Appendix D1

Raw benthic community data Rose Creek (organisms per artificial substrate sample)

	R1a00	R1b00	R1c00	R2a00	R2b00	R2c00	R3a00	R3b00	R3c00	R5a00	R5b00	R5c00	R6b00	R6a00	R6c00	R7a00	R7b00	R7c00	R1a02	R1c02	R1b02	R2a02	R2b02	R2c02	R3a02	R3b02	R3c02	R4a02	R4b02	R4c02	R5a02	R5b02	R5c02	R6a02	R6b02	R6c02	R7a02	R7b02	R7c02	R1a04	R1b04	R1c04	R2a04	R2b04	R2c04	R3a04	R3b04	R3c04	R4a04	R4b04
	R	R	R	E	E	E	E	E	E	E	E	E	R	R	R	R	R	R	R	R	R	E	E	E	E	E	E	E	E	E	E	E	E	R	R	R	R	R	R	R	R	R	E	E	E	E	E	E	E	E
Ameletus sp	1																																														1		3	1
Baetis sp	47	350	76	316	203	1,373	5,288	2,608	6,795	2,528	5,154	6,432	1,528	1,218	555	24	32	43	802	469	326	1,722	1	74	86	31		107	242	8	57	626	532	3	2	85	26	140	8	3,824	1,420	3,472	1,893	1,230	3,172	2,148	2,051	6,457	514	24
Drunella coloradensis																																																		
Drunella doddsi	1									14	6	3	4	32			2	8	10	3	3	295			1		3	7	2	7	8		1	3	8	2	4		2	24	3	16	3	3	3	5	3	3		
Drunella flavilinea										2	3	2	3					1																						72	4	19									
Drunella grandis	7	7	4							10	37	18	29	6	8				36	15	19											5									14	10								1	2
Drunella spinosa		1									1																																							
Ephemerella sp	2	16	3	24	1	36				72	206	8	178	162	5	2	3	56		15	6				1			8	5		2	3	33			12	1		4	216	27	163	44	12	25	16	1	1	32	11
Seratella tibialis+sp	1	6	3	1		1				1	2		4	2	1	1		1				1		1							4																			
Heptageneia sp																			10			1		11																		1	2	3							
Epeorus (Iron) sp	1						2	2	1	32	65	3	2	33	32	4																		1	2	1										6		36	56	6
Cinygmula sp	1	9		24	7	8	96	8	130	68	195	259	244	68	132	4		89	2			132	3					15	22	3	3	1	32		2		11	33	26	72	4	69			1		32		15	6
Rhithrogena sp	2									35	5	71	138	39	3	2		2	3		1							12	18	19		1		3	6	4	8	1	4		1	1		2	4	15	9	36	29	56
Paraleptophlebia sp																																																		
Amphinemoura sp	1																		1																															
Capnia sp			1			1	36		1	3	328	144	217	196	106	2	2	41	1			3		2	1			7	5	4	1	16	16						20	16	1	1		33		16	1		29	18
Isoperla sp	10	6	6	92	15	47	49	27	52	2	7	11	5			1			4	1	9	33	4	32	3				4									5	1	80	24	76	13	33	27	17	56	28		
Leuctra sp																																																	1		
Kogotus sp														2				1																																	
Malenka sp	1																																																	
Megarcys sp								1		4	2	5	3	1	3																																			
Podmosta sp	1	8	2	4	2						1		1																																					
Pteronarcella sp																																																		
Skwala curvata	1	1	1	3	5			1	1	2	80	74	9	35	35			1				3								1												1		1	4					
Skwala paralella	4	1	1	17	3	12	1		1	2	1		2									8		4				4	1		2								1		1					1	7	2		
Taenionema sp	10	13	5	4	1	32			1	7	65	1	1	32	32		2		5	1	3	2		1				19	25				34		1	1	11	2		256	198	459	34	1	65	3	17	98	8	2
Sweltsa sp gp		1						1		6	10	5	19	10	7		1	6						1					1			1												1	1		1	2		1
Zapada sp	26	69	19	120	19	83	146	34	160	810	2,198	1,072	1,228	595	854	41	43	263	84	44	43	415	8	153	38	23		208	184	22	26	502	364	2	6	45	205	367	263	864	332	523	240	242	485	51	342	519	29	10
Brachycentrus sp		1		5	4	1		2	1	1	4	2	1	1					2	1		1			11	1		22	4	2										8		2	33	1	2	23	41	6	1	3
Dicosmoecus sp				1	1					1	2		3	1	3				1				2	8				1									2			8			6	7	9		1			
Ecclisomyia sp																																																		
Glossosoma sp	5		5			9												16	1																															
Arctopsyche+Hydrosychidae J	3	11	7	6	9	16				15	83	336	58	46	169	2	4	3	2	1	11	44	5	12				29	39	7	4	17	34	3	2	30	33	7	34	112	40	41	224	38	25	5	9	4		
Hydroptila sp																																																		
Micrasema sp																									7			1		1																				
sum Rhyacophilidae	3	4	5	2	1	10	32	1		1	5	4	2	5	4		2	2	14	10	7	10		32	3	1		12	32	1	2		18	1		1	1	1			2	5	41	35	12	79	51	55	4	2
Bezzia sp		1					1				2	6	3	1					2		24	86		32		1						17																		
Culicoides sp																												1																						
Mallochohelia sp																																								8	1		69	37	132	2	1	2		
Brillia sp	1		3																																															
Cardiocladius sp	62	130	89	231	39	211	2	2	41	319	781	576	537	561	190	23	12	212	57	74	64	57	42	98	5	5		89	96	10	37	176	68	3	2	32	67	121	69	3,321	3,745	2,498	620	488	1,318	168	524	722	342	88
Corynoneura sp																								5																											
Cricotopus sp	25	216	54	158	21	201	156	74	262	1,561	2,040	898	2,183	1,453	1,093	84	27	271	74	64	213	63	63	210	66	3	8	95	60	8	230	553	522	4	5	34	128	635	121	2,232	1,330	1,440	1,970	1,765	5,352	758	2,457	2,330	739	337
Polypedilum (Pentapedilum) sp																																																		
Pagastiella sp																																												101						
Parorthocladius sp																																																		
Cyphomella sp																																				1														
Diamesa sp	282	2,041	620	165	42	472	191	199	277	432	1,594	1,591	1,202	458	156	63	105	361	421	993	491	64	8	15	76	10		84	286	28	28	185	196	2		53	80	184	34	7,519	4,964	7,663	1,470	1,521	3,092	2,633	1,312	4,958	42	52
Eukiefferiella sp	45	273	35	270	16	715	197	296	742	3,892	9,164	9,204	6,612	3,620	4,244	389	259	1,143	687	1,119	1,165	685	23	361	95	185	1	401	766	38	34	4,505	4,182	2	4	710	1,393	3,996	560	133	385	1,060	84	101	12	215	122	169	8	4
Euryhapsis sp		12	22	7	4	94	2			38	2		3	34					10	12				5							5							36		27			82							
Heterotrissocladius sp																			2					10				3	6		1	20						36	9											
Micropsectra sp			1			12								34				16	7		11	48	2	20																27		150	163	101	192				51	16
Rheotanytarsus sp	6	122		231	17	340	62	20	30	2,070	2,979	2,522	1,875	1,550	1,350	49	40	514	280	185	310	1,739	180	933	12	72		58	82	2	5	187				12	163	1,358	207	930	766	899	2,695	1,014	3,488	32			134	40
Tanytarsus sp																																																		
Synorthocladius sp			1	7	1		62									5		28																																
Thienemanniella sp		11	1																		19											20								213	382	304							42	
Thienemannimyia sp				112	3	31						98				2			2		11	198	6	167									22			5		2	11			2	771	342	237		84		2	6
Chelifera						1					1	1	7	2	3							17			2				4		2						1	1		72		1		32		1				1
Clinocera sp																																																		
Weidemannia sp																								4																										
Limnophora sp (Muscidae)																																											1		2					
Lispe sp (Muscidae)					1	2																																												
Pericoma sp (Psychodidae)	3	21	5	8		16	5	26	36	138	853	268	179	199	231				5		2	11		9	8	5		25	23			35	138				9	1	1	24	3	65				1	16	1		
Family Scimyzidae L																																																	9		
Prosimulium L+P		9	1	2	8	12	1	14	1	4	34	10	50	8	35				3	4		1			1			10	22	4		1		2	1		32	2	1							48				
Cnephia sp																												1																							
Simulium L+P	89	171	83	2	22	67	51	88	111	106	294	161	24	109	61	8	4	12	3	18	8			1	16	8	3	39	22	16	4	67	5	6	3	24	16	2	5	48		1				551	115	672	4	
Dicranota sp		1			1		16			1	69	2	99	1	35				3					4	1						1	2				4		1		80	1	66						32		
Tipula sp														1																						1															
Ormosia sp																																																		
Hesperoconopa sp																																																		
Hydracarina (all)	2	18	17	296	88	594	134	48	40	273	725	787	514	335	4	12	28	107	74	164	186	199	17	134	26	12		67	112	10	45	256	112	2	5	29	151	42	90	1,012	452	455	868	322	523	83	162	321	29	29
Alona sp																				4				4	1											4														
Bosmina longirostris							16		16										38	32	32				1			2																							
Chydorus gibbus																			4																																
Daphnia sp		1																	3																																
Eurycercus (Bullatifrons) sp																													1																						
Calanoida																			1																																
Cyclopoida																2									1																										
Harpacticoida							16				64	32	64									64		4				2		1																					
Candona sp													96				2																																		1
Enchytraeidae	1	16	11	4		16	3		33		65	4	36	65	3		2		2	1	2	32		8	2				4	1		1	58		1				8	8	1		35	1	64					
Chaetogaster sp							32		16	64		768	608						16	28	16	2,497	146	268	376	468		214	344	3	6	401	336							8		64	128	288	256		16		152	200
Naididae																												4		1																					
Tubificidae (all stages)																							1		1	1																									
Pisicola sp																			1																								1	1							
Valvata sincera																																								8											
cf Trogochetus sp																																											1								
Nematoda	3	64	2	4			64	32	86	384	320	1,219	641	353	131		4	64	28	50	76		13		19	84	2	98	137	7		114	144			29	10	98	14	64	64	192	128	32	128				21	2
Sphaerium sp																																								8											
Hydra sp																			316	158	384		4	8		1		2																							

