

Appendix C – Seasonal Kendall’s Results

Samish Bay Watershed

Site 11 – Upper Samish River

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.009	0.005	Y	NA
	DO	0.006	0.020	Y	Improving
	DO Percent	0.004	0.130	Y	Improving
	Temperature	0.323	-0.009	N	NA
	Turbidity	0.629	-0.003	N	NA
	Fecal Coliform	0.766	0.000	N	NA
	Monthly DO	0.019	0.019	Y	Improving
	Monthly DO Percent	0.009	0.133	Y	Improving
	Monthly Temperature	0.269	-0.013	N	NA
	Monthly Turbidity	0.168	-0.015	N	NA
	Monthly Fecal Coliform	0.986	0.000	N	NA
	Nitrate + Nitrite	0.001	-0.005	Y	Improving
	Ammonia	0.057	0.000	N	NA
	Total Kjeldahl Nitrogen	0.401	0.000	N	NA
	Total Nitrogen	0.009	-0.004	Y	Improving
	Orthophosphate	0.051	0.000	N	NA
	Total Phosphorus	0.081	0.000	N	NA
	Total Suspended Solids	0.508	0.000	N	NA
10 Years	DO	0.729	-0.010	N	NA
	Temperature	0.253	-0.025	N	NA
	Fecal Coliform	< 0.001	0.500	Y	Worsening
	Monthly DO	0.751	0.009	N	NA
	Monthly Temperature	0.111	-0.050	N	NA
	Monthly Fecal Coliform	< 0.001	0.500	Y	Worsening
5 Years	DO	< 0.001	-0.214	Y	Worsening
	Temperature	0.053	0.133	N	NA
	Fecal Coliform	0.031	0.800	Y	Worsening
	Monthly DO	< 0.001	-0.212	Y	Worsening
	Monthly Temperature	0.184	0.100	N	NA
	Monthly Fecal Coliform	0.031	0.800	Y	Worsening
Total Number of Significant Trends					13
Percentage of Improving Trends					46%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 8 – Swede Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.009	-0.005	Y	NA
	DO	0.249	-0.008	N	NA
	DO Percent	0.029	-0.080	Y	Worsening
	Temperature	0.546	0.007	N	NA
	Turbidity	< 0.001	-0.112	Y	Improving
	Fecal Coliform	< 0.001	-1.133	Y	Improving
	Monthly DO	0.143	-0.010	N	NA
	Monthly DO Percent	0.035	-0.100	Y	Worsening
	Monthly Temperature	0.269	0.014	N	NA
	Monthly Turbidity	< 0.001	-0.180	Y	Improving
	Monthly Fecal Coliform	< 0.001	-2.000	Y	Improving
	Nitrate + Nitrite	< 0.001	-0.010	Y	Improving
	Ammonia	< 0.001	-0.003	Y	Improving
	Total Kjeldahl Nitrogen	0.902	0.000	N	NA
	Total Nitrogen	0.011	-0.009	Y	Improving
	Orthophosphate	0.001	0.001	Y	Worsening
	Total Phosphorus	0.514	0.000	N	NA
	Total Suspended Solids	0.727	0.000	N	NA
10 Years	DO	0.021	0.036	Y	Improving
	Temperature	0.010	-0.100	Y	Improving
	Fecal Coliform	0.982	0.000	N	NA
	Monthly DO	0.005	0.050	Y	Improving
	Monthly Temperature	0.011	-0.124	Y	Improving
	Monthly Fecal Coliform	0.982	0.000	N	NA
5 Years	DO	0.371	-0.037	N	NA
	Temperature	0.553	0.050	N	NA
	Fecal Coliform	0.356	0.067	N	NA
	Monthly DO	1.000	0.000	N	NA
	Monthly Temperature	0.699	-0.050	N	NA
	Monthly Fecal Coliform	0.356	0.067	N	NA
Total Number of Significant Trends					15
Percentage of Improving Trends					73%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 6 – Friday Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.010	Y	NA-pH
	DO	< 0.001	0.026	Y	Improving
	DO Percent	< 0.001	0.245	Y	Improving
	Temperature	0.067	0.020	N	NA
	Turbidity	0.123	-0.018	N	NA
	Fecal Coliform	0.378	0.000	N	NA
	Monthly DO	< 0.001	0.025	Y	Improving
	Monthly DO Percent	< 0.001	0.230	Y	Improving
	Monthly Temperature	0.049	0.028	Y	Worsening
	Monthly Turbidity	0.051	-0.044	N	NA
	Monthly Fecal Coliform	0.141	-0.357	N	NA
	Nitrate + Nitrite	< 0.001	-0.015	Y	Improving
	Ammonia	0.002	0.000	NA	NA
	Total Kjeldahl Nitrogen	0.887	0.000	N	NA
	Total Nitrogen	< 0.001	-0.015	Y	Improving
	Orthophosphate	0.824	0.000	N	NA
	Total Phosphorus	0.017	0.000	NA	NA
	Total Suspended Solids	1.000	0.000	N	NA
10 Years	DO	< 0.001	0.054	Y	Improving
	Temperature	0.028	-0.075	Y	Improving
	Fecal Coliform	0.643	0.000	N	NA
	Monthly DO	0.005	0.054	Y	Improving
	Monthly Temperature	0.045	-0.075	Y	Improving
	Monthly Fecal Coliform	0.643	0.000	N	NA
5 Years	DO	0.274	-0.025	N	NA
	Temperature	0.956	0.000	N	NA
	Fecal Coliform	0.233	0.500	N	NA
	Monthly DO	0.825	-0.010	N	NA
	Monthly Temperature	1.000	0.000	N	NA
	Monthly Fecal Coliform	0.233	0.500	N	NA
Total Number of Significant Trends					13
Percentage of Improving Trends					77%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 4 – Upper Thomas Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.015	Y	NA-pH
	DO	< 0.001	0.032	Y	Improving
	DO Percent	< 0.001	0.210	Y	Improving
	Temperature	0.998	0.000	N	NA
	Turbidity	< 0.001	-0.190	Y	Improving
	Fecal Coliform	< 0.001	-3.000	Y	Improving
	Monthly DO	< 0.001	0.027	Y	Improving
	Monthly DO Percent	< 0.001	0.193	Y	Improving
	Monthly Temperature	0.965	0.000	N	NA
	Monthly Turbidity	< 0.001	-0.283	Y	Improving
	Monthly Fecal Coliform	< 0.001	-6.100	Y	Improving
	Nitrate + Nitrite	< 0.001	-0.011	Y	Improving
	Ammonia	< 0.001	-0.002	Y	Improving
	Total Kjeldahl Nitrogen	0.170	0.000	N	NA
	Total Nitrogen	< 0.001	-0.017	Y	Improving
	Orthophosphate	0.300	0.000	N	NA
	Total Phosphorus	0.004	0.000	NA	NA
	Total Suspended Solids	0.150	0.000	N	NA
10 Years	DO	0.069	0.020	N	NA
	Temperature	0.017	-0.075	Y	Improving
	Fecal Coliform	0.001	5.286	Y	Worsening
	Monthly DO	0.196	0.024	N	NA
	Monthly Temperature	0.012	-0.087	Y	Improving
	Monthly Fecal Coliform	0.001	5.286	Y	Worsening
5 Years	DO	0.107	-0.048	N	NA
	Temperature	0.808	0.000	N	NA
	Fecal Coliform	0.029	9.200	Y	Worsening
	Monthly DO	0.581	-0.025	N	NA
	Monthly Temperature	0.319	-0.050	N	NA
	Monthly Fecal Coliform	0.029	9.200	Y	Worsening
Total Number of Significant Trends					18
Percentage of Improving Trends					72%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 3 – Lower Thomas Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.499	-0.001	N	NA
	DO	0.503	-0.008	N	NA
	DO Percent	0.389	-0.075	N	NA
	Temperature	0.136	0.020	N	NA
	Turbidity	< 0.001	0.133	Y	Worsening
	Fecal Coliform	0.191	-0.017	N	NA
	Monthly DO	0.367	-0.010	N	NA
	Monthly DO Percent	0.494	-0.082	N	NA
	Monthly Temperature	0.269	0.017	N	NA
	Monthly Turbidity	0.165	0.080	N	NA
	Monthly Fecal Coliform	0.134	-0.903	N	NA
	Nitrate + Nitrite	0.001	-0.008	Y	Improving
	Ammonia	0.001	-0.003	Y	Improving
	Total Kjeldahl Nitrogen	0.004	-0.012	Y	Improving
	Total Nitrogen	< 0.001	-0.028	Y	Improving
	Orthophosphate	0.004	0.001	Y	Worsening
	Total Phosphorus	< 0.001	0.001	Y	Worsening
	Total Suspended Solids	0.041	0.000	NA	NA
10 Years	DO	0.692	0.010	N	NA
	Temperature	0.083	-0.057	N	NA
	Fecal Coliform	0.192	0.375	N	NA
	Monthly DO	0.982	0.002	N	NA
	Monthly Temperature	0.089	-0.083	N	NA
	Monthly Fecal Coliform	0.192	0.375	N	NA
5 Years	DO	0.061	0.195	N	NA
	Temperature	0.365	0.100	N	NA
	Fecal Coliform	0.401	0.333	N	NA
	Monthly DO	0.377	0.146	N	NA
	Monthly Temperature	0.377	0.100	N	NA
	Monthly Fecal Coliform	0.401	0.333	N	NA
Total Number of Significant Trends					7
Percentage of Improving Trends					57%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 32 – Lower Samish River

