

Regional Rivers Water Quality Monitoring Programme : Data Report 2005

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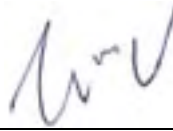
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1 Introduction

1.1 Background

To effectively manage water quality, the Regional River monitoring programme addresses the following questions:

1. What is the quality of the water now?
2. Why is the water of the observed level of quality?
3. Is water quality getting better or worse? If so - what makes it change?
4. How can we improve the quality, ecological health and integrity of the Region's rivers and streams?

The monitoring information allows Environment Waikato to:

- Determine compliance with classification standards.
- Assess the suitability of the resource for various beneficial uses and values of the water.
- Monitor the impact of major discrete point source discharges on water quality.
- Monitor the impacts of diffuse discharges on water quality.
- Provide a basis for evaluating the effectiveness of resource management measures.

This dataset is invaluable for the evaluation of the Region's rivers: their state, the pressures on them and our response to these pressures. We need to continue to gather comprehensive, reliable and good quality data on the Region's rivers to protect and enhance their values into the future.

This report is the 11th since the implementation of the Regional Rivers Monitoring Programme (RERIMP) in 1993¹ and follows the format of the previous data report (Smith, 2005). Copies of reports as described in the list of references (page 39) can be obtained by contacting Environment Waikato (the Library) on 0800 800 401, in electronic format from the publications page of the Environment Waikato website: www.ew.govt.nz/publications or email: inforeq@ew.govt.nz

1.2 Report Content

The report provides information on the routine monthly monitoring of water quality at 100 locations across the Waikato Region, and includes:

- Year 2005 summary statistics tabulated by parameter and reported together.
- Year 2005 summary statistics for the major ions, tabulated by parameter.
- Spatial contour plots for four water quality parameters using spatial interpolation of the median of the previous 5 years.
- Summary tables identifying the number of samples meeting 'Satisfactory' and 'Excellent' water quality guidelines and standards.

¹ Waikato River reported on separately — see Smith, 2006 (in prep).

1.3 Water Quality Guidelines and Standards

Table 1 lists the physical, chemical (physico-chemical) and microbiological water quality guidelines and standards used to assess the condition of the Region's rivers in 2005. The standards relate to either the protection of the ecological health of rivers and streams or to the suitability for direct-contact water-based recreation (e.g. swimming).

Table 1: Guidelines and Standards for Physico-chemical Water Quality for Ecological Health and for Human Uses of Water. See Appendix I for a description of the Guidelines and Standards used.

Water Quality Measure	Relevance ¹	Satisfactory	Excellent
Ecological Health			
Dissolved oxygen (% of saturation)	aquatic life (breathing)	>80	>90
pH	aquatic life (acidity)	6.5–9	7–8
Turbidity (NTU)	plant growth (clarity)	<5	<2
Ammoniacal-N (g N/m ³)	aquatic life (toxicity)	<0.88	<0.1
Temperature (°C) (May-Sep)	fish (spawning)	<12	<10
(Oct-Apr)		<20	<16
Total phosphorus (g/m ³)	nuisance plant growth	<0.04	<0.01
Total nitrogen (g/m ³)	nuisance plant growth	<0.5	<0.1
Human Uses—recreation			
Baseflow water clarity (m)	visibility	>1.6	>4
<i>Escherichia coli</i> (no./100 mL)	human health	<550	<55
Median <i>E. coli</i> (no./100 mL)	human health	<126	<23

¹ Refer to Appendix II for further information. These guidelines and standards are also described on the Environment Waikato Internet site; www.ew.govt.nz

In each case two values are shown. The less stringent values define water that is “satisfactory” for the desired use; these are mostly based on existing national and other Guidelines and Standards (Appendix I). The more stringent values identify “excellent” water, and reflect expert opinion.

2 Regional Rivers Monitoring Design

2.1 Sampling Locations

Routine water quality monitoring locations of the Regional Rivers monitoring programme are summarised in *Table 2* and illustrated in *Figure 1*. One hundred locations were sampled regularly by Environment Waikato. A further 5 locations form part of N.I.W.A.'s National Water Quality Network, whose data are reported annually (Bryers, *in prep*).

Table 2: Environment Waikato's Sampling Locations

Map No.	Location	Location Id	Map Ref.
Coromandel			
91	Hikutaia River @ Old Maratoto Rd	169.2	T12:471-312
92	Kauaeranga River @ Smiths Cableway/Recorder	234.11	T12:404-461
99	Ohinemuri River @ Queens Head	619.19	T13:576-170
98	Ohinemuri River @ SH25 Bridge	619.20	T13:641-213
96	Tairua River @ Morrisons Bridge Hikuai	940.10	T12:567-548
93	Tapu River @ Tapu-Coroglen Rd	954.5	T11:332-658
94	Waiau River @ E309 Rd Ford	1105.3	T11:357-866
100	Waitekauri River @ U/S Ohinemuri Confluence	1239.32	T13:566-168
95	Waiwawa River @ SH25 Coroglen	1257.3	T11:503-717
97	Wharekawa River @ SH25	1312.3	T12:628-478
Hauraki			
32	Mangawhero Stm (Kaihere) @ Mangawara Rd	489.2	S13:249-195
35	Oraka Stm @ Lake Rd	669.6	T15:536-607
83	Piako River @ Kiwitahi	749.10	T14:398-856
79	Piako River @ Paeroa-Tahuna Rd Bridge	749.15	T13:318-068
82	Piakonui Stm @ Piakonui Rd	753.4	T14:417-719
33	Waihou River @ Okauia	1122.18	T14:602-756
37	Waihou River @ Whites Rd	1122.41	T15:572-500
36	Waiohotu Stm @ Waiohotu Rd (Off SH5)	1173.2	T15:665-513
34	Waiomou Stm @ Matamata-Tauranga Rd	1174.4	T15:623-683
31	Waitakaruru River (Hauraki Plains) @ Coxhead Rd Bridge	1230.1	S12:194-339
81	Waitoa River @ Landsdowne Rd Bridge	1249.15	T14:517-783
80	Waitoa River @ Mellon Rd Recorder	1249.18	T13:426-047
Tributaries to the lower Waikato River			
27	Awaroa River (Waiuku) @ Otua Rd Bridge opp Moseley Rd	41.9	R12:662-319
7	Awaroa Stm (Rotowaro) @ Sansons Bridge-Rotowaro-Huntly	39.11	S14:948-997
85	Karapiro Stm @ Hickey Rd Bridge	230.5	T15:331-639
90	Kirikiri Stm @ Tauhara Drive	253.4	S14:095-817
6	Komakorau Stm @ Henry Rd	258.4	S14:091-949
38	Little Waipa Stm @ Arapuni – Putaruru Rd	335.1	T15:489-462
87	Mangakotukutuku Stm (Rukuhia) @ Peacock Rd	398.1	S14:127-743
40	Mangamingi Stm (Tokoroa) @ Paraonui Rd Bridge	407.1	T16:588-302
77	Mangaone Stm @ Annebrooke Rd Bridge	417.7	S14:159-744
78	Mangaonua Stm @ Hoeka Rd	421.10	S14:205-776
84	Mangaonua Stm @ Te Miro Rd	421.16	T14:314-731
30	Mangatangi River @ SH2 Maramarua	453.6	S12:042-372
29	Mangatawhiri River @ Lyons Rd at Buckingham Bridge	459.6	S12:997-427
19	Mangawara Stm @ Rutherford Rd Bridge	481.7	S13:084-023
86	Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	488.1	S15:217-653
20	Matahuru Stm @ Waiterimu Rd Br	516.5	S13:083-109
25	Ohaeroa Stm @ SH22 Bridge	612.9	R12:834-303
24	Opuatia Stm @ Ponganui Rd	665.5	R13:773-245
39	Pokaiwhenua Stm @ Arapuni-Putaruru Rd	786.2	T15:491-458
21	Waerenga Stm @ Taniwha Rd	1098.1	S13:131-217
89	Waitawhiriwhiri Stm @ Edgecumbe Street	1236.2	S14:102-787
26	Whakapipi Stm @ SH22 Bridge	1282.8	R12:812-365
41	Whakauru Stm @ U/S SH1 Bridge	1287.7	T16:614-282
28	Whangamarino River @ Island Block Rd	1293.7	S12:954-308
22	Whangamarino River @ Jefferies Rd Bridge	1293.9	S13:084-273
23	Whangape Stm @ Rangiriri-Glen Murray Rd	1302.1	S13:950-154

Map No.	Location	Location Id	Map Ref.
Waipa River and Tributaries			
11	Kaniwhaniwha Stm @ Wright Rd	222.16	S15:985-680
74	Mangaohoi Stm @ South Branch Maru Rd	411.9	T15:329-471
65	Mangaokewa Stm @ Te Kuiti Borough Water Supply Intake	414.12	S16:998-161
76	Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	438.3	S15:093-560
63	Mangapu River @ Otorohanga	443.3	S16:033-318
73	Mangatutu Stm (Waikeria) @ Walker Rd Bridge	476.7	S15:203-422
13	Mangauika Stm @ Te Awamutu Borough Water Supply Intake	477.10	S15:980-504
88	Ohote Stm @ Whatawhata/Horotiu Rd	624.5	S14:997-794
75	Puniu River @ Bartons Corner Rd Bridge	818.2	S15:115-500
61	Waipa River @ Mangaokewa Rd	1191.5	S17:233-028
12	Waipa River @ Pirongia-Ngutunui Rd Bridge	1191.10	S15:037-529
64	Waipa River @ SH3 Otorohanga	1191.12	S16:036-322
18	Waitomo Stm @ SH31 Otorohanga	1253.5	S16:022-335
17	Waitomo Stm @ Tumutumu Rd	1253.7	S16:938-249
Tributaries to the upper Waikato River			
48	Kawaunui Stm @ SH5 Bridge	240.5	U17:021-081
43	Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	359.1	U16:733-129
49	Mangakara Stm (Reporoa) @ SH5	380.2	U17:996-003
60	Mangakino River (Whakamaru) @ Sandel Rd	388.1	T17:486-013
46	Otamakokore Stm @ Hossack Rd	683.4	U16:955-166
52	Pueto Stm @ Broadlands Rd Bridge	802.1	U17:938-827
44	Tahunaatara Stm @ Ohakuri Rd	934.1	U16:785-138
51	Torepatutahi Stm @ Vaile Rd Bridge	1057.6	U17:985-965
47	Waiotapu Stm @ Campbell Rd Bridge	1186.2	U17:024-082
50	Waiotapu Stm @ Homestead Rd Bridge	1186.4	U17:003-000
42	Waipapa Stm (Mokai) @ Tirohanga Rd Bridge	1202.7	T17:685-047
45	Whirinaki Stm @ Corbett Rd	1323.1	U16:957-171
West Coast			
70	Awakino River @ Gribbon Rd	33.6	R17:702-918
69	Awakino River @ SH3 Awakau Rd Junction	33.9	R18:588-799
67	Manganui River @ Off Manganui Rd	410.4	R17:554-831
66	Mangaotaki River @ SH3 Bridge	428.3	R17:764-963
15	Marokopa River @ Speedies Rd (Off Te Anga Rd)	513.3	R16:708-256
68	Mokau River @ Awakau Rd	556.2	R18:601-785
62	Mokau River @ Mangaokewa Rd (Off SH30)	556.5	S17:096-017
71	Mokau River @ Totoro Rd Recorder	556.9	R17:759-907
72	Mokauiti Stm @ Three Way Point – Aria	557.5	R17:828-929
9	Ohautira River @ Waingaro Te Uku Rd	616.1	R14:842-803
14	Oparau River @ Langdon Rd (Off Okupata Rd)	658.1	R15:799-494
16	Tawarau River @ Off Speedies Rd	976.1	R16:718-249
8	Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	1167.4	R14:837-837
10	Waitetuna River @ Te Uku-Waingaro Rd	1247.2	R14:842-742
Inflows to Lake Taupo			
55	Hinemaiaia River @ SH1	171.5	U18:722-567
101	Kuratau River @ Te Rae Street	282.5	T18:502-536
58	Kuratau River @ SH41 Moerangi	282.4	T18:356-537
53	Mapara Stm @ Off Mapara Rd (Whakaipo Reserve)	504.2	T18:681-750
56	Tauranga-Taupo River @ Te Kono Slackline	971.4	T19:636-473
105	Tokaanu Power Station Tailrace Canal @ SH41 Bridge	1491.1	T19:504-435
57	Tokaanu Stm @ Off SH41 Turangi	1045.3	T19:517-423
59	Waihaha River @ SH32	1106.4	T18:434-747
54	Waitahanui River @ Blake Rd	1226.1	U18:781-627
104	Whanganui Stream @ Lakeside Lake Taupo	1301.1	T18:473-653
102	Whareroa Stream @ Lakeside Lake Taupo	1318.4	T18:515-568
103	Whareroa Stream @ Whareroa Station Bridge	1318.3	T18:483-583

The sampling locations are reasonably evenly distributed across the Waikato Region (Figure 1). To assist assessment of water quality, sites in the Region were divided into 7 water quality zones. This division is based on expert opinion, and reflects river catchments and some broad ecological features, including geology, altitude, winter temperatures, vegetation cover and land use. The boundaries of these water quality zones are shown on Figure 1.

2.2 Sample Collection

Sample collection occurs monthly. The 100 locations sampled by Environment Waikato staff are divided between 7 sampling runs. The runs are sampled in the same order each month, and by the same group of field staff. Sampling is assigned to either the second, third or fourth week of each month. A similar time of sampling (± 1 hour) is maintained for subsequent visits to a location to minimise the effect of any diurnal variation on water quality parameters, thereby increasing long term trend detection power.

2.3 Water Quality Parameters

Water quality of the Region's rivers are assessed by measuring up to 32 parameters (16 routinely). Seventy-four locations are measured quarterly for enterococci and *E.coli* bacteria. Some parameters are measured in the field, but most are analysed by laboratories using standard analytical methods. Details of field measurements and analytical methods are given in *Appendix II*.

2.4 Quality Control, Data Storage and Analysis

Quality control measures are undertaken in accordance with Environment Waikato's ISO 9001:2000 standards including procedures for the collection, transport and storage of samples, and methods for data verification and quality assurance to ensure the consistency of data across the programme. Samples are sent to IANZ registered laboratories for analysis. Back-up samples are held for two months until results have been verified by routine quality assurance procedures. All data from field measurements and laboratory analyses are stored in Environment Waikato's water quality archiving database (HYDSTRA).

Data analysis was performed using DataDesk (version 6.0.1). For the purpose of data analysis, non-detect results (i.e. results with "less than" values) were assumed to be equal to half the corresponding limit of detection (i.e. $<x = x/2$), and results greater than the value reported were taken as equal to the value reported (i.e. $>x = x$).

The water quality spatial contour plots were created using Surfer (version 8). To present the spatial contour plots the kriging spatial interpolation procedure was used to estimate the variable at unsampled locations, using weighted sums of the variable at neighbouring sample points. The procedure is designed to minimize the variance of the estimation errors. In some cases artificial sites were used at points downstream of lowland sample sites to show a catchment flow-through effect.

2.5 Reports

A report on Regional Water Quality Trends (Vant & Smith, 2004) summarises the trends and patterns in regional water quality during 1990 to 2002. Environment Waikato's State of the Environment Report briefly summarises the state of the rivers in the region, and common pressures (Environment Waikato, 1999).

The data contained in these Regional Rivers reports is updated to the Environment Waikato "Healthy Rivers" Internet page:

www.ew.govt.nz/ourenvironment/water/healthyivers/index.htm

upon completion of the report. This page also provides a link to details of the water quality guidelines and standards used to assess the condition of the Regions rivers, as well as other information relating to Lakes, Rivers and Wetlands.

3 Results

The results are divided into 2 sections. Section 3.1 has a statistical summary of routine monitoring of the Region's rivers in 2005 and provides the spatial contour plots using water quality data from four parameters, based on median values for the last 5 years. Also included in section 3.1 is a statistical summary of the major ion study, undertaken during 2005. Section 3.2 compares the results with water quality guidelines and standards for compliance.

3.1 Regional Rivers Monitoring Programme

Summary Statistics

Absorbance of filtered sample at 340 nm (units: cm⁻¹)

Location	Count	Mean	Median	Min	Max	IQR	Skew	01-05 Median
Coromandel								
Hikutaia River @ Old Maratoto Rd	12	0.021	0.020	0.014	0.034	0.009	0.84	0.019
Kauaeranga River @ Smiths Cableway/Recorder	12	0.025	0.019	0.009	0.062	0.023	1.07	0.017
Ohinemuri River @ Queens Head	12	0.019	0.019	0.010	0.028	0.012	0.02	0.017
Ohinemuri River @ SH25 Br	12	0.014	0.013	0.007	0.020	0.009	0.12	0.012
Tairua River @ Morrisons Br Hikuai	12	0.025	0.024	0.011	0.048	0.017	0.79	0.019
Tapu River @ Tapu-Coroglen Rd	12	0.013	0.013	0.008	0.020	0.007	0.47	0.012
Waiau River @ E309 Rd Ford	12	0.017	0.017	0.012	0.029	0.005	1.33	0.014
Waitekauri River @ U/S Ohinemuri Conflu	12	0.013	0.014	0.001	0.025	0.006	-0.07	0.013
Waiwawa River @ SH25 Coroglen	12	0.037	0.028	0.015	0.087	0.028	1.12	0.025
Wharekawa River @ SH25	12	0.027	0.027	0.014	0.043	0.020	0.11	0.020
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	0.027	0.022	0.013	0.061	0.014	1.35	0.020
Oraka Stm @ Lake Rd	12	0.020	0.015	0.010	0.071	0.008	<u>2.72</u>	0.014
Piako River @ Kiwitahi	12	0.051	0.046	0.035	0.079	0.026	0.57	0.051
Piako River @ Paeroa-Tahuna Rd Br	12	0.079	0.075	0.046	0.123	0.027	0.59	0.074
Piakonui Stm @ Piakonui Rd	12	0.038	0.033	0.022	0.080	0.018	1.37	0.034
Waihou River @ Okauia	12	0.018	0.013	0.005	0.066	0.008	<u>2.51</u>	0.015
Waihou River @ Whites Rd	12	0.002	0.001	0.001	0.006	0.003	1.19	0.001
Waihoutu Stm @ Waihoutu Rd (Off SH5)	12	0.048	0.032	0.024	0.153	0.031	<u>2.15</u>	0.031
Waiomou Stm @ Matamata-Tauranga Rd	12	0.023	0.018	0.013	0.059	0.010	<u>1.86</u>	0.018
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	0.072	0.071	0.044	0.109	0.029	0.21	0.065
Waitoa River @ Landsdowne Rd Br	12	0.047	0.044	0.028	0.083	0.011	1.36	0.045
Waitoa River @ Mellon Rd Recorder	12	0.046	0.043	0.029	0.082	0.019	1.01	0.045
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otawa Rd Br opp Moseley Rd	12	0.052	0.046	0.029	0.093	0.033	0.58	0.043
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	0.041	0.032	0.018	0.134	0.011	<u>2.56</u>	0.030
Karapiro Stm @ Hickey Rd Bridge	12	0.057	0.053	0.037	0.081	0.026	0.42	0.051
Kirikiriira Stm @ Tauhara Dr	12	0.065	0.061	0.045	0.091	0.024	0.52	0.059
Komakorau Stm @ Henry Rd	12	0.124	0.112	0.001	0.237	0.103	0.03	0.102
Little Waipa Stm @ Arapuni - Putaruru Rd	12	0.016	0.012	0.006	0.049	0.009	<u>2.20</u>	0.013
Mangakotukutuku Stm (Rukuhia) @ Peacocks Rd	12	0.241	0.194	0.093	0.583	0.160	1.20	0.220
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	0.033	0.028	0.020	0.075	0.016	<u>1.77</u>	0.028
Mangaone Stm @ Annebrooke Rd Br	12	0.057	0.053	0.043	0.102	0.010	<u>2.08</u>	0.052
Mangaonua Stm @ Hoeka Rd	12	0.049	0.048	0.032	0.087	0.016	1.26	0.040
Mangaonua Stm @ Te Miro Rd	12	0.034	0.031	0.022	0.058	0.014	1.01	0.030
Mangatangi River @ SH2 Maramara	12	0.062	0.060	0.031	0.101	0.037	0.26	0.052
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	0.032	0.028	0.017	0.050	0.023	0.30	0.023
Mangawara Stm @ Rutherford Rd Br	12	0.132	0.120	0.070	0.212	0.083	0.39	0.122
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	0.124	0.105	0.085	0.264	0.028	<u>1.75</u>	0.111
Matahuru Stm @ Waiterimu Road Below Confluence	12	0.076	0.071	0.046	0.142	0.038	0.98	0.074
Ohaeroa Stm @ SH22 Br	12	0.029	0.028	0.018	0.045	0.012	0.49	0.025
Opuatia Stm @ Ponganui Rd	12	0.033	0.031	0.021	0.053	0.015	0.67	0.030
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	0.022	0.017	0.011	0.076	0.011	<u>2.45</u>	0.017
Waerenga Stm @ Taniwha Rd	12	0.032	0.032	0.020	0.051	0.010	0.75	0.028
Waitawhiriwhiri Stm @ Edgecumbe Street	12	0.143	0.124	0.072	0.396	0.061	<u>2.07</u>	0.130
Whakapipi Stm @ SH22 Br	12	0.043	0.043	0.030	0.061	0.015	0.44	0.038
Whakauru Stm @ U/S SH1 Br	12	0.030	0.027	0.019	0.058	0.008	1.59	0.026
Whangamarino River @ Island Block Rd	12	0.122	0.119	0.072	0.178	0.077	0.17	0.112
Whangamarino River @ Jefferies Rd Br	12	0.054	0.054	0.030	0.094	0.013	1.24	0.047
Whangape Stm @ Rangiriri-Glen Murray Rd	12	0.077	0.076	0.051	0.116	0.038	0.46	0.061

Absorbance of filtered sample at 440 nm (units: cm⁻¹)

Count	Mean	Median	Min	Max	IQR	Skew	01-05 Median
12	0.004	0.004	0.002	0.008	0.002	0.71	0.004
12	0.005	0.004	0.001	0.014	0.005	1.11	0.003
12	0.004	0.004	0.001	0.006	0.003	-0.27	0.003
12	0.003	0.003	0.001	0.005	0.003	-0.02	0.003
12	0.005	0.005	0.001	0.010	0.005	0.40	0.004
12	0.002	0.003	0.001	0.005	0.002	0.57	0.002
12	0.004	0.004	0.002	0.007	0.001	0.97	0.003
12	0.003	0.003	0.001	0.005	0.003	0.12	0.003
12	0.008	0.006	0.003	0.020	0.006	1.07	0.006
12	0.006	0.006	0.003	0.010	0.006	0.11	0.005
12	0.006	0.006	0.003	0.013	0.003	0.91	0.005
12	0.004	0.003	0.001	0.014	0.002	<u>2.14</u>	0.003
12	0.009	0.009	0.005	0.015	0.005	0.43	0.009
12	0.014	0.013	0.007	0.023	0.006	0.59	0.013
12	0.008	0.007	0.004	0.017	0.004	1.33	0.006
12	0.004	0.003	0.001	0.013	0.003	<u>1.87</u>	0.003
12	0.001	0.001	0.001	0.001	0.000	-1.00	0.001
12	0.012	0.007	0.004	0.054	0.006	<u>2.73</u>	0.006
12	0.005	0.004	0.001	0.012	0.003	1.22	0.004
12	0.014	0.014	0.008	0.021	0.005	0.26	0.012
12	0.008	0.008	0.004	0.015	0.003	1.05	0.008
12	0.008	0.007	0.004	0.015	0.004	1.10	0.007
12	0.010	0.010	0.004	0.018	0.007	0.27	0.008
12	0.007	0.005	0.001	0.021	0.005	1.38	0.005
12	0.010	0.010	0.006	0.016	0.005	0.63	0.009
12	0.012	0.010	0.007	0.032	0.005	<u>2.27</u>	0.009
12	0.022	0.019	0.001	0.074	0.010	<u>2.11</u>	0.016
12	0.004	0.003	0.001	0.010	0.004	1.09	0.003
12	0.041	0.035	0.016	0.102	0.027	1.39	0.039
12	0.008	0.006	0.003	0.015	0.004	1.16	0.006
12	0.010	0.009	0.008	0.020	0.002	<u>2.23</u>	0.009
12	0.009	0.008	0.005	0.016	0.003	1.13	0.007
12	0.007	0.007	0.004	0.012	0.003	0.95	0.006
12	0.013	0.012	0.006	0.025	0.006	1.05	0.010
12	0.007	0.007	0.003	0.012	0.005	0.14	0.005
12	0.023	0.022	0.013	0.041	0.012	0.76	0.021
12	0.020	0.017	0.012	0.042	0.005	<u>1.78</u>	0.020
12	0.014	0.014	0.008	0.023	0.007	0.51	0.014
12	0.006	0.007	0.003	0.009	0.004	-0.16	0.005
12	0.006	0.007	0.003	0.010	0.004	-0.07	0.006
12	0.005	0.004	0.001	0.015	0.004	1.53	0.003
12	0.007	0.007	0.004	0.013	0.004	0.71	0.006
12	0.024	0.020	0.012	0.071	0.011	<u>2.31</u>	0.021
12	0.008	0.008	0.005	0.012	0.003	0.31	0.007
12	0.006	0.006	0.002	0.010	0.003	0.11	0.006
12	0.023	0.022	0.014	0.036	0.014	0.40	0.021
12	0.011	0.011	0.005	0.018	0.003	0.65	0.009
12	0.014	0.013	0.008	0.023	0.010	0.59	0.010

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Waipa River and Tributaries								
Kaniwhaniwha Stm @ Wright Rd	12	0.037	0.035	0.017	0.064	0.022	0.38	0.031
Mangaohoi Stm @ South Branch Maru Rd	12	0.012	0.009	0.004	0.028	0.007	1.20	0.009
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	12	0.037	0.036	0.023	0.052	0.018	0.08	0.035
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	12	0.088	0.084	0.056	0.128	0.037	0.29	0.081
Mangapu River @ Otorohanga	12	0.033	0.030	0.019	0.060	0.017	0.90	0.027
Mangatutu Stm (Waikeria) @ Walker Rd Br	12	0.027	0.023	0.015	0.065	0.007	<u>1.69</u>	0.022
Mangauika Stm @ Te Awamutu Borough W/S Intake	12	0.010	0.007	0.004	0.034	0.004	<u>2.07</u>	0.007
Ohote Stm @ Whatawhata/Horotiu Rd	12	0.156	0.163	0.078	0.222	0.072	-0.19	0.153
Puniu River @ Bartons Corner Rd Br	12	0.032	0.031	0.023	0.056	0.010	1.61	0.031
Waipa River @ Mangaokewa Rd	12	0.055	0.044	0.024	0.115	0.038	0.85	0.046
Waipa River @ Pirongia-Ngutunui Rd Br	12	0.034	0.033	0.020	0.055	0.015	0.59	0.029
Waipa River @ SH3 Otorohanga	12	0.030	0.029	0.017	0.047	0.015	0.48	0.025
Waitomo Stm @ SH31 Otorohanga	12	0.028	0.022	0.013	0.054	0.024	0.68	0.020
Waitomo Stm @ Tumutumu Rd	12	0.019	0.014	0.009	0.043	0.011	1.24	0.013

Tributaries to the upper Waikato River								
Kawaunui Stm @ SH5 Br	12	0.032	0.027	0.019	0.055	0.008	1.29	0.030
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	12	0.032	0.029	0.021	0.050	0.015	0.65	0.029
Mangakara Stm (Reporoa) @ SH5	12	0.020	0.018	0.015	0.032	0.005	1.35	0.018
Mangakino Stm (Whakamaru) @ Sandel Rd	12	0.019	0.015	0.008	0.039	0.015	0.88	0.014
Otamakokore Stm @ Hossack Rd	12	0.035	0.030	0.020	0.073	0.014	1.35	0.032
Pueto Stm @ Broadlands Rd Br	12	0.012	0.011	0.010	0.015	0.002	1.15	0.011
Tahunaatara Stm @ Ohakuri Rd	12	0.039	0.032	0.021	0.083	0.013	1.47	0.031
Torepatutahi Stm @ Vaile Rd Br	12	0.014	0.013	0.010	0.025	0.005	1.44	0.013
Waiotapu Stm @ Campbell Rd Br	12	0.008	0.007	0.004	0.014	0.004	1.00	0.005
Waiotapu Stm @ Homestead Rd Br	12	0.028	0.025	0.022	0.044	0.008	1.35	0.023
Waipapa Stm (Mokai) @ Tirohanga Rd Br	12	0.018	0.017	0.011	0.034	0.006	1.39	0.015
Whirinaki Stm @ Corbett Rd	12	0.004	0.003	0.003	0.006	0.003	0.70	0.003

West Coast								
Awakino River @ Gribbon Rd	12	0.009	0.007	0.003	0.028	0.003	<u>2.42</u>	0.007
Awakino River @ SH3 Awakau Rd Junction	12	0.013	0.014	0.008	0.029	0.007	1.56	0.013
Manganui River @ Off Manganui Rd	12	0.011	0.010	0.007	0.028	0.004	<u>2.43</u>	0.009
Mangaotaki River @ SH3 Br	12	0.017	0.017	0.011	0.034	0.008	1.37	0.015
Marokopa River @ Speedies Rd (Off Te Anga Rd)	12	0.026	0.019	0.015	0.066	0.011	1.66	0.018
Mokau River @ Awakau Rd	12	0.041	0.039	0.024	0.075	0.023	0.81	0.034
Mokau River @ Mangaokewa Rd (Off SH30)	12	0.051	0.048	0.033	0.091	0.028	0.89	0.042
Mokau River @ Totoro Rd Recorder	12	0.033	0.032	0.021	0.053	0.019	0.37	0.029
Mokauiti Stm @ Three Way Point - Aria	12	0.063	0.058	0.031	0.113	0.052	0.42	0.046
Ohautira Stm @ Waingaro Te Uku Rd	12	0.025	0.022	0.012	0.051	0.009	1.27	0.021
Oparau River @ Langdon Rd (Off Okupata Rd)	12	0.027	0.020	0.012	0.072	0.011	1.60	0.019
Tawarau River @ Off Speedies Rd	12	0.025	0.017	0.014	0.061	0.010	1.61	0.017
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	12	0.042	0.036	0.021	0.078	0.034	0.57	0.039
Waitetuna River @ Te Uku-Waingaro Rd	12	0.031	0.031	0.015	0.052	0.016	0.33	0.027

Inflows to Lake Taupo								
Hinemaiaia River @ SH1	12	0.013	0.014	0.003	0.020	0.004	-0.37	0.013
Kuratau River @ 43 Te Rae Street	12	0.019	0.017	0.009	0.048	0.010	<u>1.84</u>	0.020
Kuratau River @ SH41 Moerangi	12	0.024	0.018	0.004	0.062	0.014	1.24	0.018
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	12	0.037	0.037	0.011	0.060	0.006	-0.33	0.036
Tauranga-Taupo River @ Te Kono Slackline	12	0.008	0.007	0.004	0.014	0.003	1.01	0.007
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over Can	12	0.010	0.007	0.001	0.052	0.003	<u>2.87</u>	0.006
Tokaanu Stm @ Off SH41 Turangi	12	0.004	0.001	0.001	0.025	0.002	<u>2.82</u>	0.001
Waihaha River @ SH32	12	0.012	0.010	0.002	0.030	0.007	1.25	0.008
Waitahanui River @ Blake Rd	12	0.004	0.004	0.001	0.010	0.002	1.67	0.004
Whanganui Stm @ Lakeside Lake Taupo	12	0.018	0.016	0.007	0.035	0.009	0.87	0.014
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	12	0.019	0.018	0.003	0.031	0.008	-0.13	0.017
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	12	0.019	0.018	0.002	0.035	0.010	0.15	0.018

12	0.006	0.006	0.001	0.013	0.005	0.55	0.006
12	0.003	0.002	0.001	0.007	0.003	1.04	0.002
12	0.007	0.007	0.001	0.013	0.004	0.20	0.007
12	0.016	0.015	0.009	0.027	0.007	0.61	0.015
12	0.006	0.005	0.002	0.013	0.005	0.92	0.005
12	0.006	0.004	0.001	0.014	0.002	1.39	0.004
12	0.002	0.001	0.001	0.004	0.001	1.28	0.001
12	0.025	0.027	0.011	0.038	0.012	-0.26	0.024
12	0.006	0.006	0.003	0.012	0.003	0.94	0.006
12	0.010	0.008	0.003	0.023	0.010	0.86	0.008
12	0.006	0.006	0.001	0.011	0.005	0.17	0.006
12	0.006	0.006	0.001	0.010	0.004	-0.25	0.005
12	0.005	0.005	0.001	0.011	0.005	0.60	0.004
12	0.004	0.003	0.001	0.008	0.004	0.66	0.002

12	0.006	0.006	0.003	0.011	0.003	0.64	0.006
12	0.007	0.006	0.003	0.014	0.003	1.54	0.006
12	0.004	0.004	0.001	0.011	0.001	<u>2.03</u>	0.004
12	0.004	0.004	0.001	0.008	0.004	0.46	0.003
12	0.008	0.007	0.005	0.015	0.004	1.12	0.007
12	0.002	0.002	0.001	0.004	0.001	1.16	0.002
12	0.008	0.007	0.003	0.017	0.005	0.97	0.006
12	0.003	0.003	0.001	0.004	0.002	-0.22	0.002
12	0.002	0.001	0.001	0.006	0.002	<u>1.82</u>	0.001
12	0.005	0.004	0.003	0.014	0.001	<u>2.80</u>	0.004
12	0.004	0.003	0.001	0.011	0.001	<u>1.91</u>	0.003
12	0.001	0.001	0.001	0.001	0.000	-1.00	0.001

12	0.001	0.001	0.001	0.002	0.001	1.15	0.001
12	0.002	0.003	0.001	0.005	0.002	0.48	0.003
12	0.002	0.002	0.001	0.007	0.001	<u>1.99</u>	0.001
12	0.003	0.003	0.001	0.007	0.003	0.61	0.003
12	0.005	0.004	0.002	0.013	0.002	<u>2.03</u>	0.004
12	0.008	0.008	0.003	0.017	0.006	0.70	0.007
12	0.010	0.008	0.001	0.020	0.006	0.71	0.008
12	0.006	0.005	0.001	0.012	0.005	0.37	0.005
12	0.012	0.010	0.001	0.031	0.011	0.92	0.008
12	0.005	0.003	0.001	0.020	0.003	<u>2.07</u>	0.004
12	0.005	0.004	0.001	0.014	0.003	1.57	0.004
12	0.005	0.005	0.002	0.013	0.003	1.33	0.003
12	0.008	0.007	0.003	0.020	0.006	1.08	0.007
12	0.006	0.004	0.001	0.015	0.004	1.11	0.005

12	0.003	0.003	0.001	0.006	0.002	0.53	0.003
12	0.004	0.004	0.001	0.010	0.002	1.64	0.004
12	0.005	0.003	0.001	0.015	0.003	<u>1.72</u>	0.004
12	0.007	0.008	0.001	0.012	0.001	-1.03	0.008
12	0.002	0.001	0.001	0.003	0.002	0.51	0.001
12	0.002	0.001	0.001	0.009	0.002	<u>2.06</u>	0.001
12	0.001	0.001	0.001	0.005	0.000	<u>3.02</u>	0.001
12	0.003	0.003	0.001	0.010	0.002	<u>1.94</u>	0.002
12	0.001	0.001	0.001	0.001	0.000	-1.00	0.001
12	0.004	0.004	0.001	0.012	0.002	<u>1.81</u>	0.003
12	0.004	0.004	0.001	0.010	0.002	1.32	0.004
12	0.004	0.004	0.001	0.008	0.003	0.47	0.003

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Black Disk (m)