Appendix D1

	R4c04	R5a04	R5b04	R5c04	R6a04	R6b04	R6c04	R7a04	R7b04	R7c04	R1a06	R1b06	R1c06	R2a06	R2b06	R2c06	R3a06	R3b06	R3c06	R4a06	R4b06	R4c06	R5a06	R5b06	R5c06	R6a06	R6b06	R6c06	R7a06	R7b06	R7c06	R6Aa06	R6Ab06	R6Ac06
	E	E	E	E	R	R	R	R	R	R	R	R	R	E	E	E	E	E	E	E	E	E	E	E	E	R	R	R	R	R	R	E	E	E
Ameletus sp	1	1	3	4	1	2		5	4	9					2		2			19	4		1							1	4			
Baetis sp	51	16	6	4	44	1,257	323	1,110	852	712	1,055	211	198	7	132	85	23	55	468	155	227	336	10	16	156	56	465	307	5		1	422	851	192
Drunella coloradensis																																		
Drunella doddsi		1	3		7	35	13	4	4		8	1	23		9			9		16	20	20	5	5	14	9	59	4				171	359	91
Drunella flavilinea											28	3	5			1	1				20	10				13	1	6	5			12	8	27
Drunella grandis	4	1	9	4	2	27	14	2			3	2	5			5				16	20		2	5	19	4	3	4		3		8	24	27
Drunella spinosa																																		
Ephemerella sp	20	13	14	17	32	160	99	17	36	8																								
Seratella tibialis+sp																																		
Heptageneia sp	2		1											3		2							2	2						3	2			
Epeorus (Iron) sp	16	3	5	2	2	53	1	44	32				1						4			1				5	17		4	2	1	4	6	12
Cinygmula sp	14	15	19	29	73	50	67	101	60	56	36	1	2		32	21	1	6	8	125	143	29	8	16	51	3	32	16	44	1	3	82	135	15
Rhithrogena sp	6	2	2	2	111	59	180	9		16		1			2			1	2	13	90	52	6	10	30	17	23	23	2	2		23	12	19
Paraleptophlebia sp														1																				
Amphinemoura sp																																		
Capnia sp	10	8	6	2	49	56	60	5	4		34		1	6	11		1	2		126	83	45	11	6	48	18	80	19	17	6	10			
Isoperla sp	3	2	1	1		1		2			22	2	3		20	17	2	1	10	5	5			1						1	2	29	91	18
Leuctra sp																																		
Kogotus sp																																		
Malenka sp																																		
Megarcys sp					1	1					2				1		2		3	1	2					5	4	3				1		2
Podmosta sp											146	2	19												5		2	2						
Pteronarcella sp															1																			
Skwala curvata	1		1		3	2		4	4	24	5			2		2	2		2		1	1			2								3	2
Skwala paralella				2	1	1					1		2			3		1		6	9	1	1	4	6	8		1	4		5	34	4	32
Taenionema sp		1			5	23	17	31	16	24	206	113	28	4	2	3		1			60	1		4	8	6	27	36				32	64	43
Sweltsa sp gp			1					1			1			1	4					8	3	1	1				1			1	1		3	
Zapada sp	17	17	40	39	55	313	147	389	412	488	252	142	117	4	230	93	16	15	85	60	86	104	9	7	71	109	95	101	22	5	12	235	144	211
Brachycentrus sp																	5	1	3		1	4												1
Dicosmoecus sp		4	1	4	2		6	4	4		1		9	3	2	3				9	15		1		1	1		2	15	4	11	1	2	
Ecclisomyia sp											1																							
Glossosoma sp																					4													
Arctopsyche+Hydrosychidae J	2	2			6	149	29	77	12	80	5			1	37	13		3	3	12	60	32	1	4	10	21	117	322		1	2	55	264	203
Hydroptila sp																											1							
Micrasema sp											1	2				1				4	28	12												
sum Rhyacophilidae	2		2	6	1	6	2	4			51	103	13	3	7	7	13		4		7	16				2	3	4	1			2	4	6
Bezzia sp																																		
Culicoides sp			1																															
Mallochohelia sp	5										1			1		1	4		9															
Brillia sp									37		42				3		6		9		4	1			4									
Cardiocladius sp	346	36	22	105	24	501	205	2,191	286	547	288	88	48		65	13	10	5	69	146	136	178	26	5	38	57	151	88	27	3	26	99	25	64
Corynoneura sp									37																									
Cricotopus sp	661	201	372	433	139	1,338	1,110	2,703	4,771	2,364	588	411	184	30	252	99	30	25	142	170	139	193	108	57	443	157	304	536	79	37	201	1,519	187	409
Polypedilum (Pentapedilum) sp																																		
Pagastiella sp		9																																
Parorthocladius sp																																1		
Cyphomella sp																																		
Diamesa sp	125	27	24	5	9	149	72	635	507	508	5,293	3,057	1,098		17	11	199	18	996	90	41	156	14	4	48	414	654	1,663	1		17	792	1,636	675
Eukiefferiella sp	36	7	4	13	6	810	77	2,583	1,833	5,059	277	123	82	1	15	10	19		143	47	22	59	2	3	184	126	340	604	20	2	47	72	744	753
Euryhapsis sp												60			1			3		8	4	12	1		4		8	1	4	1	2	68	33	17
Heterotrissocladius sp																																		
Micropsectra sp	18	2	4	5				55	37					2		1						4												
Rheotanytarsus sp	36	9	10	15		137	23	337	184	391	252		131	24	56	27		2		5	29	4	8	2	40		1	1	1	1			99	
Tanytarsus sp																																		
Synorthocladius sp					2															1														
Thienemanniella sp	24	7	6	10		27	45	55	157		63		20										1								3	17		
Thienemannimyia sp	54	11	6	15			9	3	9	20			1	17	18	4		2	1	5							1		2	2				
Chelifera						1	1	1	4	8	1			1		3																		
Clinocera sp																																		
Weidemannia sp																																1		
Limnophora sp (Muscidae)																																		
Lispe sp (Muscidae)																																		
Pericoma sp (Psychodidae)					1		1	1			5	2	1			2	5			4	5				3				1			1		1
Family Scimyzidae L																																		
Prosimulium L+P						13	2	43	8	64						1	5		17							14	110	181	1			66	5	28
Cnephia sp											1											4				1		1				1		
Simulium L+P						31	1	2	28		510	292	80	1	11	4	215	18	325	39	38	95	1		1	110	320	404	4	2		22	83	122
Dicranota sp									4		1				6												8							8
Tipula sp																																		
Ormosia sp																																		
Hesperoconopa sp																														1				
Hydracarina (all)	29	27	28	43	13	158	74	368	316	168	379	243	99	26	63	6	3	44	120	176	140	134	55	21	119	63	177	161	44	20	72	274	353	225
Alona sp																																		
Bosmina longirostris																																		
Chydorus gibbus																																		
Daphnia sp																																		
Eurycercus (Bullatifrons) sp																																		
Calanoida																																		
Cyclopoida			1											1																				
Harpacticoida																																		
Candona sp		1	1								2			2					8															
Enchytraeidae			9	2		1					17	1					2									1					1	1		
Chaetogaster sp	138	193	89	121		64	12	768	240	320				2																				
Naididae																							1											
Tubificidae (all stages)											16		2				1																1	
Pisicola sp																																		
Valvata sincera																																		
cf Trogochetus sp																																		
Nematoda	12	1	7	5	7	21	4	24	4	16	32					1	1							1	4		1	2	1		1	16		
Sphaerium sp																																		
Hydra sp	4																																	

