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## **Appendix B - Summary statistics for sample sites, Oct. 2003 – Sep. 2020**

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	Nitrite + Nitrate	Total Kjeldahl Nitrogen	Total Phosphorus	Ortho- Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	cfu/100ml	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 3: Thomas Creek at Highway 99</b>															
n	403	426	427	431	387	424	430.0	431	112	112	112	111	111	112	111
Mean	6.93	6.63	57.39	10.72	14.46	151.99	0.1	417	0.58	0.77	0.08	0.04	0.57	0.12	8
SD	0.24	3.18	25.28	4.73	13.88	97.11	0.0	4453	0.53	0.51	0.06	0.03	0.52	0.14	14
Max	7.59	12.45	114.50	20.20	113.00	1799.00	0.2	92000	2.22	3.68	0.44	0.18	2.22	0.92	90
Min	6.17	0.03	0.40	0.90	0.98	49.90	0.0	1	0.01	0.25	0.02	0.01	0.01	0.01	2
<b>Site 4: Thomas Creek at F&amp;S Grade Road</b>															
n	409	430	431	434	392	423	432.0	431	113	113	113	113	112	113	113
Mean	7.22	11.10	95.94	9.40	19.86	123.01	0.0	659	1.01	0.49	0.06	0.04	1.00	0.04	14
SD	0.31	1.27	6.81	3.80	29.62	49.77	0.0	2026	0.30	0.29	0.04	0.03	0.30	0.04	25
Max	8.20	15.17	128.40	16.60	291.00	213.30	0.1	23000	1.99	2.22	0.35	0.16	1.99	0.25	147
Min	6.29	6.73	13.70	0.00	0.84	47.60	0.0	5	0.01	0.25	0.03	0.01	0.01	0.01	2
<b>Site 6: Friday Creek at Prairie Road</b>															
n	409	428	430	435	393	432	435.0	435	113	113	113	113	112	113	113
Mean	7.29	11.22	99.62	10.55	6.08	78.70	0.0	109	0.51	0.38	0.05	0.02	0.51	0.03	9
SD	0.38	1.25	6.88	4.65	10.14	20.67	0.0	285	0.29	0.24	0.06	0.01	0.29	0.03	28
Max	8.72	15.35	119.80	20.10	118.00	140.80	0.1	3000	1.64	1.92	0.40	0.07	1.64	0.16	238
Min	6.26	6.95	14.40	0.10	0.33	41.70	0.0	1	0.03	0.25	0.01	0.01	0.02	0.01	2
<b>Site 8: Swede Creek at Grip Road</b>															
n	409	431	432	435	393	422	436.0	435	113	113	113	113	112	113	113
Mean	7.16	10.73	92.78	9.63	13.82	68.22	0.0	173	0.45	0.46	0.05	0.03	0.43	0.04	12
SD	0.34	1.75	7.87	4.45	20.25	17.29	0.0	404	0.37	0.26	0.03	0.02	0.33	0.03	32
Max	10.43	15.14	112.00	18.20	224.00	118.10	0.1	5000	2.17	1.94	0.26	0.14	1.58	0.17	282
Min	5.99	5.62	59.50	0.10	1.98	33.20	0.0	1	0.03	0.25	0.02	0.01	0.01	0.01	2
<b>Site 11: Samish River at Highway 9</b>															
No.	413	434	435	437	395	429	438.0	438	112	113	113	112	112	113	112
Mean	7.01	8.69	74.60	8.95	3.39	72.18	0.0	46	0.31	0.29	0.04	0.01	0.31	0.03	8
SD	0.31	1.33	7.84	3.44	9.20	19.41	0.0	245	0.12	0.13	0.05	0.01	0.12	0.03	34
Max	8.11	12.56	96.20	17.20	155.00	129.40	0.1	5000	0.79	1.36	0.36	0.07	0.79	0.12	333
Min	6.00	4.70	45.10	0.80	0.00	39.20	0.0	1	0.11	0.21	0.01	0.01	0.11	0.01	2



Metric	pH	DO	DO	Temp	Turb	Conductivity (°C compensated)	Salinity	Fecal Coliform	Nitrite + Nitrate	Total Kjeldahl Nitrogen	Total Phosphorus	Ortho- Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	cfu/100ml	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 12: Nookachamps Creek at Swan Road</b>															
No.	384	407	409	412	378	410	412.0	411	108	108	108	108	107	108	108
Mean	7.16	9.09	80.80	11.15	7.77	106.68	0.0	133	0.38	0.50	0.06	0.02	0.37	0.08	10
SD	0.29	2.10	13.54	5.61	14.62	33.36	0.0	230	0.23	0.22	0.04	0.02	0.23	0.05	16
Max	8.07	13.79	139.50	24.80	208.00	221.50	0.1	2400	0.94	1.44	0.40	0.10	0.93	0.34	156
Min	6.40	1.90	22.00	1.10	1.52	11.00	0.0	2	0.01	0.25	0.02	0.01	0.01	0.01	2
<b>Site 13: East Fork Nookachamps Creek at Highway 9</b>															
No.	405	429	430	432	397	430	433.0	431	112	112	112	112	111	112	112
Mean	7.27	9.79	86.05	10.18	5.12	92.20	0.0	133	0.30	0.38	0.04	0.01	0.30	0.05	6
SD	0.31	1.62	10.26	5.02	8.25	28.11	0.0	289	0.21	0.17	0.02	0.01	0.21	0.04	12
Max	8.08	12.96	110.40	23.40	84.60	165.70	0.1	3000	0.97	0.92	0.10	0.06	0.96	0.24	113
Min	6.43	3.01	30.30	0.50	0.00	0.80	0.0	1	0.01	0.25	0.01	0.01	0.01	0.01	2
<b>Site 14: College Way Creek at College Way</b>															
No.	404	432	433	435	396	431	435.0	432	111	111	111	111	110	111	111
Mean	7.28	9.24	81.55	10.67	6.84	222.72	0.1	453	0.40	0.53	0.06	0.06	0.39	0.07	5
SD	0.29	2.30	14.98	4.16	25.60	50.83	0.0	1146	0.32	0.25	0.04	0.05	0.32	0.05	7
Max	8.00	13.50	114.00	20.80	489.00	336.80	0.2	16000	1.57	1.55	0.40	0.28	1.57	0.25	60
Min	6.23	3.10	32.40	0.40	0.00	103.00	0.0	5	0.01	0.23	0.02	0.01	0.01	0.01	2
<b>Site 15: Nookachamps Creek at Knapp Road</b>															
No.	408	432	433	436	399	435	436.0	434	113	113	113	113	112	113	113
Mean	7.22	8.11	72.55	12.03	5.16	113.30	0.0	176	0.31	0.63	0.08	0.06	0.30	0.10	6
SD	0.28	3.34	26.05	5.53	3.98	36.18	0.0	430	0.28	0.27	0.05	0.09	0.27	0.08	4
Max	7.92	13.51	114.30	23.10	62.40	329.10	0.2	5400	1.01	1.72	0.38	0.87	1.01	0.54	32
Min	6.50	0.26	2.60	1.40	1.21	69.00	0.0	1	0.00	0.25	0.05	0.01	0.01	0.01	2
<b>Site 16: East Fork Nookachamps Creek at Beaver Lake Road</b>															
No.	408	432	433	436	399	432	436.0	433	112	112	112	112	111	112	112
Mean	7.42	11.44	99.02	9.47	3.86	89.79	0.0	128	0.34	0.32	0.04	0.01	0.33	0.03	6
SD	0.31	1.30	5.58	4.65	8.45	32.86	0.0	800	0.20	0.15	0.02	0.01	0.20	0.02	21
Max	8.38	14.29	116.40	20.50	82.60	179.70	0.1	16000	1.09	1.31	0.10	0.06	1.09	0.10	190
Min	6.42	7.13	67.50	0.20	0.00	0.00	0.0	1	0.01	0.25	0.01	0.01	0.01	0.01	2



Metric	pH	DO	DO	Temp	Turb	Conductivity (°C compensated)	Salinity	Fecal Coliform	Nitrite + Nitrate	Total Kjehldahl Nitrogen	Total Phosphorus	Ortho- Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	cfu/100ml	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.	405	432	433	436	398	434	436.0	432	113	113	113	113	112	113	113
Mean	7.43	9.91	91.65	12.74	2.47	87.24	0.0	39	0.23	0.44	0.04	0.02	0.23	0.05	3
SD	0.32	1.89	9.60	5.97	1.86	14.44	0.0	88	0.22	0.20	0.02	0.03	0.22	0.03	2
Max	8.46	14.38	123.90	24.40	12.90	221.50	0.1	900	0.90	1.23	0.12	0.23	0.90	0.18	19
Min	6.44	4.94	51.80	0.90	0.17	3.20	0.0	1	0.01	0.25	0.01	0.01	0.01	0.01	2
<b>Site 18: Lake Creek at Highway 9</b>															
No.	409	432	433	437	400	436	437.0	435	113	113	113	113	112	113	113
Mean	7.44	11.02	96.62	9.93	2.85	90.32	0.0	186	0.46	0.37	0.04	0.02	0.45	0.03	5
SD	0.32	1.34	5.49	4.02	3.81	25.29	0.0	907	0.21	0.32	0.02	0.02	0.20	0.03	10
Max	8.34	14.34	128.60	18.70	39.80	173.80	0.1	16000	0.97	3.22	0.10	0.11	0.97	0.10	72
Min	6.40	7.43	74.70	0.90	0.00	0.00	0.0	1	0.05	0.25	0.01	0.01	0.05	0.01	2
<b>Site 19: Hansen Creek at Hoehn Road</b>															
No.	391	412	413	414	376	402	414.0	413	109	109	110	109	109	109	109
Mean	7.09	10.31	88.53	9.16	14.51	81.65	0.0	224	0.42	0.41	0.07	0.02	0.42	0.04	39
SD	0.30	1.44	6.87	4.33	67.73	18.66	0.0	435	0.22	0.61	0.16	0.04	0.22	0.03	142
Max	8.64	14.34	110.00	19.00	848.00	228.90	0.1	5000	1.10	6.14	1.07	0.36	1.10	0.14	902
Min	6.06	4.85	49.50	0.10	0.17	39.30	0.0	1	0.03	0.25	0.01	0.01	0.03	0.01	2
<b>Site 20: Hansen Creek at Northern State Hospital</b>															
No.	408	431	432	433	389	427	433.0	431	113	113	113	113	112	113	113
Mean	7.13	11.15	95.85	9.03	15.16	79.00	0.0	113	0.47	0.37	0.10	0.02	0.46	0.03	59
SD	0.30	1.18	4.74	3.66	75.41	21.36	0.0	232	0.24	0.32	0.27	0.03	0.24	0.03	233
Max	8.18	14.67	115.60	16.20	900.00	199.10	0.1	3000	1.17	2.20	1.90	0.27	1.17	0.15	1720
Min	6.08	7.34	66.50	0.50	0.02	39.70	0.0	1	0.05	0.25	0.01	0.01	0.05	0.01	2
<b>Site 21: Coal Creek at Hoehn Road</b>															
No.	355	378	378	379	341	368	379.0	376	100	100	100	100	99	100	100
Mean	7.09	11.15	93.44	8.17	13.17	81.09	0.0	285	0.76	0.33	0.05	0.02	0.75	0.03	21
SD	0.29	1.48	5.75	4.10	62.91	24.00	0.2	643	0.30	0.18	0.07	0.03	0.30	0.04	69
Max	8.32	15.05	115.90	17.50	1005.00	229.50	3.9	5000	2.09	1.30	0.49	0.23	2.09	0.26	438
Min	6.07	6.61	68.10	0.10	0.00	39.50	0.0	1	0.29	0.25	0.01	0.01	0.21	0.01	2



Metric	pH	DO	DO	Temp	Turb	Conductivity (°C compensated)	Salinity	Fecal Coliform	Nitrite + Nitrate	Total Kjeldahl Nitrogen	Total Phosphorus	Ortho- Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	cfu/100ml	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 22: Coal Creek at Highway 20</b>															
No.	412	430	431	434	395	424	433.0	433	111	112	112	111	111	112	111
Mean	7.19	11.75	99.26	8.33	11.13	80.14	0.0	71	0.63	0.32	0.06	0.01	0.63	0.02	22
SD	0.43	1.20	4.66	3.90	65.80	21.94	0.0	281	0.31	0.20	0.11	0.02	0.32	0.02	88
Max	8.29	15.60	137.00	15.70	1138.00	158.60	0.1	5000	2.23	1.50	0.79	0.12	2.23	0.15	650
Min	5.54	8.33	73.20	0.00	0.00	18.30	0.0	1	0.01	0.25	0.01	0.01	0.16	0.01	2
<b>Site 23: Wiseman Creek at Minkler Road</b>															
No.	367	388	390	391	353	385	391.0	389	105	106	106	106	104	106	105.0
Mean	7.23	11.89	100.14	8.07	13.80	74.18	0.0	78	0.93	0.33	0.07	0.02	0.92	0.02	26.8
SD	0.36	1.05	5.37	3.42	83.40	18.91	0.0	312	0.32	0.20	0.12	0.02	0.32	0.03	107.8
Max	8.52	15.77	157.70	16.20	1072.00	217.90	0.1	5000	2.21	1.52	0.91	0.16	2.10	0.33	640.0
Min	6.06	8.87	87.20	0.70	0.00	15.00	0.0	1	0.40	0.25	0.01	0.01	0.22	0.01	2.0
<b>Site 24: Mannser Creek at Lyman-Hamilton Highway</b>															
No.	414	432	433	435	394	429	436.0	431	113	113	113	113	112	113	113
Mean	6.93	6.77	57.91	8.64	1.97	107.69	0.1	42	0.23	0.35	0.04	0.03	0.23	0.02	4
SD	0.30	1.48	11.95	2.93	1.97	21.67	0.0	89	0.12	0.55	0.03	0.06	0.12	0.02	5
Max	7.97	12.40	104.20	15.00	25.73	407.60	0.2	920	0.56	6.00	0.33	0.59	0.56	0.08	36
Min	6.06	1.97	18.50	0.80	0.00	1.40	0.0	1	0.01	0.25	0.01	0.01	0.01	0.01	2
<b>Site 25: Red Cabin Creek at Hamilton Cemetery Road</b>															
No.	336	349	351	352	320	350	351.0	349	94	94	94	94	93	94	94
Mean	7.23	11.82	98.72	7.56	3.31	67.03	0.0	45	0.53	0.29	0.05	0.02	0.52	0.02	9
SD	0.40	0.79	4.83	2.38	21.79	21.41	0.0	170	0.21	0.15	0.04	0.02	0.19	0.02	44
Max	8.35	14.40	133.80	13.90	291.00	110.00	0.1	2400	1.40	1.18	0.44	0.09	1.05	0.16	410
Min	6.14	9.58	84.00	1.90	0.00	17.20	0.0	1	0.24	0.25	0.01	0.01	0.23	0.01	2
<b>Site 28: Brickyard Creek at Highway 20</b>															
No.	298	311	312	313	285	307	314.0	312	84	84	84	84	83	84	84
Mean	7.06	9.29	78.96	8.81	8.31	107.06	0.1	145	0.62	0.54	0.05	0.03	0.61	0.07	4
SD	0.47	1.84	10.27	4.05	6.81	34.76	0.0	294	0.31	0.26	0.01	0.04	0.31	0.07	7
Max	8.42	13.31	110.40	18.60	60.60	208.90	0.1	1600	1.41	1.68	0.11	0.23	1.41	0.51	46
Min	5.35	4.03	41.00	0.00	0.53	20.70	0.0	1	0.01	0.25	0.02	0.01	0.01	0.01	2