Location								01-05
	Count	Mean	Median	Min	Max	IQR	Skew	Median
Coromandel								
Hikutaia River @ Old Maratoto Rd	11	3.33	3.14	2.66	5.13	0.86	1.51	3.03
Kauaeranga River @ Smiths Cableway/Recorder	11	4.16	3.88	2.54	7.50	1.24	1.34	3.27
Ohinemuri River @ Queens Head	11	3.09	2.80	1.53	5.70	1.77	0.76	2.89
Ohinemuri River @ SH25 Br	11	4.15	4.20	1.94	6.52	1.72	0.33	3.87
Tairua River @ Morrisons Br Hikuaui	11	2.48	2.54	0.55	4.20	1.23	-0.25	2.66
Tapu River @ Tapu-Coroglen Rd	11	4.33	4.15	1.82	7.66	2.69	0.43	3.70
Waiau River @ E309 Rd Ford	11	2.34	2.21	0.57	4.28	0.59	0.21	2.48
Waitekauri River @ U/S Ohinemuri Conflu	11	3.54	3.07	1.82	5.97	2.12	0.51	3.85
Waiwawa River @ SH25 Coroglen	11	2.89	2.68	1.65	4.72	0.70	0.78	2.87
Wharekawa River @ SH25	11	2.32	2.01	1.12	4.62	1.07	1.14	2.13
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	11	1.05	1.03	0.30	2.13	0.69	0.60	1.03
Oraka Stm @ Lake Rd	10	0.99	0.91	0.18	1.52	0.67	-0.31	0.99
Piako River @ Kiwitahi	11	1.56	1.48	0.10	3.36	1.27	0.35	1.55
Piako River @ Paeroa-Tahuna Rd Br	11	0.80	0.56	0.17	1.93	0.69	0.89	0.70
Piakonui Stm @ Piakonui Rd	11	0.97	0.92	0.11	1.71	0.62	-0.16	1.19
Waihou River @ Okauia	10	1.12	1.01	0.27	1.87	0.67	-0.04	1.15
Waihou River @ Whites Rd	10	6.19	6.14	4.53	8.55	1.23	0.67	6.44
Waihotu Stm @ Waihotu Rd (Off SH5)	-	-	-	-	-	-	-	-
Waiomou Stm @ Matamata-Tauranga Rd	10	1.30	1.27	0.47	2.33	0.60	0.44	1.39
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	11	0.79	0.69	0.14	1.60	0.89	0.28	0.74
Waitoa River @ Landsdowne Rd Br	11	1.08	1.08	0.07	2.45	1.07	0.48	1.11
Waitoa River @ Mellon Rd Recorder	11	0.99	0.93	0.21	2.03	0.91	0.45	0.89
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otatau Rd Br opp Moseley Rd	11	0.33	0.33	0.17	0.46	0.13	-0.23	0.34
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	11	1.09	0.93	0.22	2.36	1.22	0.47	1.57
Karapiro Stm @ Hickey Rd Bridge	11	1.08	1.05	0.09	2.50	1.12	0.43	1.40
Kirikiri Stm @ Tauhara Dr	11	0.31	0.34	0.05	0.64	0.22	0.23	0.38
Komakorau Stm @ Henry Rd	11	0.18	0.18	0.12	0.28	0.09	0.35	0.18
Little Waipa Stm @ Arapuni - Putaruru Rd	10	2.23	2.12	0.76	4.13	1.06	0.52	2.09
Mangakotukutuku Stm (Rukuhia) @ Peacockes Rd	11	0.39	0.40	0.03	0.81	0.35	0.04	0.38
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	10	1.02	1.11	0.21	1.46	0.50	-0.83	1.27
Mangaone Stm @ Annebrooke Rd Br	11	0.79	0.72	0.43	1.21	0.25	0.48	0.90
Mangaonua Stm @ Hoeka Rd	11	1.07	0.83	0.13	2.18	1.34	0.14	1.16
Mangaonua Stm @ Te Miro Rd	11	0.98	0.88	0.32	1.89	1.13	0.35	1.21
Mangatangi River @ SH2 Maramaru	11	1.15	0.80	0.15	2.44	1.27	0.47	1.10
Mangatawhiri River @ Lyons Rd At Buckingham Br	11	1.90	2.00	0.35	3.40	1.57	0.06	1.99
Mangawara Stm @ Rutherford Rd Br	11	0.21	0.18	0.11	0.41	0.05	1.23	0.22
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	11	0.24	0.22	0.14	0.34	0.12	0.16	0.25
Matahuru Stm @ Waiterimu Road Below Confluence	11	0.21	0.19	0.04	0.42	0.18	0.47	0.24
Ohaeroa Stm @ SH22 Br	11	1.22	1.11	0.07	3.40	1.42	0.87	0.91
Opuatia Stm @ Ponganui Rd	11	0.80	0.73	0.09	1.92	0.99	0.60	0.77
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	10	1.44	1.43	0.37	2.38	0.53	-0.27	1.57
Waerenga Stm @ Taniwha Rd	11	1.09	1.11	0.20	2.33	0.82	0.38	1.11
Waitawhiriwhiri Stm @ Edgecumbe Street	11	0.29	0.31	0.06	0.56	0.29	0.04	0.34
Whakapipi Stm @ SH22 Br	11	1.39	1.52	0.22	2.86	1.02	0.12	1.45
Whakauru Stm @ U/S SH1 Br	10	1.18	1.15	0.94	1.59	0.23	0.84	1.20
Whangamarino River @ Island Block Rd	11	0.19	0.17	0.13	0.33	0.10	1.04	0.19
Whangamarino River @ Jefferies Rd Br	11	0.52	0.55	0.07	0.98	0.43	0.03	0.62
Whangape Stm @ Rangiriri-Glen Murray Rd	11	0.15	0.15	0.04	0.33	0.09	0.94	0.28

Conductivity at 25 °C (mS m⁻¹)

Location								01-05
	Count	Mean	Median	Min	Max	IQR	Skew	Median
Coromandel								
Hikutaia River @ Old Maratoto Rd	12	8.0	7.8	6.8	9.6	0.8	0.67	8.3
Kauaeranga River @ Smiths Cableway/Recorder	12	8.0	7.8	6.3	9.9	2.0	0.36	8.1
Ohinemuri River @ Queens Head	12	21.4	20.5	9.5	31.4	10.2	-0.15	15.7
Ohinemuri River @ SH25 Br	12	7.7	7.6	6.8	8.9	1.0	0.73	7.8
Tairua River @ Morrisons Br Hikuaui	12	6.0	6.0	5.3	7.1	1.2	0.38	6.2
Tapu River @ Tapu-Coroglen Rd	12	10.3	10.1	8.9	12.3	1.5	0.56	10.2
Waiau River @ E309 Rd Ford	12	9.6	9.6	8.6	11.0	0.9	0.49	9.4
Waitekauri River @ U/S Ohinemuri Conflu	12	12.2	11.5	8.3	18.2	5.0	0.56	11.7
Waiwawa River @ SH25 Coroglen	12	6.7	6.8	5.7	7.9	1.3	0.19	6.9
Wharekawa River @ SH25	12	7.2	7.2	6.5	8.4	0.9	0.72	7.4
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	11.2	11.6	9.3	12.4	0.9	-1.00	11.3
Oraka Stm @ Lake Rd	12	13.1	11.2	9.9	19.4	6.0	0.82	12.3
Piako River @ Kiwitahi	12	15.0	14.3	13.1	18.3	1.6	1.09	14.5
Piako River @ Paeroa-Tahuna Rd Br	12	22.5	22.1	18.9	28.1	3.6	0.73	20.4
Piakonui Stm @ Piakonui Rd	12	7.7	7.6	5.7	9.7	2.2	0.09	7.5
Waihou River @ Okauia	12	10.1	10.3	8.5	11.3	1.1	-0.31	10.4
Waihou River @ Whites Rd	12	8.0	8.0	7.7	8.3	0.2	0.45	8.0
Waihotu Stm @ Waihotu Rd (Off SH5)	12	5.4	5.4	4.5	5.8	0.5	-0.86	5.7
Waiomou Stm @ Matamata-Tauranga Rd	12	7.2	7.2	6.7	7.7	0.6	-0.07	7.2
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	16.5	16.4	12.9	20.9	3.4	0.29	15.6
Waitoa River @ Landsdowne Rd Br	12	15.9	16.1	9.1	20.0	3.8	-0.81	15.6
Waitoa River @ Mellon Rd Recorder	12	33.0	32.5	18.9	58.8	12.6	0.87	29.6
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otatau Rd Br opp Moseley Rd	12	25.5	25.7	22.4	28.0	3.4	-0.17	25.0
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	46.7	45.8	25.6	81.9	21.6	0.67	48.9
Karapiro Stm @ Hickey Rd Bridge	12	13.2	12.8	9.5	17.2	3.6	0.25	12.7
Kirikiri Stm @ Tauhara Dr	11	17.7	20.5	7.2	23.0	7.5	-0.87	20.5
Komakorau Stm @ Henry Rd	12	27.2	26.5	21.7	34.7	6.8	0.25	25.7
Little Waipa Stm @ Arapuni - Putaruru Rd	12	9.6	9.7	9.0	9.9	0.4	-0.66	9.6
Mangakotukutuku Stm (Rukuhia) @ Peacockes Rd	12	19.0	19.6	14.4	22.5	3.3	-0.64	18.7
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	14.0	14.5	9.1	16.0	1.5	-1.37	14.4
Mangaone Stm @ Annebrooke Rd Br	12	26.1	26.9	19.1	28.1	1.8	<u>-2.18</u>	26.7
Mangaonua Stm @ Hoeka Rd	12	19.5	20.0	16.7	23.4	2.4	0.20	19.1
Mangaonua Stm @ Te Miro Rd	12	10.1	9.8	8.4	12.3	2.0	0.39	9.5
Mangatangi River @ SH2 Maramaru	12	13.6	13.5	12.2	14.8	1.0	0.00	13.3
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	12.3	12.5	10.2	14.3	1.6	-0.32	12.0
Mangawara Stm @ Rutherford Rd Br	12	22.0	21.4	19.1	26.8	4.0	0.63	21.7
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	20.7	20.8	18.9	22.0	1.0	-0.43	20.3
Matahuru Stm @ Waiterimu Road Below Confluence	12	13.7	14.0	8.0	17.6	2.2	-1.01	13.7
Ohaeroa Stm @ SH22 Br	12	16.7	16.5	13.7	20.6	3.9	0.25	16.0
Opuatia Stm @ Ponganui Rd	12	17.3	16.9	14.8	19.8	1.8	0.38	16.8
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	10.0	10.3	7.7	10.7	0.4	<u>-2.21</u>	10.1
Waerenga Stm @ Taniwha Rd	12	12.0	11.9	11.4	13.4	0.8	1.15	11.8
Waitawhiriwhiri Stm @ Edgecumbe Street	12	18.1	20.9	9.3	22.2	8.2	-0.90	20.0
Whakapipi Stm @ SH22 Br	12	20.0	20.0	16.0	25.0	3.7	0.46	18.2
Whakauru Stm @ U/S SH1 Br	12	6.6	6.7	5.7	7.1	0.6	-0.89	6.7
Whangamarino River @ Island Block Rd	12	16.5	16.5	13.0	19.4	1.7	-0.32	15.9
Whangamarino River @ Jefferies Rd Br	12	15.7	16.0	12.7	18.0	1.7	-0.45	15.4
Whangape Stm @ Rangiriri-Glen Murray Rd	12	21.0	21.5	13.4	27.9	5.2	0.05	20.3

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Waipa River and Tributaries								
Kaniwhaniwha Stm @ Wright Rd	11	0.73	0.68	0.08	1.65	0.69	0.43	1.12
Mangaohoi Stm @ South Branch Maru Rd	11	1.17	1.05	0.66	1.74	0.37	0.48	1.26
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	11	1.26	0.89	0.46	2.88	1.08	0.89	1.01
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	11	0.53	0.47	0.19	0.92	0.31	0.22	0.63
Mangapu River @ Otorohanga	11	0.99	0.81	0.30	2.99	0.78	1.31	0.76
Mangatutu Stm (Waikeria) @ Walker Rd Br	11	1.62	1.62	0.57	2.89	1.18	0.25	1.76
Mangauika Stm @ Te Awamutu Borough W/S Intake	11	3.26	3.58	1.03	5.20	2.16	-0.09	3.93
Ohote Stm @ Whatawhata/Horotiu Rd	11	0.71	0.68	0.20	1.25	0.26	0.24	0.74
Puniu River @ Bartons Corner Rd Br	11	1.24	1.29	0.44	2.14	0.96	-0.06	1.36
Waipa River @ Mangaokewa Rd	11	1.80	1.96	0.99	2.45	0.74	-0.45	1.88
Waipa River @ Pirongia-Ngutunui Rd Br	11	0.67	0.58	0.21	1.90	0.39	1.54	0.70
Waipa River @ SH3 Otorohanga	11	1.49	1.08	0.39	3.59	1.50	0.87	1.20
Waitomo Stm @ SH31 Otorohanga	10	0.59	0.42	0.21	1.89	0.47	<u>1.90</u>	0.57
Waitomo Stm @ Tumutumu Rd	11	0.88	0.80	0.20	2.00	0.93	0.65	0.90

Tributaries to the upper Waikato River								
Kawaunui Stm @ SH5 Br	10	1.42	1.58	0.42	2.63	0.68	0.23	1.12
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	10	1.12	1.21	0.60	1.59	0.32	-0.40	1.23
Mangakara Stm (Reporoa) @ SH5	10	0.82	0.68	0.40	1.64	0.34	1.21	0.86
Mangakino Stm (Whakamaru) @ Sandel Rd	9	1.68	1.63	0.54	3.25	0.95	0.59	2.50
Otamakokore Stm @ Hossack Rd	10	1.26	1.18	1.05	1.77	0.12	1.34	1.30
Pueto Stm @ Broadlands Rd Br	10	1.89	1.90	1.50	2.30	0.36	0.05	2.02
Tahunaatara Stm @ Ohakuri Rd	10	1.35	1.40	0.60	2.13	0.59	-0.04	1.54
Torepatutahi Stm @ Vaile Rd Br	-	-	-	-	-	-	-	-
Waiotapu Stm @ Campbell Rd Br	10	1.342	1.33	1	1.84	0.44	0.376319	1.43
Waiotapu Stm @ Homestead Rd Br	10	0.736	0.6	0.35	1.3	0.41	0.609222	0.7
Waipapa Stm (Mokai) @ Tirohanga Rd Br	10	1.205	1.13	0.73	1.91	0.75	0.532463	1.235
Whirinaki Stm @ Corbett Rd	-	-	-	-	-	-	-	-

West Coast								
Awakino River @ Gribbon Rd	11	2.90	2.79	0.83	5.45	3.15	0.17	2.35
Awakino River @ SH3 Awakau Rd Junction	11	2.09	1.97	0.19	3.88	2.64	0.09	1.31
Manganui River @ Off Manganui Rd	11	1.45	1.24	0.10	3.18	1.13	0.65	1.10
Mangaotaki River @ SH3 Br	11	1.16	0.99	0.22	2.60	0.82	0.83	0.95
Marokopa River @ Speedies Rd (Off Te Anga Rd)	11	1.07	1.04	0.23	2.05	0.75	0.23	1.13
Mokau River @ Awakau Rd	11	0.68	0.60	0.13	1.43	0.78	0.30	0.39
Mokau River @ Mangaokewa Rd (Off SH30)	11	1.36	1.04	0.59	2.38	1.17	0.30	1.27
Mokau River @ Totoro Rd Recorder	11	1.03	0.74	0.25	2.60	1.20	0.91	0.80
Mokauiti Stm @ Three Way Point - Aria	11	0.63	0.53	0.19	1.60	0.58	1.07	0.56
Ohautira Stm @ Waingaro Te Uku Rd	11	0.53	0.57	0.13	0.90	0.52	-0.01	0.70
Oparau River @ Langdon Rd (Off Okupata Rd)	11	1.24	1.18	0.18	2.60	0.85	0.42	1.48
Tawarau River @ Off Speedies Rd	11	1.06	1.09	0.20	2.10	0.66	0.28	1.10
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	11	0.71	0.44	0.08	1.79	1.10	0.64	0.68
Waitetuna River @ Te Uku-Waingaro Rd	11	0.51	0.56	0.09	0.92	0.62	-0.13	0.78

Inflows to Lake Taupo								
Hinemaiaia River @ SH1	10	3.29	3.21	1.85	5.10	1.63	0.33	3.24
Kuratau River @ 43 Te Rae Street	-	-	-	-	-	-	-	-
Kuratau River @ SH41 Moerangi	10	2.72	2.67	0.86	4.80	0.90	0.09	3.01
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	10	1.39	1.28	0.69	2.20	0.42	0.37	1.40
Tauranga-Taupo River @ Te Kono Slackline	10	3.22	3.34	1.03	6.08	2.11	0.30	3.58
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over Cana	-	-	-	-	-	-	-	-
Tokaanu Stm @ Off SH41 Turangi	-	-	-	-	-	-	-	-
Waihaha River @ SH32	10	3.68	3.20	1.66	6.37	2.77	0.37	4.99
Waitahanui River @ Blake Rd	10	3.63	4.07	1.80	5.42	2.16	-0.45	4.07
Whanganui Stm @ Lakeside Lake Taupo	-	-	-	-	-	-	-	-
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	-	-	-	-	-	-	-	-
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	-	-	-	-	-	-	-	-

12	9.7	9.8	5.7	11.9	1.9	-0.99	10.1
12	8.0	8.2	6.1	9.3	1.2	-0.47	8.1
12	15.5	14.8	10.9	20.8	6.3	0.31	14.3
12	18.4	17.5	15.9	22.4	3.2	0.55	17.7
12	19.3	18.8	15.3	24.1	4.5	0.32	18.0
12	7.0	7.1	5.8	8.4	0.8	0.16	6.8
12	6.9	6.7	5.6	11.5	1.1	<u>2.32</u>	6.7
12	18.7	18.3	15.0	25.9	1.7	1.41	18.0
12	8.4	8.6	7.0	9.2	0.6	-0.92	8.4
12	5.6	5.5	4.4	7.6	1.2	0.73	5.2
12	12.0	11.7	10.2	13.6	1.9	0.08	11.5
12	8.1	8.2	4.7	9.9	1.8	-0.96	8.0
12	18.8	18.3	16.0	23.2	4.1	0.58	18.2
12	18.9	18.8	15.9	22.2	3.0	0.13	18.3

12	14.2	14.1	12.8	17.0	1.2	1.05	13.8
12	8.7	8.6	8.3	9.3	0.2	1.09	8.7
12	9.2	9.1	8.4	10.3	0.4	0.99	9.0
12	6.3	6.1	5.0	7.2	1.4	-0.03	6.6
12	36.1	35.8	32.4	40.0	3.4	0.24	37.3
12	11.4	11.5	11.1	11.9	0.2	0.79	11.4
12	7.5	7.6	6.7	7.8	0.1	<u>-2.27</u>	7.6
12	9.6	9.7	8.8	10.5	0.8	-0.05	9.0
12	67.9	67.4	56.4	76.0	6.7	-0.34	68.5
12	43.8	42.5	33.6	52.1	6.6	-0.18	46.0
12	36.8	37.1	34.0	39.1	2.3	-0.36	35.7
12	6.8	6.8	6.6	7.0	0.1	0.81	6.8

12	7.3	7.3	6.5	8.5	0.9	0.36	7.2
12	14.5	13.3	10.6	21.2	4.8	0.72	13.0
12	11.3	10.8	9.2	13.8	2.7	0.44	10.8
12	13.9	13.8	12.6	15.9	1.4	0.65	13.7
12	14.0	14.1	10.6	15.9	2.7	-0.62	13.9
12	14.2	13.2	10.6	21.0	5.5	0.76	12.5
12	6.8	6.5	5.7	8.0	1.6	0.37	6.5
12	12.4	12.0	10.2	15.2	2.6	0.39	11.9
12	11.3	10.6	9.3	14.8	2.3	0.79	10.6
12	13.1	13.8	9.3	15.8	2.7	-0.50	13.4
12	9.1	9.0	7.4	11.0	2.1	0.34	8.7
12	12.9	12.9	10.1	15.2	3.1	-0.09	13.0
12	14.4	14.0	12.0	18.4	2.7	0.73	14.1
12	10.0	10.5	6.4	12.0	1.6	-1.03	10.2

12	6.1	6.1	4.8	7.2	1.1	-0.12	6.2
12	7.0	6.4	5.1	10.5	1.3	1.23	6.7
12	4.3	4.1	3.3	5.2	1.0	0.03	4.4
12	12.0	11.9	11.7	13.0	0.3	<u>2.14</u>	12.0
12	5.0	5.0	3.5	6.5	1.6	-0.10	4.8
12	13.4	13.5	11.6	15.2	1.5	0.04	12.5
12	9.9	9.9	9.1	10.3	0.3	-1.28	10.0
12	4.8	4.8	3.9	5.7	0.8	-0.09	4.9
12	7.4	7.4	6.7	7.7	0.3	-0.95	7.3
12	5.7	5.3	4.5	7.4	1.4	0.61	5.9
12	7.7	7.5	7.1	8.5	1.0	0.37	7.8
12	7.6	7.4	7.0	8.4	1.0	0.41	7.7

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Dissolved Oxygen (% Saturation)

Location	Count	Mean	Median	Min	Max	IQR	Skew	01-05
								Median
Coromandel								
Hikutaia River @ Old Maratoto Rd	12	97.4	96.0	90.9	119.1	4.1	<u>2.48</u>	96.3
Kauaeranga River @ Smiths Cableway/Recorder	12	101.4	100.3	96.8	118.4	3.0	<u>2.52</u>	100.2
Ohinemuri River @ Queens Head	11	107.8	107.0	101.3	116.7	6.3	0.39	107.3
Ohinemuri River @ SH25 Br	11	105.4	105.8	91.5	112.2	7.2	-1.02	105.9
Tairua River @ Morrisons Br Hikuai	12	101.1	99.1	95.4	120.8	3.3	<u>2.38</u>	98.9
Tapu River @ Tapu-Coroglen Rd	12	102.9	103.3	99.5	106.4	4.2	-0.02	102.3
Waiau River @ E309 Rd Ford	12	103.6	102.5	100.5	108.5	3.6	0.57	103.0
Waitekauri River @ U/S Ohinemuri Conflu	11	107.0	106.9	101.7	112.1	4.5	0.02	106.0
Waiwawa River @ SH25 Coroglen	12	101.2	101.0	97.8	106.0	2.1	0.50	101.4
Wharekawa River @ SH25	11	96.8	98.0	85.5	100.8	5.0	-1.60	97.0
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	98.9	97.8	96.1	110.3	1.3	<u>2.59</u>	98.3
Oraka Stm @ Lake Rd	12	92.9	93.0	88.3	97.0	5.0	-0.37	93.3
Piako River @ Kiwitahi	12	79.1	79.4	43.9	108.4	25.5	-0.11	86.8
Piako River @ Paeroa-Tahuna Rd Br	12	80.4	83.3	62.8	90.7	14.4	-0.69	80.1
Piakonui Stm @ Piakonui Rd	12	102.1	100.7	97.6	118.0	2.7	<u>2.20</u>	99.8
Waihou River @ Okauia	12	93.1	92.9	87.6	97.0	4.0	-0.21	93.7
Waihou River @ Whites Rd	12	101.6	101.7	99.2	105.1	1.8	0.69	102.4
Waihotu Stm @ Waihotu Rd (Off SH5)	12	94.1	94.4	85.8	99.1	3.7	-0.73	95.2
Waiomou Stm @ Matamata-Tauranga Rd	12	95.5	95.5	90.1	100.8	4.5	0.01	96.1
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	90.6	91.6	60.5	124.5	21.3	0.13	91.0
Waitoa River @ Landsdowne Rd Br	12	91.9	90.0	76.6	110.3	10.1	0.52	87.3
Waitoa River @ Mellon Rd Recorder	12	76.1	78.7	53.9	81.6	5.7	<u>-2.28</u>	74.6
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otawa Rd Br opp Moseley Rd	12	94.4	95.8	65.4	121.9	34.5	-0.16	98.1
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	85.2	83.1	79.0	94.1	11.2	0.49	87.6
Karapiro Stm @ Hickey Rd Bridge	12	94.1	92.5	87.7	107.7	6.4	1.26	93.8
Kirikiriira Stm @ Tauhara Dr	12	69.5	68.9	53.5	81.7	13.6	-0.39	68.7
Komakorau Stm @ Henry Rd	12	63.6	63.8	52.8	78.5	15.7	0.24	64.1
Little Waipa Stm @ Arapuni - Putaruru Rd	12	105.9	105.6	97.2	115.4	10.8	0.04	99.4
Mangakotukutuku Stm (Rukuhia) @ Peacockes Rd	12	88.8	89.1	82.6	94.0	5.2	-0.21	88.4
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	102.9	102.5	97.6	106.2	3.9	-0.47	103.6
Mangaone Stm @ Annebrooke Rd Br	12	76.8	76.8	62.3	85.2	8.7	-0.61	74.7
Mangaonua Stm @ Hoeka Rd	12	78.3	78.7	67.3	87.8	13.5	-0.20	79.4
Mangaonua Stm @ Te Miro Rd	12	101.2	100.2	97.5	106.9	4.0	0.84	100.1
Mangatangi River @ SH2 Maramaru	12	87.3	87.6	78.0	103.0	10.6	0.52	88.0
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	109.7	110.1	97.0	118.8	8.0	-0.51	108.2
Mangawara Stm @ Rutherford Rd Br	12	71.0	71.1	61.7	82.8	7.8	0.32	72.2
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	85.1	86.0	81.0	90.9	4.6	0.20	85.8
Matahuru Stm @ Waiterimu Road Below Confluence	12	84.4	83.4	75.6	93.6	9.1	0.12	86.5
Ohaeroa Stm @ SH22 Br	12	101.5	101.1	92.0	113.4	9.6	0.29	99.8
Opuatia Stm @ Ponganui Rd	12	97.5	98.0	89.0	106.5	4.9	0.12	98.8
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	101.7	102.2	95.7	107.0	6.2	-0.27	98.6
Waerenga Stm @ Taniwha Rd	12	100.8	100.0	92.4	108.3	6.4	0.00	98.7
Waitawhiriwhiri Stm @ Edgecumbe Street	12	80.1	81.6	73.0	86.6	9.1	-0.17	83.7
Whakapipi Stm @ SH22 Br	12	91.5	93.5	84.0	98.3	10.4	-0.17	91.6
Whakauru Stm @ U/S SH1 Br	12	98.0	98.0	93.8	105.4	4.5	0.60	97.4
Whangamarino River @ Island Block Rd	12	59.2	54.7	9.0	129.6	38.8	0.74	39.5
Whangamarino River @ Jefferies Rd Br	12	73.6	75.2	55.1	88.2	14.5	-0.41	76.1
Whangape Stm @ Rangiriri-Glen Murray Rd	12	81.6	89.5	19.3	107.1	23.0	-1.54	90.7

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Dissolved Oxygen (g m⁻³)

Count	Mean	Median	Min	Max	IQR	Skew	01-05
							Median
12	10.2	10.3	8.9	12.6	1.9	0.54	10.3
12	10.4	10.3	9.1	12.5	1.8	0.35	10.5
11	10.6	10.6	9.3	12.0	1.0	0.13	10.6
11	10.4	10.3	9.7	11.5	0.9	0.43	10.6
12	10.2	10.1	8.8	12.6	1.6	0.76	10.1
12	10.6	10.5	9.6	12.6	1.0	0.91	10.6
12	10.7	10.5	9.8	11.8	1.0	0.31	10.7
11	10.8	10.7	9.6	12.1	1.0	0.15	10.7
12	10.3	10.3	9.3	11.6	1.5	0.20	10.5
11	9.9	10.3	8.5	11.0	1.7	-0.32	9.9
12	10.2	10.1	9.2	11.0	1.1	-0.14	10.2
12	9.6	9.6	8.5	10.9	1.3	0.23	9.5
12	7.9	8.3	4.2	10.4	3.1	-0.52	8.8
12	8.1	8.2	6.3	9.8	1.9	-0.09	8.2
12	10.6	10.4	9.3	12.4	1.5	0.48	10.6
12	9.7	9.6	8.4	10.8	1.3	0.08	9.6
12	10.5	10.6	10.3	10.8	0.3	-0.09	10.6
12	10.3	10.0	8.5	11.9	1.3	-0.12	10.4
12	10.1	9.7	8.9	11.5	1.4	0.29	9.9
12	9.1	9.4	5.6	13.2	2.4	0.14	9.1
12	9.2	9.0	7.7	10.7	1.2	-0.06	9.0
12	7.6	7.5	5.4	9.3	1.3	-0.28	7.4
12	9.3	9.9	6.0	11.4	2.7	-0.57	9.5
12	8.8	8.5	7.3	10.7	2.0	0.35	8.9
12	9.5	9.5	8.0	10.9	1.5	-0.04	9.6
12	7.0	7.3	4.9	8.5	1.8	-0.48	7.1
12	6.5	6.3	4.9	8.1	1.8	0.21	6.3
12	10.8	10.6	9.9	11.6	0.9	0.13	10.3
12	8.9	8.6	7.9	10.2	1.8	0.33	8.9
12	10.3	10.2	9.4	11.3	1.1	0.08	10.4
12	8.0	7.8	6.4	9.4	1.9	0.20	7.8
12	8.0	8.0	6.1	9.5	1.8	-0.13	8.1
12	10.4	10.1	9.1	11.7	1.5	0.30	10.3
12	8.6	8.4	6.8	11.0	1.0	0.51	8.9
12	10.6	10.5	9.6	12.1	1.2	0.67	10.5
12	7.2	7.3	5.7	9.1	2.1	0.20	7.4
12	8.7	8.5	7.7	10.1	1.3	0.39	8.8
12	8.7	8.7	7.4	10.8	1.3	0.64	8.7
12	10.4	10.4	9.4	11.3	0.9	-0.08	10.4
12	9.9	10.0	8.6	11.0	0.9	-0.14	10.0
12	10.5	10.4	9.3	11.8	1.0	0.36	10.3
12	10.4	10.6	8.9	12.2	1.3	0.03	10.2
12	7.9	7.8	6.6	9.1	1.7	0.07	8.2
12	9.3	9.1	7.5	10.8	1.4	-0.08	9.3
12	10.4	10.4	9.0	11.7	1.4	-0.05	10.2
12	5.4	5.2	0.9	11.1	2.5	0.61	3.9
12	7.6	7.8	5.2	10.1	1.8	-0.10	7.9
12	8.0	8.7	1.7	11.2	3.5	-1.12	8.9

Waipa River and Tributaries								
Kaniwhaniwha Stm @ Wright Rd	12	87.2	87.2	67.8	100.0	7.1	-0.58	90.0
Mangaohoi Stm @ South Branch Maru Rd	12	100.8	100.8	96.5	104.3	3.0	-0.07	100.3
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	12	97.0	95.7	88.6	105.2	7.1	0.23	96.2
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	12	86.3	86.3	74.6	93.5	9.4	-0.42	84.0
Mangapu River @ Otorohanga	12	97.4	93.1	85.5	118.8	14.0	0.97	93.6
Mangatutu Stm (Waikeria) @ Walker Rd Br	12	95.6	95.3	91.5	100.5	4.8	0.49	95.0
Mangauika Stm @ Te Awamutu Borough W/S Intake	12	101.5	100.8	98.4	110.0	2.7	<u>1.69</u>	100.2
Ohote Stm @ Whatawhata/Horotiu Rd	12	44.5	40.4	15.1	76.5	34.7	0.15	49.1
Puniu River @ Bartons Corner Rd Br	12	94.5	92.8	83.4	116.8	5.3	1.54	94.7
Waipa River @ Mangaokewa Rd	12	103.5	100.8	99.0	129.0	4.0	<u>2.74</u>	101.5
Waipa River @ Pirongia-Ngutunui Rd Br	12	91.0	91.4	77.6	102.0	3.6	-0.58	91.5
Waipa River @ SH3 Otorohanga	12	100.6	100.3	94.0	114.3	5.4	1.25	99.5
Waitomo Stm @ SH31 Otorohanga	12	98.4	100.4	84.6	110.0	10.4	-0.27	100.2
Waitomo Stm @ Tumutumu Rd	12	101.9	101.7	96.2	113.0	6.2	0.95	100.4

Tributaries to the upper Waikato River								
Kawaunui Stm @ SH5 Br	12	88.5	87.6	80.4	102.3	2.7	1.44	85.7
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	12	95.1	95.3	92.8	96.8	1.6	-0.37	94.1
Mangakara Stm (Reporoa) @ SH5	12	92.7	93.4	89.5	95.7	2.2	-0.26	93.0
Mangakino Stm (Whakamaru) @ Sandel Rd	12	102.4	102.6	98.9	105.8	3.0	-0.07	103.0
Otamakokore Stm @ Hossack Rd	12	98.8	98.6	80.8	114.7	13.3	0.01	96.2
Pueto Stm @ Broadlands Rd Br	12	94.5	95.6	74.8	101.8	3.3	<u>-2.30</u>	95.8
Tahunaatara Stm @ Ohakuri Rd	12	103.3	103.4	100.9	106.5	2.1	0.24	103.1
Torepatutahi Stm @ Vaile Rd Br	12	104.7	105.1	96.2	113.1	9.2	-0.05	102.3
Waiotapu Stm @ Campbell Rd Br	12	89.2	88.8	84.3	100.1	3.7	1.57	88.1
Waiotapu Stm @ Homestead Rd Br	12	88.6	86.9	80.2	110.1	4.5	1.64	86.2
Waipapa Stm (Mokai) @ Tirohanga Rd Br	12	95.2	98.3	55.5	103.5	4.1	<u>-2.77</u>	99.9
Whirinaki Stm @ Corbett Rd	12	98.7	97.8	96.2	106.1	3.1	<u>1.69</u>	97.8

West Coast								
Awakino River @ Gribbon Rd	12	106.0	103.0	99.9	127.0	5.1	<u>1.79</u>	101.7
Awakino River @ SH3 Awakau Rd Junction	12	113.2	115.5	98.7	129.0	19.1	-0.02	104.5
Manganui River @ Off Manganui Rd	12	109.5	112.0	95.8	122.4	13.1	-0.14	102.6
Mangaotaki River @ SH3 Br	12	104.1	103.1	100.3	117.7	2.9	<u>2.31</u>	102.4
Marokopa River @ Speedies Rd (Off Te Anga Rd)	12	104.8	104.7	100.0	111.9	6.8	0.41	103.8
Mokau River @ Awakau Rd	12	95.3	94.5	86.3	106.7	3.9	0.63	95.0
Mokau River @ Mangaokewa Rd (Off SH30)	12	102.1	100.4	97.1	123.4	2.2	<u>2.71</u>	100.3
Mokau River @ Totoro Rd Recorder	12	104.4	103.2	100.9	117.7	1.7	<u>2.36</u>	103.4
Mokauiti Stm @ Three Way Point - Aria	12	96.4	95.0	83.8	117.4	3.6	1.48	96.5
Ohautira Stm @ Waingaro Te Uku Rd	12	95.4	94.9	90.7	110.0	3.5	<u>2.27</u>	94.5
Oparau River @ Langdon Rd (Off Okupata Rd)	12	104.7	103.7	99.9	112.8	7.7	0.68	103.0
Tawarau River @ Off Speedies Rd	12	103.7	104.1	100.4	107.8	4.6	0.06	102.9
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	12	93.3	93.7	79.7	100.0	7.1	-0.96	94.3
Waitetuna River @ Te Uku-Waingaro Rd	12	95.9	96.1	91.6	99.0	4.2	-0.44	96.4

