



2010/2011
National Performance Review Report
Water Utilities

National Performance Review 2010/2011

Welcome to Water New Zealand's 2010/2011 National Performance Review. This report marks the fourth annual review, realising the aim of the Association to provide a benchmarking tool for the water industry for the benefit of both asset owners and managers. The review process allows increased transparency of the industry, and facilitates public understanding of the value delivered from investment in the three waters assets.

The review has gradually expanded from eight participants in the pilot project in 2007/2008, to fourteen for the 2010/2011 review. Participants reported their performance in environmental, social and economic areas relating to the three waters.

The 2010/2011 national performance review involved the following organisations:

- Capacity–Hutt City (CAPH)
- Capacity–Wellington (CAPW)
- Dunedin City Council (DCC)
- Hamilton City Council (HCC)
- Invercargill City Council (ICC)
- New Plymouth District Council (NPDC)
- Palmerston North City Council (PNCC)
- Rotorua District Council (RDC)
- Tauranga City Council (TCC)
- United Water International-Papakura (UWIP)
- Whangarei District Council (WDC)
- Timaru District Council (TDC)
- Waikato District Council (WKDC)
- Waipa District Council (WPDC)

Notes:

- 1) *Capacity is the trading name of Capacity Infrastructure Services Limited, a council controlled trading organisation.*
- 2) *United Water International-Papakura does not operate the Stormwater network in the Papakura District.*
- 3) *Rotorua District Council was a new addition to the list of participating organisations in this year's review and has reported on Water and Wastewater aspects only this year.*
- 4) *Christchurch City Council was unable to participate in this year's review due to the extensive earthquake relief work being undertaken by the Council.*
- 5) *Waikato District Council has increased its overall area and population by the incorporation of parts of Franklin DC Pukekohe into its area. There have also been some minor boundary adjustments with Hamilton City Council.*

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Introduction: Method and Reporting for the 2010/2011 National Performance Review

This report provides detailed comparisons of selected measures from the 2010/2011 National Performance Review, relating to accomplishments in environmental, social and economic areas of water supply, wastewater and stormwater services.

All variable measures relate to the 2010/2011 financial year.

For the review process, participating organisations reported on 78 measures, and a further 28 measures were calculated automatically from reported measures. The exceptions were United Water International-Papakura who is only responsible for water supply and wastewater management and Rotorua District Council who are new to the review and are reporting on water and wastewater alone this year. Participants submitted spreadsheets of data to Water New Zealand, where it was collated before undergoing an independent audit for validation of the data.

The audit process focused on all measures, both input and calculated. A desktop review involved comparing data from the 09/10 review against 10/11 data, identifying missing data, and looking for data which was significantly different from the previous year and similar sized participating organisations. Queries arising from any anomalies were sent to each organisation for comment. Following the desktop review, an on-site audit for four of the participating organisations was carried out, focusing on the full list of measures. Participants for the on-site audit were selected taking into consideration organisational size and location to gain a reasonably random group that reflected the overall participating organisations.

This report aims to provide as relevant comparisons as possible, and in some instances throughout the report, more complex tables are split into two, with the data from utilities with a higher total jurisdictional population (over 100,000) in the first table, and data from utilities with a population of less than 100,000 in the second. The groups are as follows:

Group 1 (Population > 100,000):

Capacity-Wellington (CAPW)
Hamilton City Council (HCC)
Dunedin City Council (DCC)
Tauranga City Council (TCC)
Capacity-Hutt City (CAPH)

Group 2 (Population < 100,000):

Palmerston North City Council (PNCC)
Whangarei District Council (WDC)
New Plymouth District Council (NPDC)
Invercargill City Council (ICC)
United Water International-Papakura (UWIP)
Timaru District Council (TDC)
Waikato District Council (WKDC)
Waipa District Council (WPDC)
Rotorua District Council (RDC)

The report is separated into four areas:

Section A sets the context for comparison between the water utilities. This includes population, area, number of properties, asset quantities, and water supply and wastewater volumes.

Section B focuses on environmental well-being and includes a comparison of water loss characteristics, and overflow events.

Section C concentrates on social well-being and covers water utilities' interaction with their customers and pricing mechanisms.

Section D covers economic well-being, comparing revenue and costs for each participant across each of the three waters.

Confidence Ratings

For each section (environmental, social, economic), ratings show the degree of participant confidence in the data provided. A shaded bar is used to present these details. A confidence level of A, (the darkest shade) illustrates a very high degree of confidence in the accuracy of the data. Confidence decreases as the shade lightens – the lightest shade illustrates that no data was available. The bars displayed within the report show individual levels of confidence for each organisation, however in general the darker the bar appears the stronger the level of confidence for that data input.



Some measures in the review are calculated using a combination of other values. For example: Measure WSF13 (total cost of water supply services) = WSF12 (total water supply cost) ÷ WSB5 (total water serviced properties). The lowest confidence rating given by a participant to the factors in the calculation (i.e. WSF12 or WSB5) becomes the confidence rating for the measure in question (i.e. WSF13). Each rating box aligns with the organisation order presented in the graphs and tables below it.

When the measure was not applicable to one or more water utilities, the width of the shaded bar has been reduced accordingly.

Water Loss

The water loss section of the performance review has presented some difficulties highlighted in the last couple of years due to utilities' differing methods of collection and calculation of data. This has demonstrated the need for a nationally consistent methodology for calculating and reporting water loss.

Although the water loss figures in this report have been assembled into a relatively comparable set of data, they should be viewed with a measure of caution.

Section A: Context for Comparison

Section A considers the general characteristics of each water utility in terms of their size and resources. This includes a comparative overview of:

- jurisdictional area
- jurisdictional population
- number of properties in each jurisdictional area
- asset quantities
- water supply and wastewater volumes