Metric	pH	DO	DO	Temp	Turb	Conductivity (°C compensated)	Salinity	Fecal Coliform	Nitrite + Nitrate	Total Kjehldahl Nitrogen	Total Phosphorus	Ortho- Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	cfu/100ml	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 29: Skagit River at River Bend</b>															
No.	408	430	431	436	398	432	436.0	430	111	111	110	111	110	111	111
Mean	7.21	11.14	95.85	9.08	12.09	54.72	0.0	33	0.08	0.32	0.05	0.01	0.08	0.04	23
SD	0.47	1.06	4.88	3.76	37.86	11.50	0.0	117	0.05	0.25	0.05	0.02	0.05	0.25	58
Max	8.84	14.59	110.30	17.60	608.00	101.10	0.0	1600	0.20	2.10	0.40	0.10	0.19	2.65	383
Min	5.81	7.63	78.10	0.90	0.78	28.60	0.0	1	0.01	0.25	0.01	0.01	0.01	0.01	2
<b>Site 30: Skagit River at Cape Horn Road</b>															
No.	412	429	430	433	391	431	433.0	427	103	103	103	103	103	103	103
Mean	7.13	11.29	96.26	8.63	8.06	57.17	0.0	11	0.08	0.28	0.05	0.01	0.08	0.02	16
SD	0.40	1.09	4.83	3.44	19.15	13.00	0.0	33	0.04	0.13	0.05	0.02	0.04	0.01	37
Max	8.49	14.24	118.00	16.30	211.00	132.20	0.1	540	0.20	1.34	0.47	0.17	0.20	0.07	325
Min	6.02	7.64	72.50	0.00	0.00	27.70	0.0	1	0.01	0.25	0.01	0.01	0.01	0.01	2
<b>Site 31: Drainage District 20 ditch at floodgate</b>															
No.	189	195	195	198	178	192	197.0	196	59	59	59	59	59	59	59
Mean	7.14	7.70	64.91	8.47	10.59	212.25	0.1	178	0.49	1.00	0.09	0.04	0.47	0.15	13
SD	0.44	2.88	22.95	3.99	15.13	86.37	0.1	693	0.39	1.27	0.08	0.04	0.38	0.17	21
Max	8.17	15.70	131.00	19.40	131.00	455.30	0.2	9000	1.50	9.80	0.48	0.20	1.49	1.16	147
Min	6.02	0.40	5.30	0.80	0.00	45.00	0.0	1	0.01	0.25	0.03	0.01	0.01	0.02	2
<b>Site 32: Samish River at Thomas Road</b>															
No.	406	428	430	436	393	433	435.0	437	112	114	114	112	112	114	112
Mean	7.50	10.83	97.27	10.80	11.23	96.12	0.0	173	0.60	0.38	0.06	0.03	0.60	0.06	19
SD	0.45	1.18	9.63	4.75	18.68	25.16	0.1	885	0.21	0.24	0.07	0.03	0.20	0.08	40
Max	8.66	14.99	150.00	21.60	181.00	141.80	0.8	17000	1.69	1.60	0.47	0.16	1.65	0.68	229
Min	6.50	2.58	14.10	1.20	0.82	45.30	0.0	2	0.01	0.25	0.02	0.01	0.33	0.01	2
<b>Site 33: Alice Bay Pump Station</b>															
No.	404	407	426	431	390	422	430.0	429	109	110	110	109	109	110	109
Mean	7.18	9.25	110.04	13.45	28.05	24925.80	15.4	157	0.65	2.94	0.53	0.29	0.60	1.21	43
SD	0.83	4.53	74.36	6.50	57.07	13568.91	8.9	371	0.80	1.86	0.52	0.34	0.80	0.83	30
Max	8.88	23.93	348.60	27.20	910.00	44390.00	28.7	5000	3.60	17.80	2.59	1.71	3.57	3.94	160
Min	5.66	1.76	15.40	0.40	2.65	204.50	0.1	1	0.01	0.74	0.03	0.01	0.01	0.01	2



Metric	pH	DO	DO	Temp	Turb	Conductivity (°C compensated)	Salinity	Fecal Coliform	Nitrite + Nitrate	Total Kjeldahl Nitrogen	Total Phosphorus	Ortho- Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	cfu/100ml	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.	400	423	423	427	390	417	425.0	422	110	110	110	110	109	110	110
Mean	7.04	6.84	62.08	11.73	16.26	15525.63	9.8	473	0.50	1.40	0.55	0.39	0.48	0.28	25
SD	0.52	3.60	31.27	6.20	16.44	17800.83	11.6	1320	0.72	0.71	0.82	0.71	0.71	0.29	31
Max	8.58	16.71	201.50	27.00	211.00	56800.00	38.0	16000	4.14	5.34	4.62	3.76	4.14	1.70	233
Min	5.84	0.00	0.00	0.10	0.93	30.80	0.0	1	0.01	0.25	0.05	0.01	0.01	0.01	2
<b>Site 35: Joe Leary Slough at D'Arcy Road</b>															
No.	394	417	417	422	379	419	421.0	416	106	106	107	105	107	106	105
Mean	7.21	5.34	49.92	12.07	38.22	485.09	0.2	308	0.93	1.20	0.21	0.11	0.91	0.61	18
SD	0.51	1.43	14.00	4.36	27.85	1106.03	0.6	797	0.77	0.39	0.14	0.08	0.76	0.26	21
Max	9.05	11.63	103.00	24.00	275.00	19280.00	11.7	9000	4.85	2.02	0.85	0.48	4.78	1.15	151
Min	6.25	1.85	17.20	0.00	3.08	5.31	0.0	1	0.01	0.25	0.04	0.01	0.21	0.02	2
<b>Site 36: Edison Slough at Edison Elementary School</b>															
No.	402	420	427	431	387	418	429.0	434	111	111	111	111	110	111	111
Mean	7.33	9.05	97.22	13.67	9.79	13393.02	8.2	230	0.41	1.26	0.46	0.34	0.40	0.24	20
SD	0.72	3.50	57.02	7.79	6.53	15624.41	9.9	606	0.52	0.71	0.60	0.52	0.52	0.34	21
Max	9.58	26.00	359.20	32.40	49.30	44360.00	28.9	9200	1.92	4.82	2.81	2.73	1.92	2.51	95
Min	5.98	2.32	21.30	0.10	0.64	52.60	0.0	1	0.01	0.59	0.05	0.01	0.01	0.01	2
<b>Site 37: Edison Drainage in Edison</b>															
No.	402	409	426	430	390	425	428.0	432	112	112	112	112	111	112	112
Mean	7.34	7.05	81.79	13.47	45.81	10698.18	6.3	421	0.79	3.48	0.86	0.49	0.76	1.51	43
SD	0.68	4.13	68.94	6.71	119.93	11132.70	7.0	1004	1.03	5.37	0.86	0.61	1.03	1.04	47
Max	9.35	24.72	387.30	27.50	1567.00	43450.00	27.9	16000	5.66	58.30	4.26	3.22	5.66	6.71	250
Min	6.16	0.04	0.60	1.80	4.16	172.40	0.1	1	0.01	0.25	0.17	0.01	0.01	0.01	8
<b>Site 38: North Edison drainage at Smith Road</b>															
No.	398	398	414	425	384	419	424.0	426	110	109	110	110	110	110	110
Mean	7.26	7.27	87.46	12.90	41.80	17501.15	10.6	649	0.44	2.93	0.89	0.57	0.41	1.23	54
SD	0.85	4.72	80.93	5.85	134.72	13665.83	8.8	2160	0.52	1.04	0.79	0.69	0.52	0.76	73
Max	9.20	37.78	455.10	26.10	2300.00	45100.00	29.2	30000	1.90	7.04	3.50	3.19	1.87	4.24	524
Min	5.60	0.24	2.10	1.70	1.84	111.90	0.0	1	0.01	1.00	0.02	0.01	0.01	0.02	5



Metric	pH	DO	DO	Temp	Turb	Conductivity (°C compensated)	Salinity	Fecal Coliform	Nitrite + Nitrate	Total Kjehldahl Nitrogen	Total Phosphorus	Ortho- Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	cfu/100ml	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 39: Colony Creek near Colony Road</b>															
No.	404	427	429	433	388	422	433.0	433	111	111	111	111	111	111	111
Mean	7.19	10.82	93.94	9.79	15.81	131.40	0.0	445	0.86	0.59	0.10	0.06	0.86	0.06	37
SD	0.31	1.77	7.63	4.43	37.59	85.49	0.1	1708	0.59	0.66	0.17	0.05	0.59	0.05	198
Max	7.97	15.06	111.60	20.50	377.00	397.90	0.2	16000	2.59	4.96	1.70	0.21	2.58	0.34	1996
Min	6.19	6.11	58.30	0.00	0.33	44.50	0.0	1	0.10	0.25	0.01	0.01	0.19	0.01	2
<b>Site 40: Big Indian Slough at Highway 20 truck scales</b>															
No.	401	424	424	427	390	426	426.0	423	108	109	109	108	109	109	108
Mean	6.78	4.96	43.57	10.83	23.94	443.65	0.2	194	0.74	1.00	0.11	0.09	0.71	0.37	9
SD	0.32	2.06	15.89	3.94	14.78	2061.43	1.3	603	0.50	0.38	0.08	0.08	0.49	0.22	9
Max	7.92	11.28	87.90	22.10	150.00	42784.00	27.8	9000	2.25	2.10	0.31	0.49	2.22	0.84	54
Min	5.59	0.44	4.60	2.40	2.48	93.40	0.0	1	0.01	0.25	0.01	0.01	0.01	0.04	2
<b>Site 41: Maddox Creek/Big Ditch at Milltown Road</b>															
No.	409	433	434	438	400	434	438.0	436	113	113	113	112	112	113	113
Mean	7.19	6.26	58.39	11.96	18.64	515.25	0.2	164	1.04	1.18	0.17	0.08	1.01	0.37	10
SD	0.35	2.12	21.41	5.07	28.76	492.62	0.3	584	1.06	0.72	0.12	0.07	1.03	0.36	14
Max	8.80	12.32	118.80	23.70	268.00	8358.00	4.7	9200	3.46	2.79	0.62	0.34	3.46	1.49	91
Min	6.20	0.05	0.60	0.80	1.89	44.70	0.0	1	0.01	0.25	0.05	0.01	0.01	0.01	2
<b>Site 42: Carpenter Creek/Hill Ditch at Cedardale Road</b>															
No.	407	432	433	436	398	433	436.0	431	113	113	113	113	111	113	113
Mean	7.31	8.20	73.38	11.34	3.86	189.04	0.1	166	0.58	0.57	0.07	0.05	0.57	0.08	3
SD	0.32	2.33	17.87	5.67	3.95	51.84	0.0	907	0.51	0.25	0.06	0.04	0.50	0.04	2
Max	8.74	14.37	159.10	23.10	47.20	364.70	0.2	16000	1.96	1.78	0.46	0.21	1.94	0.30	16
Min	6.30	2.05	19.10	0.10	0.00	53.30	0.0	1	0.01	0.25	0.02	0.01	0.01	0.01	2
<b>Site 43: Wiley Slough at Wylie Road</b>															
No.	402	427	428	430	393	428	430.0	423	110	110	125	110	109	110	110
Mean	7.17	4.94	46.06	12.13	22.74	2917.41	1.5	165	1.35	1.49	0.27	0.19	1.30	0.51	17
SD	0.41	2.81	27.19	5.16	52.63	2855.15	1.5	379	1.78	0.86	0.40	0.28	1.72	0.42	31
Max	8.98	14.16	147.00	27.20	612.00	21560.00	9.5	3500	7.06	7.04	2.10	1.56	6.96	1.93	264
Min	6.08	0.12	1.40	0.80	1.29	59.70	0.0	1	0.01	0.25	0.01	0.01	0.01	0.01	2





