



## **Appendix B - Summary statistics for sample sites, Oct. 2003 – Sep. 2021**

Fecal coliform (FC) means are geometric means, but the standard deviations were left in arithmetic form. Appendix B begins on the following page.



Metric	pH	DO	DO	Temp	Turb	Conductivity (°C compensated)	Salinity	Fecal Coliform	E. coli	Nitrite + Nitrate	Total Kjeldahl Nitrogen	Total Phosphorus	Ortho- Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	MPN/100mL	MPN/100 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 3: Thomas Creek at Highway 99</b>																
n	429	452	453	457	413	450	456	457	26	116	116	116	115	115	116	115
Mean	6.92	6.59	56.9	10.7	14.3	153.5	0.1	53	39	0.583	0.77	0.08	0.036	0.567	0.12	9
SD	0.24	3.20	25.5	4.7	13.5	96.2	0.0	4328	467	0.535	0.51	0.06	0.029	0.528	0.13	14
Max	7.59	12.45	114.5	20.2	113.0	1799.0	0.2	92000	1700	2.220	3.68	0.44	0.180	2.220	0.92	90
Min	6.17	0.03	0.4	0.9	1.0	49.9	0.0	1	2	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 4: Thomas Creek at F&amp;S Grade Road</b>																
n	435	456	457	460	418	449	458	457	26	117	117	117	117	116	117	117
Mean	7.20	11.10	96.0	9.4	19.4	124.2	0.0	173	109	1.018	0.48	0.06	0.044	1.006	0.04	14
SD	0.32	1.28	6.9	3.8	28.9	50.3	0.0	1971	364	0.318	0.29	0.04	0.034	0.313	0.04	25
Max	8.20	15.17	128.4	16.6	291.0	222.1	0.1	23000	1600	2.110	2.22	0.35	0.160	2.100	0.25	147
Min	6.29	6.73	13.7	0.0	0.8	47.6	0.0	5	14	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 6: Friday Creek at Prairie Road</b>																
n	434	453	455	460	418	457	460	460	25	117	116	117	117	116	117	117
Mean	7.28	11.25	99.8	10.5	6.0	79.1	0.0	34	16	0.513	0.38	0.06	0.015	0.508	0.03	9
SD	0.38	1.26	6.8	4.7	9.9	21.0	0.0	278	17	0.293	0.24	0.05	0.014	0.294	0.03	27
Max	8.72	15.35	119.8	20.1	118.0	140.8	0.1	3000	78	1.640	1.92	0.40	0.070	1.640	0.16	238
Min	6.26	6.95	14.4	0.1	0.3	41.7	0.0	1	2	0.029	0.25	0.05	0.005	0.020	0.01	2
<b>Site 8: Swede Creek at Grip Road</b>																
n	435	457	458	461	419	448	462	461	26	117	117	117	117	116	117	117
Mean	7.15	10.74	92.8	9.6	13.4	68.8	0.0	59	29	0.449	0.45	0.06	0.025	0.428	0.04	12
SD	0.34	1.76	7.9	4.4	19.7	18.1	0.0	399	309	0.375	0.26	0.03	0.023	0.341	0.03	31
Max	10.43	15.14	112.0	18.2	224.0	161.4	0.1	5000	1600	2.170	1.94	0.26	0.140	1.580	0.17	282
Min	5.99	5.62	59.5	0.1	2.0	33.2	0.0	1	5	0.030	0.25	0.05	0.005	0.005	0.01	2
<b>Site 11: Samish River at Highway 9</b>																
No.	439	460	461	463	421	455	464	464	26	116	117	117	116	116	117	116
Mean	7.00	8.72	74.8	8.9	3.3	72.4	0.0	15	12	0.307	0.29	0.06	0.014	0.306	0.03	8
SD	0.31	1.32	7.8	3.4	8.9	19.7	0.0	241	21	0.117	0.12	0.04	0.013	0.117	0.03	34
Max	8.11	12.56	96.2	17.2	155.0	129.4	0.1	5000	79	0.790	1.36	0.36	0.070	0.790	0.12	333
Min	6.00	4.70	45.1	0.8	0.0	23.1	0.0	1	1	0.110	0.25	0.05	0.005	0.110	0.01	2



Metric	pH	DO	DO	Temp	Turb	Conductivity	Salinity	Fecal Coliform	E. coli	Nitrite + Nitrate	Total Kjeldahl Nitrogen	Total Phosphorus	Ortho-Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	MPN/100mL	MPN/100 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 12: Nookachamps Creek at Swan Road</b>																
No.	410	433	435	438	404	436	438	437	26	112	112	112	112	111	112	112
Mean	7.17	9.11	81.0	11.1	7.8	106.0	0.0	64	53	0.378	0.50	0.06	0.022	0.372	0.08	9
SD	0.28	2.11	13.7	5.6	14.3	34.0	0.0	227	177	0.229	0.22	0.04	0.021	0.225	0.05	16
Max	8.07	13.79	139.5	24.8	208.0	221.5	0.1	2400	920	0.940	1.44	0.40	0.100	0.930	0.34	156
Min	6.40	1.90	22.0	1.1	1.5	11.0	0.0	2	8	0.010	0.25	0.05	0.005	0.010	0.01	2
<b>Site 13: East Fork Nookachamps Creek at Highway 9</b>																
No.	431	455	456	458	423	456	459	457	26	116	116	116	116	115	116	116
Mean	7.26	9.74	85.7	10.2	5.1	92.2	0.0	49	35	0.306	0.38	0.05	0.013	0.301	0.05	6
SD	0.31	1.70	11.1	5.1	8.1	28.3	0.0	284	174	0.214	0.16	0.01	0.012	0.209	0.04	12
Max	8.08	12.96	110.4	24.0	84.6	165.7	0.1	3000	540	0.970	0.92	0.10	0.060	0.960	0.24	113
Min	6.43	2.37	23.5	0.5	0.0	0.8	0.0	1	2	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 14: College Way Creek at College Way</b>																
No.	428	456	457	459	420	455	459	456	24	115	115	115	115	114	115	115
Mean	7.26	9.24	81.7	10.7	6.7	223.4	0.1	151	113	0.401	0.53	0.06	0.056	0.388	0.07	5
SD	0.30	2.29	14.9	4.2	24.9	51.6	0.0	1125	412	0.328	0.25	0.04	0.053	0.314	0.05	7
Max	8.00	13.50	114.0	20.8	489.0	336.8	0.2	16000	1700	1.570	1.55	0.40	0.280	1.570	0.25	60
Min	6.23	3.10	32.4	0.4	0.0	76.6	0.0	5	8	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 15: Nookachamps Creek at Knapp Road</b>																
No.	433	457	458	461	424	460	461	459	25	117	117	117	117	116	117	117
Mean	7.22	8.08	72.3	12.0	5.1	114.0	0.0	69	30	0.311	0.63	0.09	0.057	0.300	0.10	6
SD	0.28	3.39	26.4	5.5	3.9	37.6	0.0	422	73	0.275	0.27	0.06	0.091	0.272	0.08	4
Max	7.92	13.51	114.3	25.3	62.4	329.1	0.2	5400	280	1.010	1.72	0.38	0.870	1.010	0.54	32
Min	6.50	0.26	2.6	1.4	1.2	69.0	0.0	1	4	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 16: East Fork Nookachamps Creek at Beaver Lake Road</b>																
No.	434	458	459	462	425	458	462	459	26	116	116	116	116	115	116	116
Mean	7.41	11.45	99.2	9.5	3.9	89.9	0.0	26	27	0.337	0.31	0.05	0.013	0.330	0.03	6
SD	0.31	1.31	5.6	4.7	8.7	33.1	0.0	790	604	0.205	0.15	0.01	0.013	0.201	0.02	20
Max	8.38	14.29	116.4	20.5	82.6	179.7	0.1	16000	3100	1.090	1.31	0.10	0.060	1.090	0.10	190
Min	6.42	7.13	67.5	0.2	0.0	0.0	0.0	1	1	0.005	0.25	0.05	0.005	0.005	0.01	2



Metric	pH	DO	DO	Temp	Turb	Conductivity (°C compensated)	Salinity	Fecal Coliform	E. coli	Nitrite + Nitrate	Total Kjeldahl Nitrogen	Total Phosphorus	Ortho- Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	MPN/100mL	MPN/100 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 17: Nookachamps Creek at Big Lake Outlet</b>																
No.	431	458	459	462	424	460	462	458	26	117	117	117	117	116	117	117
Mean	7.42	9.92	91.8	12.8	2.5	87.3	0.0	13	16	0.234	0.43	0.05	0.016	0.230	0.05	3
SD	0.31	1.90	9.7	6.0	1.8	14.4	0.0	89	79	0.222	0.20	0.01	0.025	0.221	0.03	2
Max	8.46	14.38	123.9	26.9	12.9	221.5	0.1	900	350	0.900	1.23	0.12	0.230	0.900	0.18	19
Min	6.44	4.94	51.8	0.9	0.2	3.2	0.0	1	1	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 18: Lake Creek at Highway 9</b>																
No.	435	458	459	463	426	462	463	461	26	117	117	117	117	116	117	117
Mean	7.43	11.02	96.7	10.0	3.0	90.7	0.0	44	33	0.459	0.37	0.05	0.020	0.454	0.03	5
SD	0.31	1.34	5.5	4.1	4.3	25.6	0.0	884	212	0.206	0.31	0.01	0.020	0.203	0.02	10
Max	8.34	14.34	128.6	21.9	47.8	173.8	0.1	16000	920	0.970	3.22	0.10	0.110	0.970	0.10	72
Min	6.40	7.43	74.7	0.9	0.0	0.0	0.0	1	2	0.050	0.25	0.05	0.005	0.050	0.01	2
<b>Site 19: Hansen Creek at Hoehn Road</b>																
No.	412	433	434	435	397	423	435	434	21	112	112	113	112	112	112	112
Mean	7.08	10.30	88.4	9.1	13.9	81.5	0.0	76	40	0.423	0.41	0.08	0.024	0.418	0.04	39
SD	0.30	1.46	7.0	4.3	66.0	18.4	0.0	426	82	0.226	0.60	0.15	0.037	0.226	0.03	141
Max	8.64	14.34	110.0	19.0	848.0	228.9	0.1	5000	350	1.100	6.14	1.07	0.360	1.100	0.14	902
Min	6.06	4.71	48.0	0.1	0.2	39.3	0.0	1	7	0.030	0.25	0.05	0.005	0.030	0.01	2
<b>Site 20: Hansen Creek at Northern State Hospital</b>																
No.	434	457	458	459	415	453	459	457	26	117	117	117	117	116	117	117
Mean	7.12	11.17	96.0	9.0	14.4	79.4	0.0	43	22	0.470	0.36	0.11	0.022	0.465	0.03	58
SD	0.31	1.19	4.8	3.7	73.1	21.5	0.0	227	69	0.252	0.31	0.26	0.030	0.252	0.03	229
Max	8.18	14.67	115.6	16.2	900.0	199.1	0.1	3000	350	1.300	2.20	1.90	0.270	1.300	0.15	1720
Min	6.08	7.34	66.5	0.5	0.0	39.7	0.0	1	2	0.050	0.25	0.05	0.005	0.050	0.01	2
<b>Site 21: Coal Creek at Hoehn Road</b>																
No.	375	398	398	399	361	388	399	396	20	103	103	103	103	102	103	103
Mean	7.08	11.18	93.6	8.1	12.6	80.9	0.0	75	60	0.763	0.33	0.07	0.020	0.756	0.03	21
SD	0.29	1.48	5.7	4.1	61.2	23.5	0.2	632	391	0.308	0.18	0.07	0.030	0.309	0.04	68
Max	8.32	15.05	115.9	17.5	1005.0	229.5	3.9	5000	1600	2.090	1.30	0.49	0.230	2.090	0.26	438
Min	6.07	6.61	68.1	0.1	0.0	39.5	0.0	1	8	0.220	0.25	0.05	0.005	0.210	0.01	2



