



Appendix B - Summary statistics for sample sites, Oct. 2003 – Sep. 2019

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
Site 3: Thomas Creek at Highway 99															
n	381	404	405	409	365	402	408.0	409	108	108	108	107	107	108	107
Mean	6.94	6.64	57.43	10.71	14.66	151.72	0.1	436	0.59	0.77	0.08	0.04	0.57	0.12	8
SD	0.24	3.20	25.50	4.72	13.94	97.85	0.0	4570	0.53	0.51	0.05	0.03	0.53	0.13	13
Max	7.54	12.45	114.50	20.20	113.00	1799.00	0.2	92000	2.22	3.68	0.36	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	0.23	0.02	0.01	0.01	0.01	2
Site 4: Thomas Creek at F&S Grade Road															
n	387	408	409	412	370	401	410.0	409	109	109	109	109	108	109	109
Mean	7.24	11.08	95.79	9.40	20.46	122.87	0.0	683	1.02	0.49	0.06	0.04	1.01	0.05	14
SD	0.31	1.27	6.90	3.79	30.36	49.83	0.0	2077	0.30	0.30	0.04	0.03	0.30	0.04	26
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	0.20	0.03	0.01	0.01	0.01	2
Site 6: Friday Creek at Prairie Road															
n	387	406	408	413	371	410	413.0	413	109	109	109	109	108	109	109
Mean	7.30	11.21	99.49	10.53	6.18	78.88	0.0	113	0.52	0.39	0.05	0.02	0.52	0.03	9
SD	0.38	1.25	6.94	4.64	10.40	20.86	0.0	292	0.28	0.24	0.06	0.01	0.28	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	0.07	0.20	0.01	0.01	0.07	0.01	2
Site 8: Swede Creek at Grip Road															
n	387	409	410	413	371	400	414.0	413	109	109	109	109	108	109	109
Mean	7.15	10.72	92.68	9.63	14.20	68.27	0.0	176	0.45	0.46	0.05	0.03	0.43	0.05	12
SD	0.30	1.76	7.97	4.44	20.77	17.36	0.0	413	0.37	0.27	0.03	0.02	0.34	0.03	33
Max	8.41	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	0.04	0.25	0.02	0.01	0.01	0.01	2
Site 11: Samish River at Highway 9															
No.	391	412	413	415	373	407	416.0	416	108	109	109	108	108	109	108
Mean	7.01	8.66	74.30	8.94	3.47	72.16	0.0	47	0.31	0.29	0.04	0.01	0.31	0.03	8
SD	0.31	1.34	7.81	3.43	9.46	19.34	0.0	251	0.12	0.13	0.05	0.01	0.12	0.03	35
Max	8.09	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 units	DO mg/L	DO % sat	Temp °C	Turb NTU	Conductivity (°C compensated) µs/cm	Salinity ppt	Fecal Coliform cfu/100ml	Nitrite + Nitrate mg/L	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Ortho- Phosphate mg/L	Nitrate mg/L	Ammonia mg/L	TSS mg/L
Site 12: Nookachamps Creek at Swan Road															
No.	363	387	389	391	357	389	391.0	387	104	103	104	104	103	104	104
Mean	7.17	9.13	81.06	11.13	7.88	106.61	0.0	136	0.39	0.51	0.06	0.02	0.38	0.08	10
SD	0.29	2.07	13.37	5.62	14.98	33.62	0.0	236	0.23	0.23	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
Site 13: East Fork Nookachamps Creek at Highway 9															
No.	383	408	409	410	375	408	411.0	406	108	107	108	108	107	108	108
Mean	7.28	9.83	86.51	10.17	5.10	92.16	0.0	134	0.31	0.38	0.04	0.01	0.30	0.05	6
SD	0.31	1.52	9.41	5.03	8.37	27.70	0.0	288	0.21	0.17	0.02	0.01	0.21	0.04	12
Max	8.07	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	4.21	39.30	0.50	0.00	38.50	0.0	1	0.01	0.23	0.01	0.01	0.01	0.01	2
Site 14: College Way Creek at College Way															
No.	383	412	413	414	375	410	414.0	408	107	106	107	107	106	107	107
Mean	7.30	9.23	81.41	10.65	7.02	222.02	0.1	455	0.40	0.54	0.06	0.06	0.39	0.07	5
SD	0.28	2.32	15.22	4.17	26.29	50.63	0.0	1170	0.33	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	0.25	0.02	0.01	0.01	0.01	2
Site 15: Nookachamps Creek at Knapp Road															
No.	386	411	412	414	377	413	414.0	409	109	108	109	109	108	109	109
Mean	7.23	8.10	72.52	12.03	5.19	113.16	0.0	176	0.31	0.64	0.08	0.06	0.30	0.10	6
SD	0.28	3.35	26.19	5.51	4.04	35.14	0.0	434	0.28	0.26	0.06	0.09	0.27	0.08	5
Max	7.92	13.51	114.30	23.10	62.40	241.70	0.1	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	0.01	0.25	0.05	0.01	0.01	0.01	2
Site 16: East Fork Nookachamps Creek at Beaver Lake Road															
No.	385	411	412	414	377	410	414.0	408	108	107	108	108	107	108	108
Mean	7.43	11.42	98.91	9.47	3.78	89.63	0.0	134	0.34	0.32	0.04	0.01	0.33	0.03	6
SD	0.31	1.30	5.66	4.67	8.31	32.64	0.0	823	0.21	0.16	0.02	0.01	0.20	0.02	21
Max	8.10	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	29.20	0.0	1	0.01	0.20	0.01	0.01	0.01	0.01	2



Metric	pH units	DO mg/L	DO % sat	Temp °C	Turb NTU	Conductivity (°C compensated) µs/cm	Salinity ppt	Fecal Coliform cfu/100ml	Nitrite + Nitrate mg/L	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Ortho- Phosphate mg/L	Nitrate mg/L	Ammonia mg/L	TSS mg/L
Site 17: Nookachamps Creek at Big Lake Outlet															
No.	383	411	412	414	376	412	414.0	407	109	108	109	109	108	109	109
Mean	7.45	9.93	91.77	12.72	2.47	87.61	0.0	39	0.24	0.44	0.04	0.02	0.23	0.05	3
SD	0.31	1.89	9.72	5.97	1.90	14.10	0.0	90	0.22	0.21	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	49.40	0.0	1	0.01	0.22	0.01	0.01	0.01	0.01	2
Site 18: Lake Creek at Highway 9															
No.	387	411	412	415	378	414	415.0	410	109	108	109	109	108	109	109
Mean	7.45	11.01	96.54	9.94	2.85	90.55	0.0	193	0.46	0.37	0.04	0.02	0.46	0.03	5
SD	0.32	1.34	5.56	4.02	3.87	24.98	0.0	933	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	44.00	0.0	1	0.05	0.20	0.01	0.01	0.05	0.01	2
Site 19: Hansen Creek at Hoehn Road															
No.	371	392	393	394	356	382	394.0	393	106	106	107	106	106	106	106
Mean	7.09	10.31	88.49	9.13	15.16	81.84	0.0	232	0.43	0.42	0.07	0.02	0.42	0.04	36
SD	0.30	1.45	6.91	4.29	69.55	18.89	0.0	444	0.22	0.62	0.16	0.04	0.22	0.03	139
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	0.22	0.01	0.01	0.03	0.01	2
Site 20: Hansen Creek at Northern State Hospital															
No.	387	410	411	411	369	406	412.0	409	109	109	109	109	108	109	109
Mean	7.14	11.13	95.69	9.00	15.80	79.07	0.0	115	0.47	0.37	0.10	0.02	0.46	0.03	61
SD	0.30	1.18	4.67	3.65	77.38	21.42	0.0	238	0.24	0.33	0.27	0.03	0.24	0.03	237
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	0.20	0.01	0.01	0.05	0.01	2
Site 21: Coal Creek at Hoehn Road															
No.	335	358	358	359	321	348	359.0	356	97	97	96	97	96	97	96
Mean	7.10	11.15	93.39	8.13	13.72	81.38	0.0	289	0.76	0.33	0.06	0.02	0.76	0.03	22
SD	0.29	1.48	5.70	4.08	64.79	24.25	0.0	655	0.30	0.19	0.07	0.03	0.30	0.04	70
Max	8.32	15.05	115.90	17.50	1005.00	229.50	0.1	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	0.20	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
Site 22: Coal Creek at Highway 20															
No.	390	408	409	412	373	402	411.0	411	107	108	108	107	107	108	107
Mean	7.22	11.75	99.20	8.31	11.66	80.03	0.0	72	0.63	0.32	0.06	0.01	0.63	0.02	23
SD	0.41	1.21	4.56	3.89	67.67	22.02	0.0	285	0.31	0.21	0.11	0.02	0.31	0.02	90
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	6.05	8.33	73.20	0.00	0.00	18.30	0.0	1	0.01	0.18	0.01	0.01	0.16	0.01	2
Site 23: Wiseman Creek at Minkler Road															
No.	347	368	370	371	333	365	371.0	369	102	103	103	103	101	103	102.0
Mean	7.24	11.89	100.14	8.05	14.46	74.40	0.0	78	0.93	0.33	0.07	0.02	0.93	0.02	27.5
SD	0.36	1.04	5.43	3.39	85.82	19.31	0.0	316	0.32	0.20	0.13	0.02	0.32	0.03	109.4
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	0.43	0.16	0.01	0.01	0.22	0.01	2.0
Site 24: Mannser Creek at Lyman-Hamilton Highway															
No.	394	413	414	415	374	409	416.0	412	109	109	109	109	108	109	109
Mean	6.94	6.72	57.47	8.64	1.98	108.13	0.1	42	0.23	0.35	0.05	0.03	0.23	0.02	4
SD	0.29	1.47	11.81	2.92	2.01	21.09	0.0	91	0.12	0.56	0.03	0.06	0.12	0.02	5
Max	7.90	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	56.20	0.0	1	0.01	0.20	0.01	0.01	0.01	0.01	2
Site 25: Red Cabin Creek at Hamilton Cemetery Road															
No.	320	333	335	336	304	334	335.0	334	91	91	91	91	90	91	91
Mean	7.25	11.82	98.72	7.55	3.42	67.20	0.0	44	0.53	0.29	0.05	0.02	0.52	0.02	10
SD	0.38	0.79	4.89	2.36	22.34	21.33	0.0	171	0.21	0.15	0.05	0.02	0.19	0.02	45
Max	8.25	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	0.25	0.20	0.01	0.01	0.23	0.01	2
Site 28: Brickyard Creek at Highway 20															
No.	284	297	298	299	271	294	300.0	298	81	81	81	81	80	81	81
Mean	7.08	9.33	79.40	8.81	8.51	105.78	0.0	151	0.62	0.55	0.05	0.03	0.62	0.08	5
SD	0.44	1.79	9.76	4.02	6.91	36.98	0.0	299	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	4.34	44.60	0.00	0.53	-99.00	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 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
Site 29: Skagit River at River Bend															
No.	388	410	411	416	378	412	416.0	408	107	105	106	107	106	107	107
Mean	7.23	11.12	95.76	9.08	12.43	54.70	0.0	33	0.08	0.32	0.05	0.01	0.08	0.04	24
SD	0.46	1.04	4.84	3.76	38.80	11.60	0.0	118	0.05	0.26	0.05	0.02	0.05	0.26	59
Max	8.84	13.68	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	5.88	7.63	78.10	0.90	0.78	28.60	0.0	1	0.01	0.20	0.01	0.01	0.01	0.01	2
Site 30: Skagit River at Cape Horn Road															
No.	394	413	414	415	373	413	415.0	409	108	108	108	108	107	108	108
Mean	7.16	11.25	96.01	8.63	9.38	57.35	0.0	11	0.08	0.28	0.05	0.01	0.08	0.02	21
SD	0.36	1.06	4.69	3.43	23.15	12.66	0.0	33	0.07	0.13	0.07	0.02	0.07	0.01	59
Max	8.49	14.24	118.00	16.30	238.00	132.20	0.1	540	0.65	1.34	0.49	0.17	0.65	0.07	501
Min	6.02	7.64	72.50	0.00	0.00	27.70	0.0	1	0.01	0.20	0.01	0.01	0.01	0.01	2
Site 31: Drainage District 20 ditch at floodgate															
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
Site 32: Samish River at Thomas Road															
No.	384	406	408	414	371	411	413.0	415	108	110	110	108	108	110	108
Mean	7.51	10.81	97.05	10.80	11.53	96.17	0.1	177	0.60	0.39	0.06	0.03	0.60	0.06	20
SD	0.46	1.18	9.73	4.75	19.14	25.14	0.4	908	0.21	0.25	0.07	0.03	0.20	0.08	41
Max	8.66	14.99	150.00	21.60	181.00	141.80	7.9	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	0.23	0.02	0.01	0.36	0.01	2
Site 33: Alice Bay Pump Station															
No.	382	385	404	409	368	400	408.0	407	105	106	106	105	105	106	105
Mean	7.21	9.28	110.84	13.45	28.77	24766.05	15.3	160	0.64	2.95	0.53	0.29	0.59	1.22	43
SD	0.83	4.54	75.03	6.50	58.58	13505.87	8.9	379	0.78	1.89	0.52	0.35	0.78	0.84	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	0.05	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
Site 34: Noname Slough at Bayview-Edison Road															
No.	378	402	402	405	368	395	403.0	398	106	105	106	106	105	106	106
Mean	7.08	6.81	61.68	11.69	16.71	15417.53	9.7	488	0.51	1.41	0.53	0.38	0.49	0.28	26
SD	0.50	3.51	29.86	6.17	16.80	17731.27	11.5	1355	0.73	0.71	0.78	0.69	0.72	0.30	32
Max	8.58	15.98	195.40	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	0.40	0.93	30.80	0.0	1	0.01	0.25	0.05	0.01	0.01	0.01	2
Site 35: Joe Leary Slough at D'Arcy Road															
No.	372	395	395	400	358	397	399.0	394	102	102	103	101	103	102	101
Mean	7.23	5.28	49.34	12.06	38.50	457.57	0.2	316	0.94	1.22	0.21	0.12	0.92	0.61	18
SD	0.51	1.41	13.69	4.35	29.22	1027.44	0.6	815	0.78	0.37	0.14	0.08	0.77	0.27	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	6.30	1.85	17.20	0.00	-99.00	85.50	0.0	1	0.01	0.44	0.04	0.01	0.21	0.02	2
Site 36: Edison Slough at Edison Elementary School															
No.	381	398	405	409	365	396	407.0	412	107	107	107	107	106	107	107
Mean	7.37	9.09	97.84	13.66	9.95	13299.38	8.1	209	0.41	1.27	0.47	0.34	0.41	0.24	20
SD	0.73	3.55	57.98	7.79	6.65	15719.65	10.0	433	0.53	0.72	0.61	0.53	0.53	0.34	21
Max	10.10	26.00	359.20	32.40	49.30	44360.00	28.9	5400	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
Site 37: Edison Drainage in Edison															
No.	380	388	405	409	369	404	407.0	410	108	108	108	108	107	108	108
Mean	7.37	7.17	83.54	13.45	42.57	10526.73	6.2	418	0.79	3.00	0.84	0.48	0.77	1.50	43
SD	0.68	4.15	69.85	6.65	94.39	10946.86	6.9	1025	1.04	1.25	0.85	0.60	1.04	1.04	47
Max	9.35	24.72	387.30	27.50	939.00	43450.00	27.9	16000	5.66	7.72	4.26	3.22	5.66	6.71	250
Min	6.16	0.04	0.60	1.80	-99.00	172.40	0.1	1	0.01	0.25	0.17	0.01	0.01	0.01	8
Site 38: North Edison drainage at Smith Road															
No.	376	376	392	403	362	397	402.0	404	106	106	106	106	106	106	106
Mean	7.30	7.46	90.21	12.93	43.13	17344.27	10.5	667	0.44	1.94	0.87	0.56	0.41	1.20	55
SD	0.85	4.75	82.11	5.87	138.64	13600.84	8.8	2215	0.52	9.95	0.76	0.67	0.52	0.72	74
Max	9.20	37.78	455.10	26.10	2300.00	44380.00	28.4	30000	1.90	7.04	3.03	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	-99.00	0.02	0.01	0.01	0.02	5



