

**Table S1.** Pathogenic bacteria in groundwater sampling locations in the Kelani river basin (Dry season).

	Well Water	TC (CFU/100mL)	FC (CFU/100mL)	Pseudomonas.spp.	Other	Salmonella spp.	Campylobacter spp.	Shigella spp.	Pathogenic bacteria
1	Wana male	21	0	200<	0	Negative	Negative	Negative	
2	Norwood	0	0	4	0	Negative	Negative	Negative	
3	Lakham	200<	17	200<	7	Negative	Negative	Negative	
4	Koththellena 1	200<	8	200<	0	Negative	Negative	Negative	
5	Kalaweldeniya	200<	6	200<	0	Negative	Negative	Negative	
6	Bokarabevila	23	10	200<	0	Negative	Negative	Negative	
7	Malalpola	25	3	200<	3	Negative	Negative	Negative	
8	Pitagaldeniya	200<	0	0	0	Negative	Negative	Negative	
9	Deraniyagala	200<	0	0	0	Negative	Negative	Negative	
10	Waga	200<	4	200<	0	Negative	Negative	Negative	
11	Tientsin	200<	1	200<	0	Negative	Negative	Negative	
12	Samimale	200<	11	0	0	Negative	Negative	Negative	
13	Maskeliya	200<	200<	80	0	Negative	Negative	Negative	
14	Dicoya	200<	0	0	0	Negative	Negative	Negative	
15	Norton-Castlereigh	200<	200<	0	0	Negative	Negative	Negative	
16	Norton junction	10	4	200<	50	Negative	Negative	Negative	
17	Athis	200<	15	200<	0	Negative	Negative	Negative	
18	Koththellena 2	200<	200<	0	0	Negative	Negative	Negative	
19	Ginigathenna	200<	200<	200<	0	Negative	Positive	Negative	Campylobacter spp.
20	Badupola	200<	7	200<	0	Negative	Negative	Negative	
21	Kalugala	200<	200<	0	0	Negative	Negative	Negative	
22	Gonagamuwa	200<	7	200<	0	Negative	Negative	Negative	
23	Bulathkohupitiya	200<	27	0	0	Positive	Negative	Negative	Salmonella enterica serovar Weltevreden
24	Thoranakada	200<	0	0	0	Negative	Negative	Negative	
25	Thaligama	200<	200<	0	0	Negative	Negative	Negative	
26	Kotiyakumbura	200<	30	0	0	Negative	Negative	Negative	
27	Warawala	200<	16	0	0	Negative	Negative	Negative	
28	Kabulumulla	200<	4	2	0	Negative	Negative	Negative	
29	Kahanavita	200<	200<	200<	0	Positive	Negative	Negative	Salmonella enterica serovar Kentucky
30	Kudagama	200<	0	0	0	Negative	Negative	Negative	
31	Kananpella	200<	200<	200<	200<	Positive	Negative	Negative	Salmonella enterica serovar Vancouver
32	Akarawita	200<	50	200<	0	Negative	Negative	Negative	
33	Kahatapitiya	50	1	50	0	Negative	Negative	Negative	
34	Kaluaggala	200<	0	200<	200<	Negative	Negative	Negative	
35	Kelani waththa	200<	30	200<	0	Negative	Negative	Negative	
36	Levent	25	5	200<	10	Positive	Negative	Negative	Salmonella enterica serovar Angoda
37	Siyabalawa	200<	200<	0	0	Negative	Negative	Negative	

