

# Regional rivers water quality monitoring programme: Data report 2018

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# 1 Introduction

## 1.1 Background

To effectively manage water quality, the regional rivers 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 Waikato Regional Council 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 23<sup>rd</sup> since the implementation of the regional rivers monitoring programme (RERIMP) in 1993<sup>1</sup>. A major redesign of the programme was implemented in 2018 to incorporate 10 new sites - from the Healthy Rivers Plan Change I. The RERIMP report series remain the same.

This report follows the format of the previous data report (Tulagi, 2018). Copies of reports as described in the list of references (page 47) can be obtained by contacting Waikato Regional Council (the Library) on 0800 800 401 and filling out the request for service form at: [www.waikatoregion.govt.nz/request](http://www.waikatoregion.govt.nz/request) or in electronic format from the publications page of the Waikato Regional Council website: [www.waikatoregion.govt.nz/publications](http://www.waikatoregion.govt.nz/publications).

## 1.2 Report content

The report provides information on the routine monthly monitoring of water quality at 110 locations across the Waikato region, and includes:

- year 2018 summary statistics tabulated by parameter and reported together
- 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.

## 1.3 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 2018. 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 (for example swimming).

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<sup>1</sup> Waikato River reported separately — in process.

**Table 1: Guidelines and standards for physiochemical water quality for ecological health and for human uses of water**

Water quality measure	Relevance <sup>1</sup>	Satisfactory	Excellent
<b>Ecological health</b>			
Dissolved Oxygen (% saturation)	aquatic life (breathing)	>80	>90
pH	aquatic life (acidity)	6.5-9	7-8
Turbidity (NTU)	plant life (clarity)	<5	<2
Ammoniacal Nitrogen (g/m <sup>3</sup> )	aquatic life (toxicity)	<0.88	<0.1
Water Temperature (°C) (May-Sep)	fish (spawning)	<12	<10
(Oct-Apr)	fish health	<20	<16
Total Phosphorus (g/m <sup>3</sup> )	nuisance plant growth	<0.04	<0.01
Total Nitrogen (g/m <sup>3</sup> )	nuisance plant growth	<0.5	<0.1
<b>Human uses - recreation</b>			
Black Disk (m)	visibility	>1.6	>4
<i>Escherichia coli</i> (/100ml)	human health	<550	<55
Median <i>Escherichia coli</i> (/100ml)	human health	<126	<23
<b>Human uses - water supply</b>			
Chlorophyll <i>a</i> (g/m <sup>3</sup> )	filter blockage	<0.02	<0.005
<b>Human uses - drinking water</b>			
Arsenic (g/m <sup>3</sup> )	human health (toxicity)	<0.01	-
Boron (g/m <sup>3</sup> )	human health (toxicity)	<1.4	-

<sup>1</sup>Refer to Appendix I for description of guideline and standards values used. These guidelines and standards are also defined on the Waikato Regional Council Internet site [www.waikatoregion.govt.nz](http://www.waikatoregion.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 and ten sites were sampled monthly by Waikato Regional Council. A further five locations form part of NIWA’s National Rivers Water Quality Network, whose data can be found on the NIWA website ([www.niwa.co.nz](http://www.niwa.co.nz)).

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. Sampling locations within each water quality zone are shown on Table 2.



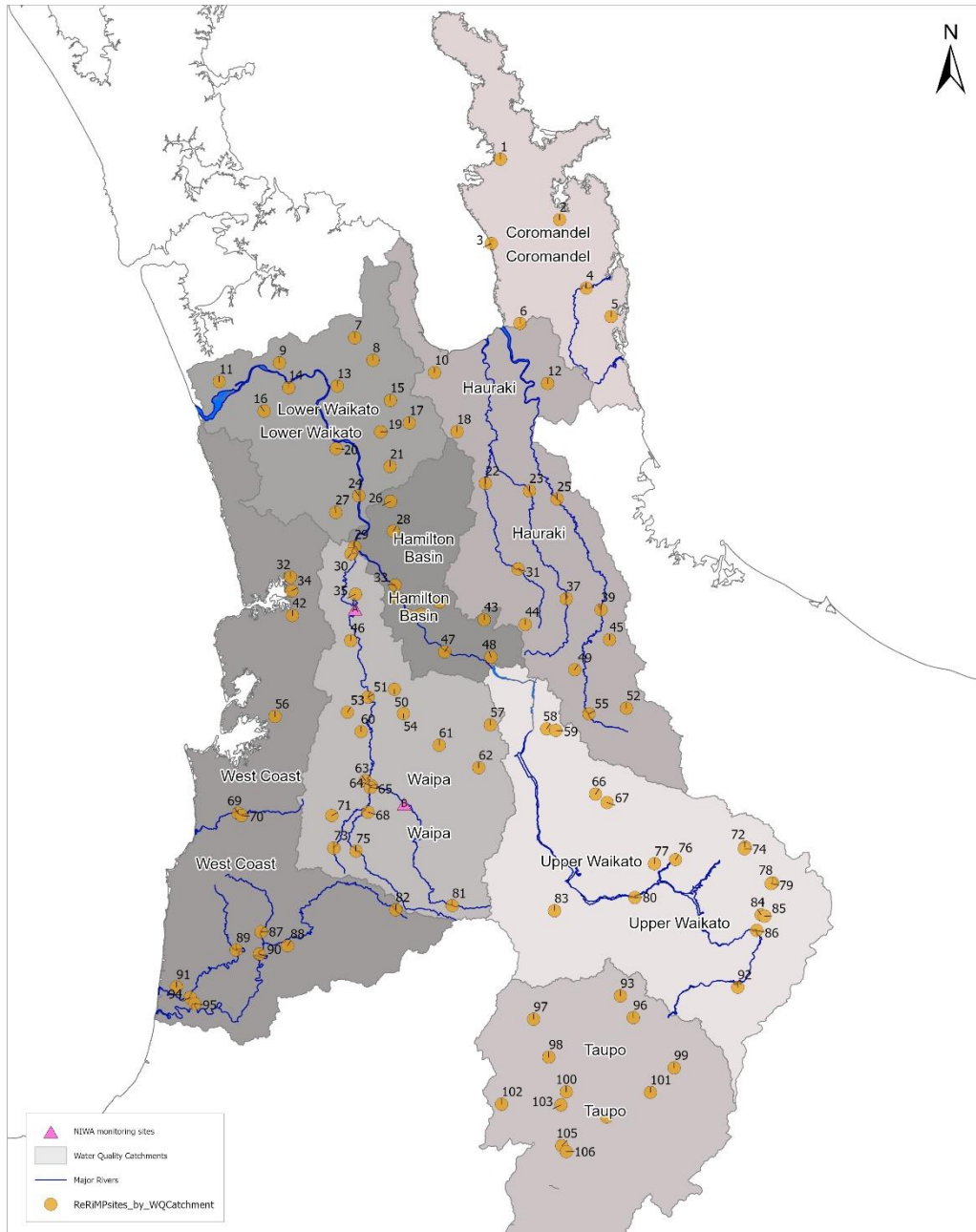
**Table 2: Waikato Regional Council's sampling locations**

Map No.	Location name	Location number	Location coordinate
<b>Coromandel</b>			
1	Waiau River at E309 Rd Ford	1105-3	1825236, 5925022
24	Waitekauri River at U/S Ohinemuri Confluence	1239-32	1846306, 5855261
2	Waiwawa River at SH25 Coroglen	1257-3	1839816, 5910119
5	Wharekawa River at SH25	1312-3	1852498, 5886250
12	Hikutaia River at Old Maratoto Rd	169-2	1836841, 5869743
6	Kauaeranga River at Smiths Cableway/Recorder	234-11	1830040, 5884528
22	Ohinemuri River at Karangahake	619-16	1840337, 5855574
23	Ohinemuri River at Queens Head	619-19	1847342, 5855482
19	Ohinemuri River at SH25 Bridge	619-20	1853847, 5859843
3	Tapu River at Tapu-Coroglen Rd	954-5	1822967, 5904237
4	Tairua River at Morrisons Bridge Hikutia	940-10	1846396, 5893251
<b>Hauraki</b>			
51	Waihou River at Okauia	1122-18	1850033, 5813970
33	Waihou River at Te Aroha	1122-34	1839179, 5841242
73	Waihou River at Whites Rd	1122-41	1847029, 5788310
69	Waiohotu Stm at Waiohotu Rd (Off SH5)	1173-2	1856291, 5789715
60	Waiomou Stm at Matamata-Tauranga Rd	1174-4	1852108, 5806591
10	Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	1230-1	1808982, 5872419
48	Waitoa River at Landsdowne Rd Bridge	1249-15	1841455, 5816681
31	Waitoa River at Mellon Rd Recorder	1249-18	1832368, 5843261
20	Mangawhero Stm (Kaihere) at Mangawara Rd	489-2	1814506, 5857854
65	Oraka Stm at Lake Rd	669-6	1843532, 5799203
39	Piako River at Kiwitahi	749-10	1829552, 5824019
30	Piako River at Paeroa-Tahuna Rd Bridge	749-15	1821502, 5845142
59	Piakonui Stm at Piakonui Rd	753-4	1831309, 5810336
<b>Tributaries to the upper Waikato River</b>			
111	Torepatutahi Stm at Vaile Rd Bridge	1057-6	1888409, 5734946
102	Waiotapu Stm at Campbell Rd Bridge	1186-2	1892343, 5746710
110	Waiotapu Stm at Homestead Rd Bridge	1186-4	1890373, 5738454
105	Waipapa Stm (Mokai) at Tirohanga Rd Bridge	1202-7	1858355, 5743037
95	Whirinaki Stm at Corbett Rd	1323-1	1885524, 5755511
104	Kawaunui Stm at SH5 Bridge	240-5	1891976, 5746482
101	Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	359-1	1863201, 5751371
109	Mangakara Stm (Reporoa) at SH5	380-2	1889506, 5738783
108	Mangakino River (Whakamaru) at Sandel Rd	388-1	1838547, 5739797
97	Otamakokore Stm at Hossack Rd	683-4	1885383, 5755059
117	Pueto Stm at Broadlands Rd Bridge	802-1	1883743, 5720920
100	Tahunaatara Stm at Ohakuri Rd	934-1	1868367, 5752370
<b>Waipa River and tributaries</b>			
84	Waipa River at SH3 Otorohanga	1191-12	1793417, 5770550
67	Waipa River at Pukehoua Bridge on Baffin Road	1191-2	1792588, 5792454
106	Waipa River at Mangaokewa Rd	1191-5	1813330, 5741060
83	Waitomo Stm at SH31 Otorohanga	1253-5	1791948, 5771850
92	Waitomo Stm at Tumutumu Rd	1253-7	1783624, 5763236
61	Kaniwhaniwha Stm at Wright Rd	222-16	1788300, 5806382
75	Mangaohoi Stm at South Branch Maru Rd	411-9	1822734, 5785595
98	Mangaokewa Stm at Lawrence St Bridge	414-6	1789612, 5754501
66	Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	438-3	1799086, 5794363
85	Mangapu River at Otorohanga	443-3	1793118, 5770149
81	Mangatutu Stm (Waikeria) at Walker Rd Bridge	476-7	1810109, 5780575
71	Mangauika Stm at Te Awamutu Borough Water Intake	477-10	1787494, 5788722
44	Ohote Stm at Whatawhata/Horotiu Rd	624-5	1789493, 5817795
72	Puniu River at Bartons Corner Rd Bridge	818-2	1801295, 5788365
38	Firewood Creek at Waingarua Road Bridge	124-8	1788353, 5827726
96	Mangarama Stm at Gadsby Road Bridge	1391-1*	1784134, 5755235
89	Mangarapa Stm at Old Te Kuiti Rd Bridge	444-1*	1792544, 5764098

<b>Map No.</b>	<b>Location name</b>	<b>Location number</b>	<b>Location coordinate</b>
78	Moakurarua River at Warratah Farm Bridge	553-12*	1790853, 5783949
82	Punui River at Wharepapa Sth Road Bridge	818-40*	1819868, 5775028
37	Waipa River at Ngaruawahia Br	1191-6*	1789220, 5829466

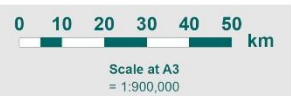
Map No.	Location name	Location number	Location coordinate
<b>Tributaries to the lower Waikato River</b>			
18	Waerenga Stm at Taniwha Rd	1098-1	1802756, 5860005
46	Waitawhiriwhiri Stm at Edgcombe Street	1236-2	1799902, 5816915
9	Whakapipi Stm at SH22 Bridge	1282-8	1770704, 5874826
87	Whakauru Stm at U/S SH1 Bridge	1287-7	1851510, 5766456
13	Whangamarino River at Island Block Rd	1293-7	1784968, 5869103
16	Whangamarino River at Jefferies Rd Bridge	1293-9	1798066, 5865561
26	Whangape Stm at Rangiriri-Glen Murray Rd	1302-1	1784703, 5853683
64	Karapiro Stm at Hickey Rd Bridge	230-5	1822883, 5802300
42	Kirikirihoa Stm at Tauhara Drive	253-4	1799248, 5820070
36	Komakorau Stm at Henry Rd	258-4	1798800, 5833361
76	Little Waipa Stm at Arapuni – Putaruru Rd	335-1	1836614, 5784613
35	Awaroa Stm (Rotowaro) at Sansons Br–Rotowaro-Huntly	39-11	17846617, 837950
53	Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	398-1	1802506, 5812573
86	Mangamingi Stm (Tokoroa) at Paraonui Rd Bridge	407-1	1848650, 5768522
52	Mangaone Stm at Annebrooke Rd Bridge	417-7	1805661, 5812778
11	Awaroa River (Waiuku) at Otua Rd Bridge opp Moseley Rd	41-9	1755860, 5870203
49	Mangaonua Stm at Hoeka Rd	421-10	1810244, 5815925
57	Mangaonua Stm (a.k.a Waitakaruru Stm) at Te Miro Rd	421-16	1821181, 5811525
8	Mangatangi River at SH2 Maramarua	453-6	1793779, 5875482
7	Mangatawhiri River at Lyons Rd at Buckingham Bridge	459-6	1789293, 5881001
34	Mangawara Stm at Rutherford Rd Bridge	481-7	1798115, 5840673
62	Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	488-1	1811449, 5803595
27	Matahuru Stm at Waiterimu Rd Br	516-5	1798000, 5849274
15	Ohaeroa Stm at SH22 Bridge	612-9	1773012, 5868668
17	Opuatia Stm at Ponganui Rd	665-5	1766922, 5862941
77	Pokaiwhenua Stm at Arapuni-Putaruru Rd	786-2	1838866, 5784259
32	Lake Waahi Outlet at Te Ohaaki Bridge	1097-1*	1790273, 5842096
21	Northern Outlet Canal at Downstream of Control Gate	3021-3*	1795678, 5857803
<b>West coast</b>			
41	Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	1167-4	1773441, 5822030
54	Waitetuna River at Te Uku-Waingaro Rd	1247-2	1773923, 5812566
114	Awakino River at Gribbon Rd	33-6	1760059, 5730104
120	Awakino River at SH3 Awakau Rd Junction	33-9	1748705, 5718389
116	Manganui River at Off Manganui Rd	410-4	1745321, 5721017
112	Mangaotaki River at SH3 Bridge	428-3	1766193, 5734587
90	Marokopa River at Speedies Rd (Off Te Anga Rd)	513-3	1760521, 5763807
121	Mokau River at Awakau Rd	556-2	1749850, 5716869
107	Mokau River at Mangaokewa Rd (Off SH30)	556-5	1799420, 5740045
115	Mokau River at Totoro Rd Recorder	556-9	1765756, 5729127
113	Mokauiti Stm at Three Way Point – Aria	557-5	1772711, 5731165
43	Ohautira River at Waingaro - Te Uku Rd	616-1	1773746, 5818631
74	Oparau River at Langdon Rd (Off Okupata Rd)	658-1	1769651, 5787687
91	Tawarau River at Off Speedies Rd	976-1	1761387, 5763275
<b>Inflows to Lake Taupo</b>			
135	Tokaanu Stm at Off SH41 Turangi	1045-3	1841470, 5680399
123	Waihaha River at SH32	1106-4	1833389, 5713044
125	Waitahanui River at Blake Rd	1226-1	1868051, 5701057
119	Whangamata Stm (Kinloch) at Whangamata Rd	1300-1	1854803, 5718799
124	Whanganui Stream at Lakeside Lake Taupo	1301-1	1837143, 5703708
128	Whareroa Stream at Lakeside Lake Taupo	1318-4	1841456, 5695161
134	Tokaanu Power Station Tailrace Canal at SH41 Bridge	1491-1	1840329, 5681866
129	Hinemaiaia River at SH1	171-5	1862185, 5695020
130	Kuratau River at SH41 Moerangi	282-4	1825502, 5692096
131	Kuratau River at Te Rae Street	282-5	1840133, 5691927
122	Mapara Stm at Off Mapara Rd (Whakaipo Reserve)	504-2	1857975, 5713452
132	Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	971-5	1851416, 5688991

\*New site, no 5year median value.



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 Major Rivers data sourced from NZTopo Database.  
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## ReRiMP and NIWA monitoring sites by Water Quality Catchment



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**Figure 1: Monitoring locations**

## 2.2 Sample collection

Sample collection occurs monthly. The 110 locations sampled by Waikato Regional Council staff are divided between 9 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 ( $\pm 1$  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 is assessed by measuring up to 32 parameters (19 routinely). 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 Waikato Regional Council's 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 Waikato Regional Council's database called WISKI.

Data analysis was performed using WQStats program. 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 16). 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 2018) summarises the trends and patterns in regional water quality during 1993 to 2017.

The data contained in these regional rivers reports is updated to the Waikato Regional Council website, which also provides a link to details of the water quality guidelines and standards used to assess the condition of the region's rivers, as well as other information relating to lakes, rivers and wetlands. View this information at <http://www.waikatoregion.govt.nz/fresh-water-quality>.

## **3 Results**

The results are divided into two sections. Section 3.1 has a statistical summary of routine monitoring of the region's rivers in 2018 and provides the spatial contour plots using water quality data from four parameters, based on median values for the last five years. Section 3.2 compares the results with water quality guidelines and standards for compliance.

### **3.1 Regional rivers monitoring programme summary statistics**

**Table 3: Sample statistics for 2018.**

Location	Absorbance (340nm) (/cm)							14-18 median
	Count	Mean	Median	Min	Max	IQR	Skew	
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	0.019	0.019	0.010	0.031	0.010	0.31	0.016
Kauaeranga River at Smiths Cableway/Recorder	12	0.024	0.021	0.008	0.058	0.025	0.95	0.013
Ohinemuri River at Karangahake	12	0.020	0.019	0.007	0.049	0.015	1.35	-
Ohinemuri River at Queens Head	12	0.017	0.016	0.008	0.039	0.007	2.01	0.015
Ohinemuri River at SH25 Br	12	0.011	0.010	0.007	0.017	0.006	0.59	0.012
Tairua River at Morrisons Br Hikuai	12	0.022	0.022	0.009	0.042	0.014	0.58	0.014
Tapu River at Tapu-Coroglen Rd	12	0.015	0.013	0.005	0.036	0.011	1.21	0.010
Waiau River at E309 Rd Ford	12	0.022	0.019	0.011	0.058	0.009	2.38	0.016
Waitekauri River at U/S Ohinemuri Conflu	12	0.011	0.011	0.007	0.016	0.005	0.08	0.011
Waiwawa River at SH25 Coroglen	12	0.034	0.030	0.010	0.098	0.025	1.77	0.018
Wharekawa River at SH25	12	0.020	0.021	0.010	0.032	0.008	0.12	0.018
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	0.023	0.020	0.012	0.040	0.011	1.03	0.017
Oraka Stm at Lake Rd	12	0.015	0.013	0.010	0.026	0.009	0.89	0.015
Piako River at Kiwitahi	12	0.051	0.046	0.028	0.077	0.023	0.41	0.044
Piako River at Paeroa-Tahuna Rd Br	12	0.082	0.076	0.059	0.125	0.028	0.91	0.074
Piakonui Stm at Piakonui Rd	12	0.035	0.033	0.017	0.082	0.014	1.77	0.030
Waihou River at Okauia	12	0.016	0.013	0.010	0.035	0.009	1.54	0.014
Waihou River at Te Aroha	12	0.022	0.017	0.011	0.053	0.008	1.80	-
Waihou River at Whites Rd	12	0.002	0.001	0.001	0.007	0.002	2.41	0.001
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	0.041	0.044	0.023	0.051	0.013	-0.92	0.047
Waiomou Stm at Matamata-Tauranga Rd	12	0.018	0.018	0.012	0.028	0.009	0.75	0.020
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	0.078	0.077	0.048	0.142	0.031	1.25	0.072
Waitoa River at Landsdowne Rd Br	12	0.051	0.040	0.029	0.118	0.018	1.99	0.040
Waitoa River at Mellon Rd Recorder	12	0.045	0.039	0.032	0.081	0.016	1.55	0.042
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	0.042	0.039	0.029	0.066	0.014	1.11	0.038
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	0.025	0.023	0.011	0.050	0.016	1.04	0.022
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	0.053	0.044	0.029	0.125	0.024	2.16	0.050
Kirikiroa Stm at Tauhara Dr	12	0.050	0.049	0.034	0.071	0.016	0.69	0.050
Komakorau Stm at Henry Rd	12	0.178	0.174	0.096	0.290	0.094	0.33	0.135
Little Waipa Stm at Arapuni - Putaruru Rd	12	0.014	0.011	0.006	0.026	0.012	0.64	0.013
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	12	0.288	0.220	0.088	0.550	0.316	0.28	0.220
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	0.029	0.026	0.019	0.046	0.012	0.75	0.027
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	0.056	0.048	0.038	0.145	0.014	3.02	0.047
Mangaonua Stm at Hoeka Rd	12	0.045	0.036	0.024	0.122	0.021	2.21	0.034
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	0.035	0.031	0.019	0.080	0.007	2.53	0.029
Mangatangi River at SH2 Maramarua	12	0.053	0.049	0.040	0.075	0.024	0.81	0.047
Mangatawhiri River at Lyons Rd At Buckingham Br	12	0.024	0.022	0.017	0.043	0.013	1.16	0.024
Mangawara Stm at Rutherford Rd Br	12	0.173	0.172	0.105	0.250	0.067	0.39	0.154
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	0.149	0.124	0.054	0.370	0.133	1.09	0.102
Matahuru Stm at Waiterimu Road Below Confluence	12	0.089	0.082	0.050	0.166	0.032	1.63	0.090
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	0.059	0.059	0.054	0.063	0.006	-0.36	-
Ohaeroa Stm at SH22 Br	12	0.027	0.024	0.016	0.053	0.010	1.53	0.025
Opuatia Stm at Ponganui Rd	12	0.028	0.026	0.001	0.050	0.015	-0.25	0.028
Pokaiwhenua Stm at Puketurua	12	0.018	0.016	0.011	0.031	0.011	0.73	0.017
Waahi Stm at Te Ohaki Rd	4	0.045	0.046	0.040	0.048	0.005	-1.33	-
Waerenga Stm at Taniwha Rd	12	0.028	0.024	0.016	0.053	0.015	1.12	0.026
Waitawhiriwhiri Stm at Edgumbe Street	12	0.113	0.123	0.040	0.165	0.059	-0.49	0.111
Whakapipi Stm at SH22 Br	12	0.034	0.031	0.026	0.054	0.010	1.45	0.034
Whakauru Stm at U/S SH1 Br	12	0.027	0.026	0.020	0.034	0.006	0.30	0.026
Whangamarino River at Island Block Rd	12	0.135	0.134	0.080	0.240	0.031	1.28	0.132
Whangamarino River at Jefferies Rd Br	12	0.045	0.041	0.031	0.064	0.020	0.67	0.044
Whangape Stm at Rangiriri-Glen Murray Rd	12	0.063	0.065	0.036	0.083	0.009	-0.74	0.069

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	0.025	0.025	0.018	0.030	0.011	-0.08	-
Kaniwhaniwha Stm at Wright Rd	12	0.028	0.029	0.016	0.037	0.011	-0.46	0.026
Mangaohoi Stm at South Branch Maru Rd	12	0.012	0.007	0.005	0.046	0.006	2.47	0.007
Mangaokewa Stm at Lawrence Street Br	12	0.039	0.034	0.019	0.072	0.032	0.65	0.035
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	0.114	0.094	0.058	0.182	0.063	0.49	0.087
Mangapu River at Otorohanga	12	0.031	0.029	0.017	0.046	0.018	0.29	0.027
Mangarama at Gadsby Rd	4	0.032	0.032	0.021	0.044	0.013	0.16	-
Mangarapa Stm at Otorohanga Rd	4	0.025	0.021	0.017	0.042	0.014	1.81	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	0.023	0.020	0.016	0.047	0.007	2.16	0.019
Mangauika Stm at Te Awamutu Borough W/S Intake	12	0.009	0.007	0.004	0.015	0.007	0.80	0.007
Moakurua Stm at Warratah Farm Bridge	4	0.015	0.015	0.011	0.018	0.006	-0.23	-
Ohote Stm at Whatawhata/Horotiu Rd	12	0.192	0.194	0.118	0.260	0.082	-0.17	0.179
Puniu River at Bartons Corner Rd Br	12	0.033	0.031	0.021	0.060	0.012	1.62	0.029
Puniu River at Wharepapa Rd Bridge	4	0.028	0.030	0.019	0.035	0.013	-0.49	-
Waipa River at Mangaokewa Rd	12	0.050	0.049	0.028	0.082	0.035	0.31	0.050
Waipa River at Ngaruawahia Br	4	0.039	0.037	0.030	0.054	0.017	1.04	-
Waipa River at Pukehoua Bridge on Baffin Road	12	0.033	0.033	0.019	0.043	0.013	-0.33	-
Waipa River at SH3 Otorohanga	12	0.031	0.029	0.020	0.047	0.017	0.60	0.026
Waitomo Stm at SH31 Otorohanga	12	0.020	0.017	0.010	0.041	0.011	1.41	0.019
Waitomo Stm at Tumutumu Rd	12	0.015	0.013	0.008	0.026	0.009	0.80	0.013
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	0.027	0.028	0.019	0.040	0.006	1.08	0.028
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	0.031	0.031	0.022	0.045	0.008	0.72	0.030
Mangakara Stm (Reporoa) at SH5	12	0.019	0.018	0.014	0.026	0.005	1.03	0.018
Mangakino Stm (Whakamaru) at Sandel Rd	12	0.016	0.012	0.007	0.059	0.006	3.13	0.012
Otamakokore Stm at Hossack Rd	12	0.039	0.034	0.027	0.079	0.010	2.20	0.040
Pueto Stm at Broadlands Rd Br	12	0.010	0.010	0.008	0.012	0.001	0.80	0.010
Tahunaatara Stm at Ohakuri Rd	12	0.037	0.036	0.021	0.072	0.013	1.56	0.036
Torepatutahi Stm at Vaile Rd Br	12	0.014	0.013	0.011	0.017	0.004	0.47	0.013
Waiotapu Stm at Campbell Rd Br	12	0.007	0.006	0.003	0.012	0.003	1.07	0.006
Waiotapu Stm at Homestead Rd Br	12	0.027	0.027	0.020	0.036	0.006	0.54	0.025
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	0.014	0.013	0.011	0.018	0.003	0.80	0.013
Whirinaki Stm at Corbett Rd	12	0.004	0.004	0.002	0.008	0.003	0.80	0.003
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	0.008	0.007	0.004	0.013	0.004	0.65	0.006
Awakino River at SH3 Awakau Rd Junction	12	0.013	0.013	0.007	0.019	0.007	0.37	0.012
Manganui River at Off Manganui Rd	12	0.009	0.009	0.006	0.012	0.004	0.05	0.008
Mangaotaki River at SH3 Br	12	0.018	0.016	0.010	0.028	0.014	0.17	0.016
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	0.019	0.017	0.012	0.032	0.010	1.05	0.016
Mokau River at Awakau Rd	12	0.036	0.036	0.020	0.057	0.021	0.20	0.032
Mokau River at Mangaokewa Rd (Off SH30)	12	0.047	0.042	0.026	0.072	0.035	0.18	0.045
Mokau River at Totoro Rd Recorder	12	0.035	0.033	0.019	0.065	0.019	0.95	0.029
Mokauti Stm at Three Way Point - Aria	12	0.064	0.054	0.028	0.124	0.045	0.83	0.054
Ohautira Stm at Waingaro Te Uku Rd	12	0.028	0.025	0.012	0.064	0.021	1.15	0.021
Oparau River at Langdon Rd (Off Okupata Rd)	12	0.020	0.018	0.012	0.033	0.012	0.92	0.016
Tawarau River at Off Speedies Rd	12	0.017	0.016	0.011	0.030	0.007	1.13	0.015
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	0.037	0.035	0.016	0.061	0.029	0.15	0.032
Waitetuna River at Te Uku-Waingaro Rd	12	0.026	0.029	0.012	0.036	0.012	-0.60	0.024
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	0.013	0.013	0.008	0.022	0.003	1.54	0.014
Kuratau River at SH41 Moerangi	12	0.021	0.018	0.015	0.041	0.006	2.31	0.018
Kuratau River at Te Rae Street	12	0.020	0.019	0.012	0.029	0.007	0.17	0.020
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	0.046	0.038	0.031	0.114	0.009	2.96	0.037
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	0.009	0.008	0.005	0.028	0.002	3.23	0.007
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	0.006	0.006	0.004	0.008	0.002	0.00	0.006
Tokaanu Stm at Off SH41 Turangi	12	0.002	0.001	0.001	0.009	0.000	3.46	0.001
Waihaha River at SH32	12	0.011	0.010	0.006	0.034	0.005	2.77	0.009
Waitahanui River at Blake Rd	12	0.003	0.003	0.002	0.007	0.002	1.75	0.003
Whangamata Stm (Kinloch) at Whangamata Rd	12	0.010	0.008	0.005	0.031	0.002	3.07	0.007
Whanganui Stm at Lakeside Lake Taupo	11	0.019	0.016	0.008	0.055	0.006	2.48	0.015
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	0.021	0.018	0.013	0.056	0.005	3.00	0.018

IQR = Inter quartile range. - less than five-year record available.



