Appendix F. BLM Table

BLM Data Label	Model Output: Critical Accumulation	Hard-ness (mg/L)	Model Input: Temp (ºC)	pH	Dissolved LC50 (µg/L)	DOC (mg/L)	Humic Acid (%)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L)	S (mg/L)	Notes
LUVA01S	1.7158	290	25	6.57	124.8	0.5	10	47.8602	41.47	89.821	7.178	278.4	6.5081	235	0.0003	1,2,3,4,5
LUVA02S	3.0893	290	25	7.29	259.2	0.5	10	47.8602	41.47	89.821	7.178	278.4	6.5081	235	0.0003	1,2,3,4,5
LUVA03S	2.9895	290	25	8.25	480	0.5	10	47.8602	41.47	89.821	7.178	278.4	6.5081	235	0.0003	1,2,3,4,5
CADE01F	28.0060	44.9	15	7.7	1920	1.1	10	13.1965	2.911001	1.27	0.56	3.32	1.2	42.7	0.0003	1,2,3,6,7,8
CADE02F	27.1187	44.9	15	7.7	1344	1.1	10	13.1965	2.911001	1.27	0.56	3.32	1.2	42.7	0.0003	1,2,3,6,7,8
JUPL01F	0.1732	21	15	7.20	14.4	1.1	10	6.0583	1.7462	4.5302	0.7	2.8706	5.468	26	0.0003	1,3,6,7,9,10
LIVI01F	0.0642	21	15	7.2	7.68	1.1	10	6.0583	1.7462	4.5302	0.7	2.8706	5.468	26	0.0003	1,3,6,7,9,10
PHIN01F	0.5126	44.9	15	7.7	39.36	1.1	10	13.1965	2.911001	1.27	0.56	3.32	1.2	42.7	0.0003	1,2,3,6,7,8
PHIN02F	0.3980	44.9	15	7.7	35.52	1.1	10	13.1965	2.911001	1.27	0.56	3.32	1.2	42.7	0.0003	1,2,3,6,7,8
ACPE01S	0.1634	96	25	8.35	25.92	0.5	10	15.8434	13.728	29.734	2.3762	92.159	2.1544	102	0.0003	1,2,3,4,6,7,20
ACPE02S	0.2150	68	25	8.35	27.84	0.5	10	11.2224	9.724	21.061	1.6831	65.279	1.526	108	0.0003	1,2,3,4,6,7,20
UTIM01S	10.0781	39	23	7.4	82.56	0.5	10	6.43638	5.577	12.079	0.9653	37.439	0.8752	32.5	0.0003	1,2,3,4,6,11
UTIM02S	10.2894	90	23	7.6	191.04	0.5	10	13.9716	12.11764	26.253	2.098	81.372	1.9022	65	0.0003	1,2,3,4,12
UTIM03S	1.5125	92	25	8.1	72.96	0.5	10	29.0614	4.73839	30.798	1.6408	46.006	32.716	77	0.0003	1,2,3,4,6,7,53
UTIM04S	1.6461	86	25	8.2	81.6	0.5	10	27.1661	4.429364	28.79	1.5338	43.005	30.583	78	0.0003	1,2,3,4,6,7,53
UTIM05S	0.5932	90	25	8	39.36	0.5	10	28.4296	4.635381	30.129	1.6052	45.006	32.005	78	0.0003	1,2,3,4,6,7,53
UTIM06S	1.8845	90	24	8.2	75.84	0.5	10	14.8532	12.87	13.938	1.1138	43.199	1.0099	99	0.0003	1,2,3,4,5,6,7
UTIM07S	1.4506	90	25	7.9	69.12	0.5	10	28.4296	4.635381	30.129	1.6052	45.006	32.005	99	0.0003	1,2,3,4,6,7,53
UTIM08S	1.0813	86	25	7.9	36.48	0.5	10	14.193	12.298	13.318	1.0643	41.279	0.965	59	0.0003	1,2,3,4,5,6,7
CEDU01S	0.1332	52	24.5	7.5	18.24	1.1	10	15.2833	3.371316	1.5	0.57	3.8	1.4	55	0.0003	1,2,3,6,7,8
CEDU02S	0.1109	52	24.5	7.5	16.32	1.1	10	15.2833	3.371316	1.5	0.57	3.8	1.4	55	0.0003	1,2,3,6,7,8
CEDU03S	0.0909	45	25	7.72	25	1.5	10	11.0991	4.2075	9.5	1.6	46	34	39.7	0.0003	1,2,6,7,16
CEDU04S	0.0484	45	25	7.72	17	1.5	10	11.0991	4.2075	9.5	1.6	46	34	39.7	0.0003	1,2,6,7,16
CEDU05S	0.1266	45	25	7.72	30	1.5	10	11.0991	4.2075	9.5	1.6	46	34	39.7	0.0003	1,2,6,7,16
CEDU06S	0.0847	45	25	7.72	24	1.5	10	11.0991	4.2075	9.5	1.6	46	34	39.7	0.0003	1,2,6,7,16
CEDU07S	0.1114	45	25	7.72	28	1.5	10	11.0991	4.2075	9.5	1.6	46	34	39.7	0.0003	1,2,6,7,16
CEDU08S	0.1433	45	25	7.72	32	1.5	10	11.0991	4.2075	9.5	1.6	46	34	39.7	0.0003	1,2,6,7,16
CEDU09S	0.0788	45	25	7.72	23	1.5	10	11.0991	4.2075	9.5	1.6	46	34	39.7	0.0003	1,2,6,7,16
CEDU10S	0.0625	45	25	7.72	20	1.5	10	11.0991	4.2075	9.5	1.6	46	34	39.7	0.0003	1,2,6,7,16
CEDU11S	0.0576	45	25	7.72	19	1.5	10	11.0991	4.2075	9.5	1.6	46	34	39.7	0.0003	1,2,6,7,16
CEDU12S	0.0262	94.1	25	8.15	26	2	10	23.2094	8.79835	5.2449	1.6	20.054	6.1705	69.6	0.0003	1,2,6,7,17
CEDU13S	0.0194	94.1	25	8.15	21	2	10	23.2094	8.79835	5.2449	1.6	20.054	6.1705	69.6	0.0003	1,2,6,7,17
CEDU14S	0.0277	94.1	25	8.15	27	2	10	23.2094	8.79835	5.2449	1.6	20.054	6.1705	69.6	0.0003	1,2,6,7,17

Appendix F. BLM Table

BLM Data Label	Model Output	Hard-ness (mg/L)	Model Input														Notes
	Critical Accumulation		Temp (ºC)	pH	Dissolved LC50 (µg/L)	DOC (mg/L)	Humic Acid (%)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L)	S (mg/L)	
CEDU15S	0.0454	94.1	25	8.15	37	2	10	23.2094	8.79835	5.2449	1.6	20.054	6.1705	69.6	0.0003	1,2,6,7,17
CEDU16S	0.0395	94.1	25	8.15	34	2	10	23.2094	8.79835	5.2449	1.6	20.054	6.1705	69.6	0.0003	1,2,6,7,17
CEDU17S	0.0551	179	25	8.31	67	2.3	10	50.1069	13.12323	14.32	2.4	22.673	10.979	140.1	0.0003	1,2,6,7,18
CEDU18S	0.0211	179	25	8.31	38	2.3	10	50.1069	13.12323	14.32	2.4	22.673	10.979	140.1	0.0003	1,2,6,7,18
CEDU19S	0.0745	179	25	8.31	78	2.3	10	50.1069	13.12323	14.32	2.4	22.673	10.979	140.1	0.0003	1,2,6,7,18
CEDU20S	0.0806	179	25	8.31	81	2.3	10	50.1069	13.12323	14.32	2.4	22.673	10.979	140.1	0.0003	1,2,6,7,18
CEDU21S	0.0382	97.6	25	8	28	2	10	24.0727	9.1256	5.44	1.6	20.8	6.4	74.2	0.0003	1,2,6,7,17
CEDU22S	0.1566	182	25	8	84	2.3	10	50.9467	13.34317	14.56	2.4	23.053	11.163	144.3	0.0003	1,2,6,7,18
CEDU23S	0.0702	57.1	25	8.18	12.864	0.5	10	9.42352	8.1653	17.685	1.4133	54.815	1.2814	81	0.0003	1,2,3,4,6,7,20
CEDU24R	0.0535	80	20	7.6	5.5396825	0.5	10	13.2028	11.44	24.778	1.9801	76.799	1.7953	53	0.0003	1,2,6,7,20,21
DAMA01S	0.0256	39	20	7.8	8.736	1.1	10	10.9867	2.7776	5.8136	0.7	7.9394	7.7684	51	0.0003	1,2,3,6,7,9,10
DAMA02S	0.0364	39	20	7.8	11.232	1.1	10	10.9867	2.7776	5.8136	0.7	7.9394	7.7684	51	0.0003	1,2,3,6,7,9,10
DAMA03S	0.0170	38	20	7.79	6.336	1.1	10	10.7129	2.7203	5.7423	0.7	7.6578	7.6406	50	0.0003	1,2,3,6,7,9,10
DAMA04S	0.0293	38	20	7.79	9.504	1.1	10	10.7129	2.7203	5.7423	0.7	7.6578	7.6406	50	0.0003	1,2,3,6,7,9,10
DAMA05S	0.2076	39	20	6.9	11.232	1.1	10	10.9867	2.7776	5.8136	0.7	7.9394	7.7684	30	0.0003	1,2,3,6,7,9,10
DAMA06S	0.0911	39	20	6.9	6.432	1.1	10	10.9867	2.7776	5.8136	0.7	7.9394	7.7684	30	0.0003	1,2,3,6,7,9,10
DAMA07S	0.0355	26	20	7.6	8.736	1.1	10	7.4273	2.0327	4.8867	0.7	4.2786	6.107	24	0.0003	1,2,3,6,7,9,10
DAMA08S	0.0140	27	20	7.7	4.992	1.1	10	7.7011	2.09	4.958	0.7	4.5602	6.2348	24	0.0003	1,2,3,6,7,9,10
DAMA09S	0.6284	170	20	7.8	39.552	0.5	10	27.9433	24.23527	52.507	4.1961	162.74	3.8045	115	0.0003	3,4,22,23
DAMA10S	0.0656	170	20	7.8	10.08	0.5	10	27.9433	24.23527	52.507	4.1961	162.74	3.8045	115	0.0003	3,4,22,23
DAMA11S	0.1963	170	20	7.8	19.776	0.5	10	27.9433	24.23527	52.507	4.1961	162.74	3.8045	115	0.0003	3,4,22,23
DAMA12S	0.1457	170	20	7.8	16.608	0.5	10	27.9433	24.23527	52.507	4.1961	162.74	3.8045	115	0.0003	3,4,22,23
DAMA13S	1.4067	170	20	7.8	67.872	0.5	10	27.9433	24.23527	52.507	4.1961	162.74	3.8045	115	0.0003	3,4,22,23
DAMA14S	0.3981	170	20	7.8	30.048	0.5	10	27.9433	24.23527	52.507	4.1961	162.74	3.8045	115	0.0003	3,4,22,23
DAMA15S	0.0166	109.9	21	6.93	6.816	2.4	10	40.0	2.43	85.1	1.23	10	106	12.5	0.0003	1,2,3,6,7,24
DAMA16S	0.0308	109.9	21	6.93	15.744	3.4	10	40.0	2.43	85.1	1.23	10	106	12.5	0.0003	1,2,3,6,7,24
DAMA17S	0.0407	109.9	21	7.43	38.304	3.4	10	40.0	2.43	85.1	1.23	10	106	13.875	0.0003	1,2,3,6,7,19,24
DAMA18S	0.0228	109.9	21	7.43	17.952	2.4	10	40.0	2.43	85.1	1.23	10	106	13.875	0.0003	1,2,3,6,7,19,24
DAMA19S	0.0115	109.9	21	7.82	18.144	2.4	10	40.0	2.43	85.1	1.23	10	106	14.5	0.0003	1,2,3,6,7,19,24
DAMA20S	0.0196	109.9	21	7.82	38.112	3.4	10	40.0	2.43	85.1	1.23	10	106	14.5	0.0003	1,2,3,6,7,19,24
DAMA21S	0.0932	109.9	21	6.93	44.16	4.4	10	40.0	2.43	85.1	1.23	10	106	12.5	0.0003	1,2,3,6,7,24
DAMA22S	0.1114	109.9	21	6.93	69.024	6.1	10	40.0	2.43	85.1	1.23	10	106	12.5	0.0003	1,2,3,6,7,24
DAMA23S	0.0475	109.9	21	7.43	54.912	4.4	10	40.0	2.43	85.1	1.23	10	106	13.875	0.0003	1,2,3,6,7,19,24
DAMA24S	0.0298	109.9	21	7.82	65.088	4.4	10	40.0	2.43	85.1	1.23	10	106	14.5	0.0003	1,2,3,6,7,19,24

