

Table S5

Genus	Indian WWTP Downstream 1	Indian WWTP Downstream 2	Indian WWTP Downstream 3	Indian WWTP Discharge site	Indian WWTP Upstream 1	Indian WWTP Upstream 2	Swedish WWTP Downstream	Swedish WWTP Upstream
Abiotrophia	0	0	0	15	0	0	0	0
Acaryochloris	26	18	11	22	45	10	0	32
Acholeplasma	22	0	0	38	0	0	0	0
Acidiphilium	18	13	20	30	18	25	0	17
Acidithiobacillus	51	22	19	84	67	88	15	37
Acidobacterium	24	14	0	37	71	48	10	58
Acidothermus	0	0	0	0	0	0	0	12
Acidovorax	110	61	67	254	190	144	95	168
Aciduliprofundum	12	12	0	0	0	0	0	33
Acinetobacter	699	205	248	405	189	202	61	59
Actinobacillus	522	239	225	144	0	0	0	0
Actinosynnema	0	0	0	0	15	0	0	0
Aeromonas	78	48	24	219	115	522	17	25
Agrobacterium	18	15	19	46	44	37	21	60
Akkermansia	14	0	15	21	11	30	10	99
Alcanivorax	14	11	0	24	0	20	0	36
Algoriphagus	157	89	142	167	214	56	39	185
Alicyclobacillus	18	24	10	22	12	0	0	21
Aliivibrio	228	139	98	123	18	19	0	0
Alistipes	106	46	69	142	70	109	16	32
Alkalilimnicola	0	0	0	27	19	0	0	22
Alkaliphilus	63	43	33	106	65	39	15	37
Allochromatium	55	31	26	103	100	55	17	48
Alteromonas	0	0	0	14	15	0	0	0
Anabaena	25	13	14	19	34	14	0	34
Anaerocellum	12	14	12	21	13	0	0	19
Anaerofustis	0	0	0	0	0	0	0	0
Anaeromyxobacter	61	32	25	64	176	51	42	131
Anaerotruncus	18	0	0	14	14	0	0	0
Anoxybacillus	0	0	0	0	14	0	0	0
Aquifex	0	0	0	0	0	0	0	14
Arcanobacterium	0	0	0	35	0	0	0	0
Archaeoglobus	0	0	0	13	0	10	0	27
Arcobacter	294	32	115	427	343	68	0	45
Aromatoleum	36	26	18	66	42	46	24	89
Arthrobacter	0	14	0	21	31	10	10	21
Arthrospira	28	21	0	21	26	10	0	15
Asticcacaulis	15	0	0	17	0	14	0	20
Aurantimonas	0	0	0	11	0	0	0	14
Azoarcus	38	23	15	67	44	47	20	75
Azorhizobium	0	0	0	12	12	12	0	14
Azotobacter	19	0	0	24	17	13	0	26
Bacillus	208	107	77	291	205	240	38	120
Bacteroides	1022	490	666	1236	770	1024	169	391
Bartonella	1232	436	403	227	99	255	0	0
Bdellovibrio	38	30	16	31	41	0	16	44
Beggiatoa	34	27	20	33	42	26	16	51
Beijerinckia	0	0	0	12	17	11	0	10

Bermanella	0	0	0	0	0	0	0	13
Beutenbergia	0	0	0	14	0	0	0	14
Bifidobacterium	26	17	13	34	10	22	0	12
Blastopirellula	52	50	20	101	149	41	50	171
Blautia	0	0	0	17	0	0	0	0
Bordetella	94	49	25	172	53	39	21	76
Brachyspira	14	0	14	21	10	0	0	11
Bradyrhizobium	43	19	15	45	77	53	35	178
Brevibacillus	15	14	12	31	25	18	0	25
Brevundimonas	10	0	0	11	0	19	0	13
Brucella	14	0	0	18	0	0	0	26
Burkholderia	1263	461	637	1585	360	255	133	339
Caldicellulosiruptor	19	12	12	19	0	0	0	0
Caminibacter	0	0	0	11	0	0	0	0
