

Supplementary Table 2. Frequency that each bacterial phylum was found across each of the environmental categories.

	Aerosol	Brackish	Brackish sediment	Freshwater	Freshwater sediment	Marine	Marine sediment	Hydrothermal vent	Ice	Aquatic other	Digesters	Food-associated	Industrial/mining	Pollution associated	Built other	Plant root	Plant surface	Plant other	Agricultural soil	Desert soil	Permafrost	Other soils	Vertebrate	Arthropod	Other invertebrate	Other zoological	Other	Total	
28	939	88	69	1430	1632	5000	2184	1459	184	1052	7886	7919	2556	3939	2144	3290	929	3399	2616	614	289	9311	363435	2148	678	2085	3179	477673	
50	1921	705	210	11422	4136	53191	11209	5515	1151	4673	11076	3329	9115	18649	4293	11447	2668	3434	3765	570	698	21670	133674	6384	4209	7407	10038	413661	
3	388	31	8	2815	483	3161	2894	172	257	619	842	240	904	6226	1110	2454	567	1016	923	701	447	10720	159964	940	492	269	1692	220014	
10	116	132	39	2328	16051	21069	1943	684	365	752	4511	170	1062	4289	333	693	186	1157	343	188	110	3957	94839	1147	708	323	1596	165407	
18	7	14	6	220	299	11894	1712	295	3	153	3504	1	299	884	124	165	60	97	187	283	21	1614	314	11	331	16	291	23399	
22	20	28	1	1098	34	9100	216	325	33	237	66	38	112	75	72	22	320	44	82	342	147	1001	652	28	198	30	1126	18197	
2	9	6	19	295	264	518	648	174	12	181	504	15	506	1215	97	839	61	134	1563	106	108	7082	454	63	317	8	308	15907	
49	11	16	10	319	156	7516	1464	265	31	311	778	21	346	751	64	196	3	124	130	36	20	1165	496	95	154	81	302	15547	
57	4	7	3	44	77	5803	246	42	1	55	403	3	111	129	18	2	0	3	1	8	0	85	1508	1183	30	10	85	11828	
29	1	0	1	3	7	18	36	17	0	10	24	3	11	2	20	0	0	0	0	0	0	12	8494	3	1	440	15	9460	
64	5	7	1	328	78	3337	107	99	17	93	95	0	117	397	35	200	2	88	66	37	28	735	2207	65	82	71	100	8613	
60	0	1	1	22	16	31	12	8	1	0	257	14	34	57	6	2	68	56	2	0	0	21	2373	94	57	58	17	5746	
41	0	7	3	47	42	2237	163	13	0	14	233	0	21	38	6	0	0	11	1	4	0	32	631	11	39	12	8	3611	
44	10	5	4	262	110	77	291	96	0	237	121	23	275	183	58	98	0	13	55	10	7	671	61	4	43	2	108	3009	
31	1	2	8	42	44	245	176	20	2	15	29	2	102	695	21	123	0	28	178	71	12	738	149	3	30	0	71	2913	
53	4	3	0	23	7	18	4	4	6	22	80	3	43	374	6	29	13	15	11	8	3	183	1609	22	5	8	24	2577	
27	0	1	0	18	12	1429	30	2	0	8	42	2	12	3	8	2	1	0	3	3	1	0	19	199	721	12	0	7	2542
9	0	0	0	0	28	78	2222	21	0	0	85	0	31	16	2	0	0	1	0	2	0	13	2	0	0	0	3	2519	
24	14	1	1	61	13	216	16	227	4	30	34	5	162	86	30	8	5	13	11	33	1	198	519	3	2	2	89	2153	
58	1	0	0	6	13	16	4	10	0	1	895	2	95	44	5	0	0	10	1	0	0	18	560	59	0	1	10	1827	
5	0	0	0	9	45	1193	337	22	0	3	30	0	9	17	12	1	0	0	3	1	0	38	0	0	7	0	1	1734	
23	0	0	1	20	11	1058	74	31	0	8	28	0	39	20	1	0	0	1	0	1	0	21	185	5	1	0	1	1549	
17	7	21	1	186	64	285	75	88	1	36	155	0	85	73	38	14	1	11	13	1	19	84	28	16	12	0	49	1443	