Metric	pH	DO	DO	Temp	Turb	Conductivity (°C compensated)	Salinity	Fecal Coliform	Nitrite + Nitrate	Total Kjeldahl Nitrogen	Total Phosphorus	Ortho- Phosphate	Nitrate	Ammonia	TSS
	units	mg/L	% sat	°C	NTU	µs/cm	ppt	cfu/100ml	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<b>Site 44: Sullivan Slough</b>															
No.	407	427	430	434	397	431	434.0	430	112	113	113	112	112	113	112
Mean	7.26	6.88	66.92	11.55	36.50	8374.47	4.9	220	0.66	1.46	0.27	0.13	0.63	0.66	27
SD	0.43	2.75	31.46	4.43	91.83	7550.25	4.8	356	1.04	0.75	0.50	0.33	1.01	0.58	37
Max	9.08	19.82	237.90	21.70	1345.00	31950.00	26.5	2400	7.21	4.50	5.00	3.50	7.16	3.10	280
Min	6.25	0.09	0.80	0.50	1.47	200.70	0.1	1	0.01	0.25	0.01	0.01	0.01	0.01	4
<b>Site 45: North Fork Skagit River near Moore Road</b>															
No.	394	415	415	422	387	417	418.0	417	109	109	109	109	109	109	109
Mean	7.66	11.26	97.34	9.36	10.93	55.39	0.0	14	0.08	0.29	0.05	0.01	0.08	0.02	19
SD	0.45	1.17	4.69	3.91	33.92	10.27	0.0	27	0.05	0.17	0.07	0.02	0.05	0.02	48
Max	9.10	13.63	118.10	18.10	576.00	96.30	0.1	350	0.19	1.34	0.60	0.16	0.18	0.10	452
Min	5.93	7.35	76.00	1.40	0.55	30.80	0.0	1	0.01	0.25	0.01	0.01	0.01	0.01	2
<b>Site 46: South Fork Skagit River at Conway boat ramp</b>															
No.	399	424	425	428	394	439	439.0	428	110	110	110	110	109	110	110
Mean	7.59	11.27	97.84	9.49	8.71	33629.96	21.1	21	0.09	0.29	0.04	0.01	0.08	0.02	16
SD	0.40	1.09	4.10	3.94	11.81	6293.55	4.3	45	0.06	0.17	0.03	0.01	0.05	0.02	29
Max	8.91	13.73	112.30	18.30	109.00	45590.00	29.1	540	0.51	1.66	0.23	0.05	0.21	0.10	231
Min	6.38	8.40	83.90	1.40	0.87	11027.00	6.4	1	0.01	0.25	0.01	0.01	0.01	0.01	2
<b>Site 47: Swinomish Channel at County boat ramp</b>															
No.	411	435	436	439	400	417	417.0	433	113	113	113	113	112	113	113
Mean	7.32	8.72	88.88	10.68	5.46	33606.81	21.1	9	0.19	0.33	0.08	0.05	0.19	0.06	31
SD	0.56	1.08	9.70	3.30	6.32	6288.46	4.3	15	0.11	0.23	0.04	0.08	0.11	0.03	21
Max	8.11	11.41	115.40	18.50	80.20	45590.00	29.1	130	0.69	1.84	0.40	0.83	0.69	0.17	140
Min	5.86	5.48	7.25	3.30	0.56	11027.00	6.4	1	0.01	0.25	0.04	0.01	0.01	0.01	2
<b>Site 48: Fisher Creek at Franklin Road</b>															
No.	410	433	434	437	400	435	438.0	432	113	112	113	113	112	113	113
Mean	7.51	11.12	95.80	9.12	3.04	167.41	0.1	199	0.64	0.62	0.20	0.21	0.63	0.08	5
SD	0.31	1.31	5.18	3.42	4.53	116.28	0.1	820	0.50	0.28	0.18	0.19	0.50	0.04	11
Max	8.18	14.87	114.70	15.30	40.70	2215.00	1.1	16000	2.25	1.38	0.81	0.63	2.25	0.17	98
Min	6.60	7.53	62.40	0.30	0.00	60.90	0.0	1	0.01	0.25	0.04	0.01	0.01	0.01	2



## Appendix C - Summary of Seasonal Kendall's results for the Water Year 2020

Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
3	17	pH	402	-0.0039	-0.066	-1.569	No	80
		mpH	213	-0.0050	-0.084	-1.554	No	80
		DO	426	0.0405	0.689	2.322	Yes	95
		mDO	217	0.0232	0.395	1.025	No	< 80
		DO % sat	427	0.3276	5.569	2.503	Yes	95
		mDO % sat	218	0.2129	3.619	0.838	No	< 80
		Temp	431	0.0214	0.364	1.336	No	80
		mTemp	217	0.0168	0.286	0.780	No	< 80
		Turb	387	0.1193	2.028	2.176	Yes	95
		mTurb	204	0.07191	1.222	1.020	No	< 80
		FC	430	-0.5812	-9.880	-2.683	Yes	95
		mFC	216	-1.4930	-25.381	-2.516	Yes	95
		NO3+NO2	112	-0.0022	-0.037	-1.091	No	< 80
		TKN	112	-0.0107	-0.183	-1.620	No	80
		TP	112	0.0000	0.000	2.548	Yes	95
		OP	111	0.0007	0.012	1.876	No	90
		NH3	112	-0.0050	-0.085	-3.893	Yes	95
	TSS	111	0.0000	0.000	0.344	No	< 80	
	10	DO	248	-0.1458	-1.458	-3.061	Yes	95
		mDO	127	-0.1909	-1.909	-3.217	Yes	95
		Temp	254	0.0000	0.000	-0.156	No	< 80
		mTemp	127	0.0223	0.223	0.584	No	< 80
		FC	252	0.0000	0.000	-0.448	No	< 80
		mFC	126	0.0000	0.000	0.000	No	< 80
	5	DO	120	-0.8683	-4.342	-5.574	Yes	95
		mDO	63	-0.8533	-4.267	-4.252	Yes	95
		Temp	122	0.0501	0.250	0.579	No	< 80
		mTemp	63	-0.0314	-0.157	-0.062	No	< 80
		FC	123	-6.5660	-32.830	-3.268	Yes	95
		mFC	62	-7.6060	-38.030	-2.633	Yes	95



Site	Period (years)	Parameter	n	Slope	$\Delta$ (units/period)	Z-score	Significant (95%)	Confidence (%)
4	17	pH	409	-0.0277	-0.471	-9.867	Yes	95
		mpH	215	-0.0269	-0.458	-7.513	Yes	95
		DO	430	0.0430	0.732	6.635	Yes	95
		mDO	219	0.0441	0.749	5.570	Yes	95
		DO % sat	431	0.3008	5.114	8.138	Yes	95
		mDO % sat	219	0.3009	5.115	6.663	Yes	95
		Temp	433	0.0111	0.189	0.870	No	< 80
		mTemp	219	0.0125	0.213	0.887	No	< 80
		Turb	392	-0.2487	-4.228	-4.999	Yes	95
		mTurb	205	-0.3499	-5.948	-4.483	Yes	95
		FC	431	-8.5760	-145.792	-6.763	Yes	95
		mFC	217	-15.6900	-266.730	-5.667	Yes	95
		NO3+NO2	113	-0.0074	-0.127	-1.207	No	< 80
		TKN	113	0.0000	0.000	-0.778	No	< 80
		TP	113	0.0000	0.000	1.362	No	80
		OP	113	0.0000	0.000	0.575	No	< 80
		NH3	113	0.0000	0.000	-1.893	No	90
	TSS	113	0.0000	0.000	-0.859	No	< 80	
	10	DO	250	0.0641	0.641	4.681	Yes	95
		mDO	128	0.0401	0.401	2.721	Yes	95
		Temp	252	0.0249	0.249	0.822	No	< 80
		mTemp	128	0.0592	0.592	1.594	No	80
		FC	252	0.0000	0.000	0.070	No	< 80
		mFC	126	1.0020	10.020	0.473	No	< 80
	5	DO	121	0.0491	0.245	1.500	No	80
		mDO	63	0.0468	0.234	1.111	No	< 80
		Temp	122	-0.2007	-1.004	-1.860	No	90
mTemp		63	-0.2173	-1.087	-1.794	No	90	
FC		123	0.0000	0.000	-0.529	No	< 80	
mFC		63	-4.7560	-23.780	-0.308	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
6	17	pH	408	-0.0192	-0.327	-6.289	Yes	95
		mpH	215	-0.0190	-0.323	-5.001	Yes	95
		DO	428	0.0244	0.415	3.454	Yes	95
		mDO	218	0.0218	0.370	2.652	Yes	95
		DO % sat	430	0.2827	4.806	6.555	Yes	95
		mDO % sat	218	0.2681	4.558	4.877	Yes	95
		Temp	435	0.0339	0.576	2.234	Yes	95
		mTemp	219	0.0502	0.853	2.302	Yes	95
		Turb	393	0.0133	0.225	0.930	No	< 80
		mTurb	205	-0.0155	-0.264	-0.536	No	< 80
		FC	435	0.0000	0.000	-1.608	No	80
		mFC	219	-0.5680	-9.656	-2.124	Yes	95
		NO3+NO2	113	-0.0100	-0.171	-3.288	Yes	95
		TKN	113	0.0000	0.000	-0.413	No	< 80
		TP	113	0.0000	0.000	-3.690	Yes	95
		OP	113	0.0000	0.000	0.784	No	< 80
		NH3	113	0.0000	0.000	-2.804	Yes	95
	TSS	113	0.0000	0.000	-0.230	No	< 80	
	10	DO	250	0.0709	0.709	4.572	Yes	95
		mDO	127	0.0652	0.652	3.256	Yes	95
		Temp	255	0.0662	0.662	1.768	No	90
		mTemp	128	0.1437	1.437	2.794	Yes	95
		FC	254	-0.5538	-5.538	-2.489	Yes	95
		mFC	128	-0.9087	-9.087	-1.691	No	90
	5	DO	121	0.0304	0.152	0.482	No	< 80
		mDO	62	0.0421	0.210	0.688	No	< 80
		Temp	125	-0.1999	-1.000	-1.361	No	80
		mTemp	63	-0.1851	-0.926	-1.111	No	< 80
		FC	125	-0.9812	-4.906	-1.462	No	80
		mFC	63	-1.2000	-6.000	-1.235	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
8	17	pH	409	-0.0065	-0.111	-2.162	Yes	95
		mpH	215	-0.0075	-0.127	-1.851	No	90
		DO	431	-0.0173	-0.294	-1.990	Yes	95
		mDO	219	-0.0277	-0.471	-2.468	Yes	95
		DO % sat	432	-0.1255	-2.134	-2.592	Yes	95
		mDO % sat	219	-0.1753	-2.980	-2.551	Yes	95
		Temp	434	0.0250	0.425	1.331	No	80
		mTemp	219	0.0400	0.679	2.005	Yes	95
		Turb	393	-0.0831	-1.413	-2.546	Yes	95
		mTurb	206	-0.1458	-2.479	-2.865	Yes	95
		FC	435	-1.7260	-29.342	-5.199	Yes	95
		mFC	219	-2.7070	-46.019	-3.979	Yes	95
		NO3+NO2	112	-0.0060	-0.102	-3.129	Yes	95
		TKN	112	0.0000	0.000	0.108	No	< 80
		TP	112	0.0000	0.000	0.062	No	< 80
		OP	112	0.0000	0.000	2.396	Yes	95
		NH3	112	-0.0025	-0.043	-4.080	Yes	95
	TSS	112	0.0000	0.000	0.611	No	< 80	
	10	DO	250	0.0458	0.458	2.424	Yes	95
		mDO	128	0.0069	0.069	0.231	No	< 80
		Temp	252	0.0251	0.251	0.672	No	< 80
		mTemp	128	0.1005	1.005	2.010	Yes	95
		FC	253	0.0000	0.000	-1.048	No	< 80
		mFC	128	0.0000	0.000	0.069	No	< 80
	5	DO	122	0.1747	0.874	3.143	Yes	95
		mDO	63	0.1863	0.932	2.157	Yes	95
		Temp	123	-0.3017	-1.509	-2.066	Yes	95
		mTemp	63	-0.2340	-1.170	-1.175	No	< 80
		FC	125	-0.3386	-1.693	-0.932	No	< 80
		mFC	63	-2.2810	-11.405	-0.309	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
11	17	pH	413	0.0100	0.170	3.483	Yes	95
		mpH	215	0.0088	0.150	2.716	Yes	95
		DO	434	0.0494	0.840	5.126	Yes	95
		mDO	219	0.0484	0.823	3.935	Yes	95
		DO % sat	435	0.3942	6.701	5.731	Yes	95
		mDO % sat	219	0.3931	6.683	4.607	Yes	95
		Temp	437	-0.0111	-0.189	-0.850	No	< 80
		mTemp	219	-0.0084	-0.142	-0.433	No	< 80
		Turb	393	-0.0292	-0.496	-2.604	Yes	95
		mTurb	204	-0.0400	-0.680	-2.614	Yes	95
		FC	436	-0.1090	-1.853	-3.112	Yes	95
		mFC	216	-0.3503	-5.955	-2.928	Yes	95
		NO3+NO2	111	-0.0028	-0.048	-1.232	No	< 80
		TKN	112	0.0000	0.000	-0.395	No	< 80
		TP	112	0.0000	0.000	-3.548	Yes	95
		OP	111	0.0000	0.000	0.963	No	< 80
		NH3	112	0.0000	0.000	-0.277	No	< 80
	TSS	111	0.0000	0.000	-0.415	No	< 80	
	10	DO	251	0.1152	1.152	4.656	Yes	95
		mDO	128	0.0925	0.925	2.997	Yes	95
		Temp	254	-0.0249	-0.249	-0.794	No	< 80
		mTemp	128	-0.0073	-0.073	-0.069	No	< 80
		FC	255	0.0000	0.000	0.677	No	< 80
		mFC	126	0.1253	1.253	0.637	No	< 80
	5	DO	123	0.1268	0.634	2.386	Yes	95
		mDO	63	0.1592	0.796	2.157	Yes	95
		Temp	124	-0.0745	-0.373	-0.662	No	< 80
		mTemp	63	-0.1008	-0.504	-0.678	No	< 80
		FC	126	0.0000	0.000	0.292	No	< 80
		mFC	63	0.4865	2.433	0.555	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
12	17	pH	383	0.0069	0.118	2.399	Yes	95
		mpH	207	0.0069	0.118	1.676	No	90
		DO	406	-0.0246	-0.418	-1.826	No	90
		mDO	216	-0.0313	-0.533	-1.564	No	90
		DO % sat	408	-0.1916	-3.257	-2.173	Yes	95
		mDO % sat	215	-0.1678	-2.853	-1.366	No	80
		Temp	411	0.0333	0.566	1.906	No	90
		mTemp	217	0.0410	0.697	1.674	No	90
		Turb	377	-0.0569	-0.967	-2.367	Yes	95
		mTurb	203	-0.0626	-1.065	-1.840	No	90
		FC	410	-0.0908	-1.544	-2.034	Yes	95
		mFC	217	-0.1990	-3.383	-0.537	No	< 80
		NO3+NO2	108	-0.0134	-0.227	-3.204	Yes	95
		TKN	107	-0.0035	-0.060	-0.910	No	< 80
		TP	108	0.0000	-0.060	3.827	Yes	95
		OP	108	0.0013	0.021	4.445	Yes	95
		NH3	108	-0.0027	-0.046	-2.121	Yes	95
	TSS	108	-0.1434	-2.438	-2.178	Yes	95	
	10	DO	237	-0.0033	-0.033	-0.057	No	< 80
		mDO	125	0.0382	0.382	1.102	No	< 80
		Temp	240	0.0425	0.425	0.951	No	< 80
		mTemp	126	-0.0264	-0.264	-0.523	No	< 80
		FC	240	0.0000	0.000	-0.698	No	< 80
		mFC	126	-0.9951	-9.951	-0.714	No	< 80
	5	DO	119	0.0067	0.033	0.104	No	< 80
		mDO	61	0.1120	0.560	0.913	No	< 80
		Temp	120	-0.1978	-0.989	-1.341	No	80
		mTemp	62	-0.2666	-1.333	-1.736	No	90
FC		120	-0.7452	-3.726	-1.280	No	< 80	
mFC		62	-4.3680	-21.840	-0.964	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
13	17	pH	405	0.0038	0.065	1.174	No	< 80
		mpH	212	0.0033	0.057	0.877	No	< 80
		DO	429	-0.0281	-0.477	-2.631	Yes	95
		mDO	219	-0.0267	-0.454	-2.067	Yes	95
		DO % sat	430	-0.1432	-2.434	-1.805	No	90
		mDO % sat	219	-0.1736	-2.951	-1.884	No	90
		Temp	432	0.0431	0.732	2.422	Yes	95
		mTemp	219	0.0502	0.854	2.291	Yes	95
		Turb	395	0.0000	0.000	-0.054	No	< 80
		mTurb	205	-0.0007	-0.011	-0.012	No	< 80
		FC	431	-0.2339	-3.976	-2.831	Yes	95
		mFC	219	-0.7370	-12.529	-1.783	No	90
		NO3+NO2	112	-0.0058	-0.099	-2.645	Yes	95
		TKN	111	0.0000	0.000	0.608	No	< 80
		TP	111	0.0000	0.000	-1.731	No	90
		OP	112	0.0000	0.000	3.216	Yes	95
		NH3	112	-0.0028	-0.048	-3.574	Yes	95
	TSS	112	0.0000	0.000	-1.631	No	80	
	10	DO	250	-0.0285	-0.285	-1.058	No	< 80
		mDO	128	-0.0126	-0.126	-0.280	No	< 80
		Temp	252	0.0669	0.669	1.624	No	80
		mTemp	128	0.0166	0.166	0.257	No	< 80
		FC	252	-0.7521	-7.521	-2.122	Yes	95
		mFC	128	-2.1870	-21.870	-1.939	No	90
	5	DO	124	-0.1661	-0.831	-2.547	Yes	95
		mDO	63	-0.0602	-0.301	-0.443	No	< 80
		Temp	124	-0.2552	-1.276	-2.201	Yes	95
		mTemp	63	-0.3776	-1.888	-1.707	No	90
		FC	125	-2.5070	-12.535	-2.137	Yes	95
		mFC	63	-5.2400	-26.200	-2.035	Yes	95





Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
14	17	pH	404	-0.0284	-0.482	-9.213	Yes	95
		mpH	213	-0.0285	-0.484	-7.016	Yes	95
		DO	430	0.0293	0.499	2.513	Yes	95
		mDO	218	0.0303	0.515	2.217	Yes	95
		DO % sat	432	0.1431	2.433	1.939	No	90
		mDO % sat	218	0.1802	3.063	1.852	No	90
		Temp	435	0.0083	0.142	0.525	No	< 80
		mTemp	219	0.0223	0.379	1.305	No	80
		Turb	396	-0.0861	-1.463	-4.894	Yes	95
		mTurb	204	-0.1070	-1.819	-3.482	Yes	95
		FC	432	-0.4370	-7.429	-1.890	No	90
		mFC	219	-1.0010	-17.017	-1.071	No	< 80
		NO3+NO2	111	-0.0044	-0.075	-2.090	Yes	95
		TKN	110	-0.0013	-0.023	-0.756	No	< 80
		TP	110	0.0000	0.000	2.097	Yes	95
		OP	111	0.0000	0.000	0.562	No	< 80
		NH3	111	-0.0040	-0.068	-4.931	Yes	95
	TSS	111	0.0000	0.000	0.422	No	< 80	
	10	DO	249	0.0714	0.714	2.846	Yes	95
		mDO	127	0.0929	0.929	3.693	Yes	95
		Temp	253	0.0512	0.512	1.616	No	80
		mTemp	128	0.0250	0.250	0.630	No	< 80
		FC	252	2.0070	20.070	1.952	No	90
		mFC	128	2.5220	25.220	1.330	No	80
	5	DO	123	0.1349	0.675	1.553	No	80
		mDO	62	0.1126	0.563	2.694	Yes	95
		Temp	125	-0.1740	-0.870	-1.372	No	80
		mTemp	63	-0.2750	-1.375	-2.024	Yes	95
		FC	124	2.4810	12.405	0.952	No	< 80
		mFC	63	-0.3339	-1.670	0.000	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
15	17	pH	408	0.0075	0.128	2.440	Yes	95
		mpH	213	0.0086	0.146	2.239	Yes	95
		DO	431	0.0406	0.690	3.692	Yes	95
		mDO	219	0.0376	0.639	2.035	Yes	95
		DO % sat	432	0.3947	6.710	4.446	Yes	95
		mDO % sat	219	0.3905	6.639	2.996	Yes	95
		Temp	435	0.0251	0.426	1.628	No	80
		mTemp	219	0.0499	0.847	2.132	Yes	95
		Turb	399	0.0007	0.012	0.088	No	< 80
		mTurb	205	-0.0104	-0.177	-0.431	No	< 80
		FC	433	-0.2480	-4.216	-2.665	Yes	95
		mFC	219	1.2770	21.709	1.846	No	90
		NO3+NO2	113	0.0000	0.000	-0.112	No	< 80
		TKN	112	-0.0099	-0.169	-2.507	Yes	95
		TP	113	0.0002	0.003	4.217	Yes	95
		OP	113	0.0027	0.046	4.401	Yes	95
		NH3	113	-0.0039	-0.067	-3.667	Yes	95
	TSS	113	0.0000	0.000	-0.718	No	< 80	
	10	DO	250	0.0295	0.295	1.245	No	< 80
		mDO	128	0.0858	0.858	2.284	Yes	95
		Temp	253	0.0000	0.000	-0.304	No	< 80
		mTemp	128	-0.0610	-0.610	-1.050	No	< 80
		FC	253	-1.6220	-16.220	-2.143	Yes	95
		mFC	128	-5.4100	-54.100	-2.219	Yes	95
	5	DO	124	0.1150	0.575	1.605	No	80
		mDO	63	0.1687	0.844	1.767	No	90
		Temp	125	-0.2005	-1.003	-1.756	No	90
		mTemp	63	-0.4679	-2.340	-2.281	Yes	95
		FC	125	0.0000	0.000	0.000	No	< 80
		mFC	63	0.6600	3.300	0.126	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
16	17	pH	407	-0.0066	-0.113	-2.165	Yes	95
		mpH	213	-0.0040	-0.069	-1.103	No	< 80
		DO	432	0.0176	0.298	2.550	Yes	95
		mDO	219	0.0153	0.260	1.431	No	80
		DO % sat	433	0.1897	3.225	4.325	Yes	95
		mDO % sat	219	0.2005	3.409	3.473	Yes	95
		Temp	436	0.0362	0.615	2.164	Yes	95
		mTemp	219	0.0400	0.679	1.920	No	90
		Turb	389	0.0133	0.226	1.557	No	80
		mTurb	201	0.0100	0.169	0.952	No	< 80
		FC	432	0.0000	0.000	-1.404	No	80
		mFC	218	-0.1669	-2.837	-0.632	No	< 80
		NO3+NO2	112	-0.0033	-0.057	-1.332	No	80
		TKN	111	0.0000	0.000	0.398	No	< 80
		TP	111	0.0000	0.000	-1.694	No	90
		OP	112	0.0000	0.000	2.527	Yes	95
		NH3	112	0.0000	0.000	-1.699	No	90
	TSS	112	0.0000	0.000	0.571	No	< 80	
	10	DO	251	0.0798	0.798	5.351	Yes	95
		mDO	128	0.0955	0.955	4.547	Yes	95
		Temp	125	-0.3660	-3.660	-3.102	Yes	95
		mTemp	128	0.0000	0.000	-0.117	No	< 80
		FC	252	0.0000	0.000	-0.062	No	< 80
		mFC	127	-0.3512	-3.512	-0.593	No	< 80
	5	DO	124	0.1511	0.756	2.908	Yes	95
		mDO	63	0.1845	0.923	3.408	Yes	95
		Temp	254	0.0492	0.246	1.080	No	< 80
		mTemp	63	-0.4763	-2.382	-2.349	Yes	95
		FC	125	-2.5280	-12.640	-2.663	Yes	95
		mFC	63	-4.2620	-21.310	-1.901	No	90