**Table S2** Pathogenic bacteria in groundwater sampling locations in the Kelani river basin (Dry season).

Well Water	TC (CFU/100mL)	FC (CFU/100mL)	Pseudomonas.spp.	Other	Salmonella spp.	Campylobacter spp.	Shigella spp.	Pathogenic bacteria
38 Karawanaella	200<	200<	30	0	Positive	Negative	Negative	<i>Salmonella enterica</i> subsp <i>indica</i> str 6,14,25:a: enx/ <i>Salmonella enterica</i> subsp. <i>diarizonae</i> Ser.61
39 Nawagammane	200<	200<	0	0	Negative	Negative	Negative	
40 Batangala	200<	2	200<	0	Negative	Negative	Negative	
41 Getaheththa	70	6	200<	0	Negative	Negative	Negative	
42 Puwakpitiya	200<	200<	200<	0	Negative	Negative	Negative	
43 Hingurala	200<	3	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Poona
44 Kosgama	200<	19	50	0	Negative	Negative	Negative	
45 Vihara kumbura	200<	16	10	200<	Positive	Negative	Negative	
46 Kiridiwela-Delgoda	200<	200<	20	0	Negative	Negative	Negative	<i>Salmonella enterica</i> serovar Waycross
47 Pinnawala	200<	1	5	0	Negative	Negative	Negative	
48 lunugama	200<	2	3	0	Negative	Negative	Negative	
49 Pollaththawela	200<	1	200<	1	Negative	Negative	Negative	
50 Ranala	200<	11	20	0	Negative	Negative	Negative	
51 Pahala bomariya	200<	200<	0	0	Negative	Negative	Negative	
52 Biyagama	200<	8	200<	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Weltevreden
53 Bollagala	200<	15	0	0	Negative	Negative	Negative	
54 Kohila waththa	200<	4	200<	0	Negative	Negative	Negative	
55 Kelaniya	200<	2	200<	0	Negative	Positive	Negative	<i>Campylobacter</i> spp.
56 Pilapitiya	200<	19	0	0	Negative	Negative	Negative	
57 Paliyagoda	200<	21	0	0	Negative	Negative	Negative	
58 Aliwaththa	200<	200<	0	0	Negative	Negative	Negative	
59 Palugama	200<	0	0	0	Negative	Negative	Negative	
60 Moragahahena	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Kentucky
61 Dekatana	200<	20	0	0	Negative	Negative	Negative	
62 Godagama	200<	0	5	0	Negative	Negative	Negative	
63 Udupila	200<	22	30	0	Negative	Negative	Negative	
64 Hokandara	200<	200<	0	0	Negative	Negative	Negative	
65 Arangala	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Mbandaka
66 Mawaramandiya	5	0	200<	30	Negative	Negative	Negative	
67 Thalangama	0	0	200<	2	Negative	Negative	Negative	
68 Ederamulla	200<	33	5	0	Negative	Negative	Negative	
69 IDH	2	0	50	0	Negative	Negative	Negative	
70 Nawagampura	100	80	200<	10	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Typhimurium
71 Mahawaththa	200<	200<	0	0	Negative	Negative	Negative	
72 Bangalawaththa	200<	200<	3	0	Positive	Negative	Negative	<i>Salmonella enterica</i> subsp <i>indica</i> str 6,14,25:a: enx

**Table S3** Pathogenic bacteria in groundwater sampling locations in the Kelani river basin (Wet season).

Well Water	TC (CFU/100mL)	FC (CFU/100mL)	Pseudomonas.spp.	Other	Salmonella spp.	Campylobacter spp.	Shigella spp.	Pathogenic bacteria
1 Wana male	55	0	42	0	Negative	Negative	Negative	
2 Norwood	200<	0	200<	0	Negative	Negative	Negative	
3 Lakham	200<	31	200<	0	Negative	Negative	Negative	

4	Koththellena 1	200<	24	0	0	Negative	Negative	Negative
5	Kalaweldeniya	200<	200<	0	0	Negative	Negative	Negative
6	Bokarabevila	20	3	200<	1	Negative	Negative	Negative
7	Malalpola	15	3	200<	0	Negative	Negative	Negative
8	Pitagaldeniya	200<	200<	0	0	Negative	Negative	Negative
9	Deraniyagala	102	12	200<	0	Negative	Negative	Negative
10	Waga	200<	0	0	0	Negative	Negative	Negative
11	Tientsin	200<	4	200<	0	Negative	Negative	Negative
12	Samimale	200<	200<	0	0	Negative	Negative	Negative
13	Maskeliya	200<	200<	0	0	Positive	Negative	Negative
14	Dicoya	200<	4	0	0	Negative	Negative	Negative
15	Norton-Castlereigh	200<	200<	0	0	Negative	Negative	Negative
16	Norton junction	0	0	50	3	Negative	Negative	Negative
17	Athis	200<	5	20	2	Negative	Negative	Negative
18	Koththellena 2	200<	200<	0	0	Positive	Negative	Negative
19	Ginigathhena	200<	200<	0	0	Negative	Negative	Negative
20	Badupola	200<	200<	0	0	Positive	Negative	Negative
21	Kalugala	200<	200<	0	0	Negative	Negative	Negative
22	Gonagamuwa	200<	22	200<	200<	Negative	Negative	Negative
23	Bulathkohupitiya	200<	31	200<	0	Negative	Negative	Negative
24	Thoranakada	200<	2	200<	0	Negative	Negative	Negative
25	Thaligama	200<	200<	0	0	Negative	Negative	Negative
26	Kotiyakumbura	200<	26	0	0	Negative	Negative	Negative
27	Warawala	200<	200<	0	0	Negative	Negative	Negative
28	Kabulumulla	200<	31	200<	0	Positive	Negative	Negative
29	Kahanavita	200<	6	200<	0	Negative	Negative	Negative
30	Kudagama	200<	200<	0	0	Negative	Negative	Negative
31	Kanapella	100	2	200<	200<	Negative	Negative	Negative
32	Akarawita	200<	9	200<	200<	Negative	Negative	Negative
33	Kahatapitiya	200<	0	200<	0	Negative	Negative	Negative
34	Kaluaggala	200<	17	5	0	Negative	Negative	Negative
35	Kelani waththa	200<	6	50	0	Negative	Negative	Negative
36	Levent	30	14	200<	0	Negative	Negative	Negative
37	Siyabalawa	200<	1	200<	0	Negative	Negative	Negative