8	3	2	0	36	27	424	72	38	2	17	107	4	41	74	5	23	9	30	20	9	7	227	179	2	1	1	23	1422	
42	0	1	0	1	1	1149	42	23	0	7	23	0	4	8	0	2	0	0	0	0	0	20	0	0	0	0	23	1315	
47	0	5	0	118	44	328	207	83	1	31	151	0	48	70	16	11	0	9	14	0	1	77	50	0	3	0	22	1300	
37	0	0	0	1	2	1181	47	1	0	2	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1236	
33	4	2	1	34	28	744	52	96	0	18	15	0	11	11	4	1	0	4	0	0	0	21	57	9	5	4	11	1146	
38	0	2	2	16	40	614	137	19	0	5	7	0	23	11	2	9	0	3	7	2	0	71	2	0	0	0	14	998	
35	1	0	0	13	10	640	70	15	0	12	62	0	10	35	2	4	0	1	17	2	0	18	4	1	3	0	21	955	
7	0	0	0	46	0	2	1	650	0	3	0	0	1	0	0	0	0	0	0	0	0	3	2	0	0	1	71	913	
62	0	0	0	7	8	39	9	89	0	2	368	0	106	30	2	2	0	7	1	1	0	22	0	0	0	0	9	806	
63	1	1	0	27	19	327	114	7	1	19	36	2	29	34	2	13	0	19	2	0	1	76	19	0	3	9	27	802	
43	1	1	0	38	49	172	83	23	0	32	64	0	33	104	13	9	0	8	13	1	1	77	20	0	1	1	14	779	
16	0	0	0	40	6	9	6	0	0	16	1	0	1	1	2	0	0	0	0	0	0	17	159	1	0	2	8	723	
46	1	1	0	42	9	402	85	9	0	13	25	0	16	4	1	1	0	3	0	0	1	6	6	0	3	0	3	633	
13	0	0	0	40	31	234	130	9	0	18	15	0	18	16	2	5	0	1	4	0	0	31	3	0	0	0	9	575	
59	0	0	1	14	15	206	152	24	0	8	114	0	6	11	2	0	0	0	1	0	0	14	0	0	1	0	0	574	
26	0	1	0	28	6	9	15	18	0	13	9	0	18	25	2	7	0	4	9	1	1	58	47	179	0	0	5	462	
21	0	0	0	9	12	6	3	1	0	2	356	2	16	15	1	0	0	0	0	0	0	4	2	7	1	0	1	445	
1	0	2	0	56	7	24	148	18	0	4	3	0	4	3	1	0	0	0	0	5	0	4	0	0	0	0	8	299	
4	0	0	0	20	0	4	234	2	0	1	0	2	1	1	0	0	0	0	0	0	0	5	0	0	0	0	2	277	
11	0	0	0	2	0	142	8	9	0	1	57	0	4	14	1	0	0	3	0	0	0	3	0	0	0	0	5	253	
34	0	0	0	3	6	203	14	6	0	0	6	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	242	
15	0	1	0	4	11	94	44	6	0	8	13	1	30	10	0	0	0	1	1	0	0	5	5	0	0	0	5	240	
14	0	0	0	8	4	124	1	12	0	8	8	0	6	2	0	0	0	0	1	0	0	3	17	2	1	0	0	197	
55	3	0	0	5	4	17	8	1	0	0	13	1	9	4	0	1	0	0	1	0	0	18	83	1	2	1	2	175	
48	0	0	0	2	0	45	10	3	0	0	1	0	2	0	0	0	0	0	0	1	0	2	7	0	42	0	2	170	
66	0	0	0	2	2	0	0	0	1	5	1	0	3	7	0	4	0	0	0	3	0	108	1	0	0	0	1	140	
61	0	0	0	8	0	0	1	85	0	0	0	0	4	1	0	0	0	0	0	0	0	1	0	0	0	0	0	118	
56	0	0	0	9	0	62	6	1	0	0	3	0	0	0	0	15	0	0	1	0	0	3	5	0	0	0	1	107	
65	0	0	0	3	2	1	1	0	0	0	6	0	2	16	1	2	0	1	4	0	0	22	5	0	0	0	2	70	
36	0	0	0	4	3	12	10	0	0	0	0	0	0	4	0	0	0	0	1	0	0	9	0	0	1	0	1	45	
20	0	0	0	0	0	0	1	0	0	0	1	0	0	2	0	0	0	0	0	0	0	1	17	1	0	13	0	42	
39	0	0	0	1	2	5	13	1	0	1	0	0	1	0	0	0	0	0	0	0	0	7	0	0	0	0	0	32	
32	0	0	0	7	3	1	2	1	0	1	2	0	2	1	0	2	0	1	0	0	0	6	0	0	0	0	1	31	
25	0	0	0	1	0	1	0	11	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	
30	0	0	0	2	0	0	0	9	0	0	0	0	4	0	0	0	0	0	0	0	0	2	0	0	0	0	0	17	
54	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	
19	0	0	0	0	0	0	3	0	0	0	1	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	13	
40	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	9	
45	0	0	0	0	0	0	1	0	0	1	1	0	2	1	0	0	0												