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.001	0.008	Y	NA-pH
	DO	< 0.001	0.028	Y	Improving
	DO Percent	< 0.001	0.250	Y	Improving
	Temperature	0.209	0.017	N	NA
	Turbidity	< 0.001	-0.054	Y	Improving
	Fecal Coliform	0.119	0.000	N	NA
	Monthly DO	< 0.001	0.027	Y	Improving
	Monthly DO Percent	< 0.001	0.238	Y	Improving
	Monthly Temperature	0.082	0.019	N	NA
	Monthly Turbidity	< 0.001	-0.085	Y	Improving
	Monthly Fecal Coliform	0.150	-0.483	N	NA
	Nitrate + Nitrite	< 0.001	-0.009	Y	Improving
	Ammonia	< 0.001	-0.003	Y	Improving
	Total Kjeldahl Nitrogen	0.942	0.000	N	NA
	Total Nitrogen	< 0.001	-0.010	Y	Improving
	Orthophosphate	0.157	0.000	N	NA
	Total Phosphorus	0.462	0.000	N	NA
	Total Suspended Solids	0.010	-0.077	Y	Improving
10 Years	DO	0.001	0.054	Y	Improving
	Temperature	0.006	-0.100	Y	Improving
	Fecal Coliform	0.220	0.000	N	NA
	Monthly DO	0.001	0.064	Y	Improving
	Monthly Temperature	0.004	-0.092	Y	Improving
	Monthly Fecal Coliform	0.220	0.000	N	NA
5 Years	DO	0.040	-0.054	Y	Worsening
	Temperature	0.927	0.000	N	NA
	Fecal Coliform	0.622	0.000	N	NA
	Monthly DO	0.098	-0.052	N	NA
	Monthly Temperature	0.956	0.000	N	NA
	Monthly Fecal Coliform	0.622	0.000	N	NA
Total Number of Significant Trends					16
Percentage of Improving Trends					88%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 39 – Colony Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.009	Y	NA-pH
	DO	0.195	0.007	N	NA
	DO Percent	0.714	0.012	N	NA
	Temperature	0.058	-0.022	N	NA
	Turbidity	0.136	-0.033	N	NA
	Fecal Coliform	0.033	-0.125	Y	Improving
	Monthly DO	0.425	0.006	N	NA
	Monthly DO Percent	0.937	0.000	N	NA
	Monthly Temperature	0.141	-0.020	N	NA
	Monthly Turbidity	0.087	-0.067	N	NA
	Monthly Fecal Coliform	0.022	-0.947	Y	Improving
	Nitrate + Nitrite	0.004	-0.008	Y	Improving
	Ammonia	< 0.001	-0.002	Y	Improving
	Total Kjeldahl Nitrogen	0.073	-0.001	N	NA
	Total Nitrogen	0.004	-0.015	Y	Improving
	Orthophosphate	< 0.001	0.001	Y	Worsening
	Total Phosphorus	< 0.001	0.000	NA	NA
	Total Suspended Solids	0.588	0.000	N	NA
10 Years	DO	0.004	0.047	Y	Improving
	Temperature	< 0.001	-0.120	Y	Improving
	Fecal Coliform	0.149	-0.200	N	NA
	Monthly DO	0.002	0.056	Y	Improving
	Monthly Temperature	< 0.001	-0.128	Y	Improving
	Monthly Fecal Coliform	0.149	-0.200	N	NA
5 Years	DO	0.895	-0.003	N	NA
	Temperature	0.838	-0.020	N	NA
	Fecal Coliform	0.135	1.000	N	NA
	Monthly DO	1.000	0.007	N	NA
	Monthly Temperature	0.294	-0.100	N	NA
	Monthly Fecal Coliform	0.135	1.000	N	NA
Total Number of Significant Trends					11
Percentage of Improving Trends					82%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 38 – North Edison Drainage

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.013	Y	NA-pH
	DO	0.004	-0.062	Y	Worsening
	DO Percent	0.001	-0.690	Y	Worsening
	Temperature	0.641	0.006	N	NA
	Turbidity	< 0.001	-0.244	Y	Improving
	Fecal Coliform	0.005	1.333	Y	Worsening
	Monthly DO	0.003	-0.080	Y	Worsening
	Monthly DO Percent	0.001	-0.794	Y	Worsening
	Monthly Temperature	0.483	0.017	N	NA
	Monthly Turbidity	0.002	-0.283	Y	Improving
	Monthly Fecal Coliform	0.024	3.000	Y	Worsening
	Nitrate + Nitrite	0.026	0.002	Y	Worsening
	Ammonia	0.980	0.000	N	NA
	Total Kjeldahl Nitrogen	0.299	0.013	N	NA
	Total Nitrogen	0.056	0.028	N	NA
	Orthophosphate	0.001	0.010	Y	Worsening
	Total Phosphorus	0.025	0.012	Y	Worsening
	Total Suspended Solids	0.267	-0.333	N	NA
10 Years	DO	0.021	-0.152	Y	Worsening
	Temperature	0.017	-0.110	Y	Improving
	Fecal Coliform	0.367	0.000	N	NA
	Monthly DO	0.013	-0.241	Y	Worsening
	Monthly Temperature	0.029	-0.100	Y	Improving
	Monthly Fecal Coliform	0.367	0.000	N	NA
5 Years	DO	0.777	0.041	N	NA
	Temperature	0.765	0.045	N	NA
	Fecal Coliform	0.007	17.750	Y	Worsening
	Monthly DO	0.912	-0.020	N	NA
	Monthly Temperature	0.472	0.090	N	NA
	Monthly Fecal Coliform	0.007	17.750	Y	Worsening
Total Number of Significant Trends					18
Percentage of Improving Trends					22%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 36 – Edison Slough

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.013	Y	NA-pH
	DO	0.790	0.005	N	NA
	DO Percent	0.765	0.050	N	NA
	Temperature	0.746	0.005	N	NA
	Turbidity	0.091	-0.053	N	NA
	Fecal Coliform	< 0.001	1.500	Y	Worsening
	Monthly DO	0.483	0.013	N	NA
	Monthly DO Percent	0.630	0.119	N	NA
	Monthly Temperature	0.494	0.018	N	NA
	Monthly Turbidity	0.227	-0.055	N	NA
	Monthly Fecal Coliform	< 0.001	2.461	Y	Worsening
	Nitrate + Nitrite	0.301	0.000	N	NA
	Ammonia	< 0.001	-0.009	Y	Improving
	Total Kjeldahl Nitrogen	< 0.001	-0.018	Y	Improving
	Total Nitrogen	< 0.001	-0.024	Y	Improving
	Orthophosphate	0.004	0.003	Y	Worsening
	Total Phosphorus	0.045	0.003	Y	Worsening
	Total Suspended Solids	0.504	0.000	N	NA
10 Years	DO	0.528	0.025	N	NA
	Temperature	0.060	-0.100	N	NA
	Fecal Coliform	0.302	0.000	N	NA
	Monthly DO	0.910	-0.007	N	NA
	Monthly Temperature	0.077	-0.100	N	NA
	Monthly Fecal Coliform	0.302	0.000	N	NA
5 Years	DO	0.696	0.041	N	NA
	Temperature	0.646	0.067	N	NA
	Fecal Coliform	0.021	9.600	Y	Worsening
	Monthly DO	1.000	0.018	N	NA
	Monthly Temperature	0.956	-0.017	N	NA
	Monthly Fecal Coliform	0.021	9.600	Y	Worsening
Total Number of Significant Trends					11
Percentage of Improving Trends					27%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 37 – South Edison Drainage