Metric	pH	DO	DO	Temp	Turb	Conductivity	Salinity	Fecal Coliform	E. coli	Nitrite + Nitrate	Total Kjeldahl Nitrogen	Total Phosphorus	Ortho-Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	MPN/100mL	MPN/100 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 22: Coal Creek at Highway 20</b>																
No.	438	456	457	460	421	450	459	459	26	115	116	116	115	115	116	115
Mean	7.19	11.77	99.4	8.3	10.6	80.4	0.0	12	5	0.629	0.32	0.07	0.014	0.634	0.02	21
SD	0.44	1.20	4.6	3.9	63.8	22.0	0.0	276	26	0.318	0.20	0.11	0.019	0.324	0.02	87
Max	8.29	15.60	137.0	15.7	1138.0	158.6	0.1	5000	130	2.230	1.50	0.79	0.120	2.230	0.15	650
Min	5.54	8.33	73.2	0.0	0.0	18.3	0.0	1	1	0.005	0.25	0.05	0.005	0.160	0.01	2
<b>Site 23: Wiseman Creek at Minkler Road</b>																
No.	389	410	412	413	375	407	413	411	22	108	109	109	109	107	109	108
Mean	7.22	11.91	100.3	8.0	13.1	74.2	0.0	12	10	0.933	0.33	0.08	0.017	0.926	0.02	26
SD	0.36	1.04	5.3	3.4	81.0	18.6	0.0	304	49	0.323	0.20	0.12	0.023	0.323	0.03	106
Max	8.52	15.77	157.7	16.2	1072.0	217.9	0.1	5000	170	2.210	1.52	0.91	0.159	2.100	0.33	640
Min	6.06	8.87	87.2	0.7	0.0	15.0	0.0	1	1	0.400	0.25	0.05	0.005	0.220	0.01	2
<b>Site 24: Mannser Creek at Lyman-Hamilton Highway</b>																
No.	440	458	459	461	420	455	462	457	26	117	117	117	117	116	117	117
Mean	6.92	6.82	58.3	8.7	2.0	107.6	0.1	15	12	0.229	0.35	0.05	0.033	0.227	0.02	4
SD	0.30	1.46	11.9	3.0	1.9	21.9	0.0	90	26	0.122	0.54	0.03	0.062	0.122	0.02	5
Max	7.97	12.40	104.2	15.3	25.7	407.6	0.2	920	79	0.560	6.00	0.33	0.590	0.560	0.08	36
Min	5.98	1.97	18.5	0.8	0.0	1.4	0.0	1	1	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 25: Red Cabin Creek at Hamilton Cemetery Road</b>																
No.	356	369	371	372	340	370	371	369	20	97	97	97	97	96	97	97
Mean	7.21	11.82	98.7	7.5	3.2	67.2	0.0	8	4	0.531	0.29	0.06	0.016	0.519	0.02	9
SD	0.41	0.79	4.8	2.4	21.1	21.3	0.0	166	14	0.205	0.15	0.04	0.016	0.189	0.02	43
Max	8.35	14.40	133.8	13.9	291.0	110.0	0.1	2400	49	1.400	1.18	0.44	0.090	1.050	0.16	410
Min	6.05	9.38	84.0	1.9	0.0	17.2	0.0	1	1	0.240	0.25	0.05	0.005	0.230	0.01	2
<b>Site 28: Brickyard Creek at Highway 20</b>																
No.	312	325	326	327	299	321	328	326	14	86	86	86	86	85	86	86
Mean	7.07	9.30	79.0	8.7	8.2	107.3	0.1	47	30	0.634	0.54	0.05	0.033	0.619	0.07	4
SD	0.47	1.83	10.3	4.0	6.7	34.4	0.0	288	63	0.344	0.25	0.01	0.041	0.310	0.07	6
Max	8.42	13.31	110.4	18.6	60.6	208.9	0.1	1600	240	2.040	1.68	0.11	0.230	1.410	0.51	46
Min	5.35	4.03	41.0	0.0	0.5	20.7	0.0	1	9	0.005	0.25	0.05	0.005	0.005	0.01	2



Metric	pH	DO	DO	Temp	Turb	Conductivity (°C compensated)	Salinity	Fecal Coliform	E. coli	Nitrite + Nitrate	Total Kjeldahl Nitrogen	Total Phosphorus	Ortho- Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	MPN/100mL	MPN/100 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 29: Skagit River at River Bend</b>																
No.	433	455	456	461	422	457	461	455	25	115	115	114	115	114	115	115
Mean	7.25	11.15	95.9	9.1	11.9	54.9	0.0	9	9	0.081	0.32	0.06	0.012	0.077	0.04	23
SD	0.50	1.06	4.9	3.7	36.8	12.0	0.0	118	89	0.049	0.24	0.05	0.015	0.047	0.25	57
Max	8.84	14.59	110.3	17.6	608.0	113.9	0.1	1600	350	0.200	2.10	0.40	0.100	0.190	2.65	383
Min	5.81	7.63	78.1	0.9	0.8	28.6	0.0	1	1	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 30: Skagit River at Cape Horn Road</b>																
No.	442	460	461	463	421	461	463	455	26	116	116	116	116	115	116	116
Mean	7.13	11.27	96.2	8.6	8.9	57.3	0.0	4	4	0.081	0.28	0.06	0.014	0.080	0.02	21
SD	0.38	1.07	4.7	3.4	21.9	12.7	0.0	32	9	0.068	0.13	0.06	0.021	0.069	0.01	58
Max	8.49	14.24	118.0	16.3	238.0	132.2	0.1	540	33	0.650	1.34	0.49	0.170	0.650	0.07	501
Min	5.94	7.64	72.5	0.0	0.0	27.7	0.0	1	1	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 31: Drainage District 20 ditch at floodgate</b>																
No.	189	195	195	198	178	192	197	196	NA	59	59	59	59	59	59	59
Mean	7.14	7.70	64.9	8.5	10.6	212.2	0.1	178	NA	0.486	1.00	0.09	0.041	0.472	0.15	13
SD	0.44	2.88	23.0	4.0	15.1	86.4	0.1	693	NA	0.390	1.27	0.08	0.038	0.385	0.17	21
Max	8.17	15.70	131.0	19.4	131.0	455.3	0.2	9000	NA	1.500	9.80	0.48	0.200	1.490	1.16	147
Min	6.02	0.40	5.3	0.8	0.0	45.0	0.0	1	NA	0.005	0.25	0.03	0.005	0.005	0.02	2
<b>Site 32: Samish River at Thomas Road</b>																
No.	432	454	456	462	419	459	461	463	25	116	118	118	116	116	118	116
Mean	7.50	10.86	97.5	10.8	10.8	96.5	0.0	52	27	0.600	0.38	0.07	0.026	0.601	0.06	19
SD	0.46	1.18	9.5	4.7	18.2	25.4	0.1	860	40	0.210	0.24	0.07	0.026	0.201	0.08	39
Max	8.73	14.99	150.0	21.6	181.0	142.0	0.8	17000	170	1.690	1.60	0.47	0.160	1.650	0.68	229
Min	6.50	2.58	14.1	1.2	0.8	45.3	0.0	2	2	0.005	0.25	0.05	0.005	0.330	0.01	2
<b>Site 33: Alice Bay Pump Station</b>																
No.	430	433	452	457	416	448	456	455	26	113	114	114	113	113	114	113
Mean	7.17	9.22	109.3	13.4	27.4	25225.7	15.6	48	24	0.738	2.91	0.54	0.285	0.690	1.19	42
SD	0.82	4.56	73.7	6.5	55.4	13713.9	9.0	367	65	1.183	1.84	0.51	0.340	1.189	0.83	29
Max	8.88	23.93	348.6	27.2	910.0	52822.0	29.7	5000	280	10.000	17.80	2.59	1.710	10.000	3.94	160
Min	5.66	0.41	4.0	0.4	2.7	204.5	0.1	1	2	0.005	0.74	0.05	0.005	0.005	0.01	2



Metric	pH	DO	DO	Temp	Turb	Conductivity (°C compensated)	Salinity	Fecal Coliform	E. coli	Nitrite + Nitrate	Total Kjehldahl Nitrogen	Total Phosphorus	Ortho- Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	MPN/100mL	MPN/100 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 34: Noname Slough at Bayview-Edison Road</b>																
No.	426	449	449	453	416	443	451	448	26	114	114	114	114	113	114	114
Mean	6.99	6.82	62.3	11.9	15.8	16143.0	10.2	108	52	0.487	1.39	0.55	0.451	0.470	0.27	25
SD	0.54	3.73	33.1	6.2	16.1	18094.5	11.8	1287	106	0.715	0.70	0.81	0.963	0.699	0.29	31
Max	8.58	22.31	224.8	27.0	211.0	56800.0	38.0	16000	350	4.140	5.34	4.62	7.500	4.140	1.70	233
Min	5.67	0.00	0.0	0.1	0.9	30.8	0.0	1	5	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 35: Joe Leary Slough at D'Arcy Road</b>																
No.	420	443	443	447	405	445	447	442	26	110	110	111	109	111	110	109
Mean	7.22	5.40	50.5	12.1	37.3	477.4	0.2	93	42	0.941	1.21	0.22	0.115	0.918	0.60	19
SD	0.52	1.47	14.6	4.4	27.4	1073.7	0.6	778	204	0.802	0.42	0.16	0.083	0.786	0.27	23
Max	9.05	11.63	121.6	24.0	275.0	19280.0	11.7	9000	920	4.850	2.63	1.04	0.480	4.780	1.15	151
Min	6.25	1.85	17.2	3.5	2.9	5.3	0.0	1	4	0.005	0.25	0.05	0.005	0.130	0.01	2
<b>Site 36: Edison Slough at Edison Elementary School</b>																
No.	430	448	455	459	415	446	457	460	26	116	116	116	116	115	116	116
Mean	7.30	9.09	98.0	13.7	9.7	13701.8	8.4	66	33	0.492	1.24	0.47	0.340	0.486	0.23	20
SD	0.72	3.51	57.3	7.8	6.4	15795.4	10.0	592	211	1.028	0.70	0.62	0.527	1.033	0.33	20
Max	9.58	26.00	359.2	32.4	49.3	44950.0	29.1	9200	920	10.000	4.82	2.81	2.730	10.000	2.51	95
Min	5.98	2.32	21.3	0.1	0.6	52.6	0.0	1	5	0.005	0.59	0.05	0.005	0.005	0.01	2
<b>Site 37: Edison Drainage in Edison</b>																
No.	428	435	452	456	416	451	454	458	26	116	116	116	116	115	116	116
Mean	7.32	7.02	81.2	13.5	44.1	11159.0	6.6	160	60	0.856	3.42	0.86	0.485	0.829	1.48	43
SD	0.67	4.13	68.2	6.7	116.3	11582.8	7.3	980	232	1.305	5.29	0.85	0.598	1.312	1.04	47
Max	9.35	24.72	387.3	27.5	1567.0	44758.0	28.9	16000	920	9.630	58.30	4.26	3.220	9.630	6.71	250
Min	6.16	0.04	0.6	1.8	4.2	172.4	0.1	1	2	0.005	0.25	0.17	0.005	0.005	0.01	7
<b>Site 38: North Edison drainage at Smith Road</b>																
No.	425	425	441	452	411	446	451	453	25	115	114	115	115	114	115	115
Mean	7.24	7.06	84.6	12.9	40.5	17773.2	10.8	148	113	0.523	2.93	0.91	0.560	0.486	1.23	54
SD	0.84	4.73	79.8	5.8	130.4	13861.4	9.0	2115	1133	0.991	1.02	0.82	0.683	0.996	0.75	72
Max	9.20	37.78	455.1	26.1	2300.0	45531.0	29.7	30000	5400	9.540	7.04	3.78	3.190	9.540	4.24	524
Min	5.60	0.00	0.0	1.7	1.8	111.9	0.0	1	5	0.005	1.00	0.05	0.005	0.005	0.02	5



Metric	pH	DO	DO	Temp	Turb	Conductivity	Salinity	Fecal Coliform	E. coli	Nitrite + Nitrate	Total Kjeldahl Nitrogen	Total Phosphorus	Ortho-Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	MPN/100mL	MPN/100 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 39: Colony Creek near Colony Road</b>																
No.	432	455	457	461	416	450	461	461	26	116	116	116	116	115	116	116
Mean	7.18	10.80	93.8	9.8	15.6	132.6	0.0	67	36	0.890	0.59	0.10	0.056	0.871	0.06	37
SD	0.31	1.78	7.9	4.4	37.0	85.3	0.1	1660	269	0.637	0.65	0.17	0.050	0.620	0.05	194
Max	7.97	15.06	111.6	20.5	377.0	397.9	0.2	16000	920	3.020	4.96	1.70	0.210	3.010	0.34	1996
Min	6.19	6.11	58.3	0.0	0.3	44.5	0.0	1	2	0.100	0.25	0.01	0.005	0.190	0.01	2
<b>Site 40: Big Indian Slough at Highway 20 truck scales</b>																
No.	427	450	450	453	416	452	452	449	26	112	113	113	112	113	113	112
Mean	6.76	4.97	43.8	10.9	23.5	437.9	0.2	57	44	0.734	0.99	0.12	0.086	0.702	0.36	9
SD	0.33	2.08	16.5	4.0	14.5	2001.3	1.3	7565	1794	0.502	0.38	0.07	0.077	0.489	0.22	8
Max	7.92	11.97	124.6	22.1	150.0	42784.0	27.8	160000	9200	2.250	2.10	0.31	0.490	2.220	0.84	54
Min	5.42	0.33	3.7	2.4	2.5	93.4	0.0	1	8	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 41: Maddox Creek/Big Ditch at Milltown Road</b>																
No.	435	459	460	464	426	460	464	462	26	117	117	117	116	116	117	117
Mean	7.18	6.20	57.7	12.0	18.4	510.1	0.2	58	56	1.040	1.18	0.17	0.084	1.002	0.37	10
SD	0.35	2.15	21.6	5.1	28.0	484.9	0.3	578	326	1.055	0.73	0.12	0.073	1.030	0.36	14
Max	8.80	12.32	118.8	23.7	268.0	8358.0	4.7	9200	1600	3.460	2.79	0.62	0.340	3.460	1.49	91
Min	6.20	0.05	0.6	0.8	1.9	40.7	0.0	1	7	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 42: Carpenter Creek/Hill Ditch at Cedardale Road</b>																
No.	433	458	459	462	424	459	462	457	26	117	117	117	117	115	117	117
Mean	7.30	8.18	73.3	11.4	3.8	188.9	0.1	52	52	0.581	0.56	0.07	0.045	0.574	0.07	3
SD	0.32	2.32	17.9	5.7	3.9	51.5	0.0	885	167	0.511	0.25	0.06	0.039	0.506	0.04	2
Max	8.74	14.37	159.1	23.1	47.2	364.7	0.2	16000	540	1.960	1.78	0.46	0.210	1.940	0.30	16
Min	6.30	2.05	19.1	0.1	0.0	53.3	0.0	1	5	0.005	0.25	0.02	0.005	0.005	0.01	2
<b>Site 43: Wiley Slough at Wylie Road</b>																
No.	426	451	452	454	417	452	454	447	24	113	113	128	113	112	113	113
Mean	7.15	4.87	45.4	12.1	22.5	2919.8	1.5	68	65	1.331	1.50	0.26	0.185	1.288	0.52	17
SD	0.42	2.81	27.2	5.1	51.2	2825.1	1.5	375	317	1.763	0.85	0.39	0.275	1.699	0.42	31
Max	8.98	14.16	147.0	21.9	612.0	21560.0	9.5	3500	1600	7.060	7.04	2.10	1.560	6.960	1.93	264
Min	6.08	0.12	1.4	0.8	1.3	59.7	0.0	1	2	0.005	0.25	0.01	0.005	0.005	0.01	2





