

# 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
20 years	pH	0.015	0.005	Yes	NA
	DO	0.001	0.026	Yes	Improving
	DO Percent	0.001	0.178	Yes	Improving
	Temperature	0.079	-0.020	No	NA
	Turbidity	0.516	-0.005	No	NA
	Fecal Coliform	0.294	0.000	No	NA
	Monthly DO	0.004	0.025	Yes	Improving
	Monthly DO Percent	0.001	0.192	Yes	Improving
	Monthly Temperature	0.127	-0.019	No	NA
	Monthly Turbidity	0.134	-0.020	No	NA
	Monthly Fecal Coliform	0.515	-0.073	No	NA
	Nitrate + Nitrite	0.013	-0.004	Yes	Improving
	Ammonia	0.111	0.000	No	NA
	Total Kjeldahl Nitrogen	0.211	0.000	No	NA
	Total Phosphorus	0.088	0.000	No	NA
	Orthophosphate	0.077	0.000	No	NA
Total Suspended Solids	0.367	0.000	No	NA	
10 Years	DO	0.255	0.023	No	NA
	Temperature	0.038	-0.050	Yes	Improving
	Fecal Coliform	0.039	0.000	Yes	NA
	Monthly DO	0.084	0.033	No	NA
	Monthly Temperature	0.004	-0.087	Yes	Improving
	Monthly Fecal Coliform	0.039	0.000	Yes	NA
5 Years	DO	< 0.001	-0.245	Yes	Worsening
	Temperature	0.137	0.100	No	NA
	Fecal Coliform	0.021	1.000	Yes	Worsening
	Monthly DO	< 0.001	-0.252	Yes	Worsening
	Monthly Temperature	0.204	0.063	No	NA
	Monthly Fecal Coliform	0.021	1.000	Yes	Worsening
Total Number of Significant Trends					12
Percentage of Improving Trends					58%

<b>Legend</b>	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
20 years	pH	0.001	-0.007	Yes	NA
	DO	0.183	-0.009	No	NA
	DO Percent	0.027	-0.090	Yes	Worsening
	Temperature	0.664	0.000	No	NA
	Turbidity	< 0.001	-0.119	Yes	Improving
	Fecal Coliform	< 0.001	-1.306	Yes	Improving
	Monthly DO	0.063	-0.015	No	NA
	Monthly DO Percent	0.030	-0.108	Yes	Worsening
	Monthly Temperature	0.207	0.019	No	NA
	Monthly Turbidity	< 0.001	-0.200	Yes	Improving
	Monthly Fecal Coliform	< 0.001	-2.329	Yes	Improving
	Nitrate + Nitrite	< 0.001	-0.010	Yes	Improving
	Ammonia	< 0.001	-0.003	Yes	Improving
	Total Kjeldahl Nitrogen	0.706	0.000	No	NA
	Total Phosphorus	0.357	0.000	No	NA
	Orthophosphate	0.001	0.001	Yes	Worsening
Total Suspended Solids	0.923	0.000	No	NA	
10 Years	DO	0.040	0.029	Yes	Improving
	Temperature	0.119	-0.056	No	NA
	Fecal Coliform	0.449	0.000	No	NA
	Monthly DO	0.054	0.036	No	NA
	Monthly Temperature	0.022	-0.107	Yes	Improving
	Monthly Fecal Coliform	0.449	0.000	No	NA
5 Years	DO	0.451	-0.038	No	NA
	Temperature	0.925	0.000	No	NA
	Fecal Coliform	0.760	0.000	No	NA
	Monthly DO	0.741	-0.021	No	NA
	Monthly Temperature	0.782	-0.050	No	NA
	Monthly Fecal Coliform	0.760	0.000	No	NA
Total Number of Significant Trends					12
Percentage of Improving Trends					67%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.014	Yes	NA
	DO	< 0.001	0.025	Yes	Improving
	DO Percent	< 0.001	0.233	Yes	Improving
	Temperature	0.154	0.017	No	NA
	Turbidity	0.374	-0.013	No	NA
	Fecal Coliform	0.333	0.000	No	NA
	Monthly DO	0.002	0.023	Yes	Improving
	Monthly DO Percent	< 0.001	0.210	Yes	Improving
	Monthly Temperature	0.073	0.029	No	NA
	Monthly Turbidity	0.169	-0.034	No	NA
	Monthly Fecal Coliform	0.134	-0.364	No	NA
	Nitrate + Nitrite	< 0.001	-0.014	Yes	Improving
	Ammonia	0.002	0.000	Yes	NA
	Total Kjeldahl Nitrogen	0.698	0.000	No	NA
	Total Phosphorus	0.021	0.000	Yes	NA
	Orthophosphate	0.705	0.000	No	NA
Total Suspended Solids	0.946	0.000	No	NA	
10 Years	DO	< 0.001	0.054	Yes	Improving
	Temperature	0.206	-0.038	No	NA
	Fecal Coliform	0.583	0.000	No	NA
	Monthly DO	0.001	0.065	Yes	Improving
	Monthly Temperature	0.034	-0.090	Yes	Improving
	Monthly Fecal Coliform	0.583	0.000	No	NA
5 Years	DO	0.129	-0.035	No	NA
	Temperature	0.644	-0.050	No	NA
	Fecal Coliform	0.386	0.000	No	NA
	Monthly DO	0.225	-0.052	No	NA
	Monthly Temperature	0.868	0.011	No	NA
	Monthly Fecal Coliform	0.386	0.000	No	NA
		Total Number of Significant Trends	9		
		Percentage of Improving Trends	89%		

<b>Legend</b>	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
20 years	pH	< 0.001	-0.021	Yes	NA
	DO	< 0.001	0.032	Yes	Improving
	DO Percent	< 0.001	0.214	Yes	Improving
	Temperature	0.956	0.000	No	NA
	Turbidity	< 0.001	-0.215	Yes	Improving
	Fecal Coliform	< 0.001	-4.056	Yes	Improving
	Monthly DO	< 0.001	0.026	Yes	Improving
	Monthly DO Percent	< 0.001	0.188	Yes	Improving
	Monthly Temperature	0.770	0.006	No	NA
	Monthly Turbidity	< 0.001	-0.326	Yes	Improving
	Monthly Fecal Coliform	< 0.001	-7.471	Yes	Improving
	Nitrate + Nitrite	< 0.001	-0.012	Yes	Improving
	Ammonia	< 0.001	-0.002	Yes	Improving
	Total Kjeldahl Nitrogen	0.234	0.000	No	NA
	Total Phosphorus	0.002	0.000	Yes	NA
	Orthophosphate	0.263	0.000	No	NA
Total Suspended Solids	0.105	0.000	No	NA	
10 Years	DO	0.017	0.023	Yes	Improving
	Temperature	0.202	-0.040	No	NA
	Fecal Coliform	0.037	1.625	Yes	Worsening
	Monthly DO	0.229	0.025	No	NA
	Monthly Temperature	0.019	-0.083	Yes	Improving
	Monthly Fecal Coliform	0.037	1.625	Yes	Worsening
5 Years	DO	0.008	-0.088	Yes	Worsening
	Temperature	0.612	0.033	No	NA
	Fecal Coliform	0.037	6.000	Yes	Worsening
	Monthly DO	0.006	-0.085	Yes	Worsening
	Monthly Temperature	0.912	0.038	No	NA
	Monthly Fecal Coliform	0.037	6.000	Yes	Worsening
Total Number of Significant Trends					12
Percentage of Improving Trends					63%