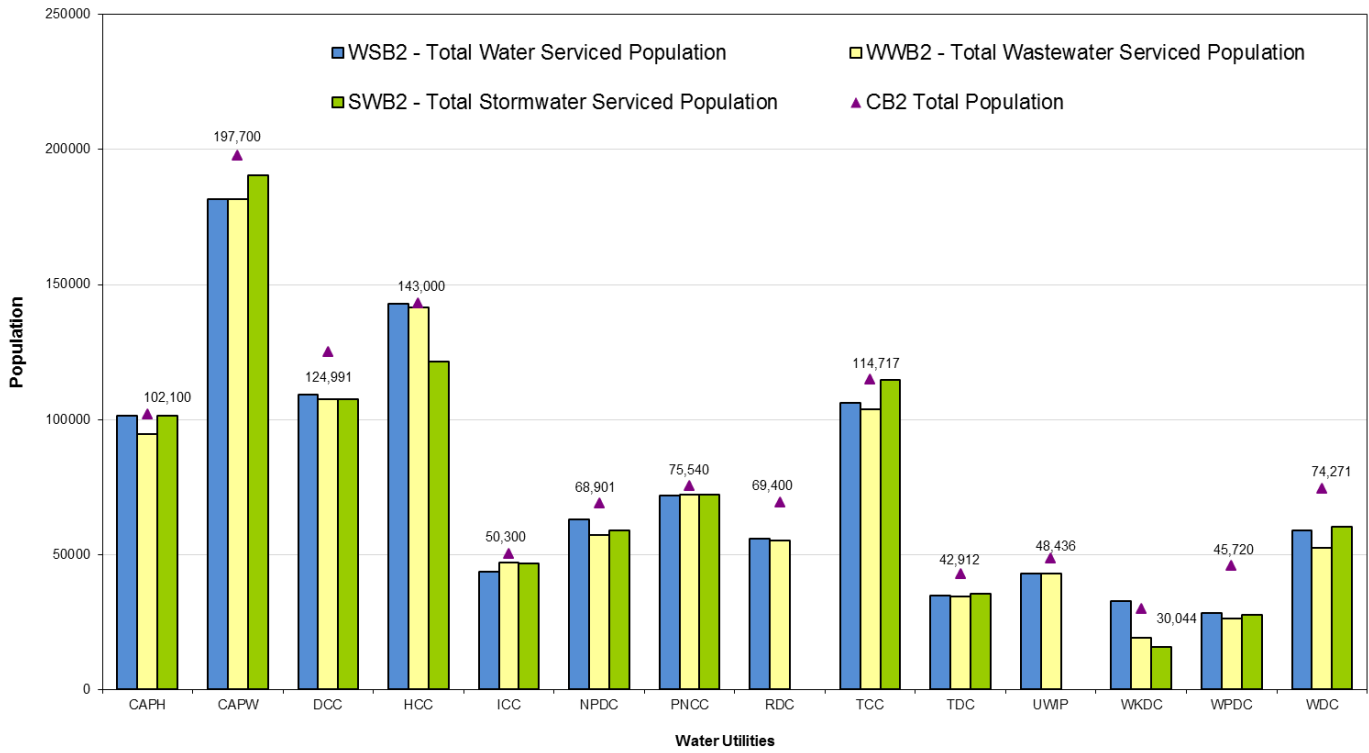
The varying sizes of the fourteen water utilities are illustrated in the tables below. Dunedin City Council has the largest land area of 336,000 hectares which is accounted for by the city area (20,000 Ha) and rural areas accounting for the rest. This year a new participant, Rotorua District Council has been added to the review with a population of 69,400, which fits in well with the rest of that size group.

General Size Comparisons

Utilities	CAPW	HCC	DCC	TCC	CAPH
CB1 - Total Jurisdictional Area (Ha)	29,900	9,900	336,000	13,380	37,988
CB2 - Total Jurisdictional Population	197,700	143,000	124,991	114,717	102,100
CB7 - Total Jurisdictional Properties	72,054	53,898	54,815	50,841	38,416

Utilities	PNCC	WDC	RDC	NPDC	ICC	UWIP	WPDC	TDC	WKDC
CB1 - Total Jurisdictional Area (Ha)	32,293	272,192	261,906	232,400	38,000	12,600	146,975	273,830	423,557
CB2 - Total Jurisdictional Population	75,540	74,271	69,400	68,901	50,300	48,435	45,720	42,912	30,044
CB7 - Total Jurisdictional Properties	30,965	39677	28,881	35,717	26,338	18,961	20,274	21,857	28,288

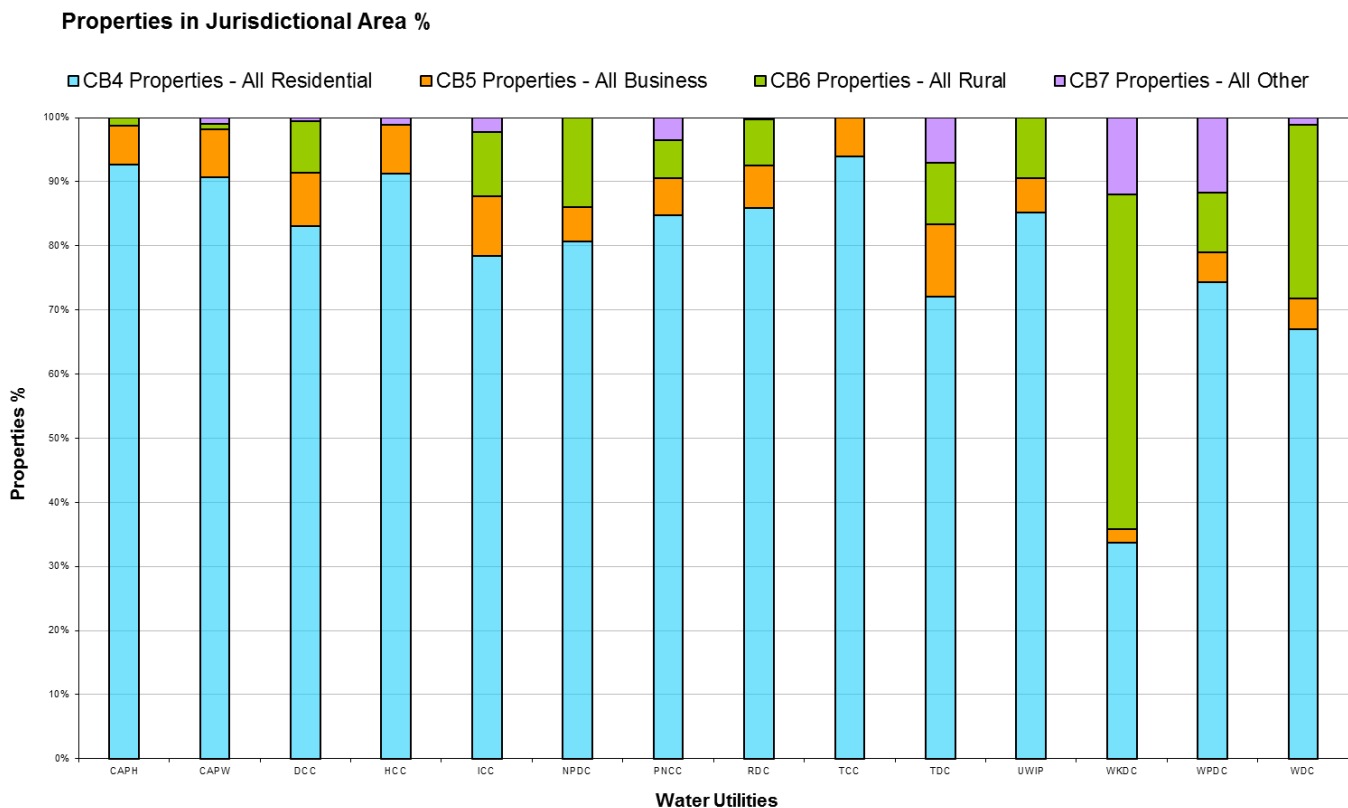
Total and Served Population



Compared to last year's results there have been relatively small changes to population within all the areas serviced. A point of interest in this graph is that in Dunedin, New Plymouth, Rotorua, Waipa, Waikato and Whangarei there are reasonably significant levels of the community that are not served by any of the three waters. This reflects the rural base for the communities and the larger district makeup where these rural properties have private (individual) supplies and on-site wastewater systems.