Metric	pH	DO	DO	Temp	Turb	Conductivity	Salinity	Fecal Coliform	E. coli	Nitrite + Nitrate	Total Kjeldahl Nitrogen	Total Phosphorus	Ortho-Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	MPN/100mL	MPN/100 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 44: Sullivan Slough</b>																
No.	433	453	456	460	423	457	460	456	26	116	117	117	116	116	117	116
Mean	7.21	6.80	66.1	11.5	35.8	9135.2	5.4	80	52	0.659	1.45	0.27	0.132	0.629	0.66	27
SD	0.46	2.73	31.0	4.4	89.3	8663.6	5.5	355	126	1.030	0.75	0.49	0.327	1.003	0.58	37
Max	9.08	19.82	237.9	21.7	1345.0	40199.0	26.5	2400	540	7.210	4.50	5.00	3.500	7.160	3.10	280
Min	5.80	0.09	0.8	0.5	1.5	200.7	0.1	1	7	0.005	0.25	0.05	0.005	0.005	0.01	4
<b>Site 45: North Fork Skagit River near Moore Road</b>																
No.	419	440	440	447	412	442	443	442	25	113	113	113	113	113	113	113
Mean	7.65	11.26	97.4	9.4	10.8	55.3	0.0	7	7	0.080	0.29	0.06	0.013	0.077	0.02	19
SD	0.45	1.18	4.9	3.9	32.9	10.4	0.0	27	19	0.049	0.17	0.06	0.018	0.048	0.02	47
Max	9.10	14.61	120.1	18.1	576.0	96.3	0.1	350	79	0.190	1.34	0.60	0.160	0.180	0.10	452
Min	5.93	7.35	76.0	1.4	0.6	30.8	0.0	1	1	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 46: South Fork Skagit River at Conway boat ramp</b>																
No.	425	450	451	454	420	452	453	454	26	114	114	114	114	113	114	114
Mean	7.58	11.27	97.8	9.5	8.7	57.1	0.0	10	9	0.087	0.28	0.06	0.012	0.081	0.02	16
SD	0.40	1.09	4.1	3.9	11.6	34.6	0.3	44	14	0.064	0.17	0.03	0.011	0.049	0.02	28
Max	8.91	13.73	112.3	18.3	109.0	687.0	6.9	540	70	0.510	1.66	0.23	0.050	0.210	0.10	231
Min	6.38	8.40	83.9	1.4	0.9	29.5	0.0	1	1	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 47: Swinomish Channel at County boat ramp</b>																
No.	436	460	461	464	425	464	464	458	25	117	117	117	117	116	117	117
Mean	7.26	8.72	88.9	10.7	5.4	33754.5	21.2	5	4	0.193	0.32	0.08	0.049	0.188	0.06	31
SD	0.62	1.08	9.6	3.3	6.2	6277.3	4.3	15	10	0.115	0.23	0.04	0.077	0.114	0.03	21
Max	8.11	11.41	115.4	18.5	80.2	45590.0	29.1	130	49	0.690	1.84	0.40	0.830	0.690	0.17	140
Min	5.29	5.48	7.3	3.3	0.6	11027.0	6.4	1	1	0.005	0.25	0.05	0.005	0.005	0.01	2
<b>Site 48: Fisher Creek at Franklin Road</b>																
No.	436	459	460	463	426	461	464	458	26	117	116	117	117	116	117	117
Mean	7.49	11.14	96.0	9.1	3.0	167.9	0.1	73	44	0.640	0.62	0.20	0.206	0.627	0.08	5
SD	0.32	1.31	5.2	3.4	4.5	114.1	0.1	813	423	0.504	0.28	0.18	0.188	0.502	0.04	11
Max	8.18	14.87	114.7	15.8	40.7	2215.0	1.1	16000	2000	2.250	1.38	0.81	0.630	2.250	0.17	98
Min	6.56	7.53	62.4	0.3	0.0	60.9	0.0	1	1	0.005	0.25	0.05	0.005	0.005	0.01	2



## Appendix C - Summary of Seasonal Kendall's results for the Water Year 2021

Site	Period (years)	Parameter	n	Slope	$\Delta$ (units/period)	Z-score	Significant (95%)	Confidence (%)
3	18	pH	428	-0.0056	-0.101	-2.567	Yes	95
		mpH	226	-0.0066	-0.119	-2.365	Yes	95
		DO	452	0.0176	0.316	1.108	No	< 80
		mDO	230	0.0042	0.076	0.098	No	< 80
		DO % sat	453	0.1529	2.752	1.196	No	< 80
		mDO % sat	231	-0.0086	-0.154	-0.039	No	< 80
		Temp	457	0.0182	0.327	1.200	No	< 80
		mTemp	230	0.0201	0.361	1.032	No	< 80
		Turb	413	0.1003	1.805	2.036	Yes	95
		mTurb	217	0.03646	0.656	0.730	No	< 80
		FC	456	-0.2470	-4.446	-2.121	Yes	95
		mFC	229	-0.0355	-0.639	-1.661	No	90
		NO3+NO2	116	-0.0074	-0.134	-2.401	Yes	95
		TKN	116	-0.0122	-0.220	-2.283	Yes	95
		TP	116	0.0005	0.008	4.457	Yes	95
		OP	115	0.0011	0.020	2.677	Yes	95
		NH3	116	-0.0035	-0.064	-3.226	Yes	95
		TSS	115	0.0000	0.000	1.193	No	< 80
	10	DO	250	-0.2109	-2.109	-4.935	Yes	95
		mDO	128	-0.2648	-2.648	-4.559	Yes	95
		Temp	252	0.0000	0.000	-0.079	No	< 80
		mTemp	128	0.0251	0.251	0.811	No	< 80
		FC	253	0.0000	0.000	0.000	No	< 80
		mFC	127	0.7892	7.892	0.609	No	< 80
	5	DO	120	-0.1250	-0.625	-1.041	No	< 80
		mDO	63	-0.1788	-0.894	-1.598	No	80
		Temp	122	0.0502	0.251	0.355	No	< 80
		mTemp	63	-0.0125	-0.063	0.000	No	< 80
		FC	123	-1.4310	-7.155	-1.178	No	< 80
		mFC	62	0.0125	0.063	0.000	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
4	18	pH	435	-0.0297	-0.535	-11.140	Yes	95
		mpH	228	-0.0276	-0.497	-8.320	Yes	95
		DO	456	0.0398	0.716	6.522	Yes	95
		mDO	232	0.0396	0.713	5.184	Yes	95
		DO % sat	457	0.2838	5.108	7.958	Yes	95
		mDO % sat	232	0.2759	4.966	6.303	Yes	95
		Temp	460	0.0000	0.000	0.376	No	< 80
		mTemp	232	0.0125	0.225	0.923	No	< 80
		Turb	418	-0.2443	-4.397	-5.542	Yes	95
		mTurb	218	-0.3475	-6.255	-4.883	Yes	95
		FC	457	-6.6850	-120.330	-5.956	Yes	95
		mFC	230	-11.9200	-214.560	-5.152	Yes	95
		NO3+NO2	117	-0.0120	-0.216	-2.971	Yes	95
		TKN	117	-0.0015	-0.028	-1.488	No	80
		TP	117	0.0000	0.000	2.200	Yes	95
	OP	117	0.0000	0.000	0.998	No	< 80	
	NH3	117	-0.0014	-0.025	-2.918	Yes	95	
	TSS	117	0.0000	0.000	-1.526	No	80	
	10	DO	251	0.0488	0.488	3.298	Yes	95
		mDO	128	0.0260	0.260	1.598	No	80
		Temp	253	-0.0446	-0.446	-1.059	No	< 80
		mTemp	128	0.0100	0.100	0.418	No	< 80
		FC	252	0.0000	0.000	0.739	No	< 80
		mFC	128	2.3830	23.830	1.137	No	< 80
	5	DO	121	-0.0443	-0.221	-1.108	No	< 80
		mDO	63	-0.0275	-0.138	-0.769	No	< 80
		Temp	123	0.0000	0.000	0.050	No	< 80
		mTemp	63	0.0146	0.073	0.322	No	< 80
		FC	123	5.7940	28.970	1.365	No	80
		mFC	63	7.0290	35.145	0.706	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
6	18	pH	433	-0.0198	-0.356	-7.165	Yes	95
		mpH	228	-0.0200	-0.360	-5.882	Yes	95
		DO	453	0.0287	0.517	4.322	Yes	95
		mDO	231	0.0251	0.451	3.240	Yes	95
		DO % sat	455	0.3033	5.459	7.806	Yes	95
		mDO % sat	231	0.3006	5.411	5.810	Yes	95
		Temp	460	0.0285	0.513	1.942	No	90
		mTemp	232	0.0499	0.899	2.342	Yes	95
		Turb	418	0.0075	0.135	0.492	No	< 80
		mTurb	218	-0.01997	-0.359	-0.885	No	< 80
		FC	460	0.0000	0.000	-1.583	No	80
		mFC	232	-0.4180	-7.524	-1.760	No	90
		NO3+NO2	117	-0.0134	-0.241	-4.678	Yes	95
		TKN	117	0.0000	0.000	0.099	No	< 80
		TP	117	0.0000	0.000	-4.167	Yes	95
		OP	117	0.0000	0.000	2.229	Yes	95
		NH3	117	0.0000	0.000	-2.620	Yes	95
		TSS	117	0.0000	0.000	-0.424	No	< 80
	10	DO	250	0.0804	0.804	5.024	Yes	95
		mDO	127	0.0751	0.751	3.502	Yes	95
		Temp	254	-0.0155	-0.155	-0.457	No	< 80
		mTemp	128	0.0623	0.623	0.975	No	< 80
		FC	253	0.0000	0.000	-1.551	No	80
		mFC	128	-0.1776	-1.776	-0.558	No	< 80
	5	DO	120	-0.0441	-0.220	-0.937	No	< 80
		mDO	62	-0.0202	-0.101	-0.325	No	< 80
		Temp	124	0.0337	0.168	0.248	No	< 80
		mTemp	63	0.0626	0.313	0.321	No	< 80
		FC	124	0.0000	0.000	-0.226	No	< 80
		mFC	63	0.4179	2.090	0.449	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
8	18	pH	435	-0.0092	-0.165	-3.335	Yes	95
		mpH	228	-0.0093	-0.167	-2.637	Yes	95
		DO	457	-0.0114	-0.206	-1.460	No	80
		mDO	232	-0.0237	-0.427	-2.330	Yes	95
		DO % sat	458	-0.0907	-1.633	-1.931	No	90
		mDO % sat	232	-0.1166	-2.099	-2.114	Yes	95
		Temp	461	0.0154	0.276	0.928	No	< 80
		mTemp	232	0.0345	0.621	1.826	No	90
		Turb	419	-0.1226	-2.207	-4.160	Yes	95
		mTurb	219	-0.1999	-3.598	-3.937	Yes	95
		FC	461	-1.4610	-26.298	-5.090	Yes	95
		mFC	232	-2.5380	-45.684	-3.788	Yes	95
		NO3+NO2	116	-0.0108	-0.194	-4.735	Yes	95
		TKN	116	0.0000	0.000	0.356	No	< 80
		TP	116	0.0000	0.000	0.285	No	< 80
		OP	116	0.0004	0.007	2.927	Yes	95
	NH3	116	-0.0029	-0.052	-4.850	Yes	95	
	TSS	116	0.0000	0.000	-0.445	No	< 80	
	10	DO	251	0.0419	0.419	2.473	Yes	95
		mDO	128	0.0116	0.116	0.347	No	< 80
		Temp	252	-0.0563	-0.563	-1.143	No	< 80
		mTemp	128	0.0091	0.091	0.325	No	< 80
		FC	253	0.0000	0.000	-0.576	No	< 80
		mFC	128	0.0354	0.000	0.093	No	< 80
	5	DO	122	0.0718	0.359	1.278	No	< 80
		mDO	63	0.0624	0.312	0.831	No	< 80
		Temp	123	-0.1247	-0.624	-0.780	No	< 80
mTemp		63	0.0000	0.000	0.000	No	< 80	
FC		125	0.8774	4.387	0.839	No	< 80	
mFC		63	6.6850	33.425	1.153	No	< 80	



Site	Period (years)	Parameter	n	Slope	$\Delta$ (units/period)	Z-score	Significant (95%)	Confidence (%)
11	18	pH	439	0.0067	0.120	2.453	Yes	95
		mpH	228	0.0060	0.108	1.960	No	90
		DO	460	0.0493	0.888	5.738	Yes	95
		mDO	232	0.0455	0.819	4.184	Yes	95
		DO % sat	461	0.3737	6.727	6.059	Yes	95
		mDO % sat	232	0.3625	6.525	4.799	Yes	95
		Temp	463	-0.0249	-0.447	-1.795	No	90
		mTemp	232	-0.0172	-0.309	-0.972	No	< 80
		Turb	421	-0.0277	-0.499	-2.871	Yes	95
		mTurb	218	-0.0376	-0.676	-2.836	Yes	95
		FC	463	0.0000	0.000	-2.117	Yes	95
		mFC	230	-0.2206	-3.971	-1.911	No	90
		NO3+NO2	115	-0.0033	-0.059	-1.775	No	90
		TKN	116	0.0000	0.000	0.725	No	< 80
		TP	116	0.0000	0.000	-3.373	Yes	95
	OP	115	0.0000	0.000	1.385	No	80	
	NH3	116	0.0000	0.000	-1.272	No	< 80	
	TSS	115	0.0000	0.000	-1.551	No	80	
	10	DO	252	0.1140	1.140	4.894	Yes	95
		mDO	128	0.0869	0.869	3.241	Yes	95
		Temp	254	-0.0891	-0.891	-2.478	Yes	95
		mTemp	128	-0.0496	-0.496	-1.390	No	80
		FC	255	0.0000	0.000	0.876	No	< 80
		mFC	127	0.5014	5.014	1.637	No	80
	5	DO	123	-0.0421	-0.211	-0.629	No	< 80
		mDO	63	-0.0201	-0.100	-0.192	No	< 80
		Temp	125	0.0334	0.167	0.417	No	< 80
		mTemp	63	0.0000	0.000	0.000	No	< 80
		FC	126	0.1695	0.848	1.274	No	< 80
		mFC	63	1.7970	8.985	1.794	No	90