Appendix F. BLM Table

BLM Data Label	Model Output	Hard-ness (mg/L)	Model Input														Notes
	Critical Accumulation		Temp (ºC)	pH	Dissolved LC50 (µg/L)	DOC (mg/L)	Humic Acid (%)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L)	S (mg/L)	
DAMA25S	0.1330	52	18.2	7.8	24.96	1.1	10	14	3.5	12	2.9	23	11	45	0.0003	1,2,3,6,7,9,25
DAMA26S	0.1078	105	20.3	7.9	28.8	1.1	10	29	6.8	29	5.3	57	21	79	0.0003	1,2,3,6,7,9,25
DAMA27S	0.1239	106	19.7	8.1	36.48	1.1	10	29	6.8	29	5.3	57	21	82	0.0003	1,2,3,6,7,9,25
DAMA28S	0.1807	207	19.9	8.3	66.24	1.1	10	58	13	62	8.2	127	40	166	0.0003	1,2,3,6,7,9,25
DAMA29S	0.0077	7.1	24	8.55	4.608	0.5	10	1.15182	1.027387	3.5102	2.8052	6.8159	2.5434	56	0.0003	1,2,3,4,6,7,56
DAMA30S	0.3257	20.6	24	6.97	7.104	0.5	10	3.39973	2.9458	2.5478	2.1356	19.776	1.9363	60	0.0003	1,2,3,4,6,7,56
DAMA31S	0.0175	23	24	8.52	6.24	0.5	10	3.79581	3.289	2.8446	2.3845	22.08	2.1619	64	0.0003	1,2,3,4,6,7,56
DAPC01S	0.0101	48	18	8.03	10.944	2.288	10	14.1077	3.111984	1.36	0.57	3.55	1.25	42	0.0003	1,2,3,6,7,15,26
DAPC02S	0.0061	48	18	8.03	8.6976	2.816	10	14.1077	3.111984	1.36	0.57	3.55	1.25	42	0.0003	1,2,3,6,7,15,26
DAPC03S	0.0051	48	18	8.01	6.9504	2.728	10	14.1077	3.111984	1.36	0.57	3.55	1.25	44	0.0003	1,2,3,6,7,15,26
DAPC04S	0.0066	44	18	8.04	10.368	3.08	10	12.932	2.852652	1.24	0.57	3.25	1.15	42	0.0003	1,2,3,6,7,15,26
DAPC05S	0.1033	31	18	6.66	53.184	12.2094	10	7.37407	3.063455	1.6792	0.5	6.3292	1.2917	27	0.0003	1,2,3,6,7,27,28
DAPC06S	0.0576	29	18	6.97	53.088	11.3373	10	6.89832	2.865813	1.5708	0.5	5.9208	1.2083	27	0.0003	1,2,3,6,7,27,28
DAPC07S	0.0334	28	18	7.2	51.168	11.3373	10	6.66045	2.766992	1.5167	0.5	5.7167	1.1667	22	0.0003	1,2,3,6,7,27,28
DAPC08S	0.0334	88	18	7.01	93.312	24.4188	10	20.9464	8.5194	16.466	1.8787	22.629	18.986	20	0.0003	1,2,3,6,7,27,29
DAPC09S	0.0230	100	18	7.55	191.04	29.6514	10	23.9296	9.4686	21.207	2.1631	25.98	23.28	20	0.0003	1,2,3,6,7,27,29
DAPC10S	0.0866	82	18	6.99	204.48	27.9072	10	19.4548	8.0448	14.095	1.7365	20.953	16.84	18	0.0003	1,2,3,6,7,27,29
DAPC11S	0.0569	84	18	7.01	158.4	27.9072	10	19.952	8.203	14.885	1.7839	21.512	17.555	17	0.0003	1,2,3,6,7,27,29
DAPC12S	0.0108	16	18	7.39	34.08	11.6124	10	4.13844	1.379481	0.16	0.3	6.72	0.32	11	0.0003	1,2,3,6,7,27,28
DAPC13S	0.0187	151	18	7.76	75.648	12.5801	10	36.7872	14.39533	10.786	1.4	62.018	19.684	44	0.0003	1,2,3,6,7,27,28
DAPC14S	0.0069	96	18	8.1	108.48	27.0956	10	22.0888	9.939946	6.8571	1.4	19.911	4.2667	91	0.0003	1,2,3,6,7,27,28
DAPC15S	0.0148	26	18	7.24	73.344	24.1925	10	7.37925	1.844812	0.26	0.3	11.624	2.6	4	0.0003	1,2,3,6,7,27,28
DAPC16S	0.0730	84	18	7.08	81.312	12.5801	10	20.4644	8.008	6	1.4	34.5	10.95	13	0.0003	1,2,3,6,7,27,28
DAPC17S	0.0822	92	18	7.22	176.64	20.3217	10	22.4134	8.770667	6.5714	1.4	37.786	11.993	19	0.0003	1,2,3,6,7,27,28
DAPC18S	0.0065	47	18	8.03	8.928	2.728	10	13.8137	3.047151	1.33	0.57	3.47	1.23	42.5	0.0003	1,2,3,6,7,15,26
DAPC19S	0.0130	97	18	8.03	17.088	2.728	10	34	2.9	1.3	0.57	51.3	1.2	42.5	0.0003	1,2,3,6,7,15,30
DAPC20S	0.0171	147	18	8.03	22.752	2.728	10	54	2.9	1.3	0.57	99.3	1.2	42.5	0.0003	1,2,3,6,7,15,30
DAPC21S	0.0175	247	18	8.03	26.208	2.728	10	94	2.9	1.3	0.57	147.3	1.2	42.5	0.0003	1,2,3,6,7,15,30
DAPC22S	0.0311	97	18	8.03	24.192	2.728	10	13.6	15.2	1.3	0.57	51.3	1.2	42.5	0.0003	1,2,3,6,7,15,30
DAPC23S	0.0376	147	18	8.03	24.096	2.728	10	13.6	27.5	1.3	0.57	99.3	1.2	42.5	0.0003	1,2,3,6,7,15,30
DAPC24S	0.0477	247	18	8.03	24.096	2.728	10	13.6	51.9	1.3	0.57	147.3	1.2	42.5	0.0003	1,2,3,6,7,15,30
SCSP01S	0.1224	52	24.5	7.5	17.28	1.1	10	15.2833	3.371316	1.47	0.57	3.84	1.36	55	0.0003	1,2,3,6,7,8
GAPS01F	0.1347	44.9	15	7.7	21.12	1.1	10	13.1965	2.911001	1.27	0.57	3.32	1.17	42.7	0.0003	1,2,3,6,7,8
GAPS02F	0.1035	44.9	15	7.7	18.24	1.1	10	13.1965	2.911001	1.27	0.57	3.32	1.17	42.7	0.0003	1,2,3,6,7,8