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.001	-0.009	Y	NA-pH
	DO	0.553	0.012	N	NA
	DO Percent	0.796	-0.053	N	NA
	Temperature	0.809	0.000	N	NA
	Turbidity	< 0.001	-0.291	Y	Improving
	Fecal Coliform	< 0.001	4.375	Y	Worsening
	Monthly DO	0.574	0.014	N	NA
	Monthly DO Percent	0.443	-0.154	N	NA
	Monthly Temperature	0.659	0.006	N	NA
	Monthly Turbidity	< 0.001	-0.373	Y	Improving
	Monthly Fecal Coliform	< 0.001	7.363	Y	Worsening
	Nitrate + Nitrite	0.120	-0.003	N	NA
	Ammonia	0.088	-0.015	N	NA
	Total Kjeldahl Nitrogen	0.361	-0.010	N	NA
	Total Nitrogen	0.005	-0.041	Y	Improving
	Orthophosphate	0.120	0.004	N	NA
	Total Phosphorus	0.379	0.003	N	NA
	Total Suspended Solids	0.238	-0.267	N	NA
10 Years	DO	0.361	0.060	N	NA
	Temperature	0.035	-0.100	Y	Improving
	Fecal Coliform	0.739	0.000	N	NA
	Monthly DO	0.909	0.032	N	NA
	Monthly Temperature	0.060	-0.083	N	NA
	Monthly Fecal Coliform	0.739	0.000	N	NA
5 Years	DO	0.566	0.086	N	NA
	Temperature	0.299	-0.125	N	NA
	Fecal Coliform	0.195	5.167	N	NA
	Monthly DO	0.741	-0.077	N	NA
	Monthly Temperature	0.507	-0.100	N	NA
	Monthly Fecal Coliform	0.195	5.167	N	NA
Total Number of Significant Trends				8	
Percentage of Improving Trends				50%	

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 33 – Alice Bay Drainage

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.015	Y	NA-pH
	DO	0.008	-0.063	Y	Worsening
	DO Percent	0.001	-0.815	Y	Worsening
	Temperature	0.152	-0.022	N	NA
	Turbidity	< 0.001	-0.260	Y	Improving
	Fecal Coliform	0.078	-0.092	N	NA
	Monthly DO	0.049	-0.059	Y	Worsening
	Monthly DO Percent	0.004	-0.868	Y	Worsening
	Monthly Temperature	0.435	-0.011	N	NA
	Monthly Turbidity	< 0.001	-0.302	Y	Improving
	Monthly Fecal Coliform	0.150	-0.821	N	NA
	Nitrate + Nitrite	0.940	0.000	N	NA
	Ammonia	0.066	-0.015	N	NA
	Total Kjeldahl Nitrogen	0.585	0.006	N	NA
	Total Nitrogen	0.893	-0.001	N	NA
	Orthophosphate	0.057	0.004	N	NA
	Total Phosphorus	0.218	0.007	N	NA
	Total Suspended Solids	0.055	-0.679	N	NA
10 Years	DO	0.164	-0.115	N	NA
	Temperature	0.001	-0.150	Y	Improving
	Fecal Coliform	0.046	1.000	Y	Worsening
	Monthly DO	0.286	-0.097	N	NA
	Monthly Temperature	0.001	-0.133	Y	Improving
5 Years	Monthly Fecal Coliform	0.046	1.000	Y	Worsening
	DO	0.031	-0.298	Y	Worsening
	Temperature	0.867	0.000	N	NA
	Fecal Coliform	0.139	1.625	N	NA
	Monthly DO	0.061	-0.264	N	NA
	Monthly Temperature	0.658	-0.050	N	NA
	Monthly Fecal Coliform	0.139	1.625	N	NA
Total Number of Significant Trends					12
Percentage of Improving Trends					33%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Padilla Bay Watershed

Site 34 – No Name Slough

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.018	Y	NA-pH
	DO	0.020	0.033	Y	Improving
	DO Percent	< 0.001	0.367	Y	Improving
	Temperature	< 0.001	0.080	Y	Worsening
	Turbidity	< 0.001	-0.371	Y	Improving
	Fecal Coliform	< 0.001	-1.786	Y	Improving
	Monthly DO	0.026	0.041	Y	Improving
	Monthly DO Percent	0.008	0.417	Y	Improving
	Monthly Temperature	< 0.001	0.080	Y	Worsening
	Monthly Turbidity	< 0.001	-0.474	Y	Improving
	Monthly Fecal Coliform	0.006	-3.842	Y	Improving
	Nitrate + Nitrite	0.004	-0.001	Y	Improving
	Ammonia	< 0.001	-0.012	Y	Improving
	Total Kjeldahl Nitrogen	0.003	-0.016	Y	Improving
	Total Nitrogen	< 0.001	-0.039	Y	Improving
	Orthophosphate	0.003	0.003	Y	Worsening
	Total Phosphorus	< 0.001	0.005	Y	Worsening
	Total Suspended Solids	0.477	-0.091	N	NA
10 Years	DO	0.781	0.009	N	NA
	Temperature	0.870	0.000	N	NA
	Fecal Coliform	0.987	0.000	N	NA
	Monthly DO	0.731	0.016	N	NA
	Monthly Temperature	0.836	-0.019	N	NA
	Monthly Fecal Coliform	0.987	0.000	N	NA
5 Years	DO	0.936	-0.020	N	NA
	Temperature	0.665	-0.050	N	NA
	Fecal Coliform	0.401	0.000	N	NA
	Monthly DO	0.779	-0.035	N	NA
	Monthly Temperature	0.536	-0.138	N	NA
	Monthly Fecal Coliform	0.401	0.000	N	NA
Total Number of Significant Trends					17
Percentage of Improving Trends					71%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 40 – Big Indian Slough

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.003	-0.007	Y	NA-pH
	DO	0.025	-0.025	Y	Worsening
	DO Percent	0.022	-0.228	Y	Worsening
	Temperature	0.164	0.014	N	NA
	Turbidity	< 0.001	-0.260	Y	Improving
	Fecal Coliform	< 0.001	2.167	Y	Worsening
	Monthly DO	0.112	-0.021	N	NA
	Monthly DO Percent	0.057	-0.217	N	NA
	Monthly Temperature	0.261	0.014	N	NA
	Monthly Turbidity	< 0.001	-0.292	Y	Improving
	Monthly Fecal Coliform	0.001	2.833	Y	Worsening
	Nitrate + Nitrite	0.004	-0.011	Y	Improving
	Ammonia	0.004	-0.007	Y	Improving
	Total Kjeldahl Nitrogen	0.007	-0.012	Y	Improving
	Total Nitrogen	0.001	-0.025	Y	Improving
	Orthophosphate	0.388	-0.001	N	NA
	Total Phosphorus	< 0.001	0.002	Y	Worsening
	Total Suspended Solids	0.102	0.067	N	NA
10 Years	DO	0.721	0.019	N	NA
	Temperature	0.326	-0.032	N	NA
	Fecal Coliform	< 0.001	7.750	Y	Worsening
	Monthly DO	0.799	0.012	N	NA
	Monthly Temperature	0.745	-0.012	N	NA
	Monthly Fecal Coliform	< 0.001	7.750	Y	Worsening
5 Years	DO	0.118	-0.122	N	NA
	Temperature	0.558	0.050	N	NA
	Fecal Coliform	0.001	13.000	Y	Worsening
	Monthly DO	0.423	-0.137	N	NA
	Monthly Temperature	0.252	0.130	N	NA
	Monthly Fecal Coliform	0.001	13.000	Y	Worsening
Total Number of Significant Trends					17
Percentage of Improving Trends					35%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 47 – Swinomish Channel