Metric	pH units	DO mg/L	DO % sat	Temp °C	Turb NTU	Conductivity (°C compensated) µs/cm	Salinity ppt	Fecal Coliform cfu/100ml	Nitrite + Nitrate mg/L	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Ortho- Phosphate mg/L	Nitrate mg/L	Ammonia mg/L	TSS mg/L
Site 39: Colony Creek near Colony Road															
No.	382	405	407	411	366	400	411.0	411	107	107	107	107	107	107	107
Mean	7.20	10.81	93.85	9.79	16.40	131.55	0.0	460	0.87	0.60	0.10	0.06	0.87	0.06	38
SD	0.31	1.76	7.60	4.41	38.62	85.53	0.1	1751	0.60	0.67	0.18	0.05	0.60	0.05	201
Max	7.97	15.06	111.60	18.20	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	0.21	0.01	0.01	0.19	0.01	2
Site 40: Big Indian Slough at Highway 20 truck scales															
No.	379	403	403	405	368	404	404.0	398	104	105	105	104	105	105	104
Mean	6.81	4.95	43.51	10.83	24.39	450.38	0.2	193	0.75	1.01	0.12	0.09	0.72	0.37	9
SD	0.29	2.07	16.02	3.93	15.05	2116.64	1.4	615	0.51	0.38	0.07	0.08	0.50	0.22	8
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	6.10	0.44	4.60	2.40	2.48	93.40	0.0	1	0.01	0.25	0.04	0.01	0.01	0.04	2
Site 41: Maddox Creek/Big Ditch at Milltown Road															
No.	387	413	414	416	378	412	416.0	411	109	108	109	108	108	109	109
Mean	7.22	6.26	58.38	11.96	18.69	514.99	0.2	168	1.05	1.19	0.16	0.08	1.01	0.36	9
SD	0.34	2.12	21.47	5.06	29.48	501.70	0.3	600	1.06	0.73	0.12	0.07	1.04	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	0.25	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
Site 42: Carpenter Creek/Hill Ditch at Cedardale Road															
No.	385	411	412	414	376	411	414.0	406	109	108	109	109	107	109	109
Mean	7.34	8.21	73.54	11.33	3.86	189.17	0.1	160	0.59	0.57	0.07	0.05	0.58	0.08	3
SD	0.31	2.34	18.02	5.65	4.02	52.24	0.0	919	0.51	0.26	0.06	0.04	0.51	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	0.20	0.02	0.01	0.01	0.01	2
Site 43: Wiley Slough at Wylie Road															
No.	380	406	407	408	371	406	408.0	399	106	105	106	106	105	106	106
Mean	7.20	4.98	46.49	12.14	22.68	2934.17	1.5	166	1.37	1.50	0.32	0.19	1.33	0.50	17
SD	0.41	2.83	27.44	5.16	53.83	2859.03	1.5	387	1.81	0.86	0.41	0.28	1.74	0.40	32
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	1.85	264
Min	6.08	0.12	1.40	0.80	1.29	59.70	0.0	1	0.01	0.25	0.05	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
Site 44: Sullivan Slough															
No.	386	407	410	413	376	410	413.0	407	108	108	109	108	108	109	108
Mean	7.29	6.86	66.63	11.49	37.12	8271.32	4.9	209	0.66	1.46	0.27	0.13	0.63	0.66	28
SD	0.41	2.76	31.65	4.40	94.13	7622.14	4.8	329	1.05	0.76	0.51	0.34	1.03	0.58	38
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	0.23	0.05	0.01	0.01	0.01	4
Site 45: North Fork Skagit River near Moore Road															
No.	372	394	394	400	365	395	396.0	392	105	105	105	105	105	105	105
Mean	7.68	11.24	97.22	9.37	11.19	55.51	0.0	14	0.08	0.29	0.05	0.01	0.08	0.03	19
SD	0.44	1.15	4.52	3.91	34.89	10.32	0.0	28	0.05	0.17	0.07	0.02	0.05	0.02	49
Max	9.10	13.63	114.30	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	0.15	0.01	0.01	0.01	0.01	2
Site 46: South Fork Skagit River at Conway boat ramp															
No.	377	403	404	406	372	403	405.0	403	106	105	106	106	105	106	106
Mean	7.61	11.26	97.70	9.49	8.85	56.58	0.0	21	0.09	0.28	0.05	0.01	0.08	0.02	16
SD	0.40	1.09	4.05	3.93	12.05	33.12	0.0	46	0.07	0.18	0.03	0.01	0.05	0.02	29
Max	8.91	13.73	110.20	18.30	109.00	687.00	0.3	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	29.50	0.0	1	0.01	0.13	0.01	0.01	0.01	0.01	2
Site 47: Swinomish Channel at County boat ramp															
No.	389	414	415	417	378	417	417.0	408	109	108	109	109	108	109	109
Mean	7.38	8.72	88.81	10.66	5.48	33606.81	21.1	9	0.19	0.33	0.08	0.05	0.19	0.06	32
SD	0.52	1.09	9.74	3.28	6.47	6288.46	4.3	15	0.11	0.24	0.04	0.08	0.11	0.03	22
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	0.20	0.04	0.01	0.01	0.01	2
Site 48: Fisher Creek at Franklin Road															
No.	388	412	413	415	378	413	416.0	408	109	107	109	109	108	108	109
Mean	7.54	11.11	95.67	9.13	3.03	167.39	0.1	205	0.65	0.62	0.20	0.21	0.63	0.09	6
SD	0.29	1.32	5.22	3.41	4.40	118.49	0.1	844	0.51	0.29	0.18	0.19	0.51	0.03	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	0.06	0.04	0.01	0.01	0.01	2