Appendix F. BLM Table

BLM Data Label	Model Output	Hard-ness (mg/L)	Model Input														Notes
	Critical Accumulation		Temp (ºC)	pH	Dissolved LC50 (µg/L)	DOC (mg/L)	Humic Acid (%)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L)	S (mg/L)	
HYAZ01S	0.2206	290	25	6.23	16.32	0.5	10	47.8602	41.47	89.821	7.178	278.4	6.5081	235	0.0003	1,2,3,4,5,13
HYAZ02S	0.1575	290	25	7.51	23.04	0.5	10	47.8602	41.47	89.821	7.178	278.4	6.5081	235	0.0003	1,2,3,4,5,13
HYAZ03S	0.3502	290	25	8.38	83.52	0.5	10	47.8602	41.47	89.821	7.178	278.4	6.5081	235	0.0003	1,2,3,4,5,13
HYAZ04S	0.0898	20.5	21	7.15	23.328	2.8	10	5.1	1.9	5.3	0.8	9.3	10.0	6.7	0.0003	3,31
HYAZ05S	0.0868	20.5	21	7.15	22.848	2.8	10	5.1	1.9	5.3	0.8	9.3	10.0	6.7	0.0003	3,31
HYAZ06S	0.2623	20.6	21	7.14	7.872	0.5	10	5.3	1.8	5.5	0.8	7.0	9.7	11.0	0.0003	3,31
HYAZ07S	0.3754	20.6	21	7.14	9.6	0.5	10	5.3	1.8	5.5	0.8	7.0	9.7	11.0	0.0003	3,31
ACLY01S	29.6273	42	18.5	7.0	7968	1.1	10	12.3442	2.722986	1.3	0.57	3.4	1.2	47	0.0003	1,2,3,6,7,8
CHDE01S	26.3192	44	20	7.40	709.44	0.5	10	6.99	6.06	13.1	1.05	40.7	0.951	32.5	0.0003	1,2,3,4,32,33
SCPL01S	4.2091	167	22	7.6	153.6	0.5	10	27.5609	23.881	51.724	4.1335	160.32	3.7478	115	0.0003	1,2,3,4,6,7,20
ONAP01S	1.3372	169	12	8	67.2	0.5	10	27.891	24.167	52.344	4.183	162.24	3.7927	117	0.0003	1,2,3,4,6,7,20
ONCL01S	1.4620	169	12	8.1	76.8	0.5	10	27.891	24.167	52.344	4.183	162.24	3.7927	117	0.0003	1,2,3,4,6,7,20
ONCL02S	0.8147	169	12	8.25	57.6	0.5	10	27.891	24.167	52.344	4.183	162.24	3.7927	117	0.0003	1,2,3,4,6,7,20
ONCL03F	4.0100	205	13.7	7.73	367	3.3	10	49.8	19.6	4	0.64	10	0.44	178	0.0003	1,2,6,7,34
ONCL04F	1.9796	69.9	13.7	8.54	186	1.5	10	18.4	5.8	1.405	0.2248	3.5126	0.1546	174	0.0003	1,2,6,7,35
ONCL05F	0.4939	18	13.7	8.07	36.8	0.75	10	4.8	1.5	0.3618	0.0579	0.9045	0.0398	183	0.0003	1,2,6,7,35
ONCL06F	2.3421	204	13.7	7.61	232	3.3	10	64.7	10.3	4.1005	0.6561	10.251	0.4511	77.9	0.0003	1,2,6,7,35
ONCL07F	6.7006	83	13.7	7.4	162	1.7	10	20.4	7.8	1.6683	0.2669	4.1709	0.1835	70	0.0003	1,2,6,7,35
ONCL08F	1.5177	31.4	13.7	8.32	73.6	0.94	10	7.9	2.7	0.6312	0.101	1.5779	0.0694	78.3	0.0003	1,2,6,7,35
ONCL09F	0.3903	160	13.7	7.53	91	2.8	10	57.5	4.0	3.2161	0.5146	8.0402	0.3538	26.0	0.0003	1,2,6,7,35
ONCL10F	0.3737	74.3	13.7	7.57	44.4	1.5	10	24.7	3.1	1.4935	0.239	3.7337	0.1643	22.7	0.0003	1,2,6,7,35
ONCL11F	0.1465	26.4	13.7	7.64	15.7	0.87	10	6.0	2.8	0.5307	0.0849	1.3266	0.0584	20.1	0.0003	1,2,6,7,35
ONGO01F	1.6934	83.1	7.15	7.63	137.28	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONGO02F	0.4452	83.1	7.15	7.63	83.52	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONGO03F	4.2106	83.1	7.15	7.63	191.04	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONKI01R	5.5651	33	13.5	7.29	157.44	2.496	10	8.77741	2.698479	7.3188	1.15	6.1426	6.8124	29	0.0003	1,2,3,6,7,27,36
ONKI02F	0.4559	25	12	7.30	31.68	1.3	10	6.8	1.8	5.0	0.6	4.2	6	24	0.0003	3,37
ONKI03F	1.0338	20	9.4	7.29	44.16	1.3	10	5.7845	1.6889	4.4589	0.7	2.589	5.3402	22	0.0003	1,2,3,6,7,10,38
ONKI04F	0.1889	31.1	13.3	7.30	49	3.2	10	8.01999	2.695987	5.12	0.653	4	4.5	29.6	0.0003	1,2,6,7,39
ONKI05F	0.2029	31.1	13.3	7.30	51	3.2	10	8.01999	2.695987	5.12	0.653	4	4.5	29.6	0.0003	1,2,6,7,39
ONKI06F	0.1710	31.6	15.7	7.50	58	3.2	10	8.14893	2.739331	5.12	0.653	3.5	4.2	30.4	0.0003	1,2,6,7,39
ONKI07F	0.5633	31	15.3	7.20	78	3.2	10	7.99421	2.687318	5.12	0.653	2.3	3.1	29.7	0.0003	1,2,6,7,39
ONMY01S	2.0313	169	12	8.2	105.6	0.5	10	27.891	24.167	52.344	4.183	162.24	3.7927	117	0.0003	1,2,3,4,6,7,20
ONMY02S	0.8481	169	12	7.95	48	0.5	10	27.891	24.167	52.344	4.183	162.24	3.7927	117	0.0003	1,2,3,4,6,7,20

Appendix F. BLM Table

BLM Data Label	Model Output	Hard-ness (mg/L)	Model Input														Notes
	Critical Accumulation		Temp (ºC)	pH	Dissolved LC50 (µg/L)	DOC (mg/L)	Humic Acid (%)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L)	S (mg/L)	
ONMY03S	1.1217	169	12	7.95	57.6	0.5	10	27.891	24.167	52.344	4.183	162.24	3.7927	117	0.0003	1,2,3,4,6,7,20
ONMY04R	0.1566	44.1	11.5	7.7	40	2	10	9.07	4.1	4.75	1.02	3.3	1.56	49.7	0.0003	40
ONMY05R	0.1284	44.6	11.5	7.8	19	0.99	10	7.37	6.1	6.24	0.8	1.31	3.82	53.1	0.0003	40
ONMY06R	0.0601	38.7	12	7.62	3.4	0.33	10	2.37	8.65	13.7	0.15	0.36	20.3	40	0.0003	51
ONMY07R	0.1587	39.3	12	7.61	8.1	0.36	10	14.1	1.8	13.2	0.1	0.36	19.9	41.7	0.0003	51
ONMY08R	0.2912	89.5	12	8.21	17.2	0.345	10	15	11.85	10.05	1	0.36	6.73	97.5	0.0003	51
ONMY09R	0.5590	89.67	12	8.15	32	0.345	10	28.9	3.15	32.5	0.5	0.36	45.2	97.25	0.0003	51
ONMY10F	0.4321	23	12.2	7.1	26.88	1.4	10	6.1	1.8	4.4	0.4	5.8	6	22	0.0003	3,37
ONMY11F	0.1791	23	12.2	7.1	16.32	1.4	10	6.1	1.8	4.4	0.4	5.8	6	22	0.0003	3,37
ONMY12F	0.1193	23	12.2	7.4	17.28	1.3	10	6.8	1.8	5.0	0.6	4.2	6	22	0.0003	3,37
ONMY13F	0.5189	23	12.2	7.1	27.84	1.3	10	6.8	1.8	5.0	0.6	4.2	6	22	0.0003	3,37
ONMY14F	0.6489	194	12.8	7.84	169	3.3	10	55.1	13.7	4	0.64	10	0.44	174	0.0003	1,2,6,7,34
ONMY15F	0.1457	194	12.8	7.84	85.3	3.3	10	55.1	13.7	4	0.64	10	0.44	174	0.0003	1,2,6,7,34
ONMY16F	0.1393	194	12.8	7.84	83.3	3.3	10	55.1	13.7	4	0.64	10	0.44	174	0.0003	1,2,6,7,34
ONMY17F	0.2120	194	12.8	7.84	103	3.3	10	55.1	13.7	4	0.64	10	0.44	174	0.0003	1,2,6,7,34
ONMY18F	1.9944	194	12.8	7.84	274	3.3	10	55.1	13.7	4	0.64	10	0.44	174	0.0003	1,2,6,7,34
ONMY19F	0.3390	194	12.8	7.84	128	3.3	10	55.1	13.7	4	0.64	10	0.44	174	0.0003	1,2,6,7,34
ONMY20F	1.2327	194	12.8	7.84	221	3.3	10	55.1	13.7	4	0.64	10	0.44	174	0.0003	1,2,6,7,34
ONMY21F	0.6126	194	12.8	7.84	165	3.3	10	55.1	13.7	4	0.64	10	0.44	174	0.0003	1,2,6,7,34
ONMY22F	0.9384	194	12.8	7.84	197	3.3	10	55.1	13.7	4	0.64	10	0.44	174	0.0003	1,2,6,7,34
ONMY23F	5.8066	194	12.8	7.84	514	3.3	10	55.1	13.7	4	0.64	10	0.44	174	0.0003	1,2,6,7,34
ONMY24F	1.5335	194	12.8	7.84	243	3.3	10	55.1	13.7	4	0.64	10	0.44	174	0.0003	1,2,6,7,34
ONMY25F	0.0656	9.2	15.5	6.96	2.688	0.5	10	2.3	0.7	2	0.2	4.6	2.1	11	0.0003	3,41
ONMY26F	0.4233	31	15.3	7.2	68	3.2	10	7.99421	2.687318	5.12	0.653	2.3	3.1	29.7	0.0003	1,2,6,7,39
ONMY27F	0.1243	36.1	11.4	7.6	18	1.31	10	4.03	7.13	1.56	0.26	1.49	0.88	36.6	0.0003	40
ONMY28F	1.3908	36.2	11.5	6.1	12	1.36	10	3.93	7.27	1.57	0.28	1.47	0.87	8.5	0.0003	40
ONMY29F	0.6969	20.4	11.7	7.5	5.7	0.15	10	3.13	2.77	2.62	0.25	0.36	1.48	23	0.0003	40
ONMY30F	0.3174	45.2	11.7	7.7	35	1.23	10	9.7	4.43	5.33	0.97	3.41	1.47	50	0.0003	40
ONMY31F	1.4750	45.4	11.8	6.3	18	1.22	10	9.7	4.43	5.02	0.98	3.37	1.37	10.9	0.0003	40
ONMY32F	0.7476	41.9	12.3	7.9	17	0.33	10	6.6	5.97	5.89	0.63	1.11	3.37	48.3	0.0003	40
ONMY33F	1.9559	214	7.64	7.94	96.96	0.27	10	49.4	24.1	10.3	1.75	18.9	5.28	198	0.0003	1,2,3,6,7,54,55
ONMY34F	5.7290	220	7.74	7.92	295.68	0.36	10	51.2	25.5	8.36	2.1	24	4.64	197	0.0003	1,2,3,6,7,54,55
ONMY35F	6.1696	105	7.77	7.82	89.28	0.1	10	23.1	11.8	3.54	3.22	17.1	2.91	94.1	0.0003	1,2,3,6,7,54,55
ONMY36F	2.7375	98.2	8.49	7.89	34.464	0.045	10	22.3	11.2	3.58	0.9	11.5	2.85	87.9	0.0003	1,2,3,6,7,54,55

