

APPENDIX C

**Cumulative taxonomic list of benthic macroinvertebrates sampled
from the Carmel River including California Tolerance Values (CTV)
and Functional Feeding Group (FFG) designations**

Phylum	Class	Order	Family	Final ID	CTV*	FFG**	Total Individuals	Phylum	Class	Order	Family	Final ID	CTV*	FFG**	Total Individuals
Arthropoda															
		Insecta										<i>Hexatoma</i>	2	p	4
			Coleoptera									<i>Limnophila</i>	4	p	1
			Dryopidae									<i>Limonia</i>	6	sh	10
				<i>Helichus</i>	5	sh	1					<i>Tipula</i>	4	om	17
				<i>Postelichus</i>	5	sh	2					Tipulidae	3		3
			Dytiscidae									Ephemeroptera			
				<i>Agabus</i>	8	p	7					Ameletidae			
			Elmidae									<i>Ameletus</i>	0	cg	18
				<i>Ampumixis dispar</i>	4	cg	28					Baetidae			
				<i>Cleptelmis addenda</i>	4	cg	30					<i>Baetis</i>	5	cg	9114
				<i>Narpus</i>	4	sc	1					<i>Centroptilum</i>	2	cg	1
				<i>Optioservus</i>	4	sc	231					<i>Dipheter hageni</i>	5	cg	22
				<i>Ordobrevia nubifera</i>	4	sc	59					<i>Fallceon quilleri</i>	4	cg	33
				<i>Zaitzevia</i>	4	sc	33					Ephemerelellidae			
			Gyrinidae									<i>Drunella</i>	0	cg	1
				<i>Gyrinus</i>	5	p	1					<i>Ephemerella</i>	1	cg	125
			Hydraenidae									<i>Serratella</i>	2	cg	157
				<i>Hydraena</i>	5	sc	2					Heptageniidae			
			Hydrophilidae									<i>Epeorus</i>	0	sc	230
				<i>Hydrophilidae</i>	5	cg	1					Heptageniidae	4	sc	12
			Psephenidae									<i>Ironodes</i>	4	sc	5
				<i>Eubrianax edwardsii</i>	4	sc	76					<i>Rhithrogena</i>	0	sc	148
				<i>Psephenus falli</i>	4	sc	139					Leptohiphidae			
			Diptera									<i>Tricorythodes</i>	4	cg	828
				Cyclorrhaphous/Brachycera	6		1					<i>Paraleptophlebia</i>	4	cg	34
				Ceratopogonidae								Hemiptera			
				<i>Atrichopogon</i>	6	cg	13					Naucoridae			
				<i>Bezzia/ Palpomyia</i>	6	p	14					<i>Ambrysus</i>	5	p	5
				<i>Dasyhelea</i>	6	cg	21					Megaloptera			
			Chaoboridae									Sialidae			
				<i>Chaoborus</i>	7	p	4					<i>Sialis</i>	4	p	1
			Chironomidae									Odonata			
				Chironomini	6	cg	271					Calopterygidae			
				Orthoclaadiinae	5	cg	3425					<i>Hetaerina americana</i>	6	p	40
				Tanypodinae	7	p	94					Coenagrionidae			
				Tanytarsini	6	cg	2094					<i>Argia</i>	7	p	770
			Dixidae									Coenagrionidae		p	2
				<i>Dixa</i>	2	cg	12					Cordulegastridae			
				<i>Meringodixa chalonensis</i>	2	cg	1					<i>Cordulegaster dorsalis</i>	3	p	1
			Dolichopodidae									Plecoptera			
				<i>Dolichopodidae</i>	4	p	2					Capniidae			
			Empididae									<i>Capnia</i>	1	sh	24
				<i>Clinocera</i>	6	p	1					Capniidae	1	sh	25
				Empididae	6	p	8					Chloroperlidae			
				<i>Hemerodromia</i>	6	p	354					<i>Sweltsa</i>	1	p	62
				<i>Neoplasta</i>	6	p	53					Nemouridae			
				<i>Trichoclinocera</i>	6	p	6					<i>Malenka</i>	2	sh	140
				<i>Wiedemannia</i>	6	p	24					Perlidae			
			Ephydriidae									<i>Calineuria californica</i>	1	p	8
				Ephydriidae	6		1					Perlodidae			
			Psychodidae									<i>Cultus</i>	2	p	20
				<i>Maruina lanceolata</i>	2	sc	22					<i>Isoperla</i>	2	p	24
				Psychodidae		cg	1					Trichoptera			
			Sciomyzidae									Brachycentridae			
				<i>Sciomyzidae</i>	6	p	4					<i>Amiocentrus aspilus</i>	3	cg	5
			Simuliidae									Brachycentridae			
				<i>Simulium</i>	6	cf	10606					<i>Micrasema</i>	1	mh	3072
			Stratiomyidae									Glossosomatidae			
				<i>Caloparyphus/Euparyphus</i>	8	cg	43					<i>Agapetus</i>	0	sc	10
				<i>Hedriodiscus/Odontomyia</i>	8	cg	1					<i>Glossosoma</i>	1	sc	4
			Tabanidae									Glossosomatidae	0	sc	3
				Tabanidae	8	p	4					Hydropsychidae			
			Tipulidae									<i>Cheumatopsyche</i>	5	cf	427
				<i>Antocha</i>	3	cg	708					<i>Hydropsyche</i>	4	cf	3938
				<i>Cryptolabis</i>	3	sh	11					Hydroptilidae			
				<i>Dicranota</i>	3	p	15					<i>Hydroptila</i>	6	ph	16
												<i>Leucotrichia pictipes</i>	6	sc	1872