<b>Legend</b>	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
20 years	pH	0.056	-0.003	No	NA
	DO	0.050	-0.025	No	NA
	DO Percent	0.036	-0.211	Yes	Worsening
	Temperature	0.371	0.013	No	NA
	Turbidity	0.004	0.117	Yes	Worsening
	Fecal Coliform	0.047	-0.200	Yes	Improving
	Monthly DO	0.070	-0.023	No	NA
	Monthly DO Percent	0.111	-0.202	No	NA
	Monthly Temperature	0.440	0.011	No	NA
	Monthly Turbidity	0.281	0.073	No	NA
	Monthly Fecal Coliform	0.078	-1.033	No	NA
	Nitrate + Nitrite	< 0.001	-0.009	Yes	Improving
	Ammonia	0.001	-0.003	Yes	Improving
	Total Kjeldahl Nitrogen	0.006	-0.013	Yes	Improving
	Total Phosphorus	< 0.001	0.001	Yes	Worsening
	Orthophosphate	0.006	0.001	Yes	Worsening
Total Suspended Solids	0.099	0.000	No	NA	
10 Years	DO	< 0.001	-0.163	Yes	Worsening
	Temperature	0.140	-0.040	No	NA
	Fecal Coliform	0.648	0.000	No	NA
	Monthly DO	0.005	-0.115	Yes	Worsening
	Monthly Temperature	0.017	-0.100	Yes	Improving
	Monthly Fecal Coliform	0.648	0.000	No	NA
5 Years	DO	0.246	-0.077	No	NA
	Temperature	0.807	-0.025	No	NA
	Fecal Coliform	0.731	0.000	No	NA
	Monthly DO	0.377	-0.051	No	NA
	Monthly Temperature	1.000	0.063	No	NA
	Monthly Fecal Coliform	0.731	0.000	No	NA
Total Number of Significant Trends					11
Percentage of Improving Trends					45%

<b>Legend</b>	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
20 years	pH	< 0.001	0.010	Yes	NA
	DO	< 0.001	0.030	Yes	Improving
	DO Percent	< 0.001	0.257	Yes	Improving
	Temperature	0.275	0.017	No	NA
	Turbidity	< 0.001	-0.057	Yes	Improving
	Fecal Coliform	0.179	0.000	No	NA
	Monthly DO	< 0.001	0.030	Yes	Improving
	Monthly DO Percent	< 0.001	0.246	Yes	Improving
	Monthly Temperature	0.067	0.025	No	NA
	Monthly Turbidity	< 0.001	-0.086	Yes	Improving
	Monthly Fecal Coliform	0.190	-0.467	No	NA
	Nitrate + Nitrite	< 0.001	-0.007	Yes	Improving
	Ammonia	< 0.001	-0.003	Yes	Improving
	Total Kjeldahl Nitrogen	0.726	0.000	No	NA
	Total Phosphorus	0.474	0.000	No	NA
	Orthophosphate	0.183	0.000	No	NA
Total Suspended Solids	0.010	-0.100	Yes	Improving	
10 Years	DO	< 0.001	0.055	Yes	Improving
	Temperature	0.287	-0.040	No	NA
	Fecal Coliform	0.094	0.000	No	NA
	Monthly DO	< 0.001	0.078	Yes	Improving
	Monthly Temperature	0.012	-0.083	Yes	Improving
	Monthly Fecal Coliform	0.094	0.000	No	NA
5 Years	DO	0.066	-0.043	No	NA
	Temperature	0.941	0.000	No	NA
	Fecal Coliform	0.006	4.833	Yes	Worsening
	Monthly DO	0.377	-0.028	No	NA
	Monthly Temperature	0.698	0.017	No	NA
	Monthly Fecal Coliform	0.006	4.833	Yes	Worsening
Total Number of Significant Trends					15
Percentage of Improving Trends					80%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.013	Yes	NA
	DO	0.508	0.004	No	NA
	DO Percent	0.985	0.000	No	NA
	Temperature	0.119	-0.020	No	NA
	Turbidity	0.392	-0.022	No	NA
	Fecal Coliform	0.037	-0.143	Yes	Improving
	Monthly DO	0.932	0.001	No	NA
	Monthly DO Percent	0.692	-0.015	No	NA
	Monthly Temperature	0.386	-0.013	No	NA
	Monthly Turbidity	0.222	-0.057	No	NA
	Monthly Fecal Coliform	0.023	-0.947	Yes	Improving
	Nitrate + Nitrite	0.025	-0.007	Yes	Improving
	Ammonia	0.003	-0.002	Yes	Improving
	Total Kjeldahl Nitrogen	0.106	0.000	No	NA
	Total Phosphorus	0.000	0.000	Yes	NA
	Orthophosphate	< 0.001	0.002	Yes	Worsening
Total Suspended Solids	0.376	0.000	No	NA	
10 Years	DO	0.070	0.030	No	NA
	Temperature	0.009	-0.075	Yes	Improving
	Fecal Coliform	0.789	0.000	No	NA
	Monthly DO	0.039	0.040	Yes	Improving
	Monthly Temperature	0.001	-0.125	Yes	Improving
	Monthly Fecal Coliform	0.789	0.000	No	NA
5 Years	DO	0.132	-0.063	No	NA
	Temperature	0.655	-0.042	No	NA
	Fecal Coliform	0.195	0.833	No	NA
	Monthly DO	0.151	-0.070	No	NA
	Monthly Temperature	0.659	-0.050	No	NA
	Monthly Fecal Coliform	0.195	0.833	No	NA
		Total Number of Significant Trends	9		
		Percentage of Improving Trends	78%		