Appendix D2

Raw Benthic Data Vangorda Creek

	V1a01	V1b01	V1c01	V5a01	V5b01	V5c01	V8a01	V8b01	V8c01	V27a01	V27b01	V27c01	V1a03	V1b03	V1c03	V5a03	V5b03	V5c03	V8a03	V8b03	V8c03	V27a03	V27b03	V27c03	V1a05	V1b05	V1c05	V5a05	V5b05	V5c05	V8a05	V8b05	V8c05	V27a05	V27b05	V27c05	V1b07	V1c07	V1d07	V5c07	V5d07	V5e07	V8b07	V8c07	V8a07	V27a07	V27b07	V27c07
	R	R	R	E	E	E	E	E	E	E	E	E	R	R	R	E	E	E	E	E	E	E	E	E	R	R	R	E	E	E	E	E	E	E	E	E		1/4	1/4	1/8	1/2	1/16	5/16			1/4	
Ameletus sp	3			11	41							1											7	9	5												22		3	1				2					1
Baetis sp	2	25	1	98	212	133	141	11	134	134	170	335	19	39	3	56	45	12	74	276	59	91	49	50	77	1,243	69	321	177	80	193	60	396	450	153	116	3	124	165		68	336	157	41	3	262	45	62
Drunella coloradensis	1	1		2	1																																						3	4		2	5	3
Drunella doddsi																																																
Drunella flavilinea																																1											1					
Drunella grandis																																																
Drunella spinosa																4																					2		2				28	1				
Ephemerella sp																																																
Seratella tibialis+sp																																																
Heptageneia sp																																																
Epeorus (Iron) sp		1	1	1		6				1		1	5	3	8	6	2	4	3	5	3	13	1	2	2	14	2	3	3	4	1		1	2		1	4	17	12	4	19	12	9	30	12	19	6	4
Cinygmula sp		5	5	77	20	115	1	1		19		16	3	7		50	28	18	14	52	24	31	147	58	24	7	13			18	3	21	3	150	5	68	43	24	72	73	8	32	26	29	21	86	137	95
Rhithrogena sp	22	12	2			1	4		1	8	5	14	4	17	1	4			2	5		5	2	2	17	13	21				1		1	1				13	6	1			1	3	16	3	15	4
Paraleptophlebia sp																																																
Amphinemoura sp																																																
Capnia sp	3	3	2	1,241	2,159	1,125	38	13	27	5	1	15		3	1	179	68	37	38	184	39	5	4	2	2			16	1	22	187	23	110	16	16	24	6	4	16	200	12	24	51	36	2	5	10	7
Isoperla sp						1	1		2																	1	1		1		1		1	1															
Leuctra sp				1																																													
Kogotus sp																																																
Malenka sp																																																
Megarcys sp		3				3				1						3	1			1	1	1	2	2	2	1	2		1		1			2				4	3	1	1		4			2	1
Podmosta sp							2																															20	40	128	39	208	298	116			2	4
Pteronarcella sp																																																
Skwala curvata																																																
Skwala paralella							1		4																		1																1					
Taenionema sp		4		21	8	643	121	17	234	34	9	53		1		26	15	17	64	148	26	1	1	2	5	33	6	17	34	6	104	19	84	58														
Sweltsa sp gp	5		3	79	44	22	8	1	17			40		1		17	2	4		1	3	1		1						1			1	1			1	1		1	3			5	1		2	1
Zapada sp	12	229	17	530	1,264	1,203	175	36	198	238	58	668	54	169	53	595	199	268	186	457	151	132	123	53	168	1,210	223	493	267	642	541	74	584	1,497	977	1,010	15	264	188	542	122	869	398	209	73	339	76	87
Brachycentrus sp																																												4		1		
Dicosmoecus sp					17													5		42			1																									
Ecclisomyia sp				10	17											10												1	1				1	9	8										1			
Glossosoma sp																1								3													1	4									8	14	29
Arctopsyche+Hydrosychidae J		12	3	32	16		4		17	217	82	197	2	1	7	72	28	77	11	9	5	42	24	24	14	185	64	441	315	226	20		10	144	122	108		8	4	10	3	46	138	84	19	101	31	22
Hydroptila sp																																1												1				
Micrasema sp																																																
sum Rhyacophilidae			1	95	110	247	22	2	9	176	67	213		8	6	131	34	52	10	17	5	86	65	28	4	17	13	110	175	301	22	4	16	125	82	106		6	145	50	183	94	62	24	56	45	24	4
Bezzia sp																																																
Culicoides sp																																																
Mallochohelia sp																																																
Brillia sp							1,085	235	1,992	58	7	63		2		3		5	92	662	156	2	2		63	671	69	2,146	2,214	2,529	706	29	389	97	84	96							47	8		2	1	3
Cardiocladius sp	15	30	5			106	11	8	36			11	15	36	10				3			11	2		13	329	44	22		1	8		18	34	52	28		17	45	32			11	1	1	1		
Corynoneura sp																									3	26					8		9				1											
Cricotopus sp		91		287	2,002	738	113	23	298	30	23	227	20	13	7	261	35	26	52	306	25	16	12	18	29	318	42	178	372	454	961	214	999	94	38	137	10	84	80	83	30	67	151	57	16	15	5	3
Polypedilum (Pentapedilum) sp																					2			3																									
Pagastiella sp																																																
Parorthocladius sp																																																
Cyphomella sp																																																
Diamesa sp		22	1	142	543	841	29	5	34	45	10	42	42	25	69	60	95	44	9	82	6	36	2	6		58	3	45	18	2	2	3	1		16		1	94	77	72	13	66	23	6		51	8	2
Eukiefferiella sp		109	2	239	702	212	235	5	91	5		69	42	132	81	204	54	56	98	182	67	11	16	15	32	199	20	191	167	178	145	17	94	114	48	55	3	56	20	99	13	128	174	177	23	66	4	8
Euryhapsis sp				3	206		1	21	22							23			2	9					3						8	1					3	1		8							1	
Heterotrissocladius sp	2																																															
Micropsectra sp							6	1	10										2	2											8																	
Rheotanytarsus sp																																																
Tanytarsus sp							19	2	30																																								
Synorthocladius sp																													18			1	10									16						
Thienemanniella sp																															8	1	18	11											1			
Thienemannimyia sp																																																
Chelifera																			3	1								16	64	16	8	1	1							2		3	4					
Clinocera sp						16	1		3																																								
Weidemannia sp						1				5		1				1						1	4	1										10	8	9											30	3	3
Limnophora sp (Muscidae)																																																
Lispe sp (Muscidae)																																																
Pericoma sp (Psychodidae)				117	202	190	9		20					1		34	3	5	2	6	1							56	22	49	2		2	1				2		82	6	19	4	1		2		
Family Scimyzidae L																																																
Prosimulium L+P		17	1		48	99	24	1	59	67	20	74	10	16	44	203	38	34	21	82	9	25	10	6		8				2	14	1	3	1	1		1	15	12	119	28	199	16	5		77	14	3
Cnephia sp						2																			6	46	6	227	241	294	59	8	89	25	56	33													
Simulium L+P		1		8	16	100	16	1	42	32	16	70			1		2	3	4	5		9	4	5																		1	22	15	3	14		55
Dicranota sp				118	171	82	1		17							10	1	4	2	14	1							2	17	67	17									50	10	49	3						
Tipula sp					2											1		1																						1									
Hexatoma																																										1						
Dicyrtoma sp																																								1								
Isotomurus sp																																											7					
Podura sp																																											8					
Ormosia sp																		1																															
Hesperoconopa sp																																																
Hydracarina (all)		22	6	24	1	32			9	8	2	4	8	11	2	20	8	11	12	52	12	2	3	2	2	32	9		16	48	49	23	104	11	1	2	5	32	13	72	8	80	128	43	7	8	4	3
Cypria sp																																							4				3					
Alona sp																																																
Bosmina longirostris																																																
Chydorus gibbus																																																
Daphnia sp																																																
Eurycercus (Bullatifrons) sp																																																
Calanoida																																																
Cyclopoida																																																
Harpacticoida											1																																						
Candona sp							4					4																																					
Enchytraeidae						16										9	1	3	2	14	4											1	9							1	2			2					
Chaetogaster sp																																																
Naididae																																																
Tubificidae (all stages)						1														4								1	1											8	2								
Pisicola sp																				1																													
Valvata sincera																																																
cf Trogochetus sp																																																
Nematoda		2			32	32	4					8	1	1	1	1	1	3	1	16					1	1		32	1	64								13	13	17	4	48	10	5		4		
Sphaerium sp																																																
Hydra sp																																																