Table S4 Pathogenic bacteria in groundwater sampling locations in the Kelani river basin (Wet season).

	Well Water	TC (CFU/100mL)	FC (CFU/100mL)	Pseudomonas.spp.	Other	Salmonella spp.	Campylobacter spp.	Shigella spp.	Pathogenic bacteria
38	Karawanaella	200<	8	200<	200<	Negative	Negative	Negative	
39	Nawagammane	200<	0	200<	0	Negative	Negative	Negative	
40	Batangala	200<	7	200<	0	Negative	Negative	Negative	
41	Getaheththha	30	23	200<	0	Negative	Negative	Negative	
42	Puwakpitiya	200<	20	0	0	Negative	Negative	Negative	
43	Hingurala	200<	1	0	0	Positive	Negative	Negative	Salmonella enterica serovar Newport
44	Kosgama	200<	200<	200<	0	Negative	Negative	Negative	

45	Vihara kumbura	200<	15	0	0	Negative	Negative	Negative	
46	Kiridiwela-Delgoda	200<	200<	200<	0	Positive	Negative	Negative	Salmonella enterica serovar Kentucky
47	Pinnawala	200<	6	200<	0	Negative	Negative	Negative	
48	lunugama	200<	7	0	0	Negative	Negative	Negative	
49	Pollaththawela	200<	2	200<	0	Negative	Negative	Negative	
50	Ranala	200<	200<	0	0	Negative	Negative	Negative	
51	Pahala bomariya	200<	8	200<	200<	Negative	Negative	Negative	
52	Biyagama	200<	150	200<	0	Negative	Negative	Negative	
53	Bollagala	200<	21	10	0	Negative	Negative	Negative	
54	Kohila waththa	100	2	200<	200<	Negative	Negative	Negative	
55	Kelaniya	200<	50	20	0	Negative	Negative	Negative	
56	Pilapitiya	200<	200<	200<	0	Negative	Negative	Negative	
57	Paliyagoda	200<	150	0	0	Negative	Negative	Negative	
58	Aliwaththa	200<	200<	0	0	Negative	Negative	Negative	
59	Palugama	200<	3	0	0	Negative	Negative	Negative	
60	Moragahahena	200<	200<	3	0	Negative	Negative	Negative	
61	Dekatana	200<	11	0	0	Negative	Negative	Negative	
62	Godagama	0	0	4	0	Negative	Negative	Negative	
63	Udupila	200<	35	200<	0	Negative	Negative	Negative	
64	Hokandara	100	6	200<	0	Negative	Negative	Negative	
65	Arangala	200<	110	15	0	Negative	Negative	Negative	
66	Mawaramandiya	200<	50	200<	0	Negative	Negative	Negative	
67	Thalangama	50	7	200<	0	Negative	Negative	Negative	
68	Ederamulla	200<	3	0	200<	Negative	Negative	Negative	
69	IDH	5	0	200<	0	Negative	Negative	Negative	
70	Nawagampura	200<	100<	0	0	Negative	Negative	Negative	
71	Mahawaththa	200<	18	200<	0	Negative	Negative	Negative	
72	Bangalawaththa	200<	13	200<	0	Negative	Negative	Negative	