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.037	Y	NA-pH
	DO	0.667	-0.002	N	NA
	DO Percent	0.589	0.025	N	NA
	Temperature	0.219	0.008	N	NA
	Turbidity	0.073	-0.023	N	NA
	Fecal Coliform	< 0.001	0.059	Y	Worsening
	Monthly DO	0.667	-0.002	N	NA
	Monthly DO Percent	0.254	0.063	N	NA
	Monthly Temperature	0.136	0.012	N	NA
	Monthly Turbidity	0.245	-0.020	N	NA
	Monthly Fecal Coliform	< 0.001	0.150	Y	Worsening
	Nitrate + Nitrite	0.003	0.004	Y	Worsening
	Ammonia	< 0.001	-0.001	Y	Improving
	Total Kjeldahl Nitrogen	0.447	0.000	N	NA
	Total Nitrogen	0.274	0.002	N	NA
	Orthophosphate	< 0.001	0.002	Y	Worsening
	Total Phosphorus	< 0.001	0.001	Y	Worsening
	Total Suspended Solids	0.123	-0.400	N	NA
10 Years	DO	0.274	0.017	N	NA
	Temperature	< 0.001	-0.075	Y	Improving
	Fecal Coliform	0.140	0.000	N	NA
	Monthly DO	0.180	0.022	N	NA
	Monthly Temperature	0.006	-0.082	Y	Improving
5 Years	Monthly Fecal Coliform	0.140	0.000	N	NA
	DO	0.518	-0.025	N	NA
	Temperature	0.205	-0.060	N	NA
	Fecal Coliform	0.049	0.333	Y	Worsening
	Monthly DO	0.698	-0.017	N	NA
	Monthly Temperature	0.167	-0.113	N	NA
	Monthly Fecal Coliform	0.049	0.333	Y	Worsening
Total Number of Significant Trends					9
Percentage of Improving Trends					44%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Middle Skagit Watershed

Site 25 – Red Cabin Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.016	Y	NA-pH
	DO	< 0.001	0.018	Y	Improving
	DO Percent	< 0.001	0.140	Y	Improving
	Temperature	0.608	0.000	N	NA
	Turbidity	< 0.001	0.016	Y	Worsening
	Fecal Coliform	0.161	0.000	N	NA
	Monthly DO	< 0.001	0.021	Y	Improving
	Monthly DO Percent	0.001	0.125	Y	Improving
	Monthly Temperature	0.633	0.006	N	NA
	Monthly Turbidity	0.016	0.013	Y	Worsening
	Monthly Fecal Coliform	0.322	0.012	N	NA
	Nitrate + Nitrite	0.108	-0.005	N	NA
	Ammonia	0.767	0.000	N	NA
	Total Kjeldahl Nitrogen	0.043	0.000	NA	NA
	Total Nitrogen	0.010	-0.007	Y	Improving
	Orthophosphate	0.031	0.000	NA	NA
	Total Phosphorus	0.252	0.000	N	NA
	Total Suspended Solids	0.872	0.000	N	NA
10 Years	DO	< 0.001	0.050	Y	Improving
	Temperature	0.334	-0.025	N	NA
	Fecal Coliform	0.693	0.000	N	NA
	Monthly DO	0.001	0.049	Y	Improving
	Monthly Temperature	0.388	-0.025	N	NA
	Monthly Fecal Coliform	0.693	0.000	N	NA
5 Years	DO	0.082	0.029	N	NA
	Temperature	1.000	0.000	N	NA
	Fecal Coliform	0.496	0.000	N	NA
	Monthly DO	0.313	0.037	N	NA
	Monthly Temperature	0.736	0.033	N	NA
	Monthly Fecal Coliform	0.496	0.000	N	NA
Total Number of Significant Trends					10
Percentage of Improving Trends					70%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 24 – Mannser Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.508	-0.001	N	NA
	DO	< 0.001	0.052	Y	Improving
	DO Percent	< 0.001	0.464	Y	Improving
	Temperature	0.042	0.020	Y	Worsening
	Turbidity	< 0.001	0.025	Y	Worsening
	Fecal Coliform	0.143	0.000	N	NA
	Monthly DO	< 0.001	0.048	Y	Improving
	Monthly DO Percent	< 0.001	0.473	Y	Improving
	Monthly Temperature	0.047	0.021	Y	Worsening
	Monthly Turbidity	0.003	0.021	Y	Worsening
	Monthly Fecal Coliform	0.296	-0.114	N	NA
	Nitrate + Nitrite	0.767	0.000	N	NA
	Ammonia	0.634	0.000	N	NA
	Total Kjeldahl Nitrogen	0.368	0.000	N	NA
	Total Nitrogen	0.917	0.000	N	NA
	Orthophosphate	0.503	0.000	N	NA
	Total Phosphorus	0.010	0.000	NA	NA
	Total Suspended Solids	0.026	0.000	NA	NA
10 Years	DO	0.151	0.032	N	NA
	Temperature	0.200	0.038	N	NA
	Fecal Coliform	0.027	0.167	Y	Worsening
	Monthly DO	0.188	0.026	N	NA
	Monthly Temperature	0.481	0.029	N	NA
	Monthly Fecal Coliform	0.027	0.167	Y	Worsening
5 Years	DO	0.008	-0.151	Y	Worsening
	Temperature	0.731	0.063	N	NA
	Fecal Coliform	0.080	0.800	N	NA
	Monthly DO	0.047	-0.143	Y	Worsening
	Monthly Temperature	0.699	0.050	N	NA
	Monthly Fecal Coliform	0.080	0.800	N	NA
Total Number of Significant Trends					12
Percentage of Improving Trends					33%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 23 – Wiseman Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.014	Y	NA-pH
	DO	0.002	0.015	Y	Improving
	DO Percent	< 0.001	0.133	Y	Improving
	Temperature	0.907	0.000	N	NA
	Turbidity	0.293	-0.007	N	NA
	Fecal Coliform	0.040	0.000	NA	NA
	Monthly DO	0.023	0.013	Y	Improving
	Monthly DO Percent	< 0.001	0.129	Y	Improving
	Monthly Temperature	0.857	0.000	N	NA
	Monthly Turbidity	0.064	-0.025	N	NA
	Monthly Fecal Coliform	0.027	0.146	Y	Worsening
	Nitrate + Nitrite	< 0.001	-0.025	Y	Improving
	Ammonia	0.359	0.000	N	NA
	Total Kjeldahl Nitrogen	0.704	0.000	N	NA
	Total Nitrogen	< 0.001	-0.028	Y	Improving
	Orthophosphate	0.059	0.000	N	NA
	Total Phosphorus	0.025	0.000	NA	NA
	Total Suspended Solids	0.161	0.000	N	NA
10 Years	DO	< 0.001	0.048	Y	Improving
	Temperature	0.059	-0.067	N	NA
	Fecal Coliform	0.068	0.042	N	NA
	Monthly DO	0.001	0.055	Y	Improving
	Monthly Temperature	0.256	-0.032	N	NA
	Monthly Fecal Coliform	0.068	0.042	N	NA
5 Years	DO	0.280	0.030	N	NA
	Temperature	0.574	-0.050	N	NA
	Fecal Coliform	0.076	0.800	N	NA
	Monthly DO	0.430	0.022	N	NA
	Monthly Temperature	0.671	-0.017	N	NA
	Monthly Fecal Coliform	0.076	0.800	N	NA
Total Number of Significant Trends					10
Percentage of Improving Trends					80%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 22 – Upper Coal Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.013	Y	NA-pH
	DO	0.110	0.008	N	NA
	DO Percent	0.001	0.100	Y	Improving
	Temperature	0.037	0.025	Y	Worsening
	Turbidity	0.011	-0.018	Y	Improving
	Fecal Coliform	0.118	0.000	N	NA
	Monthly DO	0.233	0.008	N	NA
	Monthly DO Percent	0.001	0.115	Y	Improving
	Monthly Temperature	0.021	0.032	Y	Worsening
	Monthly Turbidity	< 0.001	-0.051	Y	Improving
	Monthly Fecal Coliform	0.355	0.044	N	NA
	Nitrate + Nitrite	0.013	-0.006	Y	Improving
	Ammonia	0.003	0.000	NA	NA
	Total Kjeldahl Nitrogen	0.403	0.000	N	NA
	Total Nitrogen	0.002	-0.008	Y	Improving
	Orthophosphate	0.035	0.000	NA	NA
	Total Phosphorus	0.747	0.000	N	NA
	Total Suspended Solids	0.074	0.000	N	NA
10 Years	DO	< 0.001	0.075	Y	Improving
	Temperature	0.195	-0.043	N	NA
	Fecal Coliform	0.084	0.000	N	NA
	Monthly DO	< 0.001	0.080	Y	Improving
	Monthly Temperature	0.520	-0.029	N	NA
	Monthly Fecal Coliform	0.084	0.000	N	NA
5 Years	DO	0.034	0.065	Y	Improving
	Temperature	0.970	0.000	N	NA
	Fecal Coliform	0.037	0.000	NA	NA
	Monthly DO	0.321	0.041	N	NA
	Monthly Temperature	0.543	0.044	N	NA
	Monthly Fecal Coliform	0.037	0.000	NA	NA
Total Number of Significant Trends					13
Percentage of Improving Trends					69%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 21 – Lower Coal Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.094	-0.004	N	NA
	DO	0.042	0.013	Y	Improving
	DO Percent	< 0.001	0.125	Y	Improving
	Temperature	0.187	0.020	N	NA
	Turbidity	0.004	-0.058	Y	Improving
	Fecal Coliform	0.441	0.000	N	NA
	Monthly DO	0.077	0.012	N	NA
	Monthly DO Percent	0.001	0.125	Y	Improving
	Monthly Temperature	0.208	0.022	N	NA
	Monthly Turbidity	0.005	-0.089	Y	Improving
	Monthly Fecal Coliform	0.137	-0.712	N	NA
	Nitrate + Nitrite	0.004	-0.010	Y	Improving
	Ammonia	0.283	0.000	N	NA
	Total Kjeldahl Nitrogen	0.310	0.000	N	NA
	Total Nitrogen	0.004	-0.012	Y	Improving
	Orthophosphate	0.017	0.000	NA	NA
	Total Phosphorus	0.276	0.000	N	NA
	Total Suspended Solids	0.724	0.000	N	NA
10 Years	DO	0.052	0.035	N	NA
	Temperature	0.288	-0.050	N	NA
	Fecal Coliform	0.413	0.000	N	NA
	Monthly DO	0.037	0.037	Y	Improving
	Monthly Temperature	0.427	-0.034	N	NA
	Monthly Fecal Coliform	0.413	0.000	N	NA
5 Years	DO	0.641	-0.020	N	NA
	Temperature	0.965	0.000	N	NA
	Fecal Coliform	0.105	4.500	N	NA
	Monthly DO	0.948	-0.004	N	NA
	Monthly Temperature	0.649	0.056	N	NA
	Monthly Fecal Coliform	0.105	4.500	N	NA
Total Number of Significant Trends				8	
Percentage of Improving Trends				100%	