Campylobacter	183	33	49	170	74	55	0	28
Candidatus Amoebophilus	12	0	0	14	15	0	0	15
Candidatus Azobacteroides	20	12	20	16	16	12	0	0
Candidatus Chloracidobacterium	0	0	0	0	19	0	0	0
Candidatus Cloacamonas	69	49	54	70	26	22	0	26
Candidatus Desulforudis	13	11	0	26	21	12	0	34
Candidatus Hamiltonella	0	0	0	26	0	10	0	0
Candidatus Korarchaeum	0	0	0	10	0	0	0	17
Candidatus Koribacter	82	34	31	82	255	316	49	153
Candidatus Kuenenia	45	39	27	70	74	27	35	114
Candidatus Methanoregula	17	24	0	23	16	31	0	38
Candidatus Pelagibacter	0	0	0	0	0	0	0	10
Candidatus Phytoplasma	0	0	0	23	0	0	0	0
Candidatus Protochlamydia	0	20	0	41	0	14	0	11
Candidatus Solibacter	255	105	75	217	706	187	100	475
Capnocytophaga	41	27	36	61	33	27	14	33
Carboxydibrachium	18	0	0	10	16	0	0	0
Carboxydotherrmus	30	16	14	40	30	19	0	31
Catenulispora	0	0	0	0	14	0	0	12
Caulobacter	30	18	0	30	24	62	19	56
Cellulomonas	0	0	0	0	11	0	0	0
Cellvibrio	24	0	14	21	21	31	11	34
Cenarchaeum	0	0	0	0	19	0	0	0
Chelativorans	0	0	0	20	0	0	0	0
Chitinophaga	609	186	192	300	847	94	184	593
Chlamydia	14	19	0	87	0	0	0	0
Chlamydophila	22	30	13	57	10	20	58	17
Chlorobaculum	26	11	11	22	22	15	0	26
Chlorobium	104	51	55	131	85	76	29	115
Chloroflexus	126	145	73	183	179	34	41	99
Chloroherpeton	51	28	38	78	54	26	28	82
Chromobacterium	17	0	0	17	0	0	10	31
Chryseobacterium	97	34	43	159	104	72	38	67
Chthoniobacter	95	49	50	106	200	95	66	342
Citrobacter	933	315	411	362	52	62	0	0
Clostridium	378	280	299	524	302	209	64	236
Collinsella	0	0	0	14	13	0	0	0
Colwellia	10	0	0	16	14	0	0	17

Comamonas	369	164	168	271	207	160	63	67
Congregibacter	15	0	0	14	11	0	0	22
Coprococcus	13	0	0	11	0	0	0	0
Coprothermobacter	0	0	0	10	0	0	0	0
Corynebacterium	11	13	0	18	0	16	0	13
Coxiella	0	0	0	11	0	10	0	18
Croceibacter	41	19	34	41	24	0	0	22
Crocospaera	12	0	0	0	16	0	0	11
Cupriavidus	280	86	101	892	259	263	68	187
Cyanothece	96	49	49	135	174	73	30	102
Cytophaga	160	51	60	114	161	34	62	193
Dechloromonas	149	62	47	158	113	235	125	232
Dehalococcoides	49	36	33	58	36	17	17	230
Deinococcus	0	22	10	27	39	17	10	31
Delftia	32	12	12	54	20	11	16	41
Denitrovibrio	26	16	13	27	20	0	0	10
Desulfatibacillum	69	60	48	86	73	70	26	119
Desulfitobacterium	36	24	29	44	44	32	0	48
Desulfobacterium	63	50	49	91	47	48	21	72
Desulfococcus	66	46	49	99	44	59	20	100
Desulfogalobium	0	0	13	16	18	18	0	19
Desulfonatronospira	23	17	23	30	21	24	11	43
Desulfotalea	40	17	26	54	22	53	29	42
Desulfotomaculum	41	36	32	77	47	24	19	62
Desulfovibrio	137	84	78	206	130	168	28	127