Properties in the Jurisdictional Area

The graph below shows a breakdown of residential, rural, business and other properties, providing another context for comparison of water utilities. For example, greater than 90% of properties served by Capacity-Wellington, Hamilton City Council, Tauranga City Council and Capacity-Hutt are categorised as 'residential' properties. In comparison, 13.9% of New Plymouth District Council properties are categorised as 'rural'. There are similar levels of rural properties in Dunedin, Timaru, United Water International-Papakura, Waikato, Waipa and Whangarei.



Waikato has the highest proportion of rural properties (52.3%) and the lowest residential (33.8%) and business (2%) properties amongst the various council organisations. The increase in rural properties in Waikato is a result of the Super City formation where parts of Franklin were amalgamated in Waikato District Council.

Asset Quantities

Detail of pipe networks for each water utility is illustrated in the two tables below. The main points of interest are as follows:

United Water International-Papakura does not operate the stormwater network or the bulk water and wastewater systems (including treatment facilities) in the Papakura District, so has not provided any of this asset data.

The density of population compared to length of mains required to service the community varies greatly across the organisations. Wellington, Hutt, Palmerston North and Hamilton have almost double the density of population per length of mains than all the other authorities. This is an advantage to the network operator although (probably due to topographical issues) this does not lead to reduced property servicing costs for Wellington and Hutt. In considering wastewater assets and installed capacities, Waikato, Wellington, Hutt, Invercargill, Hamilton and Whangarei have very high levels of wastewater treatment plant capacity compared to their respective populations.

Overall, Whangarei and Waikato District Council have the most wastewater treatment plants with 9 operational works each.

In terms of stormwater assets, Tauranga City has had a further increase of treatment devices to 206 and has more than 800km of stormwater pipes closely followed by Capacity-Wellington and Hamilton City.

	CAPW	HCC	DCC	TCC	CAPH	PNCC	WDC	RDC	NPDC	ICC	UWIP	WPDC	TDC	WKDC
WSA1 - Total Watermain Length	1245	1075	1503	1149	697	510.5	724	493.6	787	410.7	340.5	558	415	689
WWA1 - Total length of Public Wastewater Network	1058	784.53	879	1084	574	384.9	586	446.47	693	366	254.19	245	339	234
SWA1 - Total length of Public Stormwater Network (km)	725	643	365	600	541	271	301	-	288	413	-	137	162.3	94
WSA2 - Total Water Pumpstations	33	6	27	8	13	7	21	6	5	7	1	12	4	10
WWA2 - Total Wastewater Pumpstations	62	131	82	145	25	27	141	73	32	29	29	49	19	81

Other Asset Quantities

	CAPW	HCC	DCC	TCC	CAPH	PNCC	WDC	RDC	NPDC	ICC	UWIP	WPDC	TDC	WKDC
WSA5 - Total Water Meters	2,137	3,133	49,625	50,234	2,137	2,001	24,919	2,652	2,221	1,371	15,438	2,991	764	8489
WSA6 - Total Water Meters on Residential Connections	81	500	134	47,054	81	49	22,679	-	106	0	14361	1,185	14	4321
WSA3 - Total Water Storage Reservoirs	24	7	58	22	24	4	44	11	16	6	1	14	10	31
WWA6 - Total Wastewater Treatment Plants	1	1	7	2	1	3	9	1	3	3	0	2	4	9
WWA7 - Wastewater Treatment Plant Capacity per Day (m ³ /day)	225,504	45,000	75,701	40,000	225,504	46,620	60,564	19,200	79,758	98,000	0	14,200	47,000	1,343,000
SWA2 - Stormwater Treatment Devices	100	29	0	206	-	1	19	-	3	0	-	3	7	40

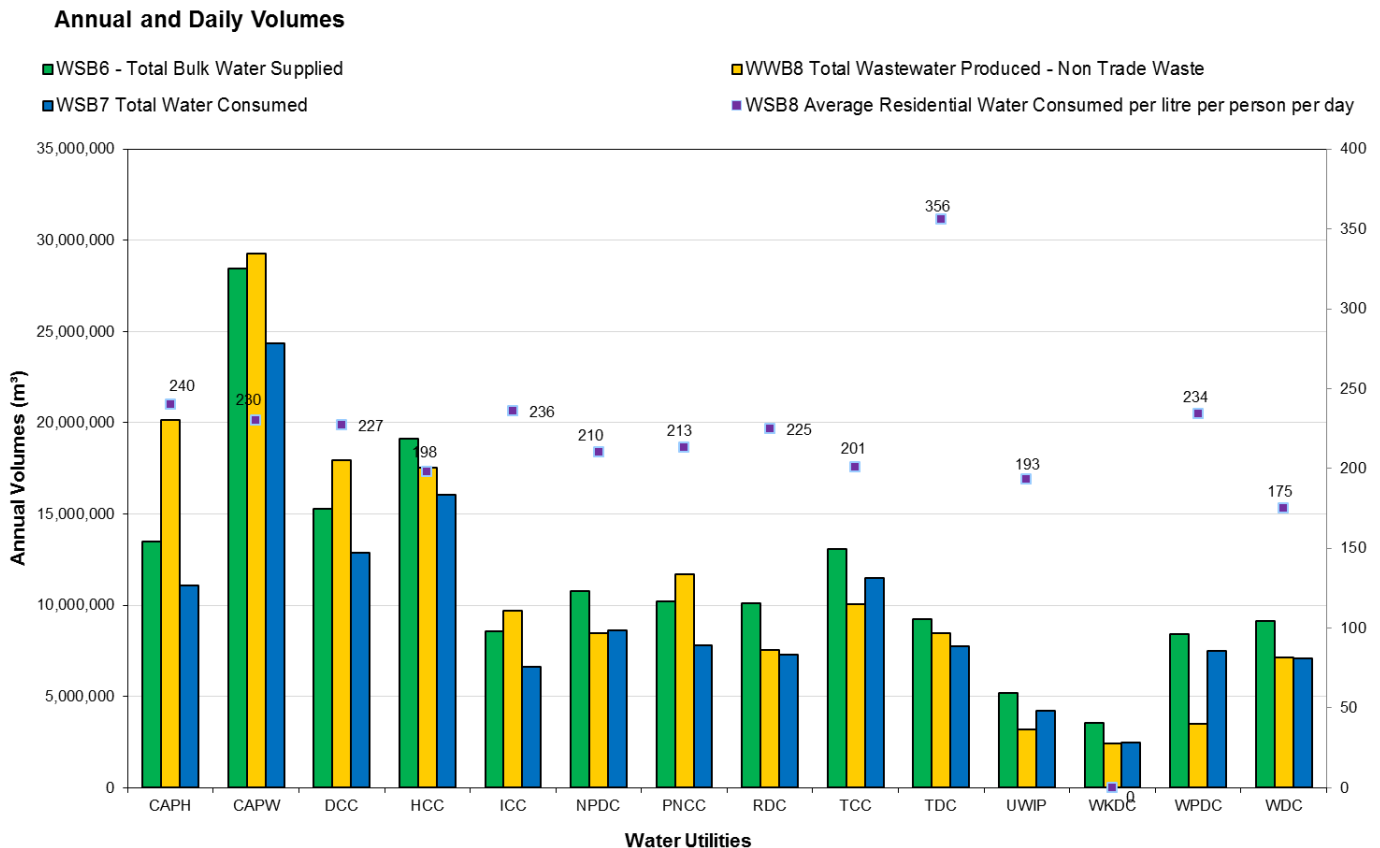
With the exceptions of Whangarei District Council, United Water International – Papakura, and Tauranga City Council, most organisations participating in the survey do not have meters on the majority of their residential connections. Capacity Wellington, Hutt, Dunedin and Palmerston North have survey meters on a voluntary basis.