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
12	18	pH	409	0.0066	0.120	2.546	Yes	95
		mpH	220	0.0069	0.124	1.894	No	90
		DO	432	-0.0150	-0.270	-1.303	No	80
		mDO	229	-0.0208	-0.374	-1.368	No	80
		DO % sat	434	-0.1318	-2.372	-1.558	No	80
		mDO % sat	228	-0.1004	-1.807	-0.857	No	< 80
		Temp	437	0.0272	0.490	1.758	No	90
		mTemp	230	0.0363	0.654	1.629	No	80
		Turb	403	-0.0541	-0.974	-2.289	Yes	95
		mTurb	216	-0.0358	-0.645	-1.359	No	80
		FC	436	0.0000	0.000	-1.385	No	80
		mFC	230	-0.0830	-1.495	-0.326	No	< 80
		NO3+NO2	112	-0.0143	-0.258	-3.759	Yes	95
		TKN	111	0.0000	0.000	-0.907	No	< 80
		TP	112	0.0000	0.000	4.963	Yes	95
	OP	112	0.0008	0.015	4.810	Yes	95	
	NH3	112	-0.0027	-0.048	-3.186	Yes	95	
	TSS	112	-0.1313	-2.363	-2.326	Yes	95	
	10	DO	242	0.0195	0.195	0.837	No	< 80
		mDO	126	0.0685	0.685	1.617	No	80
		Temp	243	-0.0330	-0.330	-0.789	No	< 80
		mTemp	127	-0.0831	-0.831	-1.605	No	80
		FC	243	0.0000	0.000	0.204	No	< 80
		mFC	127	-0.7044	-7.044	-0.520	No	< 80
	5	DO	118	0.1163	0.582	1.242	No	< 80
		mDO	61	0.1166	0.583	0.329	No	< 80
		Temp	119	0.0000	0.000	-0.288	No	< 80
mTemp		62	0.0626	0.313	0.518	No	< 80	
FC		119	0.3259	1.630	1.087	No	< 80	
mFC		62	2.0150	10.075	0.648	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
13	18	pH	431	0.0020	0.036	0.820	No	< 80
		mpH	225	0.0021	0.037	0.561	No	< 80
		DO	455	-0.0328	-0.591	-3.080	Yes	95
		mDO	232	-0.0339	-0.611	-2.572	Yes	95
		DO % sat	456	-0.1754	-3.157	-2.249	Yes	95
		mDO % sat	232	-0.2003	-3.605	-2.286	Yes	95
		Temp	458	0.0492	0.885	2.776	Yes	95
		mTemp	232	0.0502	0.904	2.662	Yes	95
		Turb	423	0.0027	0.049	0.141	No	< 80
		mTurb	218	0.0015	0.027	0.064	No	< 80
		FC	457	-0.1243	-2.237	-2.322	Yes	95
		mFC	232	-0.4981	-8.966	-1.463	No	80
		NO3+NO2	116	-0.0050	-0.090	-2.179	Yes	95
		TKN	115	0.0000	0.000	0.519	No	< 80
		TP	116	0.0000	0.000	1.662	No	90
		OP	116	0.0000	0.000	3.861	Yes	95
		NH3	116	-0.0025	-0.044	-3.782	Yes	95
		TSS	116	0.0000	0.000	-1.182	No	< 80
	10	DO	253	-0.0183	-0.183	-0.495	No	< 80
		mDO	128	0.0096	0.096	0.187	No	< 80
		Temp	253	0.0184	0.184	0.521	No	< 80
		mTemp	128	-0.0498	-0.498	-0.911	No	< 80
		FC	253	0.0000	0.000	-1.348	No	80
		mFC	128	-1.6560	-16.560	-1.425	No	80
	5	DO	123	-0.2552	-1.276	-3.178	Yes	95
		mDO	63	-0.2000	-1.000	-2.651	Yes	95
		Temp	124	0.0334	0.167	0.322	No	< 80
		mTemp	63	0.0501	0.251	0.699	No	< 80
		FC	124	1.0440	5.220	1.448	No	80
		mFC	63	3.1260	15.630	1.527	No	80





Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
14	18	pH	429	-0.0286	-0.514	-10.450	Yes	95
		mpH	226	-0.0290	-0.522	-7.884	Yes	95
		DO	454	0.0229	0.412	2.230	Yes	95
		mDO	231	0.0236	0.425	1.988	Yes	95
		DO % sat	456	0.1239	2.230	1.865	No	90
		mDO % sat	231	0.1422	2.560	1.652	No	90
		Temp	459	0.0166	0.299	1.030	No	< 80
		mTemp	232	0.0261	0.469	1.805	No	90
		Turb	421	-0.0838	-1.508	-5.247	Yes	95
		mTurb	217	-0.1014	-1.825	-3.847	Yes	95
		FC	456	0.0000	0.000	-1.071	No	< 80
		mFC	232	-0.3225	-5.805	-0.507	No	< 80
		NO3+NO2	115	-0.0058	-0.105	-2.883	Yes	95
		TKN	114	-0.0071	-0.127	-1.588	No	80
		TP	115	0.0000	0.000	1.926	No	90
	OP	115	0.0000	0.000	0.561	No	< 80	
	NH3	115	-0.0038	-0.069	-5.617	Yes	95	
	TSS	115	0.0000	0.000	-1.068	No	< 80	
	10	DO	249	0.0941	0.941	3.627	Yes	95
		mDO	127	0.1110	1.110	4.399	Yes	95
		Temp	251	0.0000	0.000	0.079	No	< 80
		mTemp	128	-0.0265	-0.265	-0.631	No	< 80
		FC	250	3.9610	39.610	2.581	Yes	95
		mFC	128	3.6250	36.250	1.518	No	80
	5	DO	120	-0.1137	-0.569	-1.346	No	80
		mDO	62	-0.1437	-0.719	-1.540	No	80
		Temp	122	0.1338	0.669	1.319	No	80
mTemp		63	0.1253	0.627	1.202	No	< 80	
FC		122	3.9740	19.870	1.177	No	< 80	
mFC		63	15.4400	77.200	1.455	No	80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
15	18	pH	433	0.0050	0.090	1.825	No	90
		mpH	226	0.0057	0.102	1.660	No	90
		DO	456	0.0266	0.479	2.619	Yes	95
		mDO	232	0.0208	0.374	1.130	No	< 80
		DO % sat	457	0.2431	4.376	3.367	Yes	95
		mDO % sat	232	0.2461	4.430	2.052	Yes	95
		Temp	460	0.0248	0.447	1.653	No	90
		mTemp	232	0.0482	0.868	2.282	Yes	95
		Turb	424	-0.0071	-0.127	-0.506	No	< 80
		mTurb	218	-0.0180	-0.323	-1.023	No	< 80
		FC	458	-0.4367	-7.861	-2.840	Yes	95
		mFC	232	1.1240	20.232	1.804	No	90
		NO3+NO2	117	0.0000	-0.001	-0.341	No	< 80
		TKN	116	-0.0053	-0.096	-1.586	No	80
		TP	117	0.0020	0.036	6.253	Yes	95
		OP	117	0.0025	0.044	4.996	Yes	95
	NH3	117	-0.0027	-0.048	-3.252	Yes	95	
	TSS	117	0.0000	0.000	-0.283	No	< 80	
	10	DO	251	-0.0143	-0.143	-0.387	No	< 80
		mDO	128	0.0598	0.598	1.212	No	< 80
		Temp	252	-0.0499	-0.499	-1.163	No	< 80
		mTemp	128	-0.1138	-1.138	-1.750	No	90
		FC	252	-0.9995	-9.995	-1.743	No	90
		mFC	128	-3.8970	-38.970	-2.008	Yes	95
	5	DO	122	-0.1186	-0.593	-1.526	No	80
		mDO	63	-0.1705	-0.853	-2.146	Yes	95
		Temp	123	0.0000	0.000	0.050	No	< 80
		mTemp	63	0.0836	0.418	0.761	No	< 80
		FC	123	0.0000	0.000	-0.405	No	< 80
		mFC	63	-5.4670	-27.335	-0.757	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
16	18	pH	433	-0.0082	-0.148	-2.994	Yes	95
		mpH	226	-0.0065	-0.118	-1.832	No	90
		DO	458	0.0193	0.347	2.968	Yes	95
		mDO	232	0.0169	0.304	1.900	No	90
		DO % sat	459	0.1999	3.598	5.047	Yes	95
		mDO % sat	232	0.2153	3.875	4.143	Yes	95
		Temp	462	0.0357	0.642	2.259	Yes	95
		mTemp	232	0.0361	0.650	1.902	No	90
		Turb	425	0.0182	0.328	2.537	Yes	95
		mTurb	218	0.0174	0.312	1.737	No	90
		FC	458	0.0000	0.000	-0.792	No	< 80
		mFC	231	0.0000	0.000	0.089	No	< 80
		NO3+NO2	116	-0.0022	-0.039	-1.008	No	< 80
		TKN	115	0.0000	0.000	0.998	No	< 80
		TP	116	0.0000	0.000	-0.870	No	< 80
		OP	116	0.0000	0.000	2.791	Yes	95
	NH3	116	0.0000	0.000	-0.801	No	< 80	
	TSS	116	0.0000	0.000	1.109	No	< 80	
	10	DO	253	0.0834	0.834	5.379	Yes	95
		mDO	128	0.1007	1.007	4.849	Yes	95
		Temp	254	0.0000	0.000	-0.328	No	< 80
		mTemp	128	-0.0503	-0.503	-1.658	No	90
		FC	252	0.0000	0.000	-0.044	No	< 80
		mFC	127	0.0000	0.000	0.000	No	< 80
	5	DO	123	-0.0033	-0.016	-0.075	No	< 80
		mDO	63	0.0300	0.150	0.379	No	< 80
		Temp	124	0.0000	0.000	0.000	No	< 80
mTemp		63	0.0125	0.063	0.191	No	< 80	
FC		124	0.0000	0.000	0.424	No	< 80	
mFC		63	3.6500	18.250	1.014	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
17	18	pH	431	-0.0084	-0.150	-3.085	Yes	95
		mpH	226	-0.0088	-0.158	-2.419	Yes	95
		DO	458	0.0058	0.105	0.874	No	< 80
		mDO	232	-0.0034	-0.062	-0.400	No	< 80
		DO % sat	459	0.0942	1.695	1.610	No	80
		mDO % sat	232	0.0330	0.593	0.447	No	< 80
		Temp	462	0.0330	0.594	1.964	Yes	95
		mTemp	232	0.0548	0.987	2.204	Yes	95
		Turb	424	0.0501	0.903	6.109	Yes	95
		mTurb	218	0.0535	0.963	4.817	Yes	95
		FC	458	0.0000	0.000	0.833	No	< 80
		mFC	231	0.1065	1.917	1.002	No	< 80
		NO3+NO2	117	0.0000	0.000	0.446	No	< 80
		TKN	116	0.0000	0.000	-0.278	No	< 80
		TP	117	0.0000	0.000	-0.641	No	< 80
	OP	117	0.0000	0.000	3.784	Yes	95	
	NH3	117	-0.0008	-0.014	-2.371	Yes	95	
	TSS	117	0.0000	0.000	0.267	No	< 80	
	10	DO	253	0.0334	0.334	1.856	No	90
		mDO	128	0.0513	0.513	2.378	Yes	95
		Temp	254	-0.0222	-0.222	-0.646	No	< 80
		mTemp	128	-0.1107	-1.107	-1.703	No	90
		FC	254	0.0000	0.000	1.453	No	80
		mFC	128	0.5227	5.227	1.354	No	80
	5	DO	123	-0.0726	-0.363	-1.568	No	80
		mDO	63	-0.0765	-0.382	-1.767	No	90
		Temp	124	0.1001	0.501	1.255	No	< 80
mTemp		63	0.1171	0.586	0.887	No	< 80	
FC		124	0.2631	1.316	0.944	No	< 80	
mFC		63	0.8349	4.175	0.569	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
18	18	pH	435	0.0000	0.000	-0.303	No	<80
		mpH	226	-0.0021	-0.037	-0.486	No	< 80
		DO	458	0.0042	0.075	0.713	No	< 80
		mDO	232	0.0016	0.028	0.341	No	< 80
		DO % sat	459	0.0463	0.833	1.052	No	< 80
		mDO % sat	232	0.0580	1.043	1.128	No	< 80
		Temp	463	0.0272	0.490	1.921	No	90
		mTemp	232	0.0360	0.647	2.176	Yes	95
		Turb	426	0.0299	0.537	3.498	Yes	95
		mTurb	218	0.0216	0.388	1.737	No	90
		FC	461	-0.2502	-4.504	-2.745	Yes	95
		mFC	232	-0.6038	-10.868	-1.823	No	90
		NO3+NO2	117	0.0023	0.041	0.933	No	< 80
		TKN	116	0.0000	0.000	-0.766	No	< 80
		TP	117	0.0000	0.000	-1.759	No	90
	OP	117	0.0000	0.000	2.412	Yes	95	
	NH3	117	0.0000	0.000	-3.415	Yes	95	
	TSS	117	0.0000	0.000	1.220	No	< 80	
	10	DO	253	0.0730	0.730	5.303	Yes	95
		mDO	128	0.0927	0.927	4.662	Yes	95
		Temp	255	-0.0124	-0.124	-0.361	No	< 80
		mTemp	128	-0.0501	-0.501	-1.332	No	80
		FC	255	0.0000	0.000	-0.381	No	< 80
		mFC	128	0.0000	0.000	-0.057	No	< 80
	5	DO	123	0.0112	0.056	0.225	No	< 80
		mDO	63	-0.0083	-0.042	0.000	No	< 80
		Temp	125	0.0999	0.500	0.734	No	< 80
		mTemp	63	0.1000	0.500	0.825	No	< 80
		FC	125	1.3550	6.775	1.660	No	90
		mFC	63	2.8390	14.195	1.389	No	80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
19	18	pH	409	-0.0114	-0.206	-4.111	Yes	95
		mpH	217	-0.0115	-0.208	-3.540	Yes	95
		DO	432	-0.0367	-0.660	-4.903	Yes	95
		mDO	223	-0.0424	-0.763	-4.334	Yes	95
		DO % sat	432	-0.2157	-3.883	-5.091	Yes	95
		mDO % sat	223	-0.2321	-4.178	-4.049	Yes	95
		Temp	434	0.0664	1.196	3.549	Yes	95
		mTemp	224	0.0749	1.349	3.144	Yes	95
		Turb	396	-0.0420	-0.756	-2.204	Yes	95
		mTurb	211	-0.0864	-1.555	-2.895	Yes	95
		FC	433	0.0000	0.000	-1.321	No	80
		mFC	223	-1.4490	-26.082	-2.051	Yes	95
		NO3+NO2	112	-0.0100	-0.181	-3.690	Yes	95
		TKN	112	0.0000	0.000	1.415	No	80
		TP	113	0.0000	0.000	-2.190	Yes	95
	OP	112	0.0000	0.000	1.253	No	< 80	
	NH3	112	0.0000	0.000	-1.339	No	80	
	TSS	113	0.0000	0.000	-1.396	No	80	
	10	DO	226	0.0097	0.097	0.440	No	< 80
		mDO	119	-0.0192	-0.192	-0.799	No	< 80
		Temp	227	0.1146	1.146	2.422	Yes	95
		mTemp	120	0.1809	1.809	3.040	Yes	95
		FC	227	-1.9940	-19.940	-2.284	Yes	95
		mFC	119	-3.3990	-33.990	-2.202	Yes	95
	5	DO	104	0.0201	0.100	0.323	No	< 80
		mDO	56	-0.0131	-0.065	-0.103	No	< 80
		Temp	105	0.1003	0.502	0.576	No	< 80
		mTemp	56	0.0779	0.389	0.465	No	< 80
		FC	106	0.0000	0.000	0.000	No	< 80
		mFC	56	0.0000	0.000	0.103	No	< 80