<b>Legend</b>	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
20 years	pH	< 0.001	-0.019	Yes	NA
	DO	0.003	-0.070	Yes	Worsening
	DO Percent	0.001	-0.756	Yes	Worsening
	Temperature	0.948	0.000	No	NA
	Turbidity	< 0.001	-0.314	Yes	Improving
	Fecal Coliform	0.051	0.500	No	NA
	Monthly DO	0.003	-0.085	Yes	Worsening
	Monthly DO Percent	0.001	-0.829	Yes	Worsening
	Monthly Temperature	0.637	0.011	No	NA
	Monthly Turbidity	< 0.001	-0.370	Yes	Improving
	Monthly Fecal Coliform	0.063	2.500	No	NA
	Nitrate + Nitrite	0.025	0.003	Yes	Worsening
	Ammonia	0.657	-0.005	No	NA
	Total Kjeldahl Nitrogen	0.500	0.008	No	NA
	Total Phosphorus	0.031	0.013	Yes	Worsening
	Orthophosphate	< 0.001	0.014	Yes	Worsening
Total Suspended Solids	0.199	-0.435	No	NA	
10 Years	DO	0.027	-0.116	Yes	Worsening
	Temperature	0.032	-0.100	Yes	Improving
	Fecal Coliform	0.075	-1.333	No	NA
	Monthly DO	0.001	-0.279	Yes	Worsening
	Monthly Temperature	0.007	-0.145	Yes	Improving
	Monthly Fecal Coliform	0.075	-1.333	No	NA
5 Years	DO	0.006	-0.420	Yes	Worsening
	Temperature	0.481	-0.100	No	NA
	Fecal Coliform	0.234	4.000	No	NA
	Monthly DO	0.002	-0.565	Yes	Worsening
	Monthly Temperature	0.782	-0.030	No	NA
	Monthly Fecal Coliform	0.234	4.000	No	NA
Total Number of Significant Trends					16
Percentage of Improving Trends					25%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.019	Yes	NA
	DO	0.932	0.002	No	NA
	DO Percent	0.853	0.033	No	NA
	Temperature	0.871	0.000	No	NA
	Turbidity	0.060	-0.061	No	NA
	Fecal Coliform	< 0.001	1.364	Yes	Worsening
	Monthly DO	0.631	0.007	No	NA
	Monthly DO Percent	0.851	0.058	No	NA
	Monthly Temperature	0.462	0.019	No	NA
	Monthly Turbidity	0.139	-0.067	No	NA
	Monthly Fecal Coliform	0.001	2.333	Yes	Worsening
	Nitrate + Nitrite	0.278	0.000	No	NA
	Ammonia	< 0.001	-0.009	Yes	Improving
	Total Kjeldahl Nitrogen	< 0.001	-0.017	Yes	Improving
	Total Phosphorus	0.024	0.003	Yes	Worsening
	Orthophosphate	0.002	0.003	Yes	Worsening
Total Suspended Solids	0.544	0.000	No	NA	
10 Years	DO	0.914	0.006	No	NA
	Temperature	0.483	-0.033	No	NA
	Fecal Coliform	0.096	0.144	No	NA
	Monthly DO	0.540	-0.033	No	NA
	Monthly Temperature	0.188	-0.080	No	NA
	Monthly Fecal Coliform	0.096	0.144	No	NA
5 Years	DO	0.036	-0.190	Yes	Worsening
	Temperature	0.346	-0.167	No	NA
	Fecal Coliform	0.015	8.600	Yes	Worsening
	Monthly DO	0.036	-0.215	Yes	Worsening
	Monthly Temperature	0.321	-0.125	No	NA
	Monthly Fecal Coliform	0.015	8.600	Yes	Worsening
Total Number of Significant Trends					12
Percentage of Improving Trends					17%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.012	Yes	NA
	DO	0.932	-0.001	No	NA
	DO Percent	0.416	-0.180	No	NA
	Temperature	0.812	0.000	No	NA
	Turbidity	< 0.001	-0.297	Yes	Improving
	Fecal Coliform	< 0.001	4.286	Yes	Worsening
	Monthly DO	0.781	0.007	No	NA
	Monthly DO Percent	0.320	-0.204	No	NA
	Monthly Temperature	0.525	0.011	No	NA
	Monthly Turbidity	< 0.001	-0.401	Yes	Improving
	Monthly Fecal Coliform	0.001	6.604	Yes	Worsening
	Nitrate + Nitrite	0.064	-0.004	No	NA
	Ammonia	0.141	-0.013	No	NA
	Total Kjeldahl Nitrogen	0.797	-0.003	No	NA
	Total Phosphorus	0.153	0.005	No	NA
	Orthophosphate	0.028	0.007	Yes	Worsening
Total Suspended Solids	0.406	-0.182	No	NA	
10 Years	DO	0.994	-0.002	No	NA
	Temperature	0.115	-0.067	No	NA
	Fecal Coliform	0.211	0.000	No	NA
	Monthly DO	0.835	0.030	No	NA
	Monthly Temperature	0.051	-0.083	No	NA
	Monthly Fecal Coliform	0.211	0.000	No	NA
5 Years	DO	0.089	-0.250	No	NA
	Temperature	0.580	-0.100	No	NA
	Fecal Coliform	0.922	0.000	No	NA
	Monthly DO	0.061	-0.210	No	NA
	Monthly Temperature	0.956	0.010	No	NA
	Monthly Fecal Coliform	0.922	0.000	No	NA
Total Number of Significant Trends					7
Percentage of Improving Trends					29%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.020	Yes	NA
	DO	0.027	-0.058	Yes	Worsening
	DO Percent	0.004	-0.786	Yes	Worsening
	Temperature	0.086	-0.030	No	NA
	Turbidity	< 0.001	-0.302	Yes	Improving
	Fecal Coliform	0.025	-0.235	Yes	Improving
	Monthly DO	0.137	-0.055	No	NA
	Monthly DO Percent	0.017	-0.762	Yes	Worsening
	Monthly Temperature	0.351	-0.017	No	NA
	Monthly Turbidity	< 0.001	-0.360	Yes	Improving
	Monthly Fecal Coliform	0.040	-1.214	Yes	Improving
	Nitrate + Nitrite	0.986	0.000	No	NA
	Ammonia	0.032	-0.020	Yes	Improving
	Total Kjeldahl Nitrogen	0.435	0.010	No	NA
	Total Phosphorus	0.112	0.010	No	NA
	Orthophosphate	0.032	0.005	Yes	Worsening
Total Suspended Solids	0.025	-0.817	Yes	Improving	
10 Years	DO	0.435	-0.042	No	NA
	Temperature	0.001	-0.140	Yes	Improving
	Fecal Coliform	0.844	0.000	No	NA
	Monthly DO	0.803	-0.027	No	NA
	Monthly Temperature	< 0.001	-0.170	Yes	Improving
Monthly Fecal Coliform	0.844	0.000	No	NA	
5 Years	DO	0.001	-0.525	Yes	Worsening
	Temperature	0.018	-0.300	Yes	Improving
	Fecal Coliform	0.003	5.267	Yes	Worsening
	Monthly DO	0.027	-0.455	Yes	Worsening
	Monthly Temperature	0.046	-0.125	Yes	Improving
Monthly Fecal Coliform	0.003	5.267	Yes	Worsening	
Total Number of Significant Trends					19
Percentage of Improving Trends					53%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.024	Yes	NA
	DO	0.067	0.029	No	NA
	DO Percent	0.019	0.330	Yes	Improving
	Temperature	< 0.001	0.079	Yes	Worsening
	Turbidity	< 0.001	-0.388	Yes	Improving
	Fecal Coliform	< 0.001	-2.500	Yes	Improving
	Monthly DO	0.063	0.040	No	NA
	Monthly DO Percent	0.025	0.406	Yes	Improving
	Monthly Temperature	< 0.001	0.084	Yes	Worsening
	Monthly Turbidity	< 0.001	-0.490	Yes	Improving
	Monthly Fecal Coliform	< 0.001	-5.903	Yes	Improving
	Nitrate + Nitrite	0.005	-0.001	Yes	Improving
	Ammonia	< 0.001	-0.013	Yes	Improving
	Total Kjeldahl Nitrogen	0.006	-0.016	Yes	Improving
	Total Phosphorus	< 0.001	0.005	Yes	Worsening
	Orthophosphate	0.003	0.003	Yes	Worsening
Total Suspended Solids	0.522	-0.083	No	NA	
10 Years	DO	0.401	0.026	No	NA
	Temperature	0.066	0.072	No	NA
	Fecal Coliform	0.070	-1.167	No	NA
	Monthly DO	0.224	0.046	No	NA
	Monthly Temperature	0.765	0.020	No	NA
	Monthly Fecal Coliform	0.070	-1.167	No	NA
5 Years	DO	0.033	-0.224	Yes	Worsening
	Temperature	0.534	-0.067	No	NA
	Fecal Coliform	0.594	0.000	No	NA
	Monthly DO	0.021	-0.245	Yes	Worsening
	Monthly Temperature	0.694	-0.071	No	NA
	Monthly Fecal Coliform	0.594	0.000	No	NA
Total Number of Significant Trends				16	
Percentage of Improving Trends				56%	

<b>Legend</b>	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
20 years	pH	< 0.001	-0.011	Yes	NA
	DO	0.030	-0.027	Yes	Worsening
	DO Percent	0.022	-0.254	Yes	Worsening
	Temperature	0.270	0.013	No	NA
	Turbidity	< 0.001	-0.267	Yes	Improving
	Fecal Coliform	< 0.001	1.778	Yes	Worsening
	Monthly DO	0.091	-0.023	No	NA
	Monthly DO Percent	0.037	-0.242	Yes	Worsening
	Monthly Temperature	0.484	0.010	No	NA
	Monthly Turbidity	0.001	-0.292	Yes	Improving
	Monthly Fecal Coliform	0.009	2.203	Yes	Worsening
	Nitrate + Nitrite	0.009	-0.011	Yes	Improving
	Ammonia	0.009	-0.007	Yes	Improving
	Total Kjeldahl Nitrogen	0.022	-0.011	Yes	Improving
	Total Phosphorus	< 0.001	0.002	Yes	Worsening
	Orthophosphate	0.414	0.000	No	NA
Total Suspended Solids	0.267	0.000	No	NA	
10 Years	DO	0.017	-0.063	Yes	Worsening
	Temperature	0.075	0.050	No	NA
	Fecal Coliform	< 0.001	5.000	Yes	Worsening
	Monthly DO	0.319	-0.030	No	NA
	Monthly Temperature	1.000	0.000	No	NA
	Monthly Fecal Coliform	< 0.001	5.000	Yes	Worsening
5 Years	DO	0.034	-0.223	Yes	Worsening
	Temperature	0.210	0.100	No	NA
	Fecal Coliform	0.001	11.500	Yes	Worsening
	Monthly DO	0.067	-0.203	No	NA
	Monthly Temperature	0.252	0.100	No	NA
	Monthly Fecal Coliform	0.001	11.500	Yes	Worsening
Total Number of Significant Trends					18
Percentage of Improving Trends					28%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.055	Yes	NA
	DO	0.897	-0.001	No	NA
	DO Percent	0.998	0.000	No	NA
	Temperature	0.785	0.000	No	NA
	Turbidity	0.334	-0.014	No	NA
	Fecal Coliform	< 0.001	0.000	Yes	NA
	Monthly DO	1.000	0.000	No	NA
	Monthly DO Percent	0.504	0.041	No	NA
	Monthly Temperature	0.756	0.000	No	NA
	Monthly Turbidity	0.706	-0.006	No	NA
	Monthly Fecal Coliform	0.001	0.146	Yes	Worsening
	Nitrate + Nitrite	0.002	0.005	Yes	Worsening
	Ammonia	0.001	-0.001	Yes	Improving
	Total Kjeldahl Nitrogen	0.376	0.000	No	NA
	Total Phosphorus	< 0.001	0.001	Yes	Worsening
	Orthophosphate	< 0.001	0.002	Yes	Worsening
Total Suspended Solids	0.082	-0.500	No	NA	
10 Years	DO	0.422	0.010	No	NA
	Temperature	0.232	-0.020	No	NA
	Fecal Coliform	0.713	0.000	No	NA
	Monthly DO	0.076	0.028	No	NA
	Monthly Temperature	0.006	-0.072	Yes	Improving
	Monthly Fecal Coliform	0.713	0.000	No	NA
5 Years	DO	0.732	-0.013	No	NA
	Temperature	< 0.001	-0.167	Yes	Improving
	Fecal Coliform	0.225	0.000	No	NA
	Monthly DO	1.000	0.000	No	NA
	Monthly Temperature	< 0.001	-0.183	Yes	Improving
Monthly Fecal Coliform	0.225	0.000	No	NA	
		Total Number of Significant Trends		9	
		Percentage of Improving Trends		44%	