Appendix F. BLM Table

BLM Data Label	Model Output	Hard-ness (mg/L)	Model Input													Notes
	Critical Accumulation		Temp (ºC)	pH	Dissolved LC50 (µg/L)	DOC (mg/L)	Humic Acid (%)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L)	S (mg/L)	
ONMY37F	2.4870	104	16.3	7.83	52.224	0.28	10	22.4	11.4	3.76	2.72	12.4	3.01	97.6	0.0003	1,2,3,6,7,54,55
ONNE01F	3.7268	83.1	7.15	7.63	182.4	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONNE02F	4.2652	83.1	7.15	7.63	192	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONNE03F	0.6317	83.1	7.15	7.63	96	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONNE04F	0.8220	83.1	7.15	7.63	105.6	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONNE05F	1.3021	83.1	7.15	7.63	124.8	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONNE06F	1.9540	83.1	7.15	7.63	144	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONNE07F	4.8185	83.1	7.15	7.63	201.6	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONNE08F	2.7735	83.1	7.15	7.63	163.2	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONNE09F	3.7268	83.1	7.15	7.63	182.4	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONNE10F	6.3927	83.1	7.15	7.63	230.4	2.58	10	22.3428	6.313221	10.259	7.5024	25.1	9.994	62.5	0.0003	1,2,3,6,7,52
ONTS01F	0.2311	23	12.2	7.4	24.96	1.3	10	6.8	1.8	5.0	0.6	4.2	6	22	0.0003	3,37
ONTS02F	0.1300	23	12.2	7.4	18.24	1.3	10	6.8	1.8	5.0	0.6	4.2	6	22	0.0003	3,37
ONTS03F	0.8021	23	12.2	7.1	36.48	1.4	10	6.1	1.8	4.4	0.4	5.8	6	22	0.0003	3,37
ONTS04F	0.4226	23	12.2	7.1	24.96	1.3	10	6.8	1.8	5.0	0.6	4.2	6	22	0.0003	3,37
ONTS05F	0.4110	13	12	7.15	9.792	0.5	10	2.14546	1.859	4.0264	0.3218	12.48	0.2917	12	0.0003	1,2,3,4,6,7,20
ONTS06F	1.1139	46	12	7.55	23.136	0.5	10	7.59162	6.578	14.247	1.1386	44.159	1.0323	35	0.0003	1,2,3,4,6,7,20
ONTS07F	1.3545	182	12	8.12	79.2	0.5	10	30.0364	26.026	56.37	4.5048	174.72	4.0844	125	0.0003	1,2,3,4,6,7,20
ONTS08F	0.5851	359	12	8.49	123.264	0.5	10	59.2477	51.337	111.19	8.8858	344.64	8.0566	243	0.0003	1,2,3,4,6,7,20
ONTS09F	1.4835	36.6	12	7.71	7.4	0.055	10	6.36	4.73	4.84	0.22	0.94	2.79	40.8	0.0003	51
ONTS10F	0.9872	34.6	12	7.79	12.5	0.19	10	7.82	3.17	9.98	0.11	0.73	8.34	40.6	0.0003	51
ONTS11F	1.1667	38.3	12	7.71	14.3	0.24	10	6.33	5.1	5.27	0.6	0.99	2.96	43.6	0.0003	51
ONTS12F	2.1157	35.7	12	7.74	18.3	0.17	10	8.15	3.38	10	0.37	0.76	9.1	43.3	0.0003	51
SACO01F	4.4046	214	7.64	7.94	218.88	0.27	10	49.4	24.1	10.3	1.75	18.9	5.28	198	0.0003	1,2,3,6,7,54,55
SACO02F	3.9765	220	7.74	7.92	198.72	0.36	10	51.2	25.5	8.36	2.1	24	4.64	197	0.0003	1,2,3,6,7,54,55
SACO03F	4.5865	105	7.77	7.82	63.936	0.1	10	23.1	11.8	3.54	3.22	17.1	2.91	94.1	0.0003	1,2,3,6,7,54,55
SACO04F	3.7394	98.2	8.49	7.89	48	0.045	10	22.3	11.2	3.58	0.9	11.5	2.85	87.9	0.0003	1,2,3,6,7,54,55
SACO05F	4.3216	104	16.3	7.83	85.44	0.28	10	22.4	11.4	3.76	2.72	12.4	3.01	97.6	0.0003	1,2,3,6,7,54,55
ACAL01F	10.8390	54	10.5	7.3	137.28	1.1	10	15.0937	3.6371	6.8831	0.7	12.163	9.6854	43	0.0003	1,2,3,6,7,9,10
GIEL01S	3.7022	173	22	8.05	192	0.5	10	28.5511	24.739	53.583	4.282	166.08	3.8824	117	0.0003	1,2,3,6,7,20
NOCR01F	29.9833	72.2	25	7.50	81216	1.5	10	17.8079	6.7507	15.26	1.6	73.841	54.15	42.5	0.0003	2,3,6,7,16,42
PIPR01S	12.7822	103	22	7.4	297.6	0.5	10	28.4667	7.773195	27.778	2.6358	29.602	53.021	65	0.0003	1,2,3,4,6,48
PIPR02S	5.7854	103	22	7.4	115.2	0.5	10	28.4667	7.773195	27.778	2.6358	29.602	53.021	65	0.0003	1,2,3,4,6,48
PIPR03S	11.1072	263	22	7.4	374.4	0.5	10	72.6868	19.84806	36.487	3.4623	77.901	130.77	65	0.0003	1,2,3,4,6,48

Appendix F. BLM Table

BLM Data Label	Model Output	Hard-ness (mg/L)	Model Input														Notes
	Critical Accumulation		Temp (ºC)	pH	Dissolved LC50 (µg/L)	DOC (mg/L)	Humic Acid (%)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L)	S (mg/L)	
PIPR04S	1.4088	52	24.5	7.4	52.8	1.1	10	15.2833	3.371316	1.47	0.57	3.84	1.36	55	0.0003	1,2,3,6,7,8
PIPR05S	3.5374	52	24.5	7.4	81.6	1.1	10	15.2833	3.371316	1.47	0.57	3.84	1.36	55	0.0003	1,2,3,6,7,8
PIPR06S	0.1923	290	25	6.27	14.4	0.5	10	47.8602	41.47	89.821	7.178	278.4	6.5081	235	0.0003	1,2,3,4,5
PIPR07S	0.4486	290	25	7.14	42.24	0.5	10	47.8602	41.47	89.821	7.178	278.4	6.5081	235	0.0003	1,2,3,4,5
PIPR08S	0.7848	290	25	8.6	192	0.5	10	47.8602	41.47	89.821	7.178	278.4	6.5081	235	0.0003	1,2,3,4,5
PIPR09S	0.1007	19	22	7.06	4.6272	0.6	10	4.9	1.64	3.7	0.78	9.6	5.8	11.17	0.0003	3,49
PIPR10S	0.2995	19.5	22	7.25	7.872	0.4	10	5.2	1.64	5.36	0.79	2.45	8.6	12.7	0.0003	3,49
PIPR11S	0.6353	16.5	22	6.36	30.3072	3.3	10	4.1	1.54	2.82	0.76	9.4	4.7	8.46	0.0003	3,49
PIPR12S	0.3291	17	22	6.42	20.2176	3.1	10	4.2	1.56	2.74	0.74	7.4	4.6	3.4	0.0003	3,49
PIPR13S	0.4571	19	22	6.38	34.5312	4.3	10	5	1.62	7.04	0.72	10.2	12.2	7.83	0.0003	3,49
PIPR14S	0.2945	17	22	7.15	57.4368	3.4	10	4.2	1.54	2.9	1	7.4	4.7	8.74	0.0003	3,49
PIPR15S	0.0536	17	22	7.16	4.6368	0.8	10	4.5	1.46	2.68	0.78	10.9	3.8	9.3	0.0003	3,49
PIPR16S	0.1957	17.5	22	7.13	67.4688	5.1	10	4.6	1.48	2.62	0.77	10.5	3.5	8.95	0.0003	3,49
PIPR17S	0.0858	18.5	22	7.06	80.2464	10.5	10	5	1.54	2.64	0.8	10.7	3.5	8.29	0.0003	3,49
PIPR18S	0.2054	18.5	22	6.90	174.72	15.6	10	4.9	1.5	3.54	0.99	7	5.2	9.52	0.0003	3,49
PIPR19S	4.5177	173	22	8.25	278.4	0.5	10	28.5511	24.739	53.583	4.282	166.08	3.8824	117	0.0003	1,2,3,4,6,7,20
PIPR20S	9.8196	173	22	8.1	604.8	0.5	10	28.5511	24.739	53.583	4.282	166.08	3.8824	117	0.0003	1,2,3,4,6,7,20
PIPR21S	6.6067	173	22	8.15	384	0.5	10	28.5511	24.739	53.583	4.282	166.08	3.8824	117	0.0003	1,2,3,4,6,7,20
PIPR22S	10.0006	173	22	7.3	374.4	0.5	10	28.5511	24.739	53.583	4.282	166.08	3.8824	117	0.0003	1,2,3,4,6,7,20
PIPR23S	9.6130	166	5	8.05	432	0.5	10	27.3959	23.738	51.415	4.1088	159.36	3.7253	132.5	0.0003	1,2,3,4,6,7,20
PIPR24S	4.8327	159	12	8.35	285.12	0.5	10	26.2406	22.737	49.247	3.9355	152.64	3.5682	135	0.0003	1,2,3,4,6,7,20
PIPR25S	4.0277	168	22	8.3	298.56	0.5	10	27.7259	24.024	52.034	4.1583	161.28	3.7702	142.5	0.0003	1,2,3,4,6,7,20
PIPR26S	4.6547	167	32	8.45	492.48	0.5	10	27.5609	23.881	51.724	4.1335	160.32	3.7478	140	0.0003	1,2,3,4,6,7,20
PIPR27S	0.6934	45.54059	22	7.93	53.958366	1.1	10	13.4911	2.888065	1.6093	0.391	3.362	1.4181	42.037464	0.0003	43,44
PIPR28S	4.2004	45.54059	22	7.93	165.17867	1.1	10	13.4911	2.888065	91.27	0.391	3.362	143.23	42.037464	0.0003	43,44
PIPR29S	0.8415	44.53969	22	7.98	59.464322	1.1	10	13.1946	2.824591	1.6093	0.391	3.362	1.4181	42.037464	0.0003	43,44
PIPR30S	4.3543	44.53969	22	7.98	146.45842	1.1	10	13.1946	2.824591	45.98	0.391	3.362	72.324	44.039248	0.0003	43,44
PIPR31S	2.0950	44.53969	22	7.99	82.038741	1.1	10	13.1946	2.824591	1.6093	0.391	3.362	1.4181	42.53791	0.0003	43,44
PIPR32S	5.5515	45.54059	22	7.96	124.4346	1.1	10	13.4911	2.888065	1.6093	0.391	3.362	36.871	43.038356	0.0003	43,44
PIPR33S	4.5180	45.04014	22	7.79	103.759	1.1	10	13.3428	2.856328	1.6093	0.391	3.362	1.4181	46.041032	0.0003	43,44
PIPR34S	6.1264	45.04014	22	7.81	167.3225	1.1	10	13.3428	2.856328	47.589	0.391	99.42	1.4181	46.041032	0.0003	43,44
PIPR35S	7.0053	138.1231	22	7.785	120.015	1.1	10	12.892	25.75825	1.6093	0.391	3.362	72.324	43.038356	0.0003	43,44
PIPR36S	11.0638	151.1347	22	7.78	169.418	1.1	10	14.1065	28.18476	1.6093	0.391	99.42	1.4181	43.038356	0.0003	43,44
PIPR37S	7.3217	138.1231	22	8.02	268.224	1.1	10	12.892	25.75825	1.6093	0.391	3.362	1.4181	149.13291	0.0003	43,44