**Table S5.** Pathogenic bacteria in surface water sampling locations in the Kelani river basin (Dry season).

	Surface water	TC (CFU/100mL)	FC (CFU/100mL)	Pseudomonas spp.	Other	Salmonella spp.	Campylobacter spp.	Shigella spp.	Pathogenic bacteria
1	Kelani ganga (Nallathanniya)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Kentucky
2	Sami male canal	200<	200<	0	0	Negative	Negative	Negative	
3	Kehelgamu oya (Norwood)	200<	200<	0	0	Negative	Negative	Negative	
4	Dic oya	200<	200<	0	0	Negative	Negative	Negative	
5	Maskeliya tank	200<	6	200<	0	Negative	Negative	Negative	
6	Castlereigh tank	200<	15	20	0	Negative	Negative	Negative	
7	Norton tank	200<	28	0	0	Negative	Negative	Negative	
8	Kandura (Koththalanhena)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> subsp. <i>diarizonae</i> Ser.61
9	Kelani ganga(Nagampitiya)	200<	55	0	0	Negative	Negative	Negative	
10	Keselgamu oya (Tientsin)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Javiana
11	Mohini ella	200<	200<	200<	0	Negative	Negative	Negative	
12	Bokarabevila tributary	200<	200<	0	0	Negative	Negative	Negative	
13	Vidulipura tributary	200<	200<	0	0	Negative	Negative	Negative	
14	Alagal Oya (Gonagamuwa)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Weltevreden
15	Ritigaha oya (Bulathkohupitiya)	200<	41	0	0	Negative	Positive	Negative	<i>Campylobacter</i> spp.
16	Kelani ganga (Yatiyanthota)	200<	200<	0	0	Negative	Negative	Negative	
17	We oya (Amanawala)	200<	44	0	0	Negative	Negative	Negative	
18	Ritigaha oya (Warawala)	200<	200<	0	0	Negative	Negative	Negative	
19	Gurugoda oya (Ruwanwella)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Bareilly
20	Kahanawita canal (Dehiovita)	200<	200<	0	0	Negative	Negative	Negative	
21	Seethawaka oya (Thalduwa)	200<	200<	0	0	Negative	Negative	Negative	
22	Eswaththa oya	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Typhimurium
23	Pugoda oya (Pugoda)	200<	200<	0	0	Negative	Positive	Negative	<i>Campylobacter</i> spp.
24	Wak oya(Kaluaggala)	200<	200<	0	0	Negative	Negative	Negative	
25	Kelani ganga (Thaligama)	200<	200<	0	0	Negative	Negative	Negative	
26	Athalawa ela	200<	200<	0	0	Negative	Negative	Negative	
27	Getahehththa tributary	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Kentucky
28	Amthirigala tributary	200<	200<	0	0	Negative	Negative	Negative	
29	Pugoda river (Mandawala)	200<	200<	200<	0	Positive	Negative	Negative	<i>Salmonella entericaserovar Paratyphi B Variety Java</i>
30	Pusseli Oya (Wewelpanawa)	200<	200<	0	0	Negative	Negative	Negative	
31	Pusseli Oya	200<	200<	0	0	Negative	Negative	Negative	
32	Kelani ganga (Ranala)	200<	200<	0	0	Negative	Negative	Negative	
33	Pahala bomariya ela	200<	200<	0	0	Negative	Negative	Negative	
34	Raggahawaththa oya	200<	70	0	0	Negative	Negative	Negative	
35	Kelani ganga (Kohila waththa)	200<	34	0	0	Negative	Negative	Negative	
36	Sebastian canal (Kelanithissa)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Stanley
37	Dutch canal	200<	200<	0	0	Negative	Negative	Negative	
38	Hamilton canal	200<	200<	0	0	Negative	Positive	Negative	<i>Campylobacter</i> spp.
39	Kelani ganga (Mattakkuliya)	200<	200<	0	0	Negative	Negative	Negative	
40	Raggahawaththa oya (Meegawaththa)	200<	200<	50	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Newport
41	Thalangama lake	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Manchester
42	Diyawanna oya	200<	80	40	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Litchfield

43	Mahara	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> subsp <i>enterica</i> ser 4,[5],12:b/ <i>Salmonella enterica</i> subsp <i>enterica</i> ser 9,[12]:-1,5
44	Kiththampahuwa oya (Wellampitiya)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Kentucky
45	Kalu oya	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Kentucky

Table S6. Pathogenic bacteria in surface water sampling locations in the Kelani river basin (wet season).