Location	Absorbance (440nm) (/cm)							14-18 median
	Count	Mean	Median	Min	Max	IQR	Skew	
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	0.004	0.004	0.001	0.006	0.002	-0.08	0.003
Kauaeranga River at Smiths Cableway/Recorder	12	0.005	0.004	0.001	0.012	0.006	0.80	0.003
Ohinemuri River at Karangahake	12	0.004	0.004	0.001	0.010	0.004	0.96	-
Ohinemuri River at Queens Head	12	0.003	0.003	0.001	0.009	0.003	1.80	0.003
Ohinemuri River at SH25 Br	12	0.002	0.002	0.001	0.004	0.002	0.39	0.003
Tairua River at Morrisons Br Hikuai	12	0.004	0.005	0.001	0.008	0.003	0.10	0.003
Tapu River at Tapu-Coroglen Rd	12	0.003	0.003	0.001	0.008	0.003	1.02	0.002
Waiau River at E309 Rd Ford	12	0.004	0.004	0.001	0.011	0.002	1.86	0.003
Waitekauri River at U/S Ohinemuri Conflu	12	0.002	0.003	0.001	0.003	0.002	-0.19	0.002
Waiwawa River at SH25 Coroglen	12	0.007	0.006	0.001	0.020	0.006	1.65	0.004
Wharekawa River at SH25	12	0.004	0.005	0.001	0.007	0.003	-0.34	0.003
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	0.005	0.005	0.003	0.010	0.002	1.41	0.004
Oraka Stm at Lake Rd	12	0.003	0.003	0.001	0.005	0.002	0.31	0.003
Piako River at Kiwitahi	12	0.009	0.009	0.005	0.016	0.005	0.60	0.008
Piako River at Paeroa-Tahuna Rd Br	12	0.014	0.013	0.009	0.023	0.006	0.78	0.013
Piakonui Stm at Piakonui Rd	12	0.007	0.007	0.004	0.016	0.004	1.59	0.006
Waihou River at Okauia	12	0.003	0.003	0.001	0.007	0.002	1.19	0.003
Waihou River at Te Aroha	12	0.004	0.003	0.001	0.011	0.001	1.76	-
Waihou River at Whites Rd	12	0.001	0.001	0.001	0.001	0.000	0.00	0.001
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	0.008	0.009	0.003	0.010	0.003	-1.32	0.009
Waiomou Stm at Matamata-Tauranga Rd	12	0.004	0.004	0.002	0.006	0.001	0.59	0.004
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	0.014	0.014	0.008	0.025	0.006	0.99	0.013
Waitoa River at Landsdowne Rd Br	12	0.009	0.007	0.005	0.022	0.004	1.96	0.007
Waitoa River at Mellon Rd Recorder	12	0.007	0.006	0.004	0.015	0.002	1.68	0.007
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otatau Rd Br opp Moseley Rd	12	0.007	0.007	0.004	0.012	0.003	1.03	0.006
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	0.004	0.004	0.001	0.008	0.002	0.73	0.004
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	0.010	0.008	0.005	0.024	0.004	2.41	0.009
Kirikiri Stm at Tauhara Dr	12	0.008	0.008	0.006	0.011	0.004	0.47	0.008
Komakorau Stm at Henry Rd	12	0.028	0.029	0.014	0.049	0.011	0.62	0.022
Little Waipa Stm at Arapuni - Putaruru Rd	12	0.003	0.003	0.001	0.005	0.003	0.36	0.003
Mangakotukutuku Stm (Rukuhia) at Peacockes Rd	12	0.050	0.038	0.016	0.090	0.055	0.28	0.038
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	0.006	0.006	0.004	0.010	0.003	0.72	0.006
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	0.010	0.009	0.006	0.029	0.003	3.02	0.008
Mangaonua Stm at Hoeka Rd	12	0.008	0.006	0.002	0.024	0.005	2.10	0.006
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	0.007	0.006	0.004	0.015	0.002	2.27	0.006
Mangatangi River at SH2 Maramarua	12	0.009	0.009	0.007	0.014	0.005	0.77	0.008
Mangatawhiri River at Lyons Rd At Buckingham Br	12	0.005	0.004	0.003	0.009	0.003	0.96	0.005
Mangawara Stm at Rutherford Rd Br	12	0.029	0.029	0.017	0.043	0.010	0.45	0.024
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	0.024	0.021	0.009	0.055	0.023	0.81	0.017
Matahuru Stm at Waiterimu Road Below Confluence	12	0.015	0.014	0.009	0.028	0.004	2.06	0.015
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	0.011	0.011	0.009	0.012	0.003	-0.37	-
Ohaeroa Stm at SH22 Br	12	0.005	0.005	0.003	0.010	0.003	1.34	0.005
Opuatia Stm at Ponganui Rd	12	0.005	0.005	0.001	0.009	0.002	0.16	0.005
Pokaiwhenua Stm at Puketurua	12	0.004	0.004	0.002	0.007	0.002	0.48	0.004
Waahi Stm at Te Ohaki Rd	4	0.007	0.008	0.006	0.008	0.002	-0.85	-
Waerenga Stm at Taniwha Rd	12	0.006	0.006	0.003	0.010	0.003	0.85	0.005
Waitawhiriwhiri Stm at Edgcumbe Street	12	0.019	0.020	0.007	0.028	0.013	-0.24	0.021
Whakapipi Stm at SH22 Br	12	0.006	0.006	0.005	0.010	0.003	1.12	0.006
Whakauru Stm at U/S SH1 Br	12	0.005	0.006	0.003	0.007	0.001	-0.59	0.005
Whangamarino River at Island Block Rd	12	0.026	0.024	0.014	0.048	0.007	1.34	0.024
Whangamarino River at Jefferies Rd Br	12	0.008	0.008	0.005	0.012	0.003	0.65	0.007
Whangape Stm at Rangiriri-Glen Murray Rd	12	0.011	0.011	0.007	0.017	0.002	0.77	0.012

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	0.005	0.005	0.004	0.006	0.002	0.00	-
Kaniwhaniwha Stm at Wright Rd	12	0.005	0.006	0.001	0.008	0.003	-0.84	0.005
Mangaohoi Stm at South Branch Maru Rd	12	0.002	0.001	0.001	0.009	0.002	2.31	0.001
Mangaokewa Stm at Lawrence Street Br	12	0.008	0.007	0.003	0.015	0.006	0.69	0.007
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	0.019	0.018	0.010	0.029	0.008	0.44	0.016
Mangapu River at Otorohanga	12	0.006	0.006	0.003	0.009	0.004	0.30	0.005
Mangarama at Gadsby Rd	4	0.006	0.006	0.004	0.008	0.002	0.00	-
Mangarapa Stm at Otorohanga Rd	4	0.005	0.004	0.002	0.008	0.004	0.86	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	0.005	0.004	0.003	0.010	0.002	2.06	0.004
Mangauika Stm at Te Awamutu Borough W/S Intake	12	0.002	0.001	0.001	0.004	0.002	1.33	0.001
Moakurua Stm at Warratah Farm Bridge	4	0.003	0.003	0.001	0.004	0.003	-0.37	-
Ohote Stm at Whatawhata/Horotiu Rd	12	0.031	0.032	0.017	0.045	0.016	-0.07	0.030
Puniu River at Bartons Corner Rd Br	12	0.007	0.007	0.003	0.013	0.003	1.18	0.006
Puniu River at Wharepapa Rd Bridge	4	0.006	0.007	0.004	0.007	0.002	-1.41	-
Waipa River at Mangaokewa Rd	12	0.010	0.010	0.005	0.016	0.007	0.22	0.010
Waipa River at Ngaruawahia Br	4	0.008	0.007	0.006	0.010	0.003	0.85	-
Waipa River at Pukehoua Bridge on Baffin Road	12	0.006	0.007	0.004	0.008	0.002	-0.17	-
Waipa River at SH3 Otorohanga	12	0.006	0.006	0.004	0.009	0.004	0.35	0.005
Waitomo Stm at SH31 Otorohanga	12	0.004	0.003	0.001	0.007	0.002	0.27	0.004
Waitomo Stm at Tumutumu Rd	12	0.003	0.003	0.001	0.005	0.003	-0.05	0.003
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	0.005	0.005	0.004	0.008	0.001	1.51	0.005
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	0.006	0.006	0.003	0.009	0.002	0.15	0.006
Mangakara Stm (Reporoa) at SH5	12	0.004	0.004	0.003	0.008	0.002	1.69	0.004
Mangakino Stm (Whakamaru) at Sandel Rd	12	0.003	0.003	0.001	0.012	0.002	2.83	0.003
Otamakokore Stm at Hossack Rd	12	0.008	0.008	0.005	0.017	0.002	2.27	0.008
Pueto Stm at Broadlands Rd Br	12	0.001	0.001	0.001	0.002	0.001	1.33	0.001
Tahunaatara Stm at Ohakuri Rd	12	0.007	0.007	0.004	0.016	0.003	1.83	0.007
Torepatutahi Stm at Vaile Rd Br	12	0.002	0.002	0.001	0.004	0.002	0.26	0.002
Waiotapu Stm at Campbell Rd Br	12	0.001	0.001	0.001	0.002	0.000	3.46	0.001
Waiotapu Stm at Homestead Rd Br	12	0.004	0.004	0.003	0.006	0.001	0.33	0.004
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	0.003	0.003	0.001	0.004	0.001	-0.67	0.003
Whirinaki Stm at Corbett Rd	12	0.001	0.001	0.001	0.001	0.000	0.00	0.001
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	0.002	0.001	0.001	0.003	0.001	1.33	0.001
Awakino River at SH3 Awakau Rd Junction	12	0.002	0.003	0.001	0.004	0.003	-0.07	0.003
Manganui River at Off Manganui Rd	12	0.001	0.001	0.001	0.002	0.001	1.33	0.001
Mangaotaki River at SH3 Br	12	0.003	0.004	0.001	0.005	0.003	-0.36	0.003
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	0.004	0.004	0.001	0.007	0.002	0.49	0.003
Mokau River at Awakau Rd	12	0.007	0.007	0.004	0.011	0.004	0.27	0.006
Mokau River at Mangaokewa Rd (Off SH30)	12	0.010	0.009	0.005	0.014	0.008	0.10	0.009
Mokau River at Totoro Rd Recorder	12	0.006	0.007	0.003	0.012	0.004	0.63	0.006
Mokauti Stm at Three Way Point - Aria	12	0.012	0.010	0.005	0.024	0.008	0.93	0.010
Ohautira Stm at Waingaro Te Uku Rd	12	0.006	0.005	0.003	0.012	0.005	1.18	0.004
Oparau River at Langdon Rd (Off Okupata Rd)	12	0.004	0.004	0.001	0.007	0.002	0.18	0.004
Tawarau River at Off Speedies Rd	12	0.003	0.003	0.001	0.006	0.002	0.29	0.003
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	0.007	0.007	0.003	0.011	0.005	0.07	0.006
Waitetuna River at Te Uku-Waingaro Rd	12	0.005	0.006	0.002	0.007	0.002	-0.82	0.005
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	0.003	0.003	0.001	0.005	0.001	0.80	0.003
Kuratau River at SH41 Moerangi	12	0.004	0.004	0.002	0.008	0.001	1.99	0.003
Kuratau River at Te Rae Street	12	0.004	0.004	0.002	0.006	0.001	0.39	0.004
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	0.009	0.007	0.006	0.024	0.002	2.87	0.007
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	0.002	0.001	0.001	0.005	0.001	2.88	0.001
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	0.001	0.001	0.001	0.002	0.000	3.46	0.001
Tokaanu Stm at Off SH41 Turangi	12	0.001	0.001	0.001	0.001	0.000	0.00	0.001
Waihaha River at SH32	12	0.002	0.002	0.001	0.006	0.002	2.00	0.001
Waitahanui River at Blake Rd	12	0.001	0.001	0.001	0.001	0.000	0.00	0.001
Whangamata Stm (Kinloch) at Whangamata Rd	12	0.002	0.001	0.001	0.006	0.001	2.51	0.001
Whanganui Stm at Lakeside Lake Taupo	11	0.004	0.004	0.001	0.011	0.002	1.56	0.003
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	0.004	0.004	0.001	0.012	0.001	2.54	0.003

IQR = Inter quartile range. - less than five-year record available.

Black Disk (m)								
Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	3.10	3.21	0.76	4.89	1.79	-0.36	3.18
Kauaeranga River at Smiths Cableway/Recorder	12	3.27	3.17	0.90	5.50	2.71	-0.07	3.62
Ohinemuri River at Karangahake	12	2.70	2.94	0.67	5.00	2.79	0.04	2.82
Ohinemuri River at Queens Head	12	2.96	3.32	0.80	6.00	2.55	0.13	3.30
Ohinemuri River at SH25 Br	12	3.20	3.43	1.40	5.00	1.37	-0.23	3.18
Tairua River at Morrisons Br Hikuai	-	-	-	-	-	-	-	-
Tapu River at Tapu-Coroglen Rd	12	3.45	3.11	1.01	6.43	2.88	0.25	3.86
Waiau River at E309 Rd Ford	12	2.12	2.06	0.54	3.50	1.71	-0.06	2.59
Waitekauri River at U/S Ohinemuri Conflu	12	3.66	3.86	1.80	5.30	2.01	-0.27	3.71
Waiwawa River at SH25 Coroglen	12	2.84	2.96	0.76	4.70	2.69	-0.05	3.26
Wharekawa River at SH25	12	2.63	2.49	0.86	5.40	1.48	0.74	2.49
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	0.69	0.63	0.28	1.10	0.40	0.22	0.88
Oraka Stm at Lake Rd	12	0.88	0.90	0.44	1.45	0.47	0.26	0.91
Piako River at Kiwitahi	12	0.96	1.03	0.22	2.01	1.03	0.15	1.39
Piako River at Paeroa-Tahuna Rd Br	11	0.53	0.46	0.06	1.00	0.60	0.24	0.91
Piakonui Stm at Piakonui Rd	12	1.07	1.06	0.32	1.79	0.60	-0.27	1.35
Waihou River at Okauia	12	1.04	1.03	0.54	1.56	0.64	0.00	1.06
Waihou River at Te Aroha	12	0.75	0.69	0.38	1.81	0.52	1.71	0.90
Waihou River at Whites Rd	12	4.37	4.84	1.53	5.77	1.19	-1.30	5.16
Waiohotu Stm at Waiohotu Rd (Off SH5)	-	-	-	-	-	-	-	-
Waiomou Stm at Matamata-Tauranga Rd	12	1.20	1.19	0.62	1.81	0.60	0.16	1.27
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	0.89	0.78	0.28	1.80	0.52	0.88	1.00
Waitoa River at Landsdowne Rd Br	12	0.87	0.78	0.18	2.40	0.98	1.05	1.35
Waitoa River at Mellon Rd Recorder	12	0.53	0.45	0.15	1.39	0.41	1.36	1.02
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	0.36	0.38	0.18	0.55	0.22	-0.06	0.42
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	1.00	1.07	0.29	1.65	0.61	-0.29	0.97
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	0.72	0.77	0.09	1.55	0.71	0.13	0.78
Kirikiri Stm at Tauhara Dr	12	0.38	0.38	0.05	0.75	0.15	0.37	0.43
Komakorau Stm at Henry Rd	12	0.14	0.12	0.07	0.44	0.05	2.72	0.15
Little Waipa Stm at Arapuni - Putaruru Rd	12	1.85	1.75	0.75	3.07	1.25	0.02	1.57
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	12	0.36	0.35	0.12	0.70	0.40	0.33	0.50
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	0.78	0.76	0.28	1.21	0.30	-0.32	0.76
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	0.76	0.87	0.15	1.39	0.75	-0.15	1.14
Mangaonua Stm at Hoeka Rd	12	0.55	0.46	0.14	1.09	0.52	0.25	1.00
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	0.78	0.84	0.08	1.47	1.20	-0.05	1.19
Mangatangi River at SH2 Maramara	12	0.35	0.33	0.24	0.54	0.12	0.99	0.48
Mangatawhiri River at Lyons Rd At Buckingham Br	12	1.69	1.76	0.59	2.66	1.19	-0.15	1.82
Mangawara Stm at Rutherford Rd Br	12	0.17	0.15	0.08	0.44	0.05	2.43	0.23
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	0.25	0.22	0.03	0.42	0.18	-0.15	0.23
Matahuru Stm at Waiterimu Road Below Confluence	12	0.01	0.01	0.01	0.03	0.00	2.06	0.02
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	0.11	0.10	0.08	0.16	0.05	1.33	-
Ohaeroa Stm at SH22 Br	11	1.00	0.96	0.06	2.75	0.87	1.12	0.86
Opuatia Stm at Ponganui Rd	12	0.44	0.42	0.06	0.77	0.37	-0.26	0.56
Pokaiwhenua Stm at Puketurua	12	1.05	0.87	0.45	1.82	0.73	0.41	1.04
Waahi Stm at Te Ohaki Rd	4	0.18	0.15	0.12	0.32	0.12	1.81	-
Waerenga Stm at Taniwha Rd	12	0.60	0.69	0.01	1.07	0.37	-0.58	0.85
Waitawhiriwhiri Stm at Edgumbe Street	12	0.29	0.27	0.08	0.78	0.14	1.93	0.40
Whakapipi Stm at SH22 Br	12	1.49	1.56	0.48	2.63	1.34	-0.02	1.55
Whakauru Stm at U/S SH1 Br	12	0.45	0.47	0.26	0.65	0.22	-0.07	0.54
Whangamarino River at Island Block Rd	12	0.16	0.15	0.10	0.28	0.08	0.99	0.20
Whangamarino River at Jefferies Rd Br	12	0.21	0.22	0.12	0.34	0.10	0.36	0.31
Whangape Stm at Rangiriri-Glen Murray Rd	12	0.16	0.13	0.05	0.41	0.17	1.05	0.15

IQR = Inter quartile range. - less than five-year record available or not measured.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	0.85	0.85	0.63	1.06	0.37	-0.02	-
Kaniwhaniwha Stm at Wright Rd	10	0.73	0.64	0.35	1.60	0.31	1.48	0.80
Mangaohoi Stm at South Branch Maru Rd	12	1.49	1.56	0.36	2.32	0.81	-0.47	1.52
Mangaokewa Stm at Lawrence Street Br	12	0.63	0.66	0.03	1.30	0.42	0.09	0.80
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	0.45	0.34	0.13	1.25	0.43	1.33	0.60
Mangapu River at Otorohanga	11	0.40	0.33	0.10	0.87	0.27	0.73	0.54
Mangarama at Gadsby Rd	4	0.01	0.01	0.00	0.01	0.00	0.00	-
Mangarapa Stm at Otorohanga Rd	4	0.63	0.60	0.40	0.90	0.25	0.71	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	1.29	1.08	0.21	3.27	1.06	1.13	1.54
Mangauika Stm at Te Awamutu Borough W/S Intake	12	4.84	5.50	1.35	8.00	3.58	-0.33	4.85
Moakurua Stm at Warratah Farm Bridge	4	1.09	1.10	0.91	1.27	0.28	-0.05	1.10
Ohote Stm at Whatawhata/Horotiu Rd	12	0.52	0.49	0.28	0.78	0.26	0.19	0.60
Puniu River at Bartons Corner Rd Br	12	0.76	0.71	0.19	1.89	0.51	1.21	0.66
Puniu River at Wharepapa Rd Bridge	4	1.43	1.35	1.11	1.93	0.58	0.92	-
Waipa River at Mangaokewa Rd	12	1.50	1.55	0.65	1.93	0.57	-0.95	1.74
Waipa River at Ngaruawahia Br	4	0.47	0.45	0.33	0.63	0.18	0.65	-
Waipa River at Pukehoua Bridge on Baffin Road	12	0.44	0.41	0.11	1.03	0.33	1.01	-
Waipa River at SH3 Otorohanga	12	1.03	1.09	0.08	1.90	0.97	-0.24	1.16
Waitomo Stm at SH31 Otorohanga	12	0.39	0.35	0.06	0.88	0.37	0.74	0.41
Waitomo Stm at Tumutumu Rd	12	0.98	0.90	0.03	1.90	1.12	0.01	0.95
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	1.15	1.24	0.63	1.50	0.32	-0.81	1.28
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	11	0.87	0.82	0.52	1.24	0.44	0.01	0.85
Mangakara Stm (Reporoa) at SH5	12	0.70	0.73	0.23	0.96	0.20	-1.28	0.81
Mangakino Stm (Whakamaru) at Sandel Rd	12	1.86	1.94	0.51	2.66	0.55	-1.29	1.90
Otamakokore Stm at Hossack Rd	12	1.23	1.17	0.97	1.72	0.34	0.85	1.14
Pueto Stm at Broadlands Rd Br	12	1.58	1.46	0.76	2.22	0.64	-0.19	1.73
Tahunaatara Stm at Ohakuri Rd	12	1.07	1.14	0.61	1.48	0.36	-0.28	1.14
Torepatutahi Stm at Vaile Rd Br	-	-	-	-	-	-	-	-
Waiotapu Stm at Campbell Rd Br	12	0.88	0.93	0.37	1.38	0.50	-0.05	1.13
Waiotapu Stm at Homestead Rd Br	-	-	-	-	-	-	-	-
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	1.27	1.32	0.80	1.65	0.34	-0.52	1.16
Whirinaki Stm at Corbett Rd	-	-	-	-	-	-	-	-
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	2.03	1.89	0.17	3.74	2.56	0.01	2.16
Awakino River at SH3 Awakau Rd Junction	12	1.28	1.49	0.11	2.69	1.60	-0.03	1.34
Manganui River at Off Manganui Rd	12	1.25	1.38	0.12	2.70	1.40	0.15	1.08
Mangaotaki River at SH3 Br	12	0.80	0.78	0.03	1.83	0.97	0.22	0.79
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	0.96	0.89	0.08	1.55	0.80	-0.45	1.04
Mokau River at Awakau Rd	12	0.39	0.38	0.05	0.83	0.48	0.18	0.49
Mokau River at Mangaokewa Rd (Off SH30)	7	0.85	0.83	0.31	1.50	0.80	0.34	0.83
Mokau River at Totoro Rd Recorder	11	0.60	0.66	0.04	1.21	0.86	0.12	0.74
Mokauti Stm at Three Way Point - Aria	12	0.49	0.34	0.06	1.11	0.66	0.48	0.65
Ohautira Stm at Waingaro Te Uku Rd	12	0.81	0.92	0.13	1.56	0.87	-0.02	0.88
Oparau River at Langdon Rd (Off Okupata Rd)	12	1.75	1.71	0.18	3.82	1.57	0.22	1.70
Tawarau River at Off Speedies Rd	12	1.08	1.07	0.10	1.75	0.87	-0.54	1.16
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	11	0.72	0.66	0.12	1.80	0.64	1.00	0.72
Waitetuna River at Te Uku-Waingaro Rd	12	0.76	0.78	0.08	1.55	0.68	0.28	0.74
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	2.64	2.60	1.92	3.30	0.82	-0.15	2.34
Kuratau River at SH41 Moerangi	12	2.61	2.60	0.79	3.69	1.02	-0.76	2.83
Kuratau River at Te Rae Street	-	-	-	-	-	-	-	-
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	1.12	1.10	0.43	1.53	0.20	-1.43	1.31
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	3.14	3.23	0.16	4.36	0.99	-1.73	3.14
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	-	-	-	-	-	-	-	-
Tokaanu Stm at Off SH41 Turangi	-	-	-	-	-	-	-	-
Waihaha River at SH32	12	3.37	3.40	0.60	4.74	1.59	-1.02	3.39
Waitahanui River at Blake Rd	12	2.73	2.71	1.78	3.92	1.01	0.37	2.89
Whangamata Stm (Kinloch) at Whangamata Rd	-	-	-	-	-	-	-	-
Whanganui Stm at Lakeside Lake Taupo	-	-	-	-	-	-	-	-
Whareroa Stm (Taupo) at Lakeside Lake Taupo	-	-	-	-	-	-	-	-

IQR = Inter quartile range. - less than five-year record available or not measured.

Conductivity at 25 DegC (mS/m)								
Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	7.9	8.1	7.2	8.8	1.0	-0.09	8.2
Kauaeranga River at Smiths Cableway/Recorder	12	6.9	7.1	5.7	8.0	1.4	-0.32	7.9
Ohinemuri River at Karangahake	12	14.5	13.6	9.6	22.8	7.0	0.80	-
Ohinemuri River at Queens Head	12	23.6	21.8	13.8	41.9	15.5	0.85	23.4
Ohinemuri River at SH25 Br	12	7.4	7.5	7.0	8.2	0.5	0.75	7.6
Tairua River at Morrisons Br Hikuai	12	5.7	5.9	5.0	6.4	0.6	-0.52	6.0
Tapu River at Tapu-Coroglen Rd	12	9.8	10.0	8.2	11.3	1.1	-0.51	10.1
Waiau River at E309 Rd Ford	12	9.4	9.6	8.2	10.4	0.9	-0.65	9.6
Waitekauri River at U/S Ohinemuri Conflu	12	9.8	9.7	7.5	12.5	3.3	0.14	10.7
Waiwawa River at SH25 Coroglen	12	6.2	6.3	5.3	7.0	1.0	-0.37	6.7
Wharekawa River at SH25	12	7.0	7.1	6.4	7.5	0.7	-0.48	7.3
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	11.5	11.9	9.6	12.3	1.0	-1.32	11.5
Oraka Stm at Lake Rd	12	14.5	13.4	10.8	19.6	6.2	0.54	12.7
Piako River at Kiwitahi	12	14.5	14.4	12.1	16.7	1.5	0.12	15.0
Piako River at Paeroa-Tahuna Rd Br	12	20.3	20.5	15.4	24.2	4.1	-0.18	22.6
Piakonui Stm at Piakonui Rd	12	7.2	7.0	5.7	9.2	1.5	0.62	7.3
Waihou River at Okauia	12	10.9	11.0	10.2	11.6	0.7	-0.16	10.8
Waihou River at Te Aroha	12	11.5	11.8	7.8	13.1	1.3	-1.71	-
Waihou River at Whites Rd	12	8.6	8.5	8.5	8.7	0.1	0.99	8.4
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	5.4	5.5	4.9	5.9	0.4	-0.24	5.4
Waiomou Stm at Matamata-Tauranga Rd	12	7.2	7.2	6.5	8.0	0.8	0.10	7.2
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	17.0	16.2	13.4	21.8	4.1	0.73	16.9
Waitoa River at Landsdowne Rd Br	12	16.1	15.2	13.6	21.1	3.8	0.85	16.8
Waitoa River at Mellon Rd Recorder	12	27.1	25.7	20.3	35.4	7.0	0.36	28.4
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	26.0	25.5	24.3	29.6	1.2	1.56	26.3
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	63.0	61.2	42.1	81.2	23.7	-0.07	65.4
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	13.0	13.2	9.6	16.5	3.5	0.16	13.4
Kirikiri Stm at Tauhara Dr	12	16.7	16.9	8.8	22.0	7.4	-0.48	21.0
Komakorau Stm at Henry Rd	12	25.7	25.5	23.0	30.0	1.7	1.17	25.8
Little Waipa Stm at Arapuni - Putaruru Rd	12	11.2	11.2	10.9	11.5	0.4	0.39	10.8
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	12	16.9	17.5	9.9	19.9	3.4	-1.39	19.2
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	13.7	13.8	12.3	15.3	1.7	-0.09	14.2
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	25.7	27.3	16.0	28.6	3.3	-2.26	27.1
Mangaonua Stm at Hoeka Rd	12	19.4	20.3	12.4	22.2	3.6	-1.40	20.9
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	9.5	9.4	7.8	11.5	1.4	0.30	9.6
Mangatangi River at SH2 Maramarua	12	13.1	13.3	10.7	14.6	1.0	-0.98	13.2
Mangatawhiri River at Lyons Rd At Buckingham Br	12	11.8	11.9	9.9	13.0	0.9	-0.59	12.1
Mangawara Stm at Rutherford Rd Br	12	21.5	21.4	19.7	24.8	1.2	1.30	21.9
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	20.9	21.3	14.3	22.9	1.9	-2.46	21.8
Matahuru Stm at Waiterimu Road Below Confluence	12	13.5	13.3	10.7	17.6	1.4	1.10	13.7
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	13.3	13.2	13.0	13.6	0.5	0.37	-
Ohaeroa Stm at SH22 Br	12	16.5	16.8	13.8	18.5	3.1	-0.40	16.5
Opuatia Stm at Ponganui Rd	12	18.1	18.4	15.8	19.9	2.3	-0.66	18.0
Pokaiwhenua Stm at Puketurua	12	11.7	11.6	11.3	12.1	0.6	0.27	11.4
Waahi Stm at Te Ohaki Rd	4	37.3	38.7	30.0	41.7	6.5	-1.48	-
Waerenga Stm at Taniwha Rd	12	12.0	12.0	11.1	13.1	0.8	0.43	11.9
Waitawhiriwhiri Stm at Edgcumbe Street	12	16.2	17.9	7.2	21.7	8.1	-0.76	20.3
Whakapipi Stm at SH22 Br	12	20.1	20.0	16.6	24.5	3.9	0.17	19.5
Whakauru Stm at U/S SH1 Br	12	8.4	8.4	8.0	8.9	0.2	0.70	7.9
Whangamarino River at Island Block Rd	12	15.1	15.2	9.3	19.5	2.4	-0.70	16.1
Whangamarino River at Jefferies Rd Br	12	15.4	15.2	11.6	18.9	1.8	0.01	15.7
Whangape Stm at Rangiriri-Glen Murray Rd	12	20.0	20.2	13.4	24.1	5.0	-0.55	20.5