Appendix F. BLM Table

BLM Data Label	Model Output	Hard-ness (mg/L)	Model Input														Notes
	Critical Accumulation		Temp (ºC)	pH	Dissolved LC50 (µg/L)	DOC (mg/L)	Humic Acid (%)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L)	S (mg/L)	
PIPR38S	9.6045	139.124	22	7.775	242.443	1.1	10	51.1778	2.779812	1.6093	0.391	99.42	1.4181	43.038356	0.0003	43,44
PIPR39S	5.5658	47.04192	22	7.78	113.3475	1.1	10	13.4268	4.010325	1.6093	0.391	3.362	1.4181	43.038356	0.0003	43,44
PIPR40S	3.7432	37.033	22	7.785	77.8764	0.88	10	11.022	3.281175	2.9887	0.391	3.362	1.4181	43.038356	0.0003	43,45
PIPR41S	6.6608	60.05352	22	7.795	128.016	1.1	10	15.2304	5.954725	1.6093	0.391	17.771	1.4181	43.038356	0.0003	43,44
PIPR42S	8.1233	76.06779	22	7.8	151.13	1.1	10	18.8376	7.413025	1.6093	0.391	32.179	1.7727	42.037464	0.0003	43,44
PIPR43S	8.3422	103.0919	22	7.805	166.624	1.1	10	25.05	10.2081	2.0691	0.391	60.036	1.7727	43.038356	0.0003	43,44
PIPR44S	7.7119	103.0919	22	7.78	163.83	1.1	10	32.064	4.010325	1.8392	0.391	58.115	1.7727	40.03568	0.0003	43,44
PIPR45S	8.9807	107.0954	22	7.79	157.48	1.1	10	18.2364	15.43368	1.6093	0.391	61.957	1.7727	43.038356	0.0003	43,44
PIPR46S	9.6110	134.1195	22	7.8	199.7075	1.1	10	32.2644	13.00318	1.6093	0.391	88.854	1.7727	43.038356	0.0003	43,44
PIPR47S	6.7076	45.04014	22	7.815	128.524	1.1	10	14.028	2.18745	1.3794	0.391	3.362	1.0636	41.036572	0.0003	43,44
PIPR48S	7.8946	46.04103	22	7.82	150.876	1.1	10	14.028	2.18745	6.2072	1.5639	5.7635	7.0906	42.037464	0.0003	43,44
PIPR49S	5.8380	45.04014	22	7.82	131.064	1.1	10	14.028	2.18745	15.173	1.5639	10.566	15.245	41.036572	0.0003	43,44
PIPR50S	6.5811	45.04014	22	7.81	160.2105	1.1	10	14.2284	2.18745	35.174	1.5639	21.613	36.162	41.036572	0.0003	43,44
PIPR51S	6.4808	44.03925	22	7.82	182.88	1.1	10	15.03	2.18745	62.992	1.5639	40.825	70.906	40.03568	0.0003	43,44
PIPR52S	5.1408	45.04014	22	7.81	180.848	1.1	10	14.4288	2.18745	101.39	1.9549	59.076	107.78	41.036572	0.0003	43,44
PIPR53S	6.3992	46.04103	22	7.81	176.784	1.1	10	14.2284	2.18745	57.015	19.158	40.825	71.97	42.037464	0.0003	43,44
PIPR54S	7.3246	189.1686	22	7.82	188.9125	1.1	10	55.11	15.79825	1.6093	0.782	152.25	1.0636	42.037464	0.0003	43,44
PIPR55S	6.0630	46.04103	22	7.865	125.603	1.1	10	14.6292	3.15965	1.3794	0.391	3.362	1.0636	42.037464	0.0003	43,44
PIPR56S	4.6526	75.0669	22	7.87	117.348	1.1	10	24.4488	5.954725	1.3794	0.391	30.739	1.0636	41.036572	0.0003	43,44
PIPR57S	4.1939	46.04103	22	7.865	114.554	1.1	10	14.4288	3.15965	19.771	0.391	12.488	18.436	41.036572	0.0003	43,44
PIPR58S	4.5177	74.06601	22	7.85	126.492	1.1	10	24.4488	6.07625	18.392	0.391	38.903	18.436	42.037464	0.0003	43,44
PIPR59S	6.3135	133.1186	22	7.85	172.72	1.1	10	41.082	11.6664	18.392	0.391	98.94	18.436	42.037464	0.0003	43,44
PIPR60S	5.5732	76.06779	22	7.85	167.3225	1.1	10	24.048	6.07625	47.589	0.782	58.115	52.116	43.038356	0.0003	43,44
PIPR61S	7.3483	134.1195	22	7.84	226.695	1.1	10	40.8816	11.6664	49.198	0.782	118.63	51.052	43.038356	0.0003	43,44
PIPR62S	7.7886	52.04638	22	7.96	84.201	0.3	10	12.024	4.13185	1.6093	0.391	10.566	1.7727	42.037464	0.0003	43,46
PIPR63S	9.0948	51.04549	22	7.96	97.79	0.3	10	11.2224	3.8888	2.7588	0.782	10.566	3.5453	41.036572	0.0003	43,46
PIPR64S	6.3665	50.0446	22	7.945	70.0786	0.3	10	11.022	3.767275	5.9773	1.5639	12.007	8.1542	41.036572	0.0003	43,46
PIPR65S	6.6569	51.04549	22	7.965	81.5848	0.3	10	11.2224	3.8888	11.955	2.3459	15.369	15.245	42.037464	0.0003	43,46
PIPR66S	5.6622	51.04549	22	7.96	77.4319	0.3	10	11.2224	3.767275	23.22	3.1279	21.613	30.135	41.036572	0.0003	43,46
PIPR67S	6.4605	53.04728	22	7.97	110.871	0.3	10	11.2224	3.767275	46.899	4.6918	33.62	59.207	41.537018	0.0003	43,46
PIPR68S	5.6753	53.04728	22	7.96	151.892	0.3	10	11.6232	3.8888	117.94	7.0377	68.201	141.81	42.037464	0.0003	43,46
PIPR69S	4.2260	52.04638	22	7.94	175.26	0.3	10	11.4228	3.767275	236.79	10.948	128.24	279.72	43.038356	0.0003	43,46
PIPR70S	7.4910	47.04192	25	7.82	145.288	1.1	10	13.9359	2.983276	1.6093	0.391	3.362	1.4181	42.53791	0.0003	43,44
PIPR71S	5.3514	47.04192	20	7.82	111.76	1.1	10	13.9359	2.983276	1.6093	0.391	3.362	1.4181	43.038356	0.0003	43,44