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				<i>Ochrotrichia</i>	4	ph	664
				<i>Oxyethira</i>	3	ph	9
			Lepidostomatidae				
				<i>Lepidostoma</i>	1	sh	47
			Leptoceridae				
				<i>Mystacides</i>	4	om	2
				<i>Nectopsyche</i>	3	om	1
				<i>Oecetis</i>	8	p	17
				<i>Trienodes frontalis</i>	6	sh	1
			Limnephilidae				
				<i>Cryptochia</i>	0	sh	1
			Philopotamidae				
				<i>Wormaldia</i>	3	cf	275
			Polycentropodidae				
				<i>Polycentropus</i>	6	p	81
			Psychomyiidae				
				<i>Psychomyia</i>	2	cg	1
				<i>Tinodes</i>	2	sc	73
			Rhyacophilidae				
				<i>Rhyacophila</i>	0	p	116
			Sericostomatidae				
				<i>Gumaga</i>	3	sh	6
			Uenoidae				
				<i>Farula</i>	0	cg	1
			Arachnoidea				
			Acari				
			Hydryphantidae				
				<i>Protzia</i>	8	p	15
			Hygrobatidae				
				<i>Atractides</i>	8	p	7
				<i>Hygrobates</i>	8	p	8
					8	p	26
			Lebertiidae				
				<i>Lebertia</i>	8	p	105
			Sperchontidae				
				<i>Sperchon</i>	8	p	1071
				<i>Sperchonopsis</i>	8	p	52
			Torrenticolidae				
				<i>Torrenticola</i>	5	p	2
			Crustacea				
			Decapoda				
					8	om	3
			Malacostraca				
			Amphipoda				
					8	cg	634
			Ostracoda				
					8	cg	1432
			Annelida				
			Hirudinea				
					8	p	1
			Oligochaeta				
					5	cg	588
			Mollusca				
			Bivalvia				
					8	cf	10
			Gastropoda				
					6	sc	18

Phylum	Class	Order	Family	Final ID	CTV*	FFG**	Total Individuals
				Lymnaeidae	6	sc	138
				Physidae			
				<i>Physa</i>	8	sc	307
			Planorbidae				
				<i>Gyraulus</i>	8	sc	70
				<i>Menetus</i>	7	sc	2
					6	sc	29
			Nemertea				
			Enopa				
					8	p	288
			Platyhelminthes				
					4	p	620

* CTV: California Tolerance Value

**FFG: Functional Feeding Group

cg: collector-gatherer
cf: collector-filterer
sc: scraper
p: predator
sh: shredder
om: omnivore
mh: macrophyte herbivore
ph: piercer herbivore

Note: FFGs om, mh and ph were combined into "other" (ot) category for metric calculations