Appendix C - Summary of Seasonal Kendall's results for the Water Year 2019

Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
3	16	pH	380	-0.0011	-0.018	-0.458	No	< 80
		mpH	202	-0.0021	-0.034	-0.638	No	< 80
		DO	404	0.0474	0.759	2.412	Yes	95
		mDO	206	0.0358	0.573	1.439	No	80
		DO % sat	405	0.3777	6.043	2.620	Yes	95
		mDO % sat	207	0.2607	4.171	1.175	No	< 80
		Temp	409	0.0201	0.321	1.185	No	< 80
		mTemp	206	0.0150	0.240	0.530	No	< 80
		Turb	365	0.1750	2.800	2.928	Yes	95
		mTurb	193	0.1268	2.029	1.589	No	80
		FC	408	-0.3882	-6.211	-2.151	Yes	95
		mFC	205	-1.2820	-20.512	-1.970	Yes	95
		NO3+NO2	108	-0.0066	-0.106	-1.991	Yes	95
		TKN	108	-0.0130	-0.209	-2.142	Yes	95
		TP	108	0.0000	0.000	3.575	Yes	95
		OP	107	0.0015	0.024	2.818	Yes	95
	NH3	108	-0.0039	-0.063	-3.231	Yes	95	
	TSS	107	0.0000	0.000	0.950	No	< 80	
	10	DO	251	-0.1091	-1.091	-2.364	Yes	95
		mDO	128	-0.1472	-1.472	-2.380	Yes	95
		Temp	254	0.0000	0.000	-0.156	No	< 80
		mTemp	128	-0.0311	-0.311	-0.509	No	< 80
		FC	255	0.0000	0.000	0.518	No	< 80
		mFC	127	1.2540	12.540	0.655	No	< 80
	5	DO	124	-0.4148	-2.074	-2.184	Yes	95
		mDO	65	-0.6841	-3.421	-1.965	Yes	95
		Temp	126	-0.2030	-1.015	1.591	No	80
		mTemp	65	-0.2758	-1.379	-1.312	No	80
		FC	127	-1.2770	-6.385	-1.151	No	< 80
		mFC	64	-4.5840	-22.920	-1.452	No	80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
4	16	pH	387	-0.0265	-0.425	-8.876	Yes	95
		mpH	204	-0.0259	-0.414	-6.784	Yes	95
		DO	408	0.0418	0.668	5.933	Yes	95
		mDO	208	0.0449	0.718	5.145	Yes	95
		DO % sat	409	0.2967	4.747	7.121	Yes	95
		mDO % sat	208	0.2991	4.786	6.113	Yes	95
		Temp	412	0.0125	0.200	0.870	No	< 80
		mTemp	208	0.0125	0.200	0.785	No	< 80
		Turb	370	-0.2448	-3.917	-4.353	Yes	95
		mTurb	194	-0.3334	-5.334	-3.898	Yes	95
		FC	409	-9.5710	-153.136	-6.396	Yes	95
		mFC	206	-16.3500	-261.600	-5.230	Yes	95
		NO3+NO2	109	-0.0123	-0.197	-2.479	Yes	95
		TKN	109	0.0000	0.000	-1.039	No	< 80
		TP	109	0.0000	0.000	0.388	No	< 80
		OP	109	0.0006	0.010	1.388	No	80
	NH3	109	-0.0012	-0.019	-2.467	Yes	95	
	TSS	109	0.0000	0.000	-1.464	No	80	
	10	DO	253	0.0732	0.732	5.233	Yes	95
		mDO	130	0.0649	0.649	3.983	Yes	95
		Temp	256	0.0000	0.000	-0.171	No	< 80
		mTemp	130	0.0000	0.000	0.068	No	< 80
		FC	256	0.0000	0.000	-0.224	No	< 80
		mFC	128	0.2673	2.673	0.209	No	< 80
	5	DO	125	0.1453	0.727	3.332	Yes	95
		mDO	65	0.1050	0.525	2.322	Yes	95
		Temp	127	-0.3667	-1.834	-3.325	Yes	95
		mTemp	65	-0.3011	-1.506	-2.395	Yes	95
FC		126	0.0000	0.000	-0.296	No	< 80	
mFC		65	1.5020	7.510	0.359	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
6	16	pH	386	-0.0186	-0.297	-5.603	Yes	95
		mpH	204	-0.0177	-0.283	-4.448	Yes	95
		DO	406	0.0238	0.381	3.092	Yes	95
		mDO	207	0.0225	0.360	2.456	Yes	95
		DO % sat	407	0.2797	4.475	6.087	Yes	95
		mDO % sat	206	0.2742	4.387	4.623	Yes	95
		Temp	413	0.0386	0.618	2.165	Yes	95
		mTemp	208	0.0545	0.871	2.012	Yes	95
		Turb	371	0.0067	0.107	0.431	No	< 80
		mTurb	194	-0.0244	-0.390	-0.858	No	< 80
		FC	413	0.0000	0.000	-1.201	No	< 80
		mFC	208	-0.4995	-7.992	-1.639	No	80
		NO3+NO2	109	-0.0123	-0.197	-3.841	Yes	95
		TKN	109	0.0000	0.000	0.571	No	< 80
		TP	109	0.0000	0.000	-2.758	Yes	95
		OP	109	0.0000	0.000	2.510	Yes	95
	NH3	109	0.0000	0.000	-1.954	No	90	
	TSS	109	0.0000	0.000	-0.477	No	< 80	
	10	DO	253	0.0697	0.697	4.455	Yes	95
		mDO	129	0.0776	0.776	3.378	Yes	95
		Temp	258	0.0501	0.501	1.311	No	80
		mTemp	130	0.0836	0.836	1.700	No	90
		FC	258	-0.2461	-2.461	-1.996	Yes	95
		mFC	130	-0.8951	-8.951	-1.386	No	80
	5	DO	125	0.1884	0.942	3.924	Yes	95
		mDO	64	0.1996	0.998	2.598	Yes	95
		Temp	129	-0.4011	-2.006	-3.156	Yes	95
		mTemp	65	-0.3205	-1.603	-1.916	No	90
		FC	129	-0.4993	-2.497	-1.243	No	< 80
		mFC	65	-0.7704	-3.852	-0.538	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
8	16	pH	387	-0.0071	-0.114	-2.263	Yes	95
		mpH	204	-0.0090	-0.144	-2.089	Yes	95
		DO	409	-0.0300	-0.480	-2.964	Yes	95
		mDO	208	-0.0354	-0.566	-3.168	Yes	95
		DO % sat	410	-0.2111	-3.378	-4.015	Yes	95
		mDO % sat	208	-0.2499	-3.998	-3.573	Yes	95
		Temp	413	0.0333	0.533	1.610	No	80
		mTemp	208	0.0450	0.719	1.864	No	90
		Turb	371	-0.0725	-1.159	-1.857	No	90
		mTurb	195	-0.1223	-1.957	-2.214	Yes	95
		FC	413	-1.9980	-31.968	-5.404	Yes	95
		mFC	208	-3.0070	-48.112	-4.240	Yes	95
		NO3+NO2	108	-0.0115	-0.184	-4.065	Yes	95
		TKN	108	0.0000	0.000	0.763	No	< 80
		TP	108	0.0000	0.000	0.843	No	< 80
		OP	108	0.0006	0.010	3.091	Yes	95
	NH3	108	-0.0029	-0.046	-3.933	Yes	95	
	TSS	108	0.0000	0.000	0.121	No	< 80	
	10	DO	228	0.0231	0.231	1.153	No	< 80
		mDO	117	-0.0332	-0.332	-0.656	No	< 80
		Temp	230	0.0432	0.432	1.021	No	< 80
		mTemp	117	0.1279	1.279	2.078	Yes	95
		FC	231	-0.3964	-3.964	-1.654	No	90
		mFC	117	-0.3237	-3.237	-0.289	No	< 80
	5	DO	126	0.1570	0.785	2.457	Yes	95
		mDO	65	0.0963	0.481	1.251	No	< 80
		Temp	127	-0.4345	-2.173	-3.206	Yes	95
		mTemp	65	-0.3510	-1.755	-2.028	Yes	95
		FC	129	-5.0030	-25.015	-1.842	No	90
		mFC	65	-4.7490	-23.745	-0.896	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
11	16	pH	391	0.0133	0.212	4.036	Yes	95
		mpH	204	0.0110	0.176	3.116	Yes	95
		DO	412	0.0407	0.652	3.873	Yes	95
		mDO	208	0.0425	0.680	3.055	Yes	95
		DO % sat	413	0.3046	4.874	4.284	Yes	95
		mDO % sat	208	0.3457	5.531	3.606	Yes	95
		Temp	415	-0.0182	-0.291	-1.136	No	< 80
		mTemp	208	-0.0182	-0.291	-0.864	No	< 80
		Turb	373	-0.0299	-0.478	-2.389	Yes	95
		mTurb	194	-0.0421	-0.674	-2.497	Yes	95
		FC	414	-0.1253	-2.005	-3.303	Yes	95
		mFC	205	-0.4387	-7.019	-3.416	Yes	95
		NO3+NO2	107	-0.0031	-0.049	-1.281	No	< 80
		TKN	108	0.0000	0.000	1.203	No	< 80
		TP	108	0.0000	0.000	-1.499	No	80
		OP	107	0.0000	0.000	1.529	No	80
	NH3	108	0.0000	0.000	-0.880	No	< 80	
	TSS	107	0.0000	0.000	-1.622	No	80	
	10	DO	255	0.1103	1.103	4.523	Yes	95
		mDO	130	0.1001	1.001	3.349	Yes	95
		Temp	258	-0.0615	-0.615	-1.944	No	90
		mTemp	130	-0.0860	-0.860	-1.880	No	90
		FC	259	0.0000	0.000	-0.435	No	< 80
		mFC	128	-0.1503	-1.503	-0.952	No	< 80
	5	DO	126	0.2011	1.006	3.390	Yes	95
		mDO	65	0.2186	1.093	2.918	Yes	95
		Temp	128	-0.3008	-1.504	-3.465	Yes	95
		mTemp	65	-0.2946	-1.473	-2.442	Yes	95
		FC	130	0.0000	0.000	-0.542	No	< 80
		mFC	65	-0.7130	-3.565	-0.774	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
12	16	pH	362	0.0124	0.199	3.758	Yes	95
		mpH	196	0.0116	0.185	2.676	Yes	95
		DO	386	-0.0264	-0.422	-1.801	No	90
		mDO	206	-0.0360	-0.576	-1.623	No	80
		DO % sat	388	-0.2005	-3.208	-2.295	Yes	95
		mDO % sat	205	-0.1876	-3.002	-1.445	No	80
		Temp	390	0.0383	0.612	2.033	Yes	95
		mTemp	206	0.0548	0.877	1.950	No	90
		Turb	356	-0.0477	-0.762	-1.798	No	90
		mTurb	192	-0.0515	-0.824	-1.452	No	80
		FC	389	-0.0836	-1.337	-1.883	No	90
		mFC	206	-0.1161	-1.858	-0.407	No	< 80
		NO3+NO2	104	-0.0169	-0.271	-3.414	Yes	95
		TKN	103	0.0000	0.000	-0.135	No	< 80
		TP	104	0.0000	0.000	4.663	Yes	95
		OP	104	0.0010	0.015	4.554	Yes	95
	NH3	104	-0.0025	-0.039	-2.487	Yes	95	
	TSS	104	0.0000	0.000	-1.576	No	80	
	10	DO	240	0.0085	0.085	0.372	No	< 80
		mDO	128	0.0566	0.566	1.834	No	90
		Temp	243	0.0985	0.985	2.078	Yes	95
		mTemp	128	-0.0290	-0.290	-0.326	No	< 80
		FC	243	0.0000	0.000	-0.655	No	< 80
		mFC	128	-0.8927	-8.927	-0.722	No	< 80
	5	DO	122	0.2371	1.186	2.717	Yes	95
		mDO	64	0.3675	1.838	3.451	Yes	95
		Temp	122	-0.3129	-1.565	-2.244	Yes	95
		mTemp	64	-0.5611	-2.806	-3.143	Yes	95
		FC	123	-7.6930	-38.465	-3.120	Yes	95
		mFC	64	-12.9100	-64.550	-3.212	Yes	95



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
13	16	pH	383	0.0099	0.158	2.742	Yes	95
		mpH	201	0.0078	0.125	1.972	Yes	95
		DO	408	-0.0260	-0.417	-2.421	Yes	95
		mDO	208	-0.0307	-0.491	-2.108	Yes	95
		DO % sat	409	-0.1151	-1.842	-1.353	No	80
		mDO % sat	208	-0.1458	-2.333	-1.522	No	80
		Temp	410	0.0555	0.888	2.819	Yes	95
		mTemp	208	0.0729	1.166	2.694	Yes	95
		Turb	375	-0.0099	-0.159	-0.570	No	< 80
		mTurb	194	-0.0175	-0.281	-0.571	No	< 80
		FC	409	-0.1335	-2.136	-2.322	Yes	95
		mFC	208	-0.6616	-10.586	-1.491	No	80
		NO3+NO2	108	-0.0050	-0.080	-1.913	No	90
		TKN	107	0.0000	0.000	0.358	No	< 80
		TP	108	0.0000	0.000	-2.076	Yes	95
		OP	108	0.0000	0.000	3.372	Yes	95
	NH3	108	-0.0026	-0.042	-3.297	Yes	95	
	TSS	108	0.0000	0.000	-1.544	No	80	
	10	DO	254	0.0041	0.041	0.241	No	< 80
		mDO	130	0.0199	0.199	0.663	No	< 80
		Temp	256	0.1122	1.122	2.833	Yes	95
		mTemp	130	0.0567	0.567	0.710	No	< 80
		FC	256	-0.8758	-8.758	-2.336	Yes	95
		mFC	130	-2.4590	-24.590	-2.450	Yes	95
	5	DO	128	0.0913	0.456	1.584	No	80
		mDO	65	0.0504	0.252	0.124	No	< 80
		Temp	127	-0.4481	-2.241	-3.256	Yes	95
		mTemp	65	-0.6435	-3.218	-3.410	Yes	95
		FC	128	-4.0090	-20.045	-3.087	Yes	95
		mFC	65	-11.1800	-55.900	-3.658	Yes	95



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
14	16	pH	384	-0.0245	-0.391	-7.476	Yes	95
		mpH	202	-0.0251	-0.401	-5.769	Yes	95
		DO	410	0.0200	0.320	1.713	No	90
		mDO	208	0.0185	0.296	1.318	No	80
		DO % sat	412	0.0669	1.070	0.918	No	< 80
		mDO % sat	208	0.0873	1.396	0.904	No	< 80
		Temp	414	0.0100	0.160	0.544	No	< 80
		mTemp	208	0.0293	0.469	1.629	No	80
		Turb	376	-0.0934	-1.495	-4.776	Yes	95
		mTurb	193	-0.1148	-1.837	-3.437	Yes	95
		FC	411	-1.3070	-20.912	-2.524	Yes	95
		mFC	208	-1.6710	-26.736	-1.445	No	80
		NO3+NO2	107	-0.0069	-0.110	-2.502	Yes	95
		TKN	106	0.0000	0.000	-0.418	No	< 80
		TP	107	0.0000	0.000	2.993	Yes	95
		OP	107	0.0000	0.000	0.328	No	< 80
	NH3	107	-0.0042	-0.067	-4.890	Yes	< 80	
	TSS	107	0.0000	0.000	-0.291	No		
	10	DO	254	0.0351	0.351	1.421	No	80
		mDO	130	0.0613	0.613	2.630	Yes	95
		Temp	258	0.0766	0.766	2.195	Yes	95
		mTemp	130	0.0372	0.372	1.168	No	< 80
		FC	256	0.0000	0.000	-0.772	No	< 80
		mFC	129	-0.6540	-6.540	-0.485	No	< 80
	5	DO	127	0.3008	1.504	3.747	Yes	95
		mDO	65	0.4271	2.136	4.510	Yes	95
		Temp	128	-0.4339	-2.170	-3.523	Yes	95
		mTemp	65	-0.6535	-3.268	-3.596	Yes	95
		FC	127	0.0000	0.000	-0.338	No	< 80
		mFC	65	-12.5600	-62.800	-1.674	No	90