Desulfuromonas	102	36	51	113	55	43	15	37
Dethiobacter	29	23	13	40	27	18	0	39
Dethiosulfovibrio	40	17	16	50	18	68	0	0
Diaphorobacter	22	21	0	55	13	27	16	22
Dickeya	24	0	0	22	11	12	0	12
Dictyoglomus	33	26	21	43	30	17	0	33
Dinoroseobacter	0	0	0	0	0	0	0	21
Dokdonia	33	14	20	45	21	15	12	25
Dyadobacter	240	81	129	166	294	71	89	247
Elusimicrobium	10	10	13	0	12	10	0	17
Endoriftia	0	0	0	11	11	0	0	0
Enterobacter	27	12	15	32	16	52	0	0
Enterococcus	0	0	0	10	0	0	0	0
Erwinia	0	0	0	13	14	15	0	13
Erythrobacter	42	29	16	55	42	31	14	61
Escherichia	819	391	327	565	258	280	28	315
Eubacterium	26	18	25	33	19	20	0	11
Exiguobacterium	0	0	0	0	10	0	0	0
Faecalibacterium	0	0	0	10	0	0	0	0
Fervidobacterium	0	0	0	11	0	0	0	0
Fibrobacter	10	0	14	23	18	20	0	19
Flavobacterium	202	86	105	281	225	70	359	388
Francisella	14	0	0	20	0	0	0	12
Frankia	15	0	0	19	41	10	0	50
Fusobacterium	32	16	16	39	20	17	0	18
Gallibacterium	48	43	15	38	0	0	0	0
Gallionella	54	26	23	61	28	26	42	111

Gemmata	72	34	22	75	163	57	29	160
Gemmatimonas	52	18	11	37	125	0	21	108
Geobacillus	62	60	40	88	63	31	12	69
Geobacter	988	359	284	892	526	652	210	694
Geodermatophilus	11	0	0	0	19	0	0	13
Gloeobacter	23	0	0	23	49	13	0	41
Gluconacetobacter	0	0	0	13	0	11	0	14
Gluconobacter	0	0	0	0	0	11	0	0
Gramella	70	55	94	119	54	19	21	56
Haemophilus	118	47	60	31	15	12	0	0
Hafnia	0	0	0	0	0	0	0	0
Hahella	14	10	0	26	18	14	0	38
Haliangium	28	13	17	39	68	14	14	70
Haloarcula	0	0	0	0	0	0	0	0
Halomonas	0	0	0	11	0	0	0	0
Halorhodospira	0	0	0	10	0	0	0	0
Halothermothrix	17	26	21	26	30	13	10	32
Halothiobacillus	16	0	0	20	15	12	0	14
Helicobacter	65	14	16	88	17	17	0	19
Heliobacterium	14	12	18	35	26	10	0	33
Herminiimonas	20	0	0	17	10	0	23	36
Herpetosiphon	94	93	64	138	171	34	38	89
Hirschia	0	0	0	0	0	0	0	23
Histophilus	0	0	0	14	11	0	0	0
Hoeflea	0	0	0	0	0	12	0	12
Holdemania	21	11	20	37	11	10	0	0
Hydrogenivirga	21	0	12	28	24	0	0	19
Hyphomicrobium	0	10	0	11	21	10	15	40
Hyphomonas	0	0	0	15	0	0	0	29
Idiomarina	0	13	0	30	12	0	0	10
Janibacter	0	0	0	12	0	0	0	0
Jannaschia	0	0	0	0	0	0	0	10
Janthinobacterium	20	0	0	28	18	18	31	46
Klebsiella	27	0	11	29	38	34	0	0
Kordia	86	35	41	94	46	28	18	70
Kosmotoga	16	30	17	35	16	0	0	19
Kribbella	0	0	0	17	13	0	0	0
Labrenzia	13	0	0	18	29	17	14	39
Lactobacillus	26	17	17	44	29	21	0	21
Lactococcus	14	0	0	17	0	0	0	0
Laribacter	18	0	10	19	22	20	12	0
Lawsonia	0	0	0	0	0	0	0	10
Leeuwenhoekiella	55	48	32	86	57	23	16	42
Legionella	27	16	12	32	25	31	0	45