Inflows to Lake Taupo								
Hinemaiaia River @ SH1	12	100.6	100.7	96.7	104.1	3.4	-0.15	101.3
Kuratau River @ 43 Te Rae Street	12	100.9	100.8	96.4	105.2	3.7	0.20	101.4
Kuratau River @ SH41 Moerangi	12	94.3	94.6	90.3	96.6	2.0	-0.89	94.4
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	12	88.7	88.5	85.3	93.2	3.6	0.30	88.6
Tauranga-Taupo River @ Te Kono Slackline	12	102.5	102.6	99.7	104.6	1.1	-0.47	102.4
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over Cana	12	99.2	100.2	87.5	107.4	8.9	-0.46	99.6
Tokaanu Stm @ Off SH41 Turangi	12	83.7	83.0	81.3	87.3	2.5	0.93	82.8
Waihaha River @ SH32	12	103.6	104.1	98.4	107.6	3.5	-0.52	103.2
Waitahanui River @ Blake Rd	12	100.4	99.5	97.2	103.7	4.2	0.44	99.8
Whanganui Stm @ Lakeside Lake Taupo	12	103.0	101.8	100.1	108.2	4.9	0.55	101.9
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	12	97.5	97.3	94.3	101.7	3.4	0.17	97.1
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	12	98.6	97.9	96.2	104.3	2.4	1.37	98.0

	12	8.9	9.1	7.0	10.2	1.6	-0.44	9.3
	12	10.3	10.2	9.3	11.2	0.8	0.02	10.3
	12	10.1	10.3	8.6	11.4	1.6	-0.40	10.3
	12	8.6	8.3	7.4	10.3	1.5	0.65	8.2
	12	9.6	9.7	7.6	10.9	1.3	-0.48	9.5
	12	9.7	9.5	8.5	11.2	1.7	0.21	10.0
	12	10.7	10.7	9.8	11.5	0.9	-0.22	10.6
	12	4.5	4.1	1.5	8.3	4.0	0.25	5.0
	12	9.5	9.1	8.3	11.2	1.6	0.52	9.4
	12	10.3	10.4	9.0	11.4	1.7	-0.13	10.5
	12	9.2	9.4	8.0	10.3	1.5	-0.23	9.5
	12	10.0	9.9	8.8	10.8	0.9	-0.47	10.2
	12	9.9	9.8	8.8	11.0	0.7	0.09	10.3
	12	10.5	10.5	9.8	11.0	0.6	0.00	10.5

	12	8.9	8.7	7.9	10.8	0.7	1.28	8.5
	12	9.9	9.9	9.1	10.7	1.0	-0.04	9.8
	12	9.5	9.7	8.6	10.5	0.8	-0.09	9.5
	12	10.7	10.6	10.0	11.7	0.7	0.62	10.8
	12	8.5	9.0	6.6	9.5	1.1	-1.05	8.4
	12	9.6	9.9	7.6	10.1	0.6	<u>-2.09</u>	9.7
	12	10.6	10.5	9.6	11.8	1.2	0.28	10.7
	12	10.5	10.5	9.6	11.4	0.7	-0.23	10.3
	12	6.6	6.7	6.1	7.2	0.7	-0.05	6.6
	12	8.0	8.2	6.8	9.1	1.0	-0.32	8.0
	12	8.2	8.4	4.8	9.0	0.6	<u>-2.52</u>	8.5
	12	10.3	10.2	9.8	10.7	0.5	0.01	10.2

	12	10.8	10.9	9.9	11.6	1.1	-0.29	10.8
	12	11.3	11.3	9.8	12.7	1.7	0.04	10.9
	12	11.1	11.1	9.9	12.8	1.5	0.38	10.6
	12	10.6	10.6	9.5	11.7	1.1	-0.03	10.6
	12	10.8	10.8	9.8	11.8	1.1	-0.08	10.9
	12	9.6	9.6	7.8	11.1	1.6	-0.23	9.8
	12	10.7	10.9	9.2	11.5	0.9	-0.76	10.6
	12	10.5	10.7	9.1	11.4	1.1	-0.74	10.7
	12	9.6	9.9	7.8	10.7	1.4	-0.71	9.9
	12	10.1	10.4	8.6	11.4	1.4	-0.23	10.2
	12	10.6	10.5	9.7	11.6	1.3	0.22	10.7
	12	10.7	10.8	9.6	11.5	0.9	-0.51	10.9
	12	9.3	9.5	8.0	10.7	1.4	-0.03	9.5
	12	9.9	9.9	8.7	11.2	1.3	0.04	10.1

	12	10.6	10.7	9.6	12.5	1.0	0.76	10.7
	12	10.4	10.4	9.3	12.0	1.1	0.38	10.5
	12	10.2	10.3	9.1	11.1	0.9	-0.23	10.3
	12	9.5	9.5	8.7	10.1	0.6	-0.28	9.5
	12	11.1	11.3	10.1	12.5	1.1	0.24	11.1
	12	10.2	10.0	8.6	11.7	1.4	0.27	10.4
	12	8.7	8.6	8.4	9.3	0.2	1.38	8.6
	12	11.0	11.0	9.8	12.5	0.5	0.48	10.9
	12	10.8	10.9	10.2	11.5	0.3	0.34	10.7
	12	10.9	11.0	9.8	11.8	1.1	-0.42	11.0
	12	10.2	10.3	9.3	11.0	1.0	-0.26	10.3
	12	10.3	10.4	9.6	11.1	0.7	-0.22	10.4

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Dissolved Reactive Phosphorus (g m⁻³)

Total Phosphorus (g m⁻³)

Location	Count	Mean	Median	Min	Max	IQR	Skew	01-05 Median
Coromandel								
Hikutaia River @ Old Maratoto Rd	12	0.006	0.006	0.002	0.011	0.002	0.43	0.007
Kauaeranga River @ Smiths Cableway/Recorder	12	0.003	0.002	0.002	0.007	0.000	<u>2.06</u>	0.002
Ohinemuri River @ Queens Head	12	0.020	0.013	0.004	0.057	0.026	1.00	0.019
Ohinemuri River @ SH25 Br	12	0.009	0.008	0.002	0.020	0.004	0.91	0.009
Tairua River @ Morrisons Br Hikuai	12	0.003	0.002	0.002	0.008	0.000	<u>1.97</u>	0.002
Tapu River @ Tapu-Coroglen Rd	12	0.003	0.002	0.002	0.008	0.002	1.50	0.004
Waiau River @ E309 Rd Ford	12	0.004	0.002	0.002	0.008	0.003	1.00	0.005
Waitekauri River @ U/S Ohinemuri Conflu	12	0.005	0.005	0.002	0.013	0.005	1.13	0.005
Waiwawa River @ SH25 Coroglen	12	0.003	0.002	0.002	0.008	0.000	<u>1.79</u>	0.002
Wharekawa River @ SH25	12	0.004	0.002	0.002	0.010	0.004	1.22	0.006
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	0.040	0.043	0.017	0.052	0.007	-1.37	0.042
Oraka Stm @ Lake Rd	12	0.092	0.087	0.066	0.137	0.041	0.78	0.099
Piako River @ Kiwitahi	12	0.073	0.073	0.027	0.104	0.027	-0.59	0.052
Piako River @ Paeroa-Tahuna Rd Br	12	0.181	0.144	0.057	0.378	0.112	1.02	0.131
Piakonui Stm @ Piakonui Rd	12	0.014	0.011	0.005	0.033	0.008	1.41	0.014
Waihou River @ Okauia	12	0.072	0.066	0.054	0.140	0.015	<u>2.40</u>	0.070
Waihou River @ Whites Rd	12	0.083	0.081	0.073	0.096	0.013	0.47	0.087
Waihotu Stm @ Waihotu Rd (Off SH5)	12	0.016	0.014	0.009	0.029	0.008	0.94	0.018
Waiomou Stm @ Matamata-Tauranga Rd	12	0.027	0.025	0.018	0.042	0.010	0.81	0.028
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	0.032	0.032	0.021	0.050	0.013	0.64	0.024
Waitoa River @ Landsdowne Rd Br	12	0.036	0.038	0.014	0.052	0.024	-0.32	0.032
Waitoa River @ Mellon Rd Recorder	12	0.369	0.328	0.065	0.961	0.440	0.78	0.322
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otaura Rd Br opp Moseley Rd	12	0.017	0.006	0.002	0.132	0.006	<u>2.96</u>	0.008
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	0.004	0.002	0.002	0.008	0.004	0.71	0.002
Karapiro Stm @ Hickey Rd Bridge	12	0.045	0.048	0.020	0.073	0.016	-0.16	0.038
Kirikiri Stm @ Tauhara Dr	12	0.016	0.016	0.008	0.024	0.006	0.10	0.015
Komakorau Stm @ Henry Rd	12	0.015	0.016	0.002	0.026	0.014	-0.15	0.015
Little Waipa Stm @ Arapuni - Putaruru Rd	12	0.057	0.056	0.046	0.074	0.014	0.59	0.061
Mangakotukutuku Stm (Rukuhia) @ Peacocks Rd	12	0.225	0.151	0.046	0.823	0.234	1.54	0.110
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	0.532	0.535	0.223	0.879	0.279	-0.01	0.553
Mangaone Stm @ Annebrooke Rd Br	12	0.076	0.079	0.045	0.113	0.029	0.15	0.068
Mangaonua Stm @ Hoeka Rd	12	0.019	0.014	0.011	0.052	0.011	<u>2.14</u>	0.013
Mangaonua Stm @ Te Miro Rd	12	0.021	0.021	0.010	0.037	0.008	0.50	0.018
Mangatangi River @ SH2 Maramarua	12	0.035	0.034	0.016	0.054	0.022	-0.04	0.023
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	0.011	0.011	0.002	0.017	0.006	-0.62	0.011
Mangawara Stm @ Rutherford Rd Br	12	0.066	0.068	0.016	0.130	0.078	0.23	0.036
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	0.067	0.038	0.016	0.257	0.046	<u>1.86</u>	0.035
Matahuru Stm @ Waiterimu Road Below Confluence	12	0.031	0.029	0.010	0.061	0.014	0.75	0.027
Ohaeroa Stm @ SH22 Br	12	0.007	0.007	0.002	0.011	0.005	-0.16	0.009
Opuatia Stm @ Ponganui Rd	12	0.007	0.008	0.002	0.011	0.004	-0.54	0.009
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	0.116	0.117	0.077	0.170	0.039	0.35	0.117
Waerenga Stm @ Taniwha Rd	12	0.023	0.023	0.012	0.031	0.010	-0.18	0.026
Waitawhiriwhiri Stm @ Edgecumbe Street	12	0.050	0.030	0.008	0.206	0.021	<u>2.13</u>	0.028
Whakapipi Stm @ SH22 Br	12	0.028	0.021	0.005	0.098	0.020	<u>2.03</u>	0.015
Whakauru Stm @ U/S SH1 Br	12	0.016	0.015	0.010	0.028	0.009	0.80	0.021
Whangamarino River @ Island Block Rd	12	0.009	0.007	0.002	0.023	0.007	1.06	0.007
Whangamarino River @ Jefferies Rd Br	12	0.042	0.037	0.021	0.071	0.020	0.68	0.031
Whangape Stm @ Rangiriri-Glen Murray Rd	12	0.006	0.002	0.002	0.035	0.003	<u>2.87</u>	0.002

Count	Mean	Median	Min	Max	IQR	Skew	01-05 Median
12	0.011	0.011	0.007	0.017	0.006	0.21	0.013
12	0.004	0.003	0.002	0.006	0.003	0.36	0.005
12	0.036	0.032	0.018	0.066	0.019	0.74	0.041
12	0.017	0.017	0.008	0.027	0.007	0.00	0.017
12	0.008	0.007	0.002	0.020	0.006	1.07	0.007
12	0.004	0.003	0.002	0.006	0.003	0.36	0.005
12	0.011	0.007	0.004	0.033	0.008	1.53	0.009
12	0.013	0.011	0.004	0.033	0.008	1.26	0.011
12	0.006	0.006	0.002	0.010	0.002	0.17	0.006
12	0.011	0.009	0.006	0.022	0.005	1.32	0.010
12	0.055	0.055	0.046	0.071	0.008	0.90	0.058
12	0.149	0.139	0.098	0.279	0.043	1.60	0.149
12	0.150	0.123	0.081	0.466	0.030	<u>2.75</u>	0.119
12	0.320	0.337	0.168	0.467	0.116	0.00	0.280
12	0.053	0.027	0.020	0.252	0.015	<u>2.58</u>	0.034
12	0.106	0.098	0.079	0.201	0.014	<u>2.09</u>	0.097
12	0.084	0.086	0.079	0.090	0.007	-0.26	0.085
12	0.037	0.035	0.021	0.071	0.018	1.05	0.037
12	0.052	0.050	0.037	0.102	0.018	<u>1.95</u>	0.049
12	0.084	0.082	0.059	0.119	0.029	0.43	0.084
12	0.148	0.087	0.024	0.858	0.069	<u>2.88</u>	0.089
12	0.499	0.420	0.216	1.050	0.333	0.93	0.470
12	0.071	0.049	0.023	0.293	0.028	<u>2.73</u>	0.058
12	0.020	0.017	0.006	0.043	0.021	0.80	0.012
12	0.131	0.106	0.071	0.448	0.026	<u>2.89</u>	0.107
12	0.174	0.080	0.065	0.887	0.035	<u>2.46</u>	0.089
12	0.113	0.110	0.085	0.137	0.029	-0.03	0.110
12	0.075	0.070	0.053	0.105	0.015	0.79	0.081
12	0.801	0.407	0.137	4.120	0.571	<u>2.52</u>	0.425
12	0.604	0.588	0.319	0.934	0.195	0.31	0.614
12	0.199	0.187	0.125	0.328	0.055	0.86	0.175
12	0.115	0.062	0.026	0.485	0.070	<u>2.11</u>	0.067
12	0.047	0.038	0.029	0.099	0.021	1.43	0.036
12	0.092	0.095	0.030	0.159	0.051	0.31	0.089
12	0.031	0.027	0.019	0.052	0.012	1.03	0.026
12	0.257	0.246	0.144	0.386	0.155	0.11	0.270
12	0.206	0.152	0.092	0.553	0.104	1.56	0.186
12	0.185	0.128	0.067	0.536	0.136	1.62	0.132
12	0.056	0.028	0.017	0.299	0.032	<u>2.80</u>	0.030
12	0.047	0.032	0.014	0.157	0.035	<u>2.03</u>	0.034
12	0.151	0.150	0.098	0.199	0.034	-0.13	0.154
12	0.054	0.049	0.035	0.096	0.025	0.96	0.055
12	0.251	0.126	0.070	0.944	0.176	<u>1.83</u>	0.133
12	0.070	0.050	0.025	0.153	0.051	0.94	0.057
12	0.033	0.031	0.025	0.057	0.007	<u>2.14</u>	0.032
12	0.173	0.163	0.110	0.314	0.055	1.27	0.180
12	0.127	0.096	0.056	0.414	0.063	<u>2.37</u>	0.099
12	0.191	0.163	0.070	0.370	0.155	0.55	0.106

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Waipa River and Tributaries								
Kaniwhaniwha Stm @ Wright Rd	12	0.010	0.008	0.002	0.035	0.007	<u>1.94</u>	0.008
Mangaohoi Stm @ South Branch Maru Rd	12	0.045	0.046	0.018	0.069	0.026	-0.04	0.044
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	12	0.022	0.017	0.009	0.082	0.010	<u>2.63</u>	0.016
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	12	0.177	0.148	0.065	0.431	0.146	1.08	0.113
Mangapu River @ Otorohanga	12	0.052	0.044	0.019	0.138	0.043	1.30	0.037
Mangatutu Stm (Waikeria) @ Walker Rd Br	12	0.011	0.011	0.005	0.018	0.006	0.00	0.012
Mangauika Stm @ Te Awamutu Borough W/S Intake	12	0.005	0.002	0.002	0.013	0.006	0.80	0.007
Ohote Stm @ Whatawhata/Horotiu Rd	12	0.023	0.025	0.012	0.034	0.013	-0.28	0.016
Puniu River @ Bartons Corner Rd Br	12	0.030	0.029	0.018	0.044	0.017	0.30	0.023
Waipa River @ Mangaokewa Rd	12	0.010	0.008	0.002	0.025	0.009	0.85	0.010
Waipa River @ Pirongia-Ngutunui Rd Br	12	0.022	0.020	0.011	0.041	0.011	0.86	0.019
Waipa River @ SH3 Otorohanga	12	0.009	0.009	0.004	0.021	0.006	1.27	0.010
Waitomo Stm @ SH31 Otorohanga	12	0.009	0.008	0.002	0.030	0.007	<u>1.68</u>	0.008
Waitomo Stm @ Tumuturu Rd	12	0.012	0.011	0.006	0.028	0.005	1.65	0.010

Tributaries to the upper Waikato River								
Kawaunui Stm @ SH5 Br	12	0.133	0.092	0.057	0.348	0.055	1.57	0.100
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	12	0.036	0.034	0.028	0.048	0.012	0.59	0.038
Mangakara Stm (Reporoa) @ SH5	12	0.056	0.052	0.041	0.079	0.022	0.62	0.058
Mangakino Stm (Whakamaru) @ Sandel Rd	12	0.044	0.041	0.027	0.065	0.018	0.56	0.040
Otamakokore Stm @ Hossack Rd	12	0.161	0.153	0.125	0.279	0.037	<u>1.98</u>	0.158
Pueto Stm @ Broadlands Rd Br	12	0.085	0.087	0.064	0.097	0.009	-1.09	0.084
Tahunaatara Stm @ Ohakuri Rd	12	0.037	0.034	0.030	0.052	0.014	0.65	0.038
Torepatutahi Stm @ Vaile Rd Br	12	0.087	0.085	0.070	0.099	0.019	-0.06	0.085
Waiotapu Stm @ Campbell Rd Br	12	0.012	0.002	0.002	0.043	0.023	1.05	0.026
Waiotapu Stm @ Homestead Rd Br	12	0.038	0.034	0.022	0.061	0.016	0.75	0.042
Waipapa Stm (Mokai) @ Tirohanga Rd Br	12	0.084	0.085	0.063	0.099	0.014	-0.45	0.079
Whirinaki Stm @ Corbett Rd	12	0.068	0.069	0.059	0.078	0.005	0.11	0.071

West Coast								
Awakino River @ Gribbon Rd	12	0.021	0.016	0.006	0.100	0.007	<u>2.86</u>	0.015
Awakino River @ SH3 Awakau Rd Junction	12	0.008	0.008	0.002	0.014	0.010	0.05	0.010
Manganui River @ Off Manganui Rd	12	0.012	0.012	0.005	0.018	0.009	0.12	0.014
Mangaotaki River @ SH3 Br	12	0.014	0.014	0.006	0.022	0.005	0.14	0.014
Marokopa River @ Speedies Rd (Off Te Anga Rd)	12	0.015	0.016	0.008	0.020	0.005	-0.54	0.015
Mokau River @ Awakau Rd	12	0.010	0.008	0.005	0.024	0.004	<u>1.88</u>	0.008
Mokau River @ Mangaokewa Rd (Off SH30)	12	0.019	0.020	0.009	0.029	0.013	-0.06	0.017
Mokau River @ Totoro Rd Recorder	12	0.016	0.015	0.008	0.030	0.005	1.39	0.012
Mokauiti Stm @ Three Way Point - Aria	12	0.011	0.010	0.002	0.018	0.009	0.04	0.007
Ohautira Stm @ Waingaro Te Uku Rd	12	0.019	0.019	0.008	0.030	0.015	0.12	0.021
Oparau River @ Langdon Rd (Off Okupata Rd)	12	0.009	0.008	0.002	0.018	0.007	0.43	0.009
Tawarau River @ Off Speedies Rd	12	0.016	0.017	0.008	0.022	0.003	-0.69	0.015
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	12	0.012	0.011	0.005	0.023	0.008	0.59	0.011
Waitetuna River @ Te Uku-Waingaro Rd	12	0.011	0.011	0.006	0.017	0.009	-0.04	0.013

Inflows to Lake Taupo								
Hinemaiaia River @ SH1	12	0.030	0.030	0.022	0.038	0.006	0.27	0.031
Kuratau River @ 43 Te Rae Street	12	0.009	0.006	0.002	0.029	0.011	1.26	0.011
Kuratau River @ SH41 Moerangi	12	0.004	0.002	0.002	0.010	0.005	1.06	0.006
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	12	0.147	0.149	0.112	0.171	0.017	-0.77	0.145
Tauranga-Taupo River @ Te Kono Slackline	12	0.017	0.018	0.007	0.030	0.009	0.27	0.018
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over C:	12	0.005	0.003	0.002	0.017	0.003	<u>2.28</u>	0.008
Tokaanu Stm @ Off SH41 Turangi	12	0.078	0.078	0.067	0.089	0.011	0.06	0.080
Waihaha River @ SH32	12	0.021	0.023	0.009	0.035	0.009	0.18	0.021
Waitahanui River @ Blake Rd	12	0.046	0.046	0.032	0.055	0.005	-0.91	0.050
Whanganui Stm @ Lakeside Lake Taupo	12	0.013	0.012	0.002	0.034	0.011	1.00	0.014
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	12	0.023	0.021	0.015	0.036	0.007	0.98	0.024
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	12	0.021	0.020	0.015	0.035	0.006	<u>1.28</u>	0.023

12	0.067	0.038	0.019	0.274	0.041	<u>2.17</u>	0.036
12	0.066	0.068	0.038	0.099	0.027	0.09	0.060
12	0.062	0.045	0.024	0.202	0.025	<u>1.93</u>	0.047
12	0.335	0.321	0.172	0.528	0.236	0.31	0.281
12	0.097	0.084	0.069	0.176	0.043	1.22	0.099
12	0.037	0.029	0.016	0.093	0.020	1.48	0.031
12	0.011	0.009	0.005	0.024	0.008	1.06	0.009
12	0.098	0.087	0.041	0.201	0.065	0.84	0.099
12	0.067	0.058	0.040	0.158	0.033	<u>1.77</u>	0.056
12	0.030	0.025	0.014	0.079	0.014	<u>2.04</u>	0.024
12	0.098	0.071	0.031	0.425	0.018	<u>2.79</u>	0.072
12	0.037	0.029	0.012	0.091	0.030	1.04	0.036
12	0.053	0.046	0.014	0.098	0.059	0.23	0.046
12	0.034	0.027	0.015	0.075	0.032	0.84	0.029

12	0.205	0.144	0.097	0.546	0.133	1.44	0.179
12	0.064	0.061	0.051	0.082	0.016	0.51	0.063
12	0.095	0.093	0.072	0.147	0.011	<u>1.91</u>	0.093
12	0.060	0.054	0.044	0.099	0.019	1.31	0.052
12	0.199	0.183	0.170	0.369	0.018	<u>2.77</u>	0.177
12	0.109	0.108	0.099	0.122	0.012	0.27	0.111
12	0.061	0.053	0.049	0.091	0.018	1.16	0.054
12	0.109	0.107	0.094	0.136	0.013	0.96	0.108
12	0.187	0.181	0.148	0.231	0.029	0.23	0.123
12	0.194	0.207	0.093	0.251	0.067	-0.79	0.161
12	0.125	0.126	0.085	0.149	0.016	-1.04	0.093
12	0.075	0.075	0.070	0.082	0.005	0.49	0.073

12	0.027	0.020	0.009	0.113	0.012	<u>2.61</u>	0.021
12	0.026	0.021	0.009	0.108	0.015	<u>2.65</u>	0.022
12	0.048	0.026	0.015	0.284	0.024	<u>2.90</u>	0.027
12	0.041	0.035	0.020	0.135	0.009	<u>2.70</u>	0.035
12	0.038	0.031	0.022	0.081	0.017	1.41	0.032
12	0.051	0.046	0.018	0.118	0.028	1.26	0.055
12	0.045	0.037	0.035	0.077	0.020	1.16	0.037
12	0.045	0.044	0.024	0.104	0.017	<u>1.94</u>	0.043
12	0.059	0.053	0.038	0.135	0.020	<u>2.33</u>	0.054
12	0.071	0.044	0.031	0.242	0.018	<u>2.00</u>	0.048
12	0.026	0.019	0.008	0.085	0.016	<u>2.14</u>	0.019
12	0.039	0.030	0.026	0.088	0.016	1.62	0.032
12	0.076	0.057	0.024	0.266	0.033	<u>2.06</u>	0.051
12	0.079	0.043	0.028	0.242	0.085	1.27	0.045

12	0.039	0.040	0.027	0.052	0.009	-0.01	0.036
12	0.017	0.016	0.011	0.029	0.009	0.80	0.015
12	0.007	0.006	0.002	0.014	0.003	0.99	0.006
12	0.183	0.182	0.159	0.219	0.015	0.77	0.178
12	0.023	0.023	0.016	0.030	0.007	0.13	0.021
12	0.014	0.015	0.008	0.020	0.003	-0.29	0.015
12	0.081	0.081	0.078	0.086	0.004	0.57	0.081
12	0.028	0.027	0.020	0.037	0.007	0.20	0.025
12	0.050	0.050	0.047	0.058	0.004	1.23	0.051
12	0.021	0.019	0.013	0.033	0.009	0.77	0.016
12	0.045	0.044	0.033	0.065	0.010	0.88	0.037
12	0.043	0.039	0.031	0.105	0.009	<u>2.73</u>	0.034

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Ammoniacal Nitrogen (g N m⁻³)

Location	Count	Mean	Median	Min	Max	IQR	Skew	01-05
								Median
Coromandel								
Hikutaia River @ Old Maratoto Rd	12	0.01	0.01	0.01	0.02	0.01	0.74	0.02
Kauaeranga River @ Smiths Cableway/Recorder	12	0.01	0.01	0.01	0.01	0.00	1.00	0.01
Ohinemuri River @ Queens Head	12	0.07	0.04	0.01	0.26	0.13	1.07	0.02
Ohinemuri River @ SH25 Br	12	0.01	0.01	0.01	0.05	0.02	<u>1.71</u>	0.01
Tairua River @ Morrisons Br Hikuai	12	0.01	0.01	0.01	0.01	0.00	<u>1.79</u>	0.01
Tapu River @ Tapu-Coroglen Rd	12	0.01	0.01	0.01	0.01	0.00	1.00	0.01
Waiau River @ E309 Rd Ford	12	0.01	0.01	0.01	0.01	0.00	<u>3.02</u>	0.01
Waitekauri River @ U/S Ohinemuri Conflu	12	0.02	0.01	0.01	0.10	0.01	<u>2.79</u>	0.01
Waiwawa River @ SH25 Coroglen	12	0.01	0.01	0.01	0.01	0.00	1.15	0.01
Wharekawa River @ SH25	12	0.01	0.01	0.01	0.02	0.01	<u>1.69</u>	0.01
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	0.01	0.01	0.01	0.02	0.00	<u>2.21</u>	0.01
Oraka Stm @ Lake Rd	12	0.09	0.04	0.01	0.61	0.06	<u>2.72</u>	0.03
Piako River @ Kiwitahi	12	0.25	0.09	0.01	1.95	0.17	<u>2.88</u>	0.03
Piako River @ Paeroa-Tahuna Rd Br	12	0.09	0.08	0.01	0.18	0.14	0.21	0.08
Piakonui Stm @ Piakonui Rd	12	0.01	0.01	0.01	0.04	0.01	<u>1.89</u>	0.01
Waihou River @ Okauia	12	0.02	0.01	0.01	0.09	0.03	1.52	0.01
Waihou River @ Whites Rd	12	0.01	0.01	0.01	0.01	0.00	<u>1.79</u>	0.01
Waihotu Stm @ Waihotu Rd (Off SH5)	12	0.01	0.01	0.01	0.02	0.00	<u>2.21</u>	0.01
Waiomou Stm @ Matamata-Tauranga Rd	12	0.02	0.01	0.01	0.12	0.02	<u>2.62</u>	0.02
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	0.03	0.02	0.01	0.11	0.04	1.19	0.03
Waitoa River @ Landsdowne Rd Br	12	0.08	0.06	0.01	0.31	0.08	<u>2.02</u>	0.03
Waitoa River @ Mellon Rd Recorder	12	0.10	0.08	0.01	0.30	0.11	1.25	0.09
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otaua Rd Br opp Moseley Rd	12	0.04	0.03	0.01	0.17	0.03	<u>2.04</u>	0.04
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	0.04	0.03	0.01	0.16	0.02	<u>2.51</u>	0.02
Karapiro Stm @ Hickey Rd Bridge	12	0.03	0.02	0.01	0.13	0.01	<u>2.70</u>	0.02
Kirikiriira Stm @ Tauhara Dr	12	0.31	0.31	0.17	0.59	0.08	1.40	0.33
Komakorau Stm @ Henry Rd	12	0.80	0.71	0.38	1.53	0.62	0.59	0.87
Little Waipa Stm @ Arapuni - Putaruru Rd	12	0.02	0.02	0.01	0.03	0.02	0.33	0.01
Mangakotukutuku Stm (Rukuhia) @ Peacocks Rd	12	0.29	0.27	0.13	0.60	0.14	1.02	0.30
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	0.08	0.06	0.02	0.27	0.07	1.65	0.08
Mangaone Stm @ Annebrooke Rd Br	12	0.03	0.03	0.02	0.08	0.02	<u>2.06</u>	0.03
Mangaonua Stm @ Hoeka Rd	12	0.07	0.08	0.02	0.15	0.05	0.47	0.06
Mangaonua Stm @ Te Miro Rd	12	0.01	0.01	0.01	0.02	0.00	<u>2.56</u>	0.01
Mangatangi River @ SH2 Maramarua	12	0.03	0.01	0.01	0.16	0.02	<u>1.78</u>	0.01
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	0.01	0.01	0.01	0.03	0.00	<u>2.83</u>	0.01
Mangawara Stm @ Rutherford Rd Br	12	0.29	0.27	0.07	0.58	0.27	0.42	0.42
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	0.09	0.09	0.04	0.15	0.06	0.19	0.12
Matahuru Stm @ Waiterimu Road Below Confluence	12	0.08	0.06	0.01	0.22	0.13	0.72	0.05
Ohaeroa Stm @ SH22 Br	12	0.02	0.01	0.01	0.06	0.02	<u>2.12</u>	0.01
Opuatia Stm @ Ponganui Rd	12	0.02	0.02	0.01	0.05	0.01	1.62	0.01
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	0.01	0.01	0.01	0.04	0.02	1.24	0.01
Waerenga Stm @ Taniwha Rd	12	0.01	0.01	0.01	0.04	0.00	<u>1.81</u>	0.01
Waitawhiriwhiri Stm @ Edgecumbe Street	12	0.67	0.71	0.29	1.06	0.43	-0.04	0.67
Whakapipi Stm @ SH22 Br	12	0.06	0.02	0.01	0.20	0.09	1.16	0.02
Whakauru Stm @ U/S SH1 Br	12	0.01	0.01	0.01	0.03	0.01	1.32	0.01
Whangamarino River @ Island Block Rd	12	0.07	0.07	0.01	0.16	0.09	0.38	0.07
Whangamarino River @ Jefferies Rd Br	12	0.06	0.04	0.01	0.20	0.05	1.36	0.06
Whangape Stm @ Rangiriri-Glen Murray Rd	12	0.07	0.01	0.01	0.60	0.03	<u>2.98</u>	0.01

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Nitrate/Nitrite (g m⁻³)

Count	Mean	Median	Min	Max	IQR	Skew	01-05
							Median
12	0.085	0.026	0.008	0.282	0.136	1.02	0.045
12	0.027	0.009	0.002	0.102	0.040	1.29	0.019
12	0.752	0.819	0.055	1.280	0.607	-0.45	0.733
12	0.442	0.413	0.007	0.895	0.427	0.15	0.489
12	0.027	0.018	0.001	0.111	0.030	1.52	0.025
12	0.009	0.003	0.001	0.042	0.006	<u>1.70</u>	0.005
12	0.047	0.037	0.006	0.158	0.034	1.49	0.048
12	0.143	0.105	0.013	0.406	0.189	0.93	0.147
12	0.011	0.008	0.001	0.041	0.010	1.68	0.013
12	0.049	0.037	0.005	0.168	0.073	1.17	0.048
12	0.323	0.323	0.242	0.420	0.048	0.38	0.337
12	1.999	1.935	1.510	3.120	0.220	<u>1.95</u>	1.975
12	1.212	0.985	0.149	2.720	1.561	0.61	1.190
12	1.984	2.030	1.270	2.790	0.980	0.05	1.710
12	0.280	0.225	0.100	0.575	0.216	0.80	0.264
12	1.111	1.090	0.782	1.340	0.288	-0.24	1.085
12	0.636	0.655	0.408	0.708	0.024	<u>-2.39</u>	0.609
12	0.209	0.204	0.149	0.278	0.035	0.35	0.196
12	0.580	0.561	0.323	0.892	0.357	0.27	0.504
12	0.341	0.260	0.020	1.160	0.434	1.13	0.279
12	1.685	1.780	0.962	2.310	0.500	-0.23	1.575
12	2.262	2.115	1.310	4.030	0.885	0.97	2.345
12	1.119	1.130	0.002	2.730	1.642	0.22	1.075
12	0.480	0.369	0.040	1.270	0.567	0.74	0.254
12	0.680	0.509	0.162	1.510	0.668	0.85	0.583
12	0.911	0.783	0.502	1.630	0.375	0.99	0.993
12	2.108	1.550	1.010	7.720	0.535	<u>2.78</u>	1.490
12	1.416	1.370	1.080	1.710	0.240	0.12	1.330
12	1.081	1.012	0.802	1.690	0.365	1.02	1.095
12	2.815	2.990	1.530	3.940	1.110	-0.53	2.845
12	2.393	2.470	1.500	2.680	0.255	<u>-1.82</u>	2.560
12	1.268	1.275	0.872	1.870	0.360	0.54	1.370
12	0.538	0.420	0.231	1.060	0.490	0.88	0.508
12	0.380	0.181	0.012	1.470	0.566	1.38	0.275
12	0.123	0.020	0.001	0.633	0.147	<u>1.76</u>	0.043
12	1.285	0.873	0.446	4.060	0.581	<u>1.90</u>	0.977
12	1.683	1.650	1.500	1.880	0.260	0.28	1.590
12	0.805	0.677	0.099	2.060	0.765	0.82	0.769
12	1.348	1.240	0.880	2.330	0.410	1.23	1.165
12	0.775	0.751	0.353	1.420	0.270	0.82	0.606
12	1.570	1.620	0.833	1.960	0.310	-1.16	1.535
12	0.808	0.708	0.370	1.970	0.485	1.48	0.757
12	0.789	0.775	0.368	1.280	0.295	0.18	0.898
12	3.584	3.645	2.210	4.600	1.445	-0.22	3.455
12	0.092	0.089	0.053	0.164	0.042	0.88	0.066
12	0.205	0.063	0.001	0.784	0.353	1.12	0.085
12	0.754	0.581	0.006	1.970	0.987	0.59	0.714
12	0.143	0.006	0.001	0.610	0.302	1.13	0.006

Waipa River and Tributaries								
Kaniwhaniwha Stm @ Wright Rd	12	0.03	0.02	0.01	0.13	0.04	1.59	0.03
Mangaohoi Stm @ South Branch Maru Rd	12	0.01	0.01	0.01	0.01	0.00	1.15	0.01
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	12	0.02	0.01	0.01	0.09	0.02	<u>1.86</u>	0.02
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	12	0.08	0.06	0.02	0.30	0.06	<u>2.15</u>	0.07
Mangapu River @ Otorohanga	12	0.03	0.03	0.01	0.07	0.02	0.94	0.03
Mangatutu Stm (Waikeria) @ Walker Rd Br	12	0.01	0.01	0.01	0.04	0.02	1.51	0.01
Mangauika Stm @ Te Awamutu Borough W/S Intake	12	0.01	0.01	0.01	0.02	0.00	<u>3.02</u>	0.01
Ohote Stm @ Whatawhata/Horotiu Rd	12	0.07	0.04	0.01	0.41	0.04	<u>2.71</u>	0.05
Puniu River @ Bartons Corner Rd Br	12	0.03	0.03	0.01	0.14	0.03	<u>2.06</u>	0.02
Waipa River @ Mangaokewa Rd	12	0.01	0.01	0.01	0.02	0.02	0.38	0.01
Waipa River @ Pirongia-Ngutunui Rd Br	12	0.04	0.02	0.01	0.18	0.03	<u>2.09</u>	0.03
Waipa River @ SH3 Otorohanga	12	0.02	0.02	0.01	0.04	0.02	0.59	0.02
Waitomo Stm @ SH31 Otorohanga	12	0.03	0.02	0.01	0.07	0.05	0.64	0.02
Waitomo Stm @ Tumutumu Rd	12	0.01	0.01	0.01	0.03	0.00	<u>2.67</u>	0.01