<b>Legend</b>	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
20 years	pH	< 0.001	-0.019	Yes	NA
	DO	< 0.001	0.018	Yes	Improving
	DO Percent	< 0.001	0.133	Yes	Improving
	Temperature	0.919	0.000	No	NA
	Turbidity	< 0.001	0.020	Yes	Worsening
	Fecal Coliform	0.151	0.000	No	NA
	Monthly DO	0.001	0.021	Yes	Improving
	Monthly DO Percent	0.005	0.121	Yes	Improving
	Monthly Temperature	0.746	0.003	No	NA
	Monthly Turbidity	0.004	0.018	Yes	Worsening
	Monthly Fecal Coliform	0.277	0.028	No	NA
	Nitrate + Nitrite	0.205	-0.004	No	NA
	Ammonia	0.978	0.000	No	NA
	Total Kjeldahl Nitrogen	0.058	0.000	No	NA
	Total Phosphorus	0.288	0.000	No	NA
Orthophosphate	0.033	0.000	Yes	NA	
Total Suspended Solids	0.652	0.000	No	NA	
10 Years	DO	< 0.001	0.056	Yes	Improving
	Temperature	0.917	0.000	No	NA
	Fecal Coliform	0.118	0.000	No	NA
	Monthly DO	< 0.001	0.057	Yes	Improving
	Monthly Temperature	0.446	-0.022	No	NA
	Monthly Fecal Coliform	0.118	0.000	No	NA
5 Years	DO	0.285	0.025	No	NA
	Temperature	0.837	0.000	No	NA
	Fecal Coliform	0.081	0.200	No	NA
	Monthly DO	0.606	0.023	No	NA
	Monthly Temperature	0.519	0.050	No	NA
	Monthly Fecal Coliform	0.081	0.200	No	NA
Total Number of Significant Trends					10
Percentage of Improving Trends					60%

<b>Legend</b>	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
20 years	pH	0.120	-0.003	No	NA
	DO	< 0.001	0.051	Yes	Improving
	DO Percent	< 0.001	0.460	Yes	Improving
	Temperature	0.009	0.029	Yes	Worsening
	Turbidity	< 0.001	0.037	Yes	Worsening
	Fecal Coliform	0.036	0.000	Yes	NA
	Monthly DO	< 0.001	0.046	Yes	Improving
	Monthly DO Percent	< 0.001	0.475	Yes	Improving
	Monthly Temperature	0.009	0.030	Yes	Worsening
	Monthly Turbidity	< 0.001	0.036	Yes	Worsening
	Monthly Fecal Coliform	0.183	-0.154	No	NA
	Nitrate + Nitrite	0.907	0.000	No	NA
	Ammonia	0.993	0.000	No	NA
	Total Kjeldahl Nitrogen	0.302	0.000	No	NA
	Total Phosphorus	0.026	0.000	Yes	NA
	Orthophosphate	0.538	0.000	No	NA
Total Suspended Solids	0.065	0.000	No	NA	
10 Years	DO	< 0.001	0.115	Yes	Improving
	Temperature	0.030	0.057	Yes	Worsening
	Fecal Coliform	0.200	0.000	No	NA
	Monthly DO	0.001	0.088	Yes	Improving
	Monthly Temperature	0.195	0.049	No	NA
	Monthly Fecal Coliform	0.200	0.000	No	NA
5 Years	DO	< 0.001	-0.294	Yes	Worsening
	Temperature	< 0.001	0.300	Yes	Worsening
	Fecal Coliform	0.269	0.050	No	NA
	Monthly DO	0.006	-0.249	Yes	Worsening
	Monthly Temperature	0.003	0.300	Yes	Worsening
	Monthly Fecal Coliform	0.269	0.050	No	NA
Total Number of Significant Trends					15
Percentage of Improving Trends					40%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.019	Yes	NA
	DO	0.009	0.015	Yes	Improving
	DO Percent	< 0.001	0.133	Yes	Improving
	Temperature	0.831	0.000	No	NA
	Turbidity	0.997	0.000	No	NA
	Fecal Coliform	0.060	0.000	No	NA
	Monthly DO	0.065	0.011	No	NA
	Monthly DO Percent	0.001	0.128	Yes	Improving
	Monthly Temperature	0.767	0.001	No	NA
	Monthly Turbidity	0.313	-0.011	No	NA
	Monthly Fecal Coliform	0.036	0.154	Yes	Worsening
	Nitrate + Nitrite	< 0.001	-0.025	Yes	Improving
	Ammonia	0.496	0.000	No	NA
	Total Kjeldahl Nitrogen	0.836	0.000	No	NA
	Total Phosphorus	0.033	0.000	Yes	NA
Orthophosphate	0.089	0.000	No	NA	
Total Suspended Solids	0.141	0.000	No	NA	
10 Years	DO	< 0.001	0.044	Yes	Improving
	Temperature	0.795	0.000	No	NA
	Fecal Coliform	0.074	0.000	No	NA
	Monthly DO	< 0.001	0.053	Yes	Improving
	Monthly Temperature	0.613	-0.014	No	NA
	Monthly Fecal Coliform	0.074	0.000	No	NA
5 Years	DO	0.624	0.015	No	NA
	Temperature	0.838	0.020	No	NA
	Fecal Coliform	0.376	0.000	No	NA
	Monthly DO	0.760	0.013	No	NA
	Monthly Temperature	0.271	0.100	No	NA
	Monthly Fecal Coliform	0.376	0.000	No	NA
Total Number of Significant Trends				8	
Percentage of Improving Trends				75%	

<b>Legend</b>	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
20 years	pH	< 0.001	-0.018	Yes	NA
	DO	0.402	0.005	No	NA
	DO Percent	0.025	0.067	Yes	Improving
	Temperature	0.099	0.023	No	NA
	Turbidity	0.118	-0.011	No	NA
	Fecal Coliform	0.226	0.000	No	NA
	Monthly DO	0.651	0.004	No	NA
	Monthly DO Percent	0.015	0.088	Yes	Improving
	Monthly Temperature	0.050	0.030	Yes	Worsening
	Monthly Turbidity	0.003	-0.050	Yes	Improving
	Monthly Fecal Coliform	0.558	0.000	No	NA
	Nitrate + Nitrite	0.095	-0.004	No	NA
	Ammonia	0.007	0.000	Yes	NA
	Total Kjeldahl Nitrogen	0.581	0.000	No	NA
	Total Phosphorus	0.867	0.000	No	NA
	Orthophosphate	0.056	0.000	No	NA
Total Suspended Solids	0.068	0.000	No	NA	
10 Years	DO	< 0.001	0.060	Yes	Improving
	Temperature	0.857	0.000	No	NA
	Fecal Coliform	0.009	0.000	Yes	NA
	Monthly DO	< 0.001	0.071	Yes	Improving
	Monthly Temperature	0.491	-0.030	No	NA
	Monthly Fecal Coliform	0.009	0.000	Yes	NA
5 Years	DO	0.269	0.030	No	NA
	Temperature	0.880	0.000	No	NA
	Fecal Coliform	1.000	0.000	No	NA
	Monthly DO	0.825	-0.005	No	NA
	Monthly Temperature	0.347	0.075	No	NA
	Monthly Fecal Coliform	1.000	0.000	No	NA
Total Number of Significant Trends				8	
Percentage of Improving Trends				63%	