(Taken from Minnow 2007 and updated)

Appendix D3

Rose Creek Sediment Data

Station	Date	Metal (mg/kg)															Metal (mg/kg)														
		Aluminum	Antimony	Arsenic	Barium	Berylium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Phosphorus	Potassium	Selenium	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Vanadium	Zinc	Zirconium
R-1	1-Jul-96	10900	**2**	6	195	**0.9**		0.6	5300	27	9	21	20900	74	4500	1419		1	25	1167			**0.1**	500	55			500	27	221	
R-1	19-Jul-04	13400	0.7	18	252	**1**	**1**	1.2	5840	39	17	27	26800	249	5670	2520	0.18	1.4	35	2770	1260	0.9	0.3	201	43	0.3	**5**	335	32	336	1
R-1	19-Jul-04	10200	**0.1**	8.9	137	**1**	**1**	0.5	3880	32	9	15	16400	69.5	4360	1080	0.05	1.1	24	1910	949	0.4	0.1	218	38	0.2	**5**	246	20	139	1
R-1	19-Jul-04	11000	**0.1**	9.4	136	**1**	**1**	0.5	3670	24	10	13	18800	57.3	4810	1170	0.04	0.7	24	1580	1030	0.5	0.1	205	42	0.2	**5**	264	21	135	2
R-1	24-Jul-06	9880	**10**	**10**	103	**1**	**1**	**0.5**	3040	23	10	11	16100	23	4590	1090	0.01	**4**	23	604	565	0.2	**2**	138	30		**5**	131	20	122	2
R-1	24-Jul-06	7510	**10**	**10**	102	**1**	**1**	**0.5**	2340	15	10	11	14600	29	3410	1220	0.02	**4**	21	421	743	0.3	**2**	138	25		**5**	158	15	157	2
R-1	24-Jul-06	6600	**10**	**10**	88	**1**	**1**	**0.5**	2160	13	8	8	13400	16	2700	1060	0.01	**4**	15	317	548	0.2	**2**	130	49		**5**	108	12	113	2
R-2	1-Jul-96	12100	**3**	32	399	**1**		1.6	7900	50	16	60	33800	310	7200	2808		1	49	1162			**0.6**	500	51			500	34	617	
R-2	14-Oct-99	23500	29	68	2970	1	2	3.1	10900	78.1	57.3	209	68600	1130	11200	18800	1.2	**2**	250	1100	3700	0.8	2.4	470	84.9		**8**	950	65	1680	
R-2	14-Oct-99	25400	9	40	1370	1	2	1.9	8710	64.3	50.9	210	57700	757	10400	15400	0.314	**2**	201	1000	4710	1.3	1	470	74.2		**8**	1020	70	1630	
R-2	14-Oct-99	18600	21	37.1	1790	0.9	2	2.2	15900	69.7	68	128	47300	476	9870	60200	0.32	**4**	598	1200	2920	**0.5**	0.4	430	110		**8**	852	50	1500	
R-2	14-Oct-99	24800	8	23.8	893	0.9	2	1.35	12100	81.2	23.9	70	41600	178	11900	1200	0.134	**2**	68	1100	4100	**0.5**	0.2	520	78		**8**	986	74	522	
R-2	14-Oct-99	20200	8	22.5	1080	0.9	2	1.7	9870	67.9	24.4	60.4	41600	183	10200	1710	0.173	**2**	76	1200	3040	1.1	0.2	420	66.2		**8**	851	74	557	
R-2	14-Oct-99	23900	8	19.15	724	0.9	2	0.94	12900	92.3	24.6	57.9	43900	130	14400	1270	0.106	**2**	95	1000	3330	**0.5**	0.2	460	73.2		**8**	871	66	471	
R-2	19-Jul-04	12900	1.3	16	238	**1**	**1**	0.8	5400	37	14	39	25500	142	7280	1560	0.16	1.3	36	2150	1190	**0.5**	0.3	209	34	0.3	**5**	286	29	301	2
R-2	19-Jul-04	15100	1.1	18.6	566	**1**	1	1.4	7530	38	19	47	29500	216	6830	3310	0.22	1	47	2300	1580	1	0.4	201	42	0.4	**5**	416	33	539	1
R-2	20-Jul-04	11700	1.4	24.3	586	**1**	2	1.7	11000	33	18	89	27500	264	5110	2860	0.16	1.4	48	2080	1320	1.1	0.4	179	50	0.5	14	335	29	607	2
R-2	24-Jul-06	19600	**10**	29	508	**1**	**1**	1.4	8460	49	28	64	29300	214	6960	6700	0.19	**4**	56	907	1610	0.9	**2**	266	54		**5**	452	36	736	2
R-2	24-Jul-06	21200	**10**	23	476	**1**	1	1.3	11200	60	28	61	28100	162	7620	5450	0.14	**4**	62	792	1880	0.9	**2**	311	61		**5**	431	36	843	2
R-2	24-Jul-06	18400	**10**	19	327	**1**	**1**	1	8210	45	19	57	23800	160	6660	2240	0.2	**4**	45	929	1540	0.6	**2**	307	48		**5**	410	31	502	2
R-3	1-Jul-96	10500	**2**	31	263	**0.9**		1	6500	39	17	59	29500	244	5900	4665		1	42	1183			**0.4**	500	45			400	29	581	
R-3	14-Oct-99	15200	8	27.25	3230	0.5	2	0.935	6830	47.1	25.8	68.3	33800	197	5880	5540	0.17	**2**	64	980	2310	**0.5**	0.6	350	60.7		**8**	993	53	627	
R-3	14-Oct-99	21400	10	49	2870	0.8	2	1.4	8190	52.1	24.8	112	45000	343	8130	3870	0.313	**2**	67	1000	3230	1.4	0.8	550	73.1		**8**	1070	61	584	
R-3	14-Oct-99	25000	8	22.95	2300	0.9	2	1.8	7730	59.3	26.3	71.5	37400	245	7660	5270	0.234	**2**	69	1000	5030	0.9	1	630	71.6		**8**	1050	71	938	
R-3	14-Oct-99	22000	9	39	2400	0.9	2	1.485	9130	57.4	30	87.5	41100	234	8310	8970	0.267	**2**	100	1100	3630	1.2	1	550	76.9		**8**	1150	68	850	
R-3	14-Oct-99	22900	10	29.1	2290	1	2	2.57	10300	54.8	51.5	96.5	42000	296	8220	29900	0.265	**2**	286	1000	4210	1.3	1	550	83		**8**	1030	65	1640	
R-3	14-Oct-99	22800	8	30.9	920	1	2	1.6	7440	63	31.8	77.1	39500	251	10100	8490	0.139	**2**	94	970	3780	**0.5**	0.3	490	62.7		**8**	928	57	701	