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 20 – Upper Hansen Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.004	-0.006	Y	NA-pH
	DO	< 0.001	0.025	Y	Improving
	DO Percent	< 0.001	0.190	Y	Improving
	Temperature	0.966	0.000	N	NA
	Turbidity	0.032	-0.015	Y	Improving
	Fecal Coliform	0.678	0.000	N	NA
	Monthly DO	< 0.001	0.023	Y	Improving
	Monthly DO Percent	< 0.001	0.200	Y	Improving
	Monthly Temperature	0.786	0.000	N	NA
	Monthly Turbidity	0.016	-0.028	Y	Improving
	Monthly Fecal Coliform	0.930	0.000	N	NA
	Nitrate + Nitrite	0.006	-0.005	Y	Improving
	Ammonia	0.004	0.000	NA	NA
	Total Kjeldahl Nitrogen	0.339	0.000	N	NA
	Total Nitrogen	< 0.001	-0.008	Y	Improving
	Orthophosphate	0.214	0.000	N	NA
	Total Phosphorus	0.004	0.000	NA	NA
	Total Suspended Solids	0.229	0.000	N	NA
10 Years	DO	< 0.001	0.051	Y	Improving
	Temperature	0.081	-0.050	N	NA
	Fecal Coliform	0.341	0.000	N	NA
	Monthly DO	0.001	0.045	Y	Improving
	Monthly Temperature	0.145	-0.050	N	NA
	Monthly Fecal Coliform	0.341	0.000	N	NA
5 Years	DO	0.412	-0.026	N	NA
	Temperature	0.562	0.033	N	NA
	Fecal Coliform	0.878	0.000	N	NA
	Monthly DO	0.508	-0.032	N	NA
	Monthly Temperature	0.912	0.000	N	NA
	Monthly Fecal Coliform	0.878	0.000	N	NA
Total Number of Significant Trends					10
Percentage of Improving Trends					91%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 19 – Lower Hansen Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.001	-0.007	Y	NA-pH
	DO	< 0.001	-0.042	Y	Worsening
	DO Percent	< 0.001	-0.260	Y	Worsening
	Temperature	< 0.001	0.073	Y	Worsening
	Turbidity	0.005	-0.041	Y	Improving
	Fecal Coliform	0.232	0.000	N	NA
	Monthly DO	< 0.001	-0.040	Y	Worsening
	Monthly DO Percent	< 0.001	-0.260	Y	Worsening
	Monthly Temperature	< 0.001	0.075	Y	Worsening
	Monthly Turbidity	0.002	-0.083	Y	Improving
	Monthly Fecal Coliform	0.064	-1.000	N	NA
	Nitrate + Nitrite	< 0.001	-0.012	Y	Improving
	Ammonia	0.034	0.000	NA	NA
	Total Kjeldahl Nitrogen	0.199	0.000	N	NA
	Total Nitrogen	< 0.001	-0.011	Y	Improving
	Orthophosphate	0.154	0.000	N	NA
	Total Phosphorus	0.259	0.000	N	NA
	Total Suspended Solids	0.207	0.000	N	NA
10 Years	DO	0.765	-0.007	N	NA
	Temperature	0.414	0.033	N	NA
	Fecal Coliform	0.012	-1.778	Y	Improving
	Monthly DO	0.878	-0.002	N	NA
	Monthly Temperature	0.475	0.024	N	NA
	Monthly Fecal Coliform	0.012	-1.778	Y	Improving
5 Years	DO	0.053	-0.070	N	NA
	Temperature	0.583	0.071	N	NA
	Fecal Coliform	0.587	0.000	N	NA
	Monthly DO	0.188	-0.065	N	NA
	Monthly Temperature	0.950	0.008	N	NA
	Monthly Fecal Coliform	0.587	0.000	N	NA
Total Number of Significant Trends					13
Percentage of Improving Trends					26%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Nookachamps Watershed