Water and Wastewater Volume

Water and wastewater volumes managed by each of the participants are illustrated in the graph below. Timaru District Council reported the highest residential water consumption with 356 litres per person per day. Capacity – Wellington supplied the most water annually at 28,441,023m³, and also produced the most wastewater across the year at 29,278,008 m³.

Figures of consumption for the remaining participants were significantly lower – ranging from 175 litres (Whangarei District Council) to 270 litres (Tauranga City Council) per person per day. The smaller water utilities also showed similarities in terms of their bulk water supply, water consumed and wastewater produced. A few more organisations this year appeared to produce more wastewater than water produced (CAPH, CAPW, ICC, TCC and PNCC), which could be a function of the material type and condition of the pipes resulting in a greater propensity for infiltration into the wastewater system.

Participants used different methods to calculate the average residential water consumed per litres per person per day (WSB8), ranging from calculations, to databases, spreadsheets and estimated assessments. In all cases bulk water supplied was more than the total water consumed, the difference between these figures is non-revenue water which is made up of real and apparent losses. WKDC were unable to estimate the residential water consumed due to the amalgamation of Franklin and integration of data systems within the Council.



Section B: Environmental Well-Being

Environmental well-being focuses on measures that relate to the capacity of the natural environment to support, in a sustainable way, the activities of the communities in each jurisdiction.

Water Loss

Definition	Measure
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WSE1 (Network Waterloss) Waterloss through the organisation's water distribution network

Confidence Gradings

A	B	D	A	A				
C	B	D	C	C	N	D	B	N

The aim is to identify the volume of water that is 'lost' from the water reticulation system before private connections or customer use. Unaccounted for Water (UFW) represents the volume of water from the water distribution network that is not billed / rated for (or in other words is water lost before it reaches the customers tap). It comprises water losses and unbilled authorised consumption such as fire fighting and network maintenance use and apparent losses such as water metering inaccuracies or unauthorised water use.

Various methodologies were adopted by the authorities to calculate their water network losses in the form of NRW (Non-Revenue Water), CARL (Current Annual Real Losses), ILI (Infrastructure Leakage Index), Real System Water Losses, UFW (Unaccounted for Water) etc. Hence the information received was not comparable between organisations and highlights the need for a standard methodology to be adopted by the authorities for future benchmarking.

Utility	CAPW	HCC	DCC	TCC	CAPH
WSE1 – Network Waterloss	4,066,444	2,931,241	2,632,015	1,594,200	2,398,299
Methodology used by organisation	NRW	3.2 ILI based on 2009/10 data using benchloss. Also calculated based on CARL 149 l/connection /day and 7.4 m3/km of mains/day	Calculated from estimated annual consumption and known production figures (Demand calculator)	from Water Loss Benchmarking, Water Losses = System Input - Authorised Consumption	NRW

Utility	PNCC	WDC	RDC	NPDC	ICC	UWIP	WPDC	TDC	WKDC
WSE1 – Network Waterloss	2,182,848	2,031,392	2,844,411	2,186,194	1,957,720	NA	910,108	1,582,764	NA
Methodology used by organisation	Real System water losses.	UFW (CARL= 1,802,200 ILI Entire Network=.86)	High uncertainty in Water Losses	Figure calculated as per the New Zealand benchmarking sheets for the whole of New Plymouth.	CARL (Water Balance)	NA	Te Awamutu Water Demand Management Plan states 10.8% losses (real+apparent). Assume this figure applies district wide as there is currently no better data.	CARL = 252, UARL = 66.3, ILI = 3.8 - ILI	NA

Overflow Events

Definition	Measure
WWE1 Total <u>number</u> of wastewater overflows from the public wastewater network	Nu/Annum
WWE2 Total number of pumpstation overflows	Nu/Annum

Confidence Gradings

B	B	E	A	A	-	B	C	A	B	A	C	C	A	WWE1
N	B	N	A	A	-	B	C	B	D	A	N	C	A	WWE2

These measures give an indication of the sewer main and pump station overflow events which may adversely impact on water quality, human health or ecosystem stability. The number of such overflow events can be used as an indicator of the capacity and condition of the sewerage network and how effectively it is being managed.

A number of organisations do not distinguish between wet and dry overflow events; hence this distinction has been removed from this year's reporting. Also systems for recording the time and duration of an overflow are variable as to their reliability. Many organisations rely on their contractor to accurately report incidences, and some of the very low reported overflow numbers appear to be due to the contractor's processes and definitions and may not accurately represent overflow events. This is especially true for pump station overflows.

The confidence gradings for this data show that most of the organisations believe that they are accurately reporting overflow events. However the measure itself and the accuracy of reporting was raised as an issue and better measures / standardised measures would be beneficial in the future.

Utility	CAPH	CAPW	DCC	HCC	ICC	NPDC	PNCC	RDC	TCC	TDC	UWIP	WKDC	WPDC	WDC
WWE1 - Wastewater Overflows	359	91	2	13	52	5	35	56	18	35	34	44	2	158
WWE2 - Total Pumpstation Overflows	-	8	-	138	2	5	0	1	3	6	0	-	0	15

Section C: Social Well-Being

Social well-being evaluates the factors enabling individuals, their families, hapu and communities to set goals and achieve them. These include education, health, the strength of community networks and associations, financial and personal security, rights, freedom, and levels of equity.