R-3	20-Jul-04	12700	1.3	15.2	390	**1**	**1**	1	6660	33	20	48	26200	174	5800	6410	0.15	1.4	43	2140	1210	0.8	0.3	186	40	0.4	**5**	309	29	502	1
R-3	20-Jul-04	11700	2	13	329	**1**	**1**	0.8	4120	27	21	39	23800	171	5850	5120	0.06	1.9	40	1700	1200	0.5	0.3	170	35	0.4	**5**	224	26	400	3
R-3	20-Jul-04	8070	1.7	18.5	121	**1**	**1**	0.5	8240	21	10	53	22400	151	3860	923	0.16	0.8	23	9040	579	0.7	0.5	121	26	0.2	**5**	275	24	227	1
R-3	25-Jul-06	10000	**10**	11	161	**1**	**1**	0.6	2700	26	16	44	18100	146	4670	2880	0.06	**4**	32	483	825	0.3	**2**	132	22		**5**	169	20	326	2
R-3	25-Jul-06	18400	**10**	20	505	**1**	**1**	1.3	7020	48	29	58	23900	166	6210	9240	0.14	**4**	52	898	1480	0.7	**2**	288	53		**5**	435	32	727	2
R-3	25-Jul-06	13000	**10**	14	244	**1**	**1**	0.5	5140	31	16	37	19900	117	4940	3000	0.1	**4**	33	907	999	0.4	**2**	239	40		**5**	354	26	338	1
R-4	1-Jul-96	12000	**2**	32	600	**1.2**		2.1	6800	46	24	78	32400	267	7000	11466		**2**	66	1043			**0.9**	700	57			500	35	908	
R-4	20-Jul-04	9830	1.5	16.1	210	**1**	**1**	0.7	5290	28	12	51	22900	155	5100	2180	0.14	1.1	31	3860	780	**0.5**	0.4	150	29	0.2	**5**	359	30	300	1
R-4	20-Jul-04	9730	1.3	12.6	307	**1**	**1**	0.8	4230	33	12	32	19000	166	4830	2810	0.08	1.7	33	2130	975	0.6	0.3	179	33	0.3	**5**	239	24	294	1
R-4	20-Jul-04	10100	1.2	13.8	284	**1**	**1**	0.6	4950	26	11	33	19500	140	5020	2460	0.12	1.1	30	2670	811	0.6	0.3	178	32	0.3	**5**	281	25	287	1
R-4	5-Aug-05	14000	<1	14	560	0.69	**<1**	1.2	6600	45	20	48	30000	170	7300	6100	0.18	2.2	52	930	1300	**0.5**	**0.3**	340	52	1	1.9	410	38	560	4.7
R-4	25-Jul-06	9380	**10**	**10**	226	**1**	**1**	0.7	4020	26	17	39	18300	97	4820	3560	0.05	**4**	41	828	787	**0.5**	**0.3**	135	27		**5**	184	26	280	1
R-4	25-Jul-06	18000	**10**	16	498	**1**	**1**	1.1	6880	64	25	51	23500	135	6770	6670	0.11	**4**	56	781	1340	0.8	**0.3**	278	49		**5**	434	34	546	1
R-4	25-Jul-06	17700	**10**	16	533	**1**	1	1.1	6760	48	26	51	22400	128	6790	7550	0.11	**4**	56	782	1340	0.8	**0.3**	266	49		**5**	416	32	584	1
R-5	1-Jul-96	13600	**3**	14	308	**0.9**		0.8	6500	45	13	35	26500	20	7300	1855		**1**	41	1413			**0.1**	400	39			700	53	161	
R-5	20-Jul-04	10000	0.8	9.5	242	**1**	1	0.6	4490	25	9	17	17900	24.7	4980	925	0.01	1.2	26	3170	799	0.6	**0.1**	141	27	0.1	**5**	291	37	83	2
R-5	20-Jul-04	11600	1	16.8	396	**1**	1	1.5	7630	39	14	88	23600	152	5330	2630	0.06	2.2	42	3090	1030	1.5	0.2	148	36	0.3	**40**	326	38	242	1
R-5	20-Jul-04	8570	0.8	8	120	**1**	**1**	0.6	4230	41	10	22	19300	31.2	4120	1000	0.01	2.4	31	2860	1160	**0.5**	**0.1**	121	20	0.2	**5**	575	33	311	3
R-5	5-Aug-05	11000	**1**	32	350	0.61		1.4	6000	39	18	78	37000	290	5900	4100	0.34	2.2	44	1200	990	**0.5**	**0.3**	270	45	0.84	3.6	380	39	470	4.4
R-5	5-Aug-05	11000	<1	32	350	0.61	**<1**	1.4	6000	39	18	78	37000	290	5900	4100	0.34	2.2	44	1200	990	**0.5**	0.5	270	45	0.84	3.6	380	39	470	4.4
R-5	25-Jul-06	17500	**10**	**10**	238	**1**	**1**	0.8	6170	40	14	32	20400	24	6890	731	0.03	**4**	40	1250	1100	0.6	**2**	220	35		**5**	449	52	134	2
R-5	25-Jul-06	19700	**10**	13	289	**1**	1	0.9	6470	41	16	38	21700	28	7360	1340	0.04	**4**	43	1140	1330	0.8	**2**	260	38		**5**	495	52	153	2
R-5	25-Jul-06	20400	**10**	13	247	**1**	1	1.2	6450	43	17	45	22900	22	7710	970	0.04	**4**	47	1130	1310	0.8	**2**	229	37		**5**	527	61	160	2
R-6	1-Jul-96	14200	**<2**	9	238	0.9		1	6900	45	13	34	26500	11	7600	1222		1	40	1349			**0.1**	400	40			700	54	125	
R-6	20-Jul-04	10700	1	14.3	163	**1**	**1**	0.8	7270	28	11	21	23100	12.2	5210	1150	0.01	1.9	32	3380	897	0.6	**0.1**	153	33	0.1	**5**	275	40	82	2
R-6	20-Jul-04	9120	1.1	13.4	156	**1**	**1**	0.7	3860	21	9	25	19600	12.8	4580	911	0.01	1.8	27	2790	889	0.6	**0.1**	123	23	0.1	**5**	183	40	71	2
R-6	20-Jul-04	6630	0.7	8.9	107	**1**	**1**	0.4	2940	15	6	14	13400	7.9	3090	608	0.01	1.3	18	2240	676	**0.5**	**0.1**	96	18	0.1	**5**	135	29	46	2
R-6	5-Aug-05	17000	<1	15	360	0.86	**<1**	1.6	9800	48	16	31	36000	16	8300	2600	0.047	1.5	48	1400	1600	**0.5**	**0.3**	360	56	<0.5	3.9	530	67	140	6.2
R-6	25-Jul-06	10100	**10**	10	114	**1**	**1**	**0.5**	4320	27	11	16	18600	10	5260	632	0.01	**4**	30	1330	663	0.4	**0.3**	91	24		**5**	148	35	69	2