Site 18 – Lake Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.583	0.001	N	NA
	DO	0.004	0.014	Y	Improving
	DO Percent	0.001	0.100	Y	Improving
	Temperature	0.242	0.013	N	NA
	Turbidity	0.001	0.022	Y	Worsening
	Fecal Coliform	0.001	-0.333	Y	Improving
	Monthly DO	0.039	0.014	Y	Improving
	Monthly DO Percent	0.008	0.100	Y	Improving
	Monthly Temperature	0.409	0.010	N	NA
	Monthly Turbidity	0.066	0.016	N	NA
	Monthly Fecal Coliform	0.015	-0.625	Y	Improving
	Nitrate + Nitrite	0.017	-0.005	Y	Improving
	Ammonia	0.004	0.000	NA	NA
	Total Kjeldahl Nitrogen	0.476	0.000	N	NA
	Total Nitrogen	0.004	-0.007	Y	Improving
	Orthophosphate	0.050	0.000	NA	NA
	Total Phosphorus	0.363	0.000	N	NA
	Total Suspended Solids	0.598	0.000	N	NA
10 Years	DO	< 0.001	0.073	Y	Improving
	Temperature	0.006	-0.079	Y	Improving
	Fecal Coliform	0.279	0.000	N	NA
	Monthly DO	< 0.001	0.070	Y	Improving
	Monthly Temperature	0.073	-0.065	N	NA
	Monthly Fecal Coliform	0.279	0.000	N	NA
5 Years	DO	0.407	0.034	N	NA
	Temperature	0.754	-0.029	N	NA
	Fecal Coliform	0.629	0.000	N	NA
	Monthly DO	0.699	0.021	N	NA
	Monthly Temperature	0.740	0.033	N	NA
	Monthly Fecal Coliform	0.629	0.000	N	NA
Total Number of Significant Trends					12
Percentage of Improving Trends					92%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 17 – Upper Nookachamps Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.012	-0.005	Y	NA-pH
	DO	0.030	0.012	Y	Improving
	DO Percent	0.015	0.111	Y	Improving
	Temperature	0.196	0.015	N	NA
	Turbidity	< 0.001	0.036	Y	Worsening
	Fecal Coliform	0.075	0.000	N	NA
	Monthly DO	0.123	0.010	N	NA
	Monthly DO Percent	0.018	0.116	Y	Improving
	Monthly Temperature	0.284	0.013	N	NA
	Monthly Turbidity	< 0.001	0.034	Y	Worsening
	Monthly Fecal Coliform	0.120	0.132	N	NA
	Nitrate + Nitrite	0.742	0.000	N	NA
	Ammonia	< 0.001	-0.001	Y	Improving
	Total Kjeldahl Nitrogen	0.367	0.000	N	NA
	Total Nitrogen	0.228	-0.005	N	NA
	Orthophosphate	< 0.001	0.000	NA	NA
	Total Phosphorus	0.003	0.000	NA	NA
	Total Suspended Solids	0.114	0.000	N	NA
10 Years	DO	0.001	0.056	Y	Improving
	Temperature	0.012	-0.080	Y	Improving
	Fecal Coliform	0.136	0.000	N	NA
	Monthly DO	0.013	0.050	Y	Improving
	Monthly Temperature	0.048	-0.075	Y	Improving
	Monthly Fecal Coliform	0.136	0.000	N	NA
5 Years	DO	0.413	0.031	N	NA
	Temperature	0.956	0.000	N	NA
	Fecal Coliform	0.577	0.000	N	NA
	Monthly DO	0.508	0.053	N	NA
	Monthly Temperature	0.741	-0.027	N	NA
	Monthly Fecal Coliform	0.577	0.000	N	NA
Total Number of Significant Trends					11
Percentage of Improving Trends					73%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 15 – Middle Nookachamps Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.012	-0.005	Y	NA-pH
	DO	0.030	0.012	Y	Improving
	DO Percent	0.015	0.111	Y	Improving
	Temperature	0.196	0.015	N	NA
	Turbidity	< 0.001	0.036	Y	Worsening
	Fecal Coliform	0.075	0.000	N	NA
	Monthly DO	0.123	0.010	N	NA
	Monthly DO Percent	0.018	0.116	Y	Improving
	Monthly Temperature	0.284	0.013	N	NA
	Monthly Turbidity	< 0.001	0.034	Y	Worsening
	Monthly Fecal Coliform	0.120	0.132	N	NA
	Nitrate + Nitrite	0.742	0.000	N	NA
	Ammonia	< 0.001	-0.001	Y	Improving
	Total Kjeldahl Nitrogen	0.367	0.000	N	NA
	Total Nitrogen	0.228	-0.005	N	NA
	Orthophosphate	< 0.001	0.000	NA	NA
	Total Phosphorus	0.003	0.000	NA	NA
	Total Suspended Solids	0.114	0.000	N	NA
10 Years	DO	0.001	0.056	Y	Improving
	Temperature	0.012	-0.080	Y	Improving
	Fecal Coliform	0.136	0.000	N	NA
	Monthly DO	0.013	0.050	Y	Improving
	Monthly Temperature	0.048	-0.075	Y	Improving
	Monthly Fecal Coliform	0.136	0.000	N	NA
5 Years	DO	0.413	0.031	N	NA
	Temperature	0.956	0.000	N	NA
	Fecal Coliform	0.577	0.000	N	NA
	Monthly DO	0.508	0.053	N	NA
	Monthly Temperature	0.741	-0.027	N	NA
	Monthly Fecal Coliform	0.577	0.000	N	NA
Total Number of Significant Trends					15
Percentage of Improving Trends					87%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 16 – Upper East Fork Nookachamps Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.007	-0.005	Y	NA-pH
	DO	< 0.001	0.022	Y	Improving
	DO Percent	< 0.001	0.200	Y	Improving
	Temperature	0.040	0.025	Y	Worsening
	Turbidity	0.151	0.009	N	NA
	Fecal Coliform	0.641	0.000	N	NA
	Monthly DO	< 0.001	0.023	Y	Improving
	Monthly DO Percent	< 0.001	0.209	Y	Improving
	Monthly Temperature	0.107	0.023	N	NA
	Monthly Turbidity	0.685	0.003	N	NA
	Monthly Fecal Coliform	0.297	0.160	N	NA
	Nitrate + Nitrite	0.003	-0.005	Y	Improving
	Ammonia	0.684	0.000	N	NA
	Total Kjeldahl Nitrogen	0.018	0.000	NA	NA
	Total Nitrogen	0.060	-0.004	N	NA
	Orthophosphate	< 0.001	0.000	NA	NA
	Total Phosphorus	< 0.001	0.000	NA	NA
	Total Suspended Solids	0.005	0.000	NA	NA
10 Years	DO	< 0.001	0.080	Y	Improving
	Temperature	0.003	-0.100	Y	Improving
	Fecal Coliform	0.224	0.000	N	NA
	Monthly DO	< 0.001	0.085	Y	Improving
	Monthly Temperature	0.062	-0.096	N	NA
	Monthly Fecal Coliform	0.224	0.000	N	NA
5 Years	DO	0.213	-0.043	N	NA
	Temperature	0.406	0.071	N	NA
	Fecal Coliform	0.051	1.000	N	NA
	Monthly DO	0.699	-0.022	N	NA
	Monthly Temperature	0.150	0.117	N	NA
	Monthly Fecal Coliform	0.051	1.000	N	NA
Total Number of Significant Trends					15
Percentage of Improving Trends					87%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 13 – Lower East Fork Nookachamps Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.366	-0.002	N	NA
	DO	< 0.001	-0.060	Y	Worsening
	DO Percent	< 0.001	-0.450	Y	Worsening
	Temperature	0.008	0.036	Y	Worsening
	Turbidity	0.179	0.016	N	NA
	Fecal Coliform	0.152	0.000	N	NA
	Monthly DO	< 0.001	-0.057	Y	Worsening
	Monthly DO Percent	< 0.001	-0.444	Y	Worsening
	Monthly Temperature	0.042	0.030	Y	Worsening
	Monthly Turbidity	0.789	0.005	N	NA
	Monthly Fecal Coliform	0.250	-0.327	N	NA
	Nitrate + Nitrite	< 0.001	-0.007	Y	Improving
	Ammonia	< 0.001	-0.002	Y	Improving
	Total Kjeldahl Nitrogen	0.945	0.000	N	NA
	Total Nitrogen	0.008	-0.007	Y	Improving
	Orthophosphate	< 0.001	0.000	NA	NA
	Total Phosphorus	0.826	0.000	N	NA
	Total Suspended Solids	0.384	0.000	N	NA
10 Years	DO	< 0.001	-0.133	Y	Worsening
	Temperature	0.029	-0.083	Y	Improving
	Fecal Coliform	0.916	0.000	N	NA
	Monthly DO	0.001	-0.143	Y	Worsening
	Monthly Temperature	0.188	-0.050	N	NA
	Monthly Fecal Coliform	0.916	0.000	N	NA
5 Years	DO	< 0.001	-0.378	Y	Worsening
	Temperature	0.810	0.029	N	NA
	Fecal Coliform	0.065	2.133	N	NA
	Monthly DO	0.001	-0.334	Y	Worsening
	Monthly Temperature	0.508	0.050	N	NA
	Monthly Fecal Coliform	0.065	2.133	N	NA
Total Number of Significant Trends					14
Percentage of Improving Trends					29%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 12 – Lower Nookachamps Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.290	0.002	N	NA
	DO	0.020	-0.024	Y	Worsening
	DO Percent	0.003	-0.188	Y	Worsening
	Temperature	0.219	0.017	N	NA
	Turbidity	0.004	-0.054	Y	Improving
	Fecal Coliform	0.283	0.000	N	NA
	Monthly DO	0.018	-0.023	Y	Worsening
	Monthly DO Percent	0.048	-0.175	Y	Worsening
	Monthly Temperature	0.224	0.018	N	NA
	Monthly Turbidity	0.034	-0.055	Y	Improving
	Monthly Fecal Coliform	0.936	0.000	N	NA
	Nitrate + Nitrite	< 0.001	-0.014	Y	Improving
	Ammonia	< 0.001	-0.003	Y	Improving
	Total Kjeldahl Nitrogen	0.044	-0.006	Y	Improving
	Total Nitrogen	< 0.001	-0.024	Y	Improving
	Orthophosphate	< 0.001	0.001	Y	Worsening
	Total Phosphorus	< 0.001	0.000	NA	NA
	Total Suspended Solids	0.017	-0.111	Y	Improving
10 Years	DO	0.595	0.016	N	NA
	Temperature	0.017	-0.100	Y	Improving
	Fecal Coliform	0.804	0.000	N	NA
	Monthly DO	0.820	0.011	N	NA
	Monthly Temperature	0.152	-0.088	N	NA
	Monthly Fecal Coliform	0.804	0.000	N	NA
5 Years	DO	0.086	-0.127	N	NA
	Temperature	0.562	-0.050	N	NA
	Fecal Coliform	0.076	3.000	N	NA
	Monthly DO	0.109	-0.150	N	NA
	Monthly Temperature	0.619	0.063	N	NA
	Monthly Fecal Coliform	0.076	3.000	N	NA
Total Number of Significant Trends					13
Percentage of Improving Trends					62%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Lower Skagit Watershed