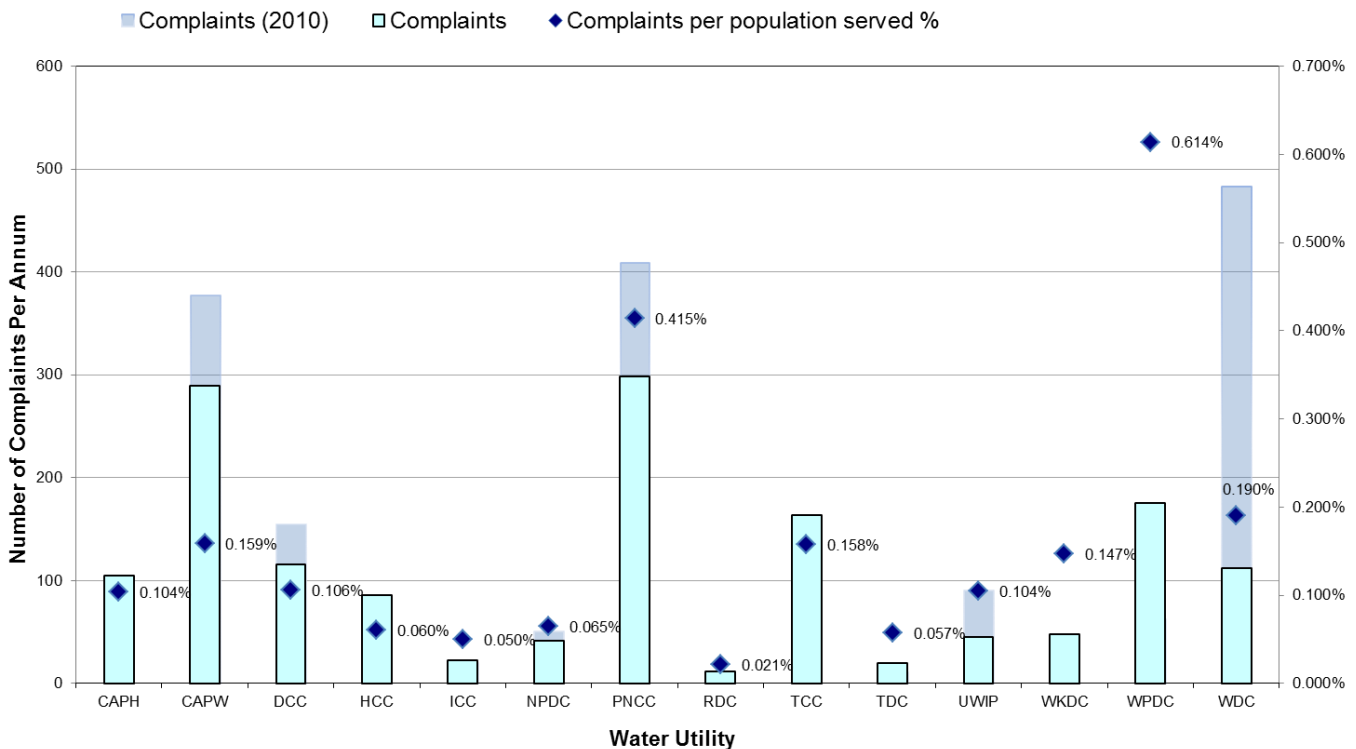
These measures include a comparison of:

- water quality complaints
- consultation policies
- unplanned interruptions
- pricing for each of the three water services.

Water Quality Complaints

Definition	Measure
CS1 Water Quality Complaints: The total number of water quality complaints received by the organisation per annum.	Nu
Confidence Gradings	
<div style="display: flex; align-items: center; gap: 5px;"> A B B B B A B D A C A C D A CS1 </div>	

Water Quality Complaints



This measure illustrates the total number of water quality complaints received by the organisations in this reporting year and its comparison to last year's data. Whangarei District Council recorded significantly less complaints this reporting year (112) compared to the previous (483). This was primarily due to a significant and prolonged discoloured water event the previous year, which raised complaint levels above normal. Palmerston North City Council recorded the highest at 298, also less than last year. Capacity Hutt recorded a higher number of complaints, from being the lowest last year with zero complaints to this year with 105 complaints. The lowest number reported was by Rotorua District Council with 12 complaints.

Consultation Policy

Definition

Measure

CS2 Public Consultation Policy or Process	If the organisation has adopted a formal consultation policy, how are the public/customers able to access or obtain a copy of the policy and what are the main features of the policy. If not, how does the organisation consult with or involve the public/customers in decision making - Description in Comments field.	Yes/No
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Confidence Grading



This comparison provides an insight into each organisation's consultation process, and how they provide key information about themselves to their customers.

The table below presents each water utility's approach. Four of the fourteen water utilities currently employ the web for public consultation.

Utility	Response	CS2 Public Consultation Policy or Process
CAPW	Yes	LTCCP process - documented within LTCCP and also within council policy papers and procedures.
HCC	Yes	Available online: http://hamilton.co.nz/index.aspx?PageID=2145827721 Reviewed 10 March 2008.
DCC	Yes	Council wide consultation policy but most projects are consulted on a case by case basis.
TCC	Yes	TCC has a Community Engagement Policy which defines how it will engage its community in its decision making processes.
CAPH	Yes	Available online: http://www.huttcity.govt.nz/Documents/council%20documents/Appendix%209.pdf
PNCC	Yes	Policy found on PNCC website.
RDC	Yes	Available online: http://www.rdc.govt.nz/YourCouncil/CouncilDocuments/AnnTYPs/TYP0919.aspx . RDC also has a Community Engagement Plan.

WDC	Yes	Council has consultation guidelines which it uses for all consultations as required under the LGA 2002. The guidelines are an internal document but available on request. Consultation is undertaken for Annual plans, LTCCP, structure and district plan amendments and on a project by project basis for larger projects.
NPDC	No	LTP consultation. Information available to the public in the Council website.
ICC	No	Council consults through Annual Plan. LTCCP, Bylaw and Resource Consent Consultation, and in regard to specific issues through newsletters.
UWIP	Yes	Customer Information and Consultation are provided in the customer charter.
TDC	No	Council does not have a formal consultation policy. However, it consults via a range of mediums on various topics where required and is in regular touch with the community. These include formal consultation processes such as Special Consultative Procedures for the Annual Plan and informal consultation approaches, such as meetings on proposals with interested parties, requests for feedback via our website and Councillor cafes.
WKDC	No	Through the Long Term Plan, the public is given the opportunity to provide feedback
WPDC	No	Public consulted through formal process ie District plans, LTCCP etc and through informal publications- adds, newsletters, website etc

Unplanned Interruptions

Definition

Measure

WSS1 The number of unplanned interruptions to service experienced by properties in the "Total Water Serviced Area"

Nu

WSS2 "Unplanned Total Interruptions" per 1000 properties in the "Total Water Serviced Area"