Tributaries to the upper Waikato River								
Kawaunui Stm @ SH5 Br	12	0.15	0.02	0.01	0.66	0.15	1.56	0.03
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	12	0.02	0.01	0.01	0.12	0.01	<u>2.79</u>	0.01
Mangakara Stm (Reporoa) @ SH5	12	0.03	0.03	0.01	0.09	0.02	1.48	0.03
Mangakino Stm (Whakamaru) @ Sandel Rd	12	0.01	0.01	0.01	0.04	0.00	<u>2.30</u>	0.01
Otamakokore Stm @ Hossack Rd	12	0.05	0.01	0.01	0.51	0.02	<u>3.00</u>	0.01
Pueto Stm @ Broadlands Rd Br	12	0.01	0.01	0.01	0.01	0.01	0.71	0.01
Tahunaatara Stm @ Ohakuri Rd	12	0.01	0.01	0.01	0.03	0.02	0.57	0.01
Torepatutahi Stm @ Vaile Rd Br	12	0.01	0.01	0.01	0.02	0.02	0.52	0.01
Waiotapu Stm @ Campbell Rd Br	12	0.88	0.87	0.75	1.01	0.11	0.14	0.90
Waiotapu Stm @ Homestead Rd Br	12	0.31	0.35	0.11	0.45	0.14	-0.67	0.33
Waipapa Stm (Mokai) @ Tirohanga Rd Br	12	0.01	0.01	0.01	0.02	0.00	<u>3.02</u>	0.01
Whirinaki Stm @ Corbett Rd	12	0.01	0.01	0.01	0.03	0.01	<u>1.78</u>	0.01

West Coast								
Awakino River @ Gribbon Rd	12	0.01	0.01	0.01	0.02	0.01	<u>1.92</u>	0.01
Awakino River @ SH3 Awakau Rd Junction	12	0.01	0.01	0.01	0.03	0.02	0.91	0.01
Manganui River @ Off Manganui Rd	12	0.01	0.01	0.01	0.04	0.00	<u>2.36</u>	0.01
Mangaotaki River @ SH3 Br	12	0.01	0.01	0.01	0.03	0.01	<u>1.78</u>	0.01
Marokopa River @ Speedies Rd (Off Te Anga Rd)	12	0.01	0.01	0.01	0.01	0.00	<u>1.79</u>	0.01
Mokau River @ Awakau Rd	12	0.02	0.02	0.01	0.04	0.01	0.75	0.02
Mokau River @ Mangaokewa Rd (Off SH30)	12	0.01	0.01	0.01	0.01	0.00	<u>3.02</u>	0.01
Mokau River @ Totoro Rd Recorder	12	0.02	0.02	0.01	0.03	0.01	0.34	0.01
Mokauiti Stm @ Three Way Point - Aria	12	0.03	0.03	0.01	0.06	0.02	0.53	0.02
Ohautira Stm @ Waingaro Te Uku Rd	12	0.01	0.01	0.01	0.03	0.01	<u>2.44</u>	0.01
Oparau River @ Langdon Rd (Off Okupata Rd)	12	0.01	0.01	0.01	0.02	0.00	1.59	0.01
Tawarau River @ Off Speedies Rd	12	0.01	0.01	0.01	0.02	0.00	<u>3.02</u>	0.01
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	12	0.02	0.02	0.01	0.04	0.03	0.46	0.01
Waitetuna River @ Te Uku-Waingaro Rd	12	0.02	0.01	0.01	0.05	0.02	1.05	0.02

Inflows to Lake Taupo								
Hinemaiaia River @ SH1	12	0.01	0.01	0.01	0.02	0.00	1.59	0.01
Kuratau River @ 43 Te Rae Street	12	0.01	0.01	0.01	0.03	0.02	0.60	0.01
Kuratau River @ SH41 Moerangi	12	0.01	0.01	0.01	0.03	0.01	<u>2.54</u>	0.01
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	12	0.01	0.01	0.01	0.05	0.02	1.60	0.01
Tauranga-Taupo River @ Te Kono Slackline	12	0.01	0.01	0.01	0.02	0.00	<u>2.56</u>	0.01
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over C:	12	0.02	0.01	0.01	0.11	0.00	<u>2.76</u>	0.01
Tokaanu Stm @ Off SH41 Turangi	12	0.01	0.01	0.01	0.01	0.00	<u>1.79</u>	0.01
Waihaha River @ SH32	12	0.01	0.01	0.01	0.01	0.00	1.00	0.01
Waitahanui River @ Blake Rd	12	0.01	0.01	0.01	0.01	0.00	<u>3.02</u>	0.01
Whanganui Stm @ Lakeside Lake Taupo	12	0.01	0.01	0.01	0.02	0.00	<u>3.02</u>	0.01
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	12	0.01	0.01	0.01	0.02	0.00	<u>2.56</u>	0.01
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	12	0.01	0.01	0.01	0.01	0.01	0.71	0.01

12	0.579	0.380	0.115	1.820	0.822	1.04	0.325
12	0.301	0.287	0.130	0.492	0.207	0.40	0.317
12	0.502	0.418	0.256	0.797	0.378	0.38	0.461
12	2.027	1.805	0.969	3.180	0.790	0.32	1.995
12	0.779	0.675	0.417	1.210	0.424	0.25	0.769
12	0.411	0.449	0.101	0.808	0.376	0.07	0.357
12	0.210	0.215	0.096	0.300	0.044	-0.47	0.162
12	0.646	0.628	0.106	1.380	0.695	0.21	0.595
12	0.671	0.710	0.231	1.400	0.491	0.49	0.617
12	0.385	0.347	0.119	0.760	0.219	0.70	0.334
12	0.835	0.703	0.224	1.820	0.724	0.70	0.611
12	0.421	0.356	0.148	0.749	0.500	0.20	0.402
12	0.630	0.610	0.278	1.250	0.408	0.65	0.521
12	0.680	0.635	0.477	1.230	0.213	1.61	0.585

12	2.374	2.410	1.790	3.170	0.670	0.27	1.935
12	0.363	0.379	0.222	0.481	0.202	-0.27	0.239
12	1.209	1.205	1.020	1.400	0.260	0.04	1.015
12	0.524	0.565	0.216	0.625	0.099	<u>-1.93</u>	0.509
12	1.015	1.075	0.653	1.420	0.510	-0.21	0.682
12	0.403	0.413	0.298	0.467	0.034	-1.22	0.353
12	0.598	0.591	0.378	0.873	0.292	0.29	0.473
12	0.471	0.482	0.360	0.601	0.184	0.04	0.329
12	0.760	0.777	0.618	0.850	0.115	-0.59	0.738
12	1.360	1.385	1.170	1.530	0.210	-0.14	1.260
12	0.785	0.777	0.565	1.120	0.126	0.96	0.658
12	0.654	0.655	0.549	0.728	0.071	-0.42	0.594

12	0.095	0.083	0.027	0.183	0.120	0.14	0.131
12	0.168	0.131	0.001	0.389	0.301	0.22	0.188
12	0.088	0.039	0.001	0.318	0.140	1.06	0.114
12	0.667	0.595	0.487	0.952	0.289	0.58	0.632
12	0.274	0.242	0.145	0.526	0.144	0.93	0.235
12	0.421	0.314	0.226	0.719	0.375	0.60	0.363
12	0.318	0.295	0.178	0.446	0.144	0.31	0.295
12	0.554	0.444	0.367	0.865	0.337	0.50	0.480
12	0.299	0.227	0.097	0.559	0.326	0.28	0.264
12	0.387	0.284	0.110	0.842	0.503	0.57	0.267
12	0.148	0.106	0.009	0.516	0.213	1.10	0.122
12	0.313	0.273	0.188	0.613	0.142	1.26	0.272
12	0.560	0.409	0.001	1.570	0.865	0.69	0.360
12	0.454	0.299	0.143	1.070	0.552	0.69	0.312

12	0.056	0.051	0.001	0.114	0.070	0.14	0.058
12	0.587	0.532	0.326	0.964	0.178	0.94	0.474
12	0.087	0.090	0.064	0.136	0.030	0.82	0.088
12	0.702	0.725	0.517	0.835	0.130	-0.46	0.731
12	0.053	0.057	0.001	0.070	0.012	<u>-2.20</u>	0.052
12	0.002	0.001	0.001	0.009	0.002	<u>2.47</u>	0.002
12	0.425	0.450	0.301	0.470	0.062	-1.28	0.400
12	0.117	0.112	0.083	0.146	0.036	0.18	0.110
12	0.415	0.433	0.250	0.478	0.042	<u>-1.86</u>	0.360
12	0.390	0.388	0.200	0.547	0.108	-0.34	0.400
12	0.639	0.645	0.435	0.864	0.265	0.06	0.624
12	0.651	0.653	0.474	0.889	0.258	0.20	0.631

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Total Kjeldahl Nitrogen (g m⁻³)

Location								01-05
	Count	Mean	Median	Min	Max	IQR	Skew	Median
Coromandel								
Hikutaia River @ Old Maratoto Rd	12	0.10	0.11	0.03	0.14	0.05	-0.86	0.12
Kauaeranga River @ Smiths Cableway/Recorder	12	0.06	0.06	0.03	0.13	0.07	0.44	0.07
Ohinemuri River @ Queens Head	12	0.36	0.27	0.14	0.74	0.34	0.80	0.27
Ohinemuri River @ SH25 Br	12	0.12	0.12	0.05	0.18	0.07	-0.10	0.14
Tairua River @ Morrisons Br Hikuai	12	0.10	0.11	0.03	0.21	0.04	0.60	0.10
Tapu River @ Tapu-Coroglen Rd	12	0.06	0.06	0.03	0.12	0.07	0.26	0.07
Waiau River @ E309 Rd Ford	12	0.09	0.09	0.03	0.22	0.09	0.67	0.08
Waitekauri River @ U/S Ohinemuri Conflu	12	0.13	0.13	0.08	0.18	0.07	0.16	0.11
Waiwawa River @ SH25 Coroglen	12	0.12	0.10	0.03	0.37	0.04	<u>2.25</u>	0.09
Wharekawa River @ SH25	12	0.12	0.12	0.08	0.18	0.05	0.34	0.12
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	0.14	0.13	0.06	0.21	0.08	0.18	0.12
Oraka Stm @ Lake Rd	12	0.39	0.34	0.17	0.98	0.23	1.37	0.34
Piako River @ Kiwitahi	12	0.78	0.54	0.29	2.34	0.23	<u>1.71</u>	0.47
Piako River @ Paeroa-Tahuna Rd Br	12	0.84	0.76	0.52	1.48	0.37	0.97	0.76
Piakonui Stm @ Piakonui Rd	12	0.31	0.19	0.09	1.22	0.09	<u>2.28</u>	0.20
Waihou River @ Okauia	12	0.25	0.23	0.12	0.74	0.13	<u>2.25</u>	0.22
Waihou River @ Whites Rd	12	0.04	0.03	0.03	0.09	0.03	1.19	0.05
Waihotu Stm @ Waihotu Rd (Off SH5)	12	0.18	0.15	0.07	0.49	0.09	<u>1.97</u>	0.15
Waiomou Stm @ Matamata-Tauranga Rd	12	0.23	0.23	0.10	0.46	0.03	1.22	0.21
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	0.45	0.41	0.22	0.73	0.17	0.64	0.39
Waitoa River @ Landsdowne Rd Br	12	0.73	0.49	0.30	3.25	0.34	<u>2.81</u>	0.48
Waitoa River @ Mellon Rd Recorder	12	0.66	0.56	0.40	1.33	0.31	1.33	0.65
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otatau Rd Br opp Moseley Rd	12	0.55	0.52	0.28	1.09	0.24	1.17	0.53
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	0.29	0.27	0.13	0.59	0.13	1.07	0.26
Karapiro Stm @ Hickey Rd Bridge	12	0.49	0.38	0.23	1.85	0.21	<u>2.75</u>	0.36
Kirikiriira Stm @ Tauhara Dr	12	0.96	0.69	0.45	2.76	0.40	<u>1.98</u>	0.87
Komakorau Stm @ Henry Rd	12	1.84	1.85	1.09	2.69	0.62	0.13	1.99
Little Waipa Stm @ Arapuni - Putaruru Rd	12	0.18	0.18	0.07	0.38	0.06	1.26	0.20
Mangakotukutuku Stm (Rukuhia) @ Peacockes Rd	12	1.37	1.36	0.50	3.18	0.89	1.08	1.42
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	0.57	0.51	0.41	1.16	0.16	<u>2.24</u>	0.49
Mangaone Stm @ Annebrooke Rd Br	12	0.59	0.49	0.40	1.13	0.17	1.48	0.49
Mangaonua Stm @ Hoeka Rd	12	0.56	0.41	0.27	1.59	0.25	<u>1.72</u>	0.41
Mangaonua Stm @ Te Miro Rd	12	0.26	0.24	0.13	0.52	0.11	1.11	0.24
Mangatangi River @ SH2 Maramaru	12	0.44	0.42	0.15	1.00	0.24	1.10	0.35
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	0.16	0.16	0.07	0.26	0.08	0.36	0.15
Mangawara Stm @ Rutherford Rd Br	12	1.19	1.09	0.53	1.94	1.02	0.17	1.35
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	0.72	0.64	0.42	1.32	0.38	0.96	0.80
Matahuru Stm @ Waiterimu Road Below Confluence	12	0.86	0.59	0.26	1.70	0.83	0.56	0.58
Ohaeroa Stm @ SH22 Br	12	0.32	0.28	0.16	0.82	0.12	<u>2.06</u>	0.27
Opuatia Stm @ Ponganui Rd	12	0.33	0.26	0.11	0.59	0.27	0.56	0.26
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	0.24	0.24	0.09	0.48	0.07	1.26	0.25
Waerenga Stm @ Taniwha Rd	12	0.29	0.25	0.14	0.63	0.17	1.20	0.23
Waitawhiriwhiri Stm @ Edgecumbe Street	12	1.60	1.34	0.88	4.24	0.52	<u>2.31</u>	1.36
Whakapipi Stm @ SH22 Br	12	0.51	0.46	0.35	0.97	0.17	<u>1.80</u>	0.44
Whakauru Stm @ U/S SH1 Br	12	0.13	0.13	0.08	0.19	0.05	0.10	0.15
Whangamarino River @ Island Block Rd	12	1.61	1.66	1.01	2.52	0.57	0.58	1.32
Whangamarino River @ Jefferies Rd Br	12	0.61	0.42	0.26	1.72	0.43	1.51	0.45
Whangape Stm @ Rangiriri-Glen Murray Rd	12	3.28	1.93	0.59	10.30	3.51	1.29	1.15

Total Nitrogen (g m⁻³)

Location								01-05
	Count	Mean	Median	Min	Max	IQR	Skew	Median
Coromandel								
Hikutaia River @ Old Maratoto Rd	12	0.19	0.16	0.03	0.38	0.16	0.42	0.18
Kauaeranga River @ Smiths Cableway/Recorder	12	0.09	0.07	0.03	0.20	0.06	0.91	0.10
Ohinemuri River @ Queens Head	12	1.11	1.16	0.20	1.85	0.88	-0.26	1.01
Ohinemuri River @ SH25 Br	12	0.56	0.56	0.07	1.05	0.38	0.02	0.64
Tairua River @ Morrisons Br Hikuai	12	0.13	0.12	0.06	0.23	0.05	0.79	0.13
Tapu River @ Tapu-Coroglen Rd	12	0.07	0.06	0.03	0.13	0.06	0.30	0.08
Waiau River @ E309 Rd Ford	12	0.14	0.13	0.06	0.26	0.07	0.76	0.14
Waitekauri River @ U/S Ohinemuri Conflu	12	0.27	0.25	0.09	0.54	0.14	0.74	0.25
Waiwawa River @ SH25 Coroglen	12	0.13	0.11	0.05	0.38	0.04	<u>2.28</u>	0.11
Wharekawa River @ SH25	12	0.17	0.17	0.11	0.25	0.03	0.63	0.17
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	0.46	0.45	0.37	0.58	0.08	0.53	0.46
Oraka Stm @ Lake Rd	12	2.39	2.33	1.90	3.60	0.43	1.47	2.36
Piako River @ Kiwitahi	12	1.99	1.72	0.75	4.58	1.68	0.89	1.83
Piako River @ Paeroa-Tahuna Rd Br	12	2.82	2.88	1.83	3.65	0.97	-0.21	2.60
Piakonui Stm @ Piakonui Rd	12	0.59	0.44	0.31	1.56	0.33	1.64	0.46
Waihou River @ Okauia	12	1.36	1.46	1.11	1.61	0.37	-0.25	1.33
Waihou River @ Whites Rd	12	0.68	0.68	0.43	0.80	0.05	-1.68	0.66
Waihotu Stm @ Waihotu Rd (Off SH5)	12	0.39	0.36	0.27	0.69	0.06	<u>2.10</u>	0.36
Waiomou Stm @ Matamata-Tauranga Rd	12	0.81	0.81	0.42	1.12	0.43	-0.24	0.72
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	0.79	0.70	0.35	1.89	0.62	1.13	0.78
Waitoa River @ Landsdowne Rd Br	12	2.42	2.25	1.68	4.63	0.88	<u>1.76</u>	2.06
Waitoa River @ Mellon Rd Recorder	12	2.92	2.67	1.77	4.58	1.05	0.84	3.00
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otatau Rd Br opp Moseley Rd	12	1.66	1.68	0.40	3.82	1.69	0.51	1.79
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	0.77	0.58	0.31	1.67	0.61	0.79	0.55
Karapiro Stm @ Hickey Rd Bridge	12	1.17	0.90	0.43	3.36	0.72	<u>1.78</u>	0.93
Kirikiriira Stm @ Tauhara Dr	12	1.87	1.44	1.16	3.60	0.83	1.17	1.99
Komakorau Stm @ Henry Rd	12	3.95	3.27	2.51	10.02	0.79	<u>2.52</u>	3.38
Little Waipa Stm @ Arapuni - Putaruru Rd	12	1.60	1.56	1.38	1.90	0.26	0.51	1.53
Mangakotukutuku Stm (Rukuhia) @ Peacockes Rd	12	2.45	2.48	1.32	4.09	1.33	0.36	2.49
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	3.38	3.59	1.99	4.39	0.85	-0.76	3.34
Mangaone Stm @ Annebrooke Rd Br	12	2.99	3.07	2.52	3.38	0.26	-0.57	3.07
Mangaonua Stm @ Hoeka Rd	12	1.83	1.72	1.28	2.85	0.83	0.77	1.80
Mangaonua Stm @ Te Miro Rd	12	0.80	0.63	0.39	1.56	0.58	0.90	0.76
Mangatangi River @ SH2 Maramaru	12	0.82	0.62	0.16	2.43	0.70	1.30	0.77
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	0.28	0.18	0.11	0.89	0.16	<u>1.73</u>	0.23
Mangawara Stm @ Rutherford Rd Br	12	2.47	2.12	1.03	5.90	1.42	1.28	2.51
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	2.41	2.32	1.98	2.91	0.56	0.30	2.43
Matahuru Stm @ Waiterimu Road Below Confluence	12	1.67	1.46	0.44	3.76	1.34	0.68	1.55
Ohaeroa Stm @ SH22 Br	12	1.67	1.57	1.15	3.15	0.37	<u>2.06</u>	1.54
Opuatia Stm @ Ponganui Rd	12	1.10	1.05	0.55	2.00	0.17	1.21	0.94
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	1.81	1.84	1.31	2.22	0.33	-0.53	1.83
Waerenga Stm @ Taniwha Rd	12	1.10	1.05	0.51	2.60	0.60	1.65	1.05
Waitawhiriwhiri Stm @ Edgecumbe Street	12	2.39	2.19	1.26	4.72	0.56	1.54	2.24
Whakapipi Stm @ SH22 Br	12	4.09	4.15	2.67	5.42	1.45	-0.09	4.01
Whakauru Stm @ U/S SH1 Br	12	0.23	0.22	0.16	0.32	0.06	0.60	0.22
Whangamarino River @ Island Block Rd	12	1.81	1.81	1.06	2.52	0.49	-0.15	1.52
Whangamarino River @ Jefferies Rd Br	12	1.36	1.00	0.28	3.37	1.22	0.95	1.39
Whangape Stm @ Rangiriri-Glen Murray Rd	12	3.42	2.11	0.96	10.30	3.23	1.34	1.32

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Waipa River and Tributaries								
Kaniwhaniwha Stm @ Wright Rd	12	0.34	0.22	0.10	1.25	0.25	<u>1.76</u>	0.23
Mangaohoi Stm @ South Branch Maru Rd	12	0.15	0.13	0.09	0.27	0.10	0.69	0.15
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	12	0.34	0.26	0.17	1.21	0.13	<u>2.70</u>	0.26
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	12	0.78	0.71	0.51	1.53	0.18	<u>1.92</u>	0.72
Mangapu River @ Otorohanga	12	0.33	0.32	0.18	0.66	0.09	<u>1.81</u>	0.32
Mangatutu Stm (Waikeria) @ Walker Rd Br	12	0.23	0.19	0.08	0.55	0.16	1.14	0.17
Mangauika Stm @ Te Awamutu Borough W/S Intake	12	0.05	0.03	0.03	0.13	0.05	1.21	0.06
Ohote Stm @ Whatawhata/Horotiu Rd	12	0.76	0.67	0.42	1.39	0.30	1.06	0.79
Puniu River @ Bartons Corner Rd Br	12	0.32	0.31	0.15	0.66	0.17	1.04	0.27
Waipa River @ Mangaokewa Rd	12	0.23	0.21	0.16	0.39	0.08	1.15	0.20
Waipa River @ Pirongia-Ngutunui Rd Br	12	0.48	0.33	0.15	2.04	0.18	<u>2.62</u>	0.32
Waipa River @ SH3 Otorohanga	12	0.22	0.19	0.11	0.56	0.15	1.61	0.22
Waitomo Stm @ SH31 Otorohanga	12	0.28	0.26	0.08	0.72	0.17	1.27	0.26
Waitomo Stm @ Tumutumu Rd	12	0.17	0.16	0.03	0.43	0.09	1.34	0.15

Tributaries to the upper Waikato River								
Kawaunui Stm @ SH5 Br	12	0.57	0.36	0.23	1.46	0.50	1.21	0.41
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	12	0.17	0.16	0.09	0.26	0.08	0.33	0.17
Mangakara Stm (Reporoa) @ SH5	12	0.29	0.24	0.17	0.75	0.10	<u>2.18</u>	0.26
Mangakino Stm (Whakamaru) @ Sandel Rd	12	0.15	0.12	0.03	0.36	0.15	0.86	0.11
Otamakokore Stm @ Hossack Rd	12	0.32	0.27	0.18	0.99	0.13	<u>2.44</u>	0.27
Pueto Stm @ Broadlands Rd Br	12	0.09	0.08	0.03	0.16	0.07	0.34	0.09
Tahunaatara Stm @ Ohakuri Rd	12	0.21	0.20	0.12	0.39	0.07	1.07	0.20
Torepatutahi Stm @ Vaile Rd Br	12	0.11	0.11	0.05	0.24	0.05	1.35	0.11
Waiotapu Stm @ Campbell Rd Br	12	1.05	1.06	0.89	1.22	0.14	-0.14	1.07
Waiotapu Stm @ Homestead Rd Br	12	0.65	0.71	0.31	0.96	0.35	-0.07	0.67
Waipapa Stm (Mokai) @ Tirohanga Rd Br	12	0.15	0.15	0.10	0.22	0.08	0.46	0.15
Whirinaki Stm @ Corbett Rd	12	0.07	0.08	0.03	0.14	0.07	0.26	0.07

West Coast								
Awakino River @ Gribbon Rd	12	0.06	0.06	0.03	0.16	0.06	1.04	0.07
Awakino River @ SH3 Awakau Rd Junction	12	0.12	0.11	0.06	0.18	0.07	0.30	0.13
Manganui River @ Off Manganui Rd	12	0.17	0.10	0.06	0.83	0.06	<u>2.74</u>	0.11
Mangaotaki River @ SH3 Br	12	0.21	0.20	0.10	0.48	0.08	<u>1.69</u>	0.20
Marokopa River @ Speedies Rd (Off Te Anga Rd)	12	0.18	0.16	0.06	0.41	0.07	1.25	0.15
Mokau River @ Awakau Rd	12	0.30	0.28	0.19	0.59	0.09	<u>1.69</u>	0.30
Mokau River @ Mangaokewa Rd (Off SH30)	12	0.25	0.23	0.13	0.49	0.12	1.01	0.23
Mokau River @ Totoro Rd Recorder	12	0.24	0.24	0.14	0.44	0.08	1.27	0.25
Mokauiti Stm @ Three Way Point - Aria	12	0.34	0.32	0.23	0.62	0.07	1.63	0.31
Ohautira Stm @ Waingaro Te Uku Rd	12	0.23	0.20	0.03	0.86	0.16	<u>1.97</u>	0.19
Oparau River @ Langdon Rd (Off Okupata Rd)	12	0.13	0.13	0.03	0.26	0.11	0.17	0.13
Tawarau River @ Off Speedies Rd	12	0.16	0.14	0.03	0.38	0.09	1.09	0.14
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	12	0.39	0.30	0.19	1.34	0.17	<u>2.52</u>	0.26
Waitetuna River @ Te Uku-Waingaro Rd	12	0.32	0.18	0.11	1.08	0.24	<u>1.70</u>	0.19

Inflows to Lake Taupo								
Hinemaiaia River @ SH1	12	0.06	0.07	0.03	0.11	0.05	-0.16	0.06
Kuratau River @ 43 Te Rae Street	12	0.13	0.13	0.07	0.21	0.07	0.32	0.15
Kuratau River @ SH41 Moerangi	12	0.09	0.08	0.03	0.18	0.05	0.71	0.08
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	12	0.20	0.19	0.13	0.35	0.05	1.32	0.20
Tauranga-Taupo River @ Te Kono Slackline	12	0.05	0.05	0.03	0.11	0.05	0.64	0.03
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over Cana	12	0.11	0.09	0.03	0.25	0.09	0.73	0.09
Tokaanu Stm @ Off SH41 Turangi	12	0.05	0.04	0.03	0.13	0.05	1.15	0.03
Waihaha River @ SH32	12	0.08	0.07	0.03	0.19	0.07	0.89	0.06
Waitahanui River @ Blake Rd	12	0.07	0.06	0.03	0.16	0.04	1.08	0.06
Whanganui Stm @ Lakeside Lake Taupo	12	0.13	0.13	0.05	0.21	0.10	-0.14	0.12
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	12	0.19	0.17	0.09	0.34	0.10	0.76	0.15
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	12	0.21	0.20	0.08	0.51	0.11	1.43	0.16

12	0.92	0.54	0.24	2.64	1.25	0.94	0.62
12	0.45	0.41	0.22	0.72	0.17	0.48	0.46
12	0.84	0.80	0.43	1.58	0.46	0.68	0.77
12	2.81	2.56	1.48	4.14	0.97	0.28	2.91
12	1.11	1.00	0.74	1.68	0.57	0.36	1.12
12	0.64	0.53	0.31	1.22	0.47	0.73	0.53
12	0.26	0.25	0.12	0.38	0.09	0.11	0.21
12	1.40	1.46	0.53	2.05	0.58	-0.53	1.43
12	0.99	0.95	0.44	1.78	0.67	0.28	0.92
12	0.61	0.62	0.46	0.92	0.15	0.93	0.58
12	1.31	1.00	0.44	3.86	0.78	1.63	0.94
12	0.64	0.56	0.26	1.23	0.64	0.38	0.66
12	0.91	0.84	0.40	1.56	0.66	0.30	0.82
12	0.85	0.82	0.62	1.34	0.31	0.90	0.78

12	2.95	3.01	2.05	3.81	1.30	-0.13	2.52
12	0.53	0.58	0.32	0.69	0.22	-0.55	0.41
12	1.50	1.45	1.27	1.99	0.37	0.71	1.30
12	0.67	0.67	0.45	0.84	0.12	-0.21	0.63
12	1.33	1.43	0.85	2.11	0.65	0.26	0.92
12	0.49	0.49	0.42	0.57	0.06	0.04	0.46
12	0.81	0.81	0.54	1.12	0.34	0.09	0.69
12	0.58	0.60	0.43	0.74	0.13	-0.23	0.44
12	1.81	1.81	1.51	2.02	0.20	-0.50	1.82
12	2.01	2.11	1.55	2.35	0.48	-0.48	1.88
12	0.94	0.97	0.71	1.34	0.17	0.96	0.81
12	0.72	0.72	0.57	0.83	0.13	-0.32	0.67

12	0.16	0.16	0.07	0.27	0.12	0.07	0.21
12	0.29	0.23	0.10	0.51	0.26	0.26	0.34
12	0.26	0.17	0.07	1.15	0.19	<u>2.50</u>	0.22
12	0.88	0.77	0.69	1.17	0.32	0.40	0.85
12	0.45	0.41	0.26	0.70	0.28	0.27	0.42
12	0.72	0.62	0.47	1.03	0.44	0.29	0.72
12	0.57	0.59	0.38	0.75	0.25	-0.11	0.53
12	0.79	0.67	0.54	1.07	0.37	0.27	0.73
12	0.64	0.57	0.35	1.10	0.31	0.67	0.60
12	0.62	0.44	0.22	1.60	0.59	1.08	0.47
12	0.28	0.21	0.04	0.75	0.27	0.99	0.27
12	0.47	0.45	0.27	0.70	0.25	0.24	0.45
12	0.95	0.68	0.20	2.86	0.94	1.22	0.64
12	0.78	0.50	0.30	2.15	0.77	1.18	0.53

12	0.12	0.12	0.06	0.22	0.05	0.74	0.12
12	0.72	0.68	0.49	1.17	0.16	1.26	0.60
12	0.18	0.17	0.12	0.28	0.05	1.00	0.17
12	0.91	0.90	0.74	1.13	0.21	0.31	0.91
12	0.11	0.11	0.03	0.16	0.04	-0.61	0.09
12	0.11	0.09	0.03	0.25	0.09	0.74	0.10
12	0.48	0.48	0.35	0.56	0.05	-0.80	0.43
12	0.19	0.19	0.12	0.31	0.04	1.08	0.17
12	0.48	0.48	0.31	0.62	0.04	-0.60	0.43
12	0.52	0.53	0.38	0.72	0.13	0.49	0.52
12	0.83	0.83	0.60	1.05	0.35	-0.08	0.76
12	0.86	0.82	0.65	1.18	0.23	0.67	0.76

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Turbidity (NTU)

Location								01-05
	Count	Mean	Median	Min	Max	IQR	Skew	Median
Coromandel								
Hikutaia River @ Old Maratoto Rd	12	1.8	1.3	0.6	4.4	1.4	1.04	1.6
Kauaeranga River @ Smiths Cableway/Recorder	12	1.1	0.8	0.5	2.5	1.0	1.00	1.4
Ohinemuri River @ Queens Head	12	1.5	1.1	0.4	3.1	1.6	0.41	1.3
Ohinemuri River @ SH25 Br	12	1.0	1.0	0.6	1.9	0.6	0.69	1.0
Tairua River @ Morrisons Br Hikuai	12	2.9	1.5	1.0	15.9	1.6	<u>2.83</u>	1.3
Tapu River @ Tapu-Coroglen Rd	12	1.6	1.0	0.4	3.8	1.9	0.86	1.4
Waiau River @ E309 Rd Ford	12	3.6	2.7	1.5	15.2	1.2	<u>2.82</u>	2.6
Waitekauri River @ U/S Ohinemuri Conflu	12	1.2	1.0	0.5	3.0	0.7	1.26	0.9
Waiwawa River @ SH25 Coroglen	12	1.6	1.6	1.0	2.9	0.8	0.86	1.5
Wharekawa River @ SH25	12	2.6	2.3	1.8	4.2	0.9	1.00	2.1
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	8.4	5.7	3.6	22.9	7.3	1.29	6.4
Oraka Stm @ Lake Rd	12	9.6	7.5	1.8	46.5	6.7	<u>2.57</u>	4.6
Piako River @ Kiwitahi	12	12.7	4.3	1.7	102.0	5.6	<u>2.97</u>	4.3
Piako River @ Paeroa-Tahuna Rd Br	12	15.5	13.7	2.8	51.0	16.1	1.50	12.0
Piakonui Stm @ Piakonui Rd	12	11.8	5.1	2.2	62.8	2.3	<u>2.19</u>	4.4
Waihou River @ Okauia	12	7.7	5.0	1.9	37.0	5.7	<u>2.59</u>	3.7
Waihou River @ Whites Rd	12	0.6	0.5	0.2	1.1	0.4	0.63	0.4
Waihotu Stm @ Waihotu Rd (Off SH5)	12	7.3	5.6	3.4	19.8	3.0	<u>1.73</u>	5.9
Waiomou Stm @ Matamata-Tauranga Rd	12	5.0	4.0	1.7	13.1	3.9	1.40	3.3
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	16.3	11.5	1.9	50.4	18.0	1.11	9.9
Waitoa River @ Landsdowne Rd Br	12	28.3	5.8	2.2	229.0	14.5	<u>2.89</u>	5.3
Waitoa River @ Mellon Rd Recorder	12	13.2	7.8	2.9	38.8	11.5	1.26	7.9
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otawa Rd Br opp Moseley Rd	12	13.3	12.8	5.6	21.4	6.6	0.17	11.8
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	11.5	7.1	2.2	42.1	12.4	1.58	4.0
Karapiro Stm @ Hickey Rd Bridge	12	20.3	7.9	2.5	146.0	14.3	<u>2.87</u>	4.9
Kirikirihoa Stm @ Tauhara Dr	12	62.1	29.8	16.8	360.0	9.9	<u>2.70</u>	30.4
Komakorau Stm @ Henry Rd	12	68.1	75.7	25.7	102.0	43.2	-0.38	70.6
Little Waipa Stm @ Arapuni - Putaruru Rd	12	2.3	2.0	0.4	7.7	2.1	<u>1.70</u>	1.4
Mangakotukutuku Stm (Rukuhia) @ Peacockes Rd	12	61.0	22.9	12.3	450.0	13.2	<u>2.94</u>	25.4
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	7.1	3.5	1.6	34.4	3.7	<u>2.34</u>	3.1
Mangaone Stm @ Annebrooke Rd Br	12	11.6	10.1	5.4	20.4	7.4	0.68	8.3
Mangaonua Stm @ Hoeka Rd	12	24.3	13.6	3.9	129.0	13.6	<u>2.29</u>	8.8
Mangaonua Stm @ Te Miro Rd	12	9.2	5.5	2.7	31.9	7.3	<u>1.85</u>	4.6
Mangatangi River @ SH2 Maramarua	12	13.4	11.0	1.7	47.9	11.0	1.54	6.5
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	6.3	2.6	1.1	24.5	5.0	1.65	3.0
Mangawara Stm @ Rutherford Rd Br	12	47.3	41.4	26.7	77.7	28.0	0.61	41.5
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	45.0	39.9	22.3	98.2	13.4	<u>1.96</u>	39.4
Matahuru Stm @ Waiterimu Road Below Confluence	12	109.7	50.0	12.0	695.0	56.3	<u>2.75</u>	29.3
Ohaeroa Stm @ SH22 Br	12	21.6	7.4	2.2	161.0	16.2	<u>2.89</u>	6.3
Opuatia Stm @ Ponganui Rd	12	23.9	9.9	1.9	134.0	20.7	<u>2.59</u>	8.8
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	4.4	3.2	1.3	17.1	3.7	<u>2.16</u>	2.3
Waerenga Stm @ Taniwha Rd	12	10.6	6.8	1.3	43.4	8.9	<u>1.82</u>	5.1
Waitawhiriwhiri Stm @ Edgecumbe Street	12	65.9	35.2	18.7	237.0	25.6	<u>1.77</u>	33.2
Whakapipi Stm @ SH22 Br	12	8.6	5.5	1.7	32.4	7.7	<u>1.75</u>	5.1
Whakauru Stm @ U/S SH1 Br	12	3.6	3.6	1.6	5.8	2.1	0.10	3.2
Whangamarino River @ Island Block Rd	12	42.8	37.2	17.5	87.3	29.4	0.68	37.4
Whangamarino River @ Jefferies Rd Br	12	38.3	16.0	4.9	240.0	25.4	<u>2.79</u>	13.0
Whangape Stm @ Rangiriri-Glen Murray Rd	12	72.4	54.6	20.3	150.0	69.7	0.58	25.1

pH (pH units)