Lentisphaera	31	17	17	37	24	18	0	40
Leptospira	38	20	32	43	38	25	16	44
Leptospirillum	25	24	23	47	52	24	31	67
Leptothrix	27	10	14	34	36	15	32	191
Limnobacter	0	0	0	19	13	0	13	19
Listeria	18	0	0	0	11	0	0	0
Loktanella	0	0	0	0	0	0	0	12
Lutiella	19	12	0	23	25	16	17	42

Lyngbya	39	18	11	32	48	13	12	23
Magnetococcus	29	17	0	22	15	20	0	21
Magnetospirillum	66	25	22	99	54	62	21	73
Mannheimia	16	0	0	0	0	0	0	0
Maricaulis	0	0	0	0	0	0	0	11
Marinobacter	35	30	26	63	49	26	24	43
Marinomonas	16	0	0	20	19	14	15	25
Mariprofundus	13	14	0	29	18	0	0	27
Meiothermus	32	24	19	48	60	14	15	38
Mesorhizobium	42	39	0	68	56	38	25	89
Methanocaldococcus	0	0	0	13	0	0	0	17
Methanococcoides	41	21	13	31	0	0	0	25
Methanococcus	17	12	0	16	0	0	0	27
Methanoculleus	20	18	0	27	0	22	0	21
Methanohalophilus	0	0	0	0	0	0	0	0
Methanopyrus	0	0	0	0	0	0	0	15
Methanosaeta	45	76	30	84	17	100	0	31
Methanosarcina	75	82	40	95	52	52	24	91
Methanosphaerula	18	15	10	23	18	28	0	30
Methanospirillum	44	42	13	46	17	80	0	20
Methanothermobacter	16	14	0	33	0	0	0	20
Methylacidiphilum	0	0	0	0	0	0	0	19
Methylibium	20	0	12	30	24	13	23	191
Methylobacillus	79	25	24	83	10	13	14	27
Methylobacterium	51	30	26	74	126	78	50	85
Methylocella	10	0	0	0	0	10	0	12
Methylococcus	22	14	13	45	28	52	27	115
Methylophaga	444	123	121	380	90	128	30	39
Methylophilus	0	0	0	10	0	0	0	0
Methylothermus	655	133	212	415	26	53	81	107
Methylovorus	158	45	38	130	21	18	31	52
Micrococcus	51	26	22	114	71	62	0	0
Microcoleus	40	24	18	40	62	12	12	47
Microcystis	34	22	15	41	35	16	16	46
Micromonospora	14	0	0	11	19	0	0	0
Microscilla	219	83	114	208	214	66	77	246
Mitsuokella	0	0	0	10	0	0	0	0
Moorella	28	23	20	48	36	10	0	56
Moraxella	29	0	16	16	10	0	0	0
Mycobacterium	34	30	16	53	70	45	21	71
Myxococcus	46	20	18	48	83	24	17	67
Natranaerobius	19	12	19	24	0	0	0	11
Natrialba	0	0	0	11	0	0	0	0
Nautilia	58	0	18	52	18	11	0	16
Neisseria	400	132	165	247	120	198	26	42
Neptuniibacter	0	0	0	16	0	13	0	13
Nitratiruptor	65	0	12	50	16	12	0	30
Nitrobacter	21	14	0	29	38	28	15	44
Nitrococcus	13	0	0	19	20	17	13	41
Nitrosococcus	23	24	0	37	38	14	23	45
Nitrosomonas	295	177	156	451	182	190	124	208
Nitrosopumilus	0	11	0	29	45	0	0	23

Nitrospira	30	33	0	33	58	25	29	84
Nitrospira	0	0	0	0	12	0	14	41
Nocardioides	11	0	0	17	25	0	0	15
Nodularia	16	0	0	22	14	0	0	10
Nostoc	53	19	23	65	101	23	27	53
Novosphingobium	36	17	14	36	30	39	17	69
Oceanibulbus	0	0	0	0	0	0	0	11
Oceanicola	12	0	0	16	10	14	0	36
Oceanobacillus	0	0	0	10	0	0	0	0