Appendix F. BLM Table

BLM Data Label	Model Output	Hard-ness (mg/L)	Model Input														Notes
	Critical Accumulation		Temp (ºC)	pH	Dissolved LC50 (µg/L)	DOC (mg/L)	Humic Acid (%)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L)	S (mg/L)	
PIPR72S	2.7296	47.04192	15	7.82	79.1845	1.1	10	13.9359	2.983276	1.6093	0.391	3.362	1.4181	42.53791	0.0003	43,44
PIPR73S	1.3695	47.04192	10	7.82	60.0075	1.1	10	13.9359	2.983276	1.6093	0.391	3.362	1.4181	42.53791	0.0003	43,44
PIPR74S	9.3865	140.1249	22	8.03	370.078	0.3	10	29.058	12.03098	25.059	4.3008	60.036	25.881	98.087416	0.0003	43,46
PIPR75S	12.6630	88.0785	22	7.965	292.1	0.3	10	19.038	7.04845	14.943	2.7369	37.943	17.017	63.056196	0.0003	43,46
PIPR76S	9.2347	59.05263	22	7.89	101.473	0.3	10	12.024	4.61795	9.1959	0.782	23.054	9.9268	39.034788	0.0003	43,46
PIPR77S	7.9134	41.03657	22	7.825	62.5094	0.3	10	8.2164	3.038125	7.5866	2.7369	13.928	6.3815	29.025868	0.0003	43,46
PIPR78S	6.6518	27.02408	22	7.745	42.0624	0.3	10	5.6112	1.822875	4.598	2.3459	8.6452	4.2544	23.020516	0.0003	43,46
PIPR79S	10.0742	43.03836	22	7.885	172.466	1.1	10	10.4208	2.67355	1.6093	0.782	2.8817	1.4181	42.037464	0.0003	43,44
PIPR80S	0.8019	25.0223	22	7.565	12.4333	0.3	10	6.68596	2.02764	3.4485	1.1729	4.3226	4.9634	16.014272	0.0003	43,46
PIPR81S	8.4407	107.0954	22	8.105	271.272	0.3	10	28.6924	8.631893	14.254	1.9549	19.212	16.308	80.07136	0.0003	43,46
PIPR82S	5.9596	87.0776	22	7.055	71.12	0.3	10	23.3293	7.018455	13.564	1.9549	19.212	15.954	58.051736	0.0003	43,46
PIPR83S	6.1026	85.07582	22	7.33	79.629	0.3	10	22.793	6.857111	13.794	1.9549	19.212	15.954	58.051736	0.0003	43,46
PIPR84S	6.4883	88.0785	22	7.605	99.53625	0.3	10	23.5975	7.099127	13.564	1.9549	19.212	15.954	59.052628	0.0003	43,46
PIPR85S	7.7626	87.0776	22	7.745	132.715	0.3	10	23.3293	7.018455	14.484	1.9549	18.731	15.954	59.052628	0.0003	43,46
PIPR86S	6.5085	87.0776	22	8.07	137.16	0.3	10	23.3293	7.018455	12.644	1.9549	18.731	15.954	59.052628	0.0003	43,46
PIPR87S	6.4970	87.0776	22	8.375	182.245	0.3	10	23.3293	7.018455	13.334	1.9549	18.731	15.954	59.052628	0.0003	43,46
PIPR88S	6.9041	87.0776	22	8.73	268.9225	0.3	10	23.3293	7.018455	14.254	1.9549	18.731	14.89	59.052628	0.0003	43,46
PIPR89S	8.2686	87.0776	22	8.115	188.976	0.3	10	23.3293	7.018455	12.874	1.9549	18.731	15.954	59.052628	0.0003	43,46
PIPR90S	10.1330	251.2239	22	7.2	662.559	0.3	10	67.127	20.35751	57.475	4.6918	72.524	62.397	150.1338	0.0003	43,46
PIPR91S	10.6409	252.2248	22	7.575	904.875	0.3	10	67.3945	20.43861	57.475	4.6918	70.603	62.043	164.14629	0.0003	43,46
PIPR92S	10.2715	252.2248	22	7.915	995.68	0.3	10	67.3945	20.43861	57.475	4.6918	73.484	62.043	150.1338	0.0003	43,46
PIPR93S	7.7492	251.2239	22	8.275	891.54	0.3	10	67.127	20.35751	57.475	4.6918	73.484	62.043	143.12756	0.0003	43,46
PIPR94S	10.0406	200.1784	22	8.05	757.6185	0.3	10	53.5426	16.18781	37.243	3.5188	49.47	46.798	128.11418	0.0003	43,46
PIPR95S	9.6108	140.1249	22	7.95	404.8125	0.3	10	37.4414	11.35479	22.99	2.3459	28.817	25.172	99.088308	0.0003	43,46
PIPR96S	10.2877	90.08028	22	8.045	262.128	0.3	10	24.1338	7.260471	14.254	1.9549	18.731	15.599	65.05798	0.0003	43,46
PIPR97S	2.6441	19.01695	22	7.525	20.447	0.3	10	5.08133	1.541007	3.4485	0.782	0.9606	4.9634	19.016948	0.0003	43,46
PIPR98S	3.1176	34.03033	22	7.53	23.1648	0.3	10	9.0929	2.757591	3.4485	0.782	9.6058	4.6089	20.01784	0.0003	43,46
PIPR99S	5.3898	51.04549	22	7.54	34.9885	0.3	10	13.6394	4.136386	3.4485	0.782	16.81	4.6089	21.018732	0.0003	43,46
PIPR100S	4.0158	29.02587	22	7.585	27.94	0.3	10	7.75571	2.352063	3.4485	0.782	5.2832	4.6089	22.019624	0.0003	43,46
PIPR101S	3.6791	30.02676	22	7.605	26.67	0.3	10	8.02315	2.433168	1.3794	0.782	4.3226	2.4817	23.020516	0.0003	43,46
PIPR102S	2.1414	27.02408	22	7.55	20.32	0.3	10	7.22084	2.189852	10.345	1.1729	5.2832	13.118	20.01784	0.0003	43,46
PIPR103S	3.2004	27.02408	22	7.525	26.67	0.3	10	7.22084	2.189852	20.691	1.5639	10.566	26.59	20.01784	0.0003	43,46
PIPR104S	8.2240	90.08028	22	7.995	182.88	0.3	10	24.1338	7.260471	14.254	1.9549	19.212	15.954	63.056196	0.0003	43,46
PIPR105S	5.1099	60.05352	22	8.11	96.6724	0.3	10	16.0463	4.866337	11.955	1.5639	3.8423	17.372	58.051736	0.0003	43,46

Appendix F. BLM Table

BLM Data Label	Model Output	Hard-ness (mg/L)	Model Input														Notes
	Critical Accumulation		Temp (ºC)	pH	Dissolved LC50 (µg/L)	DOC (mg/L)	Humic Acid (%)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L)	S (mg/L)	
PIPR106S	7.4717	120.107	22	8.09	182.88	0.3	10	32.0926	9.732674	11.955	1.5639	33.62	17.372	59.052628	0.0003	43,46
PIPR107S	6.7299	180.1606	22	8.09	190.6905	0.3	10	48.1389	14.59901	11.955	1.5639	62.438	17.017	58.051736	0.0003	43,46
PIPR108S	5.7199	91.08117	22	8.125	127.0635	0.3	10	24.3369	7.380611	11.955	1.5639	19.212	15.954	59.052628	0.0003	43,46
PIPR109S	7.0631	90.08028	22	8.155	148.59	0.3	10	24.0695	7.299505	2.299	6.2557	15.85	6.027	60.05352	0.0003	43,46
PIPR110S	7.5267	93.08296	22	8.135	223.52	0.3	10	24.8718	7.542822	35.864	3.9098	27.377	49.989	62.055304	0.0003	43,46
PIPR111S	7.5035	92.08206	22	8.145	283.1465	0.3	10	24.6043	7.461717	71.728	7.4287	41.305	102.81	61.054412	0.0003	43,46
PIPR112S	6.0200	91.08117	22	8.19	150.241	0.3	10	24.402	7.341142	14.484	15.248	18.731	17.372	62.055304	0.0003	43,46
PIPR113S	7.4768	144.1284	22	8.38	644.525	0.3	10	38.5111	11.67921	34.485	3.1279	12.488	42.189	138.1231	0.0003	43,46
PIPR114S	6.9113	292.2605	22	8.27	697.5475	0.3	10	78.092	23.68284	34.485	3.1279	87.893	57.079	137.1222	0.0003	43,46
PIPR115S	6.6201	440.3925	22	8.225	752.475	0.3	10	117.673	35.68647	34.485	3.1279	175.31	41.125	133.11864	0.0003	43,46
PIPR116S	7.1813	217.1936	22	8.31	653.415	0.3	10	58.0341	17.59992	34.485	3.1279	46.588	43.253	133.11864	0.0003	43,46
PIPR117S	7.8480	218.1945	22	8.305	646.3665	0.3	10	58.3016	17.68102	6.8969	1.5639	38.903	9.5723	140.12488	0.0003	43,46
PIPR118S	6.8379	212.1891	22	8.345	939.8	0.3	10	56.6969	17.19439	103.45	7.8197	65.319	124.79	143.12756	0.0003	43,46
PIPR119S	9.6212	92.08206	22	8.125	253.365	0.3	10	24.6701	7.421814	14.254	1.9549	19.212	16.663	63.056196	0.0003	43,46
PIPR120F	0.3530	48	25	8.03	109.44	2.64	10	14.1077	3.111984	1.35	0.57	3.54	1.25	44	0.0003	1,2,3,6,7,15,26
PIPR121F	0.4196	45	25	8.04	116.16	2.64	10	13.2259	2.917485	1.27	0.57	3.33	1.17	44	0.0003	1,2,3,6,7,15,26
PIPR122F	0.2051	46	25	7.98	84.96	2.64	10	13.5198	2.982318	1.3	0.57	3.4	1.2	41	0.0003	1,2,3,6,7,15,26
PIPR123F	4.0014	30	25	6.82	418.56	10.4652	10	7.1362	2.964634	1.625	0.5	6.125	1.25	21	0.0003	1,2,3,6,7,27,28
PIPR124F	2.2409	37	25	7.28	495.36	11.3373	10	8.80131	3.656382	2.0042	0.5	7.5542	1.5417	21	0.0003	1,2,3,6,7,27,28
PIPR125F	3.3697	87	25	7.11	1522.56	31.3956	10	20.6978	8.4403	16.071	1.855	22.35	18.629	20	0.0003	1,2,3,6,7,27,29
PIPR126F	3.8346	73	25	6.94	1083.84	24.4188	10	17.2174	7.3329	10.539	1.5232	18.439	13.619	18	0.0003	1,2,3,6,7,27,29
PIPR127F	1.8591	84	25	7.07	528	14.5155	10	20.4644	8.008	6	1.4	34.5	10.95	12	0.0003	1,2,3,6,7,27,28
PIPR128F	1.2189	66	25	6.97	960.96	32.9018	10	16.0792	6.292	4.7143	1.4	27.107	8.6036	12	0.0003	1,2,3,6,7,27,28
PIPR129F	1.4826	43.9	25	7.4	88.32	2	10	12.9026	2.846168	1.24	0.57	3.24	1.14	42.4	0.0003	1,2,6,7,8,14,15
PIPR130F	0.1002	47.04192	22	8.1	27.94	1.1	10	13.9359	2.983276	1.6093	0.391	3.362	1.4181	42.53791	0.0003	43,44
PIPR131F	1.2371	243.2168	22	8.01	105.7275	1.1	10	92.7261	2.884195	47.129	0.391	3.362	143.23	43.038356	0.0003	43,44
PIPR132F	0.4681	255.7279	22	8.01	40.0558	1.1	10	14.1661	53.5752	1.6093	0.391	3.362	143.23	43.538802	0.0003	43,44
PIPR133F	0.4918	47.04192	22	8.1	64.262	1.1	10	13.9359	2.983276	47.589	0.391	3.362	72.324	43.538802	0.0003	43,44
PIPR134F	0.4459	45.04014	22	8.02	49.01565	1.1	10	13.3428	2.856328	1.6093	0.391	3.362	1.4181	43.038356	0.0003	43,44
PIPR135F	0.3741	45.04014	22	8.65	67.7164	1.1	10	13.3428	2.856328	1.6093	0.391	3.362	1.4181	47.041924	0.0003	43,44
PIPR136F	0.2142	45.54059	22	7.3	18.669	1.1	10	13.4911	2.888065	1.6093	0.391	3.362	1.4181	44.039248	0.0003	43,44
PIPR137F	0.1471	49.04371	22	6.63	6.1468	1.1	10	14.5289	3.110224	1.6093	0.391	3.362	1.4181	49.043708	0.0003	43,44
PIPR138F	0.3435	45.04014	22	7.16	20.447	1.1	10	13.3428	2.856328	1.6093	0.391	3.362	15.599	26.023192	0.0003	43,44
PIPR139F	3.2588	43.03836	22	7.93	93.36405	1.1	10	12.7498	2.72938	1.6093	0.391	3.362	1.4181	41.036572	0.0003	43,44