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
17	17	pH	405	-0.0065	-0.110	-2.184	Yes	95
		mpH	213	-0.0069	-0.118	-1.699	No	80
		DO	432	0.0036	0.062	0.506	No	< 80
		mDO	219	-0.0064	-0.109	-0.710	No	< 80
		DO % sat	433	0.0636	1.081	0.907	No	< 80
		mDO % sat	219	-0.0173	-0.294	-0.169	No	< 80
		Temp	436	0.0300	0.509	1.676	No	90
		mTemp	219	0.0557	0.948	2.122	Yes	95
		Turb	398	0.0592	1.007	6.087	Yes	95
		mTurb	205	0.0591	1.005	4.628	Yes	95
		FC	432	0.0000	0.000	-0.166	No	< 80
		mFC	218	0.0000	0.000	0.182	No	< 80
		NO3+NO2	113	0.0000	0.000	0.552	No	< 80
		TKN	112	-0.0036	-0.062	-1.425	No	80
		TP	112	0.0000	0.000	-0.926	No	< 80
		OP	112	0.0000	0.000	2.984	Yes	95
		NH3	113	0.0000	0.000	-1.645	No	80
	TSS	113	0.0000	0.000	-0.132	No	< 80	
	10	DO	251	0.0416	0.416	2.263	Yes	95
		mDO	128	0.0452	0.452	2.145	Yes	95
		Temp	254	0.0000	0.000	-0.112	No	< 80
		mTemp	128	-0.0500	-0.500	-0.723	No	< 80
		FC	254	0.1328	1.328	1.644	No	< 80
		mFC	127	0.5440	5.440	1.086	No	< 80
	5	DO	124	0.0255	0.127	0.640	No	< 80
		mDO	63	0.0404	0.202	0.757	No	< 80
		Temp	125	-0.0995	-0.497	-1.168	No	< 80
		mTemp	63	-0.3259	-1.630	-1.647	No	90
		FC	125	0.0000	0.000	-1.087	No	< 80
		mFC	63	-1.2280	-6.140	-1.077	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
18	17	pH	409	0.0027	0.046	0.834	No	< 80
		mpH	213	0.0016	0.026	0.364	No	< 80
		DO	432	0.0008	0.014	0.165	No	< 80
		mDO	219	-0.0012	-0.020	-0.148	No	< 80
		DO % sat	433	0.0133	0.227	0.301	No	< 80
		mDO % sat	219	0.0146	0.249	0.275	No	< 80
		Temp	437	0.0222	0.378	1.560	No	80
		mTemp	219	0.0334	0.567	1.730	No	90
		Turb	400	0.0284	0.483	2.978	Yes	95
		mTurb	205	0.0153	0.260	1.073	No	< 80
		FC	435	-0.4371	-7.431	-0.322	Yes	95
		mFC	219	-1.0010	-17.017	-2.546	Yes	95
		NO3+NO2	113	0.0034	0.058	1.167	No	< 80
		TKN	112	0.0000	0.000	0.980	No	< 80
		TP	113	0.0000	0.000	-3.466	Yes	95
		OP	112	0.0000	0.000	2.492	Yes	95
		NH3	113	0.0000	0.000	-3.121	Yes	95
	TSS	113	0.0000	0.000	0.468	No	< 80	
	10	DO	251	0.0549	0.549	3.835	Yes	95
		mDO	128	0.0617	0.617	3.263	Yes	95
		Temp	255	0.0251	0.251	0.705	No	< 80
		mTemp	128	-0.0133	-0.133	-0.210	No	< 80
		FC	255	0.0000	0.000	-1.152	No	< 80
		mFC	128	-0.5300	-5.300	-0.700	No	< 80
	5	DO	124	0.1052	0.526	2.325	Yes	95
		mDO	63	0.1707	0.854	1.641	No	80
		Temp	126	-0.1681	-0.841	-1.645	No	90
		mTemp	63	-0.3223	-1.612	-2.087	Yes	95
		FC	126	0.0000	0.000	-0.343	No	< 80
		mFC	63	-1.5180	-7.590	-0.949	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
19	17	pH	388	-0.0081	-0.138	-2.622	Yes	95
		mpH	206	-0.0085	-0.145	-2.411	Yes	95
		DO	411	-0.0381	-0.648	-4.609	Yes	95
		mDO	212	-0.0415	-0.705	-3.852	Yes	95
		DO % sat	411	-0.2355	-4.004	-5.083	Yes	95
		mDO % sat	212	-0.2507	-4.262	-3.875	Yes	95
		Temp	412	0.0668	1.136	3.447	Yes	95
		mTemp	213	0.0713	1.212	2.735	Yes	95
		Turb	375	-0.0214	-0.364	-0.889	No	< 80
		mTurb	200	-0.0541	-0.919	-1.797	No	90
		FC	412	-0.1001	-1.702	-1.747	No	90
		mFC	211	-1.6650	-28.305	-2.182	Yes	95
		NO3+NO2	109	-0.0084	-0.142	-2.450	Yes	95
		TKN	109	0.0000	0.000	0.505	No	< 80
		TP	110	0.0000	0.000	-2.682	Yes	95
		OP	109	0.0000	0.000	0.636	No	< 80
		NH3	109	0.0000	0.000	-1.422	No	80
	TSS	110	0.0000	0.000	-1.236	No	< 80	
	10	DO	230	-0.0199	-0.199	-0.784	No	< 80
		mDO	121	-0.0376	-0.376	-1.637	No	80
		Temp	232	0.1968	1.968	4.187	Yes	95
		mTemp	122	0.2309	2.309	4.071	Yes	95
		FC	232	-1.4970	-14.970	-2.121	Yes	95
		mFC	121	-2.3570	-23.570	-1.490	No	80
	5	DO	107	0.0049	0.024	0.081	No	< 80
		mDO	58	0.0017	0.008	0.000	No	< 80
		Temp	108	0.0000	0.000	0.170	No	< 80
		mTemp	58	0.0467	0.233	0.127	No	< 80
		FC	109	-5.0090	-25.045	-2.425	Yes	95
		mFC	58	-5.0550	-25.275	-1.420	No	80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
20	17	pH	408	-0.0114	-0.194	-3.612	Yes	95
		mpH	215	-0.0100	-0.171	-2.641	Yes	95
		DO	431	0.0273	0.464	4.414	Yes	95
		mDO	219	0.0247	0.420	3.281	Yes	95
		DO % sat	432	0.2185	3.715	5.893	Yes	95
		mDO % sat	219	0.2407	4.092	4.850	Yes	95
		Temp	433	0.0000	0.000	0.039	No	< 80
		mTemp	219	0.0000	0.000	0.042	No	< 80
		Turb	389	-0.0173	-0.293	-1.661	No	90
		mTurb	205	-0.0300	-0.509	-1.805	No	90
		FC	430	0.0000	0.000	-0.800	No	< 80
		mFC	218	-0.3334	-5.668	-0.949	No	< 80
		NO3+NO2	113	0.0013	0.021	0.647	No	< 80
		TKN	113	0.0000	0.000	-1.316	No	80
		TP	113	0.0000	0.000	-4.063	Yes	95
		OP	112	0.0000	0.000	>4677	No	< 80
		NH3	113	0.0000	0.000	-1.298	No	80
	TSS	113	0.0000	0.000	-0.709	No	< 80	
	10	DO	249	0.0802	0.802	5.540	Yes	95
		mDO	128	0.0610	0.610	2.883	Yes	95
		Temp	251	0.0572	0.572	1.571	No	80
		mTemp	128	0.0922	0.922	1.851	No	90
		FC	250	0.0000	0.000	0.561	No	< 80
		mFC	127	1.0850	10.850	1.457	No	80
	5	DO	122	0.0604	0.302	1.988	Yes	95
		mDO	63	0.0261	0.131	0.617	No	< 80
		Temp	123	-0.1502	-0.751	-1.521	No	80
		mTemp	63	-0.1507	-0.754	-1.311	No	80
		FC	124	-0.1649	-0.825	-0.947	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 (%)
21	17	pH	353	-0.0089	-0.152	-2.584	Yes	95
		mpH	196	-0.0096	-0.163	-2.445	Yes	95
		DO	376	0.0125	0.213	1.425	No	80
		mDO	201	0.0180	0.306	1.577	No	80
		DO % sat	376	0.1395	2.372	3.137	Yes	95
		mDO % sat	202	0.1672	2.842	3.290	Yes	95
		Temp	377	0.0248	0.422	1.213	No	< 80
		mTemp	201	0.0232	0.394	0.945	No	< 80
		Turb	339	-0.0507	-0.861	-1.722	No	90
		mTurb	188	-0.0847	-1.439	-2.343	Yes	95
		FC	375	-0.8752	-14.878	-3.334	Yes	95
		mFC	201	-1.8510	-31.467	-2.650	Yes	95
		NO3+NO2	100	-0.0038	-0.065	-0.921	No	< 80
		TKN	100	0.0000	0.000	1.321	No	80
		TP	100	0.0000	0.000	-2.310	Yes	95
		OP	99	0.0000	0.000	2.915	Yes	95
		NH3	100	0.0000	0.000	-0.217	No	< 80
	TSS	100	0.0000	0.000	-0.635	No	< 80	
	10	DO	213	0.0398	0.398	2.093	Yes	95
		mDO	117	0.0443	0.443	1.590	No	80
		Temp	214	0.1014	1.014	2.365	Yes	95
		mTemp	117	0.1423	1.423	2.324	Yes	95
		FC	213	0.0000	0.000	0.031	No	< 80
		mFC	117	0.7521	7.521	0.835	No	< 80
	5	DO	122	0.1061	0.531	1.572	No	80
		mDO	66	0.1191	0.596	1.526	No	80
		Temp	123	-0.2003	-1.002	-1.225	No	< 80
mTemp		66	-0.1504	-0.752	-0.991	No	< 80	
FC		122	-3.5780	-17.890	-2.228	Yes	95	
mFC		66	-2.6080	-13.040	-0.973	No	< 80	





Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
22	17	pH	412	-0.0316	-0.536	-6.822	Yes	95
		mpH	213	-0.0300	-0.509	-5.363	Yes	95
		DO	431	-0.0091	-0.155	-1.377	No	80
		mDO	218	-0.0053	-0.090	-0.689	No	< 80
		DO % sat	432	-0.0182	-0.400	-0.538	No	< 80
		mDO % sat	219	0.0028	0.047	0.074	No	< 80
		Temp	434	0.0332	0.565	1.985	Yes	95
		mTemp	218	0.0320	0.543	1.633	No	80
		Turb	395	-0.0117	-0.198	-1.179	No	< 80
		mTurb	204	-0.0365	-0.620	-1.852	No	90
		FC	432	0.0000	0.000	1.568	No	80
		mFC	216	0.1345	2.287	1.655	No	90
		NO3+NO2	111	0.0053	0.091	1.359	No	80
		TKN	111	0.0000	0.000	-0.674	No	< 80
		TP	112	0.0000	0.000	-3.062	Yes	95
		OP	110	0.0000	0.000	1.600	No	80
		NH3	112	0.0000	0.000	-1.094	No	< 80
	TSS	111	0.0000	0.000	-1.829	No	90	
	10	DO	250	0.0291	0.291	1.860	No	90
		mDO	128	0.0244	0.244	1.107	No	< 80
		Temp	252	0.1003	1.003	2.561	Yes	95
		mTemp	128	0.1472	1.472	2.817	Yes	95
		FC	253	0.0000	0.000	-0.256	No	< 80
		mFC	126	0.2308	2.308	1.010	No	< 80
	5	DO	122	0.0401	0.040	0.948	No	< 80
		mDO	63	0.0251	0.125	0.678	No	< 80
		Temp	123	-0.0971	-0.485	-0.886	No	< 80
mTemp		63	-0.1087	-0.544	-1.116	No	< 80	
FC		125	-1.8380	-9.190	-3.841	Yes	95	
mFC		63	-2.0660	-10.330	-2.489	Yes	95	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
23	17	pH	368	-0.0263	-0.446	-7.195	Yes	95
		mpH	189	-0.0242	-0.412	-5.455	Yes	95
		DO	389	0.0065	0.111	0.873	No	< 80
		mDO	195	0.0078	0.133	0.879	No	< 80
		DO % sat	391	0.0863	1.467	2.127	Yes	95
		mDO % sat	197	0.0800	1.360	1.738	No	90
		Temp	392	0.0000	0.000	-0.048	No	< 80
		mTemp	196	-0.0125	-0.212	-0.609	No	< 80
		Turb	354	0.0136	0.232	1.221	No	< 80
		mTurb	184	-0.0006	-0.011	-0.146	No	< 80
		FC	391	0.0000	0.000	0.163	No	< 80
		mFC	195	-0.0712	-1.211	-0.587	No	< 80
		NO3+NO2	105	-0.0169	-0.287	-3.564	Yes	95
		TKN	106	0.0000	0.000	0.140	No	< 80
		TP	106	0.0000	0.000	-3.598	Yes	95
		OP	105	0.0000	0.000	1.240	No	< 80
		NH3	106	0.0000	0.000	0.000	No	< 80
	TSS	105	0.0000	0.000	-1.212	No	< 80	
	10	DO	220	0.0329	0.329	1.973	Yes	95
		mDO	107	0.0125	0.125	0.378	No	< 80
		Temp	222	0.0665	0.665	1.635	No	80
		mTemp	108	0.0815	0.815	2.172	Yes	95
		FC	223	0.0000	0.000	0.875	No	< 80
		mFC	107	0.2883	2.883	1.138	No	< 80
	5	DO	111	0.0219	0.109	0.291	No	< 80
		mDO	59	0.0400	0.200	0.227	No	< 80
		Temp	112	-0.0994	-0.497	-0.736	No	< 80
		mTemp	59	-0.0703	-0.352	-0.429	No	< 80
FC		113	0.0000	0.000	0.278	No	< 80	
mFC		59	0.1671	0.836	0.076	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
24	17	pH	413	-0.0067	-0.114	-2.131	Yes	95
		mpH	216	-0.0074	-0.125	-1.647	No	90
		DO	431	0.0682	1.159	4.855	Yes	95
		mDO	220	0.0717	1.219	3.772	Yes	95
		DO % sat	432	0.5545	9.427	5.244	Yes	95
		mDO % sat	219	0.5918	10.061	4.153	Yes	95
		Temp	434	0.0000	0.000	-0.172	No	< 80
		mTemp	219	0.0000	0.000	-0.381	No	< 80
		Turb	393	0.0557	0.946	6.683	Yes	95
		mTurb	205	0.0547	0.930	4.880	Yes	95
		FC	430	-0.2019	-3.432	-3.722	Yes	95
		mFC	218	-0.4632	-7.874	-3.197	Yes	95
		NO3+NO2	113	0.0026	0.044	1.503	No	80
		TKN	111	0.0000	0.000	-0.295	No	< 80
		TP	113	0.0000	0.000	-0.681	No	< 80
		OP	112	0.0000	0.000	0.620	No	< 80
		NH3	113	0.0000	0.000	0.258	No	< 80
	TSS	113	0.0000	0.000	1.471	No	80	
	10	DO	248	0.2866	2.866	9.442	Yes	95
		mDO	129	0.3060	3.060	6.936	Yes	95
		Temp	251	-0.0251	-0.251	-0.933	No	< 80
		mTemp	128	0.0063	0.063	0.301	No	< 80
		FC	251	0.0000	0.000	0.856	No	< 80
		mFC	127	0.0879	0.879	0.257	No	< 80
	5	DO	120	0.1404	0.702	2.772	Yes	95
		mDO	64	0.1772	0.886	2.235	Yes	95
		Temp	122	-0.0745	-0.373	-0.968	No	< 80
mTemp		63	-0.0355	-0.178	-0.559	No	< 80	
FC		122	0.0000	0.000	0.670	No	< 80	
mFC		63	0.7808	3.904	0.497	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
25	17	pH	336	-0.0278	-0.472	-6.110	Yes	95
		mpH	176	-0.0269	-0.457	-4.679	Yes	95
		DO	351	0.0134	0.227	2.023	Yes	95
		mDO	179	0.0138	0.235	1.251	No	< 80
		DO % sat	351	0.1253	2.130	2.875	Yes	95
		mDO % sat	180	0.0984	1.672	1.781	No	90
		Temp	352	0.0000	0.000	0.428	No	< 80
		mTemp	179	-0.0041	-0.070	-0.261	No	< 80
		Turb	320	0.0216	0.367	6.020	Yes	95
		mTurb	165	0.0158	0.268	2.676	Yes	95
		FC	349	0.0000	0.000	0.335	No	< 80
		mFC	178	0.0000	0.000	0.241	No	< 80
		NO3+NO2	94	-0.0046	-0.078	-1.166	No	< 80
		TKN	94	0.0000	0.000	-2.600	Yes	95
		TP	94	0.0000	0.000	-3.453	Yes	95
		OP	94	0.0000	0.000	2.458	Yes	95
		NH3	94	0.0000	0.000	0.371	No	< 80
	TSS	94	0.0000	0.000	-1.345	No	80	
	10	DO	198	0.0640	0.640	3.892	Yes	95
		mDO	98	0.0322	0.322	1.591	No	80
		Temp	199	0.0483	0.483	1.125	No	< 80
		mTemp	98	0.0762	0.762	1.557	No	80
		FC	199	0.0000	0.000	1.299	No	80
		mFC	97	0.0716	0.716	0.618	No	< 80
	5	DO	94	-0.0559	-0.279	-1.385	No	80
		mDO	42	-0.1307	-0.654	-1.351	No	80
		Temp	95	-0.0983	-0.491	-0.838	No	< 80
		mTemp	42	0.1755	0.878	0.618	No	< 80
FC		95	0.0000	0.000	0.034	No	< 80	
mFC		42	-0.5000	-2.500	-0.548	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)	
28	17	pH	298	-0.0149	-0.253	-2.323	Yes	95	
		mpH	161	-0.0157	-0.266	-1.809	No	90	
		DO	311	-0.0033	-0.056	-0.257	No	< 80	
		mDO	165	0.0000	0.000	0.000	No	< 80	
		DO % sat	312	-0.0501	-0.852	-0.673	No	< 80	
		mDO % sat	161	-0.0615	-1.046	-0.490	No	< 80	
		Temp	313	0.0000	0.000	-0.015	No	< 80	
		mTemp	165	-0.0100	-0.169	-0.437	No	< 80	
		Turb	285	-0.0354	-0.601	-1.111	No	< 80	
		mTurb	155	-0.0607	-1.031	-1.011	No	< 80	
		FC	312	-0.1054	-1.792	-1.305	No	80	
		mFC	165	-0.5095	-8.662	-1.014	No	< 80	
		NO3+NO2	84	-0.0130	-0.222	-2.040	Yes	95	
		TKN	84	-0.0149	-0.254	-2.975	Yes	95	
		TP	84	0.0000	0.000	2.108	Yes	95	
		OP	84	0.0005	0.008	2.251	Yes	95	
		NH3	84	-0.0036	-0.061	-4.345	Yes	95	
	TSS	84	0.0000	0.000	-0.228	No	< 80		
	10	DO	176	-0.0162	-0.162	-0.434	No	< 80	
		mDO	89	-0.0426	-0.426	-1.248	No	< 80	
		Temp	178	-0.0287	-0.287	-0.452	No	< 80	
		mTemp	89	-0.0188	-0.188	-0.202	No	< 80	
		FC	179	-1.4320	-14.320	-1.844	No	90	
		mFC	89	-2.1830	-21.830	-1.766	No	90	
	5	DO		Insufficient Data					
		mDO							
		Temp							
		mTemp							
FC									
mFC									