Ochrobactrum	23	12	0	45	15	15	0	27
Octadecabacter	0	0	0	19	13	13	0	30
Oligotropha	0	0	0	16	14	11	0	16
Opitutus	76	41	38	90	146	58	39	169
Oxalobacter	19	0	0	16	0	11	0	0
Paenibacillus	52	32	33	86	55	27	0	60
Parabacteroides	264	115	156	319	171	276	49	109
Paracoccus	75	29	30	95	55	74	19	31
Parvibaculum	17	16	0	40	29	29	0	50
Pasteurella	302	115	125	99	15	36	0	0
Pectobacterium	81	28	40	72	42	49	0	21
Pedobacter	293	133	168	278	340	118	129	305
Pelobacter	301	116	166	244	101	128	41	179
Pelodictyon	33	18	17	30	12	27	10	30
Pelotomaculum	18	23	0	30	36	18	0	52
Persephonella	19	0	0	24	11	0	0	25
Petrotoga	12	12	11	23	10	0	0	13
Phenylobacterium	20	15	0	18	29	130	0	33
Photobacterium	319	111	131	52	17	0	0	11
Photorhabdus	114	27	42	34	19	17	0	10
Planctomyces	101	84	61	166	151	82	83	292
Planococcus	37	0	0	30	0	10	0	0
Plesiocystis	20	15	0	25	31	14	0	50
Plesiomonas	0	0	0	0	0	13	0	0
Polaribacter	79	40	49	57	54	18	28	61
Polaromonas	97	40	35	170	147	93	130	247
Polynucleobacter	15	0	0	22	16	10	0	12
Porphyromonas	75	53	48	102	63	56	15	26
Prevotella	47	49	36	58	36	71	11	11
Prochlorococcus	0	0	0	0	0	0	0	11
Propionibacterium	12	0	0	19	0	0	0	0
Prosthecochloris	18	0	0	21	19	0	0	17
Proteus	82	21	39	24	18	11	0	0
Providencia	395	121	210	125	75	20	0	10
Pseudoalteromonas	165	61	108	68	24	16	0	40
Pseudomonas	833	365	442	869	545	677	243	342
Pseudovibrio	25	0	0	13	19	0	0	18
Psychrobacter	46	17	22	29	16	0	0	14
Psychroflexus	59	35	39	79	34	25	21	38
Psychromonas	15	0	0	17	0	0	0	17
Pyrobaculum	0	0	0	0	0	0	0	13
Pyrococcus	0	0	0	12	13	0	0	29
Ralstonia	178	78	93	478	142	85	42	101

Reinekea	11	0	0	43	0	0	0	14
Rhizobium	92	38	43	96	101	61	25	122
Rhodobacter	22	13	21	52	15	46	31	121
Rhodococcus	0	12	0	18	28	13	19	34
Rhodoferrax	34	15	28	77	58	27	89	261
Rhodopirellula	28	39	31	54	84	31	32	138
Rhodopseudomonas	33	21	14	46	62	44	33	112
Rhodospirillum	25	18	0	39	48	46	11	47
Rhodothermus	63	38	38	82	91	36	32	72
Rickettsia	10	0	0	0	0	0	0	0
Robiginitalea	54	25	33	60	48	18	16	31
Roseburia	28	30	14	33	15	0	0	0
Roseiflexus	163	151	92	221	277	62	31	146
Roseobacter	23	17	13	42	27	28	20	50
Roseovarius	16	0	0	23	17	16	13	52
Rubrobacter	26	0	0	21	83	10	0	32
Ruegeria	0	0	0	14	0	15	0	24
Ruminococcus	22	19	13	38	20	20	0	11
Saccharophagus	15	0	13	26	15	15	0	23
Saccharopolyspora	0	0	0	0	10	0	0	13
Sagittula	0	0	0	0	10	0	0	13
Salinibacter	18	13	0	38	23	0	0	13
Salinispora	0	0	0	0	18	0	0	0
Salmonella	286	122	111	171	153	75	10	0
