5.3	S	b	Ls	x
	Scarabaeidae	<i>Odontria</i>	<i>australis</i>		2	13	S,T	b,k,ku,kg	H,L,P,Ls	x
	Scarabaeidae	<i>Odontria</i>	<i>?rufescens</i>				S	kg,ku	H,P	x
	Scarabaeidae	<i>Pyronota</i>	sp.				T	kg	H	x
	Scarabaeidae	Unidentified	sp.		2	13	S	b	Ls	x
	Lucanidae	<i>Mitophyllus</i>	<i>foveolatus</i>	stag beetle			S	b	H	x
	Luconidae	<i>Holloceratognathus</i>	<i>cylindricus</i>				T	k	H	x
	Elateridae	<i>?Conoderus</i>	sp.				S	ku	P	x
	Elateridae	unidentified	sp.				T		L	
	Tenebrionidae	<i>Artystona</i>	<i>obscura</i>				S	r	H	x
	Byrrhidae	unidentified	sp. A				S	b,ku,kg	P	

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	Byrrhidae	Unidentified	sp. B				S	k	P	
	Byrrhidae	Unidentified	sp. C				S	ku,k	P	
	Tenebrionid	<i>Mimopeus</i>	<i>opaculus</i>	darkling beetle			S,T	b,k,ku,kg,r	P,H	x
	Tenebrionid	<i>Zeadelium</i>	<i>bullatum</i>				T	ku,kg	P,H	x
	Tenebrionid	<i>Zeadelium</i>	<i>lentum</i>				T	ku	H	x
	Melyridae	Unidentified	sp.		1	4.5	S		Ls	x
	Cleridae	Unidentified	sp.		2	5.5		kg	Ls	x
	Trogossitidae	Unidentified	sp.		5	4.6		b	Ls	x
	Colydiidae	? <i>Coxellus</i>	sp.		2	5	S,T	ku,mf	Ls	x
Coleoptera	Coccinellidae	<i>Adoxellus</i>	? <i>prolongatus</i>				S,T	ku,k,r	H,P	
	Coccinellidae	<i>Rbizobius</i>	<i>forestieri</i>		1	5	S	B	Ls	x
	Cerambycidae	? <i>Stenellipsis</i>	sp.				T			
	Cerambycidae	<i>Somatidia</i>	sp.		2	4.5	S	ku	Ls	x
	Cerambycidae	<i>Somatidia</i>	<i>longipes</i>				T			
	Chrysomelidae	<i>Chrysomela</i>	<i>hyperici</i>	St John's wort beetle			T	kg	H	x
	Curculionidae	<i>Brachyolus</i>	sp.		6	6.3	S	b	Ls	x
	Curculionidae	<i>Cossonine</i>	sp.				T	k	H	
	Curculionidae	<i>Ottorhynchus</i>	<i>sulcatus</i>	black vine weevil			T	kg	H	
	-	unidentified	larva A		12	5.3	S,T	b,ku,k	Ls	x
	-	unidentified	larva B		23	7.3	S,T	kg,mf,ku	Ls	x
	-	unidentified	larva C		9	14	S	kg	Ls	x
	-	unidentified	larva D		5	13	S,T	kg,ku	Ls	x
	-	unidentified	larva E		2	16	S	b	Ls	x
	-	unidentified	larva F		6	5.3	S	b	Ls	x
	-	unidentified	larva G		1	5	T	ku	Ls	x
	-	unidentified	larva H		5	7	S	ku	Ls	x
	-	unidentified	larva I		3	4.6	T	ku	Ls	x
Diptera	Chironomidae	unidentified	sp.		1	9.5	S,T	kg	Ls,L	
	Sciaridae	unidentified	sp. larva		4	7.3	S	bkg	Ls	x
	Tachinidae	<i>Chaetophthalme</i>	<i>bicolor</i>				S		L	
	Muscidae	unidentified	sp.		2	6.5	S,T	mf,kg	Ls	
	-	unidentified	larva A		531	5.1	S,T	kc,ku,kg,mf	Ls	x
	-	unidentified	larva B		2	13	S	b,mf	Ls	x
	-	unidentified	larva C		2	5	T	ku	Ls	x
	-	unidentified	larva D		1	5	T	ku	Ls	x
Trichoptera	Leptoceridae	<i>Hudsonema</i>	<i>amabilis</i>				T	a	L	
	Hydroptilidae	<i>Hydrobiosis</i>	<i>umibripennis</i>				S,T	a	L	
	Hydroptilidae	<i>Hydrobiosis</i>	<i>parumbripennis</i>				S,T	a	L	
	Hydroptilidae	<i>Hydrobiosis</i>	<i>barpidiosa</i>				S,T	a	L	
	Leptoceridae	<i>Oecetis</i>	<i>unicolor</i>				S,T	a	L	
	Hydroptilidae	<i>Oxyetbira</i>	<i>albiceps</i>				S,T	a		
	Hydroptilidae	<i>Paroxyetbira</i>	<i>bendersonii</i>				T	a		
	Hydroptilidae	<i>Paroxyetbira</i>	<i>eatonii</i>				S,T	a		
	Leptoceridae	<i>Triplectides</i>	<i>cephalotes</i>				S,T	a		
Lepidoptera	Lycaenidae	<i>Lycaena</i>	<i>boldenarum</i>				S,T		L	
	Lycaenidae	<i>Lycaena</i>	<i>salustius</i>				S		L	
	Lycaenidae	<i>Zizina</i>	<i>oxleyi</i>				S,T		L	
	Pieridae	<i>Pieris</i>	<i>rapae</i>	cabbage white butterfly			S,T	r,kg	H	x
	Nymphalidae	<i>Bossaris</i>	<i>gonerilla</i>	red admiral butterfly			S,T	r,kg	H,Pt	
	Nymphalidae	<i>Cyntbia</i>	<i>kershawii</i>	painted lady butterfly			S	r	H	
	Noctuidae	<i>Agrotis</i>	<i>ippsilon</i>				S		L	x
	Noctuidae	<i>Aletia</i>	<i>longstaffii</i>				S		L	x
	Noctuidae	<i>Aletia</i>	<i>moderata</i>				S		L	x
	Noctuidae	<i>Aletia</i>	<i>sistens</i>				S		L	x
	Noctuidae	<i>Aletia</i>	<i>virescens</i>				S,T		L	x
	Noctuidae	<i>Bilyta</i>	<i>defigurata</i>				S		L	
	Noctuidae	<i>Feredayia</i>	<i>graminosa</i>				S,T		L	
	Noctuidae	<i>Graphania</i>	<i>insignis/scutata</i> complex				S		L	x
	Noctuidae	<i>Graphania</i>	<i>lignana</i>				S,T		L	x

