

**Table S1.** List of z-test results for 4 invertebrate metrics for different stream types; estimated mean ratios and P-value indicating a difference from mu=1; P values <= 0.05 are highlighted; S refers to severity multiplier.

Stream type	S	Taxa number		Abundance		EPT (%)		General degradation	
		mean ratio	P	mean ratio	P	mean ratio	P	mean ratio	P
Mountain_small_good	1	0.97	0.072	1.01	0.278	1.00	0.517	0.99	0.153
	2	0.97	0.043	1.04	0.001	1.00	0.285	1.00	0.939
	3	0.97	0.064	1.08	0.000	1.00	0.774	0.99	0.000
	4	0.97	0.035	1.08	0.000	1.00	0.505	0.99	0.047
	5	0.97	0.016	1.13	0.000	0.99	0.250	0.98	0.000
	6	0.98	0.012	1.13	0.000	0.99	0.590	0.98	0.000
	7	0.96	0.011	1.17	0.000	0.98	0.013	0.98	0.000
	8	0.96	0.002	1.20	0.000	0.98	0.047	0.97	0.000
	9	0.94	0.001	1.23	0.000	0.98	0.011	0.96	0.000
	10	0.89	0.000	1.26	0.000	0.97	0.016	0.95	0.000
Mountain_small_poor	1	0.88	0.001	1.02	0.106	0.98	0.337	0.99	0.752
	2	0.88	0.000	1.07	0.000	0.98	0.297	0.97	0.229
	3	0.88	0.000	1.07	0.004	0.98	0.475	0.99	0.728
	4	0.91	0.008	1.08	0.000	1.01	0.335	0.99	0.823
	5	0.90	0.000	1.12	0.000	1.01	0.756	0.98	0.607
	6	0.91	0.001	1.15	0.000	0.99	0.326	0.98	0.516
	7	0.92	0.000	1.15	0.000	0.96	0.118	0.96	0.092
	8	0.92	0.000	1.17	0.000	1.01	0.742	1.04	0.102
	9	0.89	0.000	1.19	0.000	0.99	0.375	1.00	0.925
	10	0.90	0.000	1.21	0.000	0.99	0.635	0.97	0.521
Mountain_large_good	1	0.97	0.003	1.02	0.001	1.01	0.391	0.99	0.191
	2	0.99	0.018	1.05	0.000	1.00	0.998	1.00	0.435
	3	0.99	0.138	1.05	0.000	1.00	0.742	1.00	0.445
	4	0.99	0.035	1.08	0.000	1.01	0.499	1.01	0.137
	5	0.98	0.016	1.10	0.000	1.01	0.219	1.02	0.026
	6	0.99	0.019	1.12	0.000	1.01	0.431	1.01	0.224
	7	0.98	0.030	1.14	0.000	1.02	0.041	1.02	0.037
	8	0.98	0.027	1.16	0.000	1.03	0.041	1.02	0.002
	9	0.98	0.079	1.18	0.000	1.01	0.193	1.01	0.113
	10	0.97	0.000	1.20	0.000	1.01	0.329	1.02	0.232
Mountain_large_poor	1	0.92	0.001	1.03	0.001	0.98	0.244	0.94	0.106
	2	0.94	0.003	1.02	0.073	1.00	0.810	0.96	0.139
	3	0.94	0.000	1.05	0.000	1.02	0.119	0.98	0.346
	4	0.94	0.001	1.07	0.000	1.02	0.196	1.01	0.750
	5	0.93	0.002	1.08	0.001	1.03	0.215	1.01	0.826
	6	0.96	0.000	1.10	0.000	1.04	0.009	1.09	0.003
	7	0.96	0.002	1.12	0.000	1.06	0.000	1.06	0.024
	8	0.95	0.003	1.13	0.000	1.04	0.007	1.04	0.066
	9	0.97	0.000	1.18	0.000	1.04	0.017	1.08	0.061
	10	0.95	0.000	1.18	0.000	1.03	0.137	1.06	0.059
Lowland_small_good	1	0.86	0.001	1.01	0.878	1.01	0.842	0.99	0.697
	2	0.91	0.004	1.12	0.020	0.99	0.838	0.99	0.530
	3	0.85	0.000	1.10	0.000	0.91	0.394	0.97	0.229
	4	0.86	0.001	1.15	0.000	1.03	0.472	1.02	0.309
	5	0.83	0.000	1.15	0.000	0.93	0.547	1.01	0.405
	6	0.86	0.000	1.19	0.000	0.92	0.462	1.02	0.341
	7	0.84	0.000	1.23	0.000	0.93	0.526	1.00	0.968
	8	0.86	0.001	1.28	0.000	1.05	0.154	1.00	0.823
	9	0.84	0.000	1.33	0.000	1.00	0.949	1.00	0.915
	10	0.85	0.000	1.34	0.000	1.02	0.531	0.96	0.020
Lowland_small_poor	1	0.90	0.003	1.06	0.364	1.01	0.813	1.00	0.879
	2	0.83	0.013	0.97	0.335	0.86	0.179	0.99	0.866
	3	0.93	0.035	1.07	0.008	1.01	0.648	0.93	0.143
	4	0.83	0.071	0.97	0.794	0.92	0.474	0.87	0.191
	5	0.91	0.008	1.16	0.007	0.98	0.218	0.96	0.342
	6	0.91	0.008	1.09	0.009	1.03	0.631	1.04	0.618
	7	0.89	0.009	1.17	0.000	1.03	0.546	0.97	0.647
	8	0.91	0.013	1.13	0.001	0.95	0.082	0.94	0.006
	9	0.87	0.052	1.11	0.174	1.00	0.969	1.04	0.531
	10	0.94	0.001	1.31	0.002	1.05	0.579	0.96	0.345

**Table S2.** List of z-test results for 4 fish metrics for different stream types; estimated mean ratios and P-value indicating a difference from mu=1; P values <= 0.05 are highlighted; S refers to severity multiplier.