Site 42 – Lower Carpenter Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.321	-0.002	N	NA
	DO	< 0.001	0.041	Y	Improving
	DO Percent	< 0.001	0.288	Y	Improving
	Temperature	0.419	0.011	N	NA
	Turbidity	0.011	0.024	Y	Worsening
	Fecal Coliform	< 0.001	1.583	Y	Worsening
	Monthly DO	0.001	0.042	Y	Improving
	Monthly DO Percent	0.002	0.324	Y	Improving
	Monthly Temperature	0.420	0.013	N	NA
	Monthly Turbidity	0.066	0.022	N	NA
	Monthly Fecal Coliform	< 0.001	2.131	Y	Worsening
	Nitrate + Nitrite	0.079	-0.005	N	NA
	Ammonia	< 0.001	-0.003	Y	Improving
	Total Kjeldahl Nitrogen	0.001	-0.010	Y	Improving
	Total Nitrogen	0.004	-0.016	Y	Improving
	Orthophosphate	0.159	0.000	N	NA
	Total Phosphorus	0.142	0.000	N	NA
	Total Suspended Solids	0.047	0.000	NA	NA
10 Years	DO	< 0.001	-0.103	Y	Worsening
	Temperature	0.002	-0.114	Y	Improving
	Fecal Coliform	0.360	0.000	N	NA
	Monthly DO	0.003	-0.130	Y	Worsening
	Monthly Temperature	0.035	-0.092	Y	Improving
	Monthly Fecal Coliform	0.360	0.000	N	NA
5 Years	DO	0.258	-0.069	N	NA
	Temperature	0.255	-0.129	N	NA
	Fecal Coliform	0.371	0.000	N	NA
	Monthly DO	0.185	-0.101	N	NA
	Monthly Temperature	1.000	0.000	N	NA
	Monthly Fecal Coliform	0.371	0.000	N	NA
Total Number of Significant Trends					14
Percentage of Improving Trends					64%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 48 – Fisher Creek

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.010	Y	NA-pH
	DO	< 0.001	0.025	Y	Improving
	DO Percent	< 0.001	0.206	Y	Improving
	Temperature	0.004	0.025	Y	Worsening
	Turbidity	0.745	-0.002	N	NA
	Fecal Coliform	0.443	0.000	N	NA
	Monthly DO	< 0.001	0.027	Y	Improving
	Monthly DO Percent	< 0.001	0.226	Y	Improving
	Monthly Temperature	0.044	0.020	Y	Worsening
	Monthly Turbidity	0.719	-0.004	N	NA
	Monthly Fecal Coliform	0.719	-0.095	N	NA
	Nitrate + Nitrite	< 0.001	-0.005	Y	Improving
	Ammonia	< 0.001	-0.005	Y	Improving
	Total Kjeldahl Nitrogen	< 0.001	-0.009	Y	Improving
	Total Nitrogen	0.001	-0.017	Y	Improving
	Orthophosphate	0.671	0.000	N	NA
	Total Phosphorus	< 0.001	0.002	Y	Worsening
	Total Suspended Solids	0.681	0.000	N	NA
10 Years	DO	< 0.001	0.051	Y	Improving
	Temperature	0.227	-0.029	N	NA
	Fecal Coliform	0.857	0.000	N	NA
	Monthly DO	0.002	0.053	Y	Improving
	Monthly Temperature	0.510	-0.025	N	NA
	Monthly Fecal Coliform	0.857	0.000	N	NA
5 Years	DO	0.179	-0.033	N	NA
	Temperature	0.739	0.020	N	NA
	Fecal Coliform	0.146	1.000	N	NA
	Monthly DO	0.076	-0.055	N	NA
	Monthly Temperature	0.346	0.050	N	NA
	Monthly Fecal Coliform	0.146	1.000	N	NA
Total Number of Significant Trends					14
Percentage of Improving Trends					71%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 43 – Wiley Slough

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.014	Y	NA-pH
	DO	0.073	-0.026	N	NA
	DO Percent	0.080	-0.262	N	NA
	Temperature	0.685	0.000	N	NA
	Turbidity	< 0.001	0.387	Y	Worsening
	Fecal Coliform	0.001	0.909	Y	Worsening
	Monthly DO	0.425	-0.015	N	NA
	Monthly DO Percent	0.228	-0.199	N	NA
	Monthly Temperature	0.619	0.007	N	NA
	Monthly Turbidity	< 0.001	0.409	Y	Worsening
	Monthly Fecal Coliform	0.002	2.206	Y	Worsening
	Nitrate + Nitrite	0.727	0.000	N	NA
	Ammonia	0.620	0.001	N	NA
	Total Kjeldahl Nitrogen	0.900	0.000	N	NA
	Total Nitrogen	0.012	-0.030	Y	Improving
	Orthophosphate	0.655	0.000	N	NA
	Total Phosphorus	0.001	0.004	Y	Worsening
	Total Suspended Solids	0.059	0.150	N	NA
10 Years	DO	0.667	0.020	N	NA
	Temperature	0.011	-0.087	Y	Improving
	Fecal Coliform	0.142	0.000	N	NA
	Monthly DO	0.401	0.030	N	NA
	Monthly Temperature	0.133	-0.050	N	NA
	Monthly Fecal Coliform	0.142	0.000	N	NA
5 Years	DO	0.396	0.060	N	NA
	Temperature	0.200	-0.100	N	NA
	Fecal Coliform	0.878	0.000	N	NA
	Monthly DO	0.508	0.085	N	NA
	Monthly Temperature	0.618	-0.025	N	NA
	Monthly Fecal Coliform	0.878	0.000	N	NA
Total Number of Significant Trends				8	
Percentage of Improving Trends				25%	

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 44 – Sullivan Slough

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	< 0.001	-0.020	Y	NA-pH
	DO	0.056	-0.034	N	NA
	DO Percent	0.086	-0.309	N	NA
	Temperature	0.147	-0.019	N	NA
	Turbidity	0.029	-0.129	Y	Improving
	Fecal Coliform	0.001	1.500	Y	Worsening
	Monthly DO	0.015	-0.050	Y	Worsening
	Monthly DO Percent	0.026	-0.452	Y	Worsening
	Monthly Temperature	0.263	-0.018	N	NA
	Monthly Turbidity	0.067	-0.152	N	NA
	Monthly Fecal Coliform	0.001	3.958	Y	Worsening
	Nitrate + Nitrite	0.022	0.002	Y	Worsening
	Ammonia	0.064	0.006	N	NA
	Total Kjeldahl Nitrogen	0.604	0.004	N	NA
	Total Nitrogen	0.385	0.014	N	NA
	Orthophosphate	0.348	0.001	N	NA
	Total Phosphorus	< 0.001	0.005	Y	Worsening
	Total Suspended Solids	0.443	0.100	N	NA
10 Years	DO	0.002	-0.120	Y	Worsening
	Temperature	0.042	-0.085	Y	Improving
	Fecal Coliform	0.337	0.000	N	NA
	Monthly DO	0.005	-0.118	Y	Worsening
	Monthly Temperature	0.090	-0.071	N	NA
	Monthly Fecal Coliform	0.337	0.000	N	NA
5 Years	DO	0.361	-0.115	N	NA
	Temperature	0.123	0.140	N	NA
	Fecal Coliform	0.084	4.000	N	NA
	Monthly DO	0.077	-0.270	N	NA
	Monthly Temperature	0.204	0.150	N	NA
	Monthly Fecal Coliform	0.084	4.000	N	NA
Total Number of Significant Trends					11
Percentage of Improving Trends					18%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 41 – Maddox Creek/Big Ditch

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.242	-0.003	N	NA
	DO	0.029	0.033	Y	Improving
	DO Percent	0.061	0.239	N	NA
	Temperature	0.835	0.000	N	NA
	Turbidity	< 0.001	0.168	Y	Worsening
	Fecal Coliform	< 0.001	1.500	Y	Worsening
	Monthly DO	0.107	0.031	N	NA
	Monthly DO Percent	0.119	0.242	N	NA
	Monthly Temperature	0.456	-0.008	N	NA
	Monthly Turbidity	0.001	0.157	Y	Worsening
	Monthly Fecal Coliform	< 0.001	2.250	Y	Worsening
	Nitrate + Nitrite	0.242	0.000	N	NA
	Ammonia	0.004	-0.005	Y	Improving
	Total Kjeldahl Nitrogen	0.125	-0.007	N	NA
	Total Nitrogen	0.017	-0.022	Y	Improving
	Orthophosphate	< 0.001	0.004	Y	Worsening
	Total Phosphorus	< 0.001	0.005	Y	Worsening
	Total Suspended Solids	< 0.001	0.133	Y	Worsening
10 Years	DO	0.852	-0.010	N	NA
	Temperature	0.031	-0.086	Y	Improving
	Fecal Coliform	0.811	0.000	N	NA
	Monthly DO	0.570	-0.019	N	NA
	Monthly Temperature	0.080	-0.067	N	NA
5 Years	Monthly Fecal Coliform	0.811	0.000	N	NA
	DO	0.534	-0.070	N	NA
	Temperature	0.618	0.071	N	NA
	Fecal Coliform	0.013	7.267	Y	Worsening
	Monthly DO	0.440	-0.051	N	NA
	Monthly Temperature	0.061	0.150	N	NA
	Monthly Fecal Coliform	0.013	7.267	Y	Worsening
Total Number of Significant Trends					16
Percentage of Improving Trends					25%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Skagit River