Appendix F. BLM Table

BLM Data Label	Model Output	Hard-ness (mg/L)	Model Input														Notes
	Critical Accumulation		Temp (ºC)	pH	Dissolved LC50 (µg/L)	DOC (mg/L)	Humic Acid (%)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L)	S (mg/L)	
PIPR140F	0.0430	45.54059	22	7.91	245.364	6.1	83.7705	13.4911	2.888065	1.6093	0.391	3.362	1.4181	44.039248	0.0003	43,47
PIPR141F	1.5807	45.04014	22	7.94	72.3392	1.1	10	13.3428	2.856328	1.6093	0.391	3.362	1.4181	43.038356	0.0003	43,44
PIPR142F	0.0359	45.04014	22	7.95	229.8065	6.1	83.7705	13.3428	2.856328	1.6093	0.391	3.362	1.4181	43.038356	0.0003	43,47
PIPR143F	0.1178	45.54059	22	7.94	195.453	3.6	72.5	13.4911	2.888065	1.6093	0.391	3.362	1.4181	44.039248	0.0003	43,47
PIPR144F	0.1195	45.04014	22	7.91	109.347	2.35	57.8723	13.3428	2.856328	1.6093	0.391	3.362	1.4181	42.037464	0.0003	43,47
PIPR145F	2.1998	44.03925	22	7.87	78.0034	1.1	10	13.0463	2.792854	1.6093	0.391	3.362	1.4181	42.037464	0.0003	43,44
PIPR146F	0.5690	44.03925	22	7.84	45.52315	1.1	10	13.0463	2.792854	1.6093	0.391	3.362	19.145	17.015164	0.0003	43,44
PIPR147F	1.4682	22.52007	22	6.01	4.3815	0.3	10	6.01736	1.824876	3.4485	0.391	3.362	4.2544	15.01338	0.0003	43,46
PIPR148F	1.8114	24.02141	22	7.02	12.4333	0.3	10	6.41852	1.946535	3.6784	0.391	3.362	4.9634	17.015164	0.0003	43,46
PIPR149F	2.7182	23.02052	22	8	26.8605	0.3	10	6.15108	1.865429	4.1382	0.782	3.362	4.9634	17.51561	0.0003	43,46
PIPR150F	2.6477	21.51918	22	9.01	51.3334	0.3	10	5.74992	1.743771	4.598	1.5639	3.362	4.9634	19.016948	0.0003	43,46
PTLU01S	5.5908	173	22	8.3	364.8	0.5	10	28.5511	24.739	53.583	4.282	166.08	3.8824	117	0.0003	1,2,3,4,6,7,20
PTLU02S	11.6814	173	22	7.25	460.8	0.5	10	28.5511	24.739	53.583	4.282	166.08	3.8824	117	0.0003	1,2,3,4,6,7,20
PTOR01F	0.3130	25	7.8	7.3	22.08	1.1	10	7.1535	1.9754	4.8154	0.7	3.997	5.9792	25	0.0003	1,2,3,6,7,9,10
PTOR02F	0.1873	54	11.5	7.3	17.28	1.1	10	15.0937	3.6371	6.8831	0.7	12.163	9.6854	43	0.0003	1,2,3,6,7,9,10
XYTE01S	3.7420	173	22	8.15	211.2	0.5	10	28.5511	24.739	53.583	4.282	166.08	3.8824	117	0.0003	1,2,3,4,6,7,20
XYTE02S	6.1809	173	22	8.05	326.4	0.5	10	28.5511	24.739	53.583	4.282	166.08	3.8824	117	0.0003	1,2,3,4,6,7,20
POAC01S	3.1551	167	22	8	153.6	0.5	10	27.5609	23.881	51.724	4.1335	160.32	3.7478	115	0.0003	1,2,3,4,6,7,20
LEMA01R	26.4894	85	20.2	7.3	2200	1.1	10	23.9	6.5	0.64	0.46	4.32	1.5	82	0.0003	50
LEMA02F	26.3896	45	20	7.5	1056	1.1	10	13.2259	2.917485	1.3	0.57	3.4	1.2	43	0.0003	1,2,3,6,7,8
LEMA03F	27.9229	25.9	19	7.03	960	1.5	10	6.38814	2.42165	5.4743	1.6	26.489	19.425	27.1	0.0003	1,2,3,6,7,16
LEMA04F	23.8414	85	21.85	7.45	1300	1.1	10	23.9	6.5	0.64	0.46	4.32	1.5	82	0.0003	50
ETFL01S	7.5590	170	20	7.8	316.8	0.5	10	27.9	24.2	52.5	4.2	163	3.80	115	0.0003	1,3,4,22
ETFL02S	7.7563	170	20	7.8	327.36	0.5	10	27.9	24.2	52.5	4.2	163	3.80	115	0.0003	1,3,4,22
ETFL03S	7.8675	170	20	7.9	358.08	0.5	10	27.9	24.2	52.5	4.2	163	3.80	115	0.0003	1,3,4,22
ETFL04S	8.6770	170	20	7.8	376.32	0.5	10	27.9	24.2	52.5	4.2	163	3.80	115	0.0003	1,3,4,22
ETLE01S	5.1937	167	22	8	249.6	0.5	10	27.5609	23.881	51.724	4.1335	160.32	3.7478	115	0.0003	1,2,3,4,6,7,20
ETNI01S	10.2981	170	20	7.8	473.28	0.5	10	27.9	24.2	52.5	4.2	163	3.80	115	0.0003	1,3,4,22
ETNI02S	10.1579	170	20	7.8	463.68	0.5	10	27.9	24.2	52.5	4.2	163	3.80	115	0.0003	1,3,4,22
ETNI03S	11.8023	170	20	7.8	577.92	0.5	10	27.9	24.2	52.5	4.2	163	3.80	115	0.0003	1,3,4,22
ETNI04S	11.0865	170	20	7.8	526.08	0.5	10	27.9	24.2	52.5	4.2	163	3.80	115	0.0003	1,3,4,22
ETRU01S	0.6913	167	22	8.2	57.6	0.5	10	27.5609	23.881	51.724	4.1335	160.32	3.7478	115	0.0003	1,2,3,4,6,7,20
BUBO01S	2.4569	167	22	7.9	115.2	0.5	10	27.5609	23.881	51.724	4.1335	160.32	3.7478	115	0.0003	1,2,3,4,6,7,20

Notes:

Unless otherwise noted, a value of 10% humic acid and a value of 0.0003 mg/L sulfide were assumed for all tests (HydroQual 2001).

1. Temperature value used here is either the mean or the midpoint of the range measured for this specific test or for a group of tests reported in this study.
2. pH value used here is either the mean or the midpoint of the range measured for this specific test or for a group of tests reported in this study.
3. The dissolved copper LC50/EC50 used here was calculated as 96% of the reported total LC50/EC50 value (based on Stephan 1995).
4. A default reconstituted water DOC value of 0.5 mg/L was used for this test (see U.S. EPA 2003).
5. Alkalinity and hardness values used are midpoints of nominal range for very hard reconstituted water (U.S. EPA 1993; ASTM 2000). Cations and anions were calculated stoichiometrically according to nominal concentrations of salts added (ASTM 2000; U.S. EPA 1993), and adjusted according to the expected hardness (see U.S. EPA 2003).
6. Hardness value used here is either the mean or the midpoint of the range measured for this specific test or for a group of tests reported in this study.
7. Alkalinity value used here is either the mean or the midpoint of the range measured for this specific test or for a group of tests reported in this study.
8. Concentration of K is mean of values reported for Lake Superior water in Biesinger and Christensen (1972) and Erickson et al. (1996 a, b). Ca, Mg, Na, Cl, and SO_4 were derived in the same way, but were adjusted according to the measured hardness of the test water. DOC value is a mean of Lake Superior measurements taken by Greg Lien at U.S. EPA Duluth. See U.S. EPA 2003 for details.
9. DOC value is measured TOC of the same well water reported by McCrady and Chapman (1979).
10. Using available data for the Western Fish Toxicology Station (G. Chapman unpublished data, Samuelson 1976), regression analyses were conducted to quantify relationships between hardness and various ions (see U.S. EPA 2003). The resulting regression equations were used to estimate concentrations of Ca, Mg, Na, Cl, and S04. The mean K value was used because the relationship between K and hardness was non-significant.
11. Alkalinity and pH values used are midpoints of nominal range for soft reconstituted water (ASTM 2000; U.S. EPA 1993). Cations and anions were calculated stoichiometrically according to nominal concentrations of salts added (ASTM 2000; U.S. EPA 1993), and adjusted according to the measured hardness (see U.S. EPA 2003 for details.) Hardness, alkalinity, and pH values used are midpoints of nominal range for moderately hard reconstituted water (ASTM 2000; U.S. EPA 1993). Cations and anions were calculated stoichiometrically according to nominal concentrations of salts added (see U.S. EPA 2003 for details.) Although test organisms were fed during this test, test results were used because *Hyalella azteca* are cannibalistic and only a small amount of food (500 ul) was added to the test chambers (300 mls) such that the percentage addition is not so great as to significantly affect copper complexation.
12. The dissolved copper LC50 used here was calculated as 92% of the reported total LC50 value (based on percent dissolved reported by authors).
13. DOC value is based on measured TOC in the Lake Superior dilution water used and an estimate of the dissolved fraction (see U.S. EPA 2003).
14. Test was conducted in City of Blacksburg, VA tap water. Ionic concentrations and DOC were not measured. Ionic concentrations were estimated based on measurements made by the City of Blacksburg as well as USGS NASQAN data for the New River (see U.S. EPA 2003). These concentrations were adjusted according to the measured hardness of the test water. The DOC value used here was based on measurements of TOC made by the City of Blacksburg (see U.S. EPA 2003).
15. Ionic concentrations were estimated based on New River data included in the USGS NASQAN database, and were adjusted according to the measured hardness of the test water (see U.S. EPA 2003). The DOC value used here was based on a single measurement made on a New River water sample collected by Don Cherry in 2000.
16. Ionic concentrations were estimated based on measurements made on a single Clinch River water sample collected by Don Cherry in 2000, and were adjusted according to the measured hardness of the test water (see U.S. EPA 2003). The DOC value used here was based on a measurement made on the same water sample.
17. Alkalinity was estimated based on pH adjustment according to nomograph in Faust and Aly (1981) - see U.S. EPA 2003.
18. This test was conducted in a standard reconstituted water (ASTM 2000; U.S. EPA 1993). Ionic concentrations were calculated stoichiometrically according to nominal concentrations of salts added (ASTM 2000; U.S. EPA 1993), and adjusted according to the measured hardness of the test water (see U.S. EPA 2003 for details.)
19. DOC was measured in the dilution water, but was not detected (detection limit = 1 mg/L). DOC value used was 0.5 mg/L, which is one-half the detection limit and is consistent with the recommended default DOC value for reconstituted waters (see U.S. EPA 2003) pH was not reported; value used here is midpoint of nominal range for moderately hard reconstituted waters. The dissolved copper LC50 was calculated from the total copper LC50 using a 1.26 total to dissolved ratio reported by the author.
20. Hardness, alkalinity, and pH values used are midpoints of nominal range for hard reconstituted water (ASTM 2000; U.S. EPA 1993). Cations and anions were calculated stoichiometrically according to nominal concentrations of salts added (see U.S. EPA 2003 for details).
21. Test temperature was not reported; temperature used here is the temperature recommended by OECD (1981) because these methods were cited by the study's author.
22. Ionic composition calculated from Table 1 titled: Microcosm Medium (T82MV) and sediment composition, in ASTM (2000) publication E1366, vol. 11.05. T85MVK is recommended for culturing *Daphnia magna* and varies from T82MV by including 0.1 times the concentration of nitrate and phosphate.
23. TOC was measured in the dilution water, but was not detected (detection limit = 0.25 mg/L). DOC value used was 0.125 mg/L, which is one-half the TOC detection limit (see U.S. EPA 2003).
24. Ionic concentrations used here are those reported in the publication, which are estimated values based on known chemistry of well water and amounts of chemicals added.
25. Concentration of K is mean of values reported for Lake Superior water in Biesinger and Christensen (1972) and Erickson et al. (1996). Ca, Mg, Na, Cl, and SO_4 were derived in the same way, but were adjusted according to the measured hardness of the test water. See U.S. EPA 2003 for details.
26. Ionic concentrations were estimated based on measured values reported for the source water in STORET, and adjusted according to the measured hardness of the test water (see U.S. EPA 2003).
27. Using available data for the St. Louis River from the USGS NASQAN database, regression analyses were conducted to quantify relationships between hardness and various ions (see U.S. EPA 2003). The resulting regression equations were used to estimate ionic concentrations of Ca, Mg, Na, Cl, and S04.