Stream type	S	Taxa number		Individual number		FRI		EQR	
		mean ratio	P	mean ratio	P	mean ratio	P	mean ratio	P
Mountain_small_good	1	1.00	NaN	0.91	0.016	1.00	0.059	0.97	0.082
	2	1.00	NaN	0.81	0.000	1.00	0.349	0.99	0.067
	3	1.00	NaN	0.72	0.000	1.01	0.071	1.04	0.055
	4	0.94	0.139	0.61	0.000	1.00	0.254	0.97	0.284
	5	0.93	0.062	0.52	0.000	1.00	0.369	1.00	0.947
	6	0.98	0.317	0.41	0.000	1.01	0.222	1.04	0.429
	7	0.98	0.317	0.33	0.000	1.03	0.145	0.96	0.702
	8	0.94	0.139	0.27	0.000	1.04	0.058	0.92	0.377
	9	0.92	0.143	0.17	0.000	1.06	0.080	0.92	0.512
	10	0.14	0.000	0.06	0.000	0.76	0.354	0.10	0.000
Mountain_small_poor	1	0.92	0.009	1.04	0.185	1.01	0.022	0.97	0.618
	2	0.93	0.004	1.06	0.254	1.02	0.007	0.94	0.385
	3	0.89	0.000	1.11	0.041	1.03	0.001	0.83	0.001
	4	0.91	0.006	1.20	0.023	1.03	0.007	0.84	0.055
	5	0.95	0.083	1.23	0.029	1.04	0.041	0.88	0.126
	6	0.95	0.093	1.25	0.029	1.05	0.019	0.80	0.004
	7	0.96	0.059	1.26	0.038	1.05	0.029	0.79	0.009
	8	0.95	0.017	1.31	0.059	1.07	0.022	0.79	0.022
	9	0.94	0.064	1.37	0.043	1.09	0.018	0.79	0.038
	10	0.82	0.004	1.44	0.026	1.11	0.020	0.74	0.045
Mountain_large_good	1	0.95	0.035	1.04	0.302	1.00	0.767	1.04	0.161
	2	0.96	0.092	1.10	0.172	1.00	0.834	1.07	0.099
	3	0.95	0.012	1.08	0.262	1.01	0.063	1.06	0.285
	4	0.93	0.023	1.10	0.367	1.01	0.050	1.04	0.508
	5	0.94	0.010	1.18	0.195	1.01	0.072	1.02	0.609
	6	0.98	0.140	1.23	0.161	1.02	0.010	1.04	0.520
	7	0.89	0.000	1.19	0.273	1.03	0.029	0.99	0.892
	8	0.89	0.003	1.30	0.158	1.03	0.015	1.00	0.942
	9	0.91	0.008	1.30	0.205	1.05	0.025	1.05	0.526
	10	0.72	0.003	1.28	0.262	1.13	0.140	0.87	0.371
Mountain_large_poor	1	0.93	0.000	1.06	0.019	1.00	0.104	0.99	0.866
	2	0.91	0.000	1.10	0.026	1.00	0.167	1.01	0.741
	3	0.96	0.023	1.15	0.043	1.01	0.328	1.07	0.239
	4	0.92	0.000	1.25	0.005	1.01	0.097	1.00	0.968
	5	0.92	0.004	1.31	0.011	1.01	0.128	1.00	0.971
	6	0.95	0.001	1.36	0.010	1.01	0.150	1.08	0.179
	7	0.95	0.019	1.43	0.006	1.02	0.093	1.09	0.412
	8	0.94	0.025	1.48	0.009	1.03	0.127	1.17	0.305
	9	0.91	0.009	1.53	0.006	1.05	0.094	1.21	0.413
	10	0.85	0.000	1.59	0.007	1.08	0.125	1.11	0.559
Lowland_small_good	1	0.96	0.137	1.01	0.833	1.00	0.225	0.94	0.182
	2	0.85	0.000	0.92	0.213	1.01	0.152	0.90	0.001
	3	0.87	0.017	0.91	0.353	1.02	0.001	0.87	0.211
	4	0.93	0.034	0.91	0.426	1.04	0.002	0.91	0.242
	5	0.90	0.071	0.87	0.351	1.04	0.013	0.93	0.588
	6	0.85	0.001	0.88	0.451	1.07	0.003	0.87	0.201
	7	0.87	0.017	0.86	0.450	1.08	0.001	0.92	0.445
	8	0.90	0.006	0.83	0.444	1.11	0.000	0.90	0.456
	9	0.93	0.060	0.83	0.449	1.15	0.003	0.87	0.320
	10	0.73	0.000	0.78	0.404	1.25	0.002	0.67	0.080
Lowland_small_poor	1	0.93	0.058	1.06	0.007	1.00	0.930	0.99	0.764
	2	0.95	0.045	1.15	0.000	1.00	0.508	1.00	0.891
	3	0.97	0.128	1.20	0.000	1.00	0.074	1.03	0.413
	4	0.91	0.014	1.17	0.016	0.99	0.025	0.99	0.835
	5	0.98	0.317	1.28	0.001	0.99	0.025	1.01	0.624
	6	1.00	NaN	1.29	0.003	0.99	0.008	1.00	0.909
	7	0.95	0.137	1.38	0.002	0.99	0.013	1.02	0.465
	8	0.95	0.317	1.39	0.002	0.99	0.009	1.02	0.374
	9	0.93	0.163	1.47	0.001	0.99	0.011	1.03	0.479
	10	0.93	0.058	1.55	0.000	0.99	0.015	1.00	0.859