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	11.8	12.1	10.8	12.4	1.0	-1.53	-
Kaniwhaniwha Stm at Wright Rd	12	10.3	10.5	8.5	11.6	1.2	-0.62	9.8
Mangaohoi Stm at South Branch Maru Rd	12	7.3	7.5	5.5	8.5	1.5	-0.72	7.8
Mangaokewa Stm at Lawrence Street Br	12	15.6	15.2	9.6	21.6	3.8	0.07	15.1
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	18.0	17.7	11.1	24.8	3.3	0.09	18.0
Mangapu River at Otorohanga	12	19.1	19.4	13.2	23.0	3.9	-0.58	19.3
Mangarama at Gadsby Rd	4	24.4	24.3	23.1	25.8	2.2	0.20	-
Mangarapa Stm at Otorohanga Rd	4	18.6	18.8	16.0	20.8	3.2	-0.46	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	7.1	7.4	6.0	8.5	1.1	-0.01	6.8
Mangauika Stm at Te Awamutu Borough W/S Intake	12	6.6	6.5	5.5	8.0	1.1	0.66	6.5
Moakurua Stm at Warratah Farm Bridge	4	11.0	11.0	10.8	11.3	0.4	0.48	-
Ohote Stm at Whatawhata/Horotiu Rd	12	16.4	16.6	14.5	18.6	1.5	0.14	17.6
Puniu River at Bartons Corner Rd Br	12	8.7	8.7	8.0	10.1	0.7	1.00	8.5
Puniu River at Wharepapa Rd Bridge	4	6.9	6.9	6.6	7.1	0.4	-0.48	-
Waipa River at Mangaokewa Rd	12	5.1	5.2	4.3	5.9	0.5	-0.17	5.1
Waipa River at Ngaruawahia Br	4	12.7	12.7	12.2	13.3	0.9	0.23	-
Waipa River at Pukehoua Bridge on Baffin Road	12	12.2	12.1	9.9	14.2	1.1	-0.41	-
Waipa River at SH3 Otorohanga	12	8.1	8.2	6.3	9.1	1.0	-1.18	8.3
Waitomo Stm at SH31 Otorohanga	12	18.8	18.9	12.3	22.3	3.8	-0.93	18.7
Waitomo Stm at Tumutumu Rd	12	18.9	18.9	14.1	21.5	2.8	-0.81	18.9
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	14.5	14.4	14.3	15.0	0.2	1.75	14.4
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	9.3	9.3	9.0	9.5	0.3	-0.23	9.1
Mangakara Stm (Reporoa) at SH5	12	10.4	10.5	10.0	11.2	0.6	0.55	10.1
Mangakino Stm (Whakamaru) at Sandel Rd	12	6.9	7.1	5.4	7.7	0.6	-1.70	6.7
Otamakokore Stm at Hossack Rd	12	34.5	34.9	31.5	37.1	2.8	-0.32	37.5
Pueto Stm at Broadlands Rd Br	12	12.0	12.0	11.7	12.4	0.2	0.78	11.8
Tahunaatara Stm at Ohakuri Rd	12	8.1	8.1	7.8	8.4	0.2	0.49	8.0
Torepatutahi Stm at Vaile Rd Br	12	11.1	10.9	10.3	12.0	0.8	0.30	10.2
Waiotapu Stm at Campbell Rd Br	12	61.8	61.8	57.0	66.9	6.4	-0.01	71.7
Waiotapu Stm at Homestead Rd Br	12	41.3	42.0	35.4	45.5	6.0	-0.37	45.3
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	42.0	42.3	38.9	44.4	4.1	-0.42	43.9
Whirinaki Stm at Corbett Rd	12	7.2	7.3	7.1	7.4	0.3	0.14	6.9
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	7.1	7.1	6.3	7.8	0.8	0.00	7.0
Awakino River at SH3 Awakau Rd Junction	12	14.2	14.4	10.0	19.2	5.5	0.03	13.2
Manganui River at Off Manganui Rd	12	11.0	11.4	9.3	12.4	2.3	-0.31	10.5
Mangaotaki River at SH3 Br	12	13.4	14.0	8.0	14.8	1.3	-2.54	13.5
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	13.8	13.9	9.3	15.5	2.3	-1.34	14.1
Mokau River at Awakau Rd	12	13.9	14.6	9.2	18.3	4.7	-0.15	12.5
Mokau River at Mangaokewa Rd (Off SH30)	12	6.7	6.8	5.8	7.6	0.7	-0.28	6.6
Mokau River at Totoro Rd Recorder	12	12.0	12.3	8.4	13.9	1.7	-1.32	11.8
Mokauti Stm at Three Way Point - Aria	12	11.7	11.4	8.4	15.1	2.8	0.26	10.8
Ohautira Stm at Waingaro Te Uku Rd	12	13.7	13.8	10.9	16.0	2.6	-0.36	13.8
Oparau River at Langdon Rd (Off Okupata Rd)	12	8.9	9.1	7.0	10.0	1.8	-0.51	8.6
Tawarau River at Off Speedies Rd	12	12.9	13.1	9.1	14.7	2.5	-0.98	13.2
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	15.5	15.6	12.9	20.5	2.5	1.10	14.7
Waitetuna River at Te Uku-Waingaro Rd	12	10.4	10.7	8.7	11.3	1.2	-1.01	10.2
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	6.1	6.3	5.3	7.0	1.0	-0.12	5.9
Kuratau River at SH41 Moerangi	12	4.3	4.4	3.4	5.2	0.6	-0.18	4.4
Kuratau River at Te Rae Street	12	7.3	7.1	6.2	10.2	1.1	2.01	6.8
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	12.6	12.6	12.0	12.9	0.2	-1.60	12.6
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	4.7	5.0	2.6	5.8	0.8	-1.75	4.7
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	12.3	12.6	10.1	13.9	1.3	-0.45	12.3
Tokaanu Stm at Off SH41 Turangi	12	10.4	10.4	10.1	11.1	0.2	1.99	10.1
Waihaha River at SH32	12	4.7	4.9	3.3	5.5	0.8	-1.13	4.8
Waitahanui River at Blake Rd	12	7.7	7.7	7.3	7.9	0.3	-0.55	7.5
Whangamata Stm (Kinloch) at Whangamata Rd	12	9.1	9.1	9.0	9.4	0.2	1.19	8.9
Whanganui Stm at Lakeside Lake Taupo	11	5.8	6.0	3.9	7.0	1.1	-0.63	5.6
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	7.7	7.8	6.6	8.4	0.8	-0.81	7.8

IQR = Inter quartile range. - less than five-year record available.

Dissolved Oxygen (% sat.)								
Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	95	95	93	98	3	0.09	95
Kauaeranga River at Smiths Cableway/Recorder	12	99	99	96	101	2	0.09	99
Ohinemuri River at Karangahake	12	103	103	98	109	3	0.36	-
Ohinemuri River at Queens Head	12	104	102	98	110	5	0.49	104
Ohinemuri River at SH25 Br	12	107	106	99	116	13	0.16	108
Tairua River at Morrisons Br Hikuai	12	98	98	95	100	3	-0.06	98
Tapu River at Tapu-Coroglen Rd	12	101	101	99	104	1	1.81	101
Waiau River at E309 Rd Ford	12	102	101	99	106	4	0.35	103
Waitekauri River at U/S Ohinemuri Conflu	12	103	104	99	108	5	0.04	103
Waiwawa River at SH25 Coroglen	12	100	100	97	104	3	0.17	100
Wharekawa River at SH25	12	97	97	95	101	2	0.73	98
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	99	99	97	101	2	-0.02	97
Oraka Stm at Lake Rd	12	92	93	87	94	4	-1.07	92
Piako River at Kiwitahi	12	87	87	58	114	5	-0.35	88
Piako River at Paeroa-Tahuna Rd Br	12	84	86	70	90	7	-1.43	84
Piakonui Stm at Piakonui Rd	12	99	99	97	101	2	-0.14	99
Waihou River at Okauia	12	93	93	90	95	2	-0.37	93
Waihou River at Te Aroha	11	88	89	77	92	3	-2.19	-
Waihou River at Whites Rd	12	98	98	94	102	3	0.10	100
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	93	93	90	96	1	0.02	93
Waiomou Stm at Matamata-Tauranga Rd	12	96	95	92	100	4	0.66	94
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	91	92	84	97	7	-0.27	93
Waitoa River at Landsdowne Rd Br	12	90	90	65	105	9	-1.40	88
Waitoa River at Mellon Rd Recorder	12	66	76	43	82	31	-0.69	75
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	76	76	62	92	13	0.01	85
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	86	86	75	93	9	-0.57	86
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	90	91	71	97	8	-1.64	90
Kirikiri Stm at Tauhara Dr	12	74	71	68	84	13	0.64	72
Komakorau Stm at Henry Rd	12	64	61	48	78	13	0.03	66
Little Waipa Stm at Arapuni - Putaruru Rd	12	100	99	90	110	8	0.07	100
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	12	88	89	73	93	4	-2.37	90
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	99	98	96	103	3	0.42	99
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	74	75	58	82	11	-0.80	77
Mangaonua Stm at Hoeka Rd	12	80	83	48	89	5	-2.74	81
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	99	99	97	101	2	-0.40	99
Mangatangi River at SH2 Maramara	12	86	85	76	94	11	0.10	86
Mangatawhiri River at Lyons Rd At Buckingham Br	12	109	110	96	124	14	-0.02	108
Mangawara Stm at Rutherford Rd Br	12	72	74	63	79	9	-0.45	72
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	86	86	75	92	6	-0.97	87
Matahuru Stm at Waiterimu Road Below Confluence	12	84	86	70	92	6	-1.35	84
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	97	99	88	101	8	-1.68	-
Ohaeroa Stm at SH22 Br	12	96	97	92	99	3	-0.65	96
Opuatia Stm at Ponganui Rd	12	96	96	93	99	2	-0.01	95
Pokaiwhenua Stm at Puketurua	12	98	97	96	105	3	1.85	98
Waahi Stm at Te Ohaki Rd	4	81	77	72	96	15	1.43	-
Waerenga Stm at Taniwha Rd	12	99	98	95	105	3	1.06	98
Waitawhiriwhiri Stm at Edgumbe Street	12	84	85	77	88	6	-0.40	84
Whakapipi Stm at SH22 Br	12	94	96	83	100	5	-1.21	94
Whakauru Stm at U/S SH1 Br	12	97	97	93	99	2	-1.09	97
Whangamarino River at Island Block Rd	12	56	55	14	118	32	0.82	53
Whangamarino River at Jefferies Rd Br	12	77	77	59	87	13	-0.68	77
Whangape Stm at Rangiriri-Glen Murray Rd	12	85	89	53	102	16	-1.21	86

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	90	89	84	96	7	0.63	-
Kaniwhaniwha Stm at Wright Rd	12	88	89	82	94	5	-0.21	87
Mangaohoi Stm at South Branch Maru Rd	12	100	100	98	103	2	0.37	100
Mangaokewa Stm at Lawrence Street Br	12	95	95	90	98	4	-0.72	95
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	99	92	80	140	26	1.13	95
Mangapu River at Otorohanga	12	91	92	86	97	6	-0.23	93
Mangarama at Gadsby Rd	4	106	106	102	111	8	0.14	-
Mangarapa Stm at Otorohanga Rd	4	102	102	93	112	11	0.29	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	96	95	92	100	2	0.26	95
Mangauika Stm at Te Awamutu Borough W/S Intake	12	100	100	98	103	2	0.72	100
Moakurua Stm at Warratah Farm Bridge	4	97	97	96	98	2	0.52	-
Ohote Stm at Whatawhata/Horotiu Rd	12	55	50	26	78	29	0.03	51
Puniu River at Bartons Corner Rd Br	12	92	92	86	99	4	0.44	92
Puniu River at Wharepapa Rd Bridge	4	103	104	101	105	2	-1.27	-
Waipa River at Mangaokewa Rd	12	101	102	98	104	2	-0.45	102
Waipa River at Ngaruawahia Br	4	87	87	85	91	5	0.31	-
Waipa River at Pukehoua Bridge on Baffin Road	11	92	92	89	95	5	-0.07	-
Waipa River at SH3 Otorohanga	12	102	99	96	116	9	1.13	99
Waitomo Stm at SH31 Otorohanga	12	95	94	91	104	6	1.14	95
Waitomo Stm at Tumutumu Rd	12	100	100	98	108	2	2.51	100
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	87	87	85	90	4	0.21	86
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	94	94	92	96	2	0.72	94
Mangakara Stm (Reporoa) at SH5	12	92	91	90	95	3	0.55	92
Mangakino Stm (Whakamaru) at Sandel Rd	12	103	103	101	105	1	0.22	102
Otamakokore Stm at Hossack Rd	12	95	95	77	104	7	-1.30	97
Pueto Stm at Broadlands Rd Br	12	94	93	92	96	2	0.82	93
Tahunaatara Stm at Ohakuri Rd	12	101	101	99	104	3	0.25	101
Torepatutahi Stm at Vaile Rd Br	12	96	95	87	106	11	0.30	97
Waiotapu Stm at Campbell Rd Br	12	88	88	86	90	2	-0.14	88
Waiotapu Stm at Homestead Rd Br	12	88	87	81	97	7	0.58	87
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	99	99	97	102	2	0.65	98
Whirinaki Stm at Corbett Rd	12	102	101	97	108	7	0.36	99
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	102	102	99	105	3	-0.09	102
Awakino River at SH3 Awakau Rd Junction	12	102	102	97	108	7	0.37	103
Manganui River at Off Manganui Rd	12	100	99	97	104	3	1.04	100
Mangaotaki River at SH3 Br	12	102	102	99	104	2	-0.32	102
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	104	103	101	110	3	1.36	103
Mokau River at Awakau Rd	12	95	94	90	98	4	-0.26	96
Mokau River at Mangaokewa Rd (Off SH30)	12	99	99	95	101	2	-1.07	100
Mokau River at Totoro Rd Recorder	12	103	103	101	106	2	0.47	103
Mokauti Stm at Three Way Point - Aria	12	91	92	82	98	7	-0.48	93
Ohautira Stm at Waingaro Te Uku Rd	12	95	95	91	100	2	0.47	95
Oparau River at Langdon Rd (Off Okupata Rd)	12	104	104	99	109	4	0.04	105
Tawarau River at Off Speedies Rd	12	104	103	101	107	3	0.90	103
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	96	94	88	108	6	0.84	94
Waitetuna River at Te Uku-Waingaro Rd	12	98	98	95	101	3	-0.21	97
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	100	99	98	104	4	0.55	99
Kuratau River at SH41 Moerangi	12	94	94	91	98	4	0.28	94
Kuratau River at Te Rae Street	12	99	99	82	108	4	-1.89	99
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	87	88	85	90	2	-0.08	86
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	98	98	95	103	4	0.35	98
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	99	99	91	106	3	-0.51	99
Tokaanu Stm at Off SH41 Turangi	12	82	82	79	84	2	-0.38	82
Waihaha River at SH32	12	103	102	97	110	5	0.58	101
Waitahanui River at Blake Rd	12	98	98	96	100	2	0.14	98
Whangamata Stm (Kinloch) at Whangamata Rd	12	95	94	92	98	2	0.68	94
Whanganui Stm at Lakeside Lake Taupo	11	99	100	88	105	3	-1.63	99
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	96	96	93	100	3	0.25	96

IQR = Inter quartile range. - less than five-year record available.



Dissolved Oxygen (g/m <sup>3</sup> )								
Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	9.9	10.2	8.6	11.4	1.1	-0.05	10.1
Kauaeranga River at Smiths Cableway/Recorder	12	10.2	10.4	8.9	11.6	1.2	-0.20	10.2
Ohinemuri River at Karangahake	12	10.4	10.4	9.4	11.5	0.8	0.29	-
Ohinemuri River at Queens Head	12	10.2	10.3	9.2	11.1	0.8	-0.46	10.5
Ohinemuri River at SH25 Br	12	10.6	10.5	9.1	11.9	1.4	0.14	10.5
Tairua River at Morrisons Br Hikuai	12	9.8	9.9	8.7	11.0	1.0	-0.20	9.9
Tapu River at Tapu-Coroglen Rd	12	10.5	10.6	9.3	11.7	1.1	-0.19	10.5
Waiau River at E309 Rd Ford	12	10.6	10.6	9.3	11.7	0.9	-0.29	10.5
Waitekauri River at U/S Ohinemuri Conflu	12	10.4	10.4	9.3	11.5	0.8	0.09	10.3
Waiwawa River at SH25 Coroglen	12	10.2	10.2	9.0	11.6	0.8	0.05	10.2
Wharekawa River at SH25	12	9.8	10.0	8.7	10.8	1.1	-0.46	10.0
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	9.9	10.3	8.8	10.7	1.2	-0.51	10.1
Oraka Stm at Lake Rd	12	9.4	9.4	8.3	10.4	1.5	0.11	9.5
Piako River at Kiwitahi	12	8.7	9.2	5.1	10.6	1.4	-1.17	9.2
Piako River at Paeroa-Tahuna Rd Br	12	8.4	8.7	6.0	9.7	2.1	-0.74	8.3
Piakonui Stm at Piakonui Rd	12	10.1	10.3	9.0	11.0	1.0	-0.35	10.3
Waihou River at Okauia	12	9.7	9.7	8.5	10.5	1.1	-0.29	9.7
Waihou River at Te Aroha	12	8.8	9.2	6.9	9.7	1.3	-1.16	-
Waihou River at Whites Rd	12	10.3	10.3	9.8	10.9	0.5	0.27	10.4
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	9.9	9.9	8.7	11.1	1.2	0.10	9.9
Waiomou Stm at Matamata-Tauranga Rd	12	10.0	9.8	8.7	11.3	1.0	0.26	9.8
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	8.8	8.8	7.1	10.2	1.7	-0.39	9.4
Waitoa River at Landsdowne Rd Br	12	9.0	9.5	5.6	10.1	1.2	-2.22	9.1
Waitoa River at Mellon Rd Recorder	12	6.7	7.6	3.7	8.7	3.8	-0.67	7.5
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	7.3	7.6	5.3	8.7	1.6	-0.71	8.5
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	8.6	8.4	6.9	10.4	2.1	0.26	8.5
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	9.1	9.2	6.2	10.6	1.8	-0.90	9.0
Kirikiri Stm at Tauhara Dr	12	7.4	7.2	5.9	9.0	2.1	0.29	7.2
Komakorau Stm at Henry Rd	12	6.4	6.0	4.2	8.3	2.1	0.05	6.7
Little Waipa Stm at Arapuni - Putaruru Rd	12	10.3	10.3	9.1	11.3	1.1	-0.23	10.3
Mangakotukutuku Stm (Rukuhia) at Peacockes Rd	12	8.8	9.0	7.0	10.3	1.4	-0.41	9.0
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	9.9	10.1	8.6	10.8	1.3	-0.54	10.0
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	7.5	7.7	5.1	9.0	2.0	-0.48	7.8
Mangaonua Stm at Hoeka Rd	12	8.2	8.4	4.2	9.7	1.3	-1.80	8.3
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	10.0	10.1	8.9	11.1	1.1	-0.09	10.2
Mangatangi River at SH2 Maramarua	12	8.3	8.3	6.9	9.8	1.3	0.08	8.3
Mangatawhiri River at Lyons Rd At Buckingham Br	12	10.5	10.3	9.3	12.2	0.7	1.04	10.4
Mangawara Stm at Rutherford Rd Br	12	7.2	7.4	5.5	8.4	1.7	-0.52	7.4
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	8.7	8.8	6.6	10.1	1.3	-0.69	8.7
Matahuru Stm at Waiterimu Road Below Confluence	12	8.3	8.3	6.1	9.9	1.4	-0.51	8.4
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	9.3	9.4	8.3	10.1	1.3	-0.48	-
Ohaeroa Stm at SH22 Br	12	9.7	9.8	8.1	11.0	1.1	-0.44	10.0
Opuatia Stm at Ponganui Rd	12	9.5	9.5	8.2	10.5	1.3	-0.35	9.8
Pokaiwhenua Stm at Puketurua	12	10.1	10.2	9.2	10.8	1.2	-0.25	10.1
Waahi Stm at Te Ohaki Rd	4	7.7	7.3	6.2	9.9	2.5	1.04	-
Waerenga Stm at Taniwha Rd	12	9.9	9.9	8.3	10.8	1.4	-0.41	10.2
Waitawhiriwhiri Stm at Edgumbe Street	12	8.2	8.0	7.0	9.5	1.5	0.21	8.4
Whakapipi Stm at SH22 Br	12	9.2	9.4	7.1	10.4	1.5	-0.83	9.6
Whakauru Stm at U/S SH1 Br	12	9.9	9.9	8.8	11.0	1.0	-0.01	10.0
Whangamarino River at Island Block Rd	12	5.3	5.4	1.1	10.5	2.9	0.31	5.4
Whangamarino River at Jefferies Rd Br	12	7.7	7.6	5.9	9.2	2.3	-0.01	8.0
Whangape Stm at Rangiriri-Glen Murray Rd	12	8.2	8.6	4.5	10.2	2.9	-0.84	8.7

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	9.2	9.0	8.1	10.6	1.9	0.55	-
Kaniwhaniwha Stm at Wright Rd	12	8.9	8.6	7.2	10.2	1.7	-0.03	8.9
Mangaohoi Stm at South Branch Maru Rd	12	10.1	10.0	8.9	11.8	0.9	0.71	10.0
Mangaokewa Stm at Lawrence Street Br	12	9.8	10.0	8.4	10.9	1.5	-0.49	10.1
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	9.4	9.2	7.5	11.7	2.0	0.43	9.6
Mangapu River at Otorohanga	12	9.1	9.2	7.8	10.2	1.3	-0.36	9.2
Mangarama at Gadsby Rd	4	10.6	10.4	10.1	11.3	0.8	1.19	-
Mangarapa Stm at Otorohanga Rd	4	10.1	10.2	9.2	10.7	0.9	-1.08	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	9.7	9.6	8.8	11.0	1.4	0.46	9.9
Mangauika Stm at Te Awamutu Borough W/S Intake	12	10.4	10.4	9.5	11.0	0.9	-0.36	10.4
Moakurua Stm at Warratah Farm Bridge	4	10.0	10.2	9.2	10.4	0.9	-1.14	-
Ohote Stm at Whatawhata/Horotiu Rd	12	5.5	4.8	2.3	8.4	3.8	0.25	5.0
Puniu River at Bartons Corner Rd Br	12	9.1	9.3	8.1	10.4	1.2	0.13	9.4
Puniu River at Wharepapa Rd Bridge	4	10.2	10.3	9.4	10.9	1.3	-0.23	-
Waipa River at Mangaokewa Rd	12	10.1	10.1	9.0	11.3	1.2	-0.05	10.2
Waipa River at Ngaruawahia Br	4	8.6	8.5	7.8	9.7	1.4	0.60	-
Waipa River at Pukehoua Bridge on Baffin Road	12	9.2	9.3	7.9	10.3	1.4	-0.31	-
Waipa River at SH3 Otorohanga	12	10.2	10.3	9.1	10.8	0.9	-0.56	10.2
Waitomo Stm at SH31 Otorohanga	12	9.5	9.8	8.4	10.3	1.0	-0.68	9.8
Waitomo Stm at Tumutumu Rd	12	10.3	10.4	9.4	10.9	1.1	-0.41	10.4
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	8.5	8.3	7.6	9.6	0.9	0.39	8.4
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	9.6	9.5	8.9	10.4	1.0	0.34	9.5
Mangakara Stm (Reporoa) at SH5	12	9.3	9.2	8.3	10.3	1.0	0.11	9.3
Mangakino Stm (Whakamaru) at Sandel Rd	12	10.7	10.7	9.7	11.9	0.9	0.15	10.8
Otamakokore Stm at Hossack Rd	12	8.3	8.4	6.6	9.1	1.0	-1.13	8.4
Pueto Stm at Broadlands Rd Br	12	9.4	9.4	8.8	10.1	0.6	-0.01	9.4
Tahunaatara Stm at Ohakuri Rd	12	10.3	10.1	9.2	11.2	1.1	0.04	10.4
Torepatutahi Stm at Vaile Rd Br	12	9.4	9.5	8.4	10.4	0.5	-0.10	9.7
Waiotapu Stm at Campbell Rd Br	12	6.8	6.7	6.2	7.5	0.6	0.35	6.6
Waiotapu Stm at Homestead Rd Br	12	8.0	7.9	7.2	8.7	0.8	0.01	7.9
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	8.5	8.4	8.0	9.5	0.6	1.08	8.4
Whirinaki Stm at Corbett Rd	12	10.4	10.6	9.4	10.9	0.8	-0.95	10.2
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	10.6	10.6	9.8	11.5	0.8	0.11	10.6
Awakino River at SH3 Awakau Rd Junction	12	10.4	10.5	9.2	11.4	0.9	-0.32	10.5
Manganui River at Off Manganui Rd	12	10.3	10.3	9.0	11.2	1.1	-0.44	10.2
Mangaotaki River at SH3 Br	12	10.5	10.7	9.4	11.4	1.0	-0.48	10.6
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	10.7	10.9	9.6	11.3	1.0	-0.84	10.7
Mokau River at Awakau Rd	12	9.5	9.6	8.0	10.9	1.6	-0.09	9.7
Mokau River at Mangaokewa Rd (Off SH30)	12	10.2	10.4	9.0	11.1	1.0	-0.62	10.4
Mokau River at Totoro Rd Recorder	12	10.4	10.6	9.2	11.5	1.4	-0.19	10.5
Mokauti Stm at Three Way Point - Aria	12	9.1	9.3	7.0	10.4	1.4	-0.68	9.5
Ohautira Stm at Waingaro Te Uku Rd	12	9.8	9.6	8.2	11.1	1.6	-0.20	10.0
Oparau River at Langdon Rd (Off Okupata Rd)	12	10.6	10.6	9.5	11.4	1.2	-0.13	10.6
Tawarau River at Off Speedies Rd	12	10.7	10.7	9.6	11.4	1.1	-0.39	10.7
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	9.5	9.7	7.4	10.7	1.5	-0.65	9.7
Waitetuna River at Te Uku-Waingaro Rd	12	9.9	9.9	8.4	11.1	1.7	-0.17	10.1
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	10.5	10.4	9.6	11.6	1.3	0.38	10.4
Kuratau River at SH41 Moerangi	12	9.9	9.8	8.7	11.0	1.1	0.13	9.9
Kuratau River at Te Rae Street	12	10.0	9.9	8.1	11.4	1.5	-0.25	10.0
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	9.2	9.2	8.6	9.9	0.7	0.16	9.2
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	10.4	10.3	9.2	12.0	1.3	0.30	10.4
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	10.2	10.3	8.6	11.6	1.8	0.06	10.3
Tokaanu Stm at Off SH41 Turangi	12	8.5	8.5	8.0	8.9	0.5	-0.25	8.4
Waihaha River at SH32	12	10.7	10.7	9.5	11.6	0.9	-0.35	10.6
Waitahanui River at Blake Rd	12	10.5	10.4	10.0	11.1	0.6	0.61	10.5
Whangamata Stm (Kinloch) at Whangamata Rd	12	10.1	10.0	9.5	11.0	0.7	0.65	10.1
Whanganui Stm at Lakeside Lake Taupo	11	10.5	10.5	8.5	11.9	1.4	-0.43	10.5
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	10.1	10.1	9.1	11.4	1.2	0.36	10.1

IQR = Inter quartile range. - less than five-year record available.