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
15	16	pH	386	0.0127	0.203	3.781	Yes	95
		mpH	202	0.0134	0.214	3.392	Yes	95
		DO	410	0.0360	0.577	3.006	Yes	95
		mDO	208	0.0259	0.414	1.318	No	80
		DO % sat	411	0.3755	6.008	3.944	Yes	95
		mDO % sat	208	0.3223	5.157	2.471	Yes	95
		Temp	413	0.0334	0.535	1.869	No	90
		mTemp	208	0.0666	1.065	2.534	Yes	95
		Turb	377	0.0117	0.187	0.733	No	< 80
		mTurb	194	0.0041	0.065	0.165	No	< 80
		FC	411	-0.0907	-1.452	-1.777	No	90
		mFC	208	1.7300	27.680	2.224	Yes	95
		NO3+NO2	109	0.0000	0.000	0.318	No	< 80
		TKN	108	-0.0018	-0.029	0.542	No	< 80
		TP	109	0.0020	0.032	5.911	Yes	95
		OP	109	0.0024	0.038	4.487	Yes	95
	NH3	109	-0.0023	-0.036	-2.056	Yes	95	
	TSS	109	0.0000	0.000	0.084	No	< 80	
	10	DO	254	0.0198	0.198	0.811	No	< 80
		mDO	130	0.0689	0.689	1.349	No	80
		Temp	257	0.0330	0.330	0.713	No	< 80
		mTemp	130	-0.0356	-0.356	-0.343	No	< 80
		FC	257	-0.9827	-9.827	-1.784	No	90
		mFC	130	-6.6180	-66.180	-2.314	Yes	95
	5	DO	128	0.2602	1.301	3.376	Yes	95
		mDO	65	0.4400	2.200	3.274	Yes	95
		Temp	128	-0.4601	-2.301	-3.260	Yes	95
		mTemp	65	-0.6998	-3.499	-4.016	Yes	95
		FC	128	-0.7379	-3.690	-0.098	No	< 80
		mFC	65	-1.6240	-8.120	-0.186	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
16	16	pH	385	0.0000	0.000	0.163	No	< 80
		mpH	202	0.0009	0.015	0.191	No	< 80
		DO	411	0.0124	0.199	1.614	No	80
		mDO	208	0.0070	0.112	0.539	No	< 80
		DO % sat	412	0.1722	2.755	3.559	Yes	95
		mDO % sat	208	0.2005	3.208	3.043	Yes	95
		Temp	414	0.0501	0.802	2.766	Yes	95
		mTemp	208	0.0621	0.993	2.648	Yes	95
		Turb	377	0.0166	0.266	1.814	No	90
		mTurb	194	0.0105	0.168	0.952	No	< 80
		FC	410	0.0000	0.000	-0.747	No	< 80
		mFC	207	0.0000	0.000	-0.116	No	< 80
		NO3+NO2	108	-0.0031	-0.049	-1.036	No	< 80
		TKN	107	0.0000	0.000	1.249	No	< 80
		TP	108	0.0000	0.000	1.463	No	80
		OP	108	0.0000	0.000	-2.167	Yes	95
	NH3	108	0.0000	0.000	-0.430	No	< 80	
	TSS	108	0.0000	0.000	1.291	No	80	
	10	DO	255	0.0676	0.676	4.398	Yes	95
		mDO	130	0.0888	0.888	4.209	Yes	95
		Temp	258	0.1003	1.003	2.661	Yes	95
		mTemp	130	0.0253	0.253	0.710	No	< 80
		FC	256	0.0000	0.000	1.092	No	< 80
		mFC	129	0.1346	1.346	0.278	No	< 80
	5	DO	128	0.2812	1.406	6.300	Yes	95
		mDO	65	0.3111	1.556	5.498	Yes	95
		Temp	128	-0.5204	-2.602	-4.332	Yes	95
		mTemp	65	-0.7201	-3.601	-3.906	Yes	95
		FC	128	-0.7865	-3.933	-1.295	No	80
		mFC	65	-1.2620	-6.310	-0.746	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
17	16	pH	383	-0.0007	-0.011	-0.220	No	< 80
		mpH	202	-0.0012	-0.020	0.227	No	< 80
		DO	411	0.0079	0.127	1.019	No	< 80
		mDO	208	-0.0060	-0.095	0.596	No	< 80
		DO % sat	412	0.1003	1.605	1.495	No	80
		mDO % sat	208	0.0000	0.000	0.034	No	< 80
		Temp	414	0.0332	0.531	1.623	No	80
		mTemp	208	0.0669	1.070	2.327	Yes	95
		Turb	376	0.0693	1.108	6.139	Yes	95
		mTurb	194	0.0689	1.103	4.808	Yes	95
		FC	410	0.0000	0.000	0.419	No	< 80
		mFC	207	0.1003	1.605	0.809	No	< 80
		NO3+NO2	109	0.0000	0.000	0.711	No	< 80
		TKN	108	0.0000	0.000	0.702	No	< 80
		TP	109	0.0000	0.000	1.799	No	90
		OP	109	0.0000	0.000	3.235	Yes	95
	NH3	109	0.0000	0.000	-1.761	No	90	
	TSS	109	0.0000	0.000	0.273	No	< 80	
	10	DO	255	0.0379	0.379	2.058	Yes	95
		mDO	130	0.0370	0.370	1.624	No	80
		Temp	258	0.0143	0.143	0.355	No	< 80
		mTemp	130	-0.0337	-0.337	-0.481	No	< 80
		FC	258	0.3339	3.339	2.283	Yes	95
		mFC	129	0.9060	9.060	2.152	Yes	95
	5	DO	128	0.3263	1.632	5.026	Yes	95
		mDO	65	0.3892	1.946	4.263	Yes	95
		Temp	128	-0.3852	-1.926	-3.451	Yes	95
		mTemp	65	-0.5607	-2.804	-3.961	Yes	95
FC		128	0.0000	0.000	-0.816	No	< 80	
mFC		65	-0.9376	-4.688	-0.805	No	< 80	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)	
18	16	pH	387	0.0068	0.109	2.334	Yes	95	
		mpH	202	0.0065	0.105	1.624	No	80	
		DO	411	-0.0066	-0.106	-0.833	No	< 80	
		mDO	208	-0.0125	-0.200	-1.066	No	< 80	
		DO % sat	412	-0.0287	-0.459	-0.637	No	< 80	
		mDO % sat	208	-0.0293	-0.469	-0.515	No	< 80	
		Temp	415	0.0376	0.602	2.103	Yes	95	
		mTemp	208	0.0498	0.796	2.317	Yes	95	
		Turb	378	0.0236	0.378	2.332	Yes	95	
		mTurb	194	0.0104	0.167	0.711	No	< 80	
		FC							
		mFC	208	-1.0940	-17.504	-2.453	Yes	95	
		NO3+NO2	109	0.0000	0.000	0.051	No	< 80	
		TKN	108	0.0000	0.000	0.138	No	< 80	
		TP	109	0.0000	0.000	-1.207	No	< 80	
		OP	109	0.0000	0.000	1.716	No	90	
	NH3	109	0.0000	0.000	-2.096	Yes	95		
	TSS	109	0.0000	0.000	0.509	No	< 80		
	10	DO	255	0.0271	0.271	1.946	No	90	
		mDO	130	0.0411	0.411	2.310	Yes	95	
		Temp	259	0.0981	0.981	2.446	Yes	95	
		mTemp	130	0.0404	0.404	0.824	No	< 80	
		FC	258	-0.4556	-4.556	-1.913	No	90	
		mFC	130	-1.4050	-14.050	-1.901	No	90	
	5	DO	128	0.1693	0.847	3.783	Yes	95	
		mDO	65	0.2381	1.191	3.274	Yes	95	
		Temp	129	-0.3005	-1.503	-2.981	Yes	95	
		mTemp	65	-0.5453	-2.727	-3.219	Yes	95	
		FC	129	-0.7577	-3.789	-1.234	No	< 80	
		mFC	65	-5.4930	-27.465	-2.294	Yes	95	