Sebaldella	13	0	10	13	0	0	0	0
Selenomonas	26	22	0	53	15	17	0	0
Serratia	12	0	0	13	11	0	0	0
Shewanella	109	52	45	204	94	309	23	99
Shigella	47	14	16	28	14	15	0	0
Sideroxydans	35	21	14	44	32	21	72	143
Sinorhizobium	20	16	12	37	44	43	0	42
Sorangium	60	26	17	61	124	36	26	116
Sphaerobacter	58	69	41	98	142	21	25	77
Sphingobacterium	164	66	84	177	118	55	52	118
Sphingobium	18	0	10	30	12	23	0	0
Sphingomonas	82	43	22	73	111	90	16	74
Sphingopyxis	39	14	12	28	25	34	11	39
Spirosoma	234	85	121	192	301	76	103	267
Stackebrandtia	0	0	0	11	11	0	0	0
Staphylococcus	47	22	0	40	15	12	0	0
Stenotrophomonas	44	108	14	53	18	45	61	82
Stigmatella	46	23	14	46	73	26	14	78
Streptococcus	38	28	24	52	35	21	0	17
Streptomyces	52	26	22	61	91	37	16	72
Streptosporangium	0	12	0	21	30	10	0	25
Subdoligranulum	17	0	0	10	0	0	0	0
Sulfitobacter	14	0	19	32	13	40	0	16
Sulfolobus	0	0	0	0	12	0	0	13
Sulfurihydrogenibium	22	17	11	19	19	13	10	15
Sulfurimonas	296	32	60	256	35	36	11	150
Sulfurospirillum	120	18	22	112	106	48	0	24
Sulfurovum	94	12	30	84	15	30	0	35

Symbiobacterium	19	14	21	44	34	0	0	20
Synechococcus	55	40	32	63	81	52	14	71
Synechocystis	14	0	0	17	17	0	0	13
Syntrophobacter	76	72	48	104	101	67	46	152
Syntrophomonas	16	17	10	25	20	14	0	27
Syntrophus	121	107	100	191	69	144	38	176
Teredinibacter	0	0	12	17	0	12	0	20
Thauera	60	30	22	108	58	89	26	74
Thermanaerovibrio	28	17	13	50	0	71	0	0
Thermoanaerobacter	42	36	32	58	52	22	10	55
Thermoanaerobacterium	22	14	10	23	17	12	0	15
Therobaculum	55	46	42	86	78	29	10	66
Thermococcus	17	30	21	36	21	11	0	70
Thermodesulfovibrio	10	22	0	35	31	16	19	88
Thermofilum	0	0	0	0	0	0	0	15
Thermomicrobium	24	40	23	68	62	15	0	31
Thermomonospora	0	0	0	10	10	0	0	15
Thermoplasma	0	0	0	0	0	0	0	11
Thermosinus	24	22	20	32	41	36	0	47
Thermosipho	0	0	11	24	0	0	0	0
Thermotoga	30	19	20	47	16	16	0	41
Thermus	15	12	0	21	26	10	0	14
Thioalkalivibrio	17	25	11	52	28	28	22	74
Thiobacillus	331	155	165	212	61	58	31	67
Thiomicrospira	11	0	0	14	0	0	0	0
Tolomonas	14	0	0	19	14	47	0	10
Treponema	32	17	16	30	17	13	0	24
Trichodesmium	0	0	0	13	20	0	0	11
Variovorax	33	14	0	52	43	19	32	123
Verminephrobacter	29	12	14	53	37	41	18	55
Verrucomicrobium	89	37	57	128	95	91	56	375
Vibrio	439	184	191	230	91	107	31	54
Victivallis	20	25	24	29	19	25	0	28
Wolinella	47	0	10	23	0	11	0	25
Xanthobacter	10	0	0	16	20	15	0	26
Xanthomonas	75	48	40	152	105	169	58	95
Xylella	54	26	36	64	70	49	23	21
Yersinia	169	86	85	116	55	42	12	25
Zymomonas	50	21	19	80	33	37	0	0