<b>Legend</b>	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
20 years	pH	0.024	-0.006	Yes	NA
	DO	0.060	0.013	No	NA
	DO Percent	< 0.001	0.119	Yes	Improving
	Temperature	0.320	0.015	No	NA
	Turbidity	0.064	-0.043	No	NA
	Fecal Coliform	0.118	0.000	No	NA
	Monthly DO	0.144	0.011	No	NA
	Monthly DO Percent	0.004	0.117	Yes	Improving
	Monthly Temperature	0.354	0.017	No	NA
	Monthly Turbidity	0.034	-0.071	Yes	Improving
	Monthly Fecal Coliform	0.030	-1.056	Yes	Improving
	Nitrate + Nitrite	0.027	-0.008	Yes	Improving
	Ammonia	0.495	0.000	No	NA
	Total Kjeldahl Nitrogen	0.164	0.000	No	NA
	Total Phosphorus	0.336	0.000	No	NA
	Orthophosphate	0.016	0.000	Yes	NA
Total Suspended Solids	0.556	0.000	No	NA	
10 Years	DO	0.031	0.035	Yes	Improving
	Temperature	0.841	0.000	No	NA
	Fecal Coliform	0.629	0.000	No	NA
	Monthly DO	0.023	0.038	Yes	Improving
	Monthly Temperature	0.496	-0.022	No	NA
	Monthly Fecal Coliform	0.629	0.000	No	NA
5 Years	DO	0.280	-0.050	No	NA
	Temperature	0.982	0.000	No	NA
	Fecal Coliform	0.258	2.200	No	NA
	Monthly DO	0.123	-0.057	No	NA
	Monthly Temperature	0.521	0.050	No	NA
	Monthly Fecal Coliform	0.258	2.200	No	NA
Total Number of Significant Trends				8	
Percentage of Improving Trends				88%	

<b>Legend</b>	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
20 years	pH	< 0.001	-0.009	Yes	NA
	DO	< 0.001	0.025	Yes	Improving
	DO Percent	< 0.001	0.186	Yes	Improving
	Temperature	0.692	0.000	No	NA
	Turbidity	0.106	-0.012	No	NA
	Fecal Coliform	0.487	0.000	No	NA
	Monthly DO	0.001	0.021	Yes	Improving
	Monthly DO Percent	< 0.001	0.188	Yes	Improving
	Monthly Temperature	0.902	0.000	No	NA
	Monthly Turbidity	0.056	-0.026	No	NA
	Monthly Fecal Coliform	0.902	0.021	No	NA
	Nitrate + Nitrite	0.034	-0.004	Yes	Improving
	Ammonia	0.010	0.000	Yes	NA
	Total Kjeldahl Nitrogen	0.552	0.000	No	NA
	Total Phosphorus	0.006	0.000	Yes	NA
Orthophosphate	0.202	0.000	No	NA	
Total Suspended Solids	0.220	0.000	No	NA	
10 Years	DO	< 0.001	0.053	Yes	Improving
	Temperature	0.572	-0.011	No	NA
	Fecal Coliform	0.121	0.000	No	NA
	Monthly DO	0.003	0.050	Yes	Improving
	Monthly Temperature	0.106	-0.050	No	NA
	Monthly Fecal Coliform	0.121	0.000	No	NA
5 Years	DO	0.051	-0.055	No	NA
	Temperature	0.564	0.050	No	NA
	Fecal Coliform	0.195	1.225	No	NA
	Monthly DO	0.008	-0.062	Yes	Worsening
	Monthly Temperature	0.318	0.050	No	NA
	Monthly Fecal Coliform	0.195	1.225	No	NA
Total Number of Significant Trends				10	
Percentage of Improving Trends				70%	

<b>Legend</b>	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
20 years	pH	< 0.001	-0.009	Yes	NA
	DO	< 0.001	-0.040	Yes	Worsening
	DO Percent	< 0.001	-0.259	Yes	Worsening
	Temperature	< 0.001	0.067	Yes	Worsening
	Turbidity	0.042	-0.034	Yes	Improving
	Fecal Coliform	0.231	0.000	No	NA
	Monthly DO	< 0.001	-0.037	Yes	Worsening
	Monthly DO Percent	< 0.001	-0.255	Yes	Worsening
	Monthly Temperature	< 0.001	0.067	Yes	Worsening
	Monthly Turbidity	0.014	-0.076	Yes	Improving
	Monthly Fecal Coliform	0.074	-1.000	No	NA
	Nitrate + Nitrite	< 0.001	-0.011	Yes	Improving
	Ammonia	0.092	0.000	No	NA
	Total Kjeldahl Nitrogen	0.085	0.000	No	NA
	Total Phosphorus	0.348	0.000	No	NA
	Orthophosphate	0.119	0.000	No	NA
Total Suspended Solids	0.301	0.000	No	NA	
10 Years	DO	0.277	-0.020	No	NA
	Temperature	0.010	0.100	Yes	Worsening
	Fecal Coliform	0.055	-0.857	No	NA
	Monthly DO	0.940	0.003	No	NA
	Monthly Temperature	0.377	0.026	No	NA
5 Years	Monthly Fecal Coliform	0.055	-0.857	No	NA
	DO	0.137	-0.080	No	NA
	Temperature	0.639	0.050	No	NA
	Fecal Coliform	0.510	0.000	No	NA
	Monthly DO	0.137	-0.065	No	NA
	Monthly Temperature	0.664	0.035	No	NA
Monthly Fecal Coliform	0.510	0.000	No	NA	
Total Number of Significant Trends					11
Percentage of Improving Trends					27%

<b>Legend</b>	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
20 years	pH	0.645	-0.001	No	NA
	DO	0.050	0.010	Yes	Improving
	DO Percent	0.041	0.067	Yes	Improving
	Temperature	0.221	0.014	No	NA
	Turbidity	0.002	0.022	Yes	Worsening
	Fecal Coliform	< 0.001	-0.375	Yes	Improving
	Monthly DO	0.147	0.011	No	NA
	Monthly DO Percent	0.107	0.075	No	NA
	Monthly Temperature	0.462	0.010	No	NA
	Monthly Turbidity	0.161	0.015	No	NA
	Monthly Fecal Coliform	0.013	-0.714	Yes	Improving
	Nitrate + Nitrite	0.120	-0.004	No	NA
	Ammonia	0.008	0.000	Yes	NA
	Total Kjeldahl Nitrogen	0.660	0.000	No	NA
	Total Phosphorus	0.398	0.000	No	NA
	Orthophosphate	0.061	0.000	No	NA
Total Suspended Solids	0.407	0.000	No	NA	
10 Years	DO	< 0.001	0.063	Yes	Improving
	Temperature	0.140	-0.040	No	NA
	Fecal Coliform	0.168	0.000	No	NA
	Monthly DO	< 0.001	0.067	Yes	Improving
	Monthly Temperature	0.043	-0.068	Yes	Improving
Monthly Fecal Coliform	0.168	0.000	No	NA	
5 Years	DO	0.327	0.027	No	NA
	Temperature	0.272	-0.075	No	NA
	Fecal Coliform	0.639	0.000	No	NA
	Monthly DO	0.543	0.019	No	NA
	Monthly Temperature	0.472	-0.075	No	NA
Monthly Fecal Coliform	0.639	0.000	No	NA	
				Total Number of Significant Trends	8
				Percentage of Improving Trends	88%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.008	Yes	NA
	DO	0.188	0.008	No	NA
	DO Percent	0.244	0.062	No	NA
	Temperature	0.403	0.010	No	NA
	Turbidity	< 0.001	0.039	Yes	Worsening
	Fecal Coliform	0.101	0.000	No	NA
	Monthly DO	0.468	0.005	No	NA
	Monthly DO Percent	0.144	0.076	No	NA
	Monthly Temperature	0.637	0.006	No	NA
	Monthly Turbidity	< 0.001	0.038	Yes	Worsening
	Monthly Fecal Coliform	0.178	0.129	No	NA
	Nitrate + Nitrite	0.946	0.000	No	NA
	Ammonia	0.001	-0.001	Yes	Improving
	Total Kjeldahl Nitrogen	0.216	0.000	No	NA
	Total Phosphorus	0.006	0.000	Yes	NA
	Orthophosphate	0.000	0.000	Yes	NA
Total Suspended Solids	0.301	0.000	No	NA	
10 Years	DO	0.039	0.028	Yes	Improving
	Temperature	0.023	-0.060	Yes	Improving
	Fecal Coliform	0.043	0.167	Yes	Worsening
	Monthly DO	0.035	0.035	Yes	Improving
	Monthly Temperature	0.006	-0.106	Yes	Improving
	Monthly Fecal Coliform	0.043	0.167	Yes	Worsening
5 Years	DO	0.315	-0.030	No	NA
	Temperature	0.431	-0.050	No	NA
	Fecal Coliform	0.496	0.000	No	NA
	Monthly DO	0.151	-0.054	No	NA
	Monthly Temperature	0.440	-0.056	No	NA
	Monthly Fecal Coliform	0.496	0.000	No	NA
Total Number of Significant Trends					10
Percentage of Improving Trends					50%