R-6	25-Jul-06	20300	**10**	12	211	**1**	1	1	7130	57	17	41	22500	17	7850	690	0.03	**4**	48	1160	1450	0.8	**0.3**	232	37		**5**	532	61	133	2
R-6	25-Jul-06	20700	**10**	12	204	**1**	1	1	6760	41	16	42	21800	17	7690	580	0.03	**4**	45	1100	1380	0.7	**0.3**	233	37		**5**	496	58	126	2
R-7	1-Jul-96	8600	**<2**	10	173	0.7		0.4	4000	20	4	14	18400	18	3500	887		**1**	17	1109		0.6	**0.1**	100	31			500	24	82	
R-7	20-Jul-04	11500	1.2	14.5	156	**1**	**1**	0.6	4360	28	11	21	22900	12.3	5670	924	0.01	1.5	33	3270	1120	**0.5**	**0.1**	147	25	0.1	**5**	243	41	82	3
R-7	20-Jul-04	11200	0.6	11.9	181	**1**	**1**	0.6	4710	19	9	20	19400	19.1	4050	881	0.03	0.8	20	2590	1280	0.7	0.1	101	30	0.2	**5**	403	27	86	1
R-7	20-Jul-04	9410	**0.1**	9.3	150	**1**	**1**	0.4	4160	17	7	11	15800	12.7	3140	621	0.02	0.6	17	3120	978	0.6	**0.1**	97	25	0.1	**5**	320	25	67	1
R-7	26-Jul-06	9780	**10**	**10**	92	**1**	**1**	**0.5**	2540	17	8	10	14800	9	3620	506	0.01	**4**	17	510	962	0.3	**0.3**	130	24		**5**	262	19	54	1
R-7	26-Jul-06	15700	**10**	14	216	**1**	**1**	0.6	4790	27	12	19	20400	16	4610	1200	0.03	**4**	23	916	1560	0.8	**0.3**	158	34		**5**	460	30	95	1
R-7	26-Jul-06	16800	**10**	**10**	188	**1**	**1**	0.6	5050	30	12	23	19500	19	4930	529	0.03	**4**	26	878	1770	0.7	**0.3**	178	35		**5**	500	32	95	1
R-8	26-Jul-06	21900	**10**	13	239	**1**	**1**	1.2	7490	53	19	51	24900	18	8330	1260	0.04	**4**	52	1100	1550	0.8	**0.3**	234	40		**5**	545	65	144	2
R-8	26-Jul-06	19400	**10**	11	188	**1**	**1**	0.9	6030	40	16	41	22000	16	7330	500	0.03	**4**	46	1140	1200	0.7	**0.3**	204	34		**5**	455	61	135	2
R-8	26-Jul-06	20500	**10**	14	200	**1**	**1**	1.1	5950	41	17	49	23000	18	7640	559	0.03	**4**	48	1080	1280	0.7	**0.3**	207	35		**5**	505	66	146	2
T-1(Ref)	14-Oct-99	30600	8	6.87	283	1	2	1	11600	53	19.8	38.4	32100	70	9670	563	0.095	**2**	65	820	3870	0.5	1	1200	93.1		**8**	1390	59	185	
T-1(Ref)	14-Oct-99	37200	8	6.36	332	1	**2**	1.05	16500	62.9	20.9	42.9	36100	96	12100	656	0.093	**2**	44	810	5570	1.1	1	1500	111		**8**	1460	66	196	
T-1(Ref)	14-Oct-99	29300	8	8.41	303	1	2	1.7	12800	54.2	19.8	43.8	32400	120	9750	714	0.195	**2**	56	900	3530	1.4	0.5	930	90.1		**8**	1200	57	229	
T-2(Ref)	14-Oct-99	25400	8	7.72	176	0.8	2	1.85	9800	58.6	17.4	37.8	28400	42	9040	534	0.037	**2**	46	670	3920	0.9	0.6	790	61.6		**8**	1400	56	138	
T-2(Ref)	14-Oct-99	24600	8	15.1	240	0.8	2	1.7	12400	61.6	18.7	54	27400	73	8820	525	0.106	**2**	46	910	3320	0.5	1	700	68.4		**8**	1460	59	180	
T-2(Ref)	14-Oct-99	24500	8	8.39	187	0.7	2	1.65	11900	65.3	17.8	42.6	30300	47	9750	675	0.044	**2**	46	830	3460	0.5	0.2	700	60.6		**8**	1400	56	150	
T-3(Ref)	14-Oct-99	21600	80	8.61	3850	2	**2**	1.99	10000	81	20	64	32200	19	13000	734	0.086	**20**	60	1000	3970	2	0.8	300	69		**80**	1150	100	174	
T-3(Ref)	14-Oct-99	23400	80	9.61	2150	2	**2**	2.02	9800	61	20	75	33000	18	13000	756	0.117	**20**	90	1000	4340	2.1	0.2	400	68		**80**	1160	100	198	
T-3(Ref)	14-Oct-99	27600	8	8.94	3920	0.7	2	2.51	10200	96.9	23.2	72.8	37900	21.5	14400	664	0.13	2	92	1300	5710	2.3	0.7	430	75.4		**8**	1300	130	199	
Anvil A1	13-Aug-04	9840	1.3	11	287	0.37	0.7	0.46	7210	29.5	7.48	18	21200	19.4	6130	381	0.04	0.77	30.8	765		**0.2**			37.1	<0.2	0.5	452	35.1	89.7	2.22
Anvil A2	13-Aug-04	12200	1	13.6	500	0.52	0.6	0.78	6800	55.1	10.7	27.5	25600	52.9	7080	862	0.06	1.08	45.5	933		**0.2**	0.16		41.5	<0.2	0.7	516	44.7	167	2.31
Anvil A2	5-Aug-05	17000	<1	12	580	0.92	**<1**	1.4	11000	50	17	44	30000	61	8800	3100	0.044	1.3	59	1000	2300	**0.2**		300	62	1.2	0.69	460	58	300	6.9
Anvil A3	13-Aug-04	11100	1.4	13	326	0.47	0.8	0.73	6170	42.1	10.8	26.8	24500	62	6360	1020	0.06	1.12	40.4	952		**0.2**	0.11		34.8	<0.2	0.5	453	39.6	184	2.27
Anvil A3	5-Aug-05	20000	<1	12	380	1	**<1**	1.8	9800	56	19	58	32000	99	9800	1100	0.13	1.8	66	1100	2300	**0.2**		340	59	0.52	0.66	500	66	400	7.8
Anvil A4	13-Aug-04	10500	1	11.5	453	0.42	0.5	0.71	5020	50.7	13.5	24	25300	98	5640	3580	0.05	1.75	47.6	851		**0.2**	0.18		36.6	0.4	0.5	429	34.7	274	2.1
Anvil A4	5-Aug-05	16000	<1	14	760	0.78	**<1**	1.1	7500	45	20	42	32000	150	7700	5800	0.14	2.2	52	1100	1500	**0.2**		370	57	1	1	480	50	430	5