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
19	16	pH	368	-0.0068	-0.108	-2.089	Yes	95
		mpH	196	-0.0082	-0.131	-2.075	Yes	95
		DO	391	-0.0461	-0.738	-5.048	Yes	95
		mDO	202	-0.0474	-0.758	-4.011	Yes	95
		DO % sat	391	-0.2889	-4.622	-5.708	Yes	95
		mDO % sat	202	-0.3019	-4.830	-4.439	Yes	95
		Temp	393	0.0708	1.133	3.321	Yes	95
		mTemp	203	0.0716	1.145	2.521	Yes	95
		Turb	355	0.0033	0.053	0.072	No	< 80
		mTurb	190	-0.0336	-0.538	-1.071	No	< 80
		FC	392	0.0000	0.000	-0.320	No	< 80
		mFC	202	-1.1660	-18.656	-1.204	No	< 80
		NO3+NO2	106	-0.0092	-0.148	-2.997	Yes	95
		TKN	106	0.0000	0.000	1.641	No	80
		TP	107	0.0000	0.000	-1.207	No	< 80
		OP	106	0.0000	0.000	1.267	No	< 80
	NH3	106	0.0000	0.000	-0.877	No	< 80	
	TSS	107	0.0000	0.000	-1.271	No	< 80	
	10	DO	236	-0.0488	-0.488	-2.379	Yes	95
		mDO	124	-0.0497	-0.497	-2.240	Yes	95
		Temp	238	0.1578	1.578	3.695	Yes	95
		mTemp	125	0.1503	1.503	2.980	Yes	95
		FC	238	0.0000	0.000	-0.733	No	< 80
		mFC	124	-1.6150	-16.150	-1.133	No	< 80
	5	DO	109	0.0897	0.448	1.228	No	< 80
		mDO	59	0.1116	0.558	0.808	No	< 80
		Temp	110	-0.1712	-0.856	-0.855	No	< 80
		mTemp	59	-0.0966	-0.483	-0.475	No	< 80
		FC	111	0.0000	0.000	-0.754	No	< 80
		mFC	59	-3.3420	-16.710	-0.761	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
20	16	pH	387	-0.0113	-0.180	-3.278	Yes	95
		mpH	204	-0.0112	-0.179	-2.615	Yes	95
		DO	410	0.0239	0.383	3.668	Yes	95
		mDO	208	0.0235	0.376	2.772	Yes	95
		DO % sat	411	0.1983	3.173	4.815	Yes	95
		mDO % sat	208	0.2245	3.592	4.072	Yes	95
		Temp	412	0.0000	0.000	0.055	No	< 80
		mTemp	208	0.0000	0.000	-0.080	No	< 80
		Turb	369	-0.0222	-0.355	-1.832	No	90
		mTurb	194	-0.0320	-0.511	-1.829	No	90
		FC	409	0.0000	0.000	-0.686	No	< 80
		mFC	207	-0.2494	-3.990	-0.655	No	< 80
		NO3+NO2	109	0.0000	0.000	0.205	No	< 80
		TKN	109	0.0000	0.000	1.620	No	80
		TP	109	0.0000	0.000	-2.801	Yes	95
		OP	109	0.0000	0.000	1.274	No	< 80
	NH3	109	0.0000	0.000	-1.290	No	80	
	TSS	109	0.0000	0.000	-1.666	No	90	
	10	DO	254	0.0753	0.753	5.584	Yes	95
		mDO	130	0.0706	0.706	3.711	Yes	95
		Temp	256	0.0401	0.401	1.231	No	< 80
		mTemp	130	0.0291	0.291	0.499	No	< 80
		FC	255	0.0000	0.000	0.130	No	< 80
		mFC	129	0.7480	7.480	0.853	No	< 80
	5	DO	127	0.1539	0.770	4.539	Yes	95
		mDO	65	0.1577	0.789	2.442	Yes	95
		Temp	128	-0.3102	-1.551	-3.127	Yes	95
		mTemp	65	-0.2510	-1.255	-1.798	No	90
		FC	128	0.0000	0.000	-0.579	No	< 80
		mFC	64	1.4880	7.440	0.251	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
21	16	pH	333	-0.0078	-0.125	-2.098	Yes	95
		mpH	186	-0.0089	-0.142	-1.982	Yes	95
		DO	356	0.0098	0.157	0.875	No	< 80
		mDO	191	0.0164	0.263	1.337	No	80
		DO % sat	356	0.1171	1.874	2.463	Yes	95
		mDO % sat	192	0.1308	2.093	2.258	Yes	95
		Temp	357	0.0260	0.416	1.251	No	< 80
		mTemp	191	0.0251	0.401	0.929	No	< 80
		Turb	319	-0.0501	-0.802	-1.508	No	80
		mTurb	178	-0.0693	-1.108	-1.727	No	90
		FC	355	-0.6020	-9.632	-2.583	Yes	95
		mFC	191	-1.8310	-29.296	-2.565	Yes	95
		NO3+NO2	97	-0.0033	-0.053	-0.680	No	< 80
		TKN	97	0.0000	0.000	1.333	No	80
		TP	97	0.0000	0.000	-0.798	No	< 80
		OP	97	0.0000	0.000	2.753	Yes	95
	NH3	97	0.0000	0.000	0.051	No	< 80	
	TSS	97	0.0000	0.000	-0.189	No	< 80	
	10	DO	217	0.0336	0.336	1.744	No	90
		mDO	120	0.0531	0.531	2.038	Yes	95
		Temp	218	0.0748	0.748	1.662	No	90
		mTemp	120	0.0744	0.744	1.303	No	80
		FC	217	0.0000	0.000	1.284	No	80
		mFC	120	0.2863	2.863	0.369	No	< 80
	5	DO	102	0.1786	0.893	2.031	Yes	95
		mDO	56	0.2106	1.053	1.965	Yes	95
		Temp	103	-0.3008	-1.504	-1.498	No	80
		mTemp	56	-0.2692	-1.346	-1.204	No	< 80
		FC	102	-3.2910	-16.455	-1.450	No	80
		mFC	56	-3.4240	-17.120	-0.862	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
22	16	pH	390	-0.0273	-0.437	-5.684	Yes	95
		mpH	202	-0.0261	-0.418	-4.460	Yes	95
		DO	409	-0.0142	-0.227	-1.897	No	90
		mDO	207	-0.0084	-0.134	-0.946	No	< 80
		DO % sat	410	-0.0334	-0.735	-0.925	No	< 80
		mDO % sat	208	-0.0224	-0.358	-0.284	No	< 80
		Temp	412	0.0334	0.535	2.006	Yes	95
		mTemp	207	0.0334	0.534	1.598	No	80
		Turb	373	-0.0173	-0.276	-1.416	No	80
		mTurb	193	-0.0386	-0.617	-1.751	No	90
		FC	410	0.0000	0.000	2.724	Yes	95
		mFC	204	0.2507	4.011	2.721	Yes	95
		NO3+NO2	107	-0.0016	-0.026	-0.462	No	< 80
		TKN	108	0.0000	0.000	-2.852	Yes	95
		TP	108	0.0000	0.000	-1.094	No	< 80
		OP	107	0.0000	0.000	2.729	Yes	95
	NH3	108	0.0000	0.000	-1.684	No	90	
	TSS	107	0.0000	0.000	-1.950	No	90	
	10	DO	254	0.0234	0.234	1.623	No	80
		mDO	129	0.0254	0.254	1.392	No	80
		Temp	256	0.0986	0.986	2.338	Yes	95
		mTemp	129	0.1002	1.002	2.355	Yes	95
		FC	257	0.0000	0.000	0.923	No	< 80
		mFC	127	0.4986	4.986	1.881	No	90
	5	DO	126	0.1313	0.131	2.863	Yes	95
		mDO	65	0.1323	0.662	2.442	Yes	95
		Temp	127	-0.2011	-1.006	-1.828	No	90
		mTemp	65	-0.1614	-0.807	-1.020	No	< 80
		FC	128	-0.4985	-2.493	-1.909	No	90
		mFC	65	-0.5021	-2.511	-0.718	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
23	16	pH	347	-0.0267	-0.426	-6.853	Yes	95
		mpH	178	-0.0255	-0.408	-5.211	Yes	95
		DO	368	0.0068	0.108	0.942	No	< 80
		mDO	184	0.0100	0.160	1.017	No	< 80
		DO % sat	370	0.0909	1.454	2.119	Yes	95
		mDO % sat	186	0.0857	1.371	1.633	No	80
		Temp	371	0.0000	0.000	0.103	No	< 80
		mTemp	185	-0.0157	-0.252	-0.698	No	< 80
		Turb	333	0.0100	0.160	0.923	No	< 80
		mTurb	173	0.0000	0.000	-0.029	No	< 80
		FC	369	0.0000	0.000	0.191	No	< 80
		mFC	184	0.0000	0.000	-0.026	No	< 80
		NO3+NO2	102	-0.0285	-0.455	-4.708	Yes	95
		TKN	103	0.0000	0.000	0.762	No	< 80
		TP	103	0.0000	0.000	-2.827	Yes	95
		OP	103	0.0000	0.000	2.102	Yes	95
	NH3	103	0.0000	0.000	0.327	No	< 80	
	TSS	102	0.0000	0.000	-1.858	No	90	
	10	DO	221	0.0336	0.336	2.212	Yes	95
		mDO	108	0.0376	0.376	1.485	No	80
		Temp	223	0.0493	0.493	1.205	No	< 80
		mTemp	109	0.0401	0.401	0.996	No	< 80
		FC	223	0.0000	0.000	1.634	No	80
		mFC	108	0.4813	4.813	1.516	No	80
	5	DO	109	0.1297	0.649	2.208	Yes	95
		mDO	48	0.1108	0.554	0.904	No	< 80
		Temp	110	-0.2657	-1.329	-1.668	No	90
		mTemp	48	-0.2090	-1.045	-0.971	No	< 80
		FC	110	0.1686	0.843	1.083	No	< 80
		mFC	48	0.5014	2.507	0.167	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
24	16	pH	393	-0.0037	-0.060	-1.215	No	< 80
		mpH	204	-0.0039	-0.062	-0.840	No	< 80
		DO	412	0.0599	0.959	3.753	Yes	95
		mDO	209	0.0558	0.892	2.874	Yes	95
		DO % sat	413	0.4678	7.485	4.131	Yes	95
		mDO % sat	208	0.4871	7.794	3.232	Yes	95
		Temp	414	0.0000	0.000	-0.256	No	< 80
		mTemp	208	-0.0099	-0.158	-0.637	No	< 80
		Turb	373	0.0637	1.019	6.794	Yes	95
		mTurb	194	0.0604	0.966	4.941	Yes	95
		FC	411	-0.2300	-3.680	-3.589	Yes	95
		mFC	207	-0.3978	-6.365	-2.618	Yes	95
		NO3+NO2	109	0.0027	0.044	1.334	No	80
		TKN	108	0.0000	0.000	1.068	No	< 80
		TP	109	0.0000	0.000	2.595	Yes	95
		OP	109	0.0000	0.000	0.984	No	< 80
	NH3	109	0.0000	0.000	1.021	No	< 80	
	TSS	109	0.0000	0.000	2.158	Yes	95	
	10	DO	255	0.2487	2.487	8.790	Yes	95
		mDO	131	0.2356	2.356	6.272	Yes	95
		Temp	257	-0.0334	-0.334	-1.601	No	80
		mTemp	130	-0.0408	-0.408	-1.793	No	90
		FC	257	0.0000	0.000	1.520	No	< 80
		mFC	129	0.4404	4.404	1.215	No	< 80
	5	DO	127	0.1614	0.807	2.761	Yes	95
		mDO	66	0.1717	0.859	1.929	No	90
		Temp	128	-0.1478	-0.739	-2.045	Yes	95
		mTemp	65	-0.1004	-0.502	-0.959	No	< 80
		FC	129	0.0000	0.000	0.426	No	< 80
		mFC	65	1.4540	7.270	1.079	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
25	16	pH	320	-0.0245	-0.392	-5.233	Yes	95
		mpH	167	-0.0249	-0.398	-4.184	Yes	95
		DO	335	0.0142	0.227	1.748	No	90
		mDO	170	0.0150	0.240	1.292	No	80
		DO % sat	335	0.1493	2.389	3.289	Yes	95
		mDO % sat	171	0.1082	1.731	1.744	No	90
		Temp	336	0.0125	0.201	0.733	No	< 80
		mTemp	170	-0.0087	-0.139	-0.447	No	< 80
		Turb	304	0.0201	0.321	5.262	Yes	95
		mTurb	158	0.0150	0.239	2.265	Yes	95
		FC	334	0.0000	0.000	-0.124	No	< 80
		mFC	169	0.0000	0.000	0.189	No	< 80
		NO3+NO2	91	-0.0025	-0.039	-0.555	No	< 80
		TKN	91	0.0000	0.000	-2.693	Yes	95
		TP	91	0.0000	0.000	-1.938	No	90
		OP	91	0.0000	0.000	2.457	Yes	95
	NH3	91	0.0000	0.000	0.706	No	< 80	
	TSS	91	0.0000	0.000	-1.153	No	< 80	
	10	DO	202	0.0609	0.609	3.693	Yes	95
		mDO	100	0.0410	0.410	1.972	Yes	95
		Temp	203	0.0167	0.167	0.480	No	< 80
		mTemp	100	0.0090	0.090	0.305	No	< 80
		FC	204	0.0000	0.000	0.395	No	< 80
		mFC	99	0.0000	0.000	-0.166	No	< 80
	5	DO	97	0.1424	0.712	2.475	Yes	95
		mDO						
		Temp	98	-0.2660	-1.330	-1.876	No	90
		mTemp						
		FC	99	0.0000	0.000	1.076	No	< 80
	mFC							



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
28	16	pH	284	-0.0083	-0.133	-1.301	No	80
		mpH	153	-0.0100	-0.160	-0.926	No	< 80
		DO	297	0.0080	0.128	0.587	No	< 80
		mDO	157	0.0229	0.367	1.239	No	< 80
		DO % sat	298	0.0498	0.796	0.483	No	< 80
		mDO % sat	153	0.1022	1.635	0.834	No	< 80
		Temp	299	0.0000	0.000	-0.071	No	< 80
		mTemp	157	-0.0224	-0.359	-0.725	No	< 80
		Turb	271	0.0021	0.033	0.069	No	< 80
		mTurb	147	0.0012	0.018	0.034	No	< 80
		FC	298	0.0000	0.000	-0.176	No	< 80
		mFC	157	0.0000	0.000	0.076	No	< 80
		NO3+NO2	81	-0.0140	-0.223	-1.703	No	90
		TKN	81	-0.0130	-0.208	-2.516	Yes	95
		TP	81	0.0000	0.000	3.365	Yes	95
		OP	81	0.0010	0.016	2.468	Yes	95
	NH3	81	-0.0033	-0.053	-3.775	Yes	95	
	TSS	81	0.0000	0.000	0.159	No	< 80	
	10	DO	182	0.0479	0.479	1.513	No	80
		mDO	92	0.0462	0.462	1.098	No	< 80
		Temp	184	-0.0997	-0.997	-1.478	No	80
		mTemp	92	-0.1204	-1.204	-1.448	No	80
		FC	185	-0.1670	-1.670	-0.800	No	< 80
		mFC	92	-1.8360	-18.360	-0.929	No	< 80
	5	DO						
		mDO						
		Temp						
		mTemp						
FC								
mFC								