<b>Legend</b>	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
20 years	pH	0.349	0.002	No	NA
	DO	0.003	0.028	Yes	Improving
	DO Percent	0.002	0.200	Yes	Improving
	Temperature	0.771	0.000	No	NA
	Turbidity	0.749	-0.003	No	NA
	Fecal Coliform	< 0.001	-0.667	Yes	Improving
	Monthly DO	0.036	0.028	Yes	Improving
	Monthly DO Percent	0.008	0.207	Yes	Improving
	Monthly Temperature	0.497	-0.010	No	NA
	Monthly Turbidity	0.531	-0.011	No	NA
	Monthly Fecal Coliform	0.001	-2.021	Yes	Improving
	Nitrate + Nitrite	0.669	0.000	No	NA
	Ammonia	< 0.001	-0.003	Yes	Improving
	Total Kjeldahl Nitrogen	0.005	-0.010	Yes	Improving
	Total Phosphorus	< 0.001	0.001	Yes	Worsening
	Orthophosphate	< 0.001	0.002	Yes	Worsening
Total Suspended Solids	0.601	0.000	No	NA	
10 Years	DO	0.957	0.000	No	NA
	Temperature	< 0.001	-0.100	Yes	Improving
	Fecal Coliform	0.034	-1.000	Yes	Improving
	Monthly DO	0.856	-0.009	No	NA
	Monthly Temperature	< 0.001	-0.175	Yes	Improving
	Monthly Fecal Coliform	0.034	-1.000	Yes	Improving
5 Years	DO	0.721	-0.028	No	NA
	Temperature	0.038	-0.200	Yes	Improving
	Fecal Coliform	0.245	-1.000	No	NA
	Monthly DO	0.225	-0.108	No	NA
	Monthly Temperature	0.027	-0.225	Yes	Improving
	Monthly Fecal Coliform	0.245	-1.000	No	NA
Total Number of Significant Trends					16
Percentage of Improving Trends					88%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.009	Yes	NA
	DO	< 0.001	0.020	Yes	Improving
	DO Percent	< 0.001	0.167	Yes	Improving
	Temperature	0.073	0.023	No	NA
	Turbidity	0.105	0.010	No	NA
	Fecal Coliform	0.993	0.000	No	NA
	Monthly DO	0.004	0.020	Yes	Improving
	Monthly DO Percent	< 0.001	0.183	Yes	Improving
	Monthly Temperature	0.250	0.019	No	NA
	Monthly Turbidity	0.811	0.002	No	NA
	Monthly Fecal Coliform	0.631	0.063	No	NA
	Nitrate + Nitrite	0.031	-0.004	Yes	Improving
	Ammonia	0.541	0.000	No	NA
	Total Kjeldahl Nitrogen	0.150	0.000	No	NA
	Total Phosphorus	0.006	0.000	Yes	NA
	Orthophosphate	0.000	0.000	Yes	NA
Total Suspended Solids	0.016	0.000	Yes	NA	
10 Years	DO	< 0.001	0.062	Yes	Improving
	Temperature	0.228	-0.030	No	NA
	Fecal Coliform	0.549	0.000	No	NA
	Monthly DO	< 0.001	0.071	Yes	Improving
	Monthly Temperature	0.027	-0.100	Yes	Improving
	Monthly Fecal Coliform	0.549	0.000	No	NA
5 Years	DO	0.351	-0.020	No	NA
	Temperature	0.896	0.000	No	NA
	Fecal Coliform	0.182	0.333	No	NA
	Monthly DO	0.659	-0.022	No	NA
	Monthly Temperature	1.000	0.000	No	NA
	Monthly Fecal Coliform	0.182	0.333	No	NA
Total Number of Significant Trends				9	
Percentage of Improving Trends				89%	

<b>Legend</b>	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
20 years	pH	0.336	-0.002	No	NA
	DO	< 0.001	-0.052	Yes	Worsening
	DO Percent	< 0.001	-0.367	Yes	Worsening
	Temperature	0.009	0.038	Yes	Worsening
	Turbidity	0.109	0.020	No	NA
	Fecal Coliform	0.118	0.000	No	NA
	Monthly DO	< 0.001	-0.048	Yes	Worsening
	Monthly DO Percent	< 0.001	-0.373	Yes	Worsening
	Monthly Temperature	0.063	0.031	No	NA
	Monthly Turbidity	0.929	0.002	No	NA
	Monthly Fecal Coliform	0.200	-0.400	No	NA
	Nitrate + Nitrite	0.003	-0.006	Yes	Improving
	Ammonia	< 0.001	-0.002	Yes	Improving
	Total Kjeldahl Nitrogen	0.858	0.000	No	NA
	Total Phosphorus	0.764	0.000	No	NA
	Orthophosphate	< 0.001	0.000	Yes	NA
Total Suspended Solids	0.415	0.000	No	NA	
10 Years	DO	< 0.001	-0.090	Yes	Worsening
	Temperature	0.963	0.000	No	NA
	Fecal Coliform	0.826	0.000	No	NA
	Monthly DO	0.007	-0.119	Yes	Worsening
	Monthly Temperature	0.229	-0.050	No	NA
	Monthly Fecal Coliform	0.826	0.000	No	NA
5 Years	DO	< 0.001	-0.343	Yes	Worsening
	Temperature	0.836	0.000	No	NA
	Fecal Coliform	0.001	3.600	Yes	Worsening
	Monthly DO	0.002	-0.298	Yes	Worsening
	Monthly Temperature	0.825	0.037	No	NA
	Monthly Fecal Coliform	0.001	3.600	Yes	Worsening
Total Number of Significant Trends					13
Percentage of Improving Trends					15%

<b>Legend</b>	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
20 years	pH	0.479	0.001	No	NA
	DO	0.005	-0.030	Yes	Worsening
	DO Percent	< 0.001	-0.250	Yes	Worsening
	Temperature	0.296	0.014	No	NA
	Turbidity	0.061	-0.040	No	NA
	Fecal Coliform	0.147	0.000	No	NA
	Monthly DO	0.014	-0.029	Yes	Worsening
	Monthly DO Percent	0.017	-0.215	Yes	Worsening
	Monthly Temperature	0.350	0.015	No	NA
	Monthly Turbidity	0.159	-0.038	No	NA
	Monthly Fecal Coliform	0.689	-0.113	No	NA
	Nitrate + Nitrite	< 0.001	-0.014	Yes	Improving
	Ammonia	< 0.001	-0.003	Yes	Improving
	Total Kjeldahl Nitrogen	0.036	-0.008	Yes	Improving
	Total Phosphorus	< 0.001	0.000	Yes	NA
	Orthophosphate	< 0.001	0.001	Yes	Worsening
Total Suspended Solids	0.014	-0.125	Yes	Improving	
10 Years	DO	0.254	-0.026	No	NA
	Temperature	0.063	-0.050	No	NA
	Fecal Coliform	0.906	0.000	No	NA
	Monthly DO	0.427	-0.032	No	NA
	Monthly Temperature	0.073	-0.100	No	NA
	Monthly Fecal Coliform	0.906	0.000	No	NA
5 Years	DO	0.058	-0.160	No	NA
	Temperature	0.258	-0.087	No	NA
	Fecal Coliform	0.057	2.325	No	NA
	Monthly DO	0.151	-0.170	No	NA
	Monthly Temperature	0.619	-0.106	No	NA
	Monthly Fecal Coliform	0.057	2.325	No	NA
		Total Number of Significant Trends			
		Percentage of Improving Trends			