28. Concentrations of Na, K, Cl, and S04 are means of values reported for Lake Superior water in Biesinger and Christensen (1972) and Erickson et al. (1996) (see U.S. EPA 2003). Ca, Mg, and SO_4 were derived in the same way, but were adjusted according to the amounts of $CaSO_4$ or $MgSO_4$ added to the test water.
29. Concentrations of Na, K, Cl, and S04 are means of values reported for Lake Superior water in Erickson et al. (1996). Ca and Mg values were derived in the same way, but were adjusted according to the measured hardness of the test water. DOC value is a mean of Lake Superior measurements taken by Greg Lien at U.S. EPA Duluth. See U.S. EPA 2003 for details.
30. With the exception of sulfide and dissolved copper, all parameters listed here were measured either in the exposure chamber water (pH, temperature, total copper) or in the dilution water prior to testing (ions, alkalinity, DOC) and were reported by Welsh (1996).
31. Dilution water was not a standard reconstituted water mix; concentrations of salts added were reported in this study. Measurements of hardness and alkalinity were not reported in this study; values used here were estimated based on nominal concentrations of salts added. DOC value used here is based on subsequent DOC measurement made on the same laboratory's dilution water (data provided by Uwe Borgmann).
32. Sufficient Cerophyl was added for *C. tentans* to construct burrows during the exposure. The authors reported that the cerophyl was required as substrate and food by the test animals for growth and survival.
33. A default DOC value of 1.6 mg/L, applicable to tap and well waters, was used for this test (see U.S. EPA 2003).
34. Ionic concentrations for this water (Green-Duwamish River) were estimated based on measured values reported in Santos and Stoner (1973), and adjusted according to the measured hardness of the test water (see U.S. EPA 2003).
35. With the exception of sulfide and dissolved copper, all parameters listed here were measured either in the exposure chamber water (pH, hardness, alkalinity, temperature, total copper) or in the dilution water prior to testing (ions, alkalinity, TOC) and were reported by Chapman (1975 and/or 1978). TOC was assumed to be 100% dissolved.
36. DOC value is a measure of TOC in the Western Fish Toxicology Station well water, as reported in Chapman 1978.
37. Dilution water used in this test was taken from the Chehalis River. DOC was estimated based on data supplied by the USGS NASQAN database. Ionic concentrations were provided by the author (see U.S. EPA 2003).
38. With the exception of sulfide and total copper LC50s, all parameters listed here were measured either in the exposure chamber water or in the dilution water and were reported by Hagler Bailly (1996). Total copper was measured, but LC50s were not reported. We estimated total copper LC50s based on reported dissolved LC50s and percentages of total copper in dissolved form.
39. Tests reported by Fogels and Sprague (1977) and Howarth and Sprague (1978) were conducted in very hard well water or a mix of this well water and de-ionized water. Measurements of organic carbon, most ionic concentrations, and occasionally alkalinity were not made or not reported. Methods used for estimating these parameters are described in U.S. EPA 2003. The authors reported LC50s as dissolved copper concentrations, and no attempt was made here to estimate total copper LC50s.
40. Tests were conducted in dechlorinated City of Montreal tap water. Ionic concentrations given here are based on those reported for the dilution water (Anderson and Spear 1980 a, b) and adjusted slightly based on measured test water hardness.
41. Tests were conducted in water collected from Pinto Creek, Arizona. Author reported concentrations of Ca, Mg, Na, and SO_4. Default values were used for K, Cl, and DOC (Cl default was scaled according to measured hardness). LC50s were reported as dissolved copper; we have not attempted to estimate total copper values.
42. This test was conducted in dechlorinated tap water at the Chesapeake Biological Laboratory in Solomons, MD. Measurements of ions, alkalinity, and DOC were not reported, so default values were used here. Default values for alkalinity and ions are from HydroQual 2001, and all except alkalinity and K were adjusted according to the measured hardness of the test water.
43. This test was conducted in a mix of Lake Superior water and laboratory reconstituted water. DOC value given here is an estimate based on the percent dilution of Lake Superior water and DOC measurements made on Lake Superior water by Greg Lien at U.S. EPA Duluth (see U.S. EPA 2003).
44. This test was conducted in a laboratory reconstituted water. DOC value is based on measurements taken by Greg Lien on reconstituted water used at U.S. EPA Duluth (see U.S. EPA 2003).
45. This test was conducted in Lake Superior water with added humic acid (additional salts may have been added). DOC value here is estimated based on Lake Superior DOC (see note 60) and nominal additions of humic acid. The percent humic acid was also adjusted accordingly.
46. Measurements of alkalinity and ions were not reported for this test; alkalinity for similar test water reported in Birge et al. 1981 was used here. Ions were estimated based on concentrations reported in Birge et al. 1981 and adjusted according to measured test hardness. One of the acute tests with fathead minnows from this study was excluded because the minnows, which were held for 10 days at 220 mg/L water hardness, were subsequently tested at a hardness 100 mg/L without acclimation.
47. With the exception of dissolved copper, sulfide, and hardness, all parameters listed here were measured either in the exposure chamber water (pH, temperature, total copper) or in the dilution water prior to testing (ions, alkalinity, DOC) (Welsh et al. 1993). Some of these data were not reported by Welsh et al. (1993), but were provided to EPA by the primary author. Hardness was calculated based on measured concentrations of Ca and Mg (see U.S. EPA 2003).
48. This test was conducted in dechlorinated City of Denton, TX tap water, and although not reported by Bennet et al. (1995), alkalinity, pH, and temperature were measured in the test chambers. Data were supplied to EPA by the authors (see U.S. EPA 2003); means of all daily measurements of test chambers were used here. Ionic concentrations were not available for this test; default values (HydroQual 2001) adjusted for measured test hardness were used.
49. This test was conducted in carbon filtered, millipore Ann Arbor tap water, and the DOC was assumed to be 0.5 mg/L (default for reconstituted waters). Concentrations of Ca and Mg were calculated based on reported total hardness and Ca hardness. Default values adjusted according to measured hardness were used for other ions (K was not adjusted; see U.S. EPA 2003).
50. This test was conducted in natural lake water (Lake Cultus, BC). The mean “soluble organic carbon” (DOC) value reported by the author for this lake was used here. Authors reported sulfate concentrations in the dilution water, but did not report any other anion or cation concentrations. These concentrations were estimated using default values from (HydroQual 2001), adjusting all except K according to the measured hardness of the test water.
51. A default DOC value of 0.3 mg/L for ultra-pure water was used for this test (see U.S. EPA 2003).
52. This test was conducted in tap water from an unspecified source. Authors did not report a DOC concentration for this water, but stated that it was “free from... organic matter.” On this basis, a

default value of 0.5 mg DOC/L was used. Ionic concentrations were estimated using default values from (HydroQual 2001), adjusting all except K according to the measured hardness of the test water.

53. Alkalinity value used is the midpoint of nominal range for soft reconstituted water (ASTM 2000; U.S. EPA 1993). Cations and anions were calculated stoichiometrically according to nominal concentrations of salts added (ASTM 2000; U.S. EPA 1993), and adjusted according to the measured hardness (see U.S. EPA 2003 for details.)
54. This test was conducted in a non-standard reconstituted water (Kristen Long's recipe). Ionic concentrations were calculated stoichiometrically according to nominal concentrations of salts added and adjusted according to the measured hardness.
55. With the exception of sulfide, all parameters listed were measured in the exposure chamber.
56. This test was conducted in a non-standard reconstituted water (Kristen Long's recipe). Ionic concentrations were calculated stoichiometrically according to nominal concentrations of salts added and adjusted according to the measured hardness.