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
29	17	pH	398	-0.0045	-0.076	-1.072	No	< 80
		mpH	215	-0.0071	-0.121	-0.915	No	< 80
		DO	419	0.0087	0.149	1.528	No	80
		mDO	218	0.0034	0.058	0.522	No	< 80
		DO % sat	420	0.0269	0.457	0.686	No	< 80
		mDO % sat	219	0.0500	0.849	0.868	No	< 80
		Temp	425	0.0000	0.000	0.201	No	< 80
		mTemp	219	0.0083	0.141	0.637	No	< 80
		Turb	387	-0.1754	-2.982	-4.884	Yes	95
		mTurb	205	-0.2107	-3.582	-3.879	Yes	95
		FC	419	0.0000	0.000	-0.952	No	< 80
		mFC	219	0.0000	0.000	-0.287	No	< 80
		NO3+NO2	111	0.0000	0.000	-0.069	No	< 80
		TKN	110	0.0000	0.000	-0.778	No	< 80
		TP	110	0.0000	0.000	-2.823	Yes	< 80
		OP	111	0.0000	0.000	2.588	Yes	95
		NH3	111	0.0000	0.000	1.171	No	< 80
	TSS	111	0.0000	0.000	-1.020	No	< 80	
	10	DO	239	0.0267	0.267	1.937	No	90
		mDO	127	0.0312	0.312	1.624	No	80
		Temp	243	0.0501	0.501	1.991	Yes	95
		mTemp	128	0.0299	0.299	0.653	No	< 80
		FC	242	0.0000	0.000	1.039	No	< 80
		mFC	128	0.0000	0.000	-0.140	No	< 80
	5	DO	125	0.0405	0.203	1.098	No	< 80
		mDO	63	0.0751	0.376	0.884	No	< 80
		Temp	125	-0.1673	-0.837	-2.249	Yes	95
mTemp		63	-0.2460	-1.230	-1.641	No	80	
FC		124	-0.1664	-0.832	-1.229	No	< 80	
mFC		63	-1.0770	-5.385	-1.010	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
30	17	pH	416	-0.0159	-0.270	-4.240	Yes	95
		mpH	215	-0.0135	-0.230	-3.095	Yes	95
		DO	434	0.0116	0.196	2.009	Yes	95
		mDO	219	0.0114	0.194	1.824	No	90
		DO % sat	435	0.1143	1.943	2.890	Yes	95
		mDO % sat	219	0.1215	2.066	2.330	Yes	95
		Temp	437	0.0100	0.171	1.044	No	< 80
		mTemp	219	0.0071	0.121	0.771	No	< 80
		Turb	395	-0.1153	-1.960	-3.668	Yes	95
		mTurb	205	-0.1971	-3.351	-3.610	Yes	95
		FC	431	0.0000	0.000	0.527	No	< 80
		mFC	216	0.0000	0.000	-0.531	No	< 80
		NO3+NO2	112	0.0000	0.000	-1.315	No	80
		TKN	111	0.0000	0.000	-0.032	No	< 80
		TP	112	0.0000	0.000	-2.665	Yes	95
		OP	111	0.0000	0.000	2.355	Yes	95
		NH3	111	0.0000	0.000	-1.369	No	80
	TSS	112	0.0000	0.000	-2.083	Yes	95	
	10	DO	252	0.0582	0.582	3.672	Yes	95
		mDO	128	0.0278	0.278	1.846	No	90
		Temp	255	0.0859	0.859	3.125	Yes	95
		mTemp	128	0.1253	1.253	3.930	Yes	95
		FC	255	0.0000	0.000	0.532	No	< 80
		mFC	125	0.0000	0.000	-0.868	No	< 80
	5	DO	124	0.0299	0.149	0.687	No	< 80
		mDO	63	0.0385	0.192	1.171	No	< 80
		Temp	126	-0.0990	-0.495	-0.984	No	< 80
		mTemp	63	-0.0125	-0.063	0.000	No	< 80
		FC	126	0.0000	0.000	-0.298	No	< 80
		mFC	63	-0.5007	-2.504	-1.329	No	80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
32	17	pH	406	0.0057	0.097	1.547	No	80
		mpH	216	0.0033	0.057	0.572	No	< 80
		DO	428	0.0318	0.541	3.777	Yes	95
		mDO	220	0.0335	0.569	3.200	Yes	95
		DO % sat	431	0.2929	4.979	5.550	Yes	95
		mDO % sat	220	0.2650	4.505	4.324	Yes	95
		Temp	437	0.0333	0.567	1.791	No	90
		mTemp	220	0.0365	0.620	1.565	No	80
		Turb	394	-0.0415	-0.706	-2.232	Yes	95
		mTurb	208	-0.0919	-1.562	-2.917	Yes	95
		FC	437	-0.1253	-2.130	-2.362	Yes	95
		mFC	216	-1.0750	-18.275	-2.193	Yes	95
		NO3+NO2	112	-0.0058	-0.099	-2.050	Yes	95
		TKN	114	0.0000	0.000	-0.529	No	< 80
		TP	114	0.0000	0.000	-0.988	No	< 80
		OP	112	0.0000	0.000	0.482	No	< 80
		NH3	114	-0.0033	-0.057	-4.492	Yes	95
	TSS	112	-0.0835	-1.420	-2.000	Yes	95	
	10	DO	248	0.0988	0.988	5.872	Yes	95
		mDO	129	0.0844	0.844	4.989	Yes	95
		Temp	256	0.0866	0.866	2.030	Yes	95
		mTemp	129	0.1482	1.482	2.692	Yes	95
		FC	256	0.0000	0.000	0.603	No	< 80
		mFC	129	0.5470	5.470	0.755	No	< 80
	5	DO	121	0.0837	0.418	1.872	No	90
		mDO	63	0.0794	0.397	1.605	No	80
		Temp	125	-0.2695	-1.348	-1.849	No	90
		mTemp	63	-0.2419	-1.210	-1.975	Yes	95
		FC	125	0.0000	0.000	0.884	No	< 80
		mFC	63	1.8720	9.360	0.685	No	< 80





Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
33	17	pH	405	-0.0266	-0.453	-5.740	Yes	95
		mpH	214	-0.0260	-0.443	-4.674	Yes	95
		DO	409	-0.0121	-0.205	-0.454	No	< 80
		mDO	216	-0.0126	-0.214	-0.376	No	< 80
		DO % sat	428	-0.3409	-5.795	-1.110	No	< 80
		mDO % sat	221	-0.5063	-8.607	-1.474	No	80
		Temp	433	0.0000	0.000	0.192	No	< 80
		mTemp	219	0.0200	0.340	0.526	No	< 80
		Turb	391	-0.4512	-7.670	-5.448	Yes	95
		mTurb	204	-0.4441	-7.550	-4.456	Yes	95
		FC	434	-1.0490	-17.833	-3.463	Yes	95
		mFC	218	-1.8830	-32.011	-2.315	Yes	95
		NO3+NO2	109	0.0027	0.046	1.825	No	90
		TKN	110	0.0245	0.417	1.560	No	80
		TP	110	0.0090	0.152	1.127	No	< 80
		OP	109	0.0100	0.171	2.724	Yes	95
		NH3	110	-0.0066	-0.112	-0.759	No	< 80
	TSS	109	-1.3600	-23.120	-2.550	Yes	95	
	10	DO	240	0.1084	1.084	1.652	No	90
		mDO	128	0.1138	1.138	1.153	No	< 80
		Temp	251	0.0877	0.877	1.368	No	80
		mTemp	129	0.1333	1.333	2.190	Yes	95
		FC	251	-2.2790	-22.790	-2.838	Yes	95
		mFC	128	-2.9040	-29.040	-2.062	Yes	95
	5	DO	141	0.0104	0.052	0.081	No	< 80
		mDO	76	-0.0543	-0.272	-0.144	No	< 80
		Temp	145	-0.3703	-1.852	-2.506	Yes	95
		mTemp	76	-0.1939	-0.970	-1.250	No	< 80
		FC	146	0.3681	1.841	0.675	No	< 80
		mFC	75	4.1200	20.600	0.945	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
34	17	pH	400	-0.0332	-0.565	-7.434	Yes	95
		mpH	211	-0.0304	-0.516	-5.256	Yes	95
		DO	423	0.0616	1.047	3.259	Yes	95
		mDO	216	0.0591	1.004	2.434	Yes	95
		DO % sat	423	0.6015	10.226	3.546	Yes	95
		mDO % sat	217	0.6120	10.404	2.472	Yes	95
		Temp	427	0.0793	1.347	3.072	Yes	95
		mTemp	217	0.1065	1.811	3.559	Yes	95
		Turb	390	-0.4331	-7.363	-6.442	Yes	95
		mTurb	203	-0.5789	-9.841	-6.189	Yes	95
		FC	422	-3.0080	-51.136	-3.902	Yes	95
		mFC	204	-6.2350	-105.995	-2.605	Yes	95
		NO3+NO2	110	0.0000	0.000	-1.614	No	80
		TKN	109	-0.0200	-0.340	-2.409	Yes	95
		TP	110	0.0051	0.086	2.926	Yes	95
		OP	110	0.0031	0.053	2.174	Yes	95
		NH3	110	-0.0124	-0.211	-4.907	Yes	95
	TSS	110	-0.2533	-4.306	-1.133	No	< 80	
	10	DO	244	0.0767	0.767	1.985	Yes	95
		mDO	127	0.1223	1.223	1.834	No	90
		Temp	247	0.1628	1.628	2.717	Yes	95
		mTemp	127	0.1386	1.386	2.329	Yes	95
		FC	246	-1.4310	-14.310	-1.702	No	90
		mFC	114	-4.5120	-45.120	-1.296	No	80
	5	DO	116	-0.0518	-0.259	-0.267	No	< 80
		mDO	63	0.0624	0.312	0.505	No	< 80
		Temp	118	-0.2354	-1.177	-1.331	No	80
		mTemp	63	-0.4044	-2.022	-1.767	No	90
		FC	117	-1.5020	-7.510	-0.956	No	< 80
		mFC	63	-2.7580	-13.790	-0.507	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
35	17	pH	393	0.0136	0.232	3.393	Yes	95
		mpH	210	0.0131	0.223	2.888	Yes	95
		DO	416	0.0260	0.442	1.529	No	80
		mDO	214	0.0175	0.298	1.386	No	80
		DO % sat	416	0.2544	4.325	1.674	No	90
		mDO % sat	216	0.2005	3.409	1.454	No	80
		Temp	421	0.0497	0.844	2.752	Yes	95
		mTemp	214	0.0334	0.568	1.299	No	80
		Turb	378	-0.6587	-11.198	-4.887	Yes	95
		mTurb	200	-0.8959	-15.230	-4.468	Yes	95
		FC	415	-0.0767	-1.304	-1.200	No	< 80
		mFC	214	-0.1990	-3.383	-0.253	No	< 80
		NO3+NO2	106	0.0008	0.013	0.133	No	< 80
		TKN	106	-0.0105	-0.179	-1.033	No	< 80
		TP	107	0.0023	0.038	1.750	No	90
		OP	105	0.0000	0.000	0.250	No	< 80
		NH3	106	-0.0100	-0.171	-1.727	No	90
	TSS	105	0.0000	0.000	-0.480	No	< 80	
	10	DO	243	0.0799	0.799	2.224	Yes	95
		mDO	128	0.0618	0.618	1.821	No	90
		Temp	247	0.1772	1.772	3.822	Yes	95
		mTemp	128	0.2130	2.130	4.111	Yes	95
		FC	247	1.1220	11.220	1.538	No	80
		mFC	128	3.2770	32.770	1.224	No	< 80
	5	DO	118	0.2492	1.246	2.517	Yes	95
		mDO	63	0.1682	0.841	2.034	Yes	95
		Temp	120	0.0506	0.253	0.362	No	< 80
		mTemp	63	0.0564	0.282	0.247	No	< 80
		FC	121	0.0000	0.000	-0.360	No	< 80
		mFC	63	2.5120	12.560	0.308	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
36	17	pH	406	-0.0220	-0.375	-5.936	Yes	95
		mpH	217	-0.0233	-0.396	-4.088	Yes	95
		DO	422	0.0212	0.360	0.998	No	< 80
		mDO	219	0.0314	0.534	1.041	No	< 80
		DO % sat	429	0.2640	4.488	1.158	No	< 80
		mDO % sat	221	0.1816	3.087	0.841	No	< 80
		Temp	433	0.0143	0.243	0.497	No	< 80
		mTemp	220	0.0389	0.661	0.867	No	< 80
		Turb	389	-0.0521	-0.886	-1.179	No	< 80
		mTurb	206	-0.0942	-1.602	-1.625	No	80
		FC	437	0.7965	13.541	2.656	Yes	95
		mFC	220	1.2110	20.587	1.420	No	80
		NO3+NO2	112	0.0000	0.000	-0.873	No	< 80
		TKN	112	-0.0174	-0.296	-2.189	Yes	95
		TP	112	0.0050	0.085	3.034	Yes	95
		OP	112	0.0033	0.056	2.358	Yes	95
		NH3	112	-0.0100	-0.171	-4.304	Yes	95
	TSS	112	0.0000	0.000	-0.518	No	< 80	
	10	DO	245	0.0318	0.318	0.697	No	< 80
		mDO	128	0.0014	0.014	0.092	No	< 80
		Temp	253	0.1145	1.145	1.751	No	90
		mTemp	128	0.1882	1.882	2.512	Yes	95
		FC	254	0.0000	0.000	0.965	No	< 80
		mFC	128	1.3370	13.370	0.761	No	< 80
	5	DO	122	-0.1872	-0.936	-1.206	No	< 80
		mDO	63	-0.3281	-1.641	-1.417	No	80
		Temp	124	-0.2500	-1.250	-1.648	No	90
		mTemp	63	-0.2169	-1.085	-1.358	No	80
FC		125	0.0000	0.000	-0.617	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 (%)
37	17	pH	402	-0.0136	-0.232	-4.215	Yes	95
		mpH	214	-0.0141	-0.240	-2.590	Yes	95
		DO	409	0.0162	0.276	0.676	No	< 80
		mDO	215	0.0265	0.451	0.984	No	< 80
		DO % sat	426	-0.0200	-0.340	-0.080	No	< 80
		mDO % sat	219	-0.1000	-1.699	-0.337	No	< 80
		Temp	430	0.0300	0.509	0.990	No	< 80
		mTemp	218	0.0357	0.607	1.459	No	80
		Turb	390	-0.0353	-0.600	-0.523	No	< 80
		mTurb	205	-0.2500	-4.250	-2.264	Yes	95
		FC	433	5.3960	91.732	4.140	Yes	95
		mFC	217	9.1820	156.094	3.635	Yes	95
		NO3+NO2	112	0.0000	0.000	0.107	No	< 80
		TKN	112	0.0000	0.000	0.000	No	< 80
		TP	112	0.0101	0.172	2.163	Yes	95
		OP	112	0.0100	0.171	2.722	Yes	95
		NH3	112	-0.0160	-0.272	-0.700	No	< 80
	TSS	112	-0.3342	-5.681	-0.850	No	< 80	
	10	DO	239	0.0856	0.856	1.288	No	80
		mDO	126	0.0823	0.823	1.202	No	< 80
		Temp	249	0.0992	0.992	1.341	No	80
		mTemp	127	0.1378	1.378	2.095	Yes	95
		FC	250	14.3800	143.800	3.627	Yes	95
		mFC	126	23.0800	230.800	3.041	Yes	95
	5	DO	120	-0.2263	-1.132	-1.463	No	80
		mDO	63	-0.3339	-1.670	-1.541	No	80
		Temp	122	-0.0331	-0.166	-0.102	No	< 80
		mTemp	63	-0.0411	-0.206	0.309	No	< 80
		FC	123	-5.0170	-25.085	-0.758	No	< 80
		mFC	63	-31.9300	-159.650	-0.801	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
38	17	pH	399	-0.0251	-0.426	-5.848	Yes	95
		mpH	214	-0.0250	-0.426	-4.244	Yes	95
		DO	399	-0.0059	-0.101	-0.209	No	< 80
		mDO	211	-0.0279	-0.474	-0.810	No	< 80
		DO % sat	416	-0.1051	-1.787	-0.351	No	< 80
		mDO % sat	219	-0.3124	-5.311	-0.979	No	< 80
		Temp	427	0.0201	0.341	0.834	No	< 80
		mTemp	218	0.0251	0.426	0.804	No	< 80
		Turb	386	-0.3216	-5.467	-3.492	Yes	95
		mTurb	204	-0.4119	-7.002	-3.625	Yes	95
		FC	427	0.9901	16.832	2.153	Yes	95
		mFC	218	1.6640	28.288	1.365	No	80
		NO3+NO2	111	0.0025	0.043	1.309	No	80
		TKN	111	0.0167	0.284	0.887	No	< 80
		TP	111	0.0155	0.264	2.035	Yes	95
		OP	111	0.0173	0.293	4.033	Yes	95
		NH3	111	-0.0100	-0.170	-0.324	No	< 80
	TSS	111	-0.4992	-8.486	-1.019	No	< 80	
	10	DO	235	0.0315	0.315	0.449	No	< 80
		mDO	125	0.0095	0.095	0.072	No	< 80
		Temp	252	0.0285	0.285	0.575	No	< 80
		mTemp	129	0.0970	0.970	1.322	No	80
		FC	252	-2.8480	-28.480	-1.867	No	90
		mFC	129	-6.6120	-66.120	-1.550	No	80
	5	DO	118	-0.7036	-3.518	-2.564	Yes	95
		mDO	62	-0.6961	-3.481	-2.441	Yes	95
		Temp	121	-0.2356	-1.178	-1.677	No	90
		mTemp	63	-0.1589	-0.795	-0.864	No	< 80
		FC	122	-9.0250	-45.125	-1.796	No	90
		mFC	63	-25.8500	-129.250	-1.787	No	90



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
39	17	pH	405	-0.0185	-0.315	-6.537	Yes	95
		mpH	216	-0.0183	-0.311	-4.397	Yes	95
		DO	428	0.0070	0.119	0.957	No	< 80
		mDO	219	0.0058	0.098	0.432	No	< 80
		DO % sat	430	0.0498	0.846	1.127	No	< 80
		mDO % sat	221	0.0501	0.852	0.843	No	< 80
		Temp	434	0.0000	0.000	-0.351	No	< 80
		mTemp	220	0.0055	0.094	0.356	No	< 80
		Turb	389	-0.0389	-0.661	-1.246	No	< 80
		mTurb	205	-0.0915	-1.555	-1.741	No	90
		FC	434	-0.5829	-9.909	-2.695	Yes	95
		mFC	220	-2.0220	-34.374	-2.729	Yes	95
		NO3+NO2	112	0.0008	0.013	0.341	No	< 80
		TKN	112	-0.0011	-0.018	-0.901	No	< 80
		TP	112	0.0000	0.000	2.716	Yes	95
		OP	112	0.0017	0.028	3.854	Yes	95
		NH3	112	-0.0018	-0.030	-1.731	No	90
	TSS	112	0.0000	0.000	-0.864	No	< 80	
	10	DO	249	0.0334	0.334	1.503	No	80
		mDO	130	-0.0050	-0.050	-0.113	No	< 80
		Temp	253	0.0165	0.165	0.519	No	< 80
		mTemp	130	0.1000	1.000	1.921	No	90
		FC	253	0.0000	0.000	-0.809	No	< 80
		mFC	130	1.0600	10.600	0.632	No	< 80
	5	DO	121	0.1352	0.676	2.531	Yes	95
		mDO	63	0.0998	0.499	1.787	No	90
		Temp	123	-0.2786	-1.393	-2.550	Yes	95
		mTemp	63	-0.2555	-1.278	-1.235	No	< 80
		FC	124	-5.8000	-29.000	-2.487	Yes	95
		mFC	63	-4.7800	0.000	-1.171	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
40	17	pH	378	-0.0134	-0.228	-4.053	Yes	95
		mpH	196	-0.0119	-0.202	-2.526	Yes	95
		DO	402	-0.0102	-0.174	-0.733	No	< 80
		mDO	200	0.0036	0.060	0.181	No	< 80
		DO % sat	402	-0.0944	-1.605	-0.589	No	< 80
		mDO % sat	202	0.0301	0.511	0.262	No	< 80
		Temp	404	0.0000	0.000	0.017	No	< 80
		mTemp	202	-0.0539	-0.917	-2.507	Yes	95
		Turb	367	0.1137	1.933	1.126	No	< 80
		mTurb	187	0.1526	2.594	0.990	No	< 80
		FC	400	0.0000	0.000	0.190	No	< 80
		mFC	201	0.4982	8.469	0.670	No	< 80
		NO3+NO2	104	0.0000	0.000	-0.078	No	< 80
		TKN	105	-0.0090	-0.152	-1.216	No	< 80
		TP	105	0.0022	0.038	3.308	Yes	95
		OP	104	0.0000	0.000	0.026	No	< 80
		NH3	105	-0.0144	-0.245	-2.139	Yes	95
	TSS	104	0.0000	0.000	-0.212	No	< 80	
	10	DO	224	-0.0838	-0.838	-2.371	Yes	95
		mDO	113	-0.0811	-0.811	-1.525	No	80
		Temp	225	0.1322	1.322	2.809	Yes	95
		mTemp	113	0.0000	0.000	0.111	No	< 80
		FC	225	0.0000	0.000	-0.259	No	< 80
		mFC	113	1.2540	12.540	0.861	No	< 80
	5	DO	96	0.2774	1.387	1.846	No	80
		mDO	49	0.3146	1.573	2.035	Yes	95
		Temp	96	-0.3630	-1.815	-2.316	Yes	95
		mTemp	49	-0.4551	-2.276	-1.796	No	80
		FC	96	9.8380	49.190	2.878	Yes	95
		mFC	49	12.5000	62.500	1.899	No	90





Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
41	17	pH	409	-0.0042	-0.072	-1.294	No	80
		mpH	214	-0.0017	-0.028	-0.362	No	< 80
		DO	433	0.0655	1.114	3.457	Yes	95
		mDO	217	0.0765	1.300	2.870	Yes	95
		DO % sat	434	0.5589	9.501	3.119	Yes	95
		mDO % sat	219	0.5250	8.925	2.414	Yes	95
		Temp	438	0.0000	0.000	-0.254	No	< 80
		mTemp	219	0.0046	0.078	0.149	No	< 80
		Turb	400	0.3032	5.154	6.297	Yes	95
		mTurb	204	0.2811	4.779	3.873	Yes	95
		FC	436	1.0020	17.034	2.694	Yes	95
		mFC	218	1.7930	30.481	2.123	Yes	95
		NO3+NO2	113	0.0000	0.000	-0.486	No	< 80
		TKN	112	-0.0100	-0.171	1.276	No	< 80
		TP	113	0.0061	0.104	4.199	Yes	95
		OP	113	0.0042	0.071	5.118	Yes	95
		NH3	113	-0.0067	-0.114	-2.768	Yes	95
	TSS	113	0.3317	5.639	3.004	Yes	95	
	10	DO	252	0.1859	1.859	3.822	Yes	95
		mDO	128	0.1386	1.386	2.751	Yes	95
		Temp	256	-0.0142	-0.142	-0.248	No	< 80
		mTemp	128	-0.0489	-0.489	-0.583	No	< 80
		FC	256	0.0000	0.000	0.250	No	< 80
		mFC	128	0.0000	0.000	0.047	No	< 80
	5	DO	124	-0.2605	-1.303	-1.032	No	< 80
		mDO	63	-0.2156	-1.078	-1.010	No	< 80
		Temp	126	-0.2687	-1.344	-1.926	No	90
		mTemp	63	-0.4686	-2.343	-2.146	Yes	95
		FC	125	0.0000	0.000	-0.538	No	< 80
		mFC	63	-3.3490	-16.745	-0.507	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
42	17	pH	407	-0.0023	-0.039	-0.696	No	< 80
		mpH	211	-0.0025	-0.042	-0.506	No	< 80
		DO	431	0.1022	1.737	6.625	Yes	95
		mDO	216	0.1127	1.916	5.761	Yes	95
		DO % sat	433	0.7682	13.059	6.882	Yes	95
		mDO % sat	218	0.8229	13.989	6.152	Yes	95
		Temp	436	0.0333	0.566	1.747	No	90
		mTemp	217	-0.0285	-0.484	-1.400	No	80
		Turb	397	0.0549	0.933	3.965	Yes	95
		mTurb	203	0.0608	1.033	2.869	Yes	95
		FC	430	1.6710	28.407	4.423	Yes	95
		mFC	216	2.3500	39.950	3.129	Yes	95
		NO3+NO2	113	-0.0070	-0.119	-1.057	No	< 80
		TKN	112	-0.0125	-0.212	-2.608	Yes	95
		TP	112	0.0000	0.000	0.580	No	< 80
		OP	113	0.0005	0.008	1.681	No	90
		NH3	113	-0.0033	-0.056	-3.056	Yes	95
	TSS	113	0.0000	0.000	1.681	No	90	
	10	DO	251	-0.0751	-0.751	-2.340	Yes	95
		mDO	128	-0.0628	-0.628	-1.282	No	< 80
		Temp	255	0.0399	0.399	0.867	No	< 80
		mTemp	128	-0.0162	-0.162	-0.327	No	< 80
		FC	254	0.0000	0.000	0.626	No	< 80
		mFC	128	1.3760	13.760	0.420	No	< 80
	5	DO	125	-0.1995	-0.998	-2.078	Yes	95
		mDO	63	-0.1352	-0.676	-1.515	No	80
		Temp	126	-0.1999	-1.000	-1.476	No	80
		mTemp	63	-0.3722	-1.861	-1.774	No	90
		FC	125	5.5150	27.575	2.550	Yes	95
		mFC	63	7.6040	38.020	2.222	Yes	95