Site	Period (years)	Parameter	n	Slope	$\Delta$ (units/period)	Z-score	Significant (95%)	Confidence (%)
20	18	pH	434	-0.0143	-0.258	-5.111	Yes	95
		mpH	228	-0.0131	-0.235	-3.722	Yes	95
		DO	457	0.0290	0.521	4.995	Yes	95
		mDO	232	0.0263	0.473	3.592	Yes	95
		DO % sat	458	0.2267	4.081	6.475	Yes	95
		mDO % sat	232	0.2442	4.396	5.294	Yes	95
		Temp	459	0.0000	0.000	-0.298	No	< 80
		mTemp	232	0.0000	0.000	0.117	No	< 80
		Turb	415	-0.0176	-0.316	-1.797	No	90
		mTurb	218	-0.0316	-0.568	-2.175	Yes	95
		FC	456	0.0000	0.000	-0.091	No	< 80
		mFC	231	-0.0400	-0.721	-0.186	No	< 80
		NO3+NO2	117	-0.0015	-0.028	-0.803	No	< 80
		TKN	117	0.0000	0.000	-1.428	No	80
		TP	117	0.0000	0.000	-4.154	Yes	95
		OP	117	0.0000	0.000	1.063	No	< 80
		NH3	117	0.0000	0.000	-1.815	No	90
	TSS	117	0.0000	0.000	-1.713	No	90	
	10	DO	250	0.0810	0.810	5.487	Yes	95
		mDO	128	0.0640	0.640	3.126	Yes	95
		Temp	251	0.0000	0.000	-0.360	No	< 80
		mTemp	128	0.0224	0.224	0.743	No	< 80
		FC	250	0.0000	0.000	0.651	No	< 80
		mFC	127	1.5720	15.720	1.557	No	80
	5	DO	122	-0.0152	-0.076	-0.510	No	< 80
		mDO	63	-0.0347	-0.174	-0.769	No	< 80
		Temp	123	0.0000	0.000	0.000	No	< 80
mTemp		63	0.0000	0.000	0.129	No	< 80	
FC		124	0.0000	0.000	-0.176	No	< 80	
mFC		63	1.5790	7.895	0.256	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
21	18	pH	373	-0.0112	-0.201	-3.787	Yes	95
		mpH	206	-0.0117	-0.210	-3.321	Yes	95
		DO	396	0.0171	0.309	2.076	Yes	95
		mDO	211	0.0200	0.359	1.965	Yes	95
		DO % sat	396	0.1662	2.992	4.207	Yes	95
		mDO % sat	212	0.1663	2.993	3.446	Yes	95
		Temp	397	0.0167	0.301	1.005	No	< 80
		mTemp	211	0.0251	0.451	1.154	No	< 80
		Turb	359	-0.5547	-9.985	-2.061	Yes	95
		mTurb	198	-0.0904	-1.627	-3.052	Yes	95
		FC	395	-0.5011	-9.020	-2.560	Yes	95
		mFC	211	-1.1650	-20.970	-1.913	No	90
		NO3+NO2	103	-0.0049	-0.089	-1.117	No	< 80
		TKN	103	0.0000	0.000	1.311	No	80
		TP	103	0.0000	0.000	1.876	No	90
		OP	103	0.0000	0.000	2.523	Yes	95
		NH3	103	0.0000	0.000	-0.403	No	< 80
	TSS	103	0.0000	0.000	-0.777	No	< 80	
	10	DO	208	0.0564	0.564	2.748	Yes	95
		mDO	114	0.0521	0.521	2.326	Yes	95
		Temp	209	0.0200	0.200	0.537	No	< 80
		mTemp	114	0.0685	0.685	1.228	No	< 80
		FC	208	0.0000	0.000	-0.621	No	< 80
		mFC	114	0.6386	6.386	0.333	No	< 80
	5	DO	100	-0.0251	-0.125	-0.351	No	< 80
		mDO	54	-0.0150	-0.075	-0.078	No	< 80
		Temp	101	0.0727	0.364	0.295	No	< 80
mTemp		54	0.0860	0.430	0.444	No	< 80	
FC		100	1.5190	7.595	0.993	No	< 80	
mFC		54	4.5750	22.875	0.967	No	< 80	





Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
22	18	pH	438	-0.0257	-0.463	-6.222	Yes	95
		mpH	226	-0.0249	-0.449	-4.784	Yes	95
		DO	457	-0.0030	-0.054	-0.429	No	< 80
		mDO	231	-0.0100	-0.179	-0.146	No	< 80
		DO % sat	458	0.0182	0.400	0.572	No	< 80
		mDO % sat	232	0.0425	0.765	1.057	No	< 80
		Temp	460	0.0251	0.451	1.739	No	90
		mTemp	231	0.0300	0.539	1.755	No	90
		Turb	421	-0.0100	-0.179	-1.045	No	< 80
		mTurb	217	-0.0343	-0.617	-1.833	No	90
		FC	459	0.0000	0.000	0.984	No	< 80
		mFC	229	0.1022	1.840	1.531	No	80
		NO3+NO2	115	-0.0021	-0.037	-0.708	No	< 80
		TKN	116	0.0000	0.000	-2.120	Yes	95
		TP	116	0.0000	0.000	-2.983	Yes	95
	OP	115	0.0000	0.000	2.309	Yes	95	
	NH3	116	0.0000	0.000	-2.239	Yes	95	
	TSS	115	0.0000	0.000	-2.344	Yes	95	
	10	DO	251	0.0553	0.553	4.091	Yes	95
		mDO	128	0.0394	0.394	2.524	Yes	95
		Temp	252	0.0199	0.199	0.575	No	< 80
		mTemp	128	0.0544	0.544	1.322	No	80
		FC	253	-0.2457	-2.457	-3.183	Yes	95
		mFC	127	-0.2227	-2.227	-0.845	No	< 80
	5	DO	122	0.0083	0.008	0.176	No	< 80
		mDO	63	-0.0025	-0.013	0.000	No	< 80
		Temp	123	0.0000	0.000	0.050	No	< 80
		mTemp	63	0.0502	0.251	0.193	No	< 80
FC		125	-0.5007	-2.504	-2.852	Yes	95	
mFC		63	-0.5021	-2.511	-1.297	No	80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
23	18	pH	390	-0.0276	-0.496	-8.456	Yes	95
		mpH	200	-0.0255	-0.459	-6.375	Yes	95
		DO	411	0.0108	0.194	1.781	No	90
		mDO	206	0.0111	0.199	1.425	No	80
		DO % sat	413	0.1199	2.158	3.382	Yes	95
		mDO % sat	208	0.1134	2.041	2.632	Yes	95
		Temp	414	0.0000	0.000	-0.207	No	< 80
		mTemp	207	0.0000	0.000	-0.179	No	< 80
		Turb	376	0.0078	0.140	0.903	No	< 80
		mTurb	195	-0.0067	-0.120	-0.619	No	< 80
		FC	413	0.0000	0.000	0.708	No	< 80
		mFC	206	0.0345	0.622	0.461	No	< 80
		NO3+NO2	108	-0.0249	-0.448	-4.700	Yes	95
		TKN	109	0.0000	0.000	0.788	No	< 80
		TP	109	0.0000	0.000	-3.917	Yes	95
	OP	109	0.0000	0.000	1.988	Yes	95	
	NH3	109	0.0000	0.000	-0.183	No	< 80	
	TSS	108	0.0000	0.000	-1.832	No	90	
	10	DO	219	0.0552	0.552	3.215	Yes	95
		mDO	106	0.0290	0.290	1.107	No	< 80
		Temp	220	0.0000	0.000	0.127	No	< 80
		mTemp	106	0.0579	0.579	1.459	No	80
		FC	221	0.0000	0.000	0.425	No	< 80
		mFC	106	0.4722	4.722	1.635	No	80
	5	DO	110	-0.0197	-0.098	-0.666	No	< 80
		mDO	58	-0.0701	-0.351	-1.292	No	80
		Temp	111	0.0335	0.167	0.159	No	< 80
mTemp		58	0.1505	0.753	1.040	No	< 80	
FC		112	0.0000	0.000	0.799	No	< 80	
mFC		58	1.0590	5.295	1.141	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
24	18	pH	439	-0.0098	-0.176	-3.454	Yes	95
		mpH	229	-0.0100	-0.181	-2.731	Yes	95
		DO	457	0.0720	1.296	5.752	Yes	95
		mDO	233	0.0759	1.366	4.502	Yes	95
		DO % sat	458	0.6014	10.825	6.405	Yes	95
		mDO % sat	232	0.6473	11.651	4.983	Yes	95
		Temp	460	0.0065	0.116	0.743	No	< 80
		mTemp	232	0.0064	0.116	0.661	No	< 80
		Turb	419	0.0521	0.938	7.157	Yes	95
		mTurb	218	0.0496	0.892	5.072	Yes	95
		FC	456	-0.0995	-1.791	-2.889	Yes	95
		mFC	231	-0.2957	-5.323	-2.265	Yes	95
		NO3+NO2	117	0.0000	0.000	0.416	No	< 80
		TKN	116	0.0000	0.000	0.772	No	< 80
		TP	117	0.0000	0.000	-0.299	No	< 80
		OP	117	0.0000	0.000	0.546	No	< 80
	NH3	117	0.0000	0.000	0.420	No	< 80	
	TSS	117	0.0000	0.000	1.778	No	90	
	10	DO	249	0.2211	2.211	8.019	Yes	95
		mDO	129	0.2207	2.207	6.321	Yes	95
		Temp	251	0.0000	0.000	0.000	No	< 80
		mTemp	128	0.0499	0.499	1.300	No	80
		FC	251	0.0000	0.000	0.677	No	< 80
		mFC	128	0.2005	2.005	0.510	No	< 80
	5	DO	121	-0.0134	-0.067	-0.232	No	< 80
		mDO	64	0.0401	0.201	0.313	No	< 80
		Temp	122	0.2502	1.251	2.122	Yes	95
mTemp		63	0.2676	1.338	2.387	Yes	95	
FC		122	0.0000	0.000	0.751	No	< 80	
mFC		63	1.1250	5.625	1.031	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
25	18	pH	356	-0.0279	-0.503	-6.924	Yes	95
		mpH	187	-0.0277	-0.498	-5.464	Yes	95
		DO	371	0.0129	0.232	1.982	Yes	95
		mDO	190	0.0113	0.203	1.222	No	< 80
		DO % sat	371	0.1159	2.086	3.261	Yes	95
		mDO % sat	191	0.0846	1.523	1.778	No	90
		Temp	372	0.0062	0.112	0.519	No	< 80
		mTemp	190	0.0000	0.000	-0.008	No	< 80
		Turb	340	0.0228	0.410	6.416	Yes	95
		mTurb	178	0.0175	0.315	3.082	Yes	95
		FC	369	0.0000	0.000	0.082	No	< 80
		mFC	189	0.0000	0.000	0.245	No	< 80
		NO3+NO2	97	-0.0036	-0.064	-0.991	No	< 80
		TKN	97	0.0000	0.000	-2.513	Yes	95
		TP	97	0.0000	0.000	-3.326	Yes	95
		OP	97	0.0000	0.000	2.282	Yes	95
		NH3	97	0.0000	0.000	0.062	No	< 80
		TSS	97	0.0000	0.000	-1.078	No	< 80
	10	DO	196	0.0562	0.562	3.449	Yes	95
		mDO	98	0.0248	0.248	1.285	No	80
		Temp	197	0.0125	0.125	0.392	No	< 80
		mTemp	98	0.0508	0.508	1.139	No	< 80
		FC	197	0.0000	0.000	0.431	No	< 80
		mFC	98	0.0550	0.550	0.566	No	< 80
	5	DO	95	-0.1049	-0.525	-2.763	Yes	95
		mDO	53	-0.1008	-0.504	-1.633	No	80
		Temp	96	0.0992	0.496	0.652	No	< 80
		mTemp	53	0.1372	0.686	0.831	No	< 80
		FC	96	0.0000	0.000	-0.067	No	< 80
		mFC	53	0.0000	0.000	-0.298	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)	
28	18	pH	312	-0.0092	-0.165	-1.576	No	80	
		mpH	169	-0.0117	-0.210	-1.425	No	80	
		DO	325	-0.0062	-0.112	-0.510	No	< 80	
		mDO	173	-0.0071	-0.129	-0.558	No	< 80	
		DO % sat	326	-0.0786	-1.414	-1.058	No	< 80	
		mDO % sat	169	-0.1003	-1.805	-0.946	No	< 80	
		Temp	327	0.0000	0.000	-0.346	No	< 80	
		mTemp	173	-0.0083	-0.150	-0.350	No	< 80	
		Turb	299	-0.0552	-0.993	-1.935	No	90	
		mTurb	163	-0.0888	-1.599	-1.827	No	90	
		FC	326	0.0000	0.000	0.847	No	< 80	
		mFC	173	-0.2915	-5.247	-0.610	No	< 80	
		NO3+NO2	86	-0.0118	-0.212	-1.756	No	90	
		TKN	86	-0.0131	-0.235	-2.862	Yes	95	
		TP	86	0.0000	0.000	2.428	Yes	95	
	OP	86	0.0004	0.008	2.242	Yes	95		
	NH3	86	-0.0033	-0.060	-4.553	Yes	95		
	TSS	86	0.0000	0.000	0.000	No	< 80		
	10	DO	171	0.0087	0.087	0.282	No	< 80	
		mDO	86	-0.0327	-0.327	-0.953	No	< 80	
		Temp	172	-0.0987	-0.987	-1.452	No	80	
		mTemp	86	-0.0483	-0.483	-0.696	No	< 80	
		FC	173	0.0000	0.000	-0.746	No	< 80	
		mFC	86	-1.9780	-19.780	-1.172	No	< 80	
	5	DO		Insufficient Data					
		mDO							
		Temp							
		mTemp							
FC									
mFC									



