

**APPENDIX C. WATER QUALITY MODELING**

**Table C1. Mean Simulated vs. Observed Concentrations on Sample Dates**

Constituent	Newaukum Creek at Outlet - Station 0322			Newaukum Creek at Station F322			Newaukum Creek at Station AE322			Newaukum Creek at Station H322			Newaukum Creek at Station D322 (Agricultural)			Newaukum Creek at Station I322B (Residential)			Newaukum Creek at Station S322 (Forest)		
	Mean			Mean			Mean			Mean			Mean			Mean			Mean		
	Sim.	Obs.	Daily Ratio *	Sim.	Obs.	Daily Ratio *	Sim.	Obs.	Daily Ratio *	Sim.	Obs.	Daily Ratio *	Sim.	Obs.	Daily Ratio *	Sim.	Obs.	Daily Ratio *	Sim.	Obs.	Daily Ratio *
Water Temperature (C)	9.26	9.43	1.04 (225)	9.22	9.18	1.05 (136)	8.81	8.78	0.98 (31)	9.14	9.12	0.99 (80)	9.72	9.77	1.12 (106)	9.73	9.30	1.03 (14)			
Suspended Sediment	11.6	12.0	1.22 (236)	4.5	4.7	0.82 (134)	6.4	4.7	1.04 (31)	6.7	6.6	1.10 (82)	9.0	8.8	1.53 (115)	13.7	13.8	2.14 (14)	16.2	16.6	1.05 (20)
Dissolved Oxygen	11.4	11.3	1.01 (215)	10.6	10.6	1.01 (135)	10.9	10.9	1.01 (29)	10.8	10.4	1.05 (80)	9.6	9.6	1.04 (105)	10.8	10.4	1.06 (14)			
Nitrate-Nitrite as N	2.04	2.03	1.02 (236)	2.00	1.83	1.11 (134)	1.69	1.63	1.04 (31)	1.64	1.46	1.14 (82)	2.43	4.08	0.70 (120)	2.20	2.17	1.15 (27)	0.84	0.88	1.75 (22)
Ammonia as N	0.053	0.053	1.59 (78)	0.031	0.073	1.05 (40)	0.035	0.046	1.22 (22)	0.029	0.044	1.16 (34)	0.054	0.046	1.22 (38)	0.023	0.027	1.06 (22)	0.017	0.017	1.08 (13)
Total Nitrogen	2.66	2.58	1.14 (182)	2.37	2.28	1.07 (81)	2.21	1.99	1.11 (31)	2.12	1.75	1.23 (31)	2.94	5.87	0.69 (67)	2.50	2.51	1.05 (27)	1.21	1.11	1.40 (22)
Orthophosphate as P	0.093	0.097	1.13 (101)	0.084	0.072	1.48 (53)	0.095	0.042	2.69 (31)	0.085	0.050	1.96 (36)	0.136	0.106	1.54 (39)	0.028	0.024	1.21 (27)	0.023	0.019	1.29 (22)
Total Phosphorus	0.135	0.157	1.03 (236)	0.111	0.127	1.24 (136)	0.144	0.073	2.33 (31)	0.118	0.096	1.82 (82)	0.132	0.197	0.94 (122)	0.056	0.055	1.13 (27)	0.058	0.037	1.52 (22)
Alkalinity as CaCO <sub>3</sub>	46.7	47.3	0.99 (117)	48.8	47.8	1.01 (17)							50.0	53.9	0.98 (35)	35.0	28.0	1.69 (27)	37.0	39.5	0.96 (23)
pH	7.62	7.61	1.00(193)	7.24	7.31	0.99(40)	7.24	7.28	1.00(24)	7.37	7.34	1.01(23)	6.77	7.21	0.94 (17)	6.99	7.19	0.97(14)			
EColi (CFUs/100 ml)	1531	1540	8.03 (97)	722	1227	10.9 (45)	933	996	3.0 (29)	844	1139	6.3 (29)	1295	1333	1.8 (38)	754	977	1.7 (30)	103	100	2.1 (23)
Fec. Coli. (CFUs/100 ml)	1621	1688	6.1 (233)	974	1514	5.3 (130)	1110	1012	3.3 (30)	1288	1348	4.8 (78)	1084	1371	1.8 (120)	725	896	1.3 (30)	116	110	2.4 (19)
Copper (dissolved, ug/L)	2.77	2.11	1.41 (51)										1.13	2.62	0.47 (38)	2.41	2.40	1.00 (34)	0.84	0.70	1.12 (22)
Copper (total, ug/L)	4.02	3.98	1.10 (68)										2.46	3.34	0.61 (38)	3.57	3.55	1.05 (34)	1.35	1.36	0.86 (21)
Organic Carbon	7.86	8.54	0.97 (42)										11.3	10.3	1.10 (34)	6.13	6.07	1.07 (24)	7.43	6.47	0.99 (23)