Dissolved Reactive Phosphorus (g/m <sup>3</sup> )								
Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	0.003	0.002	0.002	0.006	0.001	1.66	0.002
Kauaeranga River at Smiths Cableway/Recorder	12	0.002	0.002	0.002	0.002	0.000	0.00	0.002
Ohinemuri River at Karangahake	12	0.004	0.002	0.002	0.008	0.005	0.59	-
Ohinemuri River at Queens Head	12	0.005	0.002	0.002	0.012	0.005	1.04	0.002
Ohinemuri River at SH25 Br	12	0.006	0.006	0.002	0.010	0.005	-0.12	0.005
Tairua River at Morrisons Br Hikuai	12	0.002	0.002	0.002	0.002	0.000	0.00	0.002
Tapu River at Tapu-Coroglen Rd	12	0.002	0.002	0.002	0.002	0.000	0.00	0.002
Waiau River at E309 Rd Ford	12	0.002	0.002	0.002	0.004	0.000	2.06	0.002
Waitekauri River at U/S Ohinemuri Conflu	12	0.003	0.002	0.002	0.008	0.000	2.56	0.002
Waiwawa River at SH25 Coroglen	12	0.002	0.002	0.002	0.002	0.000	0.00	0.002
Wharekawa River at SH25	12	0.002	0.002	0.002	0.002	0.000	0.00	0.002
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	0.031	0.033	0.019	0.038	0.008	-1.03	0.034
Oraka Stm at Lake Rd	12	0.173	0.133	0.048	0.420	0.232	0.65	0.075
Piako River at Kiwitahi	12	0.032	0.033	0.016	0.058	0.018	0.71	0.038
Piako River at Paeroa-Tahuna Rd Br	12	0.114	0.105	0.029	0.280	0.084	1.09	0.144
Piakonui Stm at Piakonui Rd	12	0.008	0.008	0.005	0.012	0.005	0.28	0.010
Waihou River at Okauia	12	0.064	0.057	0.048	0.113	0.013	1.88	0.061
Waihou River at Te Aroha	12	0.054	0.053	0.035	0.078	0.025	0.45	-
Waihou River at Whites Rd	12	0.069	0.069	0.064	0.075	0.006	0.46	0.074
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	0.010	0.010	0.007	0.013	0.004	0.19	0.013
Waiomou Stm at Matamata-Tauranga Rd	12	0.015	0.015	0.012	0.021	0.004	0.98	0.018
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	0.016	0.015	0.010	0.025	0.007	0.75	0.020
Waitoa River at Landsdowne Rd Br	12	0.021	0.019	0.006	0.043	0.010	0.95	0.020
Waitoa River at Mellon Rd Recorder	12	0.070	0.055	0.027	0.136	0.059	0.92	0.057
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	0.006	0.004	0.002	0.024	0.004	1.96	0.002
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	0.002	0.002	0.002	0.005	0.000	3.46	0.002
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	0.039	0.039	0.022	0.060	0.021	0.18	0.043
Kirikiri Stm at Tauhara Dr	12	0.008	0.009	0.002	0.015	0.006	0.03	0.010
Komakorau Stm at Henry Rd	12	0.012	0.012	0.002	0.021	0.014	-0.07	0.011
Little Waipa Stm at Arapuni - Putaruru Rd	12	0.048	0.045	0.038	0.060	0.012	0.46	0.054
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	12	0.317	0.171	0.050	1.050	0.346	1.49	0.203
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	0.182	0.162	0.097	0.330	0.075	1.20	0.240
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	0.062	0.056	0.042	0.113	0.033	1.25	0.064
Mangaonua Stm at Hoeka Rd	12	0.015	0.009	0.002	0.054	0.011	1.98	0.012
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	0.013	0.012	0.008	0.018	0.008	0.48	0.014
Mangatangi River at SH2 Maramarua	12	0.018	0.018	0.012	0.027	0.006	0.53	0.020
Mangatawhiri River at Lyons Rd At Buckingham Br	12	0.009	0.009	0.005	0.013	0.003	-0.31	0.011
Mangawara Stm at Rutherford Rd Br	12	0.059	0.054	0.022	0.098	0.034	0.21	0.058
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	0.071	0.034	0.006	0.340	0.071	2.67	0.037
Matahuru Stm at Waiterimu Road Below Confluence	12	0.022	0.021	0.017	0.037	0.007	1.63	0.024
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	0.003	0.002	0.002	0.006	0.002	2.00	-
Ohaeroa Stm at SH22 Br	12	0.008	0.007	0.002	0.028	0.003	2.87	0.008
Opuatia Stm at Ponganui Rd	12	0.006	0.006	0.002	0.010	0.003	0.22	0.006
Pokaiwhenua Stm at Puketurua	12	0.080	0.081	0.063	0.095	0.010	-0.64	0.090
Waahi Stm at Te Ohaki Rd	4	0.002	0.002	0.002	0.002	0.000	0.00	-
Waerenga Stm at Taniwha Rd	12	0.020	0.021	0.010	0.029	0.010	-0.30	0.018
Waitawhiriwhiri Stm at Edgumbe Street	12	0.018	0.016	0.002	0.038	0.016	0.45	0.025
Whakapipi Stm at SH22 Br	12	0.040	0.031	0.011	0.178	0.025	2.99	0.022
Whakauru Stm at U/S SH1 Br	12	0.036	0.031	0.024	0.058	0.015	1.04	0.030
Whangamarino River at Island Block Rd	12	0.005	0.005	0.002	0.011	0.006	0.59	0.005
Whangamarino River at Jefferies Rd Br	12	0.026	0.024	0.015	0.056	0.005	2.23	0.026
Whangape Stm at Rangiriri-Glen Murray Rd	12	0.004	0.002	0.002	0.018	0.000	3.37	0.002

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	0.005	0.005	0.002	0.006	0.003	-0.85	-
Kaniwhaniwha Stm at Wright Rd	12	0.007	0.006	0.004	0.014	0.004	1.29	0.007
Mangaohoi Stm at South Branch Maru Rd	12	0.032	0.033	0.016	0.050	0.021	-0.03	0.037
Mangaokewa Stm at Lawrence Street Br	12	0.017	0.013	0.008	0.034	0.010	1.26	0.014
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	0.093	0.080	0.047	0.173	0.041	1.18	0.104
Mangapu River at Otorohanga	12	0.015	0.014	0.010	0.024	0.008	0.62	0.018
Mangarama at Gadsby Rd	4	0.011	0.010	0.008	0.015	0.005	1.14	-
Mangarapa Stm at Otorohanga Rd	4	0.008	0.009	0.007	0.009	0.002	-0.85	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	0.011	0.010	0.002	0.022	0.004	0.84	0.009
Mangauika Stm at Te Awamutu Borough W/S Intake	12	0.004	0.002	0.002	0.009	0.003	1.14	0.002
Moakurua Stm at Warratah Farm Bridge	4	0.024	0.009	0.007	0.072	0.033	1.99	-
Ohote Stm at Whatawhata/Horotiu Rd	12	0.018	0.016	0.007	0.037	0.010	1.04	0.020
Puniu River at Bartons Corner Rd Br	12	0.022	0.020	0.015	0.038	0.008	1.26	0.022
Puniu River at Wharepapa Rd Bridge	4	0.028	0.027	0.025	0.032	0.005	1.10	-
Waipa River at Mangaokewa Rd	12	0.004	0.005	0.002	0.007	0.004	-0.13	0.006
Waipa River at Ngaruawahia Br	4	0.017	0.017	0.013	0.021	0.006	0.32	-
Waipa River at Pukehoua Bridge on Baffin Road	12	0.013	0.014	0.006	0.021	0.006	0.05	-
Waipa River at SH3 Otorohanga	12	0.007	0.007	0.002	0.012	0.004	-0.10	0.007
Waitomo Stm at SH31 Otorohanga	12	0.005	0.005	0.002	0.008	0.005	-0.22	0.007
Waitomo Stm at Tumutumu Rd	12	0.009	0.009	0.007	0.011	0.003	0.31	0.010
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	0.042	0.038	0.029	0.070	0.012	1.44	0.047
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	0.025	0.025	0.020	0.030	0.004	0.21	0.030
Mangakara Stm (Reporoa) at SH5	12	0.043	0.041	0.034	0.068	0.008	1.85	0.046
Mangakino Stm (Whakamaru) at Sandel Rd	12	0.038	0.039	0.026	0.047	0.008	-0.58	0.037
Otamakokore Stm at Hossack Rd	12	0.135	0.129	0.107	0.187	0.028	1.07	0.149
Pueto Stm at Broadlands Rd Br	12	0.059	0.060	0.049	0.065	0.006	-0.79	0.069
Tahunaatara Stm at Ohakuri Rd	12	0.035	0.034	0.025	0.056	0.010	1.23	0.035
Torepatutahi Stm at Vaile Rd Br	12	0.071	0.071	0.065	0.080	0.007	0.51	0.080
Waiotapu Stm at Campbell Rd Br	12	0.004	0.003	0.002	0.009	0.004	0.97	0.002
Waiotapu Stm at Homestead Rd Br	12	0.030	0.030	0.019	0.047	0.011	0.54	0.030
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	0.073	0.069	0.057	0.095	0.024	0.65	0.086
Whirinaki Stm at Corbett Rd	12	0.054	0.054	0.046	0.064	0.008	0.35	0.060
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	0.012	0.012	0.010	0.015	0.003	0.66	0.012
Awakino River at SH3 Awakau Rd Junction	12	0.008	0.008	0.002	0.011	0.005	-0.53	0.009
Manganui River at Off Manganui Rd	12	0.010	0.010	0.002	0.018	0.005	-0.12	0.013
Mangaotaki River at SH3 Br	12	0.009	0.010	0.005	0.015	0.005	0.20	0.011
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	0.014	0.012	0.008	0.042	0.003	3.20	0.014
Mokau River at Awakau Rd	12	0.006	0.006	0.002	0.013	0.003	0.54	0.008
Mokau River at Mangaokewa Rd (Off SH30)	12	0.018	0.013	0.008	0.081	0.005	3.31	0.014
Mokau River at Totoro Rd Recorder	12	0.010	0.010	0.007	0.014	0.004	0.61	0.010
Mokauti Stm at Three Way Point - Aria	12	0.007	0.006	0.002	0.020	0.003	2.35	0.008
Ohautira Stm at Waingaro Te Uku Rd	12	0.018	0.019	0.008	0.026	0.006	-0.77	0.020
Oparau River at Langdon Rd (Off Okupata Rd)	12	0.004	0.005	0.002	0.008	0.004	0.15	0.006
Tawarau River at Off Speedies Rd	12	0.024	0.013	0.011	0.146	0.002	3.46	0.015
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	0.009	0.008	0.002	0.017	0.005	0.41	0.010
Waitetuna River at Te Uku-Waingaro Rd	12	0.011	0.012	0.006	0.018	0.003	0.40	0.012
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	0.024	0.024	0.019	0.029	0.005	0.14	0.024
Kuratau River at SH41 Moerangi	12	0.002	0.002	0.002	0.002	0.000	0.00	0.002
Kuratau River at Te Rae Street	12	0.005	0.005	0.002	0.015	0.005	1.95	0.004
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	0.117	0.114	0.103	0.138	0.019	0.66	0.125
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	0.012	0.012	0.007	0.015	0.003	-1.01	0.013
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	0.002	0.002	0.002	0.004	0.000	2.06	0.002
Tokaanu Stm at Off SH41 Turangi	12	0.074	0.074	0.070	0.085	0.004	2.08	0.075
Waihaha River at SH32	12	0.017	0.017	0.005	0.024	0.009	-0.61	0.017
Waitahanui River at Blake Rd	12	0.039	0.040	0.035	0.043	0.003	-0.43	0.041
Whangamata Stm (Kinloch) at Whangamata Rd	12	0.059	0.059	0.050	0.065	0.008	-0.32	0.066
Whanganui Stm at Lakeside Lake Taupo	11	0.009	0.008	0.004	0.013	0.006	0.30	0.008
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	0.017	0.017	0.013	0.023	0.005	0.42	0.018

IQR = Inter quartile range. - less than five-year record available.

Location	Total Phosphorus (g/m <sup>3</sup> )							14-18 median
	Count	Mean	Median	Min	Max	IQR	Skew	
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	0.009	0.009	0.002	0.018	0.004	0.58	0.008
Kauaeranga River at Smiths Cableway/Recorder	12	0.005	0.005	0.002	0.010	0.007	0.43	0.004
Ohinemuri River at Karangahake	12	0.018	0.013	0.005	0.046	0.016	1.29	-
Ohinemuri River at Queens Head	12	0.020	0.015	0.008	0.052	0.016	1.41	0.010
Ohinemuri River at SH25 Br	12	0.019	0.014	0.007	0.074	0.007	3.13	0.011
Tairua River at Morrisons Br Hikuai	12	0.005	0.004	0.002	0.012	0.006	0.81	0.004
Tapu River at Tapu-Coroglen Rd	12	0.006	0.006	0.002	0.010	0.005	-0.10	0.004
Waiau River at E309 Rd Ford	12	0.009	0.009	0.002	0.038	0.007	2.70	0.006
Waitekauri River at U/S Ohinemuri Conflu	12	0.009	0.009	0.002	0.019	0.003	1.01	0.007
Waiwawa River at SH25 Coroglen	12	0.007	0.005	0.002	0.026	0.004	2.28	0.003
Wharekawa River at SH25	12	0.007	0.007	0.002	0.010	0.004	-0.54	0.006
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	0.050	0.050	0.041	0.057	0.008	-0.39	0.047
Oraka Stm at Lake Rd	12	0.222	0.186	0.077	0.500	0.245	0.63	0.118
Piako River at Kiwitahi	12	0.095	0.092	0.044	0.146	0.072	0.09	0.065
Piako River at Paeroa-Tahuna Rd Br	12	0.271	0.285	0.129	0.520	0.149	0.82	0.275
Piakonui Stm at Piakonui Rd	12	0.025	0.022	0.017	0.051	0.004	2.55	0.021
Waihou River at Okauia	12	0.103	0.087	0.074	0.149	0.048	0.50	0.084
Waihou River at Te Aroha	12	0.104	0.103	0.081	0.133	0.028	0.18	-
Waihou River at Whites Rd	12	0.077	0.075	0.071	0.094	0.008	1.48	0.077
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	0.031	0.032	0.020	0.038	0.007	-0.76	0.028
Waiomou Stm at Matamata-Tauranga Rd	12	0.039	0.035	0.031	0.065	0.012	1.58	0.033
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	0.066	0.063	0.038	0.110	0.030	0.78	0.052
Waitoa River at Landsdowne Rd Br	12	0.091	0.065	0.026	0.190	0.098	0.74	0.049
Waitoa River at Mellon Rd Recorder	12	0.238	0.230	0.160	0.400	0.077	1.18	0.120
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	0.075	0.069	0.032	0.150	0.041	1.06	0.041
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	0.017	0.014	0.002	0.038	0.018	0.61	0.011
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	0.129	0.097	0.061	0.270	0.067	1.39	0.091
Kirikiri Stm at Tauhara Dr	12	0.118	0.073	0.033	0.590	0.046	3.27	0.058
Komakorau Stm at Henry Rd	12	0.132	0.125	0.075	0.240	0.053	1.18	0.101
Little Waipa Stm at Arapuni - Putaruru Rd	12	0.073	0.068	0.050	0.122	0.018	1.46	0.074
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	12	0.655	0.620	0.210	1.600	0.585	1.05	0.475
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	0.247	0.220	0.172	0.370	0.103	0.87	0.295
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	0.145	0.130	0.092	0.270	0.073	1.41	0.114
Mangaonua Stm at Hoeka Rd	12	0.147	0.136	0.046	0.380	0.123	1.26	0.057
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	0.066	0.043	0.021	0.159	0.081	1.01	0.029
Mangatangi River at SH2 Maramarua	12	0.098	0.093	0.046	0.169	0.036	0.72	0.071
Mangatawhiri River at Lyons Rd At Buckingham Br	12	0.026	0.023	0.013	0.051	0.010	1.31	0.024
Mangawara Stm at Rutherford Rd Br	12	0.292	0.265	0.210	0.480	0.070	1.54	0.210
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	0.365	0.162	0.100	1.820	0.186	2.71	0.159
Matahuru Stm at Waiterimu Road Below Confluence	12	0.320	0.138	0.094	2.000	0.173	3.33	0.096
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	0.136	0.144	0.094	0.163	0.047	-1.02	-
Ohaeroa Stm at SH22 Br	12	0.048	0.035	0.015	0.154	0.041	1.97	0.028
Opuatia Stm at Ponganui Rd	12	0.063	0.039	0.019	0.280	0.038	2.61	0.027
Pokaiwhenua Stm at Puketurua	12	0.114	0.116	0.072	0.144	0.030	-0.57	0.113
Waahi Stm at Te Ohaki Rd	4	0.096	0.099	0.036	0.151	0.096	-0.10	-
Waerenga Stm at Taniwha Rd	12	0.061	0.056	0.032	0.134	0.033	1.62	0.044
Waitawhiriwhiri Stm at Edgumbe Street	12	0.138	0.101	0.056	0.340	0.077	1.57	0.096
Whakapipi Stm at SH22 Br	12	0.079	0.069	0.036	0.210	0.044	2.20	0.050
Whakauru Stm at U/S SH1 Br	12	0.115	0.117	0.056	0.220	0.067	0.80	0.069
Whangamarino River at Island Block Rd	12	0.164	0.168	0.098	0.200	0.046	-0.86	0.144
Whangamarino River at Jefferies Rd Br	12	0.152	0.130	0.096	0.320	0.043	1.88	0.099
Whangape Stm at Rangiriri-Glen Murray Rd	12	0.132	0.133	0.056	0.240	0.112	0.24	0.115

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	0.024	0.024	0.016	0.030	0.010	-0.33	-
Kaniwhaniwha Stm at Wright Rd	12	0.056	0.056	0.016	0.116	0.031	0.82	0.029
Mangaohoi Stm at South Branch Maru Rd	12	0.048	0.045	0.024	0.092	0.016	1.41	0.049
Mangaokewa Stm at Lawrence Street Br	12	0.085	0.045	0.024	0.380	0.059	2.71	0.036
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	0.252	0.255	0.106	0.410	0.124	0.06	0.235
Mangapu River at Otorohanga	12	0.092	0.070	0.025	0.230	0.058	1.44	0.051
Mangarama at Gadsby Rd	4	0.037	0.036	0.031	0.045	0.011	0.44	-
Mangarapa Stm at Otorohanga Rd	4	0.054	0.056	0.038	0.068	0.022	-0.38	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	0.039	0.029	0.015	0.112	0.019	2.06	0.021
Mangauika Stm at Te Awamutu Borough W/S Intake	12	0.008	0.008	0.002	0.014	0.004	-0.03	0.008
Moakurua Stm at Warratah Farm Bridge	4	0.054	0.040	0.022	0.114	0.060	1.40	-
Ohote Stm at Whatawhata/Horotiu Rd	12	0.100	0.103	0.074	0.118	0.024	-0.58	0.091
Puniu River at Bartons Corner Rd Br	12	0.077	0.063	0.033	0.184	0.041	1.73	0.051
Puniu River at Wharepapa Rd Bridge	4	0.050	0.048	0.046	0.059	0.007	1.84	-
Waipa River at Mangaokewa Rd	12	0.022	0.019	0.012	0.045	0.010	1.67	0.016
Waipa River at Ngaruawahia Br	4	0.068	0.067	0.057	0.079	0.012	0.33	-
Waipa River at Pukehoua Bridge on Baffin Road	12	0.088	0.070	0.035	0.220	0.056	1.72	-
Waipa River at SH3 Otorohanga	12	0.052	0.030	0.016	0.260	0.023	3.17	0.022
Waitomo Stm at SH31 Otorohanga	12	0.086	0.060	0.010	0.430	0.051	3.12	0.033
Waitomo Stm at Tumutumu Rd	12	0.034	0.024	0.012	0.145	0.017	3.09	0.022
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	0.081	0.075	0.063	0.166	0.014	3.06	0.075
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	0.056	0.055	0.041	0.076	0.018	0.41	0.053
Mangakara Stm (Reporoa) at SH5	12	0.080	0.077	0.055	0.131	0.015	1.88	0.071
Mangakino Stm (Whakamaru) at Sandel Rd	12	0.060	0.052	0.041	0.121	0.013	2.03	0.049
Otamakokore Stm at Hossack Rd	12	0.160	0.157	0.127	0.220	0.027	1.01	0.151
Pueto Stm at Broadlands Rd Br	12	0.088	0.084	0.076	0.109	0.012	1.26	0.084
Tahunaatara Stm at Ohakuri Rd	12	0.061	0.058	0.046	0.108	0.016	1.96	0.051
Torepatutahi Stm at Vaile Rd Br	12	0.093	0.094	0.078	0.110	0.016	0.33	0.093
Waiotapu Stm at Campbell Rd Br	12	0.092	0.080	0.046	0.197	0.037	1.73	0.069
Waiotapu Stm at Homestead Rd Br	12	0.131	0.126	0.096	0.198	0.032	1.25	0.112
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	0.099	0.096	0.085	0.129	0.016	1.27	0.094
Whirinaki Stm at Corbett Rd	12	0.062	0.062	0.055	0.069	0.005	0.00	0.063
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	0.023	0.021	0.010	0.046	0.010	1.33	0.016
Awakino River at SH3 Awakau Rd Junction	12	0.034	0.021	0.009	0.127	0.024	2.05	0.017
Manganui River at Off Manganui Rd	12	0.033	0.025	0.002	0.079	0.032	0.87	0.024
Mangaotaki River at SH3 Br	12	0.148	0.034	0.015	1.340	0.039	3.43	0.024
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	0.043	0.029	0.018	0.171	0.020	2.98	0.027
Mokau River at Awakau Rd	12	0.075	0.039	0.022	0.260	0.056	1.85	0.031
Mokau River at Mangaokewa Rd (Off SH30)	12	0.052	0.040	0.025	0.150	0.033	2.11	0.031
Mokau River at Totoro Rd Recorder	12	0.102	0.049	0.018	0.640	0.050	3.22	0.028
Mokauti Stm at Three Way Point - Aria	12	0.078	0.060	0.028	0.310	0.027	2.93	0.036
Ohautira Stm at Waingaro Te Uku Rd	12	0.049	0.043	0.022	0.097	0.014	1.41	0.036
Oparau River at Langdon Rd (Off Okupata Rd)	12	0.021	0.014	0.008	0.067	0.010	1.95	0.014
Tawarau River at Off Speedies Rd	12	0.051	0.028	0.017	0.177	0.013	2.02	0.025
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	0.050	0.041	0.012	0.104	0.036	0.82	0.033
Waitetuna River at Te Uku-Waingaro Rd	12	0.053	0.041	0.021	0.200	0.022	3.06	0.033
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	0.034	0.033	0.026	0.042	0.009	-0.06	0.032
Kuratau River at SH41 Moerangi	12	0.007	0.006	0.002	0.015	0.005	1.00	0.004
Kuratau River at Te Rae Street	12	0.014	0.013	0.006	0.027	0.006	1.20	0.013
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	0.159	0.149	0.136	0.220	0.034	1.44	0.146
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	0.022	0.018	0.015	0.070	0.003	3.40	0.016
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	0.014	0.014	0.010	0.024	0.002	2.00	0.012
Tokaanu Stm at Off SH41 Turangi	12	0.080	0.080	0.076	0.090	0.004	1.53	0.079
Waihaha River at SH32	12	0.024	0.024	0.016	0.034	0.008	0.13	0.022
Waitahanui River at Blake Rd	12	0.047	0.047	0.042	0.054	0.005	0.54	0.046
Whangamata Stm (Kinloch) at Whangamata Rd	12	0.073	0.073	0.064	0.084	0.005	0.11	0.074
Whanganui Stm at Lakeside Lake Taupo	11	0.018	0.018	0.010	0.025	0.010	-0.08	0.014
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	0.040	0.035	0.031	0.081	0.010	2.40	0.032

IQR = Inter quartile range. - less than five-year record available.

Ammoniacal Nitrogen (g/m <sup>3</sup> )								
Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	0.008	0.005	0.005	0.016	0.005	1.34	0.005
Kauaeranga River at Smiths Cableway/Recorder	12	0.005	0.005	0.005	0.005	0.000	0.00	0.005
Ohinemuri River at Karangahake	12	0.039	0.033	0.005	0.113	0.044	1.11	-
Ohinemuri River at Queens Head	12	0.162	0.161	0.024	0.310	0.204	0.12	0.056
Ohinemuri River at SH25 Br	12	0.011	0.008	0.005	0.021	0.011	0.52	0.005
Tairua River at Morrisons Br Hikuai	12	0.005	0.005	0.005	0.005	0.000	0.00	0.005
Tapu River at Tapu-Coroglen Rd	12	0.005	0.005	0.005	0.005	0.000	0.00	0.005
Waiau River at E309 Rd Ford	12	0.005	0.005	0.005	0.005	0.000	0.00	0.005
Waitekauri River at U/S Ohinemuri Conflu	12	0.007	0.005	0.005	0.016	0.003	1.68	0.005
Waiwawa River at SH25 Coroglen	12	0.005	0.005	0.005	0.005	0.000	0.00	0.005
Wharekawa River at SH25	12	0.005	0.005	0.005	0.005	0.000	0.00	0.005
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	0.007	0.005	0.005	0.014	0.000	1.80	0.005
Oraka Stm at Lake Rd	12	0.159	0.038	0.005	0.620	0.289	1.29	0.029
Piako River at Kiwitahi	12	0.054	0.051	0.011	0.115	0.064	0.25	0.016
Piako River at Paeroa-Tahuna Rd Br	12	0.086	0.061	0.018	0.210	0.086	1.07	0.045
Piakonui Stm at Piakonui Rd	12	0.014	0.005	0.005	0.110	0.000	3.46	0.005
Waihou River at Okauia	12	0.022	0.019	0.005	0.045	0.026	0.36	0.012
Waihou River at Te Aroha	12	0.053	0.042	0.014	0.144	0.056	1.20	-
Waihou River at Whites Rd	12	0.005	0.005	0.005	0.005	0.000	0.00	0.005
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	0.006	0.005	0.005	0.015	0.000	3.46	0.005
Waiomou Stm at Matamata-Tauranga Rd	12	0.016	0.005	0.005	0.054	0.021	1.41	0.010
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	0.036	0.033	0.005	0.090	0.045	0.51	0.015
Waitoa River at Landsdowne Rd Br	12	0.031	0.014	0.005	0.102	0.038	1.40	0.014
Waitoa River at Mellon Rd Recorder	12	0.178	0.183	0.065	0.340	0.160	0.20	0.058
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	0.076	0.067	0.011	0.156	0.065	0.52	0.047
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	0.048	0.048	0.013	0.081	0.043	-0.03	0.043
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	0.064	0.029	0.005	0.240	0.078	1.61	0.021
Kirikiri Stm at Tauhara Dr	12	0.193	0.148	0.005	0.500	0.261	0.68	0.245
Komakorau Stm at Henry Rd	12	0.741	0.740	0.320	1.260	0.310	0.44	0.700
Little Waipa Stm at Arapuni - Putaruru Rd	12	0.011	0.005	0.005	0.034	0.008	1.81	0.012
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	12	0.228	0.210	0.093	0.470	0.107	0.99	0.193
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	0.372	0.325	0.086	0.610	0.334	-0.06	0.285
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	0.025	0.023	0.005	0.075	0.010	2.05	0.017
Mangaonua Stm at Hoeka Rd	12	0.097	0.100	0.056	0.136	0.032	0.04	0.078
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	0.017	0.013	0.005	0.086	0.011	3.11	0.005
Mangatangi River at SH2 Maramara	12	0.043	0.033	0.005	0.161	0.029	2.37	0.015
Mangatawhiri River at Lyons Rd At Buckingham Br	12	0.006	0.005	0.005	0.011	0.003	1.37	0.005
Mangawara Stm at Rutherford Rd Br	12	0.396	0.420	0.155	0.600	0.235	-0.36	0.380
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	0.125	0.110	0.032	0.230	0.097	0.12	0.104
Matahuru Stm at Waiterimu Road Below Confluence	12	0.086	0.058	0.015	0.240	0.040	1.73	0.061
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	0.005	0.005	0.005	0.005	0.000	0.00	-
Ohaeroa Stm at SH22 Br	12	0.017	0.012	0.005	0.053	0.018	1.46	0.005
Opuatia Stm at Ponganui Rd	12	0.012	0.012	0.005	0.026	0.009	0.87	0.011
Pokaiwhenua Stm at Puketurua	12	0.018	0.011	0.005	0.059	0.023	1.42	0.010
Waahi Stm at Te Ohaki Rd	4	0.010	0.009	0.005	0.019	0.011	0.85	-
Waerenga Stm at Taniwha Rd	12	0.016	0.016	0.005	0.031	0.019	0.21	0.013
Waitawhiriwhiri Stm at Edgumbe Street	12	0.477	0.550	0.127	0.870	0.510	-0.11	0.575
Whakapipi Stm at SH22 Br	12	0.018	0.014	0.005	0.059	0.016	1.74	0.012
Whakauru Stm at U/S SH1 Br	12	0.016	0.015	0.005	0.035	0.017	0.72	0.011
Whangamarino River at Island Block Rd	12	0.120	0.114	0.005	0.320	0.154	0.58	0.068
Whangamarino River at Jefferies Rd Br	12	0.078	0.065	0.020	0.210	0.047	1.58	0.043
Whangape Stm at Rangiriri-Glen Murray Rd	12	0.045	0.020	0.005	0.162	0.071	1.35	0.005

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	0.015	0.013	0.005	0.028	0.014	0.97	-
Kaniwhaniwha Stm at Wright Rd	12	0.032	0.029	0.005	0.092	0.022	1.55	0.021
Mangaohoi Stm at South Branch Maru Rd	12	0.006	0.005	0.005	0.016	0.000	2.46	0.005
Mangaokewa Stm at Lawrence Street Br	12	0.033	0.014	0.005	0.240	0.012	3.38	0.013
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	0.101	0.095	0.005	0.230	0.166	0.19	0.043
Mangapu River at Otorohanga	12	0.030	0.027	0.005	0.058	0.028	0.29	0.022
Mangarama at Gadsby Rd	4	0.031	0.028	0.018	0.051	0.023	0.94	-
Mangarapa Stm at Otorohanga Rd	4	0.061	0.023	0.014	0.182	0.088	1.97	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	0.024	0.015	0.005	0.094	0.028	1.91	0.005
Mangauika Stm at Te Awamutu Borough W/S Intake	12	0.007	0.005	0.005	0.031	0.000	3.46	0.005
Moakurua Stm at Warratah Farm Bridge	4	0.026	0.012	0.005	0.075	0.035	1.94	-
Ohote Stm at Whatawhata/Horotiu Rd	12	0.072	0.077	0.005	0.143	0.044	-0.16	0.071
Puniu River at Bartons Corner Rd Br	12	0.038	0.025	0.005	0.105	0.039	1.15	0.020
Puniu River at Wharepapa Rd Bridge	4	0.013	0.012	0.005	0.021	0.008	0.45	-
Waipa River at Mangaokewa Rd	12	0.012	0.005	0.005	0.038	0.010	1.71	0.005
Waipa River at Ngaruawahia Br	4	0.024	0.027	0.013	0.029	0.010	-1.70	-
Waipa River at Pukehoua Bridge on Baffin Road	12	0.028	0.021	0.005	0.110	0.025	2.33	-
Waipa River at SH3 Otorohanga	12	0.017	0.015	0.005	0.046	0.015	1.31	0.012
Waitomo Stm at SH31 Otorohanga	12	0.022	0.019	0.005	0.059	0.015	1.71	0.018
Waitomo Stm at Tumutumu Rd	12	0.006	0.005	0.005	0.020	0.000	3.46	0.005
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	0.021	0.012	0.005	0.088	0.009	2.05	0.012
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	0.010	0.005	0.005	0.021	0.011	0.67	0.005
Mangakara Stm (Reporoa) at SH5	12	0.023	0.022	0.005	0.046	0.009	0.61	0.025
Mangakino Stm (Whakamaru) at Sandel Rd	12	0.005	0.005	0.005	0.005	0.000	0.00	0.005
Otamakokore Stm at Hossack Rd	12	0.011	0.005	0.005	0.030	0.011	1.49	0.005
Pueto Stm at Broadlands Rd Br	12	0.008	0.005	0.005	0.016	0.006	1.23	0.005
Tahunaatara Stm at Ohakuri Rd	12	0.010	0.005	0.005	0.033	0.008	2.24	0.005
Torepatutahi Stm at Vaile Rd Br	12	0.011	0.005	0.005	0.037	0.011	1.97	0.005
Waiotapu Stm at Campbell Rd Br	12	0.801	0.805	0.750	0.860	0.025	-0.17	0.950
Waiotapu Stm at Homestead Rd Br	12	0.281	0.260	0.157	0.430	0.188	0.24	0.310
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	0.005	0.005	0.005	0.005	0.000	0.00	0.005
Whirinaki Stm at Corbett Rd	12	0.011	0.005	0.005	0.052	0.008	2.94	0.005
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	0.006	0.005	0.005	0.011	0.000	3.46	0.005
Awakino River at SH3 Awakau Rd Junction	12	0.008	0.005	0.005	0.021	0.005	1.69	0.005
Manganui River at Off Manganui Rd	12	0.007	0.005	0.005	0.018	0.000	2.34	0.005
Mangaotaki River at SH3 Br	12	0.009	0.005	0.005	0.046	0.000	3.26	0.005
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	0.009	0.005	0.005	0.051	0.000	3.46	0.005
Mokau River at Awakau Rd	12	0.018	0.014	0.005	0.046	0.011	1.35	0.014
Mokau River at Mangaokewa Rd (Off SH30)	12	0.006	0.005	0.005	0.011	0.000	2.10	0.005
Mokau River at Totoro Rd Recorder	12	0.013	0.008	0.005	0.038	0.011	1.51	0.005
Mokauti Stm at Three Way Point - Aria	12	0.028	0.021	0.005	0.085	0.035	1.26	0.020
Ohautira Stm at Waingaro Te Uku Rd	12	0.008	0.005	0.005	0.015	0.008	0.63	0.005
Oparau River at Langdon Rd (Off Okupata Rd)	12	0.007	0.005	0.005	0.023	0.000	3.46	0.005
Tawarau River at Off Speedies Rd	12	0.006	0.005	0.005	0.011	0.000	3.46	0.005
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	0.039	0.021	0.005	0.280	0.025	3.35	0.011
Waitetuna River at Te Uku-Waingaro Rd	12	0.012	0.011	0.005	0.023	0.011	0.67	0.005
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	0.007	0.005	0.005	0.014	0.004	1.38	0.005
Kuratau River at SH41 Moerangi	12	0.008	0.005	0.005	0.021	0.004	1.70	0.005
Kuratau River at Te Rae Street	12	0.008	0.005	0.005	0.018	0.006	1.36	0.005
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	0.011	0.009	0.005	0.022	0.013	0.30	0.010
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	0.005	0.005	0.005	0.005	0.000	0.00	0.005
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	0.008	0.005	0.005	0.021	0.003	1.95	0.005
Tokaanu Stm at Off SH41 Turangi	12	0.006	0.005	0.005	0.013	0.000	2.08	0.005
Waihaha River at SH32	12	0.007	0.005	0.005	0.020	0.000	2.36	0.005
Waitahanui River at Blake Rd	12	0.006	0.005	0.005	0.011	0.000	3.46	0.005
Whangamata Stm (Kinloch) at Whangamata Rd	12	0.007	0.005	0.005	0.016	0.003	1.69	0.005
Whanganui Stm at Lakeside Lake Taupo	11	0.012	0.005	0.005	0.027	0.015	0.94	0.005
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	0.006	0.005	0.005	0.012	0.000	2.06	0.005

IQR = Inter quartile range. - less than five-year record available.