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
29	18	pH	423	0.0046	0.083	1.025	No	< 80
		mpH	228	0.0029	0.053	0.541	No	< 80
		DO	444	0.0102	0.184	2.177	Yes	95
		mDO	231	0.0067	0.120	1.049	No	< 80
		DO % sat	445	0.0557	1.002	1.458	No	80
		mDO % sat	232	0.0714	1.285	1.333	No	80
		Temp	450	0.0000	0.000	0.103	No	< 80
		mTemp	232	0.0077	0.138	0.625	No	< 80
		Turb	411	-0.1384	-2.491	-4.141	Yes	95
		mTurb	218	-0.1739	-3.130	-3.560	Yes	95
		FC	444	0.0000	0.000	-0.372	No	< 80
		mFC	232	0.0000	0.000	0.000	No	< 80
		NO3+NO2	115	0.0000	0.000	0.825	No	< 80
		TKN	114	0.0000	0.000	-1.725	No	90
		TP	114	0.0000	0.000	-1.340	No	80
	OP	115	0.0000	0.000	2.723	Yes	95	
	NH3	115	0.0000	0.000	1.293	No	80	
	TSS	115	0.0000	0.000	0.708	No	< 80	
	10	DO	242	0.0400	0.400	3.161	Yes	95
		mDO	128	0.0451	0.451	2.519	Yes	95
		Temp	242	0.0000	0.000	0.352	No	< 80
		mTemp	128	-0.0393	-0.393	-1.190	No	< 80
		FC	241	0.1236	1.236	2.167	Yes	95
		mFC	128	0.0315	0.315	0.304	No	< 80
	5	DO	123	-0.0234	-0.117	-0.474	No	< 80
		mDO	63	-0.0702	-0.351	-0.757	No	< 80
		Temp	123	0.0000	0.000	0.200	No	< 80
mTemp		63	0.1995	0.998	1.136	No	< 80	
FC		122	0.1671	0.836	1.126	No	< 80	
mFC		63	0.7280	3.640	0.696	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
30	18	pH	442	-0.0162	-0.292	-4.798	Yes	95
		mpH	228	-0.0138	-0.248	-3.411	Yes	95
		DO	460	0.0110	0.199	2.251	Yes	95
		mDO	232	0.0096	0.173	1.823	No	90
		DO % sat	461	0.1194	2.149	3.486	Yes	95
		mDO % sat	232	0.1260	2.268	2.793	Yes	95
		Temp	463	0.0111	0.200	1.210	No	< 80
		mTemp	232	0.0125	0.225	1.282	No	80
		Turb	421	-0.0963	-1.734	-3.526	Yes	95
		mTurb	218	-0.1689	-3.040	-3.409	Yes	95
		FC	457	0.0000	0.000	0.639	No	< 80
		mFC	229	0.0000	0.000	-0.348	No	< 80
		NO3+NO2	116	0.0000	0.000	-0.415	No	< 80
		TKN	116	0.0000	0.000	-0.893	No	< 80
		TP	116	0.0000	0.000	-2.660	Yes	95
		OP	116	0.0000	0.000	2.806	Yes	95
		NH3	116	0.0000	0.000	-1.776	No	90
		TSS	116	0.0000	0.000	-2.262	Yes	95
	10	DO	253	0.0552	0.552	3.988	Yes	95
		mDO	128	0.0321	0.321	1.899	No	90
		Temp	255	0.0401	0.401	1.391	No	80
		mTemp	128	0.0668	0.668	2.763	Yes	95
		FC	255	0.0000	0.000	0.080	No	< 80
		mFC	128	0.0000	0.000	0.188	No	< 80
	5	DO	124	-0.0703	-0.351	-2.269	Yes	95
		mDO	63	-0.0566	-0.283	-1.982	Yes	95
		Temp	126	0.0991	0.496	0.919	No	< 80
		mTemp	63	0.0503	0.252	1.091	No	< 80
		FC	126	0.0000	0.000	0.853	No	< 80
		mFC	63	0.1672	0.836	0.909	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
32	18	pH	432	0.0063	0.113	1.932	No	90
		mpH	229	0.0045	0.082	1.022	No	< 80
		DO	454	0.0340	0.612	4.537	Yes	95
		mDO	233	0.0343	0.617	3.699	Yes	95
		DO % sat	457	0.3219	5.794	6.701	Yes	95
		mDO % sat	233	0.3119	5.614	5.221	Yes	95
		Temp	463	0.0308	0.554	1.786	No	90
		mTemp	233	0.0400	0.719	1.915	No	90
		Turb	420	-0.0581	-1.045	-3.303	Yes	95
		mTurb	221	-0.1108	-1.994	-3.794	Yes	95
		FC	463	-0.1247	-2.245	-2.349	Yes	95
		mFC	229	-0.8545	-15.381	-1.976	Yes	95
		NO3+NO2	116	-0.0058	-0.105	-2.740	Yes	95
		TKN	118	0.0000	0.000	0.964	No	< 80
		TP	118	0.0000	0.000	-0.439	No	< 80
		OP	116	0.0000	0.000	1.145	No	<80
		NH3	118	-0.0035	-0.064	-5.794	Yes	95
		TSS	116	-0.1334	-2.401	-2.651	Yes	95
	10	DO	249	0.0955	0.955	5.425	Yes	95
		mDO	128	0.0802	0.802	4.330	Yes	95
		Temp	255	0.0000	0.000	0.000	No	< 80
		mTemp	128	0.0501	0.501	0.927	No	< 80
		FC	255	0.0000	0.000	0.294	No	< 80
		mFC	128	1.4320	14.320	1.280	No	< 80
	5	DO	122	-0.0300	-0.150	-0.634	No	< 80
		mDO	63	-0.0075	-0.038	-0.128	No	< 80
		Temp	125	0.0963	0.482	0.614	No	< 80
		mTemp	63	0.0293	0.146	0.128	No	< 80
		FC	126	2.0050	10.025	1.298	No	< 80
		mFC	63	3.7950	18.975	1.614	No	80





Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
33	18	pH	431	-0.0252	-0.454	-6.262	Yes	95
		mpH	227	-0.0244	-0.440	-4.877	Yes	95
		DO	435	-0.0145	-0.262	-0.519	No	< 80
		mDO	229	-0.0148	-0.266	-0.483	No	< 80
		DO % sat	454	-0.3637	-6.547	-1.229	No	< 80
		mDO % sat	234	-0.5266	-9.479	-1.606	No	80
		Temp	459	0.0000	0.000	-0.169	No	< 80
		mTemp	232	0.0167	0.300	0.494	No	< 80
		Turb	417	-0.4373	-7.871	-6.108	Yes	95
		mTurb	217	-0.4579	-8.242	-5.056	Yes	95
		FC	460	-0.6343	-11.417	-2.771	Yes	95
		mFC	231	-1.4290	-25.722	-1.876	No	90
		NO3+NO2	113	0.0000	0.000	0.382	No	< 80
		TKN	114	0.0093	0.167	0.671	No	< 80
		TP	114	0.0109	0.197	1.688	No	90
		OP	113	0.0092	0.165	2.829	Yes	95
		NH3	114	-0.0146	-0.264	-1.467	No	80
		TSS	113	-1.2270	-22.086	-2.934	Yes	95
	10	DO	241	0.0937	0.937	1.375	No	80
		mDO	127	0.0846	0.846	0.889	No	< 80
		Temp	249	-0.0868	-0.868	-1.411	No	80
		mTemp	128	0.0000	0.000	-0.070	No	< 80
		FC	249	-0.5000	-5.000	-1.218	No	< 80
		mFC	127	-1.6190	-16.190	-1.037	No	< 80
	5	DO	119	-0.0226	-0.113	-0.026	No	< 80
		mDO	63	0.0889	0.445	0.192	No	< 80
		Temp	121	0.0500	0.250	0.384	No	< 80
		mTemp	63	0.1504	0.752	0.831	No	< 80
		FC	122	7.4600	37.300	3.235	Yes	95
		mFC	62	5.9500	29.750	2.468	Yes	95