Location								01-05
	Count	Mean	Median	Min	Max	IQR	Skew	Median
Coromandel								
Hikutaia River @ Old Maratoto Rd	12	7.1	7.2	6.8	7.3	0.3	-0.48	7.1
Kauaeranga River @ Smiths Cableway/Recorder	12	7.1	7.1	6.7	7.3	0.3	-0.87	7.0
Ohinemuri River @ Queens Head	12	7.0	7.0	6.7	7.3	0.5	0.11	7.2
Ohinemuri River @ SH25 Br	12	6.9	7.0	6.7	7.2	0.3	0.01	7.0
Tairua River @ Morrisons Br Hikuai	12	6.9	7.0	6.6	7.1	0.2	-0.80	6.8
Tapu River @ Tapu-Coroglen Rd	12	7.4	7.5	7.0	7.6	0.2	-1.38	7.5
Waiau River @ E309 Rd Ford	12	7.3	7.4	6.8	7.5	0.1	-1.62	7.3
Waitekauri River @ U/S Ohinemuri Conflu	12	7.1	7.1	6.8	7.3	0.3	-0.22	7.2
Waiwawa River @ SH25 Coroglen	12	7.1	7.2	6.6	7.3	0.2	-1.27	7.1
Wharekawa River @ SH25	12	6.9	6.9	6.6	7.2	0.2	0.45	6.9
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	7.3	7.3	7.0	7.5	0.3	-0.08	7.4
Oraka Stm @ Lake Rd	12	7.2	7.2	6.9	7.5	0.2	0.14	7.3
Piako River @ Kiwitahi	12	7.1	7.1	6.8	7.5	0.4	0.44	7.1
Piako River @ Paeroa-Tahuna Rd Br	12	7.2	7.3	6.8	7.7	0.3	0.25	7.3
Piakonui Stm @ Piakonui Rd	12	7.2	7.2	6.9	7.5	0.4	0.06	7.2
Waihou River @ Okauia	12	7.2	7.2	6.7	7.4	0.3	-0.90	7.3
Waihou River @ Whites Rd	12	6.9	7.0	6.7	7.1	0.2	-0.15	7.0
Waihotu Stm @ Waihotu Rd (Off SH5)	12	7.0	7.0	6.8	7.3	0.4	0.11	7.1
Waiomou Stm @ Matamata-Tauranga Rd	12	7.0	7.0	6.7	7.3	0.2	-0.43	7.1
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	7.2	7.2	6.7	7.5	0.4	-0.40	7.3
Waitoa River @ Landsdowne Rd Br	12	7.1	7.0	6.8	7.3	0.4	0.17	7.1
Waitoa River @ Mellon Rd Recorder	12	7.3	7.3	6.8	7.6	0.4	-0.42	7.3
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otawa Rd Br opp Moseley Rd	12	7.4	7.6	6.5	8.1	0.7	-0.28	7.3
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	7.6	7.6	7.0	8.2	0.6	-0.02	7.8
Karapiro Stm @ Hickey Rd Bridge	12	7.2	7.2	6.9	7.6	0.4	0.42	7.3
Kirikirihoa Stm @ Tauhara Dr	12	6.8	6.8	6.6	7.2	0.2	0.93	6.9
Komakorau Stm @ Henry Rd	12	6.5	6.6	5.8	7.0	0.5	-0.43	6.7
Little Waipa Stm @ Arapuni - Putaruru Rd	12	7.0	7.0	6.8	7.2	0.2	-0.14	7.1
Mangakotukutuku Stm (Rukuhia) @ Peacockes Rd	12	7.0	7.1	6.3	7.5	0.3	-0.47	7.0
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	7.3	7.4	7.0	7.6	0.3	-0.36	7.5
Mangaone Stm @ Annebrooke Rd Br	12	7.3	7.3	7.0	7.5	0.3	-0.06	7.3
Mangaonua Stm @ Hoeka Rd	12	7.0	7.0	6.8	7.2	0.3	-0.16	7.0
Mangaonua Stm @ Te Miro Rd	12	7.3	7.4	7.1	7.6	0.3	0.04	7.4
Mangatangi River @ SH2 Maramarua	12	7.1	7.1	6.7	7.3	0.3	-0.65	7.1
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	7.3	7.4	6.9	7.6	0.2	-0.78	7.4
Mangawara Stm @ Rutherford Rd Br	12	6.7	6.8	6.1	7.1	0.6	-0.37	6.8
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	7.1	7.0	6.7	7.3	0.3	-0.23	7.0
Matahuru Stm @ Waiterimu Road Below Confluence	12	7.0	7.0	6.4	7.3	0.5	-0.50	7.1
Ohaeroa Stm @ SH22 Br	12	7.5	7.5	7.1	7.7	0.4	-0.17	7.5
Opuatia Stm @ Ponganui Rd	12	7.5	7.5	7.2	7.7	0.2	-0.17	7.6
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	7.1	7.2	6.9	7.3	0.2	-0.36	7.2
Waerenga Stm @ Taniwha Rd	12	7.2	7.2	6.8	7.5	0.2	-0.68	7.3
Waitawhiriwhiri Stm @ Edgecumbe Street	12	7.0	7.0	6.7	7.3	0.3	0.12	7.0
Whakapipi Stm @ SH22 Br	12	7.3	7.3	7.0	7.5	0.2	-0.33	7.3
Whakauru Stm @ U/S SH1 Br	12	7.3	7.3	7.0	7.5	0.3	-0.26	7.4
Whangamarino River @ Island Block Rd	12	6.8	6.8	6.5	7.0	0.4	-0.22	6.8
Whangamarino River @ Jefferies Rd Br	12	7.0	7.1	6.6	7.3	0.3	-0.74	7.1
Whangape Stm @ Rangiriri-Glen Murray Rd	12	7.4	7.4	6.7	8.0	0.5	-0.10	7.7

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Waipa River and Tributaries								
Kaniwhaniwha Stm @ Wright Rd	12	22.9	9.5	2.5	151.0	12.9	<u>2.76</u>	6.3
Mangaohoi Stm @ South Branch Maru Rd	12	2.9	2.7	1.6	5.1	1.3	0.75	2.3
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	12	7.9	4.7	1.7	27.5	8.6	1.55	4.4
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	12	19.2	15.2	5.3	54.6	15.0	1.51	11.4
Mangapu River @ Otorohanga	12	12.4	11.4	2.1	30.0	17.5	0.50	10.6
Mangatutu Stm (Waikeria) @ Walker Rd Br	12	5.1	2.8	1.0	17.5	3.1	1.58	2.6
Mangauika Stm @ Te Awamutu Borough W/S Intake	12	1.9	1.6	0.8	5.2	0.7	<u>2.11</u>	1.2
Ohote Stm @ Whatawhata/Horotiu Rd	12	12.7	11.3	5.8	27.0	6.1	1.22	9.8
Puniu River @ Bartons Corner Rd Br	12	7.6	5.0	1.5	22.2	9.5	1.03	3.5
Waipa River @ Mangaokewa Rd	12	3.2	2.5	1.2	10.1	1.2	<u>2.32</u>	2.5
Waipa River @ Pirongia-Ngutunui Rd Br	12	22.9	11.4	2.0	132.0	15.7	<u>2.65</u>	11.6
Waipa River @ SH3 Otorohanga	12	6.6	4.1	1.0	18.3	9.5	0.87	4.5
Waitomo Stm @ SH31 Otorohanga	12	18.4	12.8	2.1	46.8	23.2	0.64	14.0
Waitomo Stm @ Tumutumu Rd	12	11.7	6.7	1.6	42.8	11.5	1.55	6.6

Tributaries to the upper Waikato River								
Kawaunui Stm @ SH5 Br	12	4.2	3.5	1.5	12.0	2.7	<u>1.74</u>	4.3
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	12	5.4	4.7	2.7	11.5	1.8	1.41	4.3
Mangakara Stm (Reporoa) @ SH5	12	7.3	6.1	2.6	16.9	7.2	0.84	4.9
Mangakino Stm (Whakamaru) @ Sandel Rd	12	2.7	1.7	0.8	11.3	1.8	<u>2.44</u>	1.3
Otamakokore Stm @ Hossack Rd	12	3.7	3.7	1.8	6.5	2.5	0.40	2.9
Pueto Stm @ Broadlands Rd Br	12	2.6	2.2	1.2	5.5	1.5	1.09	2.1
Tahunaatara Stm @ Ohakuri Rd	12	3.5	3.0	1.8	8.9	2.1	<u>1.85</u>	2.3
Torepatutahi Stm @ Vaile Rd Br	12	1.4	1.1	0.7	3.6	0.8	1.42	1.0
Waiotapu Stm @ Campbell Rd Br	12	6.5	6.5	1.5	11.3	3.8	-0.01	5.5
Waiotapu Stm @ Homestead Rd Br	12	13.4	15.7	5.2	22.1	11.7	-0.25	11.6
Waipapa Stm (Mokai) @ Tirohanga Rd Br	12	4.8	4.8	2.5	7.9	3.5	0.23	3.4
Whirinaki Stm @ Corbett Rd	12	0.6	0.5	0.2	1.4	0.5	1.01	0.5

West Coast								
Awakino River @ Gribbon Rd	12	1.7	1.1	0.4	9.1	1.2	<u>2.70</u>	1.6
Awakino River @ SH3 Awakau Rd Junction	12	7.3	2.0	0.6	60.0	3.7	<u>2.94</u>	3.9
Manganui River @ Off Manganui Rd	12	17.5	3.2	1.1	164.0	5.9	<u>2.98</u>	4.8
Mangaotaki River @ SH3 Br	12	8.1	5.0	1.6	44.0	5.4	<u>2.70</u>	5.3
Marokopa River @ Speedies Rd (Off Te Anga Rd)	12	7.9	3.9	1.2	25.5	6.9	1.41	3.7
Mokau River @ Awakau Rd	12	21.9	13.4	1.6	95.3	17.0	<u>1.99</u>	15.4
Mokau River @ Mangaokewa Rd (Off SH30)	12	4.4	4.0	1.8	11.3	3.2	1.46	3.1
Mokau River @ Totoro Rd Recorder	12	10.7	8.4	1.2	33.6	12.4	1.21	8.2
Mokauiti Stm @ Three Way Point - Aria	12	21.7	18.8	3.9	72.1	19.0	1.68	14.2
Ohautira Stm @ Waingaro Te Uku Rd	12	38.9	10.8	4.6	202.0	22.2	<u>1.95</u>	11.5
Oparau River @ Langdon Rd (Off Okupata Rd)	12	9.7	3.2	1.9	61.4	7.4	<u>2.75</u>	3.4
Tawarau River @ Off Speedies Rd	12	7.3	4.0	1.1	24.9	5.0	1.54	4.2
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	12	44.2	19.7	3.1	230.0	35.8	<u>2.07</u>	11.4
Waitetuna River @ Te Uku-Waingaro Rd	12	42.5	9.9	4.1	183.0	51.9	1.47	9.2

Inflows to Lake Taupo								
Hinemaiaia River @ SH1	12	1.2	0.9	0.6	2.4	0.6	1.22	0.9
Kuratau River @ 43 Te Rae Street	12	1.3	1.1	0.6	4.0	0.4	<u>2.49</u>	1.1
Kuratau River @ SH41 Moerangi	12	2.1	1.7	1.1	5.5	1.2	<u>1.90</u>	1.5
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	12	3.5	3.2	2.0	5.3	1.6	0.38	2.9
Tauranga-Taupo River @ Te Kono Slackline	12	1.5	0.6	0.4	5.7	1.3	1.64	0.7
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over Cana	12	1.4	1.1	0.8	3.8	0.5	<u>1.97</u>	1.1
Tokaanu Stm @ Off SH41 Turangi	12	0.2	0.1	0.1	0.8	0.1	<u>1.81</u>	0.1
Waihaha River @ SH32	12	0.9	0.9	0.3	2.2	0.6	1.17	0.5
Waitahanui River @ Blake Rd	12	0.9	0.5	0.3	4.1	0.7	<u>2.57</u>	0.5
Whanganui Stm @ Lakeside Lake Taupo	12	2.0	1.8	0.7	4.4	1.1	1.00	1.3
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	12	4.5	3.7	1.4	10.1	4.5	0.60	3.1
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	12	4.4	3.1	1.2	17.1	3.3	<u>2.28</u>	2.7

12	7.0	7.0	6.6	7.4	0.5	0.21	7.1
12	7.3	7.3	6.8	7.8	0.4	0.24	7.3
12	7.2	7.3	6.9	7.6	0.3	0.18	7.4
12	7.1	7.2	6.6	7.8	0.5	0.12	7.2
12	7.7	7.7	7.3	8.0	0.3	0.19	7.7
12	7.0	7.0	6.6	7.3	0.4	-0.27	7.0
12	7.2	7.3	6.7	7.8	0.4	0.13	7.3
12	6.7	6.8	6.4	7.0	0.2	-0.10	6.7
12	7.1	7.1	6.8	7.7	0.2	<u>1.72</u>	7.1
12	7.1	7.2	6.7	7.4	0.3	-0.91	7.1
12	7.1	7.1	6.8	7.5	0.4	0.40	7.2
12	7.1	7.2	6.8	7.3	0.3	-0.65	7.2
12	7.7	7.6	7.3	8.2	0.4	0.52	7.8
12	7.8	7.8	7.4	8.1	0.4	-0.42	7.9

12	7.0	7.0	6.7	7.4	0.2	0.33	7.1
12	7.3	7.3	7.0	7.4	0.2	-0.67	7.3
12	7.1	7.1	6.9	7.3	0.2	0.34	7.1
12	7.3	7.3	6.9	7.5	0.2	-0.79	7.4
12	8.0	8.0	7.7	8.1	0.2	-1.11	8.0
12	7.4	7.5	7.2	7.6	0.2	-0.51	7.5
12	7.4	7.4	7.1	7.5	0.2	-0.93	7.4
12	7.3	7.3	7.1	7.4	0.2	-0.74	7.4
12	5.3	5.4	4.3	5.7	0.3	<u>-1.78</u>	5.5
12	6.8	6.9	6.6	7.1	0.2	<u>0.07</u>	6.9
12	7.6	7.6	7.4	7.8	0.1	-0.71	7.7
12	7.2	7.2	6.9	7.3	0.2	-0.77	7.2

12	7.2	7.3	6.8	7.8	0.5	0.16	7.2
12	7.7	7.6	7.2	8.7	0.4	1.16	7.6
12	7.3	7.4	6.8	7.7	0.5	-0.35	7.2
12	7.6	7.7	7.3	7.9	0.4	-0.39	7.7
12	7.8	7.8	7.3	8.2	0.3	-0.55	7.9
12	7.3	7.4	7.1	7.5	0.3	-0.28	7.4
12	7.2	7.2	6.8	7.3	0.2	-0.91	7.2
12	7.6	7.5	7.2	7.9	0.3	0.07	7.6
12	7.2	7.3	7.0	7.5	0.3	-0.18	7.3
12	7.1	7.1	6.5	7.5	0.6	-0.49	7.3
12	7.3	7.3	6.8	7.8	0.5	-0.16	7.3
12	7.8	7.9	7.3	8.2	0.3	-0.65	7.9
12	7.2	7.3	6.4	7.6	0.6	-0.80	7.4
12	7.1	7.1	6.7	7.4	0.5	-0.12	7.2

12	7.3	7.3	7.0	7.6	0.3	-0.03	7.4
12	7.3	7.4	7.0	7.5	0.2	-0.70	7.4
12	6.9	6.8	6.7	7.1	0.2	0.30	6.9
12	7.4	7.3	7.1	7.6	0.3	-0.01	7.5
12	7.2	7.2	6.9	7.4	0.2	-0.62	7.3
12	7.3	7.3	7.1	7.6	0.3	0.13	7.4
12	7.2	7.2	7.0	7.4	0.2	0.25	7.2
12	7.1	7.2	6.8	7.3	0.3	-0.39	7.2
12	7.3	7.4	7.0	7.6	0.3	-0.43	7.4
12	7.3	7.3	6.9	7.5	0.2	-1.01	7.4
12	7.3	7.4	6.8	7.5	0.2	<u>-1.76</u>	7.4
12	7.3	7.3	7.0	7.5	0.3	-0.14	7.4

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

E. Coli (n/100mL)

Location								01-05
	Count	Mean	Median	Min	Max	IQR	Skew	Median
Coromandel								
Hikutaita River @ Old Maratoto Rd	4	325	255	90	700	360	0.78	235
Kauaeranga River @ Smiths Cableway/Recorder	4	299	128	40	900	492	1.07	78
Ohinemuri River @ Queens Head	4	489	309	39	1300	872	0.69	120
Ohinemuri River @ SH25 Br	4	263	223	38	570	404	0.32	175
Tairua River @ Morrisons Br Hikuai	4	136	82	40	340	188	0.94	89
Tapu River @ Tapu-Coroglen Rd	4	315	112	38	1000	510	1.13	110
Waiau River @ E309 Rd Ford	4	696	119	46	2500	1298	1.14	58
Waitekauri River @ U/S Ohinemuri Conflu	4	353	135	42	1100	565	1.12	114
Waiwawa River @ SH25 Coroglen	4	199	143	80	430	202	0.97	123
Wharekawa River @ SH25	4	540	520	220	900	610	0.04	305
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	4	86	85	42	130	49	0.05	64
Oraka Stm @ Lake Rd	4	2073	1300	290	5400	2755	0.98	980
Piako River @ Kiwitahi	4	1400	1160	280	3000	2200	0.27	355
Piako River @ Paeroa-Tahuna Rd Br	4	970	920	440	1600	660	0.34	770
Piakonui Stm @ Piakonui Rd	4	103	67	19	260	154	0.84	86
Waihou River @ Okauia	4	1785	695	350	5400	2630	1.13	375
Waihou River @ Whites Rd	4	76	75	14	140	78	0.06	45
Waihotu Stm @ Waihotu Rd (Off SH5)	4	543	215	41	1700	955	1.06	95
Waiomou Stm @ Matamata-Tauranga Rd	4	1448	1600	190	2400	1705	-0.27	310
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	4	1305	1235	250	2500	1890	0.08	267
Waitoa River @ Landsdowne Rd Br	4	750	750	200	1300	900	0.00	650
Waitoa River @ Mellon Rd Recorder	4	608	500	330	1100	485	0.82	625
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otaua Rd Br opp Moseley Rd	-	-	-	-	-	-	-	-
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	4	1103	1180	350	1700	1095	-0.18	295
Karapiro Stm @ Hickey Rd Bridge	4	1373	730	430	3600	1635	1.12	585
Kirikiroa Stm @ Tauhara Dr	4	5925	2260	180	19000	10950	1.05	570
Komakorau Stm @ Henry Rd	4	1825	2050	900	2300	950	-0.77	1400
Little Waipa Stm @ Arapuni - Putaruru Rd	4	388	355	140	700	375	0.36	205
Mangakotukutuku Stm (Rukuhia) @ Peacocks Rd	4	1760	1155	530	4200	2380	0.85	950
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	4	1240	930	400	2700	1420	0.82	680
Mangaone Stm @ Annebrooke Rd Br	4	1365	1500	560	1900	870	-0.62	850
Mangaonua Stm @ Hoeka Rd	4	1728	945	620	4400	1945	1.13	945
Mangaonua Stm @ Te Miro Rd	4	335	340	210	450	190	-0.07	310
Mangatangi River @ SH2 Maramarua	-	-	-	-	-	-	-	-
Mangatawhiri River @ Lyons Rd At Buckingham Br	-	-	-	-	-	-	-	-
Mangawara Stm @ Rutherford Rd Br	-	-	-	-	-	-	-	-
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	4	1175	1150	1000	1400	250	0.43	1250
Matahuru Stm @ Waiterimu Road Below Confluence	-	-	-	-	-	-	-	-
Ohaeroa Stm @ SH22 Br	-	-	-	-	-	-	-	-
Opuatia Stm @ Ponganui Rd	4	1008	665	200	2500	1585	0.71	320
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	4	930	495	130	2600	1540	0.94	220
Waerenga Stm @ Taniwha Rd	4	880	675	170	2000	1090	0.76	535
Waitawhirihiri Stm @ Edgecumbe Street	4	10710	2800	240	37000	20280	1.11	650
Whakapipi Stm @ SH22 Br	-	-	-	-	-	-	-	-
Whakauru Stm @ U/S SH1 Br	4	495	505	190	780	490	-0.05	455
Whangamarino River @ Island Block Rd	-	-	-	-	-	-	-	-
Whangamarino River @ Jefferies Rd Br	-	-	-	-	-	-	-	-
Whangape Stm @ Rangiriri-Glen Murray Rd	-	-	-	-	-	-	-	-

Enterococci (n/100ml)

Location								01-05
	Count	Mean	Median	Min	Max	IQR	Skew	Median
Coromandel								
Hikutaita River @ Old Maratoto Rd	4	132	132	14	250	207	0.00	65
Kauaeranga River @ Smiths Cableway/Recorder	4	49	45	15	90	53	0.28	31
Ohinemuri River @ Queens Head	4	84	18	1	300	158	1.14	14
Ohinemuri River @ SH25 Br	4	47	32	5	120	65	0.89	30
Tairua River @ Morrisons Br Hikuai	4	56	27	10	160	86	1.06	17
Tapu River @ Tapu-Coroglen Rd	4	222	88	11	700	417	1.01	49
Waiau River @ E309 Rd Ford	4	725	42	16	2800	1414	1.15	70
Waitekauri River @ U/S Ohinemuri Conflu	4	86	38	7	260	150	1.02	15
Waiwawa River @ SH25 Coroglen	4	102	38	22	310	159	1.12	51
Wharekawa River @ SH25	4	134	51	35	400	186	1.15	48
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	4	98	54	53	230	90	1.15	87
Oraka Stm @ Lake Rd	4	967	715	37	2400	1247	0.79	310
Piako River @ Kiwitahi	4	218	230	42	370	234	-0.19	190
Piako River @ Paeroa-Tahuna Rd Br	4	415	350	260	700	260	0.91	395
Piakonui Stm @ Piakonui Rd	4	311	103	9	1030	578	1.08	42
Waihou River @ Okauia	4	865	510	39	2400	1321	0.96	135
Waihou River @ Whites Rd	4	33	25	1	80	44	0.74	20
Waihotu Stm @ Waihotu Rd (Off SH5)	4	162	52	3	540	297	1.10	22
Waiomou Stm @ Matamata-Tauranga Rd	4	1418	320	32	5000	2544	1.14	95
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	4	276	265	73	500	219	0.21	77
Waitoa River @ Landsdowne Rd Br	4	263	116	21	800	444	1.06	280
Waitoa River @ Mellon Rd Recorder	4	380	370	230	550	230	0.16	330
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otaua Rd Br opp Moseley Rd	-	-	-	-	-	-	-	-
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	4	305	350	100	420	210	-0.77	115
Karapiro Stm @ Hickey Rd Bridge	4	694	330	14	2100	1183	1.03	245
Kirikiroa Stm @ Tauhara Dr	4	10955	5315	190	33000	21090	0.89	495
Komakorau Stm @ Henry Rd	4	1113	1025	200	2200	1475	0.21	495
Little Waipa Stm @ Arapuni - Putaruru Rd	4	243	209	13	540	415	0.23	69
Mangakotukutuku Stm (Rukuhia) @ Peacocks Rd	4	1355	760	400	3500	1580	1.10	605
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	4	537	525	98	1000	556	0.10	335
Mangaone Stm @ Annebrooke Rd Br	4	955	695	330	2100	1080	0.88	475
Mangaonua Stm @ Hoeka Rd	4	1486	510	22	4900	2529	1.12	430
Mangaonua Stm @ Te Miro Rd	4	221	205	15	460	378	0.09	132
Mangatangi River @ SH2 Maramarua	-	-	-	-	-	-	-	-
Mangatawhiri River @ Lyons Rd At Buckingham Br	-	-	-	-	-	-	-	-
Mangawara Stm @ Rutherford Rd Br	-	-	-	-	-	-	-	-
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	4	575	515	370	900	300	0.80	540
Matahuru Stm @ Waiterimu Road Below Confluence	-	-	-	-	-	-	-	-
Ohaeroa Stm @ SH22 Br	-	-	-	-	-	-	-	-
Opuatia Stm @ Ponganui Rd	4	277	290	59	470	246	-0.24	90
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	4	302	217	14	760	536	0.53	52
Waerenga Stm @ Taniwha Rd	4	345	355	300	370	40	-0.92	165
Waitawhirihiri Stm @ Edgecumbe Street	4	8690	3290	180	28000	16620	1.02	500
Whakapipi Stm @ SH22 Br	-	-	-	-	-	-	-	-
Whakauru Stm @ U/S SH1 Br	4	242	235	16	480	307	0.09	156
Whangamarino River @ Island Block Rd	-	-	-	-	-	-	-	-
Whangamarino River @ Jefferies Rd Br	-	-	-	-	-	-	-	-
Whangape Stm @ Rangiriri-Glen Murray Rd	-	-	-	-	-	-	-	-

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Waipa River and Tributaries								
Kaniwhaniwha Stm @ Wright Rd	-	-	-	-	-	-	-	-
Mangaohoi Stm @ South Branch Maru Rd	4	756	105	14	2800	1408	1.15	79
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	-	-	-	-	-	-	-	-
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	-	-	-	-	-	-	-	-
Mangapu River @ Otorohanga	4	780	715	290	1400	740	0.36	580
Mangatutu Stm (Waikeria) @ Walker Rd Br	4	580	395	230	1300	560	1.06	300
Mangauika Stm @ Te Awamutu Borough W/S Intake	4	44	22	10	120	65	1.04	10
Ohote Stm @ Whatawhata/Horotiu Rd	4	1203	330	150	4000	2035	1.14	210
Puniu River @ Bartons Corner Rd Br	-	-	-	-	-	-	-	-
Waipa River @ Mangaokewa Rd	-	-	-	-	-	-	-	-
Waipa River @ Pirongia-Ngutunui Rd Br	4	619	550	76	1300	762	0.40	375
Waipa River @ SH3 Otorohanga	4	1025	720	360	2300	1250	0.84	400
Waitomo Stm @ SH31 Otorohanga	4	465	380	300	800	270	1.04	410
Waitomo Stm @ Tumutumu Rd	4	337	320	107	600	307	0.25	250

-	-	-	-	-	-	-	-	-
4	322	210	7	860	437	0.92	37	
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
4	277	93	32	890	456	1.13	64	
4	156	168	27	260	129	-0.41	158	
4	142	60	9	440	266	0.98	13	
4	325	230	38	800	441	0.83	116	
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
4	185	125	19	470	281	0.80	85	
4	542	523	22	1100	976	0.02	91	
4	154	74	60	410	182	1.15	83	
4	104	54	19	290	140	1.09	79	

Kawaunui Stm @ SH5 Br	4	6303	1090	32	23000	12294	1.14	550
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	4	459	290	56	1200	712	0.86	270
Mangakara Stm (Reporoa) @ SH5	4	380	455	60	550	260	-1.00	210
Mangakino Stm (Whakamaru) @ Sandel Rd	-	-	-	-	-	-	-	-
Otamakokore Stm @ Hossack Rd	4	330	345	130	500	260	-0.22	265
Pueto Stm @ Broadlands Rd Br	4	35	26	18	70	30	1.01	22
Tahunaatara Stm @ Ohakuri Rd	4	485	325	90	1200	560	0.97	150
Torepatutahi Stm @ Vaile Rd Br	-	-	-	-	-	-	-	-
Waiotapu Stm @ Campbell Rd Br	4	3	2	1	10	5	1.09	2
Waiotapu Stm @ Homestead Rd Br	-	-	-	-	-	-	-	-
Waipapa Stm (Mokai) @ Tirohanga Rd Br	4	300	225	49	700	391	0.76	100
Whirinaki Stm @ Corbett Rd	-	-	-	-	-	-	-	-

4	376	445	14	600	438	-0.48	340
4	196	195	12	380	229	0.01	97
4	188	114	13	510	335	0.75	180
-	-	-	-	-	-	-	-
4	198	108	25	550	315	0.97	105
4	18	10	2	50	24	1.05	10
4	188	156	11	430	324	0.30	46
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
4	16	6	1	50	28	1.08	8
-	-	-	-	-	-	-	-
4	187	200	9	340	286	-0.08	42
-	-	-	-	-	-	-	-

West Coast								
Awakino River @ Gribbon Rd	4	385	335	8	860	631	0.27	120
Awakino River @ SH3 Awakau Rd Junction	4	144	120	16	320	212	0.43	180
Manganui River @ Off Manganui Rd	4	1208	250	230	4100	1935	1.15	250
Mangaotaki River @ SH3 Br	-	-	-	-	-	-	-	-
Marokopa River @ Speedies Rd (Off Te Anga Rd)	4	655	355	110	1800	1080	0.91	140
Mokau River @ Awakau Rd	4	414	285	84	1000	633	0.68	505
Mokau River @ Mangaokewa Rd (Off SH30)	4	975	350	100	3100	1630	1.11	180
Mokau River @ Totoro Rd Recorder	4	458	310	11	1200	615	0.88	340
Mokauiti Stm @ Three Way Point - Aria	4	1020	1050	180	1800	1560	-0.01	300
Ohautira Stm @ Waingaro Te Uku Rd	4	553	515	380	800	265	0.59	580
Oparau River @ Langdon Rd (Off Okupata Rd)	-	-	-	-	-	-	-	-
Tawarau River @ Off Speedies Rd	-	-	-	-	-	-	-	-
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	-	-	-	-	-	-	-	-
Waitetuna River @ Te Uku-Waingaro Rd	4	1280	750	420	3200	1540	1.08	650

4	109	125	16	170	112	-0.48	45
4	163	15	10	610	305	1.15	25
4	96	37	10	300	149	1.12	37
-	-	-	-	-	-	-	-
4	164	140	44	330	223	0.30	53
4	115	26	10	400	201	1.15	44
4	186	78	17	570	299	1.10	56
4	221	130	32	590	339	0.93	75
4	311	200	22	820	509	0.80	82
4	108	76	60	220	86	1.11	73
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
4	255	220	60	520	240	0.60	200

Hinemaiaia River @ SH1	4	23	17	10	50	24	0.98	25
Kuratau River @ 43 Te Rae Street	4	112	40	8	360	197	1.09	45
Kuratau River @ SH41 Moerangi	-	-	-	-	-	-	-	-
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	4	115	105	60	190	70	0.60	76
Tauranga-Taupo River @ Te Kono Slackline	-	-	-	-	-	-	-	-
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over Cana	-	-	-	-	-	-	-	-
Tokaanu Stm @ Off SH41 Turangi	-	-	-	-	-	-	-	-
Waihaha River @ SH32	4	84	63	2	210	162	0.37	11
Waitahanui River @ Blake Rd	4	93	95	40	140	85	-0.06	29
Whanganui Stm @ Lakeside Lake Taupo	4	42	36	8	90	66	0.27	21
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	4	233	200	130	400	175	0.71	121
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	4	432	295	37	1100	757	0.60	68

4	5	5	1	10	7	0.07	3
4	103	83	5	240	195	0.22	18
-	-	-	-	-	-	-	-
4	129	43	20	410	203	1.14	57
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
4	86	41	1	260	169	0.87	4
4	26	17	2	70	48	0.67	5
4	116	33	1	400	227	1.09	6
4	175	115	8	460	321	0.61	39
4	149	122	4	350	272	0.29	35

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Temperature (°C)

Location	Count	Mean	Median	Min	Max	IQR	Skew	01-05 Median
Coromandel								
Hikutaia River @ Old Maratoto Rd	12	13.5	13.2	8.4	17.5	6.2	-0.07	13.1
Kauaeranga River @ Smiths Cableway/Recorder	12	14.5	14.4	9.5	19.2	7.4	-0.02	13.0
Ohinemuri River @ Queens Head	11	16.6	17.7	11.5	21.6	7.6	-0.14	16.0
Ohinemuri River @ SH25 Br	11	15.8	16.0	10.7	21.3	6.2	0.01	15.6
Tairua River @ Morrisons Br Hikuai	12	15.4	15.0	10.7	20.4	7.6	0.07	14.5
Tapu River @ Tapu-Coroglen Rd	12	14.2	14.4	7.4	19.7	5.8	-0.25	13.4
Waiau River @ E309 Rd Ford	12	14.0	14.6	9.4	18.6	5.2	-0.16	13.7
Waitekauri River @ U/S Ohinemuri Conflu	11	15.0	15.2	9.8	20.7	6.3	0.05	14.8
Waiwawa River @ SH25 Coroglen	12	14.9	14.6	10.3	20.5	7.4	0.09	14.9
Wharekawa River @ SH25	12	14.9	14.2	9.9	20.5	7.7	0.15	14.6
Hauraki								
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	14.0	14.0	9.9	17.8	5.3	-0.03	13.9
Oraka Stm @ Lake Rd	12	13.9	14.3	9.5	17.4	3.5	-0.42	14.3
Piako River @ Kiwitahi	12	15.7	17.1	10.3	21.9	7.6	-0.13	15.2
Piako River @ Paeroa-Tahuna Rd Br	12	15.4	16.3	9.5	22.1	7.6	-0.11	15.4
Piakonui Stm @ Piakonui Rd	12	12.9	13.4	9.2	18.0	5.0	0.07	12.7
Waihou River @ Okauia	12	14.0	14.3	9.5	17.6	4.2	-0.30	14.1
Waihou River @ Whites Rd	12	13.4	13.4	12.5	14.1	0.9	-0.25	13.3
Waihotu Stm @ Waihotu Rd (Off SH5)	12	10.8	11.4	6.4	14.4	4.0	-0.37	11.1
Waiomou Stm @ Matamata-Tauranga Rd	12	13.1	13.3	8.3	17.6	4.6	-0.24	13.4
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	15.9	16.2	10.5	21.4	7.0	0.01	15.6
Waitoa River @ Landsdowne Rd Br	12	14.7	15.7	10.3	20.6	7.2	0.02	14.6
Waitoa River @ Mellon Rd Recorder	12	15.5	16.6	10.0	21.0	7.0	-0.27	15.4
Tributaries to the lower Waikato River								
Awaroa River (Waiuku) @ Otaua Rd Br opp Moseley Rd	12	16.8	16.2	12.0	23.0	7.1	0.23	16.8
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	14.6	14.3	9.5	19.6	5.7	0.04	14.3
Karapiro Stm @ Hickey Rd Bridge	12	14.7	16.0	9.4	20.2	6.9	-0.24	14.6
Kirikiriroa Stm @ Tauhara Dr	12	15.1	16.0	11.2	18.8	5.1	-0.23	15.2
Komakorau Stm @ Henry Rd	12	15.0	15.2	11.5	19.9	5.2	0.25	14.6
Little Waipa Stm @ Arapuni - Putaruru Rd	12	14.2	14.1	11.1	16.9	3.0	-0.14	14.1
Mangakotukutuku Stm (Rukuhia) @ Peacockes Rd	12	15.2	16.2	10.7	19.8	6.0	-0.27	15.1
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	13.7	14.0	8.1	18.4	5.5	-0.24	13.6
Mangaone Stm @ Annebrooke Rd Br	12	13.5	14.4	9.5	17.6	4.6	-0.35	13.7
Mangaonua Stm @ Hoeka Rd	12	14.6	15.7	9.8	20.0	5.9	-0.12	14.3
Mangaonua Stm @ Te Miro Rd	12	14.1	15.5	8.5	19.2	5.9	-0.34	14.2
Mangatangi River @ SH2 Maramarua	12	16.1	15.9	11.3	21.8	7.1	0.12	15.7
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	17.0	17.2	12.0	23.1	8.6	0.08	16.8
Mangawara Stm @ Rutherford Rd Br	12	15.1	14.3	10.6	19.9	7.2	0.22	14.6
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	14.0	15.1	10.4	17.8	4.5	-0.32	14.3
Matahuru Stm @ Waiterimu Road Below Confluence	12	14.9	13.9	9.7	20.3	6.4	0.23	14.7
Ohaeroa Stm @ SH22 Br	12	14.3	13.9	10.2	19.4	5.1	0.31	14.2
Opuatia Stm @ Ponganui Rd	12	15.0	14.0	10.1	20.3	6.9	0.22	14.6
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	13.7	13.6	8.9	17.8	4.4	-0.25	13.6
Waerenga Stm @ Taniwha Rd	12	14.0	13.4	9.3	19.1	5.2	0.17	13.7
Waitawhiriwhiri Stm @ Edgecumbe Street	12	16.4	17.2	12.5	20.3	5.6	-0.14	16.2
Whakapipi Stm @ SH22 Br	12	15.1	14.3	11.2	20.2	5.6	0.30	14.9
Whakauru Stm @ U/S SH1 Br	12	11.9	12.2	6.9	15.4	4.3	-0.46	12.3
Whangamarino River @ Island Block Rd	12	17.8	18.2	11.0	24.9	9.2	-0.01	17.1
Whangamarino River @ Jefferies Rd Br	12	14.7	14.1	9.5	20.5	6.7	0.21	14.3
Whangape Stm @ Rangiriri-Glen Murray Rd	12	17.0	17.9	11.5	22.8	7.2	-0.01	16.9