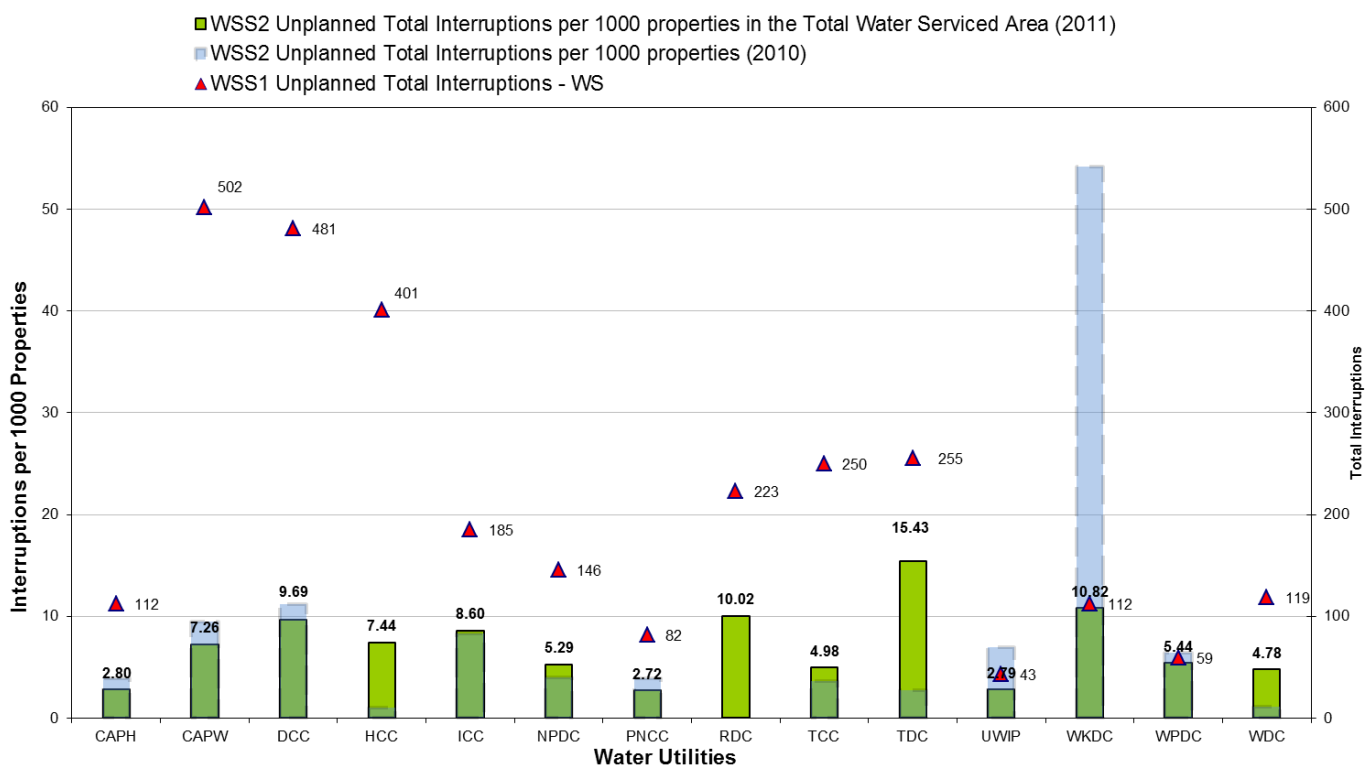
Nu/1,000 prop

Confidence Gradings

B	B	B	B	C	B	B	D	A	B	A		C	B	WSS1
B	B	B	B	C	B	B	D	A	B	A		C	B	WSS2

The measure of unplanned interruptions to water supply records how often customers experience an unplanned total loss of water supply as a result of an asset failure in the reticulated network.

Unplanned Interruptions to Water Supply



High numbers of unplanned interruptions were reported by Capacity Wellington and Dunedin City Council which was primarily due to better reporting methods adopted this year. However, due to the larger populations of both organisations, the unplanned interruptions frequency is around the norm for the main cities. Waikato District Council has revised the methodology for assessing interruptions and is amalgamating information from Franklin into the system. The highest frequency of interruptions recorded was 15.43 by Timaru District Council.

Price of Water Supply Services

Definition	Measure
WSS5 Price: The fixed charge (inc GST) for residential customers	\$(inc GST) per annum
WSS6 Price: The user charge (inc GST) for residential customers	\$/m ³
WSS7 Price: The average cost of a residential customer's bill based on an annual consumption of 200 m ³	\$/200m ³

Confidence Gradings

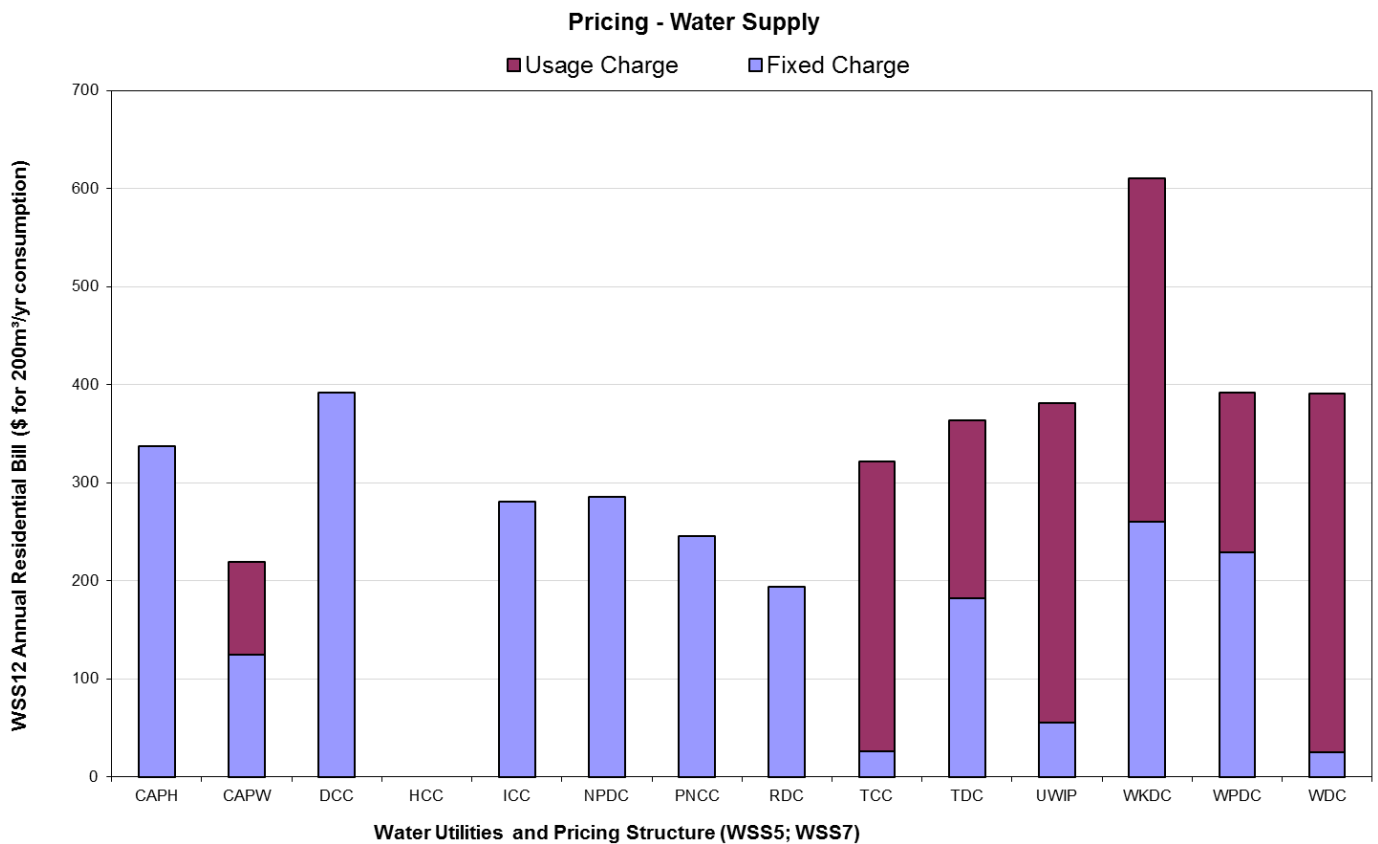
A	-	A	-	A	A	A	A	A	A	A	-	A	A	WSS5
N	-	N	-	N	N	N	N	A	N	A	-	A	A	WSS6
A	-	A	-	A	A	A	A	A	A	A	-	A	A	WSS7