Bolding Indicates MDL for respective parameter/study
(Taken from Minnow 2007)

Appendix D4

Vangorda Sediment Data

Station	Year	Metal (mg/kg)													Metal (mg/kg)								
		Aluminum	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silver	Sodium	Strontium	Titanium	Vandium	Zinc
V-1	1995	14,400	34.0	228	0.5	4,500	36.0	15.0	34.0	33,600	37	5,700	892	1	39.0	970	1,339	0.20	200	39	800	28	157
V-1	1995	16,100	26.0	232	0.8	5,300	35.0	11.0	31.0	30,100	34	5,900	354	1	34.0	1,075	1,339	0.40	200	46	700	30	150
V-1	1995	12,500	31.0	236	1.0	5,200	50.0	10.0	35.0	28,600	59	4,900	1,014	5	48.0	1,187	1,339	0.30	200	44	700	26	223
V-1	1997	16,600	28.0	292	0.6	4,300	32.0	14.0	71.0	31,500	76	5,800	973	2	31.0	1,181	1,400	**0.10**	400	39	600	33	153
V-1	1997	18,400	40.0	332	1.1	5,400	35.0	16.0	55.0	36,000	81	6,200	1,363	1	36.0	1,314	1,500	0.40	500	48	600	35	191
V-1	1997	7,000	9.0	96	**0.2**	2,000	16.0	7.0	33.0	14,500	18	2,400	563	**1**	13.0	411	700	**0.01**	300	18	300	13	53
V-1	1999	17,270	26.9	289	0.6	5,247	59.5	20.5	41.0	41,670	62	7,268	1,363	4	54.4	1,112	1,770	**0.10**	330	44	722	36	153
V-1	1999	17,249	28.7	292	1.0	5,589	52.6	18.9	37.7	39,180	41	6,788	1,583	2	46.8	1,150	1,777	**0.10**	332	47	703	37	140
V-1	1999	17,191	28.7	272	0.4	5,075	66.3	20.4	38.9	39,841	31	7,504	1,579	3	46.0	1,067	1,722	**0.10**	324	43	701	35	129
V-1	2001	10,829	14.4	89	0.5	2,844	29.9	10.8	17.7	23,793	16	5,243	461	1	27.2	601	701	**0.10**	192	21	392	23	76
V-1	2001	17,401	14.0	162	0.6	6,229	37.0	13.0	26.1	27,301	25	6,175	376	1	33.3	1,074	1,620	0.12	353	46	525	32	125
V-1	2001	10,616	7.3	70	0.5	2,913	23.4	6.2	12.8	20,494	12	5,634	352	**1**	22.1	430	719	**0.10**	309	22	253	20	64
V-1	2003	14,601	23.4	149	1.1	5,746	26.6	10.9	23.8	24,089	44	4,160	654	1	23.1	1,153	1,777	0.12	256	41	472	28	145
V-1	2003	15,231	21.8	145	0.8	4,596	31.6	14.0	27.2	27,997	26	4,958	1,017	1	26.2	997	1,944	**0.10**	252	35	532	31	114
V-1	2003	14,820	16.5	152	1.1	5,592	33.5	11.4	26.9	22,507	42	4,524	607	1	21.7	1,094	2,256	0.11	271	42	514	28	137
V-1	2005	8,000	**10.0**	49	**0.5**	1,350	13.0	8.0	19.0	13,800	22	3,330	280	**4**	14.0	279	559	**< 2**	83	8	94	13	49
V-1	2005	13,600	**10.0**	96	**0.5**	2,510	25.0	11.0	18.0	17,500	22	4,990	391	**4**	25.0	522	1,110	**< 2**	124	18	209	20	76
V-1	2005	8,240	**10.0**	56	**0.5**	1,410	13.0	10.0	14.0	15,300	14	3,700	335	**4**	17.0	380	533	**< 2**	55	13	112	14	54
V-1	2007	7,990	12.3	297	0.7	18,800	51.0	14.0	32.0	21,100	25	12,400	464	2	48.0	917	950	0.20	131	33	248	32	190
V-1	2007	8,100	13.0	285	0.8	20,100	56.0	15.0	33.0	21,200	25	13,500	472	2	15.0	386	730	**< 0.1**	133	25	173	14	56
V-1	2007	7,950	11.4	288	0.6	18,700	51.0	13.0	28.0	20,600	26	12,300	462	2	50.0	790	974	0.20	126	30	223	32	147
V-27	1995	7,400	48.0	193	0.8	5,100	27.0	27.0	47.0	20,500	270	5,300	364	1	37.0	988	673	0.10	100	30	300	18	470
V-27	1995	7,600	82.0	160	0.9	7,600	36.0	36.0	67.0	25,100	1,002	6,500	405	1	48.0	1,084	673	0.80	100	43	300	20	536
V-27	1995	7,150	109.0	144	1.3	7,350	43.0	21.5	65.0	29,200	2,707	6,350	403	1	51.5	1,282	673	1.55	100	42	450	23	547
V-27	1997	11,900	143.0	244	1.4	7,400	54.0	32.0	101.0	45,200	2,036	8,700	756	3	57.0	1,530	700	1.90	300	45	600	35	711
V-27	1997	11,900	102.0	299	1.3	6,600	52.0	26.0	83.0	37,600	1,656	8,500	687	3	50.0	1,427	800	1.70	300	41	500	31	644
V-27	1997	9,700	69.0	256	1.6	5,600	38.0	22.0	79.0	30,800	783	6,500	554	3	41.0	1,150	600	1.50	200	34	400	25	602
V-27	1999	11,435	174.0	398	2.5	5,471	42.1	22.0	158.9	46,632	2,486	8,100	666	7	56.1	1,412	698	4.71	274	53	308	25	1,102
V-27	1999	9,229	123.8	210	1.3	7,594	43.6	20.7	77.2	35,070	1,761	8,928	576	4	50.1	1,050	528	1.80	197	44	382	26	587
V-27	1999	12,603	159.4	491	2.9	6,278	44.3	22.3	150.7	46,876	1,961	9,071	731	6	61.9	1,484	787	3.73	302	57	337	28	1,074
V-27	2001	11,257	110.8	108	1.9	7,977	50.5	21.9	93.4	37,091	2,826	9,242	566	3	55.9	893	623	2.36	269	42	343	30	886
V-27	2001	11,653	111.0	108	2.0	9,313	54.9	27.0	108.8	41,512	3,943	10,071	688	2	61.5	933	601	3.28	250	46	326	30	945
V-27	2001	12,543	104.7	98	1.8	9,830	53.3	22.9	102.4	38,489	1,636	11,042	593	2	57.0	926	597	1.65	273	50	351	30	772
V-27	2003	11,988	91.1	201	3.0	5,996	44.1	25.9	81.3	31,049	1,753	8,327	672	2	35.5	779	925	2.08	189	36	454	29	973
V-27	2003	11,893	93.0	174	1.3	7,059	39.8	23.2	63.9	29,264	1,082	8,677	534	2	30.0	786	879	1.22	208	40	418	27	817
V-27	2003	13,501	75.8	208	2.1	7,788	46.0	23.7	77.9	30,811	1,316	9,719	714	2	40.0	762	1,008	1.30	245	45	413	30	1,063
V-27	2005	12,500	27.0	121	1.0	9,140	39.0	16.0	40.0	20,200	267	7,910	806	**4**	38.0	496	497	< 2	81	34	148	21	312
V-27	2005	13,800	23.0	83	1.0	8,770	40.0	15.0	31.0	20,000	114	8,650	664	**4**	38.0	455	403	< 2	84	34	117	22	261
V-27	2005	12,600	23.0	113	0.9	9,100	42.0	15.0	38.0	19,900	183	8,270	620	**4**	40.0	882	442	< 2	89	34	123	22	291
V-27	2007	6320	25.6	185	0.9	4570	28.0	12.0	32.0	17300	229	5,720	931	1	32.0	459	418	0.30	75	21	143	16	394
V-27	2007	15400	43.6	198	1.5	10500	55.0	24.0	50.0	36000	279	15,400	2,020	2	59.0	635	553	0.50	98	39	142	30	632
V-27	2007	11700	37.4	339	1.6	10000	41.0	20.0	53.0	30200	299	11,300	1,950	2	47.0	577	570	0.50	109	38	144	24	667
V-5	1995	6,200	32.0	178	1.0	14,400	37.0	9.0	37.0	18,400	55	9,000	389	2	55.0	1,348	630	0.10	100	60	300	22	129
V-5	1995	5,900	34.0	182	1.0	14,800	35.0	10.0	34.0	17,900	51	8,800	391	2	54.0	1,320	630	0.10	100	61	300	21	136
V-5	1995	6,200	37.0	182	1.0	14,800	37.0	10.0	38.0	18,400	51	9,200	426	2	57.0	1,204	630	1.00	100	61	300	21	133
V-5	1997	8,800	22.0	344	0.4	20,700	45.0	12.0	38.0	21,100	33	11,300	483	2	55.0	1,488	800	**0.10**	300	84	400	30	97
V-5	1997	8,400	21.0	354	0.3	19,700	42.0	11.0	34.0	20,200	34	10,600	468	3	52.0	1,397	800	**0.10**	300	81	400	29	97
V-5	1997	8,900	22.0	343	0.2	20,000	45.0	12.0	35.0	21,400	38	11,100	511	1	54.0	1,563	800	**0.10**	300	82	400	31	106
V-5	1999	6,550	15.1	248	0.3	18,318	35.1	10.4	26.2	17,922	30	9,014	408	2	47.4	1,066	595	**0.10**	254	69	346	24	80
V-5	1999	7,014	15.9	275	**0.2**	15,436	34.7	9.7	23.8	17,983	32	8,454	375	2	43.3	1,123	586	**0.10**	244	61	367	24	80
V-5	1999	7,528	12.5	286	**0.2**	15,697	34.8	9.7	24.6	18,522	29	8,366	371	2	43.0	1,168	637	**0.10**	252	63	375	25	83
V-5	2001	7,114	10.5	192	0.7	13,580	42.8	7.9	21.7	17,742	24	8,855	348	2	47.5	1,133	483	**0.10**	353	57	344	26	92
V-5	2001	8,273	12.0	218	0.8	14,959	43.9	9.3	28.3	19,501	34	9,447	468	2	56.6	1,115	652	0.16	401	63	301	28	121
V-5	2001	8,734	14.2	216	1.1	17,016	47.9	10.7	35.0	20,753	39	10,209	591	2	67.6	1,106	769	0.11	450	70	289	30	135
V-5	2003	7,531	13.7	148	0.7	13,412	43.9	11.1	26.4	16,742	34	9,273	482	1	38.6	953	721	**0.10**	291	63	320	26	98
V-5	2003	7,109	10.9	132	0.5	14,369	52.0	11.6	19.0	15,794	18	11,370	388	1	44.1	875	667	**0.10**	317	65	433	29	68
V-5	2003	7,634	12.1	134	0.4	15,366	61.7	12.6	22.0	17,595	22	12,783	396	1	48.6	1,034	606	**0.10**	308	70	453	31	75