Nitrate/Nitrite Nitrogen (g/m <sup>3</sup> )								
Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	0.10	0.07	0.01	0.43	0.12	2.26	0.03
Kauaeranga River at Smiths Cableway/Recorder	12	0.02	0.02	0.00	0.11	0.02	2.63	0.02
Ohinemuri River at Karangahake	12	0.58	0.66	0.32	0.78	0.20	-0.97	-
Ohinemuri River at Queens Head	12	1.03	1.09	0.66	1.38	0.25	-0.46	0.97
Ohinemuri River at SH25 Br	12	0.61	0.63	0.22	0.92	0.36	-0.20	0.50
Tairua River at Morrisons Br Hikuai	12	0.04	0.04	0.00	0.10	0.05	0.46	0.02
Tapu River at Tapu-Coroglen Rd	12	0.01	0.00	0.00	0.05	0.01	2.69	0.00
Waiau River at E309 Rd Ford	12	0.07	0.05	0.00	0.20	0.05	1.58	0.02
Waitekauri River at U/S Ohinemuri Conflu	12	0.19	0.22	0.01	0.34	0.18	-0.30	0.12
Waiwawa River at SH25 Coroglen	12	0.02	0.01	0.00	0.04	0.02	0.44	0.01
Wharekawa River at SH25	12	0.08	0.06	0.01	0.17	0.09	0.57	0.05
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	0.36	0.37	0.22	0.46	0.19	-0.25	0.33
Oraka Stm at Lake Rd	12	2.35	2.30	2.10	2.80	0.25	1.18	2.20
Piako River at Kiwitahi	12	1.25	1.12	0.03	2.60	1.92	0.23	0.88
Piako River at Paeroa-Tahuna Rd Br	12	1.71	1.68	0.55	2.90	1.31	0.04	1.56
Piakonui Stm at Piakonui Rd	12	0.41	0.36	0.15	0.92	0.31	1.07	0.26
Waihou River at Okauia	12	1.40	1.33	1.16	1.80	0.39	0.57	1.20
Waihou River at Te Aroha	12	1.30	1.32	0.68	1.67	0.44	-0.72	-
Waihou River at Whites Rd	12	0.87	0.87	0.82	0.92	0.05	-0.02	0.78
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	0.20	0.19	0.15	0.27	0.06	0.69	0.16
Waiomou Stm at Matamata-Tauranga Rd	12	0.68	0.59	0.36	1.22	0.42	0.73	0.52
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	0.35	0.32	0.01	0.87	0.51	0.46	0.25
Waitoa River at Landsdowne Rd Br	12	1.80	1.78	1.13	2.50	1.02	0.10	1.51
Waitoa River at Mellon Rd Recorder	12	2.43	2.10	1.72	3.50	1.27	0.66	2.10
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	1.72	1.58	1.24	2.60	0.88	0.69	1.51
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	0.45	0.42	0.14	0.75	0.30	0.15	0.53
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	0.89	0.84	0.27	1.42	0.86	-0.13	0.68
Kirikiri Stm at Tauhara Dr	12	0.70	0.71	0.35	1.07	0.35	-0.01	0.77
Komakorau Stm at Henry Rd	12	1.92	1.53	1.08	4.30	0.97	1.67	1.40
Little Waipa Stm at Arapuni - Putaruru Rd	12	2.25	2.15	1.96	2.80	0.40	0.96	1.95
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	12	0.99	0.91	0.54	1.61	0.37	0.78	0.85
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	2.33	2.35	1.70	3.20	0.95	0.20	2.65
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	2.26	2.40	0.99	2.80	0.38	-2.19	2.40
Mangaonua Stm at Hoeka Rd	12	1.46	1.45	0.97	2.10	0.52	0.10	1.46
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	0.70	0.65	0.28	1.22	0.50	0.31	0.49
Mangatangi River at SH2 Maramarua	12	0.46	0.34	0.01	1.06	0.69	0.40	0.23
Mangatawhiri River at Lyons Rd At Buckingham Br	12	0.14	0.08	0.00	0.52	0.19	1.34	0.05
Mangawara Stm at Rutherford Rd Br	12	1.37	1.00	0.77	3.60	0.57	2.09	0.89
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	2.34	2.35	1.89	2.80	0.45	-0.02	1.96
Matahuru Stm at Waiterimu Road Below Confluence	12	1.06	0.93	0.34	1.79	0.79	0.10	0.77
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	0.01	0.00	0.00	0.02	0.01	1.92	-
Ohaeroa Stm at SH22 Br	12	1.67	1.75	1.11	2.20	0.55	-0.13	1.66
Opuatia Stm at Ponganui Rd	12	0.78	0.74	0.44	1.10	0.31	0.04	0.79
Pokaiwhenua Stm at Puketurua	12	2.26	2.20	2.00	2.70	0.30	0.94	2.00
Waahi Stm at Te Ohaki Rd	4	0.07	0.01	0.00	0.26	0.13	1.99	-
Waerenga Stm at Taniwha Rd	12	1.01	0.92	0.33	1.63	0.57	-0.06	0.86
Waitawhiriwhiri Stm at Edgumbe Street	12	0.77	0.85	0.32	1.06	0.27	-1.01	0.86
Whakapipi Stm at SH22 Br	12	4.73	4.55	3.20	6.20	1.55	0.16	3.90
Whakauru Stm at U/S SH1 Br	12	1.22	1.23	0.99	1.60	0.29	0.60	0.71
Whangamarino River at Island Block Rd	12	0.37	0.20	0.00	1.81	0.40	2.42	0.14
Whangamarino River at Jefferies Rd Br	12	1.01	1.05	0.14	2.10	0.98	0.17	0.65
Whangape Stm at Rangiriri-Glen Murray Rd	12	0.24	0.09	0.00	0.84	0.49	1.03	0.02

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	0.53	0.48	0.40	0.77	0.25	1.31	-
Kaniwhaniwha Stm at Wright Rd	12	0.52	0.47	0.06	1.11	0.83	0.21	0.43
Mangaohoi Stm at South Branch Maru Rd	12	0.24	0.19	0.14	0.39	0.20	0.61	0.20
Mangaokewa Stm at Lawrence Street Br	12	0.69	0.63	0.38	1.01	0.41	0.17	0.61
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	1.84	1.93	0.54	3.10	1.88	-0.01	1.71
Mangapu River at Otorohanga	12	0.92	0.92	0.55	1.28	0.49	0.03	0.81
Mangarama at Gadsby Rd	4	0.84	0.82	0.72	1.01	0.18	0.96	-
Mangarapa Stm at Otorohanga Rd	4	0.80	0.78	0.50	1.12	0.45	0.21	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	0.58	0.52	0.17	1.35	0.67	0.62	0.35
Mangauika Stm at Te Awamutu Borough W/S Intake	12	0.16	0.19	0.02	0.30	0.19	-0.44	0.21
Moakurua Stm at Warratah Farm Bridge	4	0.40	0.37	0.24	0.61	0.26	0.72	-
Ohote Stm at Whatawhata/Horotiu Rd	12	0.71	0.54	0.21	1.56	0.76	0.73	0.50
Puniu River at Bartons Corner Rd Br	12	1.00	0.89	0.48	1.99	0.86	0.63	0.68
Puniu River at Wharepapa Rd Bridge	4	0.61	0.58	0.53	0.75	0.12	1.60	-
Waipa River at Mangaokewa Rd	12	0.34	0.29	0.18	0.53	0.27	0.36	0.30
Waipa River at Ngaruawahia Br	4	0.90	0.78	0.59	1.44	0.59	1.18	-
Waipa River at Pukehoua Bridge on Baffin Road	12	0.83	0.86	0.39	1.38	0.67	0.14	-
Waipa River at SH3 Otorohanga	12	0.57	0.48	0.09	1.09	0.54	0.22	0.44
Waitomo Stm at SH31 Otorohanga	12	0.62	0.57	0.36	0.87	0.27	0.45	0.58
Waitomo Stm at Tumutumu Rd	12	0.63	0.62	0.51	0.73	0.11	0.15	0.62
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	3.28	3.30	2.90	4.00	0.40	0.87	2.70
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	0.76	0.67	0.52	1.09	0.36	0.68	0.61
Mangakara Stm (Reporoa) at SH5	12	1.73	1.72	1.56	1.92	0.16	0.24	1.36
Mangakino Stm (Whakamaru) at Sandel Rd	12	0.81	0.77	0.65	1.00	0.22	0.38	0.72
Otamakokore Stm at Hossack Rd	12	1.21	1.06	0.87	1.81	0.47	0.92	0.92
Pueto Stm at Broadlands Rd Br	12	0.68	0.68	0.63	0.78	0.05	1.28	0.50
Tahunaatara Stm at Ohakuri Rd	12	0.81	0.73	0.59	1.17	0.32	0.73	0.65
Torepatutahi Stm at Vaile Rd Br	12	0.74	0.70	0.47	0.98	0.30	0.12	0.54
Waiotapu Stm at Campbell Rd Br	12	0.98	1.00	0.85	1.05	0.08	-1.17	0.92
Waiotapu Stm at Homestead Rd Br	12	1.58	1.52	1.21	1.99	0.29	0.38	1.40
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	1.53	1.51	1.27	1.84	0.16	0.37	1.35
Whirinaki Stm at Corbett Rd	12	0.86	0.86	0.77	0.98	0.10	0.42	0.80
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	0.10	0.09	0.02	0.18	0.11	0.00	0.11
Awakino River at SH3 Awakau Rd Junction	12	0.26	0.21	0.06	0.50	0.28	0.27	0.23
Manganui River at Off Manganui Rd	12	0.12	0.08	0.00	0.28	0.20	0.34	0.14
Mangaotaki River at SH3 Br	12	0.71	0.69	0.49	1.00	0.29	0.29	0.70
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	0.28	0.28	0.18	0.38	0.15	0.02	0.29
Mokau River at Awakau Rd	12	0.56	0.61	0.23	0.84	0.40	-0.28	0.45
Mokau River at Mangaokewa Rd (Off SH30)	12	0.51	0.47	0.29	0.79	0.32	0.47	0.40
Mokau River at Totoro Rd Recorder	12	0.69	0.70	0.37	1.03	0.50	-0.01	0.58
Mokauti Stm at Three Way Point - Aria	12	0.45	0.32	0.12	0.91	0.66	0.35	0.29
Ohautira Stm at Waingaro Te Uku Rd	12	0.28	0.30	0.03	0.63	0.34	0.17	0.33
Oparau River at Langdon Rd (Off Okupata Rd)	12	0.15	0.12	0.01	0.38	0.28	0.46	0.14
Tawarau River at Off Speedies Rd	12	0.32	0.32	0.22	0.43	0.14	-0.01	0.33
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	0.53	0.65	0.00	1.13	0.60	-0.06	0.54
Waitetuna River at Te Uku-Waingaro Rd	12	0.44	0.47	0.12	0.83	0.43	0.13	0.45
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	0.11	0.12	0.05	0.15	0.04	-0.75	0.10
Kuratau River at SH41 Moerangi	12	0.22	0.22	0.14	0.31	0.11	0.16	0.30
Kuratau River at Te Rae Street	12	0.67	0.64	0.37	0.94	0.25	-0.05	0.67
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	0.73	0.71	0.63	0.83	0.11	0.18	0.75
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	0.07	0.07	0.04	0.09	0.03	-0.53	0.06
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	0.00	0.01	0.00	0.01	0.00	0.46	0.00
Tokaanu Stm at Off SH41 Turangi	12	0.52	0.51	0.48	0.57	0.06	0.57	0.45
Waihaha River at SH32	12	0.10	0.09	0.07	0.14	0.05	0.34	0.10
Waitahanui River at Blake Rd	12	0.42	0.41	0.40	0.46	0.03	0.96	0.40
Whangamata Stm (Kinloch) at Whangamata Rd	12	1.68	1.69	1.56	1.85	0.09	0.33	1.35
Whanganui Stm at Lakeside Lake Taupo	11	0.41	0.37	0.32	0.56	0.16	0.57	0.32
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	0.74	0.69	0.61	1.00	0.22	0.91	0.69

IQR = Inter quartile range. - less than five-year record available.

Total Kjeldahl Nitrogen (g/m <sup>3</sup> )								
Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	0.11	0.11	0.06	0.15	0.03	0.00	0.09
Kauaeranga River at Smiths Cableway/Recorder	12	0.08	0.09	0.03	0.12	0.04	-0.93	0.09
Ohinemuri River at Karangahake	12	0.25	0.20	0.13	0.52	0.12	1.49	-
Ohinemuri River at Queens Head	12	0.45	0.47	0.21	0.79	0.24	0.31	0.29
Ohinemuri River at SH25 Br	12	0.17	0.14	0.09	0.48	0.05	2.64	0.14
Tairua River at Morrisons Br Hikuai	12	0.09	0.09	0.03	0.17	0.04	0.40	0.08
Tapu River at Tapu-Coroglen Rd	12	0.08	0.08	0.03	0.14	0.04	0.05	0.08
Waiau River at E309 Rd Ford	12	0.11	0.10	0.05	0.30	0.05	2.52	0.09
Waitekauri River at U/S Ohinemuri Conflu	12	0.11	0.12	0.05	0.17	0.06	-0.06	0.10
Waiwawa River at SH25 Coroglen	12	0.11	0.12	0.03	0.26	0.05	0.79	0.08
Wharekawa River at SH25	12	0.09	0.11	0.03	0.12	0.03	-1.93	0.09
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	0.16	0.14	0.08	0.34	0.08	1.30	0.12
Oraka Stm at Lake Rd	12	0.43	0.42	0.20	0.86	0.31	0.79	0.34
Piako River at Kiwitahi	12	0.57	0.50	0.29	0.97	0.50	0.63	0.38
Piako River at Paeroa-Tahuna Rd Br	12	0.98	0.70	0.45	2.80	0.57	2.16	0.63
Piakonui Stm at Piakonui Rd	12	0.21	0.18	0.12	0.57	0.11	2.37	0.17
Waihou River at Okauia	12	0.23	0.22	0.12	0.37	0.11	0.46	0.22
Waihou River at Te Aroha	12	0.34	0.30	0.26	0.48	0.12	0.97	-
Waihou River at Whites Rd	12	0.07	0.06	0.03	0.12	0.06	0.20	0.04
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	0.17	0.19	0.09	0.23	0.05	-0.69	0.16
Waiomou Stm at Matamata-Tauranga Rd	12	0.20	0.19	0.14	0.29	0.07	0.79	0.19
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	0.40	0.37	0.24	0.59	0.25	0.26	0.33
Waitoa River at Landsdowne Rd Br	12	0.58	0.49	0.30	1.13	0.40	1.07	0.39
Waitoa River at Mellon Rd Recorder	12	1.05	0.99	0.57	1.59	0.69	0.28	0.59
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	0.68	0.69	0.41	0.98	0.16	0.05	0.59
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	0.29	0.29	0.19	0.41	0.11	0.24	0.27
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	0.61	0.42	0.27	1.58	0.35	1.68	0.35
Kirikiriroa Stm at Tauhara Dr	12	0.74	0.61	0.20	2.40	0.26	2.86	0.66
Komakorau Stm at Henry Rd	12	2.04	2.15	1.24	2.40	0.21	-1.69	2.05
Little Waipa Stm at Arapuni - Putaruru Rd	12	0.22	0.20	0.13	0.45	0.08	1.73	0.21
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	12	1.42	1.43	0.49	2.40	1.17	-0.02	1.13
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	0.80	0.78	0.41	1.09	0.36	-0.27	0.70
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	0.56	0.51	0.33	1.01	0.35	0.86	0.42
Mangaonua Stm at Hoeka Rd	12	0.73	0.62	0.34	1.61	0.46	1.22	0.43
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	0.45	0.30	0.16	1.04	0.46	1.11	0.23
Mangatangi River at SH2 Maramara	12	0.48	0.41	0.11	0.92	0.31	0.51	0.36
Mangatawhiri River at Lyons Rd At Buckingham Br	12	0.15	0.14	0.10	0.30	0.07	1.67	0.14
Mangawara Stm at Rutherford Rd Br	12	1.40	1.31	0.85	2.20	0.37	0.86	1.24
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	1.22	0.79	0.61	3.70	0.90	2.08	0.76
Matahuru Stm at Waiterimu Road Below Confluence	12	1.07	0.63	0.35	2.80	1.22	1.21	0.63
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	2.45	2.35	1.68	3.40	0.91	0.78	-
Ohaeroa Stm at SH22 Br	12	0.34	0.27	0.17	0.95	0.18	2.50	0.28
Opuatia Stm at Ponganui Rd	12	0.39	0.30	0.19	1.11	0.14	2.22	0.30
Pokaiwhenua Stm at Puketurua	12	0.31	0.27	0.21	0.48	0.14	0.90	0.26
Waahi Stm at Te Ohaki Rd	4	1.07	1.13	0.59	1.43	0.66	-0.44	-
Waerenga Stm at Taniwha Rd	12	0.32	0.33	0.17	0.55	0.17	0.47	0.26
Waitawhiriwhiri Stm at Edgumbe Street	12	1.22	1.25	0.87	1.46	0.30	-0.60	1.24
Whakapipi Stm at SH22 Br	12	0.39	0.39	0.27	0.56	0.17	0.33	0.36
Whakauru Stm at U/S SH1 Br	12	0.40	0.38	0.30	0.64	0.15	1.13	0.31
Whangamarino River at Island Block Rd	12	1.71	1.83	1.31	1.96	0.33	-0.95	1.84
Whangamarino River at Jefferies Rd Br	12	0.71	0.56	0.33	1.57	0.32	1.73	0.50
Whangape Stm at Rangiriri-Glen Murray Rd	12	1.79	1.89	0.49	4.90	1.52	1.49	1.91

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	0.18	0.18	0.13	0.22	0.07	-0.25	-
Kaniwhaniwha Stm at Wright Rd	12	0.32	0.24	0.10	0.73	0.24	1.13	0.22
Mangaohoi Stm at South Branch Maru Rd	12	0.19	0.16	0.07	0.73	0.10	3.02	0.15
Mangaokewa Stm at Lawrence Street Br	12	0.51	0.28	0.16	2.50	0.26	2.89	0.24
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	0.97	0.89	0.42	1.68	0.65	0.39	0.72
Mangapu River at Otorohanga	12	0.45	0.32	0.20	1.28	0.26	2.10	0.30
Mangarama at Gadsby Rd	4	0.30	0.30	0.24	0.34	0.06	-0.65	-
Mangarapa Stm at Otorohanga Rd	4	0.33	0.33	0.19	0.49	0.19	0.32	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	0.26	0.17	0.13	0.77	0.13	2.19	0.16
Mangauika Stm at Te Awamutu Borough W/S Intake	12	0.07	0.06	0.03	0.19	0.03	2.05	0.06
Moakurua Stm at Warratah Farm Bridge	4	0.22	0.22	0.16	0.29	0.10	0.27	-
Ohote Stm at Whatawhata/Horotiu Rd	12	0.93	0.94	0.68	1.25	0.36	0.30	0.73
Puniu River at Bartons Corner Rd Br	12	0.44	0.39	0.22	0.88	0.32	0.95	0.28
Puniu River at Wharepapa Rd Bridge	4	0.23	0.23	0.19	0.28	0.05	0.76	-
Waipa River at Mangaokewa Rd	12	0.21	0.19	0.13	0.43	0.07	2.16	0.19
Waipa River at Ngaruawahia Br	4	0.35	0.34	0.26	0.44	0.10	0.39	-
Waipa River at Pukehoua Bridge on Baffin Road	12	0.50	0.37	0.20	1.07	0.41	0.96	-
Waipa River at SH3 Otorohanga	12	0.30	0.22	0.13	1.06	0.10	2.68	0.21
Waitomo Stm at SH31 Otorohanga	12	0.42	0.33	0.16	1.60	0.26	2.87	0.24
Waitomo Stm at Tumutumu Rd	12	0.20	0.16	0.07	0.67	0.11	2.70	0.14
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	0.36	0.32	0.24	0.82	0.09	2.78	0.32
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	0.23	0.22	0.17	0.32	0.07	0.70	0.22
Mangakara Stm (Reporoa) at SH5	12	0.31	0.30	0.22	0.50	0.05	1.90	0.28
Mangakino Stm (Whakamaru) at Sandel Rd	12	0.17	0.15	0.10	0.56	0.05	3.25	0.14
Otamakokore Stm at Hossack Rd	12	0.28	0.28	0.18	0.40	0.08	0.28	0.27
Pueto Stm at Broadlands Rd Br	12	0.12	0.13	0.09	0.16	0.04	0.11	0.11
Tahunaatara Stm at Ohakuri Rd	12	0.27	0.25	0.16	0.55	0.05	1.87	0.23
Torepatutahi Stm at Vaile Rd Br	12	0.13	0.13	0.10	0.20	0.02	1.29	0.13
Waiotapu Stm at Campbell Rd Br	12	1.00	1.01	0.90	1.15	0.09	0.38	1.08
Waiotapu Stm at Homestead Rd Br	12	0.68	0.61	0.44	1.27	0.24	1.62	0.67
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	0.19	0.19	0.12	0.27	0.05	0.43	0.18
Whirinaki Stm at Corbett Rd	12	0.07	0.07	0.05	0.10	0.02	0.68	0.07
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	0.06	0.07	0.03	0.10	0.05	-0.36	0.06
Awakino River at SH3 Awakau Rd Junction	12	0.15	0.13	0.05	0.36	0.13	1.19	0.12
Manganui River at Off Manganui Rd	12	0.14	0.12	0.07	0.32	0.07	1.54	0.10
Mangaotaki River at SH3 Br	12	0.68	0.22	0.11	5.50	0.10	3.43	0.18
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	0.21	0.16	0.09	0.77	0.10	2.99	0.12
Mokau River at Awakau Rd	12	0.38	0.30	0.14	0.81	0.26	1.20	0.24
Mokau River at Mangaokewa Rd (Off SH30)	12	0.30	0.27	0.13	0.60	0.24	0.77	0.21
Mokau River at Totoro Rd Recorder	12	0.48	0.28	0.16	2.40	0.21	3.11	0.25
Mokauti Stm at Three Way Point - Aria	12	0.46	0.37	0.22	1.28	0.12	2.44	0.32
Ohautira Stm at Waingaro Te Uku Rd	12	0.21	0.17	0.09	0.49	0.13	1.40	0.15
Oparau River at Langdon Rd (Off Okupata Rd)	12	0.15	0.12	0.06	0.35	0.05	2.09	0.11
Tawarau River at Off Speedies Rd	12	0.16	0.13	0.09	0.57	0.04	3.27	0.13
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	0.32	0.30	0.18	0.56	0.17	0.77	0.25
Waitetuna River at Te Uku-Waingaro Rd	12	0.23	0.19	0.11	0.66	0.12	2.54	0.17
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	0.09	0.10	0.03	0.18	0.05	0.55	0.09
Kuratau River at SH41 Moerangi	12	0.10	0.09	0.06	0.23	0.06	1.85	0.09
Kuratau River at Te Rae Street	12	0.14	0.14	0.10	0.19	0.05	0.24	0.15
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	0.24	0.24	0.17	0.49	0.07	2.45	0.19
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	0.08	0.06	0.03	0.31	0.06	2.88	0.06
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	0.14	0.14	0.03	0.21	0.08	-0.55	0.11
Tokaanu Stm at Off SH41 Turangi	12	0.04	0.03	0.03	0.09	0.04	0.89	0.03
Waihaha River at SH32	12	0.10	0.09	0.03	0.25	0.05	1.85	0.08
Waitahanui River at Blake Rd	12	0.07	0.07	0.03	0.14	0.04	0.74	0.08
Whangamata Stm (Kinloch) at Whangamata Rd	12	0.16	0.16	0.11	0.26	0.07	0.86	0.13
Whanganui Stm at Lakeside Lake Taupo	11	0.13	0.11	0.06	0.30	0.07	1.95	0.11
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	0.20	0.17	0.11	0.58	0.05	3.12	0.17

IQR = Inter quartile range. - less than five-year record available.