Pricing - Water Supply

The fourteen utilities use various methods to charge their customers for water, including minimum pricing, fixed charges (uniform annual charge) and user charges (volumetric charging) or through general rates of the council. The minimum fixed water charges were offered by Tauranga City Council (\$25.56), and Whangarei District Council (\$24.77). For Tauranga, metered use is charged additional to the fixed costs, Whangarei metered usage beyond a predetermined limit was charged additionally.

The graph below shows the charge for a per annum usage of 200m³. The lowest usage charge is \$94.62 by Capacity Wellington and Waipa District Council has the highest charge of \$434 non-metered. The average 200m³ charge across all the organisations was approximately \$302.

Hamilton City Council does not charge for water separately, with revenues included in their general rates.



Price of Wastewater Services

Definition

WWS1 Price: The fixed charge that organisations apply for the supply of wastewater services to residential customers.

Measure

\$ (inc GST)
per annum

WWS2 The user charge (inc GST) that organisations apply for the supply of wastewater services to residential customers.

\$ (inc GST)
per annum

WWS3 Price: The average cost of a residential customer's bill based on an annual consumption of 200m³

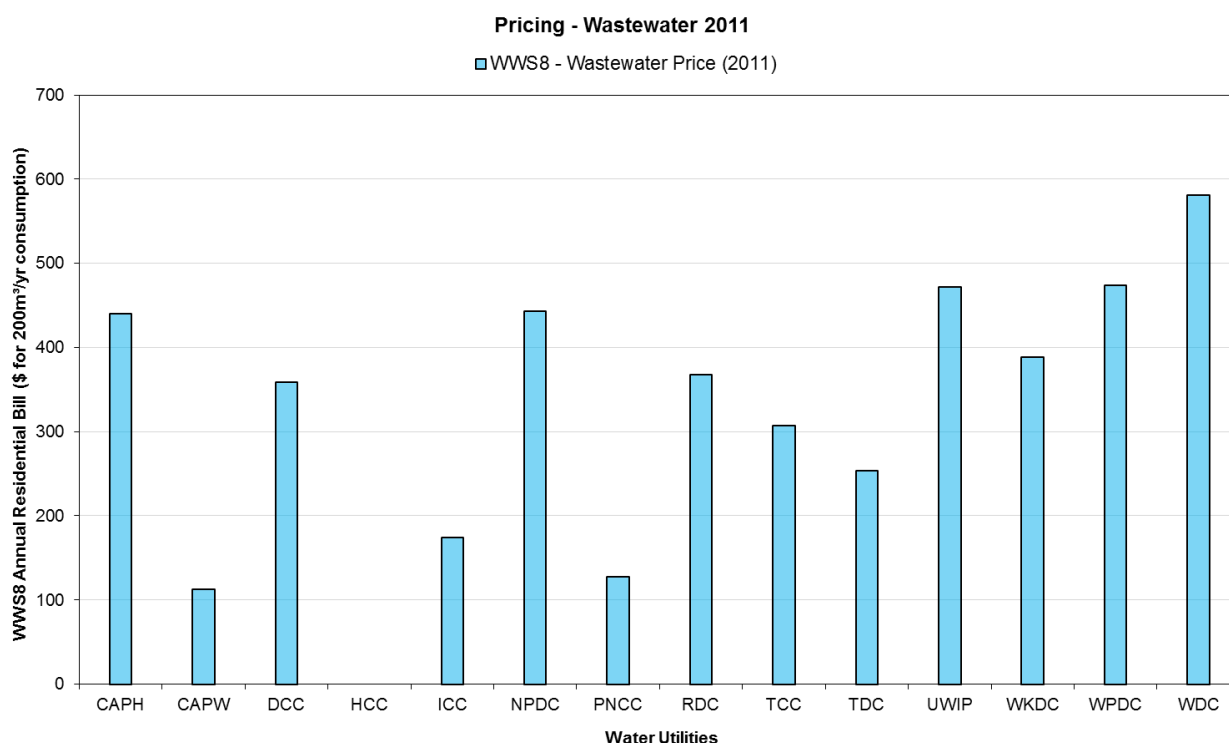
\$/200m³

Confidence Gradings

A	A	A	-	A	A	A	A	A	A	A	A	A	A	WWS1
N	N	N	-	N	N	N	N	N	N	A	N	N	N	WWS2
A	A	A	-	A	A	A	A	A	A	A	A	A	A	WWS3

The following graph illustrates the wastewater charge that each utility would apply to each residence for 200m³ of water consumption. Results range from \$128 (PNCC) to \$581 (WDC) per annum. The average charge for all the organisations is \$252.

The fourteen water utilities reported three methods of charging for wastewater services. The majority of the participants use the fixed uniform annual charge mechanism, with the exception being United Water International-Papakura. United Water International-Papakura charges at 80% of water usage for the average consumption of 200litres/person/day for an average of 3 people per household. Hamilton City Council charges their customers for wastewater from the general rates.



Price of Stormwater Services

Definition	Measure
SWS2 Price: (Average Annual Rates Bill) The portion of the average annual rates bill used for stormwater services in the "Total Stormwater Serviced Area" (Inc GST)	cents per \$ (inc GST)

Participants calculated their stormwater services in a variety of ways, from basing them on property and land drainage rates, to dividing the stormwater charge by the annual rates bill. This has not generated consistent data that can be cross referenced across the organisations and hence has not been included in a graphical format.