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	Noctuidae	<i>Graphania</i>	<i>morosa</i>				S,T	L		x
	Noctuidae	<i>Graphania</i>	<i>mutans</i>				S,T	L		x
	Noctuidae	<i>Graphania</i>	<i>pbricias</i>				S,T	L		
	Noctuidae	<i>Graphania</i>	<i>plena</i>				S	L		x
	Noctuidae	<i>Graphania</i>	<i>ustistriga</i>				S,T	L		x
	Noctuidae	<i>Meterana</i>	<i>dolata</i>				S	L		
	Noctuidae	<i>Meterana</i>	<i>meyricci</i>				S	L		
	Noctuidae	<i>Persectonia</i>	<i>aversa</i>				S	L		x
	Noctuidae	<i>Rhapsa</i>	<i>scotosialis</i>		3	10	T k	Ls		x
	Noctuidae	<i>Tmetolophota</i>	<i>atristriga</i>				T	L		x
	Noctuidae	<i>Tmetolophota</i>	<i>propria</i>				T	L		x
	Noctuidae	unidentified	sp. larva		1	10	T k	Ls		x
	Tortricidae	<i>Apoctena</i>	<i>pictoriana</i>				S,T	L		
	Tortricidae	<i>Ctenopseutis</i>	<i>obliquana</i>				S	L		
	Tortricidae	<i>Harmologa</i>	n. sp.				S,T	L		
	Tortricidae	<i>Harmologa</i>	<i>scoliaetes</i>				S,T	L		
	Tortricidae	<i>Planotortrix</i>	<i>excessana</i>				S,T	L		
	Tortricidae	<i>Strepsicrates</i>	<i>ejectana</i>				T	L		
	Geometridae	<i>Austrocidaria</i>	<i>anguligera</i>				S,T	L		
	Geometridae	<i>Austrocidaria</i>	<i>gobiala</i>				S	L		
	Geometridae	<i>Austrocidaria</i>	<i>similata</i>				S	L		
	Geometridae	<i>Declana</i>	<i>flocossa</i>				S	L		
	Geometridae	<i>Declana</i>	<i>Griseata</i> (on mistletoe)				S	L		
	Geometridae	<i>Declana</i>	<i>junctilinea</i>				S	L		
	Geometridae	<i>Epyaxa</i>	<i>rosearia</i>				S,T	L		x
	Geometridae	<i>Chloroclystis</i>	<i>filata</i>				S	L		
	Geometridae	<i>Helastia</i>	<i>christinae</i>				S,T	L		
	Geometridae	<i>Helastia</i>	<i>corcularia</i>				S	L		
	Geometridae	<i>Horisme</i>	<i>suppresaria</i>				S	L		
	Geometridae	<i>Poecilasthena</i>	<i>pulchra</i>				S	L		
	Geometridae	<i>Poecilasthena</i>	<i>schiztaria</i>				S	L		
	Geometridae	<i>Pseudocorem</i>	<i>lupinata</i>				T	L		
	Geometridae	<i>Pseudocorem</i>	<i>suavis</i>				T	L		
	Geometridae	<i>Sarisa</i>	<i>muriferata</i>				T	L		
	Geometridae	<i>Sperchia</i>	<i>intractana</i>				T	L		
	Geometridae	<i>Xanthorhoe</i>	<i>semifissata</i>				T	L		
	Geometridae	<i>Xyridacma</i>	<i>ustaria</i>				T	L		
	Geometridae	unidentified	sp. larva		5	6	S,T	kg,mf,ku	Ls	x
	Pyalidae	<i>Deana</i>	<i>hybreasalis</i>				S	L		
	Pyalidae	<i>Mnesictena</i>	<i>flavidalis</i>				S	L		
	Crambidae	<i>Eudonia</i>	<i>cataxesta</i>				S	L		
	Crambidae	<i>Eudonia</i>	<i>critica</i>				S,T	L		
	Crambidae	<i>Eudonia</i>	<i>cymatias</i>				S	L		
	Crambidae	<i>Eudonia</i>	<i>indistinctalis</i>				S,T	L		
	Crambidae	<i>Eudonia</i>	<i>miniscutalis</i>				S,T	L		
	Crambidae	<i>Eudonia</i>	<i>pbilerga</i>				S	L		
	Crambidae	<i>Hygraula</i>	<i>nitens</i>				S	L		
	Crambidae	<i>Orocrambus</i>	<i>flexuosellus</i>				S	L		x
	Crambidae	<i>Orocrambus</i>	<i>vittellus</i>				S,T	L		x
	Crambidae	<i>Orocrambus</i>	<i>cyclopicus</i>				S,T	L		x
	Oecophoridae	<i>Gymnobatbra</i>	sp.		30	6.2	S,T	ku,mf	Ls	x
	Oecophoridae	<i>Gymnobatbra</i>	grp		3	5		ku,mf,k	Ls	x
	Oecophoridae	<i>Gymnobatbra</i>	<i>sarcoantha</i>				S	L		
	Tineidae	<i>Monopis</i>	<i>etbelella</i>				S,T	L		
	Carposinidae	<i>Platyptilia</i>	<i>repletalis</i>				S	L		
	Carposinidae	unidentified	sp. A		2	4.5	S	b	Ls	x
	Carposinidae	unidentified	sp. B		57	9	S,T	k,ku,mf,b	Ls	x
	Pterophoridae	<i>Stenoptilia</i>	<i>zophodactyla</i>				T	L		
	Psychidae	unidentified	larva		77	8	S,T	ku,mf,b,k	Ls	x
Hymenoptera	?	<i>Bombus</i>	<i>terrestris</i>	bumble bee			S,T		Pt	
	?	<i>Lasioglossum</i>	<i>?sordidium</i>				S		Pt	
	Colletidae	<i>Leioproctus</i>	sp.				S,T		Pt	
	Colletidae	<i>Leioproctus</i>	<i>monticola</i>				S,T		Pt	
	Colletidae	<i>Leioproctus</i>	<i>fulvescens</i>				S	kg	H	