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
29	16	pH	378	-0.0020	-0.032	-0.411	No	< 80
		mpH	204	-0.0037	-0.059	-0.401	No	< 80
		DO	399	0.0033	0.052	0.502	No	< 80
		mDO	207	-0.0044	-0.070	-0.496	No	< 80
		DO % sat	400	0.0000	0.000	0.048	No	< 80
		mDO % sat	208	0.0179	0.286	0.298	No	< 80
		Temp	405	0.0084	0.134	0.821	No	< 80
		mTemp	208	0.0246	0.394	1.262	No	< 80
		Turb	367	-0.1869	-2.990	-4.761	Yes	95
		mTurb	194	-0.2188	-3.501	-3.714	Yes	95
		FC	400	0.0000	0.000	-1.013	No	< 80
		mFC	208	0.0000	0.000	-0.230	No	< 80
		NO3+NO2	107	0.0000	0.000	0.630	No	< 80
		TKN	106	0.0000	0.000	-1.892	No	90
		TP	106	0.0000	0.000	-0.434	No	< 80
		OP	107	0.0000	0.000	2.407	Yes	95
		NH3	107	0.0000	0.000	0.854	No	< 80
	TSS	107	0.0000	0.000	-1.092	No	< 80	
	10	DO	244	0.0116	0.116	0.867	No	< 80
		mDO	129	0.0154	0.154	0.808	No	< 80
		Temp	249	0.0871	0.871	3.017	Yes	95
		mTemp	130	0.0501	0.501	1.259	No	< 80
		FC	249	0.0000	0.000	0.081	No	< 80
		mFC	130	-0.1671	-1.671	-0.666	No	< 80
	5	DO	129	0.0980	0.490	2.435	Yes	95
		mDO	65	0.1291	0.646	2.039	Yes	95
		Temp	129	-0.2974	-1.487	-3.545	Yes	95
		mTemp	65	-0.4691	-2.346	-3.151	Yes	95
		FC	129	0.0000	0.000	-0.976	No	< 80
		mFC	65	-1.3840	-6.920	-1.421	No	80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
30	16	pH	394	-0.0119	-0.191	-3.227	Yes	95
		mpH	204	-0.0113	-0.181	-2.601	Yes	95
		DO	413	0.0084	0.134	1.293	No	80
		mDO	208	0.0092	0.147	1.384	No	80
		DO % sat	414	0.1049	1.678	2.449	Yes	95
		mDO % sat	208	0.0953	1.525	1.906	No	90
		Temp	415	0.0166	0.266	1.324	No	80
		mTemp	208	0.0077	0.123	0.750	No	< 80
		Turb	373	-0.1389	-2.222	-3.979	Yes	95
		mTurb	194	-0.2211	-3.538	-3.566	Yes	95
		FC	409	0.0000	0.000	0.501	No	< 80
		mFC	205	0.0000	0.000	-0.327	No	< 80
		NO3+NO2	108	0.0000	0.000	-0.084	No	< 80
		TKN	108	0.0000	0.000	-0.931	No	< 80
		TP	108	0.0000	0.000	-1.510	No	80
		OP	108	0.0000	0.000	2.966	Yes	95
	NH3	108	0.0000	0.000	-1.321	No	80	
	TSS	108	-0.1241	-1.986	-2.486	Yes	95	
	10	DO	257	0.0464	0.464	2.991	Yes	95
		mDO	130	0.0273	0.273	2.083	Yes	95
		Temp	259	0.0796	0.796	2.853	Yes	95
		mTemp	130	0.0731	0.731	2.814	Yes	95
		FC	259	0.0000	0.000	0.078	No	< 80
		mFC	127	-0.0555	-0.555	-1.302	No	80
	5	DO	129	0.1150	0.575	2.829	Yes	95
		mDO	65	0.1000	0.500	2.442	Yes	95
		Temp	130	-0.1730	-0.865	-2.201	Yes	95
		mTemp	65	-0.0918	-0.459	-0.597	No	< 80
		FC	130	0.0000	0.000	-0.480	No	< 80
		mFC	65	-0.4042	-2.021	-1.654	No	90



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
32	16	pH	384	0.0110	0.176	3.025	Yes	95
		mpH	205	0.0090	0.144	1.758	No	90
		DO	406	0.0251	0.401	2.782	Yes	95
		mDO	209	0.0271	0.434	2.553	Yes	95
		DO % sat	409	0.2582	4.131	4.628	Yes	95
		mDO % sat	209	0.2373	3.797	3.625	Yes	95
		Temp	415	0.0399	0.638	2.068	Yes	95
		mTemp	209	0.0440	0.704	1.663	No	90
		Turb	372	-0.0401	-0.642	-1.923	No	90
		mTurb	197	-0.0862	-1.379	-2.492	Yes	95
		FC	415	-0.2483	-3.973	-2.742	Yes	95
		mFC	205	-1.4520	-23.232	-2.482	Yes	95
		NO3+NO2	108	-0.0057	-0.091	-2.212	Yes	95
		TKN	110	0.0000	0.000	1.671	No	90
		TP	110	0.0000	0.000	0.375	No	< 80
		OP	108	0.0000	0.000	1.498	No	80
	NH3	110	-0.0037	-0.058	-4.992	Yes	95	
	TSS	108	-0.0988	-1.580	-2.095	Yes	95	
	10	DO	251	0.0784	0.784	4.570	Yes	95
		mDO	131	0.0615	0.615	3.041	Yes	95
		Temp	258	0.0831	0.831	2.074	Yes	95
		mTemp	131	0.0864	0.864	1.366	No	80
		FC	260	0.0000	0.000	0.649	No	< 80
		mFC	131	-0.6251	-6.251	-0.875	No	< 80
	5	DO	125	0.1929	0.965	3.664	Yes	95
		mDO	65	0.1702	0.851	3.102	Yes	95
		Temp	129	-0.4500	-2.250	-3.415	Yes	95
		mTemp	65	-0.4465	-2.233	-2.680	Yes	95
		FC	129	0.0000	0.000	0.071	No	< 80
		mFC	65	1.4900	7.450	0.240	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
33	16	pH	282	-0.0198	-0.317	-3.915	Yes	95
		mpH	203	-0.0187	-0.300	-3.392	Yes	95
		DO	387	-0.0150	-0.241	-0.528	No	< 80
		mDO	205	-0.0128	-0.205	-0.370	No	< 80
		DO % sat	406	-0.3630	-5.808	-1.123	No	< 80
		mDO % sat	210	-0.5766	-9.226	-1.507	No	80
		Temp	411	0.0000	0.000	0.347	No	< 80
		mTemp	208	0.0181	0.289	0.441	No	< 80
		Turb	369	-0.4417	-7.067	-4.673	Yes	95
		mTurb	193	-0.4173	-6.677	-3.692	Yes	95
		FC	411	-1.2940	-20.704	-3.709	Yes	95
		mFC	206	-1.9970	-31.952	-2.324	Yes	95
		NO3+NO2	105	0.0000	0.000	0.022	No	< 80
		TKN	106	0.0185	0.295	1.110	No	< 80
		TP	106	0.0095	0.152	1.175	No	< 80
		OP	105	0.0105	0.167	2.829	Yes	95
	NH3	106	-0.0082	-0.132	-0.705	No	< 80	
	TSS	105	-1.3080	-20.928	-2.347	Yes	95	
	10	DO	240	0.0497	0.497	0.681	No	< 80
		mDO	127	0.0822	0.822	0.932	No	< 80
		Temp	254	0.0660	0.660	1.123	No	< 80
		mTemp	129	0.1002	1.002	1.277	No	< 80
		FC	254	-2.1590	-21.590	-2.719	Yes	95
		mFC	128	-3.4260	-34.260	-2.433	Yes	95
	5	DO	119	0.0714	0.357	0.235	No	< 80
		mDO	65	-0.0174	-0.087	0.000	No	< 80
		Temp	123	-0.4385	-2.193	-2.453	Yes	95
		mTemp	65	-0.2863	-1.432	-1.319	No	80
		FC	124	-0.3377	-1.689	-0.566	No	< 80
		mFC	64	3.0060	15.030	0.375	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
34	16	pH	378	-0.0271	-0.434	-5.555	Yes	95
		mpH	201	-0.0241	-0.386	-3.955	Yes	95
		DO	402	0.0574	0.918	2.779	Yes	95
		mDO	205	0.0519	0.830	2.105	Yes	95
		DO % sat	402	0.5611	8.978	3.098	Yes	95
		mDO % sat	206	0.5553	8.885	2.175	Yes	95
		Temp	405	0.0899	1.438	3.024	Yes	95
		mTemp	206	0.1213	1.941	3.698	Yes	95
		Turb	368	-0.4212	-6.739	-5.663	Yes	95
		mTurb	192	-0.5812	-9.299	-5.610	Yes	95
		FC	400	-3.1200	-49.920	-3.713	Yes	95
		mFC	193	-6.4430	-103.088	-2.538	Yes	95
		NO3+NO2	106	-0.0002	-0.003	-1.423	No	80
		TKN	105	-0.0123	-0.196	-1.520	No	80
		TP	106	0.0067	0.107	3.451	Yes	95
		OP	106	0.0035	0.055	2.283	Yes	95
	NH3	106	-0.0146	-0.234	-6.252	Yes	95	
	TSS	106	0.0000	0.000	0.331	No	< 80	
	10	DO	248	0.1109	1.109	2.638	Yes	95
		mDO	128	0.1292	1.292	2.028	Yes	95
		Temp	251	0.2505	2.505	3.817	Yes	95
		mTemp	129	0.2292	2.292	3.338	Yes	95
		FC	250	-4.1950	-41.950	-2.710	Yes	95
		mFC	116	-8.0220	-80.220	-2.287	Yes	95
	5	DO	120	0.1517	0.759	1.451	No	80
		mDO	65	0.2746	1.373	2.162	Yes	95
		Temp	121	-0.2004	-1.002	-1.086	No	< 80
		mTemp	65	-0.5266	-2.633	-2.039	Yes	95
		FC	119	-8.6980	-43.490	-2.776	Yes	95
		mFC	52	-8.3190	-41.595	-0.865	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
35	16	pH	371	0.0200	0.321	5.074	Yes	95
		mpH	199	0.0200	0.320	4.031	Yes	95
		DO	394	0.0020	0.032	0.167	No	< 80
		mDO	203	0.0044	0.071	0.297	No	< 80
		DO % sat	394	0.0803	1.285	0.450	No	< 80
		mDO % sat	205	0.0766	1.225	0.504	No	< 80
		Temp	399	0.0501	0.801	2.715	Yes	95
		mTemp	203	0.0251	0.401	0.928	No	< 80
		Turb	356	-0.6351	-10.162	-4.211	Yes	95
		mTurb	189	-0.8859	-14.174	-3.842	Yes	95
		FC	393	-0.0767	-1.226	-1.157	No	< 80
		mFC	203	-0.1025	-1.640	-0.202	No	< 80
		NO3+NO2	102	0.0000	0.000	-0.022	No	< 80
		TKN	102	-0.0066	-0.105	-0.867	No	< 80
		TP	103	0.0000	0.000	0.198	No	< 80
		OP	101	-0.0021	-0.034	-0.977	No	< 80
	NH3	102	-0.0066	-0.106	-0.911	No	< 80	
	TSS	101	-0.2494	-3.990	-1.572	No	80	
	10	DO	246	0.0134	0.134	0.290	No	< 80
		mDO	128	0.0094	0.094	0.254	No	< 80
		Temp	250	0.1690	1.690	3.972	Yes	95
		mTemp	128	0.2297	2.297	3.880	Yes	95
		FC	249	1.4760	14.760	1.685	No	90
		mFC	128	2.6760	26.760	1.316	No	80
	5	DO	122	0.1747	0.874	1.389	No	80
		mDO	65	0.1026	0.513	0.893	No	< 80
		Temp	124	-0.0971	-0.485	-0.471	No	< 80
		mTemp	65	-0.0413	-0.206	-0.239	No	< 80
		FC	125	1.4710	7.355	0.989	No	< 80
		mFC	65	6.8960	34.480	0.955	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
36	16	pH	384	-0.0150	-0.241	-4.069	Yes	95
		mpH	206	-0.0150	-0.240	-2.744	Yes	95
		DO	400	0.0274	0.439	1.150	No	< 80
		mDO	208	0.0421	0.674	1.405	No	80
		DO % sat	407	0.3704	5.926	1.419	No	80
		mDO % sat	210	0.2463	3.941	0.984	No	< 80
		Temp	411	0.0142	0.227	0.432	No	< 80
		mTemp	209	0.0369	0.590	0.731	No	< 80
		Turb	367	-0.0240	-0.384	-0.444	No	< 80
		mTurb	195	-0.0641	-1.026	-0.987	No	< 80
		FC	415	0.4978	7.965	2.018	Yes	95
		mFC	209	0.9799	15.678	1.001	No	< 80
		NO3+NO2	108	-0.0004	-0.007	-1.479	No	80
		TKN	108	-0.0125	-0.200	-1.587	No	80
		TP	108	0.0050	0.080	2.772	Yes	95
		OP	108	0.0049	0.079	3.006	Yes	95
	NH3	108	-0.0100	-0.160	-4.654	Yes	95	
	TSS	108	0.0000	0.000	0.935	No	< 80	
	10	DO	247	0.0766	0.766	1.567	No	80
		mDO	128	0.0551	0.551	1.105	No	< 80
		Temp	256	0.0726	0.726	1.230	No	< 80
		mTemp	129	0.1146	1.146	1.863	No	90
		FC	258	0.0000	0.000	0.128	No	< 80
		mFC	129	-1.0300	-10.300	-0.523	No	< 80
	5	DO	124	0.0768	0.384	0.638	No	< 80
		mDO	65	0.0476	0.238	0.179	No	< 80
		Temp	128	-0.5209	-2.605	-2.836	Yes	95
		mTemp	65	-0.3380	-1.690	-1.312	No	80
		FC	129	-6.0160	-30.080	-2.471	Yes	95
		mFC	65	-10.8200	-54.100	-1.494	No	80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
37	16	pH	380	-0.0055	-0.089	-1.836	No	90
		mpH	203	-0.0050	-0.080	-0.912	No	< 80
		DO	388	0.0390	0.624	1.399	No	80
		mDO	204	0.0594	0.950	1.888	No	90
		DO % sat	405	0.2001	3.202	0.665	No	< 80
		mDO % sat	208	0.0961	1.537	0.419	No	< 80
		Temp	409	0.0300	0.479	0.917	No	< 80
		mTemp	207	0.0269	0.431	1.014	No	< 80
		Turb	368	0.0000	0.000	0.010	No	< 80
		mTurb	194	-0.1995	-3.192	-1.749	No	90
		FC	411	5.0100	80.160	3.772	Yes	95
		mFC	206	8.4150	134.640	3.286	Yes	95
		NO3+NO2	108	-0.0044	-0.070	-1.301	No	80
		TKN	108	0.0373	0.596	2.105	Yes	95
		TP	108	0.0075	0.120	1.503	No	80
		OP	108	0.0097	0.154	1.922	No	90
	NH3	108	-0.0033	-0.053	-0.166	No	< 80	
	TSS	108	0.0825	1.320	0.301	No	< 80	
	10	DO	218	0.1767	1.767	2.343	Yes	95
		mDO	115	0.1998	1.998	2.446	Yes	95
		Temp	228	0.1044	1.044	1.468	No	80
		mTemp	116	0.1461	1.461	1.725	No	90
		FC	227	15.4300	154.300	3.688	Yes	95
		mFC	115	23.7400	237.400	2.878	Yes	95
	5	DO	125	0.4559	2.280	2.305	Yes	95
		mDO	65	0.4821	2.411	1.727	No	90
		Temp	127	-0.3138	-1.569	-2.334	Yes	95
		mTemp	65	-0.3514	-1.757	-1.972	Yes	95
		FC	127	0.0000	0.000	0.389	No	< 80
		mFC	65	5.9500	29.750	0.179	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
38	16	pH	377	-0.0167	-0.267	-3.769	Yes	95
		mpH	203	-0.0166	-0.266	-2.741	Yes	95
		DO	377	0.0206	0.329	0.744	No	< 80
		mDO	200	0.0007	0.011	0.000	No	< 80
		DO % sat	394	0.1940	3.104	0.808	No	< 80
		mDO % sat	208	-0.0649	-1.038	-0.181	No	< 80
		Temp	405	0.0373	0.597	1.502	No	80
		mTemp	207	0.0497	0.795	1.231	No	< 80
		Turb	364	-0.3001	-4.802	-2.795	Yes	95
		mTurb	193	-0.3720	-5.952	-2.840	Yes	95
		FC	405	1.4250	22.800	2.350	Yes	95
		mFC	206	2.0410	32.656	1.569	No	80
		NO3+NO2	107	0.0049	0.079	2.371	Yes	95
		TKN	107	0.0199	0.318	1.154	No	< 80
		TP	107	0.0146	0.233	2.026	Yes	95
		OP	107	0.0204	0.326	4.396	Yes	95
	NH3	107	-0.0099	-0.159	-0.598	No	< 80	
	TSS	107	-0.4260	-6.816	-0.893	No	< 80	
	10	DO	233	0.1036	1.036	1.777	No	90
		mDO	124	0.0750	0.750	1.280	No	< 80
		Temp	254	0.0498	0.498	0.947	No	< 80
		mTemp	130	0.1090	1.090	1.326	No	80
		FC	255	-2.0210	-20.210	-1.663	No	90
		mFC	130	-7.0950	-70.950	-1.528	No	80
	5	DO	117	0.1181	0.591	0.417	No	< 80
		mDO	62	0.1028	0.514	0.063	No	< 80
		Temp	125	-0.3848	-1.924	-2.578	Yes	95
		mTemp	65	-0.2833	-1.417	-1.312	No	80
		FC	125	-19.0200	-95.100	-2.998	Yes	95
		mFC	65	-23.7500	-118.750	-2.203	Yes	95