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Waipa River and Tributaries								
Kaniwhaniwha Stm @ Wright Rd	12	14.6	13.7	10.0	19.7	6.1	0.21	13.8
Mangaohi Stm @ South Branch Maru Rd	12	13.3	13.5	9.9	19.0	4.0	0.55	13.2
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	12	13.4	11.8	9.8	19.2	5.8	0.69	12.2
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	12	16.0	16.7	9.4	22.8	6.8	-0.13	15.6
Mangapu River @ Otorohanga	12	16.0	14.8	11.2	22.8	8.5	0.41	14.3
Mangatutu Stm (Waikeria) @ Walker Rd Br	12	14.6	15.2	9.0	21.0	6.8	-0.01	13.4
Mangauika Stm @ Te Awamutu Borough W/S Intake	12	12.2	11.6	9.7	15.1	3.2	0.28	11.9
Ohote Stm @ Whatawhata/Horotiu Rd	12	15.5	16.1	10.5	20.5	6.9	-0.21	15.3
Puniu River @ Bartons Corner Rd Br	12	15.3	15.7	8.9	22.4	7.1	-0.01	14.6
Waipa River @ Mangaokewa Rd	12	13.7	13.0	9.1	20.2	6.5	0.46	12.1
Waipa River @ Pirongia-Ngutunui Rd Br	12	15.4	14.7	11.1	20.8	7.8	0.22	14.5
Waipa River @ SH3 Otorohanga	12	15.5	14.5	10.2	22.2	7.8	0.37	14.2
Waitomo Stm @ SH31 Otorohanga	12	15.2	14.4	11.8	19.9	5.9	0.34	14.4
Waitomo Stm @ Tumutumu Rd	12	13.9	13.5	11.5	17.1	4.3	0.30	13.6
Tributaries to the upper Waikato River								
Kawaunui Stm @ SH5 Br	12	14.3	13.9	11.3	18.8	4.6	0.36	14.1
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	12	12.4	12.7	8.6	15.5	3.3	-0.20	12.5
Mangakara Stm (Reporoa) @ SH5	12	13.0	13.1	8.8	16.9	4.0	-0.06	13.0
Mangakino Stm (Whakamaru) @ Sandel Rd	12	12.1	11.7	9.0	15.9	3.5	0.38	12.1
Otamakokore Stm @ Hossack Rd	12	20.5	20.3	15.6	25.4	3.3	0.22	20.3
Pueto Stm @ Broadlands Rd Br	12	13.1	13.1	10.5	15.4	2.6	-0.13	13.3
Tahunaatara Stm @ Ohakuri Rd	12	13.1	13.2	7.4	17.7	5.6	-0.28	13.2
Torepatutahi Stm @ Vaile Rd Br	12	13.8	13.7	9.4	17.9	4.2	-0.05	13.9
Waiotapu Stm @ Campbell Rd Br	12	28.8	27.9	25.3	32.8	3.7	0.36	28.5
Waiotapu Stm @ Homestead Rd Br	12	18.7	17.6	13.7	24.0	5.3	0.24	18.7
Waipapa Stm (Mokai) @ Tirohanga Rd Br	12	22.1	22.0	18.6	25.1	2.5	-0.06	22.0
Whirinaki Stm @ Corbett Rd	12	12.0	12.1	10.1	13.5	1.7	-0.23	11.8
West Coast								
Awakino River @ Gribbon Rd	12	13.7	12.6	10.2	19.6	4.9	0.66	12.4
Awakino River @ SH3 Awakau Rd Junction	12	16.0	15.3	10.8	22.8	7.3	0.33	14.3
Manganui River @ Off Manganui Rd	12	14.9	14.0	10.6	21.4	5.3	0.62	13.7
Mangaotaki River @ SH3 Br	12	14.1	12.9	10.5	20.2	5.4	0.67	12.9
Marokopa River @ Speedies Rd (Off Te Anga Rd)	12	14.0	13.4	10.4	18.9	5.0	0.37	13.5
Mokau River @ Awakau Rd	12	15.4	14.7	10.6	21.8	9.0	0.29	14.4
Mokau River @ Mangaokewa Rd (Off SH30)	12	12.5	11.4	9.0	18.9	5.6	0.66	11.7
Mokau River @ Totoro Rd Recorder	12	15.2	14.2	10.8	21.7	7.4	0.39	13.5
Mokauiti Stm @ Three Way Point - Aria	12	15.4	14.5	10.3	22.5	7.7	0.43	13.8
Ohautira Stm @ Waingaro Te Uku Rd	12	13.0	12.5	8.3	18.2	4.7	0.22	12.1
Oparau River @ Langdon Rd (Off Okupata Rd)	12	15.0	14.2	10.8	22.5	6.4	0.63	14.1
Tawarau River @ Off Speedies Rd	12	14.0	13.2	10.6	18.9	5.1	0.43	13.4
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	12	15.6	14.5	10.2	21.2	8.1	0.19	14.6
Waitetuna River @ Te Uku-Waingaro Rd	12	14.4	13.4	9.9	19.2	6.0	0.19	13.4
Inflows to Lake Taupo								
Hinemaiaia River @ SH1	12	11.2	10.7	5.8	16.4	5.5	0.06	11.2
Kuratau River @ 43 Te Rae Street	12	12.4	11.8	7.5	17.2	5.2	0.06	12.4
Kuratau River @ SH41 Moerangi	12	9.0	8.1	7.2	12.0	3.6	0.62	8.8
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	12	10.8	10.3	9.3	12.6	1.9	0.45	10.6
Tauranga-Taupo River @ Te Kono Slackline	12	10.0	9.2	5.9	14.4	4.4	0.35	9.7
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over Cana	12	12.4	11.8	7.0	18.4	6.1	0.07	12.1
Tokaanu Stm @ Off SH41 Turangi	12	11.9	12.0	11.3	12.3	0.4	-0.44	11.9
Waihaha River @ SH32	12	10.9	10.3	8.1	14.5	3.5	0.48	10.4
Waitahanui River @ Blake Rd	12	10.4	10.4	9.4	11.7	1.3	0.31	10.4
Whanganui Stm @ Lakeside Lake Taupo	12	11.2	10.4	8.4	15.5	3.7	0.65	10.8
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	12	11.6	10.8	9.2	14.8	3.8	0.44	11.4
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	12	11.3	10.5	9.1	14.0	3.3	0.45	11.1

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Calcium - dissolved (g.m⁻³)

Location	Count	Mean	Median	Min	Max	IQR	Skew
Coromandel							
Hikutaia River @ Old Maratoto Rd	12	3.61	3.52	2.98	4.40	0.71	0.32
Kauaeranga River @ Smiths Cableway/Recorder	12	4.15	4.09	3.00	5.09	1.19	-0.19
Ohinemuri River @ Queens Head	12	18.28	17.80	3.97	29.20	10.30	-0.30
Ohinemuri River @ SH25 Br	12	2.81	2.64	2.23	4.37	0.44	<u>1.70</u>
Tairua River @ Morrisons Br Hikuai	12	1.85	1.78	1.57	2.29	0.33	0.62
Tapu River @ Tapu-Coroglen Rd	12	5.96	6.00	4.71	7.00	1.09	-0.14
Waiau River @ E309 Rd Ford	12	4.34	4.43	3.57	4.88	0.53	-0.53
Waitekauri River @ U/S Ohinemuri Conflu	12	8.59	8.04	4.60	15.10	4.49	0.67
Waiwawa River @ SH25 Coroglen	12	2.95	2.93	2.35	3.63	0.52	0.12
Wharekawa River @ SH25	12	1.88	1.84	1.60	2.32	0.30	0.77
Hauraki							
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	4.68	4.90	2.91	5.25	0.62	-1.67
Oraka Stm @ Lake Rd	12	4.64	4.03	3.50	6.93	2.03	0.72
Piako River @ Kiwitahi	12	7.79	8.00	5.99	10.60	1.59	0.65
Piako River @ Paeroa-Tahuna Rd Br	12	11.40	11.60	9.25	12.80	1.85	-0.48
Piakonui Stm @ Piakonui Rd	12	3.04	3.20	2.09	3.99	1.16	-0.01
Waihou River @ Okauia	12	3.74	3.75	2.88	4.70	0.83	0.11
Waihou River @ Whites Rd	12	2.61	2.61	2.34	2.87	0.07	-0.19
Waiohotu Stm @ Waiohotu Rd (Off SH5)	12	1.44	1.42	1.32	1.66	0.10	1.08
Waiomou Stm @ Matamata-Tauranga Rd	12	2.48	2.48	1.89	3.21	0.88	0.08
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	8.36	8.36	5.80	11.80	1.50	0.61
Waitoa River @ Landsdowne Rd Br	12	8.57	8.87	4.42	9.93	1.51	<u>-1.80</u>
Waitoa River @ Mellon Rd Recorder	12	12.13	12.00	10.50	14.90	2.30	0.38
Tributaries to the lower Waikato River							
Awaroa River (Waiuku) @ Otatau Rd Br opp Moseley Rd	12	9.45	8.96	6.89	12.30	4.27	0.25
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	38.87	38.85	22.80	52.00	15.70	-0.19
Karapiro Stm @ Hickey Rd Bridge	12	7.02	6.96	4.70	9.91	1.38	0.41
Kirikiri Stm @ Tauhara Dr	12	9.89	10.09	4.06	15.70	3.73	-0.14
Komakorau Stm @ Henry Rd	12	17.63	15.80	10.10	31.00	8.80	0.70
Little Waipa Stm @ Arapuni - Putaruru Rd	12	3.84	3.79	3.35	4.39	0.59	0.14
Mangakotukutuku Stm (Rukuhia) @ Peacockes Rd	12	12.66	11.30	8.83	17.50	5.20	0.47
Mangamingi Stm (Tokoroa) @ Paranoiu Rd Br	12	6.92	7.12	5.37	8.12	1.92	-0.40
Mangaone Stm @ Annebrooke Rd Br	12	12.93	12.85	11.60	14.50	1.30	0.23
Mangaonua Stm @ Hoeka Rd	12	10.26	10.65	7.95	11.50	1.62	-0.75
Mangaonua Stm @ Te Miro Rd	12	4.18	4.30	3.28	4.85	0.97	-0.57
Mangatangi River @ SH2 Maramarua	12	6.40	6.38	5.58	7.38	0.68	0.18
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	5.86	6.09	4.66	6.72	0.96	-0.72
Mangawara Stm @ Rutherford Rd Br	12	12.09	10.08	7.94	18.50	8.58	0.47
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	11.99	12.15	9.77	15.40	3.11	0.36
Matahuru Stm @ Waiterimu Road Below Confluence	12	6.15	5.71	3.06	8.52	2.41	0.01
Ohaeroa Stm @ SH22 Br	12	10.54	10.46	8.30	12.60	2.62	-0.06
Opuatia Stm @ Ponganui Rd	12	13.87	13.60	10.70	18.00	2.90	0.44
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	4.30	4.29	3.45	5.21	0.87	0.02
Waerenga Stm @ Taniwha Rd	12	4.66	4.65	4.17	5.30	0.51	0.20
Waitawhiriwhiri Stm @ Edgumbe Street	12	12.32	12.15	5.87	18.80	4.63	-0.15
Whakapipi Stm @ SH22 Br	12	9.96	9.77	8.69	12.90	0.99	1.45
Whakauru Stm @ U/S SH1 Br	12	2.40	2.42	2.11	2.68	0.20	-0.20
Whangamarino River @ Island Block Rd	12	7.75	7.74	5.96	10.50	1.48	0.51
Whangamarino River @ Jefferies Rd Br	12	6.95	6.84	5.49	9.12	1.83	0.38
Whangape Stm @ Rangiriri-Glen Murray Rd	12	17.31	18.20	7.69	21.80	3.60	-1.43

Magnesium - dissolved (g.m⁻³)

Count	Mean	Median	Min	Max	IQR	Skew
12	1.89	1.86	1.64	2.31	0.21	0.89
12	1.74	1.73	1.30	2.11	0.41	-0.17
12	4.05	3.69	2.01	7.64	1.01	1.15
12	1.68	1.61	1.45	2.20	0.22	1.27
12	1.05	1.00	0.92	1.28	0.19	0.78
12	2.47	2.40	2.02	3.00	0.45	0.35
12	2.08	2.09	1.79	2.35	0.23	0.05
12	3.12	2.93	1.92	5.12	1.30	0.80
12	1.40	1.36	1.18	1.72	0.20	0.57
12	1.23	1.18	1.08	1.50	0.21	0.90
12	2.15	2.17	1.73	2.46	0.29	-0.43
12	2.07	2.01	1.32	2.56	0.42	-0.61
12	4.04	3.94	2.97	5.21	0.37	0.44
12	5.36	5.43	4.43	6.02	0.51	-0.54
12	1.53	1.56	1.09	1.99	0.64	0.03
12	1.80	1.82	1.41	2.05	0.25	-0.64
12	1.51	1.52	1.43	1.59	0.05	-0.07
12	0.72	0.73	0.59	0.77	0.06	-1.21
12	1.09	1.13	0.91	1.25	0.24	-0.20
12	3.63	3.62	2.71	4.71	0.78	0.08
12	4.02	4.27	1.65	5.49	1.33	-0.89
12	5.90	6.06	3.97	7.08	1.37	-0.59
12	7.05	6.65	5.66	11.70	0.78	<u>2.31</u>
12	10.49	10.32	5.70	16.40	6.00	0.20
12	3.23	3.21	1.86	4.68	0.84	0.09
12	4.43	5.13	1.37	6.22	2.35	-0.82
12	6.89	6.90	5.79	8.08	1.37	0.02
12	2.09	2.07	1.84	2.27	0.12	-0.37
12	4.91	5.17	3.56	5.58	0.85	-1.00
12	2.44	2.55	1.67	2.86	0.51	-0.93
12	6.92	7.05	4.88	7.78	0.45	<u>-1.72</u>
12	5.39	5.65	3.93	6.51	1.40	-0.48
12	2.40	2.42	1.95	2.87	0.61	0.03
12	2.98	3.01	2.65	3.27	0.40	-0.24
12	2.48	2.62	1.94	2.93	0.42	-0.50
12	5.16	4.86	4.39	6.65	1.10	0.86
12	5.63	5.74	4.07	6.54	0.37	-1.34
12	2.95	2.98	1.52	4.03	0.75	-0.54
12	4.16	4.30	2.66	5.43	1.86	-0.14
12	3.00	2.92	2.24	3.92	0.76	0.29
12	1.98	2.05	1.35	2.18	0.16	<u>-2.01</u>
12	2.39	2.35	2.19	2.66	0.19	0.54
12	4.30	4.81	1.77	6.00	2.58	-0.57
12	6.35	6.13	4.16	11.00	1.96	1.14
12	1.30	1.30	1.00	1.42	0.11	-1.42
12	3.51	3.52	3.00	3.95	0.50	-0.13
12	3.43	3.49	2.59	4.39	0.56	0.21
12	3.06	3.03	2.26	3.95	0.60	0.20

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Waipa River and Tributaries							
Kaniwhaniwha Stm @ Wright Rd	12	6.62	6.58	5.44	7.78	0.74	0.01
Mangaohoi Stm @ South Branch Maru Rd	12	3.98	4.12	2.79	4.86	0.97	-0.38
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	12	13.43	12.95	10.30	17.30	3.40	0.27
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	12	9.58	8.69	7.98	13.40	1.65	1.30
Mangapu River @ Otorohanga	12	23.97	24.05	20.30	26.90	3.85	-0.34
Mangatutu Stm (Waikeria) @ Walker Rd Br	12	3.29	3.32	2.73	3.78	0.45	-0.04
Mangauika Stm @ Te Awamutu Borough W/S Intake	12	3.42	3.46	2.98	4.00	0.39	-0.04
Ohote Stm @ Whatawhata/Horotiu Rd	12	11.32	11.20	9.09	15.70	1.55	1.34
Puniu River @ Bartons Corner Rd Br	12	3.75	3.88	3.11	4.40	0.65	-0.20
Waipa River @ Mangaokewa Rd	12	2.66	2.45	1.81	4.71	0.52	<u>1.91</u>
Waipa River @ Pirongia-Ngutunui Rd Br	12	10.49	10.65	8.99	12.10	1.09	0.00
Waipa River @ SH3 Otorohanga	12	4.38	4.66	2.14	5.01	0.57	<u>-2.10</u>
Waitomo Stm @ SH31 Otorohanga	12	28.87	29.00	20.90	34.80	8.40	-0.23
Waitomo Stm @ Tumutumu Rd	12	30.42	31.65	22.30	33.80	4.75	-1.10

	12	2.21	2.22	1.74	2.98	0.35	0.60
	12	1.86	1.93	1.32	2.27	0.50	-0.39
	12	1.45	1.43	1.27	1.73	0.16	0.87
	12	3.43	3.37	2.86	4.14	0.28	0.56
	12	1.83	1.82	1.64	2.08	0.11	0.49
	12	1.39	1.41	1.00	1.58	0.19	-1.09
	12	1.97	2.01	1.61	2.43	0.45	0.03
	12	4.59	4.58	3.39	6.21	0.82	0.58
	12	1.66	1.70	1.17	1.87	0.25	-1.35
	12	1.04	1.01	0.67	1.42	0.26	0.14
	12	1.84	1.82	1.56	2.09	0.24	-0.01
	12	1.39	1.45	0.79	1.58	0.19	<u>-1.82</u>
	12	1.63	1.64	1.35	2.00	0.21	0.51
	12	1.56	1.50	1.27	1.88	0.17	0.33

Tributaries to the upper Waikato River							
Kawaunui Stm @ SH5 Br	12	7.22	7.63	5.60	8.56	2.13	-0.51
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	12	3.45	3.51	2.89	3.88	0.46	-0.23
Mangakara Stm (Reporoa) @ SH5	12	3.42	3.43	3.10	3.69	0.31	-0.34
Mangakino Stm (Whakamaru) @ Sandel Rd	12	3.40	3.50	2.83	3.81	0.51	-0.55
Otamakokore Stm @ Hossack Rd	12	6.17	6.39	4.78	7.36	1.75	-0.29
Pueto Stm @ Broadlands Rd Br	12	5.90	5.95	5.35	6.40	0.72	-0.25
Tahunaatara Stm @ Ohakuri Rd	12	2.76	2.89	2.23	3.20	0.45	-0.44
Torepatutahi Stm @ Vaile Rd Br	12	4.40	4.59	3.58	5.19	0.88	-0.21
Waiotapu Stm @ Campbell Rd Br	12	8.64	8.71	8.12	9.14	0.78	-0.14
Waiotapu Stm @ Homestead Rd Br	12	8.83	9.07	7.53	10.40	1.27	0.00
Waipapa Stm (Mokai) @ Tirohanga Rd Br	12	5.54	5.62	4.94	6.25	0.35	-0.15
Whirinaki Stm @ Corbett Rd	12	2.48	2.56	2.24	2.69	0.37	-0.31

	12	2.66	2.64	2.44	3.08	0.29	0.75
	12	1.72	1.74	1.57	1.81	0.10	-0.74
	12	1.50	1.51	1.32	1.62	0.09	-0.68
	12	1.53	1.51	1.13	1.81	0.29	-0.37
	12	2.15	2.18	1.85	2.47	0.34	-0.14
	12	2.82	2.83	2.58	2.99	0.17	-0.33
	12	1.25	1.26	1.13	1.37	0.08	-0.06
	12	2.08	2.09	1.80	2.34	0.20	-0.20
	12	2.51	2.51	2.16	2.82	0.18	-0.17
	12	2.87	2.88	2.51	3.16	0.19	-0.32
	12	1.93	1.93	1.80	2.02	0.09	-0.45
	12	1.12	1.12	1.02	1.20	0.08	-0.18

West Coast							
Awakino River @ Gribbon Rd	12	4.43	4.42	3.68	5.33	0.67	0.30
Awakino River @ SH3 Awakau Rd Junction	12	13.92	13.05	10.20	20.70	4.55	0.83
Manganui River @ Off Manganui Rd	12	5.90	6.00	4.26	7.22	1.43	-0.29
Mangaotaki River @ SH3 Br	12	18.87	18.80	16.00	20.60	1.20	-0.69
Marokopa River @ Speedies Rd (Off Te Anga Rd)	12	19.08	20.00	12.70	23.50	3.95	-0.70
Mokau River @ Awakau Rd	12	14.09	13.50	8.25	19.80	5.40	0.26
Mokau River @ Mangaokewa Rd (Off SH30)	12	3.22	3.26	2.85	3.56	0.28	-0.40
Mokau River @ Totoro Rd Recorder	12	13.99	13.95	11.30	17.10	3.10	0.12
Mokauiti Stm @ Three Way Point - Aria	12	9.19	9.00	7.82	11.70	1.50	0.75
Ohautira Stm @ Waingaro Te Uku Rd	12	5.41	5.79	3.33	6.28	0.97	-1.26
Oparau River @ Langdon Rd (Off Okupata Rd)	12	4.00	4.00	2.69	5.40	1.32	0.12
Tawarau River @ Off Speedies Rd	12	17.50	17.80	11.80	21.20	3.90	-0.67
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	12	6.95	6.94	5.04	8.48	1.26	-0.29
Waitetuna River @ Te Uku-Waingaro Rd	12	4.45	4.61	3.58	5.00	0.61	-0.60

	12	1.30	1.32	1.07	1.43	0.08	-1.09
	12	1.74	1.73	1.42	2.18	0.23	0.61
	12	1.83	1.88	1.63	1.97	0.17	-0.69
	12	1.24	1.25	1.09	1.34	0.08	-0.76
	12	1.13	1.13	0.97	1.26	0.12	-0.14
	12	1.82	1.78	1.64	2.15	0.22	0.87
	12	1.25	1.25	1.08	1.43	0.18	0.09
	12	1.51	1.55	1.36	1.62	0.14	-0.53
	12	2.14	2.06	1.85	2.69	0.29	1.01
	12	2.48	2.57	1.61	3.16	0.55	-0.51
	12	2.02	2.07	1.42	2.80	0.54	0.33
	12	1.09	1.08	0.95	1.22	0.13	0.16
	12	2.53	2.40	1.96	3.37	0.71	0.45
	12	1.89	1.86	1.53	2.31	0.27	0.11

Inflows to Lake Taupo							
Hinemaiaia River @ SH1	12	3.51	3.48	2.94	4.17	0.55	0.15
Kuratau River @ 43 Te Rae Street	12	4.74	4.38	3.33	7.08	0.87	1.18
Kuratau River @ SH41 Moerangi	12	2.00	2.01	1.63	2.37	0.46	-0.11
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	12	5.80	5.79	5.31	6.20	0.41	-0.16
Tauranga-Taupo River @ Te Kono Slackline	12	3.71	3.69	2.90	4.44	0.90	-0.23
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over Cana	12	10.54	10.75	8.55	11.40	1.00	-1.13
Tokaanu Stm @ Off SH41 Turangi	12	7.16	7.18	6.74	7.50	0.52	-0.32
Waihaha River @ SH32	12	2.52	2.49	2.07	2.88	0.38	-0.36
Waitahanui River @ Blake Rd	12	3.54	3.54	3.30	3.92	0.25	0.62
Whanganui Stm @ Lakeside Lake Taupo	12	3.61	3.53	2.81	4.39	1.17	0.09
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	12	5.07	5.03	4.73	5.52	0.35	0.38
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	12	4.97	4.94	4.71	5.23	0.28	0.15

	12	1.27	1.29	0.88	1.51	0.25	-0.50
	12	1.85	1.69	1.13	3.10	0.36	1.29
	12	0.90	0.89	0.65	1.04	0.18	-0.53
	12	2.95	2.96	2.75	3.11	0.15	-0.37
	12	1.08	1.11	0.63	1.43	0.41	-0.34
	12	4.67	4.67	3.92	5.76	0.88	0.35
	12	2.97	2.98	2.77	3.11	0.13	-0.47
	12	1.06	1.09	0.76	1.24	0.21	-0.56
	12	1.52	1.50	1.39	1.68	0.13	0.39
	12	1.59	1.55	1.10	2.08	0.43	0.09
	12	2.09	2.05	1.77	2.50	0.22	0.34
	12	1.96	1.95	1.62	2.22	0.17	-0.41

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Potassium - dissolved (g.m⁻³)

Location	Count	Mean	Median	Min	Max	IQR	Skew
Coromandel							
Hikutaia River @ Old Maratoto Rd	12	1.26	1.23	1.11	1.66	0.15	<u>1.69</u>
Kauaeranga River @ Smiths Cableway/Recorder	12	0.94	0.93	0.78	1.07	0.14	-0.08
Ohinemuri River @ Queens Head	12	3.18	2.98	2.34	4.43	0.88	0.72
Ohinemuri River @ SH25 Br	12	1.69	1.66	1.23	2.04	0.33	-0.31
Tairua River @ Morrisons Br Hikuai	12	1.27	1.27	1.05	1.45	0.23	-0.09
Tapu River @ Tapu-Coroglen Rd	12	1.12	1.14	0.94	1.29	0.13	-0.29
Waiau River @ E309 Rd Ford	12	1.13	1.15	0.99	1.26	0.13	-0.31
Waitekauri River @ U/S Ohinemuri Conflu	12	1.57	1.57	1.30	1.83	0.34	0.02
Waiwawa River @ SH25 Coroglen	12	0.99	1.00	0.81	1.11	0.13	-0.47
Wharekawa River @ SH25	12	1.64	1.62	1.44	1.82	0.19	0.13
Hauraki							
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	1.63	1.66	1.40	1.80	0.23	-0.32
Oraka Stm @ Lake Rd	12	7.28	5.10	4.44	12.90	6.33	0.65
Piako River @ Kiwitahi	12	4.98	5.07	3.85	6.23	1.00	0.01
Piako River @ Paeroa-Tahunu Rd Br	12	8.22	8.10	6.13	10.50	2.02	0.29
Piakonui Stm @ Piakonui Rd	12	1.50	1.53	1.18	1.80	0.35	-0.20
Waihou River @ Okauia	12	4.84	4.47	3.85	6.08	1.46	0.39
Waihou River @ Whites Rd	12	4.31	4.22	4.02	4.74	0.36	0.79
Waiohotu Stm @ Waiohotu Rd (Off SH5)	12	2.52	2.51	2.26	2.83	0.25	0.10
Waiomou Stm @ Matamata-Tauranga Rd	12	3.10	3.02	2.59	3.98	0.45	0.90
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	2.79	2.72	1.54	5.15	0.92	1.23
Waitoa River @ Landsdowne Rd Br	12	6.04	5.97	4.33	7.69	0.59	0.38
Waitoa River @ Mellon Rd Recorder	12	12.08	11.15	6.15	25.30	5.12	1.25
Tributaries to the lower Waikato River							
Awaroa River (Waiuku) @ Otatau Rd Br opp Moseley Rd	12	2.69	2.59	0.83	5.31	1.36	0.57
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	3.99	3.58	2.40	7.78	1.83	1.21
Karapiro Stm @ Hickey Rd Bridge	12	3.22	3.09	2.61	4.14	0.77	0.62
Kirikiri Stm @ Tauhara Dr	12	5.07	5.05	2.87	8.38	1.44	0.71
Komakorau Stm @ Henry Rd	12	8.68	7.96	5.23	13.00	4.35	0.40
Little Waipa Stm @ Arapuni - Putaruru Rd	12	4.34	4.35	3.72	4.76	0.58	-0.34
Mangakotukutuku Stm (Rukuhia) @ Peacockes Rd	12	6.43	6.42	4.85	8.73	1.77	0.32
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	5.09	5.25	3.79	5.86	0.44	-1.14
Mangaone Stm @ Annebrooke Rd Br	12	6.84	6.38	5.86	10.40	0.67	<u>2.16</u>
Mangaonua Stm @ Hoeka Rd	12	4.34	4.04	3.53	7.25	0.78	<u>2.26</u>
Mangaonua Stm @ Te Miro Rd	12	1.93	1.88	1.50	2.46	0.31	0.50
Mangatangi River @ SH2 Maramarua	12	2.87	2.76	1.81	4.04	0.93	0.37
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	1.84	1.82	1.53	2.28	0.33	0.40
Mangawara Stm @ Rutherford Rd Br	12	6.04	5.73	3.48	9.30	2.30	0.42
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	6.35	6.04	4.72	9.85	2.00	1.08
Matahuru Stm @ Waiterimu Road Below Confluence	12	2.84	2.70	1.73	4.15	1.10	0.26
Ohaeroa Stm @ SH22 Br	12	1.63	1.61	1.03	2.27	0.48	0.33
Opuatia Stm @ Ponganui Rd	12	1.44	1.35	0.97	2.23	0.34	1.07
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	3.92	3.90	3.35	4.52	0.36	0.07
Waerenga Stm @ Taniwha Rd	12	1.48	1.39	1.17	1.94	0.34	0.63
Waitawhiriwhiri Stm @ Edgumbe Street	12	5.02	5.03	2.14	10.40	1.94	1.24
Whakapipi Stm @ SH22 Br	12	3.24	3.17	2.00	4.84	0.74	0.68
Whakauru Stm @ U/S SH1 Br	12	3.56	3.52	3.13	3.90	0.31	0.07
Whangamarino River @ Island Block Rd	12	3.76	3.72	2.71	5.15	0.57	0.42
Whangamarino River @ Jefferies Rd Br	12	2.77	3.03	1.17	4.28	1.93	-0.17
Whangape Stm @ Rangiriri-Glen Murray Rd	12	2.59	2.38	2.17	3.75	0.52	1.37

Sodium - dissolved (g.m⁻³)

Count	Mean	Median	Min	Max	IQR	Skew
12	7.7	7.7	7.1	8.2	0.6	0.13
12	7.1	7.2	6.1	8.1	1.0	-0.01
12	11.9	11.8	8.3	17.0	2.8	0.75
12	7.8	7.6	7.4	8.7	0.6	0.90
12	6.9	6.7	6.4	7.7	0.6	0.81
12	9.4	9.4	8.5	10.3	0.8	0.09
12	9.9	9.8	9.3	10.8	0.5	0.73
12	7.6	7.5	6.7	8.9	0.7	0.75
12	6.8	6.7	6.1	7.8	0.6	0.42
12	8.8	8.7	8.2	9.7	0.7	0.70
12	13.2	13.4	10.7	14.4	1.8	-0.85
12	13.7	12.1	9.6	21.6	6.3	0.90
12	12.0	12.1	8.1	14.9	2.0	-0.44
12	19.6	18.8	13.4	33.8	7.9	1.05
12	8.6	9.3	6.0	10.4	1.9	-0.61
12	10.4	10.5	7.5	12.6	1.4	-0.47
12	9.1	9.1	8.1	10.2	0.2	0.58
12	6.9	7.2	5.4	7.8	0.8	-0.96
12	8.0	8.0	6.3	9.7	0.4	0.17
12	16.8	17.5	12.5	19.8	4.4	-0.45
12	11.8	12.7	5.2	14.4	3.2	-1.30
12	37.7	34.5	14.8	83.7	27.0	0.90
12	26.8	27.0	20.7	34.9	4.4	0.46
12	45.3	39.8	17.6	108.0	33.9	1.03
12	11.8	12.2	7.4	14.5	3.1	-0.60
12	15.4	17.7	5.8	20.5	7.7	-0.81
12	17.1	17.1	13.6	18.8	1.6	-1.05
12	9.8	9.7	8.8	11.2	0.5	0.97
12	13.6	14.0	10.1	15.6	3.0	-0.60
12	14.3	15.0	8.4	17.5	2.1	-1.18
12	23.8	24.9	14.3	26.7	2.8	<u>-1.80</u>
12	15.9	16.5	13.2	17.4	2.3	-0.69
12	10.5	10.7	8.7	12.3	2.5	-0.14
12	13.5	13.8	10.2	15.0	1.7	-1.08
12	13.4	13.9	9.9	15.2	1.7	-1.10
12	16.9	17.6	13.2	19.0	2.3	-0.96
12	15.2	15.1	11.1	17.4	1.7	-1.11
12	14.4	15.0	8.3	16.6	1.3	<u>-1.94</u>
12	14.4	14.6	11.9	16.9	2.6	-0.22
12	14.2	14.0	11.5	16.0	1.6	-0.58
12	10.5	10.7	7.1	11.9	0.8	<u>-2.03</u>
12	14.3	14.3	12.6	15.1	0.7	-1.30
12	13.5	15.5	6.4	17.4	7.2	-0.73
12	16.3	16.5	12.9	19.0	3.2	-0.27
12	7.4	7.5	6.2	8.6	0.3	-0.14
12	16.4	16.7	11.3	19.1	3.5	-0.78
12	16.0	16.5	10.2	18.5	2.4	-1.47
12	17.5	16.4	12.3	24.2	7.4	0.46