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	Ichneumonoidea	<i>Notelia</i>	<i>producta</i>				S,T		L	
	Ichneumonoidea	<i>Opbion</i>	<i>perigrinus</i>				T		L	
	Ichneumonoidea	unidentified	sp. A		1	4	T	ku	Ls	x
	Ichneumonoidea	unidentified	sp. B				T		L	
	sphecidae	<i>Poison</i>	<i>spinolae</i>				S		L	
	Pompilidae	<i>Spbictostethus</i>	<i>nitidus</i>				S,T	kg	H,P	
	Apoidea	unidentified	sp.				T		Pt	
	Vespoidea	<i>Vespula</i>	<i>?germanica</i>				S	Nests, b		
aranaceae	Lycosidae	' <i>Lycosa</i> '	<i>bilaris</i> grp	wolf spider	2	5.8	S,T	r,k	H,Ls	x
	Theridiidae	<i>Achaearana</i>	sp.				T		P	x
	Segestriidae	<i>Ariadna</i>	sp.				T		P	x
	Stiphidae	<i>Cambridgea</i>	<i>antipodana</i>	sheet web spider			S		H	x
	Clubionidae	<i>Clubiona</i>	<i>bultonii</i>		2	6.8	T		Ls	x
	Pisauridae	<i>Dolomedes</i>	<i>aquaticus</i>	water spider			S,T	r	H,P	x
	Pisauridae	<i>Dolomedes</i>	<i>minor</i>				T		P	x
	Areneidae	<i>Eriophora</i>	<i>decorosa</i>				T		P	x
	Gnaphosida	<i>Matua</i>	<i>valida</i>				T		P	x
	Migidae	<i>Migas</i>	<i>distinctus</i>		19	5	S	b	Ls	x
	Lubionidae	<i>Miturga</i>	cf. <i>frenata</i>				S		H	x
	Linyphiidae	<i>Mynoglenes</i>	sp.		1	4	T		Ls	x
	Thomisidae	<i>Sidymella</i>	<i>angulata</i>		1	5	S		Ls	x
	Tetragnatha	<i>Tetragnatha</i>	sp. n.				T		P	x
	Salticidae	<i>Trite</i>	cf. <i>auricoma</i>		1	6.5	S		Ls	x
Pseudoscorpiones		unidentified	sp.		29	4.5	S,T	kg,ku,kc,mf,b	Ls	x
Diplopoda		unidentified	sp. A	centipede	434	8.8	S,T	ku,kg,k	Ls	x
		unidentified	sp. B		11	6.4	S	b,ku	Ls	x
		unidentified	sp. C		1	23	S,T	mf	Ls,P	x
Chilopoda		unidentified	sp. A	millipede	20	13	S,T	k,ku,kg,mf,b	Ls	x
		unidentified	sp. B	millipede	8	6.3	S,T	b,mf,ku	Ls	x
Gastropoda		<i>Allodiscus</i>	sp.				S	ku	H	x
		<i>Pbenacobelix</i>	<i>vasticus</i>				S	ku	H	
		<i>Thermia</i>	<i>cressida</i>				S	ku	H	
Isopoda		unidentified	sp. A	slater	15	5.2	S,T	mf,ku,k,kg	Ls	x
		<i>Porcello</i>	<i>scaber</i>	slater	1	15	T	ku	Ls	x
Annelida		unidentified	sp. A	earthworm	4	20	S	mf	Ls	x
		unidentified	sp. B	earthworm	1	16	T	ku	Ls	x