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
39	16	pH	383	-0.0170	-0.271	-5.464	Yes	95
		mpH	205	-0.0162	-0.260	-3.607	Yes	95
		DO	406	0.0027	0.044	0.371	No	< 80
		mDO	208	0.0019	0.030	0.102	No	< 80
		DO % sat	408	0.0000	0.000	0.064	No	< 80
		mDO % sat	210	0.0000	0.000	0.078	No	< 80
		Temp	412	0.0000	0.000	0.143	No	< 80
		mTemp	209	0.0067	0.107	0.349	No	< 80
		Turb	367	-0.0340	-0.544	-1.007	No	< 80
		mTurb	194	-0.0716	-1.146	-1.321	No	80
		FC	412	-0.1001	-1.602	-1.641	No	80
		mFC	209	-1.7930	-28.688	-2.093	Yes	95
		NO3+NO2	108	-0.0017	-0.026	-0.560	No	< 80
		TKN	108	0.0000	0.000	-0.769	No	< 80
		TP	108	0.0000	0.000	4.016	Yes	95
		OP	108	0.0028	0.045	4.978	Yes	95
	NH3	108	0.0000	0.000	-0.568	No	< 80	
	TSS	108	0.0000	0.000	-1.257	No	< 80	
	10	DO	252	0.0098	0.098	0.627	No	< 80
		mDO	130	-0.0042	-0.042	-0.045	No	< 80
		Temp	256	0.0000	0.000	0.000	No	< 80
		mTemp	131	0.0501	0.501	1.271	No	< 80
		FC	256	0.0000	0.000	0.884	No	< 80
		mFC	130	1.9820	19.820	1.762	No	90
	5	DO	123	0.2348	1.174	4.548	Yes	95
		mDO	66	0.2056	1.028	2.747	Yes	95
		Temp	126	-0.4792	-2.396	-4.121	Yes	95
		mTemp	66	-0.4247	-2.124	-2.639	Yes	95
		FC	127	-1.6530	-8.265	-1.205	No	< 80
		mFC	66	-6.3760		-0.995	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
40	16	pH	377	-0.0133	-0.213	-3.936	Yes	95
		mpH	196	-0.0119	-0.190	-2.526	Yes	95
		DO	402	-0.0102	-0.164	-0.733	No	< 80
		mDO	200	0.0036	0.057	0.181	No	< 80
		DO % sat	402	-0.0944	-1.511	-0.589	No	< 80
		mDO % sat	202	0.0301	0.481	0.262	No	< 80
		Temp	404	0.0000	0.000	0.017	No	< 80
		mTemp	202	-0.0539	-0.863	-2.507	Yes	95
		Turb	367	0.1137	1.819	1.126	No	< 80
		mTurb	187	0.1526	2.442	0.990	No	< 80
		FC	399	0.0000	0.000	0.248	No	< 80
		mFC	200	0.5973	9.557	0.733	No	< 80
		NO3+NO2	104	-0.0047	-0.076	-0.728	No	< 80
		TKN	105	-0.0020	-0.033	-0.468	No	< 80
		TP	105	0.0016	0.025	3.835	Yes	95
		OP	104	-0.0012	-0.020	-0.609	No	< 80
	NH3	105	-0.0072	-0.115	-1.587	No	80	
	TSS	104	0.0000	0.000	0.102	No	< 80	
	10	DO	249	-0.0797	-0.797	-2.287	Yes	95
		mDO	124	-0.0910	-0.910	-2.057	Yes	95
		Temp	251	0.1253	1.253	3.127	Yes	95
		mTemp	126	0.0177	0.177	0.356	No	< 80
		FC	251	-1.7910	-17.910	-2.094	Yes	95
		mFC	125	-1.5050	-15.050	-0.599	No	< 80
	5	DO	121	0.2817	1.409	2.493	Yes	95
		mDO	62	0.2464	1.232	2.803	Yes	95
		Temp	121	-0.4119	-2.060	-3.512	Yes	95
		mTemp	62	-0.6331	-3.166	-3.747	Yes	95
		FC	121	0.0000	0.000	0.280	No	< 80
		mFC	62	2.6730	13.365	0.653	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
41	16	pH	387	0.0033	0.053	1.142	No	< 80
		mpH	203	0.0070	0.112	1.496	No	80
		DO	413	0.0710	1.137	3.455	Yes	95
		mDO	206	0.0882	1.411	3.067	Yes	95
		DO % sat	414	0.6052	9.683	3.138	Yes	95
		mDO % sat	208	0.6414	10.262	2.734	Yes	95
		Temp	416	0.0000	0.000	-0.037	No	< 80
		mTemp	207	0.0158	0.253	0.576	No	< 80
		Turb	378	0.3007	4.811	5.616	Yes	95
		mTurb	193	0.2547	4.075	3.169	Yes	95
		FC	414	1.1170	17.872	2.653	Yes	95
		mFC	207	2.0040	32.064	2.110	Yes	95
		NO3+NO2	109	0.0000	0.000	-0.891	No	< 80
		TKN	108	-0.0025	-0.040	-0.842	No	< 80
		TP	109	0.0042	0.067	3.616	Yes	95
		OP	109	0.0032	0.052	3.825	Yes	95
	NH3	109	-0.0071	-0.114	-2.797	Yes	95	
	TSS	109	0.0000	0.000	2.491	Yes	95	
	10	DO	257	0.1480	1.480	3.046	Yes	95
		mDO	128	0.1422	1.422	2.990	Yes	95
		Temp	260	0.0430	0.430	0.743	No	< 80
		mTemp	129	0.0707	0.707	0.967	No	< 80
		FC	260	0.9957	9.957	1.749	No	90
		mFC	129	2.6040	26.040	1.707	No	90
	5	DO	129	0.2420	1.210	1.448	No	80
		mDO	65	0.2862	1.431	1.297	No	80
		Temp	129	-0.5707	-2.854	-3.739	Yes	95
		mTemp	65	-0.7588	-3.794	-4.139	Yes	95
		FC	129	-8.6900	-43.450	-2.453	Yes	95
		mFC	65	-8.2150	-41.075	-1.988	Yes	95



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
42	16	pH	385	0.0060	0.096	1.972	Yes	95
		mpH	200	0.0050	0.080	1.400	No	80
		DO	410	0.1204	1.926	7.132	Yes	95
		mDO	205	0.1301	2.082	6.090	Yes	95
		DO % sat	412	0.9311	14.898	7.420	Yes	95
		mDO % sat	207	0.9792	15.667	6.549	Yes	95
		Temp	414	0.0445	0.712	2.035	Yes	95
		mTemp	206	-0.0201	-0.321	-0.942	No	< 80
		Turb	375	0.0560	0.895	3.598	Yes	95
		mTurb	192	0.0595	0.952	2.577	Yes	95
		FC	409	1.2670	20.272	3.485	Yes	95
		mFC	206	1.7950	28.720	2.337	Yes	95
		NO3+NO2	109	0.0000	0.000	0.329	No	< 80
		TKN	108	-0.0042	-0.067	-1.045	No	< 80
		TP	109	0.0000	0.000	1.905	No	90
		OP	109	0.0010	0.016	1.896	No	90
	NH3	109	-0.0026	-0.042	-2.472	Yes	95	
	TSS	109	0.0000	0.000	1.496	No	80	
	10	DO	255	-0.0132	-0.132	-0.428	No	< 80
		mDO	128	-0.0301	-0.301	-0.467	No	< 80
		Temp	259	0.0994	0.994	2.224	Yes	95
		mTemp	129	0.0783	0.783	1.130	No	< 80
		FC	259	0.0000	0.000	-0.515	No	< 80
		mFC	129	-0.8685	-8.685	-0.645	No	< 80
	5	DO	129	-0.0826	-0.413	-1.052	No	< 80
		mDO	65	0.0039	0.019	0.000	No	< 80
		Temp	129	-0.3873	-1.937	-2.811	Yes	95
		mTemp	65	-0.7552	-3.776	-3.603	Yes	95
		FC	129	-3.7440	-18.720	-1.586	No	80
		mFC	65	-9.4810	-47.405	-2.046	Yes	95