Location	Total Nitrogen (g/m <sup>3</sup> )							14-18 median
	Count	Mean	Median	Min	Max	IQR	Skew	
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	0.20	0.17	0.09	0.58	0.14	2.18	0.13
Kauaeranga River at Smiths Cableway/Recorder	12	0.11	0.11	0.04	0.22	0.05	1.02	0.11
Ohinemuri River at Karangahake	12	0.83	0.85	0.45	1.23	0.20	-0.23	-
Ohinemuri River at Queens Head	12	1.48	1.51	0.93	2.17	0.39	0.36	1.31
Ohinemuri River at SH25 Br	12	0.79	0.80	0.36	1.07	0.38	-0.40	0.62
Tairua River at Morrisons Br Hikuai	12	0.13	0.13	0.07	0.23	0.05	0.81	0.11
Tapu River at Tapu-Coroglen Rd	12	0.09	0.08	0.03	0.15	0.05	-0.10	0.08
Waiau River at E309 Rd Ford	12	0.17	0.15	0.07	0.35	0.11	1.05	0.11
Waitekauri River at U/S Ohinemuri Conflu	12	0.30	0.29	0.10	0.48	0.18	-0.05	0.26
Waiwawa River at SH25 Coroglen	12	0.13	0.13	0.03	0.28	0.06	0.59	0.09
Wharekawa River at SH25	12	0.17	0.15	0.09	0.28	0.11	0.40	0.15
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	0.52	0.54	0.36	0.74	0.11	0.32	0.48
Oraka Stm at Lake Rd	12	2.78	2.73	2.30	3.56	0.46	0.95	2.55
Piako River at Kiwitahi	12	1.82	1.64	0.41	3.54	2.13	0.30	1.48
Piako River at Paeroa-Tahuna Rd Br	12	2.70	2.29	1.00	4.90	1.48	0.50	2.24
Piakonui Stm at Piakonui Rd	12	0.62	0.58	0.31	1.11	0.42	0.60	0.46
Waihou River at Okauia	12	1.63	1.57	1.30	2.17	0.48	0.59	1.42
Waihou River at Te Aroha	12	1.63	1.63	0.98	2.11	0.53	-0.46	-
Waihou River at Whites Rd	12	0.94	0.94	0.89	0.99	0.06	0.35	0.84
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	0.37	0.36	0.34	0.47	0.03	1.95	0.34
Waiomou Stm at Matamata-Tauranga Rd	12	0.88	0.77	0.52	1.51	0.40	0.84	0.71
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	0.75	0.72	0.31	1.41	0.70	0.28	0.56
Waitoa River at Landsdowne Rd Br	12	2.38	2.27	1.64	3.43	0.92	0.63	2.06
Waitoa River at Mellon Rd Recorder	12	3.48	3.24	2.61	5.06	1.07	0.92	2.92
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	2.40	2.19	1.86	3.36	1.02	0.70	2.11
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	0.74	0.77	0.33	0.97	0.24	-0.93	0.84
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	1.50	1.28	0.63	2.87	1.20	0.66	1.12
Kirikiri Stm at Tauhara Dr	12	1.44	1.43	0.55	2.89	0.44	1.24	1.49
Komakorau Stm at Henry Rd	12	3.96	3.54	2.92	6.50	1.45	1.35	3.39
Little Waipa Stm at Arapuni - Putaruru Rd	12	2.46	2.32	2.15	2.97	0.58	0.69	2.20
Mangakotukutuku Stm (Rukuhia) at Peacockes Rd	12	2.41	2.28	1.21	3.55	1.48	0.19	1.95
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	3.14	3.20	2.21	4.09	1.24	0.07	3.52
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	2.83	2.85	2.00	3.40	0.30	-0.95	2.85
Mangaonua Stm at Hoeka Rd	12	2.19	1.99	1.69	3.21	0.81	0.88	1.87
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	1.14	1.11	0.49	1.99	0.78	0.42	0.79
Mangatangi River at SH2 Maramarua	12	0.94	0.73	0.22	1.98	1.12	0.49	0.63
Mangatawhiri River at Lyons Rd At Buckingham Br	12	0.29	0.22	0.10	0.69	0.28	1.02	0.21
Mangawara Stm at Rutherford Rd Br	12	2.77	2.38	1.65	5.80	0.95	1.85	2.12
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	3.55	3.40	2.79	5.80	0.73	2.09	3.01
Matahuru Stm at Waiterimu Road Below Confluence	12	2.14	1.85	0.69	3.66	1.89	0.41	1.54
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	2.45	2.36	1.68	3.40	0.90	0.74	-
Ohaeroa Stm at SH22 Br	12	2.01	2.13	1.39	2.63	0.71	-0.22	2.01
Opuatia Stm at Ponganui Rd	12	1.17	1.14	0.69	1.76	0.41	0.55	1.09
Pokaiwhenua Stm at Puketurua	12	2.57	2.46	2.33	2.98	0.39	0.78	2.39
Waahi Stm at Te Ohaki Rd	4	1.14	1.13	0.85	1.43	0.52	0.02	-
Waerenga Stm at Taniwha Rd	12	1.33	1.38	0.66	1.96	0.47	-0.23	1.13
Waitawhiriwhiri Stm at Edgumbe Street	12	1.99	1.97	1.46	2.52	0.39	0.10	2.09
Whakapipi Stm at SH22 Br	12	5.12	4.95	3.72	6.47	1.47	0.19	4.29
Whakauru Stm at U/S SH1 Br	12	1.62	1.61	1.31	2.09	0.43	0.47	1.09
Whangamarino River at Island Block Rd	12	2.08	1.94	1.58	3.65	0.38	2.49	1.96
Whangamarino River at Jefferies Rd Br	12	1.72	1.60	0.65	2.99	1.38	0.26	1.24
Whangape Stm at Rangiriri-Glen Murray Rd	12	2.03	1.92	1.09	4.90	0.99	2.18	2.07

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	0.71	0.66	0.60	0.93	0.18	1.78	-
Kaniwhaniwha Stm at Wright Rd	12	0.83	0.70	0.16	1.66	1.04	0.24	0.65
Mangaohoi Stm at South Branch Maru Rd	12	0.42	0.39	0.22	0.89	0.17	1.62	0.37
Mangaokewa Stm at Lawrence Street Br	12	1.21	1.02	0.64	3.31	0.62	2.48	1.00
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	2.81	2.86	1.12	4.78	2.35	0.01	2.54
Mangapu River at Otorohanga	12	1.37	1.30	0.75	2.52	0.59	0.99	1.24
Mangarama at Gadsby Rd	4	1.14	1.11	1.01	1.32	0.18	1.14	-
Mangarapa Stm at Otorohanga Rd	4	1.13	1.17	0.69	1.48	0.44	-0.74	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	0.84	0.92	0.31	1.82	0.67	0.67	0.55
Mangauika Stm at Te Awamutu Borough W/S Intake	12	0.23	0.27	0.08	0.45	0.20	0.05	0.27
Moakurua Stm at Warratah Farm Bridge	4	0.62	0.55	0.48	0.90	0.27	1.58	-
Ohote Stm at Whatawhata/Horotiu Rd	12	1.64	1.46	0.90	2.67	1.09	0.61	1.36
Puniu River at Bartons Corner Rd Br	12	1.44	1.45	0.71	2.67	1.06	0.49	1.05
Puniu River at Wharepapa Rd Bridge	4	0.84	0.82	0.79	0.94	0.08	1.79	-
Waipa River at Mangaokewa Rd	12	0.55	0.53	0.36	0.71	0.26	-0.01	0.56
Waipa River at Ngaruawahia Br	4	1.24	1.13	0.92	1.79	0.51	1.49	-
Waipa River at Pukehoua Bridge on Baffin Road	12	1.33	1.21	0.59	2.10	1.05	0.16	-
Waipa River at SH3 Otorohanga	12	0.87	0.70	0.30	1.93	0.76	0.84	0.64
Waitomo Stm at SH31 Otorohanga	12	1.03	0.96	0.52	2.15	0.42	1.77	0.88
Waitomo Stm at Tumutumu Rd	12	0.82	0.76	0.67	1.23	0.15	1.74	0.80
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	3.64	3.66	3.14	4.32	0.38	0.54	3.11
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	0.99	0.92	0.69	1.35	0.39	0.45	0.84
Mangakara Stm (Reporoa) at SH5	12	2.04	2.02	1.83	2.42	0.20	1.08	1.72
Mangakino Stm (Whakamaru) at Sandel Rd	12	0.99	0.96	0.77	1.21	0.26	0.15	0.88
Otamakokore Stm at Hossack Rd	12	1.49	1.35	1.13	2.13	0.54	0.93	1.24
Pueto Stm at Broadlands Rd Br	12	0.81	0.79	0.76	0.94	0.06	1.73	0.63
Tahunaatara Stm at Ohakuri Rd	12	1.08	1.08	0.87	1.36	0.31	0.31	0.92
Torepatutahi Stm at Vaile Rd Br	12	0.87	0.86	0.60	1.09	0.30	-0.05	0.65
Waiotapu Stm at Campbell Rd Br	12	1.98	1.98	1.83	2.12	0.09	-0.11	2.04
Waiotapu Stm at Homestead Rd Br	12	2.26	2.22	1.90	2.72	0.41	0.40	2.02
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	1.72	1.70	1.43	2.06	0.25	0.20	1.54
Whirinaki Stm at Corbett Rd	12	0.94	0.93	0.84	1.08	0.08	0.80	0.87
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	0.16	0.15	0.08	0.27	0.08	0.55	0.18
Awakino River at SH3 Awakau Rd Junction	12	0.41	0.34	0.19	0.86	0.36	0.88	0.38
Manganui River at Off Manganui Rd	12	0.26	0.23	0.09	0.60	0.23	0.98	0.25
Mangaotaki River at SH3 Br	12	1.39	0.95	0.66	6.08	0.46	3.32	0.92
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	0.49	0.40	0.30	1.09	0.18	2.36	0.42
Mokau River at Awakau Rd	12	0.94	0.87	0.49	1.51	0.66	0.36	0.83
Mokau River at Mangaokewa Rd (Off SH30)	12	0.81	0.78	0.48	1.25	0.35	0.35	0.70
Mokau River at Totoro Rd Recorder	12	1.17	0.95	0.59	3.22	0.69	2.17	0.92
Mokauti Stm at Three Way Point - Aria	12	0.91	0.65	0.42	2.10	0.72	1.15	0.67
Ohautira Stm at Waingaro Te Uku Rd	12	0.49	0.45	0.15	0.90	0.51	0.16	0.50
Oparau River at Langdon Rd (Off Okupata Rd)	12	0.30	0.25	0.07	0.60	0.35	0.45	0.25
Tawarau River at Off Speedies Rd	12	0.48	0.44	0.35	0.93	0.16	2.17	0.45
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	0.85	0.94	0.18	1.42	0.82	-0.23	0.82
Waitetuna River at Te Uku-Waingaro Rd	12	0.67	0.62	0.24	1.38	0.53	0.68	0.63
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	0.20	0.20	0.14	0.27	0.08	-0.09	0.18
Kuratau River at SH41 Moerangi	12	0.32	0.34	0.22	0.44	0.09	-0.08	0.40
Kuratau River at Te Rae Street	12	0.82	0.82	0.53	1.05	0.20	-0.25	0.83
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	0.98	0.97	0.87	1.12	0.09	0.40	0.97
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	0.14	0.12	0.07	0.36	0.05	2.70	0.11
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	0.14	0.14	0.03	0.22	0.08	-0.49	0.11
Tokaanu Stm at Off SH41 Turangi	12	0.56	0.55	0.51	0.63	0.10	0.19	0.49
Waihaha River at SH32	12	0.19	0.17	0.15	0.37	0.05	2.55	0.18
Waitahanui River at Blake Rd	12	0.49	0.48	0.44	0.54	0.07	0.21	0.48
Whangamata Stm (Kinloch) at Whangamata Rd	12	1.84	1.83	1.67	2.03	0.08	0.28	1.50
Whanganui Stm at Lakeside Lake Taupo	11	0.54	0.56	0.43	0.62	0.11	-0.30	0.43
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	0.95	0.87	0.76	1.27	0.25	0.85	0.87

IQR = Inter quartile range. - less than five-year record available.

Turbidity (NTU)								
Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	2.7	1.9	0.8	8.3	2.0	1.80	1.5
Kauaeranga River at Smiths Cableway/Recorder	12	2.0	1.7	0.5	5.3	1.0	1.42	1.5
Ohinemuri River at Karangahake	12	3.0	1.7	0.7	8.1	4.1	0.99	-
Ohinemuri River at Queens Head	12	2.9	1.8	0.8	7.0	3.2	1.05	1.1
Ohinemuri River at SH25 Br	12	2.7	1.5	0.7	14.8	1.3	3.06	1.1
Tairua River at Morrisons Br Hikuai	12	1.8	1.5	0.8	4.9	0.9	2.06	1.1
Tapu River at Tapu-Coroglen Rd	12	2.5	2.1	0.5	7.4	3.0	1.21	1.2
Waiau River at E309 Rd Ford	12	4.6	3.7	1.5	16.5	3.3	2.59	2.7
Waitekauri River at U/S Ohinemuri Conflu	12	1.3	1.2	0.5	2.3	1.2	0.25	0.9
Waiwawa River at SH25 Coroglen	12	3.3	2.1	1.1	10.3	2.1	1.83	1.2
Wharekawa River at SH25	12	2.7	2.2	1.3	4.8	1.9	0.76	2.0
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	14.0	9.1	6.2	33.0	13.5	1.19	7.8
Oraka Stm at Lake Rd	12	8.2	6.3	3.6	16.5	7.6	0.75	6.3
Piako River at Kiwitahi	12	11.6	7.9	2.3	28.0	16.0	0.88	4.2
Piako River at Paeroa-Tahuna Rd Br	12	38.1	17.7	6.8	210.0	32.1	3.02	7.7
Piakonui Stm at Piakonui Rd	12	7.7	5.8	3.1	26.0	5.1	2.53	4.2
Waihou River at Okauia	12	6.9	5.1	1.2	14.9	7.8	0.63	5.1
Waihou River at Te Aroha	12	9.6	9.0	2.9	16.1	5.3	0.22	-
Waihou River at Whites Rd	12	1.0	0.8	0.5	2.2	0.7	1.27	0.6
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	5.4	5.4	4.2	7.1	1.3	0.49	4.7
Waiomou Stm at Matamata-Tauranga Rd	12	5.1	4.3	1.2	10.2	3.8	0.55	4.6
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	12.8	9.9	2.3	43.0	8.8	2.13	7.9
Waitoa River at Landsdowne Rd Br	12	16.2	9.7	2.2	42.0	20.6	1.04	5.4
Waitoa River at Mellon Rd Recorder	12	21.4	19.8	7.5	52.0	8.4	1.85	8.6
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otatau Rd Br opp Moseley Rd	12	19.2	17.7	12.2	36.0	9.4	1.35	15.8
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	9.6	6.2	2.6	25.0	9.9	1.12	6.3
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	25.0	9.9	3.8	108.0	23.1	2.06	6.9
Kirikiroa Stm at Tauhara Dr	12	37.3	27.5	8.2	191.0	16.1	3.27	24.5
Komakorau Stm at Henry Rd	12	90.9	97.5	23.0	155.0	54.0	-0.41	79.5
Little Waipa Stm at Arapuni - Putaruru Rd	12	3.0	1.9	0.8	10.3	2.4	1.86	2.6
Mangakotukutuku Stm (Rukuhia) at Peacockes Rd	12	30.6	26.5	15.4	74.0	19.9	1.60	23.0
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	7.6	5.4	4.1	20.0	3.0	2.03	5.5
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	13.3	8.8	5.8	34.0	12.9	1.38	7.8
Mangaonua Stm at Hoeka Rd	12	32.0	22.0	12.0	79.0	34.4	1.14	11.0
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	36.9	15.9	3.3	187.0	50.2	2.38	4.6
Mangatangi River at SH2 Maramarua	12	26.6	23.5	10.4	80.0	14.0	2.41	14.5
Mangatawhiri River at Lyons Rd At Buckingham Br	12	5.7	3.2	1.8	17.6	5.3	1.62	3.2
Mangawara Stm at Rutherford Rd Br	12	57.4	57.5	36.0	96.0	19.5	0.90	45.0
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	78.2	46.0	26.0	460.0	9.5	3.44	46.0
Matahuru Stm at Waiterimu Road Below Confluence	12	180.1	60.0	30.0	1400.0	66.0	3.39	35.0
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	69.3	70.0	48.0	89.0	36.5	-0.05	-
Ohaeroa Stm at SH22 Br	12	18.0	7.8	2.4	70.0	22.7	1.77	8.5
Opuatia Stm at Ponganui Rd	12	37.9	15.3	7.7	170.0	25.8	2.23	14.8
Pokaiwhenua Stm at Puketurua	12	5.6	5.5	2.5	12.4	3.8	1.09	4.0
Waahi Stm at Te Ohaki Rd	4	69.5	57.5	26.0	137.0	70.0	1.18	-
Waerenga Stm at Taniwha Rd	12	19.9	11.3	5.5	82.0	19.1	2.55	8.7
Waitawhiriwhiri Stm at Edgecumbe Street	12	52.4	39.0	16.2	156.0	28.0	2.14	34.5
Whakapipi Stm at SH22 Br	12	8.1	4.2	1.7	33.0	7.2	2.09	5.0
Whakauru Stm at U/S SH1 Br	12	13.5	11.6	2.3	26.0	10.4	0.40	8.7
Whangamarino River at Island Block Rd	12	54.0	51.0	19.9	115.0	22.5	1.31	35.5
Whangamarino River at Jefferies Rd Br	12	52.5	44.0	25.0	149.0	27.5	2.38	25.5
Whangape Stm at Rangiriri-Glen Murray Rd	12	71.5	62.5	18.2	151.0	75.0	0.61	53.5

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	8.9	8.4	6.7	12.0	4.3	0.48	-
Kaniwhaniwha Stm at Wright Rd	12	17.4	13.0	5.0	51.0	8.2	1.89	8.0
Mangaohoi Stm at South Branch Maru Rd	12	3.0	1.5	0.8	16.6	1.2	3.24	1.9
Mangaokewa Stm at Lawrence Street Br	12	31.5	9.3	3.8	220.0	18.1	3.14	6.5
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	25.9	23.0	6.8	68.0	24.2	1.11	13.2
Mangapu River at Otorohanga	12	27.8	20.2	5.9	83.0	17.1	1.66	14.1
Mangarama at Gadsby Rd	4	15.8	16.3	11.1	19.4	7.3	-0.18	-
Mangarapa Stm at Otorohanga Rd	4	12.7	10.5	5.7	24.0	11.3	1.31	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	8.0	5.0	1.2	36.0	6.6	2.57	3.5
Mangauika Stm at Te Awamutu Borough W/S Intake	12	1.8	1.7	0.5	3.4	1.9	0.28	1.6
Moakurua Stm at Warratah Farm Bridge	4	8.0	7.6	4.9	12.0	4.5	0.75	-
Ohote Stm at Whatawhata/Horotiu Rd	12	16.0	15.4	9.7	22.0	3.5	0.16	13.3
Puniu River at Bartons Corner Rd Br	12	13.3	10.5	2.2	40.0	12.0	1.59	7.1
Puniu River at Wharepapa Rd Bridge	4	3.7	3.8	1.8	5.5	2.6	-0.16	-
Waipa River at Mangaokewa Rd	12	2.8	2.9	1.2	4.7	1.9	0.12	2.2
Waipa River at Ngaruawahia Br	4	12.8	12.5	10.8	15.4	3.2	0.70	-
Waipa River at Pukehoua Bridge on Baffin Road	12	27.1	20.5	7.4	78.0	26.0	1.59	-
Waipa River at SH3 Otorohanga	12	16.5	5.7	1.6	111.0	10.8	3.12	4.5
Waitomo Stm at SH31 Otorohanga	12	45.5	29.5	6.3	250.0	27.5	3.14	19.9
Waitomo Stm at Tumutumu Rd	12	13.4	7.5	2.4	70.0	9.0	3.11	7.2
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	4.5	4.1	2.8	11.2	1.7	2.61	3.9
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	7.8	6.9	5.4	14.2	2.7	1.73	6.6
Mangakara Stm (Reporoa) at SH5	12	9.6	6.5	4.7	35.0	3.3	2.95	6.6
Mangakino Stm (Whakamaru) at Sandel Rd	12	2.9	1.8	0.7	14.6	0.8	3.34	1.9
Otamakokore Stm at Hossack Rd	12	3.8	3.9	2.5	4.8	1.1	-0.35	3.7
Pueto Stm at Broadlands Rd Br	12	3.9	3.4	2.2	11.1	1.6	2.89	3.2
Tahunaatara Stm at Ohakuri Rd	12	4.7	4.2	2.4	10.2	1.8	1.78	3.7
Torepatutahi Stm at Vaile Rd Br	12	1.4	1.1	0.7	2.9	0.8	1.23	1.2
Waiotapu Stm at Campbell Rd Br	12	13.4	10.2	6.0	34.0	9.6	1.65	7.6
Waiotapu Stm at Homestead Rd Br	12	15.9	16.1	9.1	25.0	8.1	0.33	13.7
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	4.4	3.7	1.6	12.3	1.9	2.19	4.0
Whirinaki Stm at Corbett Rd	12	0.6	0.5	0.3	1.4	0.4	1.38	0.7
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	5.0	1.7	0.8	22.0	3.8	1.99	1.5
Awakino River at SH3 Awakau Rd Junction	12	16.7	4.0	2.0	85.0	17.4	2.08	3.6
Manganui River at Off Manganui Rd	12	11.8	4.1	1.8	51.0	15.3	1.90	5.8
Mangaotaki River at SH3 Br	12	110.3	7.3	2.7	1180.0	14.8	3.45	6.2
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	15.7	6.2	2.4	106.0	6.5	3.31	4.8
Mokau River at Awakau Rd	12	51.2	20.9	7.8	194.0	62.9	1.62	15.0
Mokau River at Mangaokewa Rd (Off SH30)	12	6.3	4.4	2.5	16.5	4.5	1.58	3.7
Mokau River at Totoro Rd Recorder	12	49.0	12.6	2.7	370.0	25.9	3.20	7.8
Mokauti Stm at Three Way Point - Aria	12	44.5	20.3	5.6	240.0	30.3	2.66	10.3
Ohautira Stm at Waingaro Te Uku Rd	12	18.2	9.1	3.4	69.0	23.9	1.78	8.1
Oparau River at Langdon Rd (Off Okupata Rd)	12	9.4	2.8	1.4	43.0	4.6	2.01	3.2
Tawarau River at Off Speedies Rd	12	13.1	4.7	2.2	98.0	5.3	3.37	3.7
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	24.8	13.4	2.5	70.0	31.0	1.04	12.2
Waitetuna River at Te Uku-Waingaro Rd	12	23.9	9.6	4.0	136.0	14.3	3.04	10.3
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	1.3	1.2	0.9	2.2	0.3	1.82	1.2
Kuratau River at SH41 Moerangi	12	2.2	1.9	1.3	6.2	1.2	2.52	1.6
Kuratau River at Te Rae Street	12	1.5	1.5	1.0	1.8	0.3	-0.28	1.3
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	4.8	4.0	2.7	13.4	0.9	2.97	3.5
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	5.4	1.0	0.6	54.0	0.8	3.46	1.0
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	1.8	1.6	1.1	2.6	0.8	0.29	1.4
Tokaanu Stm at Off SH41 Turangi	12	0.3	0.2	0.1	0.5	0.3	0.52	0.2
Waihaha River at SH32	12	1.7	0.7	0.4	10.9	1.0	3.25	0.9
Waitahanui River at Blake Rd	12	1.3	1.2	0.6	3.2	0.7	1.89	1.1
Whangamata Stm (Kinloch) at Whangamata Rd	12	1.8	1.7	0.7	3.0	1.0	0.22	1.7
Whanganui Stm at Lakeside Lake Taupo	11	2.5	1.8	1.1	9.5	1.0	3.06	1.6
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	5.4	4.1	2.5	19.8	2.2	3.01	3.5

IQR = Inter quartile range. - less than five-year record available.



Location	pH							14-18 median
	Count	Mean	Median	Min	Max	IQR	Skew	
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	7.2	7.3	6.7	7.6	0.5	-0.60	7.1
Kauaeranga River at Smiths Cableway/Recorder	12	7.2	7.2	7.0	7.5	0.2	0.54	7.1
Ohinemuri River at Karangahake	12	7.2	7.2	6.7	7.8	0.5	0.25	-
Ohinemuri River at Queens Head	12	7.0	7.1	6.6	7.4	0.4	-0.17	7.1
Ohinemuri River at SH25 Br	12	7.1	7.2	6.4	7.5	0.5	-0.68	7.2
Tairua River at Morrisons Br Hikuai	12	7.2	7.2	6.8	7.5	0.3	-0.25	7.1
Tapu River at Tapu-Coroglen Rd	12	7.4	7.5	7.1	7.7	0.2	-0.26	7.4
Waiau River at E309 Rd Ford	12	7.3	7.3	6.8	7.5	0.3	-1.23	7.3
Waitekauri River at U/S Ohinemuri Conflu	12	7.1	7.1	6.8	7.4	0.3	0.13	7.1
Waiwawa River at SH25 Coroglen	12	7.2	7.3	6.8	7.6	0.2	-0.32	7.2
Wharekawa River at SH25	12	7.1	7.2	6.6	7.3	0.3	-1.10	7.1
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	7.3	7.3	7.1	7.6	0.3	0.23	7.4
Oraka Stm at Lake Rd	12	7.3	7.3	7.1	7.7	0.2	1.19	7.2
Piako River at Kiwitahi	12	7.1	7.1	6.8	7.7	0.3	1.06	7.1
Piako River at Paeroa-Tahuna Rd Br	12	7.2	7.3	6.7	7.6	0.6	-0.35	7.3
Piakonui Stm at Piakonui Rd	12	7.2	7.2	6.9	7.6	0.4	0.62	7.3
Waihou River at Okauia	12	7.3	7.2	7.0	7.6	0.3	0.30	7.2
Waihou River at Te Aroha	12	7.2	7.2	6.9	7.6	0.2	0.76	-
Waihou River at Whites Rd	12	7.0	7.1	6.7	7.2	0.3	-0.84	7.0
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	7.3	7.2	7.0	7.5	0.2	0.15	7.2
Waiomou Stm at Matamata-Tauranga Rd	12	7.1	7.1	6.6	7.5	0.3	-0.17	7.1
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	7.1	7.2	6.8	7.4	0.4	-0.41	7.2
Waitoa River at Landsdowne Rd Br	12	7.1	7.1	6.8	7.4	0.3	0.14	7.1
Waitoa River at Mellon Rd Recorder	12	7.2	7.3	6.9	7.5	0.4	-0.19	7.3
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	7.1	7.2	6.7	7.4	0.2	-0.85	7.2
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	7.9	7.9	7.7	8.2	0.2	0.53	7.8
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	7.2	7.3	6.8	7.5	0.3	-0.49	7.2
Kirikiri Stm at Tauhara Dr	12	7.0	7.0	6.6	7.4	0.4	0.19	7.0
Komakorau Stm at Henry Rd	12	6.7	6.8	6.3	7.4	0.2	0.87	6.7
Little Waipa Stm at Arapuni - Putaruru Rd	12	7.0	7.0	6.9	7.3	0.2	1.19	7.0
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	12	6.9	7.0	6.3	7.3	0.5	-0.72	7.0
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	7.4	7.5	7.0	7.6	0.3	-1.09	7.4
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	7.4	7.4	7.1	7.8	0.1	1.07	7.3
Mangaonua Stm at Hoeka Rd	12	7.0	7.0	6.6	7.5	0.3	0.31	7.0
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	7.3	7.4	7.0	7.7	0.5	0.07	7.3
Mangatangi River at SH2 Maramara	12	7.1	7.2	6.7	7.4	0.3	-0.90	7.2
Mangatawhiri River at Lyons Rd At Buckingham Br	12	7.3	7.4	6.9	7.5	0.3	-1.00	7.4
Mangawara Stm at Rutherford Rd Br	12	6.8	6.8	6.2	7.2	0.2	-1.20	6.8
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	7.0	7.1	6.4	7.4	0.3	-0.85	7.0
Matahuru Stm at Waiterimu Road Below Confluence	12	7.1	7.1	6.8	7.6	0.3	0.89	7.1
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	8.5	8.4	7.9	9.3	1.1	0.44	-
Ohaeroa Stm at SH22 Br	12	7.4	7.4	7.0	7.7	0.4	-0.26	7.4
Opuatia Stm at Ponganui Rd	12	7.5	7.6	7.0	7.7	0.2	-1.70	7.5
Pokaiwhenua Stm at Puketurua	12	7.2	7.1	6.9	7.5	0.2	0.65	7.2
Waahi Stm at Te Ohaki Rd	4	7.9	7.8	7.7	8.1	0.2	1.54	-
Waerenga Stm at Taniwha Rd	12	7.4	7.4	7.0	7.7	0.4	0.00	7.3
Waitawhiriwhiri Stm at Edgumbe Street	12	7.0	7.1	6.8	7.4	0.4	0.17	7.0
Whakapipi Stm at SH22 Br	12	7.4	7.4	7.0	7.8	0.3	0.19	7.4
Whakauru Stm at U/S SH1 Br	12	7.3	7.4	6.8	7.6	0.1	-2.08	7.4
Whangamarino River at Island Block Rd	12	7.0	7.0	6.6	7.3	0.3	-0.50	7.0
Whangamarino River at Jefferies Rd Br	12	7.1	7.1	6.7	7.4	0.3	-0.54	7.1
Whangape Stm at Rangiriri-Glen Murray Rd	12	7.5	7.5	7.2	8.1	0.3	1.15	7.5

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	7.3	7.3	7.0	7.6	0.5	0.00	-
Kaniwhaniwha Stm at Wright Rd	12	7.2	7.2	6.9	7.5	0.3	0.03	7.2
Mangaohoi Stm at South Branch Maru Rd	12	7.4	7.4	7.2	7.7	0.3	0.29	7.4
Mangaokewa Stm at Lawrence Street Br	12	7.4	7.4	6.9	7.8	0.4	-0.10	7.4
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	7.4	7.3	6.5	8.3	0.6	0.40	7.3
Mangapu River at Otorohanga	12	7.6	7.6	7.1	8.0	0.3	-0.40	7.6
Mangarama at Gadsby Rd	4	8.0	8.0	7.8	8.2	0.3	0.00	-
Mangarapa Stm at Otorohanga Rd	4	7.7	7.7	7.4	8.0	0.5	0.32	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	7.2	7.2	6.7	7.4	0.1	-2.01	7.2
Mangauika Stm at Te Awamutu Borough W/S Intake	12	7.4	7.6	6.6	7.8	0.4	-1.27	7.3
Moakurua Stm at Warratah Farm Bridge	4	7.5	7.5	7.3	7.7	0.3	0.00	-
Ohote Stm at Whatawhata/Horotiu Rd	12	6.8	6.8	6.4	7.1	0.4	-0.51	6.8
Puniu River at Bartons Corner Rd Br	12	7.2	7.3	6.8	7.6	0.6	-0.11	7.1
Puniu River at Wharepapa Rd Bridge	4	7.4	7.4	7.3	7.6	0.3	0.37	-
Waipa River at Mangaokewa Rd	12	7.4	7.4	7.0	7.7	0.3	-0.32	7.4
Waipa River at Ngaruawahia Br	4	7.3	7.3	7.0	7.5	0.3	-0.71	-
Waipa River at Pukehoua Bridge on Baffin Road	12	7.3	7.4	6.8	7.7	0.4	-0.65	-
Waipa River at SH3 Otorohanga	12	7.2	7.3	6.9	7.6	0.4	0.12	7.3
Waitomo Stm at SH31 Otorohanga	12	7.6	7.8	7.2	8.0	0.4	-0.65	7.7
Waitomo Stm at Tumutumu Rd	12	7.9	7.9	7.4	8.1	0.1	-1.57	7.9
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	7.1	7.1	6.8	7.4	0.2	0.11	7.0
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	7.3	7.3	6.8	7.4	0.2	-2.06	7.3
Mangakara Stm (Reporoa) at SH5	12	7.1	7.1	6.9	7.4	0.2	0.38	7.1
Mangakino Stm (Whakamaru) at Sandel Rd	12	7.4	7.3	7.1	7.8	0.3	0.87	7.3
Otamakokore Stm at Hossack Rd	12	7.9	8.0	7.6	8.2	0.3	-0.25	8.0
Pueto Stm at Broadlands Rd Br	12	7.4	7.5	7.3	7.6	0.2	-0.13	7.4
Tahunaatara Stm at Ohakuri Rd	12	7.5	7.5	7.1	7.8	0.4	-0.13	7.4
Torepatutahi Stm at Vaile Rd Br	12	7.3	7.3	7.2	7.6	0.1	1.63	7.2
Waiotapu Stm at Campbell Rd Br	12	5.8	5.8	5.4	6.4	0.1	1.66	5.6
Waiotapu Stm at Homestead Rd Br	12	6.9	6.9	6.8	7.4	0.2	1.85	6.8
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	7.7	7.7	7.5	7.8	0.1	0.00	7.7
Whirinaki Stm at Corbett Rd	12	7.3	7.3	7.2	7.6	0.2	0.91	7.3
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	7.5	7.5	7.1	7.8	0.2	-0.15	7.5
Awakino River at SH3 Awakau Rd Junction	12	7.6	7.6	7.1	7.8	0.3	-1.22	7.5
Manganui River at Off Manganui Rd	12	7.3	7.4	6.8	7.6	0.2	-1.52	7.4
Mangaotaki River at SH3 Br	12	7.7	7.8	7.0	8.1	0.2	-1.18	7.7
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	7.8	7.8	7.5	8.1	0.3	0.16	7.8
Mokau River at Awakau Rd	12	7.4	7.5	6.9	7.8	0.3	-0.80	7.4
Mokau River at Mangaokewa Rd (Off SH30)	12	7.4	7.4	7.1	8.0	0.3	1.31	7.3
Mokau River at Totoro Rd Recorder	12	7.6	7.6	7.2	7.9	0.3	-0.54	7.6
Mokauti Stm at Three Way Point - Aria	12	7.3	7.3	7.1	7.6	0.2	0.28	7.3
Ohautira Stm at Waingaro Te Uku Rd	12	7.3	7.3	6.9	7.8	0.4	0.39	7.3
Oparau River at Langdon Rd (Off Okupata Rd)	12	7.4	7.5	6.8	7.8	0.4	-0.71	7.4
Tawarau River at Off Speedies Rd	12	7.9	7.9	7.4	8.3	0.5	-0.23	7.8
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	7.4	7.3	7.0	7.8	0.2	0.70	7.4
Waitetuna River at Te Uku-Waingaro Rd	12	7.4	7.5	6.9	7.7	0.4	-0.64	7.4
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	7.5	7.5	7.2	7.7	0.3	-0.55	7.4
Kuratau River at SH41 Moerangi	12	7.2	7.2	6.8	7.5	0.3	-0.14	7.2
Kuratau River at Te Rae Street	12	7.5	7.5	7.0	7.8	0.5	-0.32	7.4
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	7.3	7.4	6.4	7.6	0.2	-2.82	7.4
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	7.4	7.4	6.9	7.7	0.2	-0.97	7.3
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	7.3	7.4	6.7	7.6	0.3	-1.39	7.4
Tokaanu Stm at Off SH41 Turangi	12	7.2	7.2	7.0	7.4	0.2	-0.16	7.2
Waihaha River at SH32	12	7.2	7.2	6.9	7.5	0.2	-0.32	7.2
Waitahanui River at Blake Rd	12	7.5	7.5	7.3	7.6	0.3	-0.29	7.4
Whangamata Stm (Kinloch) at Whangamata Rd	12	7.4	7.4	7.1	7.7	0.3	0.24	7.3
Whanganui Stm at Lakeside Lake Taupo	11	7.2	7.2	6.6	7.5	0.3	-1.22	7.3
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	7.3	7.4	6.8	7.6	0.4	-0.83	7.3

IQR = Inter quartile range. - less than five-year record available.