<b>Legend</b>	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
20 years	pH	0.051	-0.004	No	NA
	DO	< 0.001	0.055	Yes	Improving
	DO Percent	< 0.001	0.385	Yes	Improving
	Temperature	0.373	0.013	No	NA
	Turbidity	0.001	0.032	Yes	Worsening
	Fecal Coliform	< 0.001	1.923	Yes	Worsening
	Monthly DO	< 0.001	0.052	Yes	Improving
	Monthly DO Percent	< 0.001	0.400	Yes	Improving
	Monthly Temperature	0.474	0.011	No	NA
	Monthly Turbidity	0.033	0.026	Yes	Worsening
	Monthly Fecal Coliform	< 0.001	2.375	Yes	Worsening
	Nitrate + Nitrite	0.202	-0.003	No	NA
	Ammonia	< 0.001	-0.003	Yes	Improving
	Total Kjeldahl Nitrogen	0.004	-0.010	Yes	Improving
	Total Phosphorus	0.103	0.000	No	NA
Orthophosphate	0.093	0.000	No	NA	
Total Suspended Solids	0.065	0.000	No	NA	
10 Years	DO	< 0.001	-0.098	Yes	Worsening
	Temperature	0.053	-0.064	No	NA
	Fecal Coliform	0.403	0.000	No	NA
	Monthly DO	< 0.001	-0.159	Yes	Worsening
	Monthly Temperature	0.028	-0.090	No	NA
Monthly Fecal Coliform	0.403	0.000	No	NA	
5 Years	DO	0.163	-0.076	No	NA
	Temperature	0.340	-0.100	No	NA
	Fecal Coliform	0.073	3.000	No	NA
	Monthly DO	0.098	-0.161	No	NA
	Monthly Temperature	0.699	-0.050	No	NA
Monthly Fecal Coliform	0.073	3.000	No	NA	
Total Number of Significant Trends					12
Percentage of Improving Trends					50%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.014	Yes	NA
	DO	< 0.001	0.026	Yes	Improving
	DO Percent	< 0.001	0.200	Yes	Improving
	Temperature	0.015	0.021	Yes	Worsening
	Turbidity	0.858	0.001	No	NA
	Fecal Coliform	0.198	0.000	No	NA
	Monthly DO	< 0.001	0.028	Yes	Improving
	Monthly DO Percent	< 0.001	0.226	Yes	Improving
	Monthly Temperature	0.078	0.017	No	NA
	Monthly Turbidity	0.968	0.001	No	NA
	Monthly Fecal Coliform	0.491	-0.233	No	NA
	Nitrate + Nitrite	0.003	-0.005	Yes	Improving
	Ammonia	< 0.001	-0.005	Yes	Improving
	Total Kjeldahl Nitrogen	< 0.001	-0.010	Yes	Improving
	Total Phosphorus	< 0.001	0.002	Yes	Worsening
	Orthophosphate	0.591	0.000	No	NA
Total Suspended Solids	0.673	0.000	No	NA	
10 Years	DO	< 0.001	0.059	Yes	Improving
	Temperature	0.431	-0.014	No	NA
	Fecal Coliform	0.322	0.000	No	NA
	Monthly DO	< 0.001	0.062	Yes	Improving
	Monthly Temperature	0.306	-0.031	No	NA
	Monthly Fecal Coliform	0.322	0.000	No	NA
5 Years	DO	0.668	-0.010	No	NA
	Temperature	0.223	-0.100	No	NA
	Fecal Coliform	0.970	0.000	No	NA
	Monthly DO	0.246	-0.027	No	NA
	Monthly Temperature	0.740	-0.025	No	NA
	Monthly Fecal Coliform	0.970	0.000	No	NA
Total Number of Significant Trends					12
Percentage of Improving Trends					75%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.019	Yes	NA
	DO	0.095	-0.027	No	NA
	DO Percent	0.098	-0.284	No	NA
	Temperature	0.774	0.000	No	NA
	Turbidity	< 0.001	0.334	Yes	Worsening
	Fecal Coliform	0.001	1.000	Yes	Worsening
	Monthly DO	0.429	-0.018	No	NA
	Monthly DO Percent	0.241	-0.230	No	NA
	Monthly Temperature	0.580	0.008	No	NA
	Monthly Turbidity	< 0.001	0.356	Yes	Worsening
	Monthly Fecal Coliform	0.001	2.304	Yes	Worsening
	Nitrate + Nitrite	0.462	0.000	No	NA
	Ammonia	0.958	0.000	No	NA
	Total Kjeldahl Nitrogen	0.902	0.000	No	NA
	Total Phosphorus	0.001	0.005	Yes	Worsening
	Orthophosphate	0.859	0.000	No	NA
Total Suspended Solids	0.139	0.125	No	NA	
10 Years	DO	0.710	0.015	No	NA
	Temperature	0.186	-0.036	No	NA
	Fecal Coliform	0.136	0.000	No	NA
	Monthly DO	0.570	0.027	No	NA
	Monthly Temperature	0.158	-0.050	No	NA
	Monthly Fecal Coliform	0.136	0.000	No	NA
5 Years	DO	0.954	-0.020	No	NA
	Temperature	0.428	-0.075	No	NA
	Fecal Coliform	0.485	0.000	No	NA
	Monthly DO	0.659	-0.070	No	NA
	Monthly Temperature	0.740	-0.025	No	NA
	Monthly Fecal Coliform	0.485	0.000	No	NA
Total Number of Significant Trends					6
Percentage of Improving Trends					0%

<b>Legend</b>	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
20 years	pH	< 0.001	-0.027	Yes	NA
	DO	0.035	-0.041	Yes	Worsening
	DO Percent	0.036	-0.400	Yes	Worsening
	Temperature	0.010	-0.035	Yes	Improving
	Turbidity	0.020	-0.154	Yes	Improving
	Fecal Coliform	0.002	1.588	Yes	Worsening
	Monthly DO	0.011	-0.057	Yes	Worsening
	Monthly DO Percent	0.015	-0.543	Yes	Worsening
	Monthly Temperature	0.043	-0.033	Yes	Improving
	Monthly Turbidity	0.040	-0.191	Yes	Improving
	Monthly Fecal Coliform	0.002	4.083	Yes	Worsening
	Nitrate + Nitrite	0.016	0.002	Yes	Worsening
	Ammonia	0.105	0.006	No	NA
	Total Kjeldahl Nitrogen	0.796	0.002	No	NA
	Total Phosphorus	< 0.001	0.006	Yes	Worsening
	Orthophosphate	0.260	0.001	No	NA
Total Suspended Solids	0.554	0.067	No	NA	
10 Years	DO	0.002	-0.107	Yes	Worsening
	Temperature	0.016	-0.075	Yes	Improving
	Fecal Coliform	0.131	0.000	No	NA
	Monthly DO	0.005	-0.114	Yes	Worsening
	Monthly Temperature	0.039	-0.086	Yes	Improving
5 Years	Monthly Fecal Coliform	0.131	0.000	No	NA
	DO	0.035	-0.253	Yes	Worsening
	Temperature	0.585	-0.050	No	NA
	Fecal Coliform	0.074	4.208	No	NA
	Monthly DO	0.061	-0.233	No	NA
	Monthly Temperature	0.619	-0.050	No	NA
Monthly Fecal Coliform	0.074	4.208	No	NA	
Total Number of Significant Trends					18
Percentage of Improving Trends					33%

<b>Legend</b>	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
20 years	pH	0.032	-0.005	Yes	NA
	DO	0.039	0.035	Yes	Improving
	DO Percent	0.103	0.237	No	NA
	Temperature	0.543	-0.011	No	NA
	Turbidity	< 0.001	0.191	Yes	Worsening
	Fecal Coliform	< 0.001	1.450	Yes	Worsening
	Monthly DO	0.113	0.033	No	NA
	Monthly DO Percent	0.134	0.250	No	NA
	Monthly Temperature	0.190	-0.017	No	NA
	Monthly Turbidity	0.001	0.184	Yes	Worsening
	Monthly Fecal Coliform	0.001	2.000	Yes	Worsening
	Nitrate + Nitrite	0.195	0.000	No	NA
	Ammonia	0.002	-0.005	Yes	Improving
	Total Kjeldahl Nitrogen	0.056	-0.010	No	NA
	Total Phosphorus	< 0.001	0.005	Yes	Worsening
	Orthophosphate	< 0.001	0.004	Yes	Worsening
Total Suspended Solids	< 0.001	0.133	Yes	Worsening	
10 Years	DO	0.086	0.056	No	NA
	Temperature	0.049	-0.060	Yes	Improving
	Fecal Coliform	0.798	0.000	No	NA
	Monthly DO	0.482	0.028	No	NA
	Monthly Temperature	0.006	-0.100	Yes	Improving
Monthly Fecal Coliform	0.798	0.000	No	NA	
5 Years	DO	0.041	-0.230	Yes	Worsening
	Temperature	0.710	0.050	No	NA
	Fecal Coliform	0.004	7.708	Yes	Worsening
	Monthly DO	0.047	-0.228	Yes	Worsening
	Monthly Temperature	0.294	0.103	No	NA
Monthly Fecal Coliform	0.004	7.708	Yes	Worsening	
Total Number of Significant Trends					16
Percentage of Improving Trends					25%