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
34	18	pH	426	-0.0401	-0.722	-9.387	Yes	95
		mpH	223	-0.0368	-0.662	-6.557	Yes	95
		DO	449	0.0467	0.840	2.576	Yes	95
		mDO	229	0.0462	0.832	1.926	No	90
		DO % sat	448	0.4989	8.980	3.052	Yes	95
		mDO % sat	230	0.5037	9.067	2.054	Yes	95
		Temp	453	0.0996	1.794	4.057	Yes	95
		mTemp	230	0.1144	2.059	4.492	Yes	95
		Turb	416	-0.4325	-7.785	-7.506	Yes	95
		mTurb	216	-0.5619	-10.114	-6.915	Yes	95
		FC	448	-2.4180	-43.524	-3.474	Yes	95
		mFC	217	-4.4810	-80.658	-2.263	Yes	95
		NO3+NO2	114	-0.0010	-0.018	-2.153	Yes	95
		TKN	113	-0.0166	-0.298	-2.727	Yes	95
		TP	114	0.0051	0.092	3.693	Yes	95
		OP	114	0.0033	0.060	2.742	Yes	95
		NH3	114	-0.0134	-0.241	-6.804	Yes	95
		TSS	114	-0.2252	-4.054	-1.211	No	< 80
	10	DO	245	0.0885	0.885	2.165	Yes	95
		mDO	127	0.1411	1.411	2.305	Yes	95
		Temp	247	0.1491	1.491	2.636	Yes	95
		mTemp	127	0.0855	0.855	1.623	No	80
		FC	245	0.0000	0.000	-0.865	No	< 80
		mFC	113	0.0000	0.000	0.000	No	< 80
	5	DO	117	-0.2286	-1.143	-1.466	No	80
		mDO	63	-0.0801	-0.400	-0.757	No	< 80
		Temp	119	0.2049	1.025	1.147	No	< 80
		mTemp	63	0.2509	1.255	1.515	No	80
		FC	118	0.0000	0.000	0.291	No	< 80
		mFC	63	0.0000	0.000	0.000	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
35	18	pH	419	0.0129	0.232	3.544	Yes	95
		mpH	223	0.0128	0.231	3.189	Yes	95
		DO	442	0.0366	0.660	2.625	Yes	95
		mDO	227	0.0343	0.618	2.465	Yes	95
		DO % sat	442	0.3780	6.804	2.788	Yes	95
		mDO % sat	229	0.3033	5.459	2.454	Yes	95
		Temp	446	0.0462	0.832	2.883	Yes	95
		mTemp	227	0.0334	0.602	1.578	No	80
		Turb	404	-0.8204	-14.767	-6.570	Yes	95
		mTurb	213	-1.0900	-19.620	-5.770	Yes	95
		FC	441	0.0000	0.000	-0.879	No	< 80
		mFC	227	-0.0418	-0.752	-0.152	No	< 80
		NO3+NO2	110	-0.0043	-0.078	-0.703	No	< 80
		TKN	110	-0.0098	-0.176	-1.365	No	80
		TP	111	0.0004	0.008	0.495	No	< 80
	OP	109	-0.0021	-0.038	-0.966	No	< 80	
	NH3	110	-0.0066	-0.120	-1.335	No	80	
	TSS	109	-0.1659	-2.986	-1.254	No	< 80	
	10	DO	243	0.1247	1.247	3.415	Yes	95
		mDO	128	0.1102	1.102	3.032	Yes	95
		Temp	246	0.0820	0.820	1.729	No	90
		mTemp	128	0.1267	1.267	2.412	Yes	95
		FC	247	0.0000	0.000	0.841	No	< 80
		mFC	128	1.1330	11.330	0.348	No	< 80
	5	DO	119	0.3727	1.864	3.363	Yes	95
		mDO	63	0.2737	1.369	3.516	Yes	95
		Temp	121	0.1308	0.654	0.979	No	< 80
mTemp		63	0.1629	0.815	1.091	No	< 80	
FC		122	0.0000	0.000	0.000	No	< 80	
mFC		63	2.4230	12.115	0.192	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
36	18	pH	432	-0.0244	-0.438	-7.314	Yes	95
		mpH	229	-0.0264	-0.475	-5.121	Yes	95
		DO	448	0.0249	0.449	1.207	No	< 80
		mDO	231	0.0336	0.604	1.200	No	< 80
		DO % sat	455	0.3001	5.402	1.403	No	80
		mDO % sat	233	0.2378	4.280	1.118	No	< 80
		Temp	459	0.0248	0.447	0.963	No	< 80
		mTemp	232	0.0501	0.902	1.492	No	80
		Turb	415	-0.0643	-1.157	-1.607	No	80
		mTurb	218	-0.0869	-1.565	-1.683	No	90
		FC	461	0.6131	11.036	2.466	Yes	95
		mFC	232	1.1030	19.854	1.589	No	80
		NO3+NO2	116	0.0000	0.000	-1.271	No	< 80
		TKN	116	-0.0152	-0.273	-2.493	Yes	95
		TP	116	0.0043	0.078	2.808	Yes	95
	OP	116	0.0038	0.068	2.893	Yes	95	
	NH3	116	-0.0093	-0.168	-5.331	Yes	95	
	TSS	116	0.0000	0.000	0.454	No	< 80	
	10	DO	247	0.0705	0.705	1.720	No	90
		mDO	128	0.0488	0.488	0.578	No	< 80
		Temp	254	0.0332	0.332	0.474	No	< 80
		mTemp	128	0.1277	1.277	1.550	No	80
		FC	255	0.0000	0.000	-0.147	No	< 80
		mFC	128	0.0000	0.000	0.093	No	< 80
	5	DO	122	-0.2195	-1.098	-1.501	No	80
		mDO	63	-0.1898	-0.949	-1.409	No	80
		Temp	124	0.2992	1.496	1.191	No	< 80
mTemp		63	0.2836	1.418	0.641	No	< 80	
FC		124	0.0000	0.000	-0.100	No	< 80	
mFC		62	3.1940	15.970	1.046	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
37	18	pH	428	-0.0169	-0.305	-5.601	Yes	95
		mpH	227	-0.0161	-0.291	-3.570	Yes	95
		DO	435	0.0113	0.204	0.516	No	< 80
		mDO	228	0.0191	0.344	0.686	No	< 80
		DO % sat	452	-0.0334	-0.602	-0.136	No	< 80
		mDO % sat	232	-0.1474	-2.653	-0.523	No	< 80
		Temp	456	0.0313	0.563	1.216	No	< 80
		mTemp	231	0.0490	0.882	1.860	No	90
		Turb	416	-0.1719	-3.094	-2.181	Yes	95
		mTurb	218	-0.3872	-6.970	-3.564	Yes	95
		FC	459	4.5230	81.414	3.845	Yes	95
		mFC	230	8.4730	152.514	3.492	Yes	95
		NO3+NO2	116	-0.0044	-0.079	-1.554	No	80
		TKN	116	0.0193	0.348	1.270	No	< 80
		TP	116	0.0067	0.121	1.652	No	90
		OP	116	0.0083	0.150	2.085	Yes	95
	NH3	116	-0.0083	-0.149	-0.607	No	< 80	
	TSS	116	-0.0908	-1.635	-0.402	No	< 80	
	10	DO	240	0.0502	0.502	0.654	No	< 80
		mDO	126	0.0265	0.265	0.331	No	< 80
		Temp	249	-0.0154	-0.154	-0.249	No	< 80
		mTemp	127	0.0251	0.251	0.772	No	< 80
		FC	249	3.2280	32.280	1.284	No	80
		mFC	126	11.2800	112.800	1.299	No	80
	5	DO	120	-0.2978	-1.489	-1.394	No	80
		mDO	63	-0.3389	-1.695	-2.110	Yes	95
		Temp	122	0.2007	1.004	1.768	No	90
		mTemp	63	0.3383	1.692	1.726	No	90
		FC	123	-9.6840	-48.420	-1.149	No	< 80
		mFC	63	-30.0400	-150.200	-1.343	No	80



Site	Period (years)	Parameter	n	Slope	$\Delta$ (units/period)	Z-score	Significant (95%)	Confidence (%)
38	18	pH	424	-0.0255	-0.459	-6.767	Yes	95
		mpH	227	-0.0253	-0.455	-5.053	Yes	95
		DO	424	-0.0397	-0.715	-1.460	No	80
		mDO	224	-0.0681	-1.225	-2.006	Yes	95
		DO % sat	441	-0.4174	-7.513	-1.625	No	80
		mDO % sat	232	-0.5795	-10.431	-2.122	Yes	95
		Temp	452	0.0142	0.256	0.653	No	< 80
		mTemp	231	0.0218	0.392	0.692	No	< 80
		Turb	411	-0.3536	-6.365	-4.269	Yes	95
		mTurb	217	-0.4500	-8.100	-4.360	Yes	95
		FC	452	1.1780	21.204	2.377	Yes	95
		mFC	230	2.2730	40.914	1.821	No	90
		NO3+NO2	115	0.0032	0.057	2.198	Yes	95
		TKN	115	0.0182	0.327	1.397	No	80
		TP	115	0.0166	0.299	2.587	Yes	95
		OP	115	0.0173	0.312	4.275	Yes	95
		NH3	115	-0.0033	-0.060	-0.189	No	< 80
		TSS	115	-0.4990	-8.982	-1.295	No	80
	10	DO	234	-0.0579	-0.579	-0.836	No	< 80
		mDO	124	-0.1120	-1.120	-1.185	No	< 80
		Temp	250	-0.1000	-1.000	-1.571	No	80
		mTemp	128	-0.0424	-0.424	-0.788	No	< 80
		FC	250	-1.9870	-19.870	-1.501	No	80
		mFC	128	-6.5310	-65.310	-1.065	No	< 80
	5	DO	119	-0.7491	-3.746	-2.974	Yes	95
		mDO	63	-0.7255	-3.628	-3.133	Yes	95
		Temp	121	0.0000	0.000	0.000	No	< 80
		mTemp	63	0.0249	0.125	0.064	No	< 80
		FC	122	0.0000	0.000	0.587	No	< 80
		mFC	63	13.2400	66.200	1.087	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
39	18	pH	431	-0.0198	-0.356	-7.503	Yes	95
		mpH	229	-0.0191	-0.343	-5.024	Yes	95
		DO	454	0.0050	0.090	0.691	No	< 80
		mDO	232	-0.0013	-0.023	-0.116	No	< 80
		DO % sat	456	0.0334	0.601	0.820	No	< 80
		mDO % sat	234	0.0250	0.450	0.335	No	< 80
		Temp	460	-0.0091	-0.164	-0.774	No	< 80
		mTemp	233	0.0036	0.064	0.289	No	< 80
		Turb	415	-0.0441	-0.794	-1.519	No	80
		mTurb	218	-0.0997	-1.794	-2.064	Yes	95
		FC	460	-0.4982	-8.968	-2.545	Yes	95
		mFC	232	-1.3700	-24.660	-2.220	Yes	95
		NO3+NO2	116	-0.0041	-0.074	-1.224	No	< 80
		TKN	116	-0.0010	-0.018	-1.311	No	80
		TP	116	0.0000	0.000	3.566	Yes	95
		OP	116	0.0019	0.033	4.637	Yes	95
		NH3	116	-0.0008	-0.015	-1.665	No	90
	TSS	115	0.0000	0.000	-1.441	No	80	
	10	DO	248	0.0427	0.427	2.034	Yes	95
		mDO	129	0.0033	0.033	0.252	No	< 80
		Temp	251	-0.0597	-0.597	-1.702	No	90
		mTemp	129	0.0000	0.000	0.000	No	< 80
		FC	251	0.0000	0.000	-0.996	No	< 80
		mFC	129	0.8250	8.250	0.573	No	< 80
	5	DO	121	-0.0502	-0.251	-0.872	No	< 80
		mDO	63	-0.0827	-0.413	-0.959	No	< 80
		Temp	123	-0.0494	-0.247	-0.401	No	< 80
mTemp		63	0.0125	0.063	0.064	No	< 80	
FC		124	0.0000	0.000	-0.547	No	< 80	
mFC		63	-0.7116	0.000	-0.064	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
40	18	pH	404	-0.0185	-0.333	-5.937	Yes	95
		mpH	209	-0.0170	-0.306	-3.970	Yes	95
		DO	428	-0.0115	-0.206	-0.787	No	< 80
		mDO	213	0.0072	0.130	0.462	No	< 80
		DO % sat	428	-0.0984	-1.771	-0.636	No	< 80
		mDO % sat	215	0.0810	1.458	0.619	No	< 80
		Temp	430	0.0142	0.255	0.909	No	< 80
		mTemp	215	-0.0336	-0.604	-2.032	Yes	95
		Turb	393	-0.0447	-0.805	-0.513	No	< 80
		mTurb	200	-0.0276	-0.496	-0.279	No	< 80
		FC	425	0.0000	0.000	0.975	No	< 80
		mFC	213	0.6667	12.001	0.834	No	< 80
		NO3+NO2	108	-0.0070	-0.126	-1.251	No	< 80
		TKN	109	-0.0052	-0.093	-0.927	No	< 80
		TP	109	0.0014	0.025	3.942	Yes	95
		OP	108	-0.0018	-0.033	-0.901	No	< 80
		NH3	109	-0.0067	-0.121	-1.821	No	90
		TSS	108	0.0000	0.000	-0.107	No	< 80
	10	DO	225	-0.0602	-0.602	-1.335	No	80
		mDO	113	-0.0075	-0.075	-0.055	No	< 80
		Temp	225	0.1003	1.003	2.407	Yes	95
		mTemp	113	0.0251	0.251	0.556	No	< 80
		FC	224	2.1530	21.530	2.078	Yes	95
		mFC	112	4.6020	46.020	2.381	Yes	95
	5	DO	95	0.1025	0.513	0.936	No	< 80
		mDO	49	0.1583	0.792	1.243	No	< 80
		Temp	95	0.1736	0.868	0.975	No	< 80
mTemp		49	0.1629	0.815	1.277	No	< 80	
FC		94	6.1620	30.810	1.681	No	90	
mFC		48	10.5600	52.800	1.276	No	< 80	





Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
41	18	pH	435	-0.0071	-0.128	-2.606	Yes	95
		mpH	227	-0.0060	-0.109	-1.530	No	80
		DO	459	0.0468	0.842	2.418	Yes	95
		mDO	230	0.0476	0.857	1.941	No	90
		DO % sat	460	0.3607	6.493	2.146	Yes	95
		mDO % sat	232	0.3160	5.688	1.449	No	80
		Temp	464	-0.0071	-0.129	-0.396	No	< 80
		mTemp	231	0.0000	0.000	0.000	No	< 80
		Turb	426	0.2617	4.711	6.119	Yes	95
		mTurb	217	0.2508	4.514	3.732	Yes	95
		FC	462	1.2270	22.086	2.939	Yes	95
		mFC	231	1.7070	30.726	2.333	Yes	95
		NO3+NO2	117	0.0000	0.000	-0.646	No	< 80
		TKN	116	-0.0049	-0.089	-1.077	No	< 80
		TP	117	0.0048	0.087	4.390	Yes	95
	OP	117	0.0036	0.065	4.871	Yes	95	
	NH3	117	-0.0056	-0.100	-2.696	Yes	95	
	TSS	117	0.0733	1.319	3.190	Yes	95	
	10	DO	254	0.1018	1.018	2.165	Yes	95
		mDO	128	0.0716	0.716	1.468	No	80
		Temp	256	-0.0712	-0.712	-1.537	No	80
		mTemp	128	-0.1147	-1.147	-2.030	Yes	95
		FC	256	0.0000	0.000	-1.517	No	80
		mFC	128	-2.5840	-25.840	-1.565	No	80
	5	DO	123	-0.3009	-1.505	-1.898	No	90
		mDO	63	-0.2171	-1.086	-1.641	No	80
		Temp	125	0.0000	0.000	0.000	No	< 80
mTemp		63	0.0501	0.251	0.696	No	< 80	
FC		125	0.0000	0.000	0.123	No	< 80	
mFC		63	-3.3490	-16.745	-0.569	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
42	18	pH	433	-0.0063	-0.113	-2.317	Yes	95
		mpH	224	-0.0071	-0.128	-1.907	No	90
		DO	457	0.0804	1.448	5.724	Yes	95
		mDO	229	0.0943	1.698	5.028	Yes	95
		DO % sat	459	0.6153	11.075	5.878	Yes	95
		mDO % sat	231	0.6891	12.404	5.281	Yes	95
		Temp	462	0.0375	0.675	2.097	Yes	95
		mTemp	230	-0.0178	-0.321	-1.048	No	< 80
		Turb	423	0.0459	0.826	3.698	Yes	95
		mTurb	216	0.0528	0.950	2.759	Yes	95
		FC	457	2.0050	36.090	5.360	Yes	95
		mFC	230	2.9350	52.830	4.181	Yes	95
		NO3+NO2	117	0.0000	0.000	-0.417	No	< 80
		TKN	116	-0.0085	-0.152	-2.012	Yes	95
		TP	117	0.0000	0.000	1.032	No	< 80
	OP	117	0.0007	0.012	1.802	No	90	
	NH3	117	-0.0028	-0.051	-3.395	Yes	95	
	TSS	117	0.0000	0.000	1.794	No	90	
	10	DO	253	-0.1105	-1.105	-3.692	Yes	95
		mDO	128	-0.0909	-0.909	-2.471	Yes	95
		Temp	255	0.0000	0.000	-0.180	No	< 80
		mTemp	128	-0.0662	-0.662	-1.566	No	80
		FC	255	0.0000	0.000	0.537	No	< 80
		mFC	128	3.3290	33.290	1.167	No	< 80
	5	DO	124	-0.1480	-0.740	-1.685	No	90
		mDO	63	-0.1657	-0.829	-1.075	No	< 80
		Temp	125	0.1242	0.621	0.662	No	< 80
mTemp		63	0.1508	0.754	0.953	No	< 80	
FC		125	10.5400	52.700	3.522	Yes	95	
mFC		63	22.0600	110.300	3.041	Yes	95	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
43	18	pH	426	-0.0247	-0.444	-7.821	Yes	95
		mpH	222	-0.0255	-0.460	-6.050	Yes	95
		DO	451	-0.0447	-0.804	-2.316	Yes	95
		mDO	225	-0.0390	-0.701	-1.638	No	80
		DO % sat	453	-0.4294	-7.729	-2.155	Yes	95
		mDO % sat	229	-0.3571	-6.428	-1.563	No	80
		Temp	455	0.0000	0.000	0.476	No	< 80
		mTemp	227	0.0180	0.324	1.293	No	80
		Turb	418	0.3230	5.814	6.454	Yes	95
		mTurb	213	0.3112	5.602	4.600	Yes	95
		FC	448	0.9989	17.980	3.079	Yes	95
		mFC	227	2.6700	48.060	3.120	Yes	95
		NO3+NO2	114	0.0000	0.000	-0.323	No	< 80
		TKN	113	0.0000	0.000	-0.010	No	< 80
		TP	114	0.0026	0.047	1.842	No	90
		OP	114	0.0000	0.000	0.155	No	< 80
		NH3	114	0.0014	0.026	0.434	No	< 80
		TSS	114	0.0830	1.495	1.114	No	< 80
	10	DO	254	-0.0430	-0.430	-0.742	No	< 80
		mDO	127	-0.0303	-0.303	-0.235	No	< 80
		Temp	256	0.0000	0.000	-0.256	No	< 80
		mTemp	128	-0.0571	-0.571	-1.027	No	< 80
		FC	253	0.0000	0.000	1.180	No	< 80
		mFC	128	1.2890	12.890	0.513	No	< 80
	5	DO	124	-0.2880	-1.440	-2.098	Yes	95
		mDO	63	-0.3092	-1.546	-1.894	No	90
		Temp	125	0.0669	0.334	0.537	No	< 80
		mTemp	63	0.0503	0.251	0.190	No	< 80
		FC	122	3.2970	16.485	1.485	No	80
		mFC	63	13.0500	65.250	2.087	Yes	95



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
44	18	pH	391	-0.0489	-0.881	-11.850	Yes	95
		mpH	205	-0.0492	-0.885	-9.005	Yes	95
		DO	411	-0.1176	-2.117	-5.150	Yes	95
		mDO	208	-0.1116	-2.009	-4.071	Yes	95
		DO % sat	414	-1.1330	-20.394	-5.017	Yes	95
		mDO % sat	210	-1.0740	-19.332	-3.603	Yes	95
		Temp	418	-0.0067	-0.120	-0.432	No	< 80
		mTemp	210	0.0100	0.181	0.403	No	< 80
		Turb	381	-0.0678	-1.220	-0.979	No	< 80
		mTurb	197	-0.1203	-2.165	-1.451	No	80
		FC	415	0.0000	0.000	0.575	No	< 80
		mFC	210	0.0728	1.311	0.157	No	< 80
		NO3+NO2	95	-0.0014	-0.026	-1.406	No	80
		TKN	95	-0.0218	-0.393	-1.874	No	90
		TP	96	0.0079	0.142	4.751	Yes	95
		OP	95	-0.0016	-0.029	-1.259	No	< 80
	NH3	96	-0.0056	-0.102	-1.435	No	80	
	TSS	95	-0.0905	-1.629	-0.467	No	< 80	
	10	DO	252	-0.0600	-0.600	-1.334	No	80
		mDO	127	-0.0652	-0.652	-0.988	No	< 80
		Temp	253	-0.0503	-0.503	-1.259	No	< 80
		mTemp	128	-0.0914	-0.914	-1.097	No	< 80
		FC	253	-1.0010	-10.010	-1.556	No	80
		mFC	128	-4.4350	-44.350	-1.424	No	80
	5	DO	121	-0.3236	-1.618	-2.252	Yes	95
		mDO	62	-0.3540	-3.540	-1.992	Yes	95
		Temp	122	-0.0993	-0.496	-1.002	No	< 80
mTemp		63	0.0167	0.084	0.000	No	< 80	
FC		122	0.0000	0.000	0.278	No	< 80	
mFC		63	-3.0040	-15.020	-0.316	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
45	18	pH	418	0.0093	0.168	2.088	Yes	95
		mpH	225	0.0085	0.153	1.649	No	90
		DO	438	0.0122	0.219	2.455	Yes	95
		mDO	227	0.0082	0.148	1.291	No	80
		DO % sat	438	0.0815	1.466	2.182	Yes	95
		mDO % sat	230	0.0661	1.190	1.236	No	< 80
		Temp	446	0.0000	0.000	0.154	No	< 80
		mTemp	230	0.0088	0.159	0.799	No	< 80
		Turb	411	-0.1522	-2.740	-4.138	Yes	95
		mTurb	214	-0.1959	-3.526	-3.294	Yes	95
		FC	440	0.0000	0.000	-0.530	No	< 80
		mFC	230	-0.0503	-0.905	-1.215	No	< 80
		NO3+NO2	112	0.0000	0.000	0.921	No	< 80
		TKN	112	0.0000	0.000	-1.149	No	< 80
		TP	112	0.0000	0.000	-2.785	Yes	95
		OP	112	0.0000	0.000	3.444	Yes	95
		NH3	112	0.0000	0.000	-0.402	No	< 80
	TSS	112	-0.2223	-4.001	-2.239	Yes	95	
	10	DO	245	0.0474	0.474	3.658	Yes	95
		mDO	128	0.0619	0.619	3.678	Yes	95
		Temp	247	0.0000	0.000	0.135	No	< 80
		mTemp	128	-0.0437	-0.437	-1.285	No	80
		FC	246	0.0000	0.000	0.886	No	< 80
		mFC	128	0.0000	0.000	0.070	No	< 80
	5	DO	122	-0.4592	-2.296	-1.672	No	90
		mDO	63	-0.0928	-0.464	-2.272	Yes	95
		Temp	123	0.0334	0.167	0.478	No	< 80
mTemp		63	0.1995	0.998	1.400	No	80	
FC		123	0.0000	0.000	0.154	No	< 80	
mFC		63	-0.0502	-0.251	-0.382	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
46	18	pH	425	0.0033	0.060	0.989	No	< 80
		mpH	223	0.0025	0.045	0.467	No	< 80
		DO	450	0.0133	0.240	3.091	Yes	95
		mDO	229	0.0225	0.404	3.620	Yes	95
		DO % sat	451	0.0875	1.575	2.716	Yes	95
		mDO % sat	231	0.0778	1.400	1.885	No	90
		Temp	454	0.0000	0.000	0.299	No	< 80
		mTemp	230	-0.0248	-0.447	-1.707	No	90
		Turb	420	-0.1544	-2.779	-4.300	Yes	95
		mTurb	216	-0.1826	-3.287	-3.264	Yes	95
		FC	453	0.0000	0.000	1.702	No	90
		mFC	230	0.1897	3.415	1.937	No	90
		NO3+NO2	114	0.0007	0.013	1.364	No	80
		TKN	113	0.0000	0.000	0.537	No	< 80
		TP	114	0.0000	0.000	-1.282	No	< 80
		OP	114	0.0000	0.000	3.150	Yes	95
		NH3	114	0.0000	0.000	2.755	Yes	95
		TSS	113	-0.2228	-4.010	-2.228	Yes	95
	10	DO	251	0.0463	0.463	3.731	Yes	95
		mDO	128	0.0655	0.655	3.778	Yes	95
		Temp	252	0.0134	0.134	0.542	No	< 80
		mTemp	128	-0.0416	-0.416	-1.121	No	< 80
		FC	253	0.4172	4.172	2.819	Yes	95
		mFC	128	0.6332	6.332	2.478	Yes	95
	5	DO	122	-0.0483	-0.241	-1.241	No	< 80
		mDO	63	-0.0652	-0.326	-1.455	No	80
		Temp	123	0.0000	0.000	0.251	No	< 80
		mTemp	63	0.1512	0.756	1.460	No	80
		FC	125	0.0000	0.000	0.174	No	< 80
		mFC	63	0.4033	2.017	0.319	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
47	18	pH	436	-0.0730	-1.314	-15.600	Yes	95
		mpH	227	-0.0739	-1.330	-11.780	Yes	95
		DO	460	-0.0010	-0.019	-0.165	No	< 80
		mDO	230	-0.0055	-0.099	-0.702	No	< 80
		DO % sat	461	0.0218	0.393	0.375	No	< 80
		mDO % sat	232	0.0414	0.745	0.720	No	< 80
		Temp	464	0.0222	0.399	2.327	Yes	95
		mTemp	231	0.0299	0.537	2.738	Yes	95
		Turb	425	-0.0157	-0.283	-0.932	No	< 80
		mTurb	217	-0.0125	-0.224	-0.761	No	< 80
		FC	457	0.0000	0.000	2.693	Yes	95
		mFC	230	0.1253	2.255	2.665	Yes	95
		NO3+NO2	117	0.0055	0.099	3.152	Yes	95
		TKN	116	0.0000	0.000	2.235	Yes	95
		TP	117	0.0009	0.017	4.678	Yes	95
		OP	117	0.0025	0.044	5.192	Yes	95
	NH3	117	-0.0010	-0.018	-2.721	Yes	95	
	TSS	117	-0.8648	-15.566	-2.581	Yes	95	
	10	DO	255	0.0134	0.134	0.841	No	< 80
		mDO	128	0.0232	0.232	1.236	No	< 80
		Temp	256	0.0499	0.499	1.908	No	90
		mTemp	128	0.0153	0.153	0.514	No	< 80
		FC	253	0.0000	0.000	-0.547	No	< 80
		mFC	127	-0.0142	-0.142	-0.307	No	< 80
	5	DO	124	-0.0753	-0.377	-2.029	Yes	95
		mDO	63	-0.1398	-0.699	-2.720	Yes	95
		Temp	125	-0.0251	-0.125	-0.417	No	< 80
		mTemp	63	0.0501	0.251	0.698	No	< 80
FC		123	0.0000	0.000	-0.631	No	< 80	
mFC		62	-0.1008	-0.504	-0.194	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
48	17	pH	436	-0.0222	-0.377	-7.696	Yes	95
		mpH	227	-0.0211	-0.359	-5.902	Yes	95
		DO	459	0.0266	0.452	4.431	Yes	95
		mDO	230	0.0241	0.409	3.590	Yes	95
		DO % sat	460	0.2181	3.708	6.054	Yes	95
		mDO % sat	232	0.2226	3.784	4.748	Yes	95
		Temp	463	0.0291	0.494	2.697	Yes	95
		mTemp	231	0.0324	0.550	2.677	Yes	95
		Turb	426	0.0055	0.094	0.603	No	< 80
		mTurb	217	0.0016	0.027	0.043	No	< 80
		FC	457	0.0000	0.000	-1.165	No	< 80
		mFC	230	-0.7926	-13.474	-1.330	No	80
		NO3+NO2	117	-0.0043	-0.073	-2.457	Yes	95
		TKN	115	-0.0097	-0.165	-2.984	Yes	95
		TP	117	0.0020	0.034	4.737	Yes	95
		OP	117	0.0000	0.000	0.564	No	< 80
		NH3	116	-0.0050	-0.085	-7.740	Yes	95
	TSS	117	0.0000	0.000	0.036	No	< 80	
	10	DO	255	0.0785	0.785	5.066	Yes	95
		mDO	128	0.0845	0.845	4.476	Yes	95
		Temp	255	0.0000	0.000	-0.069	No	< 80
		mTemp	128	-0.0499	-0.499	-1.517	No	80
		FC	253	0.0000	0.000	-0.754	No	< 80
		mFC	127	-1.1070	-11.070	-0.518	No	< 80
	5	DO	125	-0.0103	-0.052	-0.417	No	< 80
		mDO	63	-0.0827	-0.414	-1.641	No	80
		Temp	126	0.0819	0.409	0.484	No	< 80
mTemp		63	0.0501	0.250	0.505	No	< 80	
FC		125	0.0000	0.000	-0.149	No	< 80	
mFC		63	4.3130	21.565	0.444	No	< 80	