Site 30 – Skagit River near Hamilton

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.011	-0.006	Y	NA-pH
	DO	0.993	0.000	N	NA
	DO Percent	0.147	0.047	N	NA
	Temperature	0.301	0.008	N	NA
	Turbidity	< 0.001	-0.097	Y	Improving
	Fecal Coliform	0.014	0.000	NA	NA
	Monthly DO	0.759	-0.001	N	NA
	Monthly DO Percent	0.366	0.040	N	NA
	Monthly Temperature	0.533	0.005	N	NA
	Monthly Turbidity	< 0.001	-0.151	Y	Improving
	Monthly Fecal Coliform	0.059	0.050	N	NA
	Nitrate + Nitrite	0.341	0.000	N	NA
	Ammonia	0.069	0.000	N	NA
	Total Kjeldahl Nitrogen	0.971	0.000	N	NA
	Total Nitrogen	0.376	0.000	N	NA
	Orthophosphate	0.002	0.000	NA	NA
	Total Phosphorus	0.567	0.000	N	NA
	Total Suspended Solids	0.068	0.000	N	NA
10 Years	DO	0.747	-0.004	N	NA
	Temperature	0.170	-0.033	N	NA
	Fecal Coliform	0.082	0.000	N	NA
	Monthly DO	0.716	0.007	N	NA
	Monthly Temperature	0.173	-0.040	N	NA
	Monthly Fecal Coliform	0.082	0.000	N	NA
5 Years	DO	< 0.001	-0.127	Y	Worsening
	Temperature	0.492	-0.050	N	NA
	Fecal Coliform	0.029	0.125	Y	Worsening
	Monthly DO	0.002	-0.113	Y	Worsening
	Monthly Temperature	0.581	-0.100	N	NA
	Monthly Fecal Coliform	0.029	0.125	Y	Worsening
Total Number of Significant Trends				7	
Percentage of Improving Trends				29%	

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 29 – Skagit River near Mount Vernon

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.758	-0.001	N	NA
	DO	< 0.001	0.019	Y	Improving
	DO Percent	< 0.001	0.133	Y	Improving
	Temperature	0.620	0.000	N	NA
	Turbidity	< 0.001	-0.142	Y	Improving
	Fecal Coliform	0.008	0.045	Y	Worsening
	Monthly DO	0.001	0.018	Y	Improving
	Monthly DO Percent	0.002	0.128	Y	Improving
	Monthly Temperature	0.584	0.006	N	NA
	Monthly Turbidity	< 0.001	-0.191	Y	Improving
	Monthly Fecal Coliform	0.016	0.157	Y	Worsening
	Nitrate + Nitrite	0.856	0.000	N	NA
	Ammonia	0.469	0.000	N	NA
	Total Kjeldahl Nitrogen	0.009	0.000	NA	NA
	Total Nitrogen	0.024	-0.001	Y	Improving
	Orthophosphate	0.004	0.000	NA	NA
	Total Phosphorus	0.436	0.000	N	NA
	Total Suspended Solids	0.193	0.000	N	NA
10 Years	DO	< 0.001	0.055	Y	Improving
	Temperature	0.112	-0.033	N	NA
	Fecal Coliform	< 0.001	0.550	Y	Worsening
	Monthly DO	< 0.001	0.064	Y	Improving
	Monthly Temperature	0.182	-0.033	N	NA
	Monthly Fecal Coliform	< 0.001	0.550	Y	Worsening
5 Years	DO	0.156	0.050	N	NA
	Temperature	0.471	0.033	N	NA
	Fecal Coliform	< 0.001	1.750	Y	Worsening
	Monthly DO	0.103	0.066	N	NA
	Monthly Temperature	0.339	0.056	N	NA
	Monthly Fecal Coliform	< 0.001	1.750	Y	Worsening
Total Number of Significant Trends					16
Percentage of Improving Trends					56%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 45 – North Fork Skagit River

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.018	0.007	Y	NA-pH
	DO	0.024	0.009	Y	Improving
	DO Percent	0.046	0.056	Y	Improving
	Temperature	0.841	0.000	N	NA
	Turbidity	< 0.001	-0.144	Y	Improving
	Fecal Coliform	0.495	0.000	N	NA
	Monthly DO	0.055	0.008	N	NA
	Monthly DO Percent	0.186	0.050	N	NA
	Monthly Temperature	0.602	0.003	N	NA
	Monthly Turbidity	< 0.001	-0.173	Y	Improving
	Monthly Fecal Coliform	0.798	0.000	N	NA
	Nitrate + Nitrite	1.000	0.000	N	NA
	Ammonia	0.228	0.000	N	NA
	Total Kjeldahl Nitrogen	0.031	0.000	NA	NA
	Total Nitrogen	0.111	-0.001	N	NA
	Orthophosphate	0.003	0.000	NA	NA
	Total Phosphorus	< 0.001	0.000	NA	NA
	Total Suspended Solids	0.013	-0.200	Y	Improving
10 Years	DO	0.020	0.027	Y	Improving
	Temperature	0.149	-0.033	N	NA
	Fecal Coliform	0.019	0.050	Y	Worsening
	Monthly DO	0.048	0.020	Y	Improving
	Monthly Temperature	0.172	-0.033	N	NA
	Monthly Fecal Coliform	0.019	0.050	Y	Worsening
5 Years	DO	0.268	-0.033	N	NA
	Temperature	0.793	0.000	N	NA
	Fecal Coliform	0.004	0.500	Y	Worsening
	Monthly DO	0.122	-0.052	N	NA
	Monthly Temperature	0.868	0.008	N	NA
	Monthly Fecal Coliform	0.004	0.500	Y	Worsening
Total Number of Significant Trends					12
Percentage of Improving Trends					58%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001

Site 46 – South Fork Skagit River

Time Period	Parameter	Z Trend P-value	Slope	Significant	Improving or Worsening Water Quality Health
21 years	pH	0.396	0.002	N	NA
	DO	0.009	0.009	Y	Improving
	DO Percent	0.017	0.061	Y	Improving
	Temperature	0.560	0.000	N	NA
	Turbidity	< 0.001	-0.135	Y	Improving
	Fecal Coliform	0.001	0.083	Y	Worsening
	Monthly DO	0.007	0.011	Y	Improving
	Monthly DO Percent	0.035	0.064	Y	Improving
	Monthly Temperature	0.539	0.006	N	NA
	Monthly Turbidity	< 0.001	-0.175	Y	Improving
	Monthly Fecal Coliform	0.001	0.267	Y	Worsening
	Nitrate + Nitrite	0.562	0.000	N	NA
	Ammonia	0.020	0.000	NA	NA
	Total Kjeldahl Nitrogen	0.278	0.000	N	NA
	Total Nitrogen	0.875	0.000	N	NA
	Orthophosphate	< 0.001	0.000	NA	NA
	Total Phosphorus	0.674	0.000	N	NA
	Total Suspended Solids	0.007	-0.200	Y	Improving
10 Years	DO	0.114	0.017	N	NA
	Temperature	0.201	-0.033	N	NA
	Fecal Coliform	< 0.001	0.500	Y	Worsening
	Monthly DO	0.102	0.020	N	NA
	Monthly Temperature	0.128	-0.046	N	NA
	Monthly Fecal Coliform	< 0.001	0.500	Y	Worsening
5 Years	DO	0.004	-0.070	Y	Worsening
	Temperature	0.420	0.050	N	NA
	Fecal Coliform	0.011	1.400	Y	Worsening
	Monthly DO	0.027	-0.085	Y	Worsening
	Monthly Temperature	0.658	0.067	N	NA
	Monthly Fecal Coliform	0.011	1.400	Y	Worsening
Total Number of Significant Trends					14
Percentage of Improving Trends					64%

Legend	Improving Water Quality Health
	Worsening Water Quality Health
	Significant pH trend
	Significant trend with a slope between 0 – 0.0001