Escherichia coli (/100ml)								
Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	397	290	90	900	425	0.92	260
Kauaeranga River at Smiths Cableway/Recorder	12	186	115	30	460	252	0.83	120
Ohinemuri River at Karangahake	12	558	115	7	3000	321	2.06	-
Ohinemuri River at Queens Head	12	850	175	20	6000	260	2.76	85
Ohinemuri River at SH25 Br	12	347	130	12	1800	185	2.21	145
Tairua River at Morrisons Br Hikuai	12	183	100	5	800	199	2.30	80
Tapu River at Tapu-Coroglen Rd	12	178	145	60	360	145	0.82	105
Waiau River at E309 Rd Ford	12	451	210	41	2400	305	2.48	110
Waitekauri River at U/S Ohinemuri Conflu	12	167	135	11	420	210	0.64	90
Waiwawa River at SH25 Coroglen	12	244	130	20	1200	137	2.25	85
Wharekawa River at SH25	12	276	220	20	900	275	1.54	215
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	197	105	10	700	195	1.68	43
Oraka Stm at Lake Rd	12	715	395	250	2300	415	1.87	370
Piako River at Kiwitahi	12	3344	3300	330	9000	3650	0.85	340
Piako River at Paeroa-Tahuna Rd Br	12	3355	1850	450	12000	3245	1.64	560
Piakonui Stm at Piakonui Rd	12	435	195	5	1400	735	1.25	65
Waihou River at Okauia	12	695	360	160	2500	600	1.77	290
Waihou River at Te Aroha	12	1591	1300	100	8000	1595	2.71	-
Waihou River at Whites Rd	12	120	90	20	380	96	1.65	49
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	73	32	5	280	90	1.85	52
Waiomou Stm at Matamata-Tauranga Rd	12	637	440	160	1500	840	0.60	395
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	379	295	190	900	155	1.71	265
Waitoa River at Landsdowne Rd Br	12	2409	1600	300	6000	3550	0.77	500
Waitoa River at Mellon Rd Recorder	12	2669	900	90	12000	3420	1.90	360
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otaua Rd Br opp Moseley Rd	12	2488	850	110	15000	1515	2.60	290
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	471	290	90	1500	340	1.70	250
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	5236	1150	130	30000	7075	2.25	220
Kirikiri Stm at Tauhara Dr	12	2877	850	220	21000	1375	3.17	530
Komakorau Stm at Henry Rd	12	3066	2100	400	14000	2230	2.40	1200
Little Waipa Stm at Arapuni - Putaruru Rd	12	328	250	120	800	230	1.27	270
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	12	7849	1550	320	60000	3800	3.10	610
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	1318	600	150	4800	1220	1.68	505
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	1197	600	250	6000	740	3.01	510
Mangaonua Stm at Hoeka Rd	12	4479	2000	350	16000	3950	1.68	1100
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	6426	710	39	51000	3345	3.01	190
Mangatangi River at SH2 Maramarua	12	918	540	270	2800	910	1.48	385
Mangatawhiri River at Lyons Rd At Buckingham Br	12	494	295	90	1500	445	1.49	230
Mangawara Stm at Rutherford Rd Br	12	3835	1900	320	26000	1350	3.36	1400
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	4353	950	200	40000	900	3.43	595
Matahuru Stm at Waiterimu Road Below Confluence	12	5500	900	220	50000	1350	3.39	600
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	311	20	5	1200	608	2.00	-
Ohaeroa Stm at SH22 Br	12	568	330	150	1900	580	1.84	375
Opuatia Stm at Ponganui Rd	12	940	610	80	3400	1020	1.77	400
Pokaiwhenua Stm at Puketurua	12	1639	605	130	12000	675	3.20	255
Waahi Stm at Te Ohaki Rd	4	80	45	30	200	90	1.94	-
Waerenga Stm at Taniwha Rd	12	1288	705	20	6000	1245	2.44	505
Waitawhiriwhiri Stm at Edgumbe Street	12	8608	2550	600	55000	9050	2.92	1000
Whakapipi Stm at SH22 Br	12	639	650	180	1700	550	1.28	340
Whakauru Stm at U/S SH1 Br	12	1508	1250	330	5600	1220	2.14	850
Whangamarino River at Island Block Rd	12	542	205	23	3700	405	3.16	105
Whangamarino River at Jefferies Rd Br	12	2042	1400	600	8000	950	2.78	1200
Whangape Stm at Rangiriri-Glen Murray Rd	12	166	85	5	900	145	2.74	100

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	460	330	180	1000	480	1.66	-
Kaniwhaniwha Stm at Wright Rd	12	1119	775	200	4500	1105	2.35	400
Mangaohoi Stm at South Branch Maru Rd	12	223	70	4	900	320	1.50	105
Mangaokewa Stm at Lawrence Street Br	12	3962	575	220	22000	580	2.06	480
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	2637	950	400	17000	1350	3.07	470
Mangapu River at Otorohanga	12	1552	850	210	8000	1040	2.91	580
Mangarama at Gadsby Rd	4	488	460	130	900	505	0.41	-
Mangarapa Stm at Otorohanga Rd	4	1890	650	260	6000	3020	1.96	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	1368	260	80	12000	370	3.35	160
Mangauika Stm at Te Awamutu Borough W/S Intake	12	53	30	5	200	75	1.60	17
Moakurua Stm at Warratah Farm Bridge	4	1160	480	280	3400	1710	1.94	-
Ohote Stm at Whatawhata/Horotiu Rd	12	1113	800	370	3100	1050	1.43	260
Puniu River at Bartons Corner Rd Br	12	2448	415	130	17000	2065	2.96	265
Puniu River at Wharepapa Rd Bridge	4	560	540	260	900	480	0.24	-
Waipa River at Mangaokewa Rd	12	550	220	26	2600	210	2.06	170
Waipa River at Ngaruawahia Br	4	180	190	100	240	100	-0.63	-
Waipa River at Pukehoua Bridge on Baffin Road	12	2023	390	190	11000	1995	2.26	-
Waipa River at SH3 Otorohanga	12	875	270	90	4000	420	2.01	190
Waitomo Stm at SH31 Otorohanga	12	4152	1050	100	39000	1685	3.43	390
Waitomo Stm at Tumutumu Rd	12	518	265	40	1300	1030	0.74	210
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	444	190	30	2800	235	3.07	160
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	398	240	100	1000	485	1.10	275
Mangakara Stm (Reporoa) at SH5	12	531	255	70	1700	625	1.35	205
Mangakino Stm (Whakamaru) at Sandel Rd	12	219	80	5	1900	89	3.42	59
Otamakokore Stm at Hossack Rd	12	464	345	190	1200	355	1.44	290
Pueto Stm at Broadlands Rd Br	12	34	32	5	70	22	0.44	27
Tahunaatara Stm at Ohakuri Rd	12	867	205	80	8000	130	3.45	180
Torepatutahi Stm at Vaile Rd Br	12	203	205	50	430	155	0.50	80
Waiotapu Stm at Campbell Rd Br	12	17	5	1	160	5	3.41	3
Waiotapu Stm at Homestead Rd Br	12	488	285	90	2100	330	2.37	150
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	108	95	30	210	70	0.56	105
Whirinaki Stm at Corbett Rd	12	86	49	15	370	75	2.60	37
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	134	95	25	360	80	1.54	90
Awakino River at SH3 Awakau Rd Junction	12	313	255	5	1200	205	2.27	150
Manganui River at Off Manganui Rd	12	479	260	32	3000	275	3.27	170
Mangaotaki River at SH3 Br	12	2274	410	200	16000	1085	2.84	350
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	417	280	20	1400	385	1.58	160
Mokau River at Awakau Rd	12	620	250	31	2600	810	1.72	130
Mokau River at Mangaokewa Rd (Off SH30)	12	771	135	31	4100	530	2.02	110
Mokau River at Totoro Rd Recorder	12	993	265	80	6000	885	2.72	210
Mokauti Stm at Three Way Point - Aria	12	567	315	110	1900	390	1.74	220
Ohautira Stm at Waingaro Te Uku Rd	12	559	270	100	2600	500	2.58	320
Oparau River at Langdon Rd (Off Okupata Rd)	12	493	215	70	3400	175	3.38	165
Tawarau River at Off Speedies Rd	12	322	185	40	1300	310	2.36	155
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	536	330	100	2800	325	2.95	235
Waitetuna River at Te Uku-Waingaro Rd	12	634	495	130	2000	670	1.54	395
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	21	21	5	32	12	-0.59	20
Kuratau River at SH41 Moerangi	12	41	18	5	120	71	0.90	10
Kuratau River at Te Rae Street	12	95	79	10	300	113	1.27	34
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	209	140	10	700	195	1.58	60
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	28	14	7	140	20	3.01	20
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	13	8	1	40	20	1.11	3
Tokaanu Stm at Off SH41 Turangi	12	19	10	2	70	23	1.71	10
Waihaha River at SH32	12	22	14	3	60	25	1.14	11
Waitahanui River at Blake Rd	12	29	19	4	130	25	2.57	20
Whangamata Stm (Kinloch) at Whangamata Rd	12	70	70	22	120	56	0.05	80
Whanganui Stm at Lakeside Lake Taupo	11	138	80	10	510	175	1.85	30
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	259	190	5	1200	180	2.88	110

IQR = Inter quartile range. - less than five-year record available.

Enterococci (/100ml)								
Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	309	130	5	1100	385	1.46	165
Kauaeranga River at Smiths Cableway/Recorder	12	253	38	5	1800	223	3.02	90
Ohinemuri River at Karangahake	12	116	80	4	290	193	0.41	-
Ohinemuri River at Queens Head	12	107	70	5	320	128	1.20	24
Ohinemuri River at SH25 Br	12	118	28	1	400	230	1.19	42
Tairua River at Morrisons Br Hikuai	12	102	70	5	340	136	1.13	47
Tapu River at Tapu-Coroglen Rd	12	268	95	38	1500	259	2.84	99
Waiau River at E309 Rd Ford	12	578	155	7	5000	320	3.38	140
Waitekauri River at U/S Ohinemuri Conflu	12	71	34	2	280	77	1.67	36
Waiwawa River at SH25 Coroglen	12	328	65	5	2900	185	3.39	80
Wharekawa River at SH25	12	211	160	10	700	255	1.34	115
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	714	185	30	5400	310	3.10	70
Oraka Stm at Lake Rd	12	498	340	70	1200	600	1.00	285
Piako River at Kiwitahi	12	1992	1950	62	4000	2500	0.26	180
Piako River at Paeroa-Tahuna Rd Br	12	3858	1850	140	17000	3705	1.88	400
Piakonui Stm at Piakonui Rd	12	790	185	14	4200	1005	2.19	110
Waihou River at Okauia	12	433	300	55	1600	325	1.83	215
Waihou River at Te Aroha	12	1152	565	80	3300	2030	0.92	-
Waihou River at Whites Rd	12	66	50	5	170	86	0.68	29
Waiohotu Stm at Waiohotu Rd (Off SH5)	12	233	35	5	900	495	1.20	21
Waiomou Stm at Matamata-Tauranga Rd	12	317	355	60	590	435	-0.05	300
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	345	170	50	1700	360	2.66	145
Waitoa River at Landsdowne Rd Br	12	1213	850	160	3000	1665	0.67	350
Waitoa River at Mellon Rd Recorder	12	1633	560	130	5300	1870	1.39	305
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otatau Rd Br opp Moseley Rd	12	8843	200	10	93000	1479	3.41	90
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	308	130	5	1300	418	1.68	110
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	2119	500	48	16000	1330	3.14	185
Kirikiri Stm at Tauhara Dr	12	5771	400	60	58000	1210	3.41	415
Komakorau Stm at Henry Rd	12	2817	420	1	19000	2020	2.70	410
Little Waipa Stm at Arapuni - Putaruru Rd	12	223	185	30	550	175	1.00	150
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	12	3759	1750	50	23000	3020	2.98	625
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	587	400	130	1500	755	0.92	370
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	4830	740	80	43000	1335	3.28	500
Mangaonua Stm at Hoeka Rd	12	2810	1650	270	12000	2435	2.14	590
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	3981	1000	26	32000	2220	3.26	340
Mangatangi River at SH2 Maramarua	12	464	250	40	1700	360	1.76	155
Mangatawhiri River at Lyons Rd At Buckingham Br	12	472	165	10	3500	368	3.22	95
Mangawara Stm at Rutherford Rd Br	12	5983	1450	220	56000	1870	3.44	925
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	1132	720	120	4700	1135	2.43	515
Matahuru Stm at Waiterimu Road Below Confluence	12	5843	1020	80	55000	1920	3.38	245
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	35	20	10	90	40	1.90	-
Ohaeroa Stm at SH22 Br	12	835	240	20	3700	1145	1.72	195
Opuatia Stm at Ponganui Rd	12	554	185	20	2200	795	1.54	155
Pokaiwhenua Stm at Puketurua	12	658	255	30	3200	255	2.12	175
Waahi Stm at Te Ohaki Rd	4	26	25	5	50	38	0.13	-
Waerenga Stm at Taniwha Rd	12	1161	345	40	8800	785	3.18	170
Waitawhiriwhiri Stm at Edgumbe Street	12	4623	755	340	41000	2075	3.39	605
Whakapipi Stm at SH22 Br	12	1039	735	55	3700	965	1.70	495
Whakauru Stm at U/S SH1 Br	12	806	475	20	3900	765	2.64	505
Whangamarino River at Island Block Rd	12	379	100	10	2000	357	2.18	53
Whangamarino River at Jefferies Rd Br	12	1533	1120	150	6000	1860	2.01	450
Whangape Stm at Rangiriri-Glen Murray Rd	12	143	35	5	900	125	2.71	40

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	215	205	50	400	310	0.08	-
Kaniwhaniwha Stm at Wright Rd	12	683	295	5	2500	1121	1.29	225
Mangaohoi Stm at South Branch Maru Rd	12	152	140	1	330	283	0.04	43
Mangaokewa Stm at Lawrence Street Br	12	3649	415	34	26000	920	2.48	260
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	1803	450	130	15000	1105	3.37	230
Mangapu River at Otorohanga	12	696	340	48	4700	455	3.28	190
Mangarama at Gadsby Rd	4	103	110	30	160	95	-0.48	-
Mangarapa Stm at Otorohanga Rd	4	518	350	70	1300	645	1.62	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	513	160	5	4200	275	3.37	125
Mangauika Stm at Te Awamutu Borough W/S Intake	12	171	22	1	1100	235	2.63	17
Moakurua Stm at Warratah Farm Bridge	4	189	73	30	580	313	1.89	-
Ohote Stm at Whatawhata/Horotiu Rd	12	668	335	50	2800	905	1.99	135
Puniu River at Bartons Corner Rd Br	12	661	170	56	4500	280	2.91	125
Puniu River at Wharepapa Rd Bridge	4	123	95	60	240	105	1.63	-
Waipa River at Mangaokewa Rd	12	159	120	5	480	226	1.06	41
Waipa River at Ngaruawahia Br	4	120	45	30	360	166	1.99	-
Waipa River at Pukehoua Bridge on Baffin Road	12	1129	185	5	5500	870	1.90	-
Waipa River at SH3 Otorohanga	12	381	185	25	1400	305	1.76	100
Waitomo Stm at SH31 Otorohanga	12	710	380	50	3100	680	2.01	190
Waitomo Stm at Tumutumu Rd	12	258	160	5	800	410	0.94	99
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	882	290	20	4100	1205	1.92	205
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	233	240	20	700	240	1.11	205
Mangakara Stm (Reporoa) at SH5	12	590	355	20	3600	539	3.10	180
Mangakino Stm (Whakamaru) at Sandel Rd	12	197	41	4	1600	131	3.26	30
Otamakokore Stm at Hossack Rd	12	217	185	5	420	265	0.06	165
Pueto Stm at Broadlands Rd Br	12	59	35	5	160	95	0.83	23
Tahunaatara Stm at Ohakuri Rd	12	248	160	20	1400	155	3.04	115
Torepatutahi Stm at Vaile Rd Br	12	175	120	20	510	190	1.24	70
Waiotapu Stm at Campbell Rd Br	12	8	5	1	20	7	1.10	6
Waiotapu Stm at Homestead Rd Br	12	222	180	30	800	160	1.92	100
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	123	78	5	380	130	1.43	76
Whirinaki Stm at Corbett Rd	12	138	76	5	700	157	2.55	29
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	107	39	5	800	52	3.23	37
Awakino River at SH3 Awakau Rd Junction	12	139	65	5	530	184	1.48	50
Manganui River at Off Manganui Rd	12	169	85	6	700	246	1.63	40
Mangaotaki River at SH3 Br	12	733	230	5	3000	1265	1.42	135
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	160	105	10	400	285	0.43	43
Mokau River at Awakau Rd	12	380	40	10	2200	410	2.27	44
Mokau River at Mangaokewa Rd (Off SH30)	12	788	230	24	3000	1260	1.40	72
Mokau River at Totoro Rd Recorder	12	385	110	5	1400	580	1.29	70
Mokauti Stm at Three Way Point - Aria	12	322	310	19	1100	385	1.45	100
Ohautira Stm at Waingaro Te Uku Rd	12	506	110	10	2700	602	2.19	145
Oparau River at Langdon Rd (Off Okupata Rd)	12	399	66	5	3300	220	3.21	48
Tawarau River at Off Speedies Rd	12	174	85	8	500	286	0.89	42
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	484	185	20	3500	370	3.22	75
Waitetuna River at Te Uku-Waingaro Rd	12	495	240	24	2200	585	2.20	210
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	20	5	1	90	23	1.94	10
Kuratau River at SH41 Moerangi	12	19	6	1	70	34	1.30	4
Kuratau River at Te Rae Street	12	80	45	3	310	115	1.45	27
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	178	143	5	560	243	0.89	95
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	17	15	1	48	23	0.59	9
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	6	3	1	39	3	3.30	3
Tokaanu Stm at Off SH41 Turangi	12	23	13	1	70	40	0.92	7
Waihaha River at SH32	12	15	15	1	40	18	0.68	5
Waitahanui River at Blake Rd	12	13	8	1	34	21	0.65	11
Whangamata Stm (Kinloch) at Whangamata Rd	12	167	135	26	400	195	0.60	135
Whanganui Stm at Lakeside Lake Taupo	11	133	55	4	390	285	0.90	20
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	300	110	5	1200	532	1.44	64

IQR = Inter quartile range. - less than five-year record available.

Water Temperature (°C)								
Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Coromandel</b>								
Hikutaia River at Old Maratoto Rd	12	14.0	13.2	8.7	19.4	5.0	0.30	13.6
Kauaeranga River at Smiths Cableway/Recorder	12	14.4	13.8	8.9	20.3	4.6	0.40	15.0
Ohinemuri River at Karangahake	12	15.7	15.5	10.6	20.7	4.6	-0.02	-
Ohinemuri River at Queens Head	12	16.1	15.8	11.3	21.7	4.2	0.17	16.3
Ohinemuri River at SH25 Br	12	15.6	15.4	10.8	19.8	3.5	-0.15	16.0
Tairua River at Morrisons Br Hikuai	12	15.6	15.3	11.0	20.4	4.5	0.10	16.1
Tapu River at Tapu-Coroglen Rd	12	14.1	13.6	9.1	19.8	4.5	0.44	14.2
Waiau River at E309 Rd Ford	12	14.2	13.5	9.5	19.8	4.2	0.61	14.2
Waitekauri River at U/S Ohinemuri Conflu	12	15.1	14.9	10.4	19.4	4.1	-0.03	15.1
Waiwawa River at SH25 Coroglen	12	15.3	14.8	10.4	20.7	4.4	0.15	15.1
Wharekawa River at SH25	12	15.4	14.9	10.9	20.1	5.2	0.25	15.6
<b>Hauraki</b>								
Mangawhero Stm (Kaihere) at Mangawara Rd	10	15.1	13.5	12.2	19.8	5.5	0.68	14.0
Oraka Stm at Lake Rd	12	14.4	14.3	10.5	18.8	4.6	0.13	14.2
Piako River at KIWITAHİ	12	15.9	16.0	10.4	22.7	6.1	0.38	15.8
Piako River at Paeroa-Tahuna Rd Br	12	15.5	15.5	9.6	23.0	6.0	0.46	15.7
Piakonui Stm at Piakonui Rd	12	13.5	12.8	9.8	18.8	3.2	0.83	13.2
Waihou River at Okauia	12	13.8	13.7	10.6	18.6	3.6	0.34	14.0
Waihou River at Te Aroha	12	14.8	14.6	11.2	20.1	4.5	0.47	-
Waihou River at Whites Rd	12	13.1	13.1	11.8	14.6	1.1	0.33	13.2
Waihotu Stm at Waihotu Rd (Off SH5)	12	11.7	12.0	7.7	17.0	4.7	0.20	11.8
Waiomou Stm at Matamata-Tauranga Rd	12	13.4	13.4	9.5	19.8	4.4	0.62	13.7
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	17.0	16.4	11.3	24.3	6.1	0.48	16.2
Waitoa River at Landsdowne Rd Br	12	15.3	15.6	10.5	22.8	5.4	0.52	15.7
Waitoa River at Mellon Rd Recorder	12	15.7	15.8	11.1	22.5	5.4	0.45	16.0
<b>Tributaries to the Lower Waikato</b>								
Awaroa River (Waiuku) at Otau Rd Br opp Moseley Rd	12	17.9	17.6	12.3	23.9	5.3	0.10	17.3
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	12	15.9	16.3	10.8	21.5	6.5	0.11	15.1
Karapiro Stm at Hickey Rd Bridge - Cambridge	12	15.3	15.0	10.3	21.8	4.6	0.40	15.5
Kirikiri Stm at Tauhara Dr	12	16.0	15.6	12.1	22.5	5.2	0.56	15.4
Komakorau Stm at Henry Rd	12	16.4	16.7	11.4	21.6	5.9	0.13	15.2
Little Waipa Stm at Arapuni - Putaruru Rd	12	14.0	14.2	10.9	17.3	3.1	0.01	14.3
Mangakotukutuku Stm (Rukuhia) at Peacockes Rd	12	15.5	15.5	10.5	22.1	4.7	0.36	15.9
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	14.0	14.3	9.3	19.9	4.2	0.25	13.9
Mangaone Stm (Waikato) at Annebrooke Rd Br	11	15.0	14.9	11.0	21.9	6.1	0.56	14.2
Mangaonua Stm at Hoeka Rd	12	14.9	15.3	10.6	21.8	4.4	0.70	14.6
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	14.7	14.4	10.0	20.3	4.3	0.37	14.3
Mangatangi River at SH2 Maramarua	12	17.5	16.9	12.2	24.8	6.2	0.45	16.7
Mangatawhiri River at Lyons Rd At Buckingham Br	12	17.3	16.4	12.0	25.1	6.6	0.55	16.6
Mangawara Stm at Rutherford Rd Br	12	16.4	16.4	11.5	22.2	6.3	0.34	15.5
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	12	14.9	14.8	10.9	21.5	3.8	0.80	14.6
Matahuru Stm at Waiterimu Road Below Confluence	12	16.4	16.4	11.7	22.7	6.3	0.39	15.5
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4	17.7	17.1	15.7	21.0	3.8	0.99	-
Ohaeroa Stm at SH22 Br	12	15.5	14.9	11.1	21.4	4.9	0.60	14.6
Opuatia Stm at Ponganui Rd	12	16.1	15.5	11.5	22.2	5.3	0.46	14.9
Pokaiwhenua Stm at Puketurua	12	13.9	13.9	10.0	18.9	3.8	0.17	14.0
Waahi Stm at Te Ohaki Rd	4	18.7	19.0	14.7	22.1	6.6	-0.11	-
Waerenga Stm at Taniwha Rd	12	15.8	15.0	10.8	22.4	5.7	0.49	14.6
Waitawhiriwhiri Stm at Edgumbe Street	12	16.7	16.7	11.2	22.5	5.6	0.04	16.9
Whakapipi Stm at SH22 Br	12	16.7	16.4	12.4	22.9	5.0	0.48	15.8
Whakauru Stm at U/S SH1 Br	12	12.7	13.2	8.6	17.8	4.3	0.08	12.5
Whangamarino River at Island Block Rd	12	18.3	18.0	11.6	27.0	7.9	0.38	17.7
Whangamarino River at Jefferies Rd Br	12	16.1	15.5	10.9	22.7	5.4	0.50	15.2
Whangape Stm at Rangiriri-Glen Murray Rd	12	17.4	16.7	11.5	24.6	6.1	0.36	16.4

IQR = Inter quartile range. - less than five-year record available.

Location	Count	Mean	Median	Min	Max	IQR	Skew	14-18 median
<b>Waipa River and Tributaries</b>								
Firewood Creek at Waingaro Road Bridge	4	12.5	12.3	6.4	19.0	7.1	0.25	-
Kaniwhaniwha Stm at Wright Rd	12	15.7	15.9	10.5	21.7	7.6	0.05	14.9
Mangaohoi Stm at South Branch Maru Rd	12	14.1	14.2	10.1	19.3	4.7	0.18	14.1
Mangaokewa Stm at Lawrence Street Br	12	14.0	13.3	10.5	19.6	5.0	0.66	13.7
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	17.9	18.5	11.1	25.5	7.7	0.15	17.2
Mangapu River at Otorohanga	12	15.7	14.7	11.4	22.3	5.8	0.56	14.9
Mangarama at Gadsby Rd	4	15.6	14.7	13.2	19.7	4.1	1.40	-
Mangarapa Stm at Otorohanga Rd	4	16.1	15.2	13.5	20.4	4.2	1.42	-
Mangatutu Stm (Waikeria) at Walker Rd Br	12	15.1	15.3	9.7	19.8	5.6	-0.16	14.1
Mangauika Stm at Te Awamutu Borough W/S Intake	12	12.9	12.9	10.2	16.9	4.0	0.35	12.6
Moakurua Stm at Warratah Farm Bridge	4	14.2	13.5	12.7	17.1	2.9	1.41	-
Ohote Stm at Whatawhata/Horotiu Rd	12	16.3	16.1	11.3	23.0	7.3	0.26	16.3
Puniu River at Bartons Corner Rd Br	12	16.1	16.2	10.5	21.6	6.2	0.05	15.0
Puniu River at Wharepapa Rd Bridge	4	16.5	16.7	13.0	19.5	3.5	-0.44	-
Waipa River at Mangaokewa Rd	12	13.4	13.1	9.2	19.2	4.6	0.36	12.8
Waipa River at Ngaruawahia Br	4	16.6	16.8	13.0	19.7	4.9	-0.26	-
Waipa River at Pukehoua Bridge on Baffin Road	12	15.7	15.4	10.9	21.9	5.8	0.29	-
Waipa River at SH3 Otorohanga	12	15.6	14.3	10.9	23.2	6.1	0.71	14.5
Waitomo Stm at SH31 Otorohanga	12	15.5	15.2	10.9	19.3	5.0	-0.19	15.0
Waitomo Stm at Tumutumu Rd	12	14.2	14.2	10.8	17.6	4.0	0.18	13.9
<b>Tributaries to the Upper Waikato</b>								
Kawaunui Stm at SH5 Br	12	15.3	15.1	10.5	19.6	3.8	-0.15	14.7
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	13.3	13.9	9.6	17.2	3.7	-0.18	13.6
Mangakara Stm (Reporoa) at SH5	12	13.5	13.6	9.4	17.8	3.5	0.02	13.4
Mangakino Stm (Whakamaru) at Sandel Rd	12	12.2	12.6	7.8	17.4	4.1	0.09	12.0
Otamakokore Stm at Hossack Rd	12	20.2	20.0	15.7	25.5	4.5	0.17	20.8
Pueto Stm at Broadlands Rd Br	12	13.6	13.5	10.7	16.7	3.2	0.08	13.7
Tahunaatara Stm at Ohakuri Rd	12	13.6	13.8	9.0	19.5	4.7	0.20	13.3
Torepatutahi Stm at Vaile Rd Br	12	14.4	14.4	9.9	19.1	3.7	0.01	14.1
Waiotapu Stm at Campbell Rd Br	12	27.1	26.7	22.5	32.4	4.4	0.15	27.8
Waiotapu Stm at Homestead Rd Br	12	18.4	18.2	13.4	25.2	4.9	0.31	18.5
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	21.7	21.9	18.0	25.7	3.7	-0.21	22.5
Whirinaki Stm at Corbett Rd	12	12.7	12.5	10.0	15.3	2.2	0.03	12.3
<b>West Coast</b>								
Awakino River at Gribbon Rd	12	13.5	12.9	9.9	17.5	3.9	0.39	12.9
Awakino River at SH3 Awakau Rd Junction	12	14.9	14.0	10.5	21.0	5.6	0.36	14.0
Manganui River at Off Manganui Rd	12	14.4	13.6	10.0	20.8	4.9	0.54	13.6
Mangaotaki River at SH3 Br	12	14.0	13.2	10.2	19.5	5.0	0.52	13.6
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	14.3	14.2	10.4	19.5	5.0	0.40	13.8
Mokau River at Awakau Rd	12	15.5	14.9	10.8	22.5	6.5	0.43	14.6
Mokau River at Mangaokewa Rd (Off SH30)	12	13.1	12.3	9.7	18.3	4.9	0.60	12.4
Mokau River at Totoro Rd Recorder	12	15.2	14.6	10.8	21.4	6.1	0.40	14.4
Mokauti Stm at Three Way Point - Aria	12	15.5	14.5	10.7	22.8	6.7	0.53	14.4
Ohautira Stm at Waingaro Te Uku Rd	12	14.9	15.4	10.4	21.1	6.1	0.31	13.4
Oparau River at Langdon Rd (Off Okupata Rd)	12	14.8	14.6	10.5	21.2	6.4	0.42	14.3
Tawarau River at Off Speedies Rd	12	14.3	14.3	10.5	19.4	5.0	0.34	13.7
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	16.7	17.5	11.3	23.8	7.3	0.14	15.1
Waitetuna River at Te Uku-Waingaro Rd	12	15.5	16.0	10.6	21.5	6.7	0.13	14.4
<b>Inflows to Lake Taupo</b>								
Hinemaiaia River at SH1	12	11.8	11.8	6.7	17.3	4.1	0.05	11.6
Kuratau River at SH41 Moerangi	12	10.1	10.3	6.7	14.0	3.5	0.04	9.9
Kuratau River at Te Rae Street	12	13.5	13.3	7.6	21.3	6.0	0.35	13.2
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	11.3	11.7	8.9	13.4	2.3	-0.44	11.1
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	11.1	11.4	5.3	16.9	4.3	-0.12	10.6
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	12.9	13.5	7.1	19.1	7.2	-0.07	12.7
Tokaanu Stm at Off SH41 Turangi	12	12.2	12.0	11.2	13.5	1.6	0.27	12.0
Waihaha River at SH32	12	11.3	11.6	6.7	16.4	3.9	0.06	11.3
Waitahanui River at Blake Rd	12	10.8	11.1	8.4	12.5	1.8	-0.71	10.7
Whangamata Stm (Kinloch) at Whangamata Rd	12	10.5	10.9	7.6	12.0	2.0	-0.86	10.3
Whanganui Stm at Lakeside Lake Taupo	11	11.6	10.9	7.0	17.6	4.6	0.31	11.3
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	11.4	11.7	6.8	15.7	3.6	-0.25	11.2

IQR = Inter quartile range. - less than five-year record available.