Photo 1. Mixed regenerating forest and mountain beech forest, Silver Island, Lake Hawea. The response of the vegetation to fire is likely to remain obvious for a further half century.

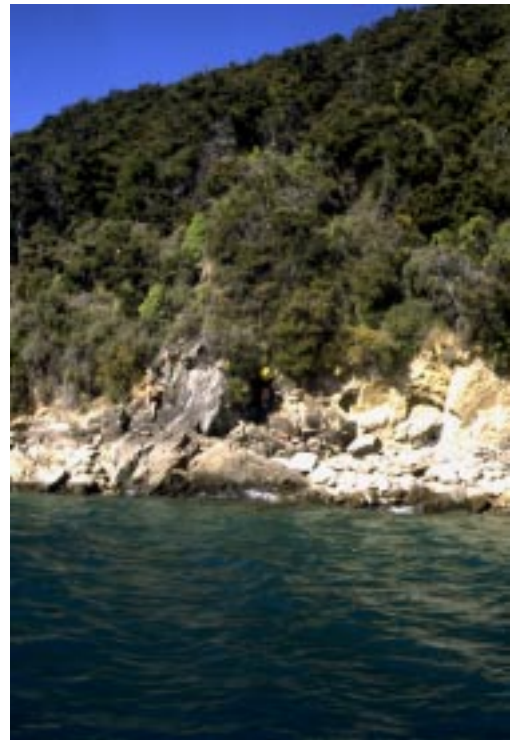


Photo 2. Kanuka and mixed shrubs, Silver Island, Lake Hawea. Drought stress is likely to affect north and west faces particularly. However, these communities will also produce more fruits, seeds and invertebrates than mountain beech-dominated communities.



Photo 3. Shoreline, Silver Island, Lake Hawea. Extensive strand areas are lacking. However, at times weka could glean large numbers of lake caddis from under the cobbles and vegetation.



Photo 4. Collecting litter, Silver Island, Lake Hawea. For weka, finding food items in litter could be like humans searching for mushrooms in long grass—sometimes there will be reward for the effort!

Photo 5. Stevensons Island/Te Peka Karara, Lake Wanaka.



Photo 6. Strand line, Stevensons Island/Te Peka Karara, Lake Wanaka. It is likely that weka would make extensive use of this habitat, particularly in times of drought or cold.



Photo 7. Open kanuka forest, Stevensons Island/Te Peka Karara, Lake Wanaka. For weka, such habitats may have more near-ground food sources than a mature forest where many of the invertebrates and much of the new plant growth are in the canopy.