	Surface water	TC (CFU/100mL)	FC (CFU/100mL)	<i>Pseudomonas</i> .spp.	Other	<i>Salmonella</i> spp.	<i>Campylobacter</i> spp.	<i>Shigella</i> spp.	Pathogenic bacteria
1	Kelani ganga (Nallathanniya)	200<	200<	0	0	Negative	Negative	Negative	
2	Sami male canal	200<	200<	0	0	Negative	Negative	Negative	
3	Kehelgamu oya (Norwood)	200<	200<	0	0	Negative	Negative	Negative	
4	Dic oya	200<	200<	0	0	Negative	Negative	Negative	
5	Maskeliya tank	10	4	200<	3	Negative	Negative	Negative	
6	Castlereigh tank	4	2	200<	1	Negative	Negative	Negative	
7	Norton tank	26	0	200<	2	Negative	Negative	Negative	
8	Kandura (Koththalanhena)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> subsp <i>diarizonae</i> str. 61 z52z53
9	Kelani ganga(Nagampitiya)	200<	200<	0	0	Negative	Negative	Negative	
10	Keselgamu oya (Tientsin)	200<	200<	0	0	Negative	Negative	Negative	
11	Mohini ella	200<	200<	0	0	Negative	Negative	Negative	
12	Bokarabevila tributary	200<	200<	200<	200<	Positive	Negative	Negative	<i>Salmonella enterica</i> subsp <i>enterica</i> ser 9,[12]:-1,5
13	Vidulipura tributary	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Typhimurium
14	Alagal Oya (Gonagamuwa)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Typhimurium
15	Ritigaha oya (Bulathkohupitiya)	200<	200<	0	0	Negative	Negative	Negative	
16	Kelani ganga (Yatiyanthota)	200<	200<	0	0	Negative	Negative	Negative	
17	We oya (Amanawala)	200<	200<	0	0	Negative	Negative	Negative	
18	Ritigaha oya (Warawala)	200<	200<	0	0	Negative	Negative	Negative	
19	Gurugoda oya (Ruwanwella)	200<	200<	0	0	Negative	Negative	Negative	
20	Kahanawita canal (Dehiovita)	200<	200<	0	0	Negative	Negative	Negative	
21	Seethawaka oya (Thalduwa)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Kentucky
22	Eswaththa oya	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Kentucky
23	Pugoda oya (Pugoda)	200<	200<	0	0	Negative	Negative	Negative	
24	Wak oya(Kaluaggala)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Javiana
25	Kelani ganga (Thaligama)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Paratyphi B Variety Java
26	Athalawa ela	200<	200<	0	0	Negative	Negative	Negative	
27	Getaheththa tributary	200<	200<	0	0	Negative	Negative	Negative	
28	Amthirigala tributary	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Bredeney
29	Pugada river (Mandawala)	200<	200<	200<	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Durban
30	Pusseli Oya (Wewelpanawa)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Angola
31	Pusseli Oya	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Paratyphi B Variety Java
32	Kelani ganga (Ranala)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Mount Pleasant
33	Pahala bomariya ela	200<	200<	0	0	Negative	Negative	Negative	
34	Raggahawaththa oya	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Typhimurium
35	Kelani ganga (Kohila waththa)	200<	200<	0	0	Negative	Negative	Negative	
36	Sebastian canal (Kelanthissa)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Agona
37	Dutch canal	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Enteritidis
38	Hamilton canal	200<	200<	0	0	Negative	Positive	Negative	<i>Campylobacter</i> spp.

39	Kelani ganga (Mattakkuliya)	200<	200<	0	0	Negative	Negative	Negative	<i>Salmonella enterica</i> serovar Weltevreden
40	Raggahawaththa oya (Meegawaththa)	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Paratyphi B Variety Java
41	Thalangama lake	200<	200<	0	0	Positive	Negative	Negative	<i>Salmonella enterica</i> serovar Typhimurium
42	Diyawanna oya	200<	200<	200<	0	Negative	Negative	Negative	
43	Mahara	200<	100	0	0	Negative	Negative	Negative	
44	Kiththampahuwa oya (Wellampitiya)	200<	200<	0	0	Negative	Negative	Negative	
45	Kalu oya	200<	200<	0	0	Positive	Positive	Negative	<i>Salmonella enterica</i> serovar Kentucky and <i>Campylobacter</i> spp.