<b>Legend</b>	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
20 years	pH	0.003	-0.009	Yes	NA
	DO	0.238	0.005	No	NA
	DO Percent	0.026	0.073	Yes	Improving
	Temperature	0.679	0.000	No	NA
	Turbidity	< 0.001	-0.091	Yes	Improving
	Fecal Coliform	0.031	0.000	Yes	NA
	Monthly DO	0.591	0.003	No	NA
	Monthly DO Percent	0.152	0.065	No	NA
	Monthly Temperature	0.734	0.002	No	NA
	Monthly Turbidity	< 0.001	-0.144	Yes	Improving
	Monthly Fecal Coliform	0.099	0.047	No	NA
	Nitrate + Nitrite	0.620	0.000	No	NA
	Ammonia	0.040	0.000	Yes	NA
	Total Kjeldahl Nitrogen	0.910	0.000	No	NA
	Total Phosphorus	0.697	0.000	No	NA
Orthophosphate	0.003	0.000	Yes	NA	
Total Suspended Solids	0.042	0.000	Yes	NA	
10 Years	DO	0.054	0.021	No	NA
	Temperature	0.932	0.000	No	NA
	Fecal Coliform	0.082	0.000	No	NA
	Monthly DO	0.022	0.034	Yes	Improving
	Monthly Temperature	0.122	-0.050	No	NA
Monthly Fecal Coliform	0.082	0.000	No	NA	
5 Years	DO	0.001	-0.110	Yes	Worsening
	Temperature	0.159	-0.100	No	NA
	Fecal Coliform	0.117	0.000	No	NA
	Monthly DO	0.061	-0.088	No	NA
	Monthly Temperature	0.376	-0.050	No	NA
Monthly Fecal Coliform	0.117	0.000	No	NA	
Total Number of Significant Trends				6	
Percentage of Improving Trends				67%	

<b>Legend</b>	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
20 years	pH	0.641	0.002	No	NA
	DO	< 0.001	0.019	Yes	Improving
	DO Percent	0.001	0.113	Yes	Improving
	Temperature	0.881	0.000	No	NA
	Turbidity	< 0.001	-0.137	Yes	Improving
	Fecal Coliform	0.244	0.000	No	NA
	Monthly DO	0.002	0.018	Yes	Improving
	Monthly DO Percent	0.011	0.112	Yes	Improving
	Monthly Temperature	0.797	0.000	No	NA
	Monthly Turbidity	< 0.001	-0.178	Yes	Improving
	Monthly Fecal Coliform	0.215	0.071	No	NA
	Nitrate + Nitrite	0.690	0.000	No	NA
	Ammonia	0.670	0.000	No	NA
	Total Kjeldahl Nitrogen	0.014	0.000	Yes	NA
	Total Phosphorus	0.559	0.000	No	NA
	Orthophosphate	0.010	0.000	Yes	NA
Total Suspended Solids	0.435	0.000	No	NA	
10 Years	DO	< 0.001	0.045	Yes	Improving
	Temperature	0.858	0.000	No	NA
	Fecal Coliform	< 0.001	0.250	Yes	Worsening
	Monthly DO	< 0.001	0.066	Yes	Improving
	Monthly Temperature	0.137	-0.039	No	NA
	Monthly Fecal Coliform	< 0.001	0.250	Yes	Worsening
5 Years	DO	0.020	0.060	Yes	Improving
	Temperature	0.718	-0.023	No	NA
	Fecal Coliform	0.004	0.800	Yes	Worsening
	Monthly DO	0.039	0.066	Yes	Improving
	Monthly Temperature	0.646	-0.030	No	NA
	Monthly Fecal Coliform	0.004	0.800	Yes	Worsening
Total Number of Significant Trends					15
Percentage of Improving Trends					67%

<b>Legend</b>	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
20 years	pH	0.033	0.007	Yes	NA
	DO	0.009	0.011	Yes	Improving
	DO Percent	0.059	0.055	No	NA
	Temperature	0.656	0.000	No	NA
	Turbidity	< 0.001	-0.145	Yes	Improving
	Fecal Coliform	0.855	0.000	No	NA
	Monthly DO	0.023	0.011	Yes	Improving
	Monthly DO Percent	0.164	0.055	No	NA
	Monthly Temperature	0.849	0.000	No	NA
	Monthly Turbidity	< 0.001	-0.174	Yes	Improving
	Monthly Fecal Coliform	0.347	-0.038	No	NA
	Nitrate + Nitrite	0.832	0.000	No	NA
	Ammonia	0.171	0.000	No	NA
	Total Kjeldahl Nitrogen	0.040	0.000	Yes	NA
	Total Phosphorus	0.001	0.000	Yes	NA
	Orthophosphate	0.152	0.000	No	NA
Total Suspended Solids	0.025	-0.200	Yes	Improving	
10 Years	DO	0.001	0.036	Yes	Improving
	Temperature	0.372	-0.017	No	NA
	Fecal Coliform	0.210	0.000	No	NA
	Monthly DO	0.007	0.034	Yes	Improving
	Monthly Temperature	0.097	-0.035	No	NA
	Monthly Fecal Coliform	0.210	0.000	No	NA
5 Years	DO	0.118	-0.038	No	NA
	Temperature	0.400	-0.050	No	NA
	Fecal Coliform	0.404	0.000	No	NA
	Monthly DO	0.047	-0.052	Yes	Worsening
	Monthly Temperature	0.108	-0.080	No	NA
	Monthly Fecal Coliform	0.404	0.000	No	NA
		Total Number of Significant Trends		9	
		Percentage of Improving Trends		78%	

<b>Legend</b>	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
20 years	pH	0.515	0.002	No	NA
	DO	0.002	0.012	Yes	Improving
	DO Percent	0.036	0.057	Yes	Improving
	Temperature	0.851	0.000	No	NA
	Turbidity	< 0.001	-0.139	Yes	Improving
	Fecal Coliform	0.021	0.000	Yes	NA
	Monthly DO	0.002	0.014	Yes	Improving
	Monthly DO Percent	0.047	0.067	Yes	Improving
	Monthly Temperature	0.814	0.000	No	NA
	Monthly Turbidity	< 0.001	-0.176	Yes	Improving
	Monthly Fecal Coliform	0.033	0.167	Yes	Worsening
	Nitrate + Nitrite	0.400	0.000	No	NA
	Ammonia	0.039	0.000	Yes	NA
	Total Kjeldahl Nitrogen	0.339	0.000	No	NA
	Total Phosphorus	0.532	0.000	No	NA
	Orthophosphate	0.001	0.000	Yes	NA
Total Suspended Solids	0.009	-0.218	Yes	Improving	
10 Years	DO	0.001	0.030	Yes	Improving
	Temperature	0.626	-0.010	No	NA
	Fecal Coliform	0.001	0.333	Yes	Worsening
	Monthly DO	0.002	0.038	Yes	Improving
	Monthly Temperature	0.059	-0.045	No	NA
	Monthly Fecal Coliform	0.001	0.333	Yes	Worsening
5 Years	DO	0.040	-0.057	Yes	Worsening
	Temperature	0.910	0.000	No	NA
	Fecal Coliform	0.242	0.000	No	NA
	Monthly DO	0.036	-0.052	Yes	Worsening
	Monthly Temperature	0.374	-0.025	No	NA
	Monthly Fecal Coliform	0.242	0.000	No	NA
Total Number of Significant Trends					14
Percentage of Improving Trends					64%

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