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
43	16	pH	379	-0.0125	-0.200	-3.387	Yes	95
		mpH	198	-0.0119	-0.191	-2.928	Yes	95
		DO	405	-0.0260	-0.415	-1.097	No	< 80
		mDO	201	-0.0243	-0.389	-0.907	No	< 80
		DO % sat	407	-0.2705	-4.328	-1.004	No	< 80
		mDO % sat	205	-0.2126	-3.402	-0.821	No	< 80
		Temp	408	0.0126	0.201	0.822	No	< 80
		mTemp	203	0.0425	0.680	1.907	No	90
		Turb	371	0.3036	4.858	5.217	Yes	95
		mTurb	189	0.2184	3.494	3.068	Yes	95
		FC	402	0.4274	6.838	2.208	Yes	95
		mFC	203	2.6520	42.432	2.658	Yes	95
		NO3+NO2	106	0.0000	0.000	-0.383	No	< 80
		TKN	105	0.0012	0.020	0.218	No	< 80
		TP	106	0.0059	0.094	2.296	Yes	95
		OP	106	0.0011	0.018	0.775	No	< 80
	NH3	106	-0.0024	-0.039	-0.645	No	< 80	
	TSS	106	0.1472	2.355	1.198	No	< 80	
	10	DO	257	0.0109	0.109	0.229	No	< 80
		mDO	127	0.0479	0.479	0.589	No	< 80
		Temp	261	0.0712	0.712	1.805	No	90
		mTemp	129	0.0836	0.836	1.846	No	90
		FC	258	0.9811	9.811	1.890	No	90
		mFC	129	3.4900	34.900	1.775	No	90
	5	DO	130	-0.0688	-0.344	-0.393	No	< 80
		mDO	65	-0.0088	-0.044	0.000	No	< 80
		Temp	130	-0.3439	-1.720	-2.668	Yes	95
		mTemp	65	-0.5593	-2.797	-2.847	Yes	95
		FC	128	0.0000	0.000	0.962	No	< 80
		mFC	65	-1.9840	-9.920	-0.310	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
44	16	pH	344	-0.0320	-0.511	-7.513	Yes	95
		mpH	181	-0.0327	-0.523	-5.932	Yes	95
		DO	365	-0.1225	-1.960	-4.637	Yes	95
		mDO	185	-0.1146	-1.834	-3.577	Yes	95
		DO % sat	368	-1.2390	-19.824	-4.974	Yes	95
		mDO % sat	187	-1.1540	-18.464	-3.268	Yes	95
		Temp	371	0.0000	0.000	-0.374	No	< 80
		mTemp	186	0.0101	0.162	0.349	No	< 80
		Turb	334	0.0499	0.798	0.560	No	< 80
		mTurb	173	-0.0577	-0.923	-0.577	No	< 80
		FC	368	0.0000	0.000	0.190	No	< 80
		mFC	186	0.0000	0.000	-0.027	No	< 80
		NO3+NO2	87	-0.0008	-0.013	-0.685	No	< 80
		TKN	87	-0.0181	-0.289	-1.001	No	< 80
		TP	88	0.0093	0.149	4.738	Yes	95
		OP	87	-0.0009	-0.014	-0.799	No	< 80
	NH3	88	-0.0065	-0.103	-1.323	No	80	
	TSS	87	0.0000	0.000	-0.335	No	< 80	
	10	DO	255	-0.0651	-0.651	-1.572	No	80
		mDO	128	-0.0427	-0.427	-0.678	No	< 80
		Temp	258	0.0000	0.000	-0.144	No	< 80
		mTemp	129	0.0399	0.399	0.599	No	< 80
		FC	258	-0.5475	-5.475	-1.522	No	80
		mFC	129	-2.6870	-26.870	-1.245	No	< 80
	5	DO	127	-0.0966	-0.483	-0.998	No	< 80
		mDO	65	-0.1546	-1.546	-0.680	No	< 80
		Temp	127	-0.3008	-1.504	-2.285	Yes	95
		mTemp	65	-0.4542	-2.271	-2.352	Yes	95
		FC	127	-24.8800	-124.400	-4.449	Yes	95
		mFC	65	-46.2400	-231.200	-4.225	Yes	95



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
45	16	pH	371	0.0244	0.390	5.054	Yes	95
		mpH	201	0.0217	0.346	3.669	Yes	95
		DO	392	0.0098	0.157	1.605	No	< 80
		mDO	203	0.0041	0.065	0.558	No	< 80
		DO % sat	392	0.0567	0.907	1.597	No	80
		mDO % sat	206	0.0351	0.561	0.650	No	< 80
		Temp	399	0.0100	0.160	0.797	No	< 80
		mTemp	206	0.0253	0.405	1.390	No	80
		Turb	364	-0.2154	-3.446	-4.848	Yes	95
		mTurb	190	-0.2553	-4.085	-3.586	Yes	95
		FC	393	0.0000	0.000	-1.113	No	< 80
		mFC	206	-0.0712	-1.139	-1.393	No	80
		NO3+NO2	104	0.0000	0.000	0.896	No	< 80
		TKN	104	0.0000	0.000	-1.394	No	80
		TP	104	0.0000	0.000	-1.756	No	90
		OP	104	0.0000	0.000	3.153	Yes	95
	NH3	104	0.0000	0.000	-0.418	No	< 80	
	TSS	104	-0.2811	-4.498	-2.432	Yes	95	
	10	DO	245	0.0168	0.168	1.325	No	80
		mDO	128	0.0338	0.338	2.211	Yes	95
		Temp	249	0.0962	0.962	2.847	Yes	95
		mTemp	129	0.0783	0.783	1.567	No	80
		FC	248	0.0000	0.000	-0.855	No	< 80
		mFC	129	-0.1496	-1.496	-1.037	No	< 80
	5	DO	127	0.1695	0.848	4.014	Yes	95
		mDO	65	0.1882	0.941	3.151	Yes	95
		Temp	127	-0.3010	-1.505	-2.489	Yes	95
		mTemp	65	-0.4852	-2.426	-2.676	Yes	95
		FC	127	0.0000	0.000	-0.643	No	< 80
		mFC	65	-0.4177	-2.089	-0.745	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
46	16	pH	377	0.0179	0.286	3.981	Yes	95
		mpH	199	0.0154	0.247	2.543	Yes	95
		DO	403	0.0107	0.171	2.186	Yes	95
		mDO	205	0.0210	0.337	2.790	Yes	95
		DO % sat	404	0.0650	1.040	1.744	No	90
		mDO % sat	207	0.0643	1.029	1.369	No	80
		Temp	406	0.0111	0.177	0.819	No	< 80
		mTemp	206	-0.0166	-0.266	-0.993	No	< 80
		Turb	372	-0.2132	-3.411	-4.953	Yes	95
		mTurb	192	-0.2533	-4.053	-3.594	Yes	95
		FC	405	0.0000	0.000	0.639	No	< 80
		mFC	206	0.0766	1.226	1.018	No	< 80
		NO3+NO2	106	0.0009	0.015	1.486	No	80
		TKN	105	0.0000	0.000	0.503	No	< 80
		TP	106	0.0000	0.000	0.118	No	< 80
		OP	106	0.0000	0.000	3.028	Yes	95
	NH3	106	0.0000	0.000	2.311	Yes	95	
	TSS	105	-0.2996	-4.794	-2.289	Yes	95	
	10	DO	252	0.0198	0.198	1.781	No	90
		mDO	128	0.0416	0.416	2.804	Yes	95
		Temp	255	0.0968	0.968	2.876	Yes	95
		mTemp	129	0.0620	0.620	1.660	No	90
		FC	256	0.0000	0.000	1.481	No	80
		mFC	129	0.3349	3.349	1.687	No	90
	5	DO	126	0.1307	0.654	3.372	Yes	95
		mDO	65	0.1436	0.718	3.274	Yes	95
		Temp	126	-0.2691	-1.346	-3.471	Yes	95
		mTemp	65	-0.5236	-2.618	-3.095	Yes	95
		FC	128	0.0000	0.000	0.000	No	< 80
		mFC	65	0.0000	0.000	-0.062	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
47	16	pH	389	-0.0468	-0.749	-11.900	Yes	95
		mpH	203	-0.0518	-0.828	-9.215	Yes	95
		DO	414	-0.0011	-0.018	-0.147	No	< 80
		mDO	205	-0.0060	-0.096	-0.644	No	< 80
		DO % sat	414	0.0000	0.000	0.113	No	< 80
		mDO % sat	207	0.0422	0.675	0.437	No	< 80
		Temp	417	0.0251	0.401	2.220	Yes	95
		mTemp	207	0.0401	0.641	2.782	Yes	95
		Turb	378	-0.0144	-0.231	-0.658	No	< 80
		mTurb	193	-0.0207	-0.330	-0.766	No	< 80
		FC	410	0.0000	0.000	2.188	Yes	95
		mFC	206	0.1249	1.998	2.219	Yes	95
		NO3+NO2	109	0.0071	0.113	3.551	Yes	95
		TKN	108	0.0000	0.000	2.780	Yes	95
		TP	109	0.0013	0.021	5.213	Yes	95
		OP	109	0.0032	0.052	5.851	Yes	95
	NH3	109	-0.0011	-0.018	-2.531	Yes	95	
	TSS	109	-0.6864	-10.982	-1.687	No	90	
	10	DO	257	-0.0043	-0.043	-0.221	No	< 80
		mDO	127	0.0033	0.033	0.330	No	< 80
		Temp	261	0.0994	0.994	3.855	Yes	95
		mTemp	129	0.0748	0.748	2.860	Yes	95
		FC	258	0.0000	0.000	-0.655	No	< 80
		mFC	128	0.0000	0.000	-0.303	No	< 80
	5	DO	130	0.0953	0.477	2.340	Yes	95
		mDO	65	0.1386	0.693	2.162	Yes	95
		Temp	130	-0.1977	-0.989	-3.625	Yes	95
		mTemp	65	-0.3568	-1.784	-3.286	Yes	95
		FC	127	0.0000	0.000	0.783	No	< 80
		mFC	64	-0.5007	-2.504	-0.631	No	< 80



Site	Period (years)	Parameter	n	Slope	Δ (units/period)	Z-score	Significant (95%)	Confidence (%)
48	16	pH	388	-0.0134	-0.215	-4.378	Yes	95
		mpH	203	-0.0107	-0.171	-3.315	Yes	95
		DO	412	0.0203	0.325	3.021	Yes	95
		mDO	206	0.0181	0.290	2.248	Yes	95
		DO % sat	413	0.1658	2.653	3.991	Yes	95
		mDO % sat	208	0.1804	2.886	3.021	Yes	95
		Temp	415	0.0334	0.535	2.599	Yes	95
		mTemp	207	0.0495	0.793	2.919	Yes	95
		Turb	378	0.0000	0.000	-0.010	No	< 80
		mTurb	193	-0.0072	-0.115	-0.575	No	< 80
		FC	410	0.0000	0.000	-0.852	No	< 80
		mFC	206	-0.8187	-13.099	-1.103	No	< 80
		NO3+NO2	109	-0.0044	-0.070	-2.399	Yes	95
		TKN	107	-0.0148	-0.236	-3.136	Yes	95
		TP	109	0.0023	0.037	4.984	Yes	95
		OP	109	0.0012	0.020	0.780	No	< 80
	NH3	108	-0.0051	-0.082	-6.869	Yes	95	
	TSS	109	0.0000	0.000	0.451	No	< 80	
	10	DO	257	0.0387	0.387	2.519	Yes	95
		mDO	128	0.0549	0.549	2.803	Yes	95
		Temp	259	0.0597	0.597	1.936	No	90
		mTemp	129	0.0499	0.499	1.754	No	90
		FC	258	0.0000	0.000	0.766	No	< 80
		mFC	128	0.3349	3.349	0.303	No	< 80
	5	DO	129	0.1755	0.878	3.906	Yes	95
		mDO	65	0.2083	1.042	3.892	Yes	95
		Temp	129	-0.2002	-1.001	-2.675	Yes	95
		mTemp	65	-0.3962	-1.981	-2.847	Yes	95
		FC	129	-6.7730	-33.865	-2.302	Yes	95
		mFC	65	-10.1600	-50.800	-2.046	Yes	95