Station	Year	Metal (mg/kg)													Metal (mg/kg)								
		Aluminum	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silver	Sodium	Strontium	Titanium	Vandium	Zinc
V-5	2005	10,200	11.0	165	0.9	20,300	54.0	14.0	27.0	16,300	22	11,500	479	**4**	68.0	1,210	501	**< 2**	114	67	135	26	92
V-5	2005	9,890	**10.0**	109	0.9	19,500	41.0	13.0	22.0	17,000	20	11,700	456	**4**	66.0	832	401	**< 2**	114	61	128	26	80
V-5	2005	9,970	**10.0**	139	0.8	18,500	59.0	14.0	26.0	16,700	20	12,100	422	**4**	77.0	614	425	**< 2**	114	52	153	25	87
V-5	2007	7,990	12.3	297	0.7	18,800	51.0	14.0	32.0	21,100	25	12,400	464	2	72.0	1,030	696	0.20	107	60	155	29	105
V-5	2007	8,100	13.0	285	0.8	20,100	56.0	15.0	33.0	21,200	25	13,500	472	2	79.0	987	690	0.20	118	63	169	30	104
V-5	2007	7,950	11.4	288	0.6	18,700	51.0	13.0	28.0	20,600	26	12,300	462	2	68.0	1,040	642	0.10	107	60	169	28	131
V-8	1995	8,300	42.0	239	1.4	9,400	34.0	13.0	52.0	22,600	178	7,400	555	2	55.0	1,040	719	3.90	100	51	300	22	438
V-8	1995	6,300	43.0	154	0.8	9,500	31.0	12.0	44.0	20,600	299	6,900	403	1	46.0	1,145	719	0.60	100	46	200	19	264
V-8	1995	8,100	47.0	258	1.3	9,300	34.0	13.0	49.0	22,000	177	7,100	558	1	54.0	1,095	719	1.80	100	53	300	21	471
V-8	1997	10,700	26.0	406	0.4	8,200	42.0	13.0	40.0	23,200	116	8,300	451	2	45.0	1,343	900	0.30	400	46	400	30	222
V-8	1997	10,600	28.0	344	0.5	8,500	41.0	14.0	38.0	23,800	119	8,400	508	2	45.0	1,355	800	0.40	300	46	400	31	246
V-8	1997	9,700	21.0	384	1.4	8,300	42.0	12.0	31.0	22,700	107	8,100	419	2	42.0	1,377	800	0.50	300	45	500	33	196
V-8	1999	8,351	15.1	247	**0.2**	10,122	32.3	10.3	27.5	20,001	71	7,412	437	1	40.1	994	693	**0.10**	260	47	381	25	134
V-8	1999	7,892	15.9	255	0.3	12,494	31.4	10.5	28.8	19,344	61	7,813	435	2	41.9	1,092	648	**0.10**	271	54	366	26	117
V-8	1999	7,576	23.0	247	0.3	8,962	36.6	11.1	30.8	20,692	135	7,540	444	2	41.1	881	595	0.29	228	44	369	26	194
V-8	2001	8,617	16.8	247	0.7	10,094	42.8	9.7	34.9	21,230	141	8,592	380	2	46.1	1,082	626	0.14	303	48	356	27	232
V-8	2001	9,100	17.4	287	0.9	9,706	45.5	9.9	33.4	21,847	76	8,849	363	2	52.0	1,091	709	0.15	314	47	390	30	218
V-8	2001	9,186	15.8	246	1.0	10,528	44.3	10.4	34.5	21,981	113	9,151	453	2	52.5	1,056	713	0.21	322	50	344	28	294
V-8	2003	7,329	12.8	139	0.7	11,269	41.7	11.3	28.7	16,152	60	8,988	382	1	37.5	861	698	0.14	263	52	299	24	219
V-8	2003	7,816	12.6	206	0.7	10,561	38.9	10.7	26.0	16,461	82	8,439	359	1	32.5	886	826	0.15	283	50	386	26	185
V-8	2003	8,438	13.8	171	1.2	11,145	42.8	12.9	33.4	17,912	79	9,219	493	1	39.7	830	890	0.15	294	55	355	27	325
V-8	2005	11,500	13.0	119	0.9	10,200	52.0	14.0	35.0	18,900	70	9,650	568	**4**	53.0	671	541	**< 2**	88	38	140	24	199
V-8	2005	11,400	14.0	152	0.9	11,700	53.0	14.0	34.0	19,100	83	10,200	582	**4**	52.0	735	472	**< 2**	82	41	159	27	189
V-8	2005	11,000	15.0	129	0.9	10,100	46.0	15.0	35.0	19,100	71	9,340	549	**4**	53.0	678	561	**< 2**	83	36	140	24	189
V-8	2007	11,800	14.2	317	1.0	16,400	47.0	16.0	41.0	25,300	46	11,200	729	2	66.0	914	1,020	0.20	137	58	162	33	187
V-8	2007	7,850	10.7	218	0.8	11,900	36.0	11.0	28.0	18,000	40	8,630	534	1	50.0	724	645	0.20	97	42	142	24	170
V-8	2007	9660	15	302	0.8	13700	43	14	33	23000	67.5	10300	785	1.3	56.0	944	809	0.20	116	49	175	29	205

Bolding Indicates MDL for respective parameter/study

(Taken from Minnow 2007 and updated)