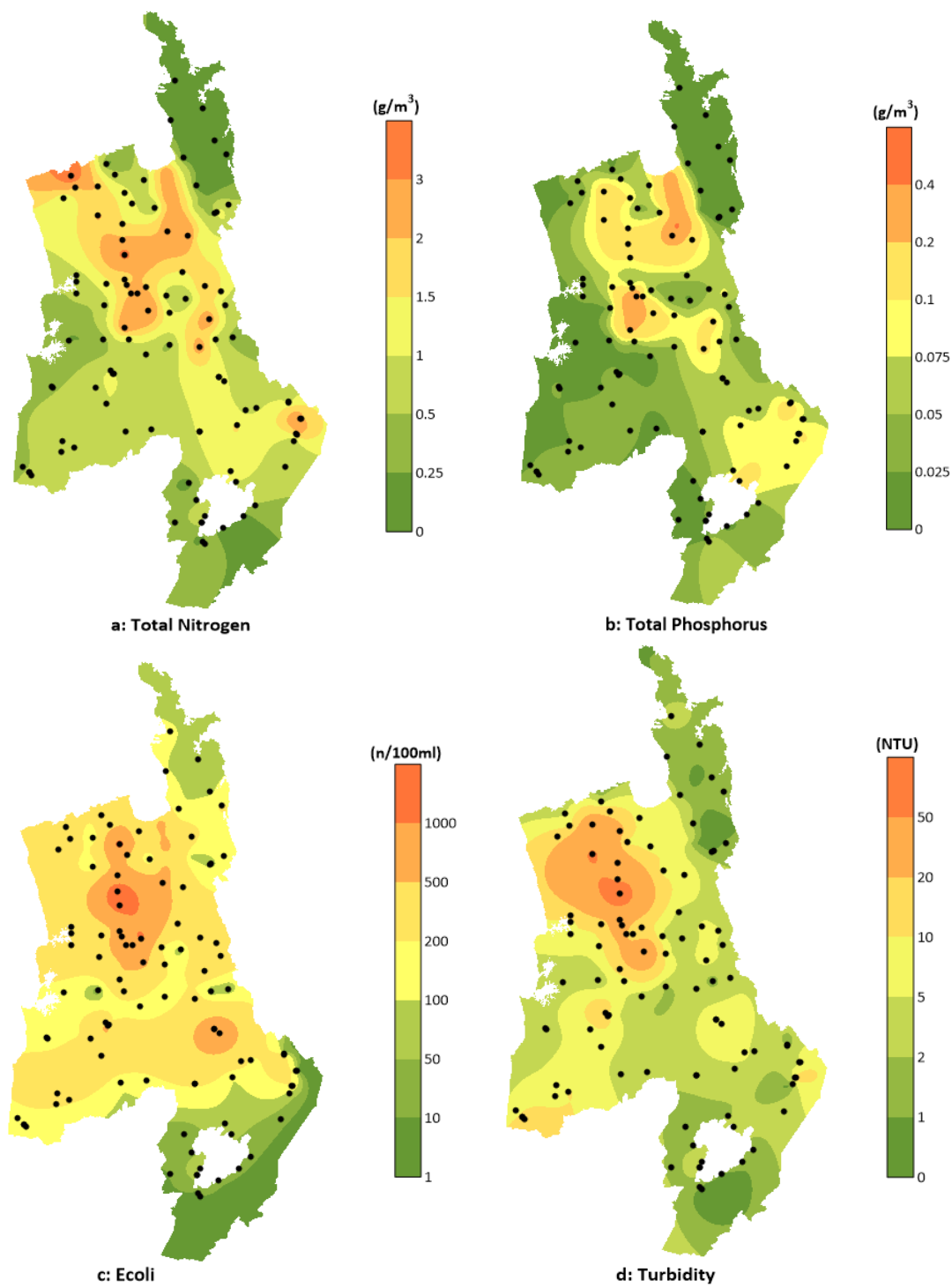


Figure 2: Spatial contour plots of four water quality parameters (based on 5 year median values, 2014-2018); a: Total Nitrogen, b: Total Phosphorus, c: *Escherichia coli*, d: Turbidity.

## **3.2 Regional rivers monitoring programme comparison with water quality guidelines and standards**

**Table 4: Number of samples (2018) complying with the "satisfactory" and "excellent" water quality guidelines and standards.**

Location	SATISFACTORY										EXCELLENT										
	ECOLOGICAL HEALTH					RECREATION					ECOLOGICAL HEALTH					RECREATION					
	DO	pH	Turb	NH <sub>4</sub> N	Temp	TP	TN	BDisk	<i>E coli</i>	Median <i>E coli</i>	DO	pH	Turb	NH <sub>4</sub> N	Temp	TP	TN	BDisk	<i>E coli</i>	Median <i>E coli</i>	
<b>Coromandel</b>																					
Hikutaia River at Old Maratoto Rd	12	12	10	12	10	12	11	11	9	N	12	10	6	12	5	7	2	4	0	N	
Kauaeranga River at Smiths Cableway/Recorder	12	12	11	12	8	12	12	10	12	Y	12	12	9	12	5	10	6	5	3	N	
Ohinemuri River at Karangahake	12	12	9	12	8	10	1	8	10	Y	12	10	7	11	2	4	0	3	4	N	
Ohinemuri River at Queens Head	12	12	9	12	7	10	0	9	10	N	12	7	7	4	2	3	0	2	1	N	
Ohinemuri River at SH25 Br	12	11	11	12	8	11	1	11	10	N	12	8	9	12	2	2	0	2	3	N	
Tairua River at Morrisons Br Hikuai	12	12	12	12	8	12	12	-	11	Y	12	10	9	12	3	10	3	-	4	N	
Tapu River at Tapu-Coroglen Rd	12	12	11	12	10	12	12	10	12	N	12	12	5	12	5	10	7	5	0	N	
Waiau River at E309 Rd Ford	12	12	8	12	9	12	12	7	10	N	12	11	3	12	4	6	2	0	2	N	
Waitekauri River at U/S Ohinemuri Conflu	12	12	12	12	9	12	12	12	12	N	12	9	9	12	3	8	0	4	2	N	
Waiwawa River at SH25 Coroglen	12	12	10	12	8	12	12	8	10	N	12	11	6	12	3	10	3	3	4	N	
Wharekawa River at SH25	12	12	12	12	7	12	12	10	11	N	12	9	5	12	3	10	1	2	3	N	
<b>Hauraki</b>																					
Mangawhero Stm (Kaihere) at Mangawara Rd	10 <sup>2</sup>	10 <sup>2</sup>	0 <sup>2</sup>	10 <sup>2</sup>	5 <sup>2</sup>	0 <sup>2</sup>	4 <sup>2</sup>	0 <sup>2</sup>	9 <sup>2</sup>	Y <sup>2</sup>	10 <sup>2</sup>	10 <sup>2</sup>	0 <sup>2</sup>	10 <sup>2</sup>	2 <sup>2</sup>	0 <sup>2</sup>	0 <sup>2</sup>	0 <sup>2</sup>	2 <sup>2</sup>	N <sup>2</sup>	
Oraka Stm at Lake Rd	12	12	5	12	10	0	0	0	7	N	9	12	0	7	4	0	0	0	0	N	
Piako River at Kiwitahi	10	12	3	12	8	0	2	1	1	N	3	9	0	11	1	0	0	0	0	N	
Piako River at Paeroa-Tahuna Rd Br	10	12	0	12	9	0	0	0 <sup>1</sup>	3	N	1	9	0	9	2	0	0	0 <sup>1</sup>	0	N	
Piakonui Stm at Piakonui Rd	12	12	4	12	11	11	5	1	9	N	12	11	0	11	6	0	0	0	4	N	
Waihou River at Okauia	12	12	6	12	10	0	0	0	9	N	11	12	1	12	5	0	0	0	0	N	
Waihou River at Te Aroha	10 <sup>1</sup>	12	1	12	9	0	0	1	5	N	3 <sup>1</sup>	11	0	11	2	0	0	0	0	N	
Waihou River at Whites Rd	12	12	12	12	8	0	0	11	12	Y	12	9	11	12	7	0	0	9	4	N	
Waihotu Stm at Waihotu Rd (Off SH5)	12	12	4	12	11	12	12	-	12	Y	11	12	0	12	10	0	0	-	7	N	
Waiomou Stm at Matamata-Tauranga Rd	12	12	8	12	11	9	0	2	7	N	12	9	2	12	7	0	0	0	0	N	
Waitakaruru River (Hauraki Plains) at Coxhead Rd Br	12	12	2	12	5	1	5	2	10	N	6	8	0	12	2	0	0	0	0	N	
Waitoa River at Landsdowne Rd Br	11	12	2	12	9	2	0	1	2	N	6	9	0	11	1	0	0	0	0	N	
Waitoa River at Mellon Rd Recorder	1	12	0	12	7	0	0	0	4	N	0	10	0	4	1	0	0	0	0	N	
<b>Tributaries to the Upper Waikato</b>																					
Kawaunui Stm at SH5 Br	12	12	9	12	9	0	0	0	10	N	0	10	0	12	2	0	0	0	1	N	
Mangaharakeke Stm (Atiamuri) at SH30 (Off Jct SH1)	12	12	0	12	10	0	0	0 <sup>1</sup>	9	N	12	11	0	12	8	0	0	0 <sup>1</sup>	0	N	
Mangakara Stm (Reporoa) at SH5	12	12	2	12	11	0	0	0	9	N	10	11	0	12	7	0	0	0	0	N	
Mangakino Stm (Whakamaru) at Sandel Rd	12	12	11	12	12	0	0	9	11	Y	12	12	7	12	9	0	0	0	5	N	
Otamakokore Stm at Hossack Rd	11	12	12	12	1	0	0	1	9	N	10	10	0	12	0	0	0	0	0	N	
Pueto Stm at Broadlands Rd Br	12	12	11	12	9	0	0	5	12	Y	12	12	0	12	5	0	0	0	11	N	
Tahunaatara Stm at Ohakuri Rd	12	12	8	12	11	0	0	0	10	N	12	12	0	12	7	0	0	0	0	N	
Torepatutahi Stm at Vaile Rd Br	12	12	12	12	9	0	0	-	12	N	9	12	10	12	3	0	0	-	1	N	
Waiotapu Stm at Campbell Rd Br	12	0	0	12	0	0	0	0	12	Y	1	0	0	0	0	0	0	0	11	Y	
Waiotapu Stm at Homestead Rd Br	12	12	0	12	2	0	0	-	9	N	3	4	0	0	0	0	0	-	0	N	
Waipapa Stm (Mokai) at Tirohanga Rd Br	12	12	9	12	0	0	0	1	12	Y	12	12	1	12	0	0	0	0	1	N	
Whirinaki Stm at Corbett Rd	12	12	12	12	11	0	0	-	12	Y	12	12	12	12	7	0	0	-	7	N	

Waipa River and Tributaries																					
Firewood Creek at Waingaro Road Bridge	4 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	4 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	3 <sup>8</sup>	N <sup>8</sup>	2 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	2 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	N <sup>8</sup>	
Kaniwhaniwha Stm at Wright Rd	12	12	0	12	8	4	5	0 <sup>2</sup>	5	N	4	11	0	12	1	0	0	0 <sup>2</sup>	0	N	
Mangaohoi Stm at South Branch Maru Rd	12	12	11	12	11	4	10	6	10	Y	12	12	8	12	4	0	0	0	6	N	
Mangaokewa Stm at Lawrence Street Br	12	12	2	12	10	3	0	0	5	N	11	11	0	11	3	0	0	0	0	N	
Mangapiko Stm (Pirongia/Te Awamutu) at Bowman Rd	12	12	0	12	5	0	0	0	4	N	6	9	0	7	1	0	0	0	0	N	
Mangapu River at Otorohanga	12	12	0	12	8	1	0	0 <sup>1</sup>	4	N	7	12	0	12	3	0	0	0 <sup>1</sup>	0	N	
Mangarama at Gadsby Rd	4 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	3 <sup>8</sup>	2 <sup>8</sup>	0 <sup>8</sup>	-	2 <sup>8</sup>	N <sup>8</sup>	4 <sup>8</sup>	2 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	2 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	-	0 <sup>8</sup>	N <sup>8</sup>	
Mangarapa Stm at Otorohanga Rd	4 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	2 <sup>8</sup>	1 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	2 <sup>8</sup>	N <sup>8</sup>	4 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	3 <sup>8</sup>	2 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	N <sup>8</sup>	
Mangatutu Stm (Waikeria) at Walker Rd Br	12	12	5	12	10	8	4	3	9	N	12	11	2	12	3	0	0	0	0	N	
Mangauika Stm at Te Awamutu Borough W/S Intake	12	12	12	12	10	12	12	11	12	Y	12	11	7	12	5	7	4	8	7	N	
Moakururu Stm at Warratah Farm Bridge	4 <sup>8</sup>	4 <sup>8</sup>	1 <sup>8</sup>	4 <sup>8</sup>	3 <sup>8</sup>	2 <sup>8</sup>	2 <sup>8</sup>	0 <sup>8</sup>	2 <sup>8</sup>	N <sup>8</sup>	4 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	2 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	N <sup>8</sup>	
Ohote Stm at Whatawhata/Horotiu Rd	0	11	0	12	6	0	0	0	4	N	0	5	0	10	1	0	0	0	0	N	
Puniu River at Bartons Corner Rd Br	12	12	1	12	7	1	0	1	7	N	9	8	0	11	1	0	0	0	0	N	
Puniu River at Wharepapa Rd Bridge	4 <sup>8</sup>	4 <sup>8</sup>	3 <sup>8</sup>	4 <sup>8</sup>	3 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	1 <sup>8</sup>	2 <sup>8</sup>	N <sup>8</sup>	4 <sup>8</sup>	4 <sup>8</sup>	1 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	N <sup>8</sup>	
Waipa River at Mangaokewa Rd	12	12	12	12	10	11	6	5	10	N	12	12	4	12	7	0	0	0	1	N	
Waipa River at Ngaruawahia Br	4 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	3 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	N <sup>8</sup>	1 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	1 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	N <sup>8</sup>	
Waipa River at Pukehoua Bridge on Baffin Road	11 <sup>1</sup>	12	0	12	7	1	0	0	7	N	7 <sup>1</sup>	11	0	11	2	0	0	0	0	N	
Waipa River at SH3 Otorohanga	12	12	5	12	8	8	3	2	9	N	12	10	1	12	3	0	0	0	0	N	
Waitomo Stm at SH31 Otorohanga	12	12	0	12	9	4	0	0	5	N	12	12	0	12	3	0	0	0	0	N	
Waitomo Stm at Tumutumu Rd	12	12	4	12	9	9	0	3	8	N	12	11	0	12	3	0	0	0	1	N	

Tributaries to the Lower Waikato																					
Awaroa River (Waiuku) at Otatau Rd Br opp Moseley Rd	4	12	0	12	4	1	0	0	5	N	1	10	0	8	1	0	0	0	0	N	
Awaroa Stm (Rotowaro) at Sansons Br @ Rotowaro-Huntly Rd	9	12	4	12	6	12	1	1	9	N	4	10	0	12	1	3	0	0	0	N	
Karapiro Stm at Hickey Rd Bridge - Cambridge	11	12	2	12	8	0	0	0	4	N	8	10	0	9	1	0	0	0	0	N	
Kirikiri Stm at Tauhara Dr	4	12	0	12	6	1	0	0	4	N	0	6	0	4	1	0	0	0	0	N	
Komakorau Stm at Henry Rd	0	10	0	10	5	0	0	0	3	N	0	1	0	0	1	0	0	0	0	N	
Little Waipa Stm at Arapuni - Putaruru Rd	12	12	10	12	9	0	0	6	10	N	12	9	7	12	5	0	0	0	0	N	
Mangakotukutuku Stm (Rukuhia) at Peacocks Rd	11	11	0	12	8	0	0	0	2	N	5	6	0	2	1	0	0	0	0	N	
Mangamingi Stm (Tokoroa) at Paraonui Rd Br	12	12	2	12	10	0	0	0	5	N	12	12	0	1	6	0	0	0	0	N	
Mangaone Stm (Waikato) at Annebrooke Rd Br	3 <sup>1</sup>	11 <sup>1</sup>	0 <sup>1</sup>	11 <sup>1</sup>	8 <sup>1</sup>	0 <sup>1</sup>	0 <sup>1</sup>	0 <sup>1</sup>	4 <sup>1</sup>	N <sup>1</sup>	0 <sup>1</sup>	11 <sup>1</sup>	0 <sup>1</sup>	11 <sup>1</sup>	2 <sup>1</sup>	0 <sup>1</sup>	0 <sup>1</sup>	0 <sup>1</sup>	0 <sup>1</sup>	N <sup>1</sup>	
Mangaonua Stm at Hoeka Rd	10	12	0	12	8	0	0	0	1	N	0	8	0	6	4	0	0	0	0	N	
Mangaonua Stm at Te Miro Rd (a.k.a Waitakaruru stm)	12	12	4	12	9	5	1	0	6	N	12	12	0	12	2	0	0	0	1	N	
Mangatangi River at SH2 Maramarua	10	12	0	12	3	0	4	0	6	N	4	10	0	11	1	0	0	0	0	N	
Mangatawhiri River at Lyons Rd At Buckingham Br	12	12	7	12	3	11	10	6	9	N	12	11	2	12	2	0	0	0	0	N	
Mangawara Stm at Rutherford Rd Br	0	11	0	12	5	0	0	0	2	N	0	1	0	0	1	0	0	0	0	N	
Mangawhero Stm (Cambridge) at Cambridge-Ohaupo Rd	11	11	0	12	7	0	0	0	2	N	3	8	0	3	3	0	0	0	0	N	
Matahuru Stm at Waiterimu Road Below Confluence	10	12	0	12	7	0	0	-	2	N	2	9	0	10	1	0	0	-	0	N	
Northern Outlet Canal (a.k.a.Pungarehu Canal) at D/S of Ctrl Gate	4 <sup>8</sup>	3 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	2 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	3 <sup>8</sup>	Y <sup>8</sup>	3 <sup>8</sup>	2 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	3 <sup>8</sup>	Y <sup>8</sup>	
Ohaeroa Stm at SH22 Br	12	12	3	12	7	7	0	2 <sup>1</sup>	7	N	12	12	0	12	2	0	0	0 <sup>1</sup>	0	N	
Opuatia Stm at Ponganui Rd	12	12	0	12	7	6	0	0	5	N	12	12	0	12	2	0	0	0	0	N	
Pokaiwhenua Stm at Puketuru	12	12	5	12	10	0	0	1	6	N	12	11	0	12	5	0	0	0	0	N	
Waahi Stm at Te Ohaki Rd	2 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	1 <sup>8</sup>	1 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	Y <sup>8</sup>	1 <sup>8</sup>	3 <sup>8</sup>	0 <sup>8</sup>	4 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	0 <sup>8</sup>	3 <sup>8</sup>	N <sup>8</sup>	
Waerenga Stm at Taniwha Rd	12	12	0	12	7	3	0	0	6	N	12	12	0	12	2	0	0	0	1	N	
Waitawhiriwhiri Stm at Edgumbe Street	10	12	0	12	6	0	0	0	0	N	0	8	0	0	1	0	0	0	0	N	
Whakapipi Stm at SH22 Br	12	12	6	12	5	1	0	6	5	N	10	12	1	12	1	0	0	0	0	N	
Whakauru Stm at U/S SH1 Br	12	12	1	12	11	0	0	0	4	N	12	11	0	12	8	0	0	0	0	N	
Whangamarino River at Island Block Rd	2	12	0	12	4	0	0	0	10	N	2	8	0	6	1	0	0	0	2	N	
Whangamarino River at Jefferies Rd Br	5	12	0	12	7	0	0	0	0	N	0	9	0	10	2	0	0	0	0	N	
Whangape Stm at Rangiriri-Glen Murray Rd	8	12	0	12	4	0	0	0	11	Y	5	11	0	9	0	0	0	0	4	N	

West Coast																				
Awakino River at Gribbon Rd	12	12	9	12	10	11	12	7	12	Y	12	12	7	12	6	0	1	0	1	N
Awakino River at SH3 Awakau Rd Junction	12	12	6	12	9	9	8	5	11	N	12	12	2	12	3	1	0	0	2	N
Manganui River at Off Manganui Rd	12	12	7	12	9	8	11	4	11	N	12	10	3	12	3	1	1	0	1	N
Mangaotaki River at SH3 Br	12	12	5	12	10	8	0	1	8	N	12	11	0	12	3	0	0	0	0	N
Marokopa River at Speedies Rd (Off Te Anga Rd)	12	12	3	12	10	9	8	0	9	N	12	10	0	12	3	0	0	0	1	N
Mokau River at Awakau Rd	12	12	0	12	8	6	1	0	8	N	12	11	0	12	3	0	0	0	1	N
Mokau River at Mangaokewa Rd (Off SH30)	12	12	8	12	10	6	2	0 <sup>5</sup>	9	N	12	12	0	12	5	0	0	0 <sup>5</sup>	3	N
Mokau River at Totoro Rd Recorder	12	12	2	12	9	4	0	0 <sup>1</sup>	9	N	12	12	0	12	3	0	0	0 <sup>1</sup>	0	N
Mokauiti Stm at Three Way Point - Aria	12	12	0	12	8	3	4	0	9	N	7	12	0	12	3	0	0	0	0	N
Ohautira Stm at Waingaro Te Uku Rd	12	12	4	12	9	6	6	0	9	N	12	11	0	12	2	0	0	0	0	N
Oparau River at Langdon Rd (Off Okupata Rd)	12	12	8	12	9	10	9	6	11	N	12	10	4	12	3	4	1	0	0	N
Tawarau River at Off Speedies Rd	12	12	6	12	10	10	7	3	11	N	12	8	0	12	3	0	0	0	2	N
Waingaro River (Pukemiro) at Ruakiwi Rd Off SH22	12	12	1	12	7	5	3	1 <sup>1</sup>	9	N	11	12	0	11	1	0	0	0 <sup>1</sup>	0	N
Waitetuna River at Te Uku-Waingaro Rd	12	12	2	12	9	5	5	0	6	N	12	11	0	12	1	0	0	0	0	N

Inflows to Lake Taupo																				
Hinemaiaia River at SH1	12	12	12	12	12	9	12	12	12	Y	12	12	11	12	10	0	0	0	12	Y
Kuratau River at SH41 Moerangi	12	12	11	12	12	12	12	11	12	Y	12	10	7	12	12	9	0	0	8	Y
Kuratau River at Te Rae Street	12	12	12	12	11	12	0	-	12	Y	11	12	12	12	7	2	0	-	5	N
Mapara Stm (Lake Taupo) at Off Mapara Rd (Whakaipo Res)	12	11	10	12	12	0	0	0	11	N	0	11	0	12	9	0	0	0	2	N
Tauranga-Taupo River at 20 Metres U/S SH1 Bridge	12	12	11	12	12	11	12	11	12	Y	12	11	11	12	11	0	2	2	11	Y
Tokaanu Power Station Tailrace Canal at SH41 Bridge Over Canal	12	12	12	12	12	12	-	-	12	Y	12	11	7	12	7	0	2	-	12	Y
Tokaanu Stm at Off SH41 Turangi	10	12	12	12	12	0	0	-	12	Y	0	12	12	12	7	0	0	-	11	Y
Waihaha River at SH32	12	12	11	12	12	12	12	11	12	Y	12	11	10	12	11	0	0	4	10	Y
Waitahanui River at Blake Rd	12	12	12	12	12	0	7	12	12	Y	12	12	11	12	9	0	0	0	11	Y
Whangamata Stm (Kinloch) at Whangamata Rd	12	12	12	12	12	0	0	-	12	Y	12	12	8	12	10	0	0	-	3	N
Whanganui Stm at Lakeside Lake Taupo	11 <sup>1</sup>	11 <sup>1</sup>	10 <sup>1</sup>	11 <sup>1</sup>	11 <sup>1</sup>	11 <sup>1</sup>	3 <sup>1</sup>	-	11 <sup>1</sup>	Y <sup>1</sup>	10 <sup>1</sup>	10 <sup>1</sup>	6 <sup>1</sup>	11 <sup>1</sup>	10 <sup>1</sup>	0 <sup>1</sup>	0 <sup>1</sup>	-	4 <sup>1</sup>	N <sup>1</sup>
Whareroa Stm (Taupo) at Lakeside Lake Taupo	12	12	9	12	12	8	0	-	11	N	12	11	0	12	11	0	0	-	1	N

Superscripts denote the number of missing samples when there were fewer than 12 in the year.

Median *E coli* refers to whether the sample median meets the satisfactory guideline of <126/100 ml or the excellent guideline of <23/100 ml for recreational use

# References

Tulagi A 2018. Regional rivers water quality monitoring programme data report 2017. Waikato Regional Council Technical Report 2018/25. Hamilton, Waikato Regional Council.

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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 <sup>3</sup>	USEPA (1998) value for 1-hour exposure at pH 9.
Temperature	<12°C (May – Sep) <20°C (Oct – Apr)	Waikato Regional Council Draft Regional Plan standards for trout fisheries and trout spawning (1997).
Total phosphorus	<0.04 g/m <sup>3</sup>	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 <sup>3</sup>	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 upper decile flow. Guideline from Ministry for the Environment (1994).
<i>Escherichia coli</i>	<550/100 mL	Ministry of the Environment (2003) Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas.
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 River monitoring programme - water quality parameters and analytical methods

Id <sup>1</sup>	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
A780	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 (Hach DO meter, model HQ 30d)
DO (% Sat)	Dissolved oxygen (percent saturation)	Field measurement (Hach DO meter, model HQ 30d)
DRP	Dissolved reactive Phosphorus	Filtration, Molybdenum Blue Colorimetry. Discrete analyser. APHA 4500 PE (modified)
E. coli	Escherichia coli	Membrane Filtration (mFC Agar) confirmation by MUG Agar. APHA method 9222 G
ENT	Enterococci bacteria	Membrane Filtration (mE Agar) confirmation by EIA Agar. APHA method 9230 C
FC	Faecal coliforms	Membrane Filtration (mFC Agar). APHA method 9222 D
NH <sub>4</sub> -N	Ammoniacal Nitrogen (Total)	Filtration, Phenol/Hypochlorite Colorimetry. Discrete analyser. APHA method 4500-NH <sub>3</sub> F (modified).
NNN	Nitrite/Nitrate Nitrogen	Automated Cadmium reduction. Flow injection analyser. APHA method 4500 – NO <sub>3</sub> -I (modified).
pH	pH	Lab Meter @ 25°C. APHA method 4500-H <sup>+</sup> B
TEMP	Temperature	Field measurement (Hach DO meter, model HQ 30d)
TKN	Total Kjeldahl-Nitrogen	Acid digestion. Phenol/Hypochlorite colorimetry. Discrete analyser. APHA method 4500-N <sub>org</sub> D
TN	Total Nitrogen	Calculated from NNN + TKN (Nitrite/Nitrate Nitrogen + Total Kjeldahl-Nitrogen)
TP	Total Phosphorus As Reductant	Acid persulphate digestion, Colorimetry. Discrete Analyser. APHA method 4500-P B & E (modified). Also modified to include the use of reductant to eliminate interference from arsenic present in the sample. NAWASCA Pub 38, 1982
TURB	Turbidity	Turbidity Meter Hach 2100N. APHA method 2130 B

<sup>1</sup> Water quality parameter identification code refers to Waikato Regional Council's water quality database (WISKI) parameter short name.

APHA = Standards Methods for the Examination of Water and Wastewater, 22<sup>nd</sup> Edition, 2012, APHA, AWWA, WEF