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
43	17	pH	401	-0.0200	-0.339	-5.807	Yes	95
		mpH	209	-0.0201	-0.341	-4.616	Yes	95
		DO	426	-0.0281	-0.477	-1.343	No	80
		mDO	212	-0.0196	-0.333	-0.838	No	< 80
		DO % sat	428	-0.2982	-5.069	-1.282	No	80
		mDO % sat	216	-0.1783	-3.031	-0.738	No	< 80
		Temp	430	0.0000	0.000	0.340	No	< 80
		mTemp	214	0.0214	0.363	1.322	No	80
		Turb	393	0.3231	5.493	5.873	Yes	95
		mTurb	200	0.2864	4.869	3.980	Yes	95
		FC	423	0.3321	5.646	2.026	Yes	95
		mFC	214	2.4600	41.820	2.533	Yes	95
		NO3+NO2	110	0.0000	0.000	0.376	No	< 80
		TKN	109	0.0058	0.098	0.923	No	< 80
		TP	110	0.0000	0.000	0.164	No	< 80
		OP	110	0.0000	0.000	-0.140	No	< 80
		NH3	110	-0.0036	-0.062	-1.345	No	80
	TSS	110	0.1829	3.109	1.356	No	80	
	10	DO	253	0.0408	0.408	0.816	No	< 80
		mDO	127	0.1372	1.372	1.364	No	80
		Temp	257	0.0332	0.332	0.919	No	< 80
		mTemp	128	0.0313	0.313	0.631	No	< 80
		FC	254	0.0000	0.000	0.679	No	< 80
		mFC	128	1.4670	14.670	0.513	No	< 80
	5	DO	126	-0.1255	-0.628	-0.822	No	< 80
		mDO	63	-0.0676	-0.338	-0.505	No	< 80
		Temp	127	-0.1020	-0.510	-1.219	No	< 80
		mTemp	63	-0.3025	-1.513	-1.581	No	80
		FC	124	-2.9550	-14.775	-1.224	No	< 80
		mFC	63	1.4410	7.205	0.063	No	< 80



Site	Period (years)	Parameter	n	Slope	$\Delta$ (units/period)	Z-score	Significant (95%)	Confidence (%)
44	17	pH	365	-0.0405	-0.688	-9.629	Yes	95
		mpH	192	-0.0416	-0.707	-7.511	Yes	95
		DO	385	-0.0980	-1.665	-4.057	Yes	95
		mDO	195	-0.0870	-1.478	-2.984	Yes	95
		DO % sat	388	-0.9867	-16.774	-4.138	Yes	95
		mDO % sat	197	-0.8482	-14.419	-2.609	Yes	95
		Temp	392	0.0167	0.283	0.705	No	< 80
		mTemp	197	0.0346	0.588	1.230	No	< 80
		Turb	355	-0.0144	-0.245	-0.140	No	< 80
		mTurb	184	-0.0874	-1.485	-1.049	No	< 80
		FC	389	0.0000	0.000	0.266	No	< 80
		mFC	197	0.0832	1.415	0.172	No	< 80
		NO3+NO2	91	-0.0011	-0.018	-0.892	No	< 80
		TKN	91	-0.0166	-0.283	-1.242	No	< 80
		TP	92	0.0089	0.151	4.794	Yes	95
		OP	91	0.0000	0.000	-0.499	No	< 80
		NH3	92	-0.0065	-0.110	-1.474	No	80
	TSS	91	-0.0978	-1.663	-0.484	No	< 80	
	10	DO	250	-0.0099	-0.099	-0.124	No	< 80
		mDO	127	0.0000	0.000	0.000	No	< 80
		Temp	253	0.0199	0.199	0.339	No	< 80
		mTemp	128	0.0401	0.401	0.630	No	< 80
		FC	253	-3.9780	-39.780	-2.508	Yes	95
		mFC	128	-5.1590	-51.590	-2.007	Yes	95
	5	DO	122	-0.0590	-0.295	-0.325	No	< 80
		mDO	62	-0.0768	-0.768	-0.579	No	< 80
		Temp	123	0.0246	0.123	0.198	No	< 80
mTemp		63	0.0167	0.084	0.127	No	< 80	
FC		123	-12.7000	-63.500	-2.651	Yes	95	
mFC		63	-14.3400	-71.700	-2.281	Yes	95	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
45	17	pH	393	0.0143	0.242	2.945	Yes	95
		mpH	212	0.0134	0.228	2.339	Yes	95
		DO	413	0.0144	0.245	2.560	Yes	95
		mDO	214	0.0094	0.160	1.307	No	80
		DO % sat	413	0.0899	1.528	2.263	Yes	95
		mDO % sat	217	0.0664	1.129	1.344	No	80
		Temp	421	0.0000	0.000	0.270	No	< 80
		mTemp	217	0.0131	0.222	0.826	No	< 80
		Turb	386	-0.1923	-3.269	-4.745	Yes	95
		mTurb	201	-0.2300	-3.910	-3.536	Yes	95
		FC	415	0.0000	0.000	-1.308	No	80
		mFC	217	-0.0833	-1.416	-1.709	No	90
		NO3+NO2	108	0.0000	0.000	-0.677	No	< 80
		TKN	107	0.0000	0.000	0.284	No	< 80
		TP	107	0.0000	0.000	-2.937	Yes	95
		OP	107	0.0000	0.000	2.327	Yes	95
		NH3	108	0.0000	0.000	-0.882	No	< 80
	TSS	108	-0.1933	-3.286	-1.787	No	90	
	10	DO	220	0.0691	0.691	4.262	Yes	95
		mDO	115	0.0884	0.884	4.250	Yes	95
		Temp	222	0.0125	0.125	0.443	No	< 80
		mTemp	115	-0.0427	-0.427	-1.005	No	< 80
		FC	221	0.0000	0.000	-0.227	No	< 80
		mFC	115	-0.0504	-0.504	-0.461	No	< 80
	5	DO	124	0.0958	0.479	2.054	Yes	95
		mDO	63	0.0881	0.440	1.389	No	80
		Temp	125	-0.1003	-0.502	-1.643	No	80
		mTemp	63	-0.1505	-0.753	-1.206	No	< 80
		FC	125	0.0000	0.000	-0.575	No	< 80
		mFC	63	-0.3923	-1.962	-1.075	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
46	17	pH	399	0.0087	0.147	2.024	Yes	95
		mpH	210	0.0064	0.110	1.144	No	< 80
		DO	424	0.0172	0.292	3.516	Yes	95
		mDO	216	0.0256	0.436	3.911	Yes	95
		DO % sat	425	0.1010	1.717	3.021	Yes	95
		mDO % sat	218	0.1087	1.848	2.406	Yes	95
		Temp	428	0.0000	0.000	0.351	No	< 80
		mTemp	217	-0.0248	-0.422	-1.622	No	80
		Turb	394	-0.1971	-3.351	-5.059	Yes	95
		mTurb	203	-0.2418	-4.111	-3.733	Yes	95
		FC	427	0.0000	0.000	1.023	No	< 80
		mFC	217	0.1266	2.152	1.386	No	80
		NO3+NO2	110	0.0000	0.000	0.238	No	< 80
		TKN	109	0.0000	0.000	1.135	No	< 80
		TP	109	0.0000	0.000	-1.612	No	80
		OP	109	0.0000	0.000	2.639	Yes	95
		NH3	110	0.0000	0.000	1.600	No	80
	TSS	109	-0.3321	-5.646	-2.692	Yes	95	
	10	DO	248	0.0517	0.517	4.235	Yes	95
		mDO	128	0.0703	0.703	4.012	Yes	95
		Temp	251	0.0597	0.597	2.046	Yes	95
		mTemp	128	0.0244	0.244	0.467	No	< 80
		FC	252	0.2494	2.494	2.311	Yes	95
		mFC	128	0.4565	4.565	1.989	Yes	95
	5	DO	123	0.0769	0.385	2.245	Yes	95
		mDO	63	0.0968	0.484	2.087	Yes	95
		Temp	124	-0.1417	-0.709	-2.069	Yes	95
mTemp		63	-0.1861	-0.931	-1.394	No	80	
FC		126	0.0000	0.000	0.245	No	< 80	
mFC		63	0.0000	0.000	0.064	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
47	17	pH	411	-0.0585	-0.994	-13.740	Yes	95
		mpH	214	-0.0627	-1.065	-10.490	Yes	95
		DO	435	0.0020	0.034	0.214	No	< 80
		mDO	217	-0.0033	-0.057	-0.398	No	< 80
		DO % sat	436	0.0262	0.445	0.473	No	< 80
		mDO % sat	219	0.0571	0.971	0.900	No	< 80
		Temp	439	0.0273	0.463	2.558	Yes	95
		mTemp	218	0.0369	0.627	2.916	Yes	95
		Turb	400	-0.0145	-0.247	-0.731	No	< 80
		mTurb	204	-0.0179	-0.304	-0.786	No	< 80
		FC	432	0.0000	0.000	2.626	Yes	95
		mFC	217	0.1392	2.366	2.503	Yes	95
		NO3+NO2	113	0.0047	0.081	3.447	Yes	95
		TKN	112	0.0000	0.000	1.578	No	80
		TP	113	0.0003	0.005	2.586	Yes	95
		OP	113	0.0020	0.034	3.976	Yes	95
		NH3	113	-0.0012	-0.020	-2.769	Yes	95
	TSS	113	-1.0020	-17.034	-2.358	Yes	95	
	10	DO	254	0.0149	0.149	0.829	No	< 80
		mDO	128	0.0226	0.226	1.026	No	< 80
		Temp	257	0.0830	0.830	3.668	Yes	95
		mTemp	128	0.0561	0.561	2.173	Yes	95
		FC	254	0.0000	0.000	-0.413	No	< 80
		mFC	127	-0.0388	-0.388	-0.496	No	< 80
	5	DO	126	0.0369	0.185	0.532	No	< 80
		mDO	63	-0.0112	-0.056	0.000	No	< 80
		Temp	127	-0.0966	-0.483	-1.174	No	< 80
		mTemp	63	-0.1248	-0.624	-1.333	No	80
		FC	125	0.0000	0.000	-1.016	No	< 80
		mFC	62	-0.5134	-2.567	-0.902	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
48	17	pH	410	-0.0188	-0.319	-6.037	Yes	95
		mpH	214	-0.0175	-0.298	-4.533	Yes	95
		DO	433	0.0254	0.432	3.943	Yes	95
		mDO	217	0.0226	0.384	3.036	Yes	95
		DO % sat	434	0.1982	3.369	4.997	Yes	95
		mDO % sat	219	0.2003	3.405	3.960	Yes	95
		Temp	437	0.0283	0.482	2.370	Yes	95
		mTemp	218	0.0355	0.603	2.475	Yes	95
		Turb	400	0.0040	0.068	0.403	No	< 80
		mTurb	204	-0.0041	-0.070	-0.235	No	< 80
		FC	431	0.0000	0.000	-1.113	No	< 80
		mFC	218	-1.0750	-18.275	-1.600	No	80
		NO3+NO2	113	-0.0041	-0.070	-1.873	No	90
		TKN	111	-0.0120	-0.204	-2.881	Yes	95
		TP	112	0.0018	0.031	4.014	Yes	95
		OP	113	0.0019	0.032	1.083	No	< 80
		NH3	112	-0.0055	-0.093	-6.945	Yes	95
	TSS	113	0.0000	0.000	-0.232	No	< 80	
	10	DO	253	0.0682	0.682	4.158	Yes	95
		mDO	128	0.0762	0.762	3.636	Yes	95
		Temp	255	0.1658	1.658	0.706	No	< 80
		mTemp	128	0.0000	0.000	0.000	No	< 80
		FC	253	0.0000	0.000	0.158	No	< 80
		mFC	127	0.0000	0.000	0.047	No	< 80
	5	DO	125	0.0820	0.410	2.104	Yes	95
		mDO	63	0.0572	0.286	1.010	No	< 80
		Temp	126	-0.1000	-0.500	-1.112	No	< 80
		mTemp	63	-0.1510	-0.755	-1.707	No	90
		FC	125	-3.9750	-19.875	-1.485	No	80
		mFC	63	-6.7690	-33.845	-1.647	No	90