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Waipa River and Tributaries

Kaniwhaniwha Stm @ Wright Rd	12	1.49	1.37	1.03	2.84	0.50	<u>1.89</u>
Mangaohoi Stm @ South Branch Maru Rd	12	1.91	1.93	1.48	2.36	0.43	-0.19
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	12	2.36	2.27	1.82	3.19	0.54	0.72
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	12	6.01	5.97	4.53	9.78	1.45	1.64
Mangapu River @ Otorohanga	12	2.33	2.14	1.76	3.21	0.93	0.40
Mangatutu Stm (Waikeria) @ Walker Rd Br	12	2.07	1.85	1.40	4.29	0.33	<u>2.43</u>
Manguaika Stm @ Te Awamutu Borough W/S Intake	12	0.79	0.79	0.71	0.93	0.08	0.56
Ohote Stm @ Whatawhata/Horotiu Rd	12	5.02	4.86	4.38	6.14	0.68	0.79
Puniu River @ Bartons Corner Rd Br	12	3.00	2.85	1.93	5.11	0.35	<u>1.86</u>
Waipa River @ Mangaokewa Rd	12	1.89	1.93	1.59	2.20	0.14	-0.28
Waipa River @ Pirongia-Ngutunui Rd Br	12	2.69	2.55	1.93	5.12	0.81	<u>2.02</u>
Waipa River @ SH3 Otorohanga	12	1.93	1.93	1.59	2.27	0.26	-0.01
Waitomo Stm @ SH31 Otorohanga	12	1.18	1.09	0.77	2.27	0.43	1.44
Waitomo Stm @ Tumutumu Rd	12	0.95	0.92	0.72	1.41	0.24	0.97

Tributaries to the upper Waikato River

Kawaunui Stm @ SH5 Br	12	6.97	6.36	5.24	9.85	2.44	0.78
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	12	3.74	3.72	3.30	4.22	0.40	0.11
Mangakara Stm (Reporoa) @ SH5	12	2.97	2.97	2.68	3.52	0.27	0.97
Mangakino Stm (Whakamaru) @ Sandel Rd	12	2.13	2.12	1.84	2.66	0.23	0.78
Otamakokore Stm @ Hossack Rd	12	6.21	6.02	5.30	8.75	1.25	1.35
Pueto Stm @ Broadlands Rd Br	12	1.90	1.89	1.73	2.14	0.17	0.38
Tahunaatara Stm @ Ohakuri Rd	12	3.21	3.20	2.80	3.55	0.48	-0.22
Torepatutahi Stm @ Vaile Rd Br	12	3.14	3.09	2.71	3.64	0.40	0.43
Waiotapu Stm @ Campbell Rd Br	12	15.36	15.60	13.70	17.00	1.00	-0.26
Waiotapu Stm @ Homestead Rd Br	12	9.94	9.91	8.93	11.10	0.79	0.36
Waipapa Stm (Mokai) @ Tirohanga Rd Br	12	5.88	5.85	5.41	6.26	0.44	-0.06
Whirinaki Stm @ Corbett Rd	12	2.50	2.47	2.26	2.88	0.23	0.70

West Coast

Awakino River @ Gribbon Rd	12	0.52	0.52	0.49	0.57	0.04	0.53
Awakino River @ SH3 Awakau Rd Junction	12	0.77	0.76	0.69	0.89	0.07	0.77
Manganui River @ Off Manganui Rd	12	0.94	0.95	0.82	1.05	0.11	-0.22
Mangaotaki River @ SH3 Br	12	0.82	0.80	0.72	0.93	0.12	0.22
Marokopa River @ Speedies Rd (Off Te Anga Rd)	12	0.78	0.76	0.69	0.89	0.13	0.43
Mokau River @ Awakau Rd	12	1.42	1.37	1.17	1.94	0.33	1.02
Mokau River @ Mangaokewa Rd (Off SH30)	12	2.39	2.32	1.89	3.10	0.48	0.60
Mokau River @ Totoro Rd Recorder	12	1.38	1.32	1.20	1.88	0.15	<u>1.78</u>
Mokauiti Stm @ Three Way Point - Aria	12	1.69	1.61	1.27	2.25	0.63	0.22
Ohautira Stm @ Waingaro Te Uku Rd	12	1.99	1.99	1.79	2.23	0.25	0.03
Oparau River @ Langdon Rd (Off Okupata Rd)	12	1.06	1.05	0.85	1.21	0.15	-0.31
Tawarau River @ Off Speedies Rd	12	0.77	0.78	0.68	0.87	0.09	-0.04
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	12	1.94	1.88	1.33	3.01	0.70	0.70
Waitetuna River @ Te Uku-Waingaro Rd	12	1.67	1.64	1.40	2.09	0.37	0.58

Inflows to Lake Taupo

Hinemaiaia River @ SH1	12	1.34	1.34	1.15	1.51	0.10	-0.47
Kuratau River @ 43 Te Rae Street	12	2.03	2.05	1.61	2.49	0.27	0.29
Kuratau River @ SH41 Moerangi	12	1.37	1.47	1.02	1.64	0.43	-0.41
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	12	1.23	1.23	0.94	1.59	0.31	0.07
Tauranga-Taupo River @ Te Kono Slackline	12	1.09	1.16	0.70	1.35	0.44	-0.34
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over Cana	12	2.02	2.03	1.62	2.33	0.30	-0.32
Tokaanu Stm @ Off SH41 Turangi	12	2.61	2.57	2.33	2.95	0.17	0.64
Waihaha River @ SH32	12	1.34	1.38	1.08	1.55	0.24	-0.39
Waitahanui River @ Blake Rd	12	1.72	1.71	1.58	1.89	0.13	0.15
Whanganui Stm @ Lakeside Lake Taupo	12	1.60	1.68	1.27	1.90	0.33	-0.24
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	12	2.27	2.25	2.07	2.43	0.22	-0.04
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	12	2.21	2.19	2.02	2.45	0.18	0.25

12	8.7	9.2	7.2	9.7	2.0	-0.59
12	7.5	7.6	6.4	8.3	1.3	-0.36
12	12.6	12.1	8.6	17.5	4.8	0.34
12	17.9	15.9	11.1	32.1	11.4	0.77
12	9.9	9.6	7.7	13.5	3.5	0.58
12	6.8	7.1	5.0	8.3	1.0	-0.54
12	5.7	5.6	4.8	6.3	0.7	-0.13
12	14.9	14.5	10.5	17.9	3.8	-0.24
12	8.3	8.4	5.9	9.8	1.8	-0.64
12	5.4	5.3	4.0	6.9	0.6	0.22
12	8.6	8.8	6.8	10.2	1.8	-0.26
12	7.4	7.6	4.8	8.8	1.8	-0.67
12	6.5	6.4	5.5	7.3	0.5	-0.15
12	6.0	6.1	5.1	6.5	0.6	-0.81

12	12.3	12.2	10.7	14.0	1.6	0.03
12	9.8	9.8	8.8	10.8	0.6	-0.27
12	10.7	10.7	9.2	12.2	1.0	0.09
12	6.0	6.0	4.8	6.7	1.0	-0.53
12	64.2	61.7	55.1	78.2	13.3	0.56
12	12.8	13.1	11.4	13.9	1.0	-0.45
12	9.0	9.2	7.5	9.9	0.9	-0.82
12	10.3	10.4	9.1	10.8	0.5	-1.66
12	104.9	105.0	85.6	127.0	16.3	0.21
12	65.6	63.6	46.6	81.8	15.5	-0.02
12	60.6	61.1	54.9	66.6	4.5	-0.07
12	7.7	7.6	7.3	8.0	0.3	0.03

12	7.0	7.0	5.8	7.3	0.3	<u>-2.01</u>
12	10.3	9.9	7.4	15.7	2.8	0.96
12	11.8	12.0	9.9	13.1	1.0	-0.80
12	6.5	6.6	5.5	6.9	0.4	-1.54
12	6.8	6.8	6.0	7.6	1.0	-0.02
12	9.4	8.9	7.4	12.3	2.5	0.62
12	6.4	6.4	5.7	7.2	1.1	0.00
12	7.0	7.0	6.2	7.5	0.4	-0.83
12	8.4	8.1	7.2	10.4	1.0	0.88
12	16.0	16.4	11.7	18.2	2.5	-0.92
12	9.2	9.5	7.4	10.5	1.4	-0.51
12	6.7	6.6	5.9	7.3	1.1	-0.09
12	16.6	16.8	12.6	21.6	3.0	0.15
12	11.9	12.1	9.9	13.0	2.2	-0.59

12	6.8	6.6	4.9	8.2	1.7	-0.21
12	5.5	5.3	4.0	7.6	1.0	0.68
12	4.5	4.5	3.4	5.2	0.8	-0.46
12	14.1	14.0	13.4	15.0	0.5	0.44
12	4.4	4.5	2.8	5.9	1.8	-0.18
12	7.6	7.7	6.4	8.8	1.0	-0.09
12	7.6	7.5	7.3	8.0	0.2	0.60
12	5.1	5.3	4.0	6.0	0.9	-0.54
12	9.1	9.2	8.3	10.2	0.7	0.33
12	5.0	5.0	4.0	5.9	1.1	-0.03
12	6.7	6.7	5.8	9.8	0.5	<u>2.31</u>
12	6.3	6.4	5.6	6.9	0.7	-0.10

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Alkalinity (units: g.m⁻³ CaCO₃)

Location	Count	Mean	Median	Min	Max	IQR	Skew
Coromandel							
Hikutaia River @ Old Maratoto Rd	12	17	17	13	24	7	0.45
Kauaeranga River @ Smiths Cableway/Recorder	12	13	13	10	17	5	0.32
Ohinemuri River @ Queens Head	12	15	15	9	23	7	0.39
Ohinemuri River @ SH25 Br	12	12	12	8	21	6	0.70
Tairua River @ Morrisons Br Hikuai	12	11	11	9	15	5	0.50
Tapu River @ Tapu-Coroglen Rd	12	26	25	20	31	8	-0.01
Waiau River @ E309 Rd Ford	12	20	21	16	25	5	-0.03
Waitekauri River @ U/S Ohinemuri Conflu	12	15	15	10	19	6	-0.10
Waiwawa River @ SH25 Coroglen	12	13	13	10	17	4	0.24
Wharekawa River @ SH25	12	12	12	9	17	6	0.34
Hauraki							
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	25	28	11	30	5	-1.55
Oraka Stm @ Lake Rd	12	30	28	21	46	11	0.76
Piako River @ Kiwitahi	12	36	36	20	60	17	0.26
Piako River @ Paeroa-Tahuna Rd Br	12	39	37	18	70	23	0.57
Piakonui Stm @ Piakonui Rd	12	18	19	10	28	9	0.12
Waihou River @ Okauia	12	25	26	19	30	4	-0.72
Waihou River @ Whites Rd	12	25	25	23	27	1	-0.17
Waiohotu Stm @ Waiohotu Rd (Off SH5)	12	17	16	13	27	3	<u>1.91</u>
Waiomou Stm @ Matamata-Tauranga Rd	12	17	17	14	28	3	<u>2.01</u>
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	35	39	13	46	19	-0.59
Waitoa River @ Landsdowne Rd Br	12	30	32	18	40	14	-0.32
Waitoa River @ Mellon Rd Recorder	12	50	48	21	94	35	0.55
Tributaries to the lower Waikato River							
Awaroa River (Waiuku) @ Otatau Rd Br opp Moseley Rd	12	35	38	16	54	20	-0.12
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	118	122	39	300	75	1.18
Karapiro Stm @ Hickey Rd Bridge	12	33	34	15	45	19	-0.48
Kirikirihoa Stm @ Tauhara Dr	12	37	38	16	54	25	-0.09
Komakorau Stm @ Henry Rd	12	18	17	7	29	12	0.11
Little Waipa Stm @ Arapuni - Putaruru Rd	12	26	25	23	37	3	<u>2.26</u>
Mangakotukutuku Stm (Rukuhia) @ Peacockes Rd	12	33	33	13	48	21	-0.18
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	33	34	20	45	5	-0.25
Mangaone Stm @ Annebrooke Rd Br	12	52	56	34	60	8	-1.33
Mangaonua Stm @ Hoeka Rd	12	32	31	22	39	9	-0.21
Mangaonua Stm @ Te Miro Rd	12	23	23	12	32	11	-0.30
Mangatangi River @ SH2 Maramarua	12	26	28	16	34	11	-0.34
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	27	30	15	34	9	-0.77
Mangawara Stm @ Rutherford Rd Br	12	25	27	12	37	16	-0.17
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	32	33	17	41	11	-0.67
Matahuru Stm @ Waiterimu Road Below Confluence	12	27	29	9	40	17	-0.37
Ohaeroa Stm @ SH22 Br	12	42	42	20	58	23	-0.10
Opuatia Stm @ Ponganui Rd	12	40	43	23	47	8	-1.32
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	27	27	20	36	3	0.81
Waerenga Stm @ Taniwha Rd	12	25	28	11	30	7	-1.35
Waitawhiriwhiri Stm @ Edgecumbe Street	12	41	40	23	57	25	-0.03
Whakapipi Stm @ SH23 Br	12	40	42	20	63	24	0.10
Whakauru Stm @ U/S SH1 Br	12	24	24	19	35	3	<u>1.76</u>
Whangamarino River @ Island Block Rd	12	31	33	18	41	11	-0.33
Whangamarino River @ Jefferies Rd Br	12	31	35	14	43	16	-0.48
Whangape Stm @ Rangiriri-Glen Murray Rd	12	40	40	27	52	14	0.05

Bicarbonate (g.m⁻³ HCO₃)

Count	Mean	Median	Min	Max	IQR	Skew
12	21	20	15	29	9	0.39
12	16	15	12	21	6	0.39
12	18	18	10	28	8	0.37
12	15	15	10	26	8	0.79
12	14	14	11	18	6	0.38
12	31	31	24	38	9	-0.01
12	25	26	19	31	7	-0.14
12	18	18	12	23	8	-0.07
12	16	16	12	20	6	0.05
12	15	15	11	21	7	0.32
12	31	34	14	37	7	-1.49
12	37	34	25	56	13	0.72
12	44	44	24	73	20	0.24
12	48	45	22	84	28	0.55
12	23	23	13	34	10	0.19
12	31	32	23	37	5	-0.57
12	31	30	28	33	2	0.06
12	21	19	15	33	4	<u>1.82</u>
12	21	21	16	34	3	<u>1.87</u>
12	42	47	16	56	22	-0.62
12	36	38	22	48	17	-0.31
12	61	58	26	114	41	0.55
12	43	46	20	66	25	-0.08
12	143	147	48	361	91	1.17
12	40	42	19	54	23	-0.52
12	45	46	20	65	31	-0.08
12	22	21	9	36	14	0.14
12	32	31	27	45	4	<u>2.08</u>
12	40	41	16	59	26	-0.18
12	40	41	25	54	5	-0.33
12	64	68	42	74	9	-1.25
12	39	38	27	47	11	-0.22
12	28	27	14	39	14	-0.27
12	32	34	19	42	13	-0.32
12	33	36	19	42	11	-0.73
12	31	33	14	44	20	-0.22
12	39	40	21	49	13	-0.71
12	33	35	11	48	20	-0.41
12	51	51	24	70	28	-0.13
12	49	52	28	57	10	-1.30
12	33	33	24	44	3	0.73
12	31	34	14	37	9	-1.28
12	50	48	28	69	29	-0.04
12	48	50	24	76	30	0.10
12	30	29	24	42	4	<u>1.81</u>
12	37	40	22	50	13	-0.30
12	38	42	17	53	20	-0.44
12	49	48	33	63	16	0.06

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Waipa River and Tributaries

Kaniwhaniwha Stm @ Wright Rd	12	22	22	15	35	8	0.72
Mangaohoi Stm @ South Branch Maru Rd	12	20	20	11	29	6	-0.03
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	12	33	34	23	43	9	0.06
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	12	38	35	17	65	32	0.35
Mangapu River @ Otorohanga	12	57	56	44	69	13	-0.02
Mangatutu Stm (Waikeria) @ Walker Rd Br	12	17	17	12	21	4	-0.10
Mangauika Stm @ Te Awamutu Borough W/S Intake	12	17	18	13	21	5	-0.09
Ohote Stm @ Whatawhata/Horotiu Rd	12	29	27	13	51	23	0.32
Puniu River @ Bartons Corner Rd Br	12	20	21	14	25	5	-0.28
Waipa River @ Mangaokewa Rd	12	14	14	9	21	6	0.44
Waipa River @ Pirongia-Ngutunui Rd Br	12	29	29	22	37	11	0.16
Waipa River @ SH3 Otorohanga	12	17	18	11	21	5	-0.24
Waitomo Stm @ SH31 Otorohanga	12	72	69	53	98	27	0.50
Waitomo Stm @ Tumutumu Rd	12	74	74	56	92	15	-0.06

Tributaries to the upper Waikato River

Kawaunui Stm @ SH5 Br	12	31	32	24	37	7	-0.08
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	12	29	28	25	40	4	<u>1.71</u>
Mangakara Stm (Reporoa) @ SH5	12	23	23	18	26	4	-0.26
Mangakino Stm (Whakamaru) @ Sandel Rd	12	21	21	17	26	6	0.23
Otamakokore Stm @ Hossack Rd	12	96	93	84	108	14	0.23
Pueto Stm @ Broadlands Rd Br	12	44	44	42	46	2	0.17
Tahunaatara Stm @ Ohakuri Rd	12	23	24	19	31	5	0.91
Torepatutahi Stm @ Vaile Rd Br	12	32	33	31	33	2	-0.33
Waiotapu Stm @ Campbell Rd Br	12	4	4	1	7	2	-0.13
Waiotapu Stm @ Homestead Rd Br	12	32	33	26	37	4	-0.54
Waipapa Stm (Mokai) @ Tirohanga Rd Br	12	43	42	40	55	3	<u>2.26</u>
Whirinaki Stm @ Corbett Rd	12	19	19	18	20	1	0.63

West Coast

Awakino River @ Gribbon Rd	12	16	17	14	19	4	-0.02
Awakino River @ SH3 Awakau Rd Junction	12	33	33	25	43	10	0.20
Manganui River @ Off Manganui Rd	12	19	20	16	22	3	-0.18
Mangaotaki River @ SH3 Br	12	48	50	42	55	9	-0.05
Marokopa River @ Speedies Rd (Off Te Anga Rd)	12	49	50	34	60	16	-0.21
Mokau River @ Awakau Rd	12	35	34	22	49	14	0.20
Mokau River @ Mangaokewa Rd (Off SH30)	12	18	18	13	24	7	0.19
Mokau River @ Totoro Rd Recorder	12	39	40	27	52	14	0.09
Mokauiti Stm @ Three Way Point - Aria	12	29	31	20	37	12	-0.15
Ohautira Stm @ Waingaro Te Uku Rd	12	23	25	12	34	13	-0.18
Oparau River @ Langdon Rd (Off Okupata Rd)	12	19	20	11	30	10	0.27
Tawarau River @ Off Speedies Rd	12	45	46	31	56	15	-0.19
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	12	27	26	11	45	17	0.14
Waitetuna River @ Te Uku-Waingaro Rd	12	20	21	11	28	7	-0.04

Inflows to Lake Taupo

Hinemaiaia River @ SH1	12	23	24	18	27	5	-0.39
Kuratau River @ 43 Te Rae Street	12	24	22	17	37	8	0.95
Kuratau River @ SH41 Moerangi	12	13	13	9	16	5	-0.12
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	12	40	40	37	46	2	1.39
Tauranga-Taupo River @ Te Kono Slackline	12	19	19	13	25	7	-0.11
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over Can	12	36	36	30	42	6	0.03
Tokaanu Stm @ Off SH41 Turangi	12	39	39	34	40	0	<u>-2.44</u>
Waihaha River @ SH32	12	17	16	12	20	4	-0.23
Waitahanui River @ Blake Rd	12	28	28	25	29	1	-0.72
Whanganui Stm @ Lakeside Lake Taupo	12	20	20	15	27	7	0.15
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	12	27	26	23	30	5	0.22
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	12	26	25	23	30	5	0.25

12	27	27	18	42	10	0.66
12	25	24	14	35	8	0.04
12	40	41	29	52	11	0.13
12	46	42	21	79	38	0.36
12	69	68	53	84	15	-0.05
12	20	20	15	26	6	0.15
12	21	21	16	26	6	0.06
12	35	32	16	62	28	0.32
12	24	25	17	30	6	-0.34
12	17	17	11	25	7	0.33
12	35	35	26	45	14	0.18
12	20	21	13	26	7	-0.14
12	87	84	65	119	31	0.50
12	90	90	68	111	19	-0.08

12	38	39	30	45	9	-0.05
12	35	34	31	49	5	<u>1.96</u>
12	28	29	22	32	5	-0.36
12	26	25	20	32	7	0.25
12	115	113	101	130	17	0.22
12	54	54	52	56	3	0.32
12	28	28	23	38	5	1.00
12	39	40	38	40	2	-0.34
12	5	5	1	8	3	-0.12
12	39	40	32	46	5	-0.26
12	52	51	48	66	4	<u>2.18</u>
12	23	23	22	24	1	0.63

12	20	20	17	23	5	0.06
12	40	40	30	52	11	0.19
12	24	24	19	27	5	-0.30
12	59	61	51	67	11	-0.09
12	59	61	42	72	19	-0.25
12	43	42	27	60	18	0.22
12	21	22	15	29	7	0.10
12	48	49	33	63	17	0.05
12	35	38	24	45	15	-0.14
12	29	30	15	41	16	-0.20
12	23	24	13	36	12	0.22
12	54	55	38	68	18	-0.13
12	33	32	14	55	21	0.17
12	25	25	14	35	9	0.07

12	28	29	22	33	7	-0.37
12	29	27	20	46	10	0.97
12	16	16	11	20	7	0.00
12	49	49	45	56	3	1.31
12	23	23	16	30	9	-0.11
12	44	44	37	51	7	0.00
12	47	47	41	49	1	<u>-2.23</u>
12	21	20	15	25	5	-0.13
12	34	34	30	36	1	-0.75
12	25	24	19	33	9	0.24
12	32	32	28	37	6	0.20
12	32	31	28	37	7	0.24

IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Chloride (g.m⁻³)

Location	Count	Mean	Median	Min	Max	IQR	Skew
Coromandel							
Hikutaia River @ Old Maratoto Rd	12	10.3	10.3	9.5	11.5	0.8	0.64
Kauaeranga River @ Smiths Cableway/Recorder	12	9.0	9.1	7.7	9.6	0.8	-0.97
Ohinemuri River @ Queens Head	12	14.9	14.9	12.5	17.1	1.7	-0.17
Ohinemuri River @ SH25 Br	12	11.1	11.4	10.2	12.0	1.0	-0.26
Tairua River @ Morrisons Br Hikuai	12	9.5	9.6	8.6	10.2	0.6	-0.50
Tapu River @ Tapu-Coroglen Rd	12	11.7	11.6	10.8	12.2	0.6	-0.48
Waiau River @ E309 Rd Ford	12	13.5	13.4	12.6	14.4	0.5	0.38
Waitekauri River @ U/S Ohinemuri Conflu	12	9.6	9.5	8.7	10.4	0.8	-0.03
Waiwawa River @ SH25 Coroglen	12	9.3	9.4	8.3	9.8	0.6	-0.90
Wharekawa River @ SH25	12	12.3	12.4	11.5	13.3	1.0	0.20
Hauraki							
Mangawhero Stm (Kaihere) @ Mangawara Rd	12	15.4	15.3	14.2	17.7	0.8	1.20
Oraka Stm @ Lake Rd	12	13.5	11.3	8.4	26.4	7.9	1.13
Piako River @ Kiwitahi	12	14.6	14.1	12.7	17.1	1.7	0.44
Piako River @ Paeroa-Tahunu Rd Br	12	23.8	23.5	20.7	28.2	3.6	0.54
Piakonui Stm @ Piakonui Rd	12	10.1	10.1	8.3	11.5	1.9	-0.16
Waihou River @ Okauia	12	9.2	9.0	7.6	11.4	1.8	0.32
Waihou River @ Whites Rd	12	5.8	5.8	5.4	6.3	0.7	0.02
Waiohotu Stm @ Waiohotu Rd (Off SH5)	12	5.4	5.5	4.6	5.9	0.6	-0.43
Waiomou Stm @ Matamata-Tauranga Rd	12	7.8	7.9	6.7	8.8	1.1	-0.01
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	12	21.2	21.0	18.0	26.1	2.9	0.69
Waitoa River @ Landsdowne Rd Br	12	15.6	16.4	8.3	18.1	2.8	-1.59
Waitoa River @ Mellon Rd Recorder	12	29.6	29.9	18.9	44.0	4.4	0.57
Tributaries to the lower Waikato River							
Awaroa River (Waiuku) @ Otatau Rd Br opp Moseley Rd	12	41.6	41.4	34.3	55.0	2.8	1.39
Awaroa Stm (Rotowaro) @ Sansons Br @ Rotowaro-Huntly Rd	12	17.2	16.7	14.8	19.8	3.2	0.30
Karapiro Stm @ Hickey Rd Bridge	12	12.6	12.5	9.9	15.9	1.6	0.46
Kirikiri Stm @ Tauhara Dr	12	18.2	20.3	6.5	25.7	9.5	-0.73
Komakorau Stm @ Henry Rd	12	32.3	31.8	28.3	37.3	5.8	0.22
Little Waipa Stm @ Arapuni - Putaruru Rd	12	8.4	8.2	7.6	9.7	0.8	0.70
Mangakotukutuku Stm (Rukuhia) @ Peacockes Rd	12	19.8	18.4	14.4	26.4	7.7	0.43
Mangamingi Stm (Tokoroa) @ Paraonui Rd Br	12	10.9	11.3	7.1	12.7	0.7	-1.46
Mangaone Stm @ Annebrooke Rd Br	12	21.8	22.0	17.5	24.8	1.0	-1.00
Mangaonua Stm @ Hoeka Rd	12	21.0	20.8	16.8	26.5	1.9	0.64
Mangaonua Stm @ Te Miro Rd	12	13.0	12.9	11.8	14.5	1.1	0.43
Mangatangi River @ SH2 Maramarua	12	20.3	20.2	17.6	23.7	2.6	0.32
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	17.8	17.6	15.9	23.5	1.4	<u>2.01</u>
Mangawara Stm @ Rutherford Rd Br	12	27.8	27.5	23.8	32.4	4.2	0.47
Mangawhero Stm (Cambridge) @ Cambridge-Ohaupo Rd	12	22.8	22.3	20.2	25.1	3.3	0.19
Matahuru Stm @ Waiterimu Road Below Confluence	12	17.0	17.2	11.1	22.6	3.7	-0.11
Ohaeroa Stm @ SH22 Br	12	19.0	18.5	17.7	21.2	1.2	1.04
Opuatia Stm @ Ponganui Rd	12	20.4	20.2	18.1	23.2	2.9	0.28
Pokaiwhenua Stm @ Arapuni - Putaruru Rd	12	8.4	8.4	7.7	9.3	0.6	0.45
Waerenga Stm @ Taniwha Rd	12	14.9	14.7	13.5	17.7	1.1	1.19
Waitawhiriwhiri Stm @ Edgumbe Street	12	15.3	16.5	7.0	21.3	7.5	-0.62
Whakapipi Stm @ SH22 Br	12	22.3	22.0	20.1	25.8	2.1	0.66
Whakauru Stm @ U/S SH1 Br	12	5.2	5.1	4.6	5.8	0.8	0.15
Whangamarino River @ Island Block Rd	12	22.3	22.3	18.6	26.7	3.0	0.07
Whangamarino River @ Jefferies Rd Br	12	19.7	20.0	15.0	24.4	3.9	-0.04
Whangape Stm @ Rangiriri-Glen Murray Rd	12	24.7	24.0	15.2	32.9	9.2	0.05

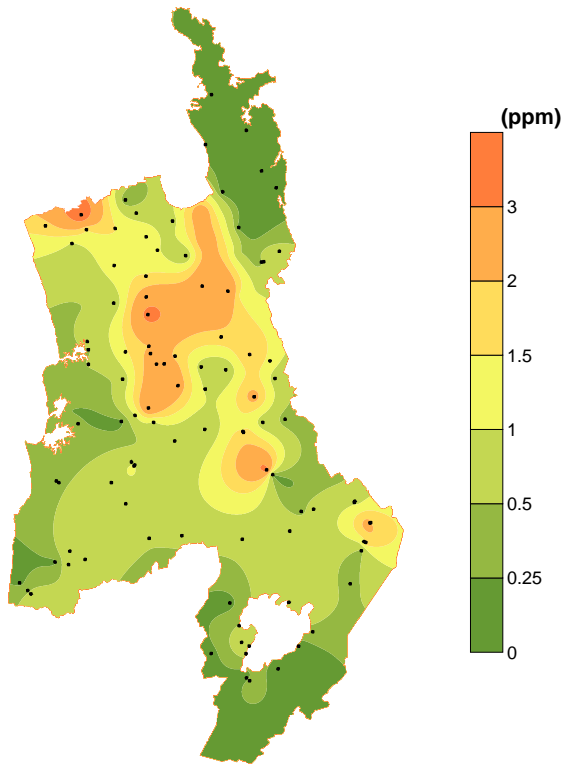
Sulphate (g.m⁻³)

Count	Mean	Median	Min	Max	IQR	Skew
12	4.8	4.9	3.9	5.5	0.9	-0.24
12	10.0	10.5	5.7	13.9	4.1	-0.23
12	56.2	56.2	7.7	98.5	38.7	-0.19
12	4.5	4.5	4.0	4.9	0.6	-0.24
12	2.5	2.5	2.0	2.7	0.4	-0.57
12	5.8	6.0	4.2	6.4	0.5	-1.42
12	4.4	4.5	3.9	4.9	0.4	-0.10
12	25.9	22.7	11.0	48.0	18.5	0.59
12	4.5	4.6	3.4	5.4	1.1	-0.26
12	2.7	2.7	2.3	3.1	0.5	0.16
12	3.7	3.7	3.4	4.0	0.3	-0.05
12	3.6	3.7	2.5	5.2	1.0	0.31
12	7.6	7.2	2.3	15.4	7.6	0.44
12	21.5	19.2	15.0	31.3	11.3	0.51
12	2.1	2.1	1.6	2.6	0.3	0.06
12	3.8	4.0	2.6	5.2	1.3	-0.03
12	1.7	1.6	1.5	2.3	0.2	1.51
12	1.3	1.2	1.1	2.0	0.3	<u>1.93</u>
12	3.0	3.1	1.9	4.6	1.4	0.24
12	10.3	10.4	4.4	19.4	3.5	0.85
12	13.5	13.0	6.8	22.1	5.2	0.44
12	51.3	42.0	20.1	127.0	23.9	1.49
12	18.0	11.2	6.1	36.7	21.8	0.36
12	89.3	85.0	50.9	142.0	48.2	0.39
12	8.6	8.0	4.2	18.0	2.8	<u>1.76</u>
12	16.7	16.5	4.8	30.4	7.8	0.28
12	48.1	47.8	28.2	74.1	28.7	0.18
12	1.8	1.9	1.2	2.6	0.7	0.28
12	19.9	16.7	9.3	36.8	11.4	0.82
12	5.5	5.5	3.9	7.2	1.6	0.18
12	30.1	30.3	19.3	37.4	4.9	-0.80
12	23.6	25.4	17.1	27.0	5.4	-0.93
12	3.6	3.1	2.4	6.1	1.7	0.94
12	5.8	5.4	2.6	10.5	4.5	0.42
12	4.5	4.8	3.0	5.7	2.1	-0.17
12	27.0	22.2	15.2	42.9	23.6	0.26
12	22.8	21.0	17.4	36.3	5.5	1.50
12	8.5	6.4	3.9	20.3	7.3	1.11
12	4.4	4.1	3.0	6.7	2.3	0.57
12	7.8	8.0	4.7	12.6	4.5	0.41
12	2.4	2.5	1.7	3.2	0.8	0.00
12	5.8	5.5	4.0	8.9	1.9	0.86
12	17.5	17.3	6.7	28.5	9.5	0.05
12	7.6	7.2	3.7	11.3	2.8	-0.01
12	0.6	0.6	0.3	1.0	0.2	-0.17
12	10.8	10.7	4.7	23.9	6.7	1.07
12	9.1	9.1	4.1	16.6	6.7	0.40
12	20.8	19.6	9.7	29.8	12.0	-0.05

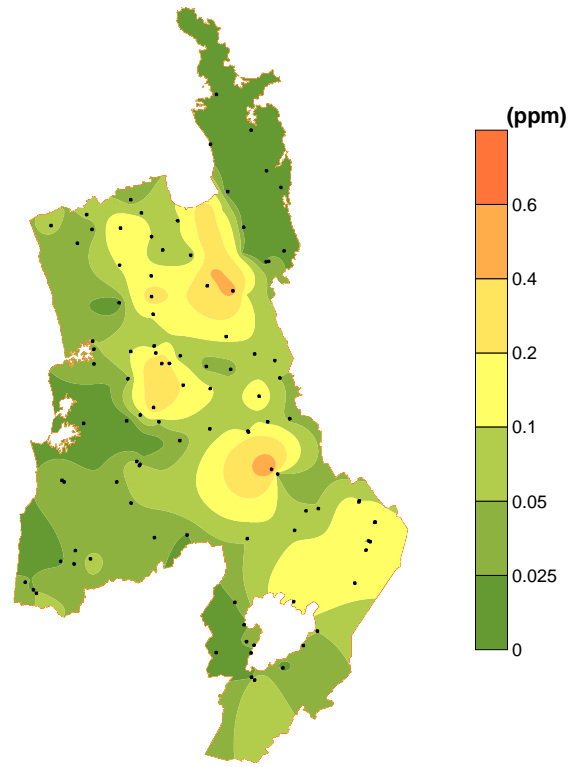
IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions

Waipa River and Tributaries															
Kaniwhaniwha Stm @ Wright Rd	12	13.0	13.0	11.4	14.5	1.2	0.04	12	3.6	2.8	2.2	8.8	2.0	<u>1.96</u>	
Mangaohoi Stm @ South Branch Maru Rd	12	9.3	9.6	8.2	10.0	1.0	-0.79	12	2.9	2.9	2.3	3.5	0.5	0.05	
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	12	23.7	22.4	12.8	37.3	15.2	0.24	12	3.7	3.5	2.7	6.2	1.4	1.07	
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	12	17.0	16.5	14.8	20.3	2.0	0.80	12	14.7	12.1	8.9	27.3	9.9	0.74	
Mangapu River @ Otorohanga	12	15.8	15.2	10.4	24.2	6.8	0.60	12	9.0	8.8	6.3	13.2	3.0	0.52	
Mangatutu Stm (Waikeria) @ Walker Rd Br	12	8.3	8.4	6.6	10.9	1.5	0.68	12	2.8	2.8	1.9	4.0	1.0	0.42	
Manguaika Stm @ Te Awamutu Borough W/S Intake	12	7.7	7.7	6.8	8.6	0.5	0.09	12	1.6	1.6	1.3	2.1	0.5	0.57	
Ohote Stm @ Whatawhata/Horotiu Rd	12	20.3	20.5	16.3	23.4	0.9	-0.56	12	24.0	17.9	12.4	56.8	17.4	1.31	
Puniu River @ Bartons Corner Rd Br	12	9.4	9.7	7.3	10.6	1.4	-0.66	12	3.2	3.1	2.0	4.9	1.7	0.45	
Waipa River @ Mangaokewa Rd	12	5.7	5.5	4.9	9.0	0.7	<u>2.46</u>	12	2.0	1.7	1.1	5.5	0.6	<u>2.44</u>	
Waipa River @ Pirongia-Ngutunui Rd Br	12	12.2	12.2	9.2	15.5	2.9	0.20	12	6.0	4.5	3.7	12.4	3.3	1.37	
Waipa River @ SH3 Otorohanga	12	10.4	10.8	4.9	14.8	2.9	-0.31	12	3.9	3.5	2.4	8.2	1.6	1.62	
Waitomo Stm @ SH31 Otorohanga	12	9.0	8.7	7.7	10.8	1.5	0.46	12	5.8	5.3	3.3	10.2	0.8	1.45	
Waitomo Stm @ Tumutumu Rd	12	7.7	7.8	7.0	8.5	0.7	-0.02	12	5.2	5.0	3.3	7.1	0.7	0.09	
Tributaries to the upper Waikato River															
Kawaunui Stm @ SH5 Br	12	10.5	10.5	8.9	12.7	1.4	0.61	12	9.8	10.6	5.5	13.2	6.0	-0.27	
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	12	6.2	6.3	5.7	6.9	0.7	0.11	12	2.5	2.8	1.5	3.6	0.8	-0.32	
Mangakara Stm (Reporoa) @ SH5	12	5.1	5.2	4.2	5.6	0.6	-0.79	12	7.6	7.6	7.1	8.2	0.4	0.35	
Mangakino Stm (Whakamaru) @ Sandel Rd	12	3.8	3.7	3.1	4.5	0.5	0.42	12	1.7	1.6	1.2	2.1	0.4	0.28	
Otamakokore Stm @ Hossack Rd	12	41.9	41.8	35.9	47.5	4.8	-0.16	12	13.6	13.7	11.5	16.1	2.0	0.03	
Pueto Stm @ Broadlands Rd Br	12	5.5	5.5	5.1	5.9	0.5	0.07	12	2.8	2.8	2.5	3.3	0.3	0.89	
Tahunaatara Stm @ Ohakuri Rd	12	5.5	5.6	4.9	6.1	0.6	0.04	12	2.7	2.9	0.3	3.5	0.9	<u>-1.97</u>	
Torepatutahi Stm @ Vaile Rd Br	12	4.9	5.0	4.2	5.3	0.6	-0.59	12	4.7	5.0	3.0	7.1	1.6	0.29	
Waiotapu Stm @ Campbell Rd Br	12	119.5	111.0	83.0	157.0	40.5	0.44	12	101.3	102.0	89.2	111.0	7.5	-0.44	
Waiotapu Stm @ Homestead Rd Br	12	74.4	71.3	49.6	97.1	17.4	0.13	12	54.1	54.9	44.2	62.9	8.5	-0.20	
Waipapa Stm (Mokai) @ Tirohanga Rd Br	12	81.1	80.9	71.9	90.5	4.8	-0.13	12	5.2	5.6	1.2	6.3	1.0	<u>-2.26</u>	
Whirinaki Stm @ Corbett Rd	12	4.8	4.8	4.2	5.1	0.5	-0.42	12	3.4	3.6	0.9	4.1	0.3	<u>-2.62</u>	
West Coast															
Awakino River @ Gribbon Rd	12	8.9	8.8	8.4	9.9	0.4	1.21	12	4.3	4.0	3.5	7.2	0.7	<u>2.27</u>	
Awakino River @ SH3 Awakau Rd Junction	12	19.2	16.5	11.4	38.8	10.6	1.17	12	5.9	5.5	4.4	9.1	1.5	1.26	
Manganui River @ Off Manganui Rd	12	18.2	16.8	14.8	25.7	5.0	0.95	12	5.1	4.9	4.5	6.2	0.9	0.88	
Mangaotaki River @ SH3 Br	12	8.3	8.2	7.6	9.0	0.9	0.21	12	3.8	3.9	2.9	4.5	0.9	-0.24	
Marokopa River @ Speedies Rd (Off Te Anga Rd)	12	9.4	9.2	8.9	10.4	0.8	0.82	12	3.0	3.0	2.1	3.7	0.5	-0.39	
Mokau River @ Awakau Rd	12	15.5	13.4	9.3	27.6	7.6	1.01	12	6.8	6.4	5.0	8.9	2.2	0.31	
Mokau River @ Mangaokewa Rd (Off SH30)	12	6.5	6.3	5.6	7.6	1.2	0.35	12	3.2	3.2	2.4	4.2	1.0	0.16	
Mokau River @ Totoro Rd Recorder	12	8.3	7.9	7.4	9.8	1.4	0.50	12	5.2	4.9	4.0	6.8	1.6	0.49	
Mokauiti Stm @ Three Way Point - Aria	12	9.5	8.9	7.9	12.7	2.2	0.97	12	8.9	8.3	5.7	14.2	4.4	0.65	
Ohautira Stm @ Waingarua Te Uku Rd	12	19.7	19.5	18.5	22.0	1.5	0.82	12	8.5	8.3	7.1	11.1	1.7	0.80	
Oparau River @ Langdon Rd (Off Okupata Rd)	12	12.3	12.3	11.5	13.5	0.7	0.63	12	3.2	3.2	2.6	3.9	0.6	0.02	
Tawarau River @ Off Speedies Rd	12	8.9	8.9	8.0	10.1	0.5	0.44	12	3.1	3.2	2.2	3.7	0.5	-0.94	
Waingarua River (Pukemiro) @ Ruakiwi Rd Off SH22	12	20.5	19.7	17.9	24.7	3.6	0.74	12	8.2	8.0	5.6	12.8	2.5	0.91	
Waitetuna River @ Te Uku-Waingarua Rd	12	14.9	14.7	14.0	16.4	1.1	0.56	12	4.2	4.2	2.9	6.4	0.7	1.32	
Inflows to Lake Taupo															
Hinemaiaia River @ SH1	12	2.4	2.5	1.8	2.9	0.6	-0.30	12	2.6	2.7	2.1	3.2	0.3	0.25	
Kuratau River @ 43 Te Rae Street	12	3.9	4.0	3.4	4.7	0.5	0.38	12	1.7	1.7	1.2	2.6	0.3	1.15	
Kuratau River @ SH41 Moerangi	12	4.3	4.4	3.8	4.8	0.6	-0.09	12	1.1	1.1	0.9	1.4	0.2	0.83	
Mapara Stm (Lake Taupo) @ Off Mapara Rd (Whakaipo Res)	12	4.6	4.4	4.1	6.8	0.7	<u>2.16</u>	12	8.1	8.3	7.2	8.8	1.1	-0.22	
Tauranga-Taupo River @ Te Kono Slackline	12	2.2	2.3	1.6	2.8	0.6	0.07	12	2.4	2.4	1.9	3.1	0.4	0.56	
Tokaanu Power Station Tailrace Canal @ SH41 Bridge Over Cana	12	7.3	7.0	6.3	9.1	1.1	0.89	12	15.7	15.8	13.7	18.4	1.7	0.44	
Tokaanu Stm @ Off SH41 Turangi	12	3.0	3.1	2.4	3.6	0.5	-0.11	12	3.4	3.4	3.1	4.0	0.2	0.96	
Waihaha River @ SH32	12	3.6	3.6	3.1	4.1	0.6	0.22	12	1.0	0.9	0.8	1.4	0.1	1.54	
Waitahanui River @ Blake Rd	12	3.2	3.2	2.6	3.7	0.5	-0.20	12	1.8	1.8	1.6	2.3	0.2	1.38	
Whanganui Stm @ Lakeside Lake Taupo	12	3.6	3.5	3.2	4.2	0.3	0.89	12	1.3	1.3	1.0	1.8	0.4	0.58	
Whareroa Stm (Taupo District) @ Lakeside Lake Taupo	12	3.8	3.9	3.0	4.5	0.5	-0.21	12	2.2	2.3	0.7	3.1	0.4	-1.44	
Whareroa Stm (Taupo District) @ Whareroa Station Bridge	12	3.8	3.8	3.1	4.4	0.4	0.03	12	2.3	2.2	2.0	3.1	0.4	1.23	

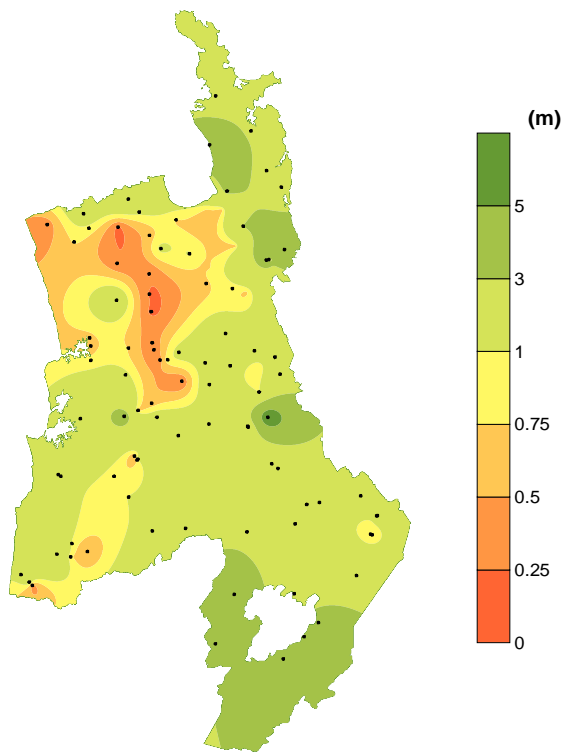
IQR = Inter quartile range; Underlined values indicate parameters having non-normal distributions



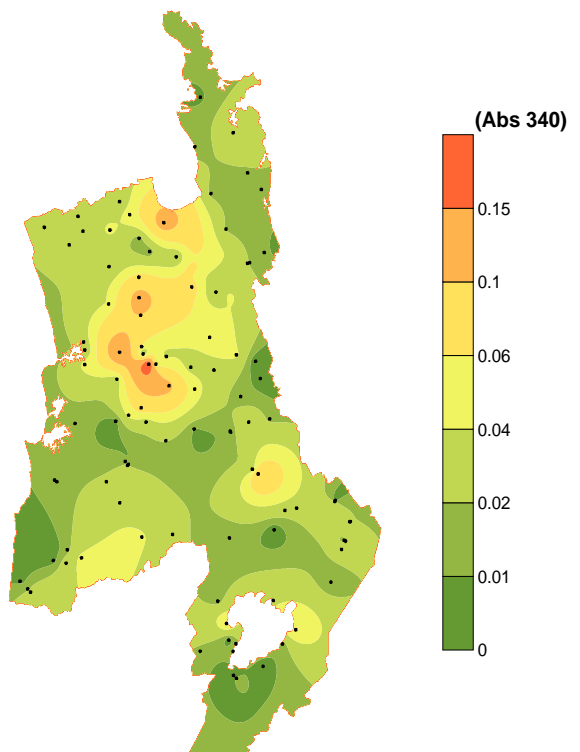
a: Total Nitrogen



b: Total Phosphorus



c: Black Disk



d: Dissolved Colour

Figure 2: Spatial contour plots of four water quality parameters (based on 5 year median values, 2001-2005); a: Total Nitrogen, b: Total Phosphorus, c: Black disk, d: Dissolved colour (Abs 340).

3.2 Regional Rivers Monitoring Programme

Comparison with Water Quality Guidelines and Standards

Number of samples (2005) that comply with Satisfactory Water Quality Standards and with Excellent Water Quality Standards and Guidelines (Bdisk*, n=11)

Location	SATISFACTORY									
	ECOLOGICAL HEALTH					RECREATION				
	DO	pH	Turb	NH4	Temp	TP	TN	Bdisk*	E.coli	E.coli-m
Coromandel										
Hikutaia River @ Old Maratoto Rd	12	12	12	12	11	12	12	11	3/4	N
Kauaeranga River @ Smiths Cableway/Recorder	12	12	12	12	11	12	12	11	3/4	N
Ohinemuri River @ Queens Head	11	12	12	12	5	8	2	10	3/4	N
Ohinemuri River @ SH25 Br	11	12	12	12	7	12	5	11	3/4	N
Tairua River @ Morrisons Br Hikuai	12	12	11	12	10	12	12	9	4/4	Y
Tapu River @ Tapu-Coroglen Rd	12	12	12	12	11	12	12	11	3/4	Y
Waiau River @ E309 Rd Ford	12	12	11	12	11	12	12	9	3/4	Y
Waitekauri River @ U/S Ohinemuri Conflu	11	12	12	12	8	12	11	11	3/4	N
Waiwawa River @ SH25 Coroglen	12	12	12	12	10	12	12	11	4/4	N
Wharekawa River @ SH25	11	12	12	12	10	12	12	9	2/4	N
Hauraki										
Mangawhero Strm (Kaihere) @ Mangawara Rd	12	12	5	12	11	0	9	1	4/4	Y
Oraka Strm @ Lake Rd	12	12	5	12	8	0	0	0	1/4	N
Piako River @ Kiwitahi	6	12	7	11	9	0	0	5	2/4	N
Piako River @ Paeroa-Tahuna Rd Br	8	12	3	12	10	0	0	1	1/4	N
Piakonui Strm @ Piakonui Rd	12	12	6	12	11	9	8	2	4/4	Y
Waihau River @ Okauia	12	12	6	12	9	0	0	2	1/4	N
Waihau River @ Whites Rd	12	12	12	12	7	0	1	10	4/4	Y
Waiohotu Strm @ Waiohotu Rd (Off SH5)	12	12	6	12	12	8	11	n/a	3/4	N
Waiomou Strm @ Matamata-Tauranga Rd	12	12	7	12	10	3	2	2	1/4	N
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	9	12	3	12	6	0	5	1	2/4	N
Waitoa River @ Landsdowne Rd Br	11	12	3	12	11	1	0	3	2/4	N
Waitoa River @ Mellon Rd Recorder	4	12	2	12	10	0	0	2	2/4	N
Tributaries to the lower Waikato River										
Awaroa R (Waiuku) @ Otaua Rd Br opp Moseley Rd	9	12	0	12	4	3	1	0	n/a	n/a
Awaroa Strm (Rotowaro) @ Sansons Br @ Rotowaro-Hunt	10	12	5	12	10	10	4	3	1/4	N
Karapiro Strm @ Hickey Rd Bridge	12	12	6	12	10	0	1	2	1/4	N
Kirikiri Strm @ Tauhara Dr	1	12	0	12	11	0	0	0	1/4	N
Komakorau Strm @ Henry Rd	0	7	0	8	10	0	0	0	0/4	N
Little Waipa Strm @ Arapuni - Putaruru Rd	12	12	11	12	8	0	0	8	3/4	N
Mangakotukutuku Strm (Rukuhia) @ Peacockes Rd	12	11	0	12	11	0	0	0	1/4	N
Mangamingi Strm (Tokoroa) @ Paraonui Rd Br	12	12	8	12	10	0	0	0	1/4	N
Mangaone Strm @ Annebrooke Rd Br	4	12	0	12	11	0	0	0	0/4	N
Mangaonua Strm @ Hoeka Rd	6	12	3	12	10	2	0	3	0/4	N
Mangaonua Strm @ Te Miro Rd	12	12	4	12	11	7	3	3	4/4	N
Mangatangi River @ SH2 Maramara	10	12	3	12	6	1	5	4	n/a	n/a
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	12	8	12	3	9	10	7	n/a	n/a
Mangawara Strm @ Rutherford Rd Br	2	8	0	12	10	0	0	0	n/a	n/a
Mangawhero Strm (Cambridge) @ Cambridge-Ohaupo Rd	12	12	0	12	11	0	0	0	0/4	N
Matahuru Strm @ Waiterimu Rd Br	10	11	0	12	8	0	1	0	n/a	n/a
Ohaeroa Strm @ SH22 Br	12	12	5	12	10	7	0	4	n/a	n/a
Opuatia Strm @ Ponganui Rd	12	12	2	12	8	8	0	2	2/4	N
Pokaiwhenua Strm @ Arapuni-Putaruru Rd	12	12	9	12	9	0	0	3	2/4	N
Waerenga Strm @ Taniwha Rd	12	12	4	12	11	3	0	2	2/4	N
Waitawhiriwhiri Strm @ Edgecumbe Street	7	12	0	9	6	0	0	0	1/4	N
Whakapipi Strm @ SH22 Br	12	12	6	12	8	3	0	5	n/a	n/a
Whakauru Strm @ U/S SH1 Br	12	12	11	12	10	11	12	0	2/4	N
Whangamarino River @ Island Block Rd	3	12	0	12	4	0	0	0	n/a	n/a
Whangamarino River @ Jefferies Rd Br	3	12	2	12	9	0	3	0	n/a	n/a
Whangape Strm @ Rangiriri-Glen Murray Rd	8	12	0	12	6	0	0	0	n/a	n/a

Location	EXCELLENT									
	ECOLOGICAL HEALTH					RECREATION				
	DO	pH	Turb	NH4	Temp	TP	TN	Bdisk*	E.coli	E.coli-m
Coromandel										
Hikutaia River @ Old Maratoto Rd	12	10	8	12	4	4	2	1	0	N
Kauaeranga River @ Smiths Cableway/Recorder	12	9	10	12	4	12	9	5	1	N
Ohinemuri River @ Queens Head	11	6	7	8	0	0	0	3	1	N
Ohinemuri River @ SH25 Br	11	7	12	12	0	2	1	6	1	N
Tairua River @ Morrisons Br Hikuai	12	6	7	12	1	9	2	1	2	N
Tapu River @ Tapu-Coroglen Rd	12	12	8	12	4	12	9	6	1	N
Waiau River @ E309 Rd Ford	12	11	3	12	5	7	3	1	2	N
Waitekauri River @ U/S Ohinemuri Conflu	11	10	10	11	3	5	1	4	1	N
Waiwawa River @ SH25 Coroglen	12	10	9	12	2	11	5	2	0	N
Wharekawa River @ SH25	10	3	2	12	3	6	0	1	0	N
Hauraki										
Mangawhero Strm (Kaihere) @ Mangawara Rd	12	12	0	12	4	0	0	0	1	N
Oraka Strm @ Lake Rd	9	11	2	10	5	0	0	0	0	N
Piako River @ Kiwitahi	4	7	3	6	1	0	0	0	0	N
Piako River @ Paeroa-Tahuna Rd Br	1	11	0	7	2	0	0	0	0	N
Piakonui Strm @ Piakonui Rd	12	10	0	12	9	0	0	0	2	N
Waihau River @ Okauia	11	10	2	12	5	0	0	0	0	N
Waihau River @ Whites Rd	12	6	12	12	7	0	0	10	1	N
Waiohotu Strm @ Waiohotu Rd (Off SH5)	10	7	0	12	10	0	0	n/a	1	N
Waiomou Strm @ Matamata-Tauranga Rd	12	9	2	11	6	0	0	0	0	N
Waitakaruru River (Hauraki Plains) @ Coxhead Rd Br	7	11	1	11	1	0	0	0	0	N
Waitoa River @ Landsdowne Rd Br	6	8	0	9	1	0	0	0	0	N
Waitoa River @ Mellon Rd Recorder	0	10	0	8	1	0	0	0	0	N
Tributaries to the lower Waikato River										
Awaroa R (Waiuku) @ Otaua Rd Br opp Moseley Rd	7	9	0	11	1	0	0	0	0	n/a
Awaroa Strm (Rotowaro) @ Sansons Br @ Rotowaro-Hunt	4	11	0	11	3	2	0	0	0	N
Karapiro Strm @ Hickey Rd Bridge	10	11	0	11	2	0	0	0	0	N
Kirikiri Strm @ Tauhara Dr	0	1	0	0	1	0	0	0	0	N
Komakorau Strm @ Henry Rd	0	1	0	0	2	0	0	0	0	N
Little Waipa Strm @ Arapuni - Putaruru Rd	12	8	6	12	4	0	0	1	0	N
Mangakotukutuku Strm (Rukuhia) @ Peacockes Rd	6	7	0	0	1	0	0	0	0	N
Mangamingi Strm (Tokoroa) @ Paraonui Rd Br	12	12	2	9	4	0	0	0	0	N
Mangaone Strm @ Annebrooke Rd Br	0	12	0	12	7	0	0	0	0	N
Mangaonua Strm @ Hoeka Rd	0	8	0	10	3	0	0	0	0	N
Mangaonua Strm @ Te Miro Rd	12	12	0	12	5	0	0	0	0	N
Mangatangi River @ SH2 Maramara	5	9	2	10	1	0	0	0	0	n/a
Mangatawhiri River @ Lyons Rd At Buckingham Br	12	11	3	12	0	0	0	0	0	n/a
Mangawara Strm @ Rutherford Rd Br	0	4	0	1	2	0	0	0	0	n/a
Mangawhero Strm (Cambridge) @ Cambridge-Ohaupo Rd	1	10	0	7	5	0	0	0	0	N
Matahuru Strm @ Waiterimu Rd Br	3	7	0	8	3	0	0	0	0	n/a
Ohaeroa Strm @ SH22 Br	12	12	0	12	3	0	0	0	0	n/a
Opuatia Strm @ Ponganui Rd	11	12	1	12	2	0	0	0	0	N
Pokaiwhenua Strm @ Arapuni-Putaruru Rd	12	11	5	12	5	0	0	0	0	N
Waerenga Strm @ Taniwha Rd	12	11	1	12	4	0	0	0	0	N
Waitawhiriwhiri Strm @ Edgecumbe Street	0	6	0	0	1	0	0	0	0	N
Whakapipi Strm @ SH22 Br	7	12	1	9	2	0	0	0	0	n/a
Whakauru Strm @ U/S SH1 Br	12	12	1	12	9	0	0	0	0	N
Whangamarino River @ Island Block Rd	2	3	0	9	0	0	0	0	0	n/a
Whangamarino River @ Jefferies Rd Br	0	8	0	10	4	0	0	0	0	n/a
Whangape Strm @ Rangiriri-Glen Murray Rd	6	11	0	11	0	0	0	0	0	n/a

Waipa River and Tributaries																				
Kaniwhaniwha Stm @ Wright Rd	11	12	4	12	10	6	6	1	n/a	n/a	3	6	0	11	2	0	0	0	n/a	
Mangaohoi Stm @ South Branch Maru Rd	12	12	11	12	11	1	9	2	3/4	Y	12	11	2	12	6	0	0	0	1	N
Mangaokewa Stm @ Te Kuiti Borough W/S Intake	12	12	6	12	12	4	2	4	n/a	n/a	11	11	2	12	6	0	0	0	n/a	
Mangapiko Stm (Pirongia/Te Awamutu) @ Bowman Rd	11	12	0	12	9	0	0	0	n/a	n/a	4	8	0	9	2	0	0	0	n/a	
Mangapu River @ Otorohanga	12	12	4	12	5	0	0	2	2/4	n/a	8	12	0	12	2	0	0	0	0	N
Mangatutu Stm (Waikeria) @ Walker Rd Br	12	12	9	12	9	9	6	6	3/4	n/a	12	8	3	12	4	0	0	0	0	N
Mangauika Stm @ Te Awamutu Borough W/S Intake	12	12	11	12	12	12	12	10	4/4	Y	12	9	8	12	8	6	0	3	3	Y
Ohote Stm @ Whatawhata/Horotiu Rd	0	11	0	12	10	0	0	0	3/4	N	0	2	0	10	1	0	0	0	0	N
Puniu River @ Bartons Corner Rd Br	12	12	6	12	9	0	3	3	n/a	n/a	9	8	2	11	2	0	0	0	n/a	
Waipa River @ Mangaokewa Rd	12	12	11	12	11	10	2	7	n/a	n/a	12	10	2	12	6	0	0	0	n/a	
Waipa River @ Pirongia-Ngutunui Rd Br	11	12	2	12	9	1	2	1	2/4	N	8	9	1	11	2	0	0	0	0	N
Waipa River @ SH3 Otorohanga	12	12	7	12	8	7	5	4	2/4	N	12	10	3	12	2	0	0	0	0	N
Waitomo Stm @ SH31 Otorohanga	12	12	3	12	8	6	2	1	3/4	N	11	11	0	12	2	0	0	0	0	N
Waitomo Stm @ Tumutumu Rd	12	12	5	12	11	8	0	2	3/4	N	12	11	2	12	3	0	0	0	0	N
Tributaries to the Upper Waikato River																				
Kawaunui Stm @ SH5 Br	12	12	9	12	9	0	0	5	2/4	N	2	9	2	7	3	0	0	0	1	N
Mangaharakeke Stm (Atiamuri) @ SH30 (Off Jct SH1)	12	12	6	12	10	0	4	0	3/4	N	12	12	0	11	8	0	0	0	0	N
Mangakara Stm (Reporoa) @ SH5	12	12	5	12	10	0	0	1	4/4	N	11	11	0	12	7	0	0	0	0	N
Mangakino River (Whakamaru) @ Sandel Rd	12	12	11	12	12	0	1	5	n/a	n/a	12	11	8	12	8	0	0	0	n/a	
Otamakokore Stm @ Hossack Rd	12	12	9	12	1	0	0	2	4/4	N	9	7	1	11	0	0	0	0	0	N
Pueto Stm @ Broadlands Rd Br	11	12	11	12	9	0	7	9	4/4	Y	11	12	6	12	7	0	0	0	3	N
Tahunaaatara Stm @ Ohakui Rd	12	12	11	12	10	0	0	2	3/4	N	12	12	1	12	4	0	0	0	0	N
Torepatutahi Stm @ Vaile Rd Br	12	12	12	12	9	0	2	n/a	n/a	n/a	12	12	10	12	5	0	0	n/a	n/a	
Waiotapu Stm @ Campbell Rd Br	12	0	4	7	0	0	0	2	4/4	Y	4	0	1	0	0	0	0	0	4	Y
Waiotapu Stm @ Homestead Rd Br	12	12	0	12	3	0	0	0	n/a	n/a	2	2	0	0	1	0	0	0	n/a	
Waipapa Stm (Mokai) @ Tirohanga Rd Br	11	12	6	12	0	0	0	3	3/4	N	11	12	0	12	0	0	0	0	1	N
Whirinaki Stm @ Corbett Rd	12	12	12	12	12	0	0	0	n/a	n/a	12	11	12	12	7	0	0	0	n/a	
West Coast																				
Awakino River @ Gribbon Rd	12	12	11	12	11	12	8	3/4	N	12	9	10	12	3	1	3	3	1	N	
Awakino River @ SH3 Awakau Rd Junction	12	12	9	12	8	11	11	7	4/4	Y	12	10	6	12	2	1	1	0	1	N
Manganui River @ Off Manganui Rd	12	12	8	12	8	9	11	4	3/4	N	12	10	4	12	3	0	3	0	0	N
Mangaotaki River @ SH3 Br	12	12	6	12	11	10	0	2	n/a	n/a	12	12	2	12	3	0	0	0	n/a	
Marokopa River @ Speedies Rd (Off Te Anga Rd)	12	12	7	12	11	9	7	2	2/4	N	12	10	2	12	3	0	0	0	0	N
Mokau River @ Awakau Rd	12	12	2	12	8	5	2	0	3/4	N	11	12	1	12	2	0	0	0	0	N
Mokau River @ Mangaokewa Rd (Off SH30)	12	12	8	12	12	8	5	5	3/4	N	12	11	2	12	7	0	0	0	0	N
Mokau River @ Totoro Rd Recorder	12	12	4	12	8	5	0	3	3/4	N	12	12	1	12	2	0	0	0	1	N
Mokauti Stm @ Three Way Point - Aria	12	12	1	12	9	1	4	1	2/4	N	11	12	0	12	2	0	0	0	0	N
Ohautira River @ Waingaro Te Uku Rd	12	12	1	12	11	3	7	0	2/4	N	12	8	0	12	7	0	0	0	0	N
Oparau River @ Langdon Rd (Off Okupata Rd)	12	12	8	12	9	11	11	3	n/a	n/a	12	10	2	12	3	1	2	0	n/a	
Tawarau River @ Off Speedies Rd	12	12	8	12	11	8	6	2	n/a	n/a	12	10	2	12	3	0	0	0	n/a	
Waingaro River (Pukemiro) @ Ruakiwi Rd Off SH22	11	11	2	12	8	3	4	1	n/a	n/a	10	9	0	12	2	0	0	0	n/a	
Waitetuna River @ Te Uku-Waingaro Rd	12	12	2	12	10	4	6	0	1/4	N	12	8	0	12	4	0	0	0	0	N
Inflows to Lake Taupo																				
Hinemaiaia River @ SH1	12	12	12	12	12	5	12	10	4/4	Y	12	12	11	12	9	0	4	2	4	Y
Kuratau River @ 43 Te Rae Street	12	12	12	12	12	12	1	n/a	4/4	Y	12	12	11	12	8	0	0	n/a	2	N
Kuratau River @ SH41 Moerangi	12	12	11	12	12	12	12	8	n/a	n/a	12	5	8	12	12	10	0	2	n/a	
Mapara Stm @ Off Mapara Rd (Whakaipo Res)	12	12	11	12	12	0	0	3	4/4	Y	3	12	1	12	8	0	0	0	0	N
Tauranga-Taupo River @ Te Kono Slackline	12	12	11	12	12	12	12	9	n/a	n/a	12	11	9	12	12	0	5	4	n/a	
Tokaanu Power Station Tailrace Canal @ SH41 Bridge	12	12	12	12	11	12	12	n/a	n/a	n/a	11	12	10	11	7	1	6	n/a	n/a	
Tokaanu Stm @ Off SH41 Turangi	12	12	12	12	11	0	9	n/a	n/a	n/a	0	12	12	12	7	0	0	n/a	n/a	
Waihaha River @ SH32	12	12	12	12	12	12	12	10	4/4	Y	12	10	11	12	12	0	0	4	2	N
Waitahanui River @ Blake Rd	12	12	12	12	12	0	8	10	4/4	Y	12	12	11	12	10	0	0	6	1	N
Whanganui Stm @ Lakeside Lake Taupo	12	12	12	12	12	12	5	n/a	4/4	Y	12	11	6	12	12	0	0	n/a	2	N
Whareroa Stm @ Lakeside Lake Taupo	12	12	7	12	12	3	0	n/a	4/4	N	12	11	2	12	10	0	0	n/a	0	N
Whareroa Stm @ Whareroa Station Bridge	12	12	9	12	12	7	0	n/a	3/4	N	12	12	4	12	10	0	0	n/a	1	N

E.coli-m refers to whether the 2004 sample median meets the satisfactory median *E.coli* guideline of <126/100 ml or the Excellent guideline value of <23/100 ml for recreational use of water

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Appendix I: Water Quality Guidelines and Standards

Details of Water Quality Guidelines and Standards for “Satisfactory” Water Quality

Parameter	Critical Value(s)	Source
Dissolved oxygen	>80% of saturation concentration	RMA Third Schedule, Classes AE, F, and FS.
pH	6.5–9	ANZECC (1992) and Canadian guidelines for freshwater aquatic life (1987).
Turbidity	<5 NTU	Studies of adverse effects on underwater light—and thus on plant and invertebrate production—in certain South Island streams (Davies-Colley 1991).
Ammoniacal-nitrogen	<0.88 g N/m ³	USEPA (1998) value for 1-hour exposure at pH 9.
Temperature	<12°C (May – Sep) <20°C (Oct – Apr)	Environment Waikato Draft Regional Plan standards for trout fisheries and trout spawning (1997).
Total phosphorus	<0.04 g/m ³	From upper quartile values for 77 New Zealand rivers in NIWA’s National Water Quality Network (after Smith & Maasdam 1994)—note that the guidelines for “excellent” conditions are the lower quartile concentrations for these rivers.
Total nitrogen	<0.5 g/m ³	From upper quartile values for 77 New Zealand rivers in NIWA’s National Water Quality Network (after Smith & Maasdam 1994)—note that the guidelines for “excellent” conditions are the lower quartile concentrations for these rivers.
Water clarity at baseflow	>1.6 m	“Baseflow” defined as flows less than the median flow. Guideline from Ministry for the Environment (1994).
<i>Escherichia coli</i>	<550/100 mL	Ministry of the Environment (2003) guidelines for the management of recreational and marine shellfish-gathering waters.
Median <i>Escherichia coli</i>	<126/100 mL	Ministry of the Environment (1999) guidelines for the management of recreational and marine shellfish-gathering waters.

Appendix II: Water Quality Monitoring Parameters

Field Instruments and Analytical Methods

Regional Rivers Water Quality Monitoring Parameters

Water Quality Parameter	Reason For Monitoring	Parameter Monitored ¹	Comments ²
Dissolved Oxygen	- requirement for aquatic life	DO (conc.)	routine (field)
	- indicator of organic pollution - indicator of photosynthesis (plant growth)	DO (%sat.)	routine (field)
Temperature	- indicator of biological activity - requirement for aquatic life - mixing processes - modelling studies (e.g. nutrient uptake)	Temperature	routine (field)
Conductivity	- indicator of total salts dissolved in water	Conductivity	routine
pH	- aquatic life protection - indicator of industrial discharges, mining	pH	routine
Clarity - turbidity - black disk (visual clarity)	- aesthetic appearance - light availability for excessive plant growth - aquatic life protection - indicator of catchment condition, land use	Turbidity Black disk	routine routine (field)
Colour - light absorption	- light availability for excessive plant growth - indicator of presence of organic matter	Filtered Absorbance at: 340,440,780nm	routine
Nutrients (N and P)	- enrichment, excessive plant growth - nutrient limitation for plant/algal growth	NO ₃ -N+NO ₂ -N NH ₄ -N,TKN DRP, TP	routine
Faecal Indicators - <i>E. coli</i> - enterococci - faecal coliforms	- indicator of pollution with faecal matter - disease risk for swimming etc.	E.coli ENT FC	quarterly

¹ see the next table for the meaning of the abbreviations.

² routine means sampled monthly.

Regional Rivers Monitoring - Water Quality Parameters & Analytical Methods of Analysis

Id¹	Parameter	Method
A340F	Absorbance @ 340 nm Filtered	Spectrophotometer, 1 cm path length, APHA method 5910B
A440F	Absorbance @ 440 nm Filtered	Spectrophotometer, 1 cm path length, APHA method 5910B
A780F	Absorbance @ 780 nm Filtered	Spectrophotometer, 1 cm path length, APHA method 5910B
BDISK	Black Disk	Field measurement, horizontal water transparency (20mm, 60mm, 100mm, 200mm disk) in river or trough (20mm only)
COND	Conductivity	Lab Meter @ 25°C. APHA method 2510B
DO	Dissolved Oxygen	Field measurement (WTW DO meter, model 340A)
DO (% Sat)	Dissolved Oxygen (percent saturation)	Field measurement (WTW DO meter, model 340A)
pH	pH	Lab Meter @ 25°C. APHA method 4500-H+B
TEMP	Temperature	Field measurement (WTW DO Meter, model 340A)
E. coli	Escherichia coli	Membrane Filtration (mFC Agar) confirmation by NA-MUG Agar. APHA method 9222G
ENT	Enterococci bacteria	Membrane Filtration (mE Agar) confirmation by EIA Agar. APHA method 9230
FC	Faecal Coliforms	Membrane Filtration (mFC Agar). APHA method 9222
NH₄-N	Ammoniacal Nitrogen	Phenol/Hypochlorite Colorimetry. Flow injection analyser. APHA method 4500-NC (modified)
NNN	Nitrite/Nitrate Nitrogen	Automated Cadmium reduction. Flow injection analyser. APHA method 4500 – NO ₃ (proposed).
TKN	Total Kjeldahl-Nitrogen	Acid digestion. Phenol/Hypochlorite Colorimetry. APHA method 4500-N _{org} C (modified)
TN	Total Nitrogen	Calculated from NNN + TKN (Nitrite/Nitrate Nitrogen + Total Kjeldahl-Nitrogen)
DRP	Dissolved Reactive Phosphorus	Molybdenum Blue Colorimetry. Flow injection analyser. APHA 4500 PG (proposed)
TP	Total Phosphorus	Persulphate digestion, Colorimetry. NAWASCO method 8.
TURB	Turbidity	Turbidity Meter. APHA method 2130B

Major Ions, analysed during 2005

Id¹	Parameter	Method
ALKT	Alkalinity Total	Potentiometric autotitration to pH 4.5
HCO₃	Bicarbonate	Bicarbonate Calculation from alkalinity & pH (APHA 1989.Method 4500-CO ₂ D)
Ca Diss	Calcium Dissolved	Filtered, ICP-MS. APHA Method 3125B.
Cl	Chloride	Filtered Sample.Ferric thiocyanide colorimetry. Discrete Analyser. APHA 4110 - CL E (modified from continuous flow analysis).
K Diss	Potassium Dissolved	Filtered, Atomic Emission Spectroscopy. APHA 3500-K B.
Mg Diss	Magnesium Dissolved	Filtered, ICP-MS.APHA Method 3125B.
Na Diss	Sodium Dissolved	Filtered, ICP-MS. APHA Method 3125B.
SO₄ Chro	Sulphate Dissolved	Ion chromatography APHA 4110B

¹ Parameter Id refers to Environment Waikato's water quality database (HYDROL) parameter short name