Section D: Economic Well-Being

Economic well-being involves the financial considerations for each water utility in providing three waters services.

Definitions

Operating Revenue: the total operating income for the reporting year relating to the total serviced area. It includes revenue obtained from fixed charges and user charges (or from bulk water sales), special levies that apply to serviced properties, revenue from asset sales, revenue from other sources for specific activities e.g. grants, other revenue from operations which would otherwise be included e.g. interest income. It excludes all developer cash or asset contributions.

Developer Revenue: the developer income for the reporting year. This includes all developer cash or asset contributions.

Total Revenue: represents the total revenue for the organisation (Operating Revenue + Developer Revenue)

Operating Cost: includes reticulation management and energy costs, (excludes depreciation and interest).

Total Cost: the total of all costs (Operating Cost, Depreciation and Interest)

Capital Expenditure: the capital expenditure made by each organisation as it relates to the relevant water service (water supply, wastewater or stormwater). This gives an idea of investment expenditure for the reporting period.

The reported measures in this section give an overview of the revenue and costs for the water utilities in the supply of water, wastewater and stormwater services.

The total cost per property includes a component of operating costs, the balance of which is established with the addition of depreciation costs and interest costs. The total cost measure provides an overview of the total costs for each water utility to provide the three waters services.

Capital expenditure is recognised as an investment rather than a cost, and this measure shows the amount invested by each water utility in the provision of water supply, wastewater and stormwater assets.

One utility has not included targeted rates income in their revenue figures for the measures WSF3, WWF3 and SWF3. This is United Water International-Papakura as they chose not to input financial data, deeming it to be commercially sensitive.

Water Supply Revenue and Costs

Confidence Gradings

B	A	N	A	A	A	A	A	A	A	N	A	A	A	WSF3
B	A	N	A	B	A	A	C	A	B	N	B	A	B	WSF4
B	A	B	N	D	B	A	A	A	C	N	A	A	A	WSF8
B	B	B	N	D	B	A	A	A	C	N	A	A	A	WSF12
B	B	B	N	D	B	A	C	A	C	N	B	A	B	WSF13
B	B	A	A	B	A	A	A	A	A	N	A	A	A	WSF14
B	A	A	A	B	A	A	C	A	B	N	B	A	B	WSF15

Actual Revenue and Costs – Water Supply (Group 1)

Utility	CAPW	HCC	DCC	TCC	CAPH
WSF3 Total Revenue – WS	33,493,000	7,288,783	23,690,000	17,528,591	2,053,000
WSF8 Total Operating Cost - WS	5,941,000	6,208,389	14,836,800	9,243,622	3,299,000
WSF12 Total Cost - WS	19,267,000	16,664,520	27,906,800	17,535,858	6,846,000
WSF14 Actual Capital Expenditure - WS	11,908,000	5,233,105	4,794,000	10,553,427	1,596,000

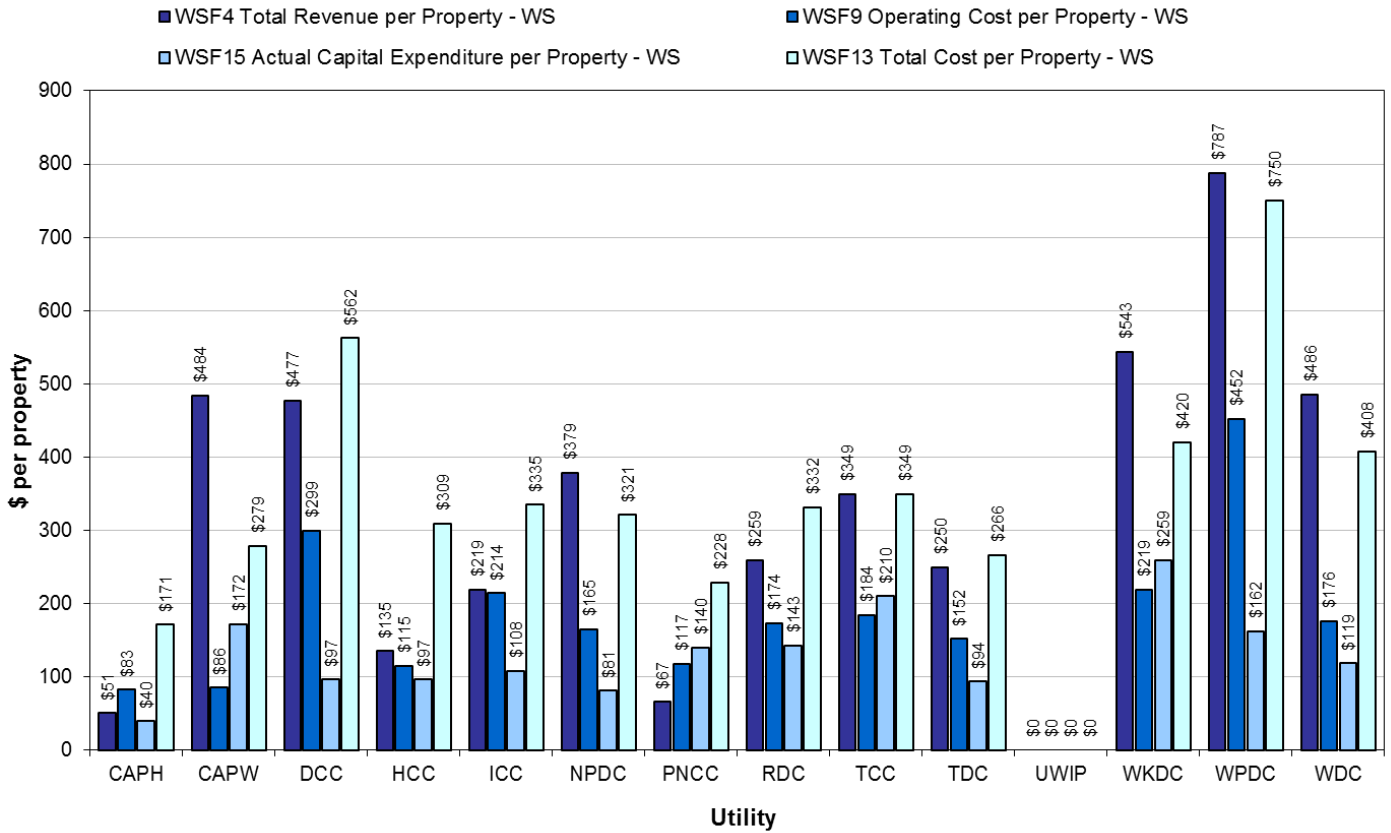
Actual Revenue and Costs – Water Supply (Group 2)

Utility	PNCC	WDC	NPDC	ICC	TDC	WPDC	WKDC	RDC
WSF3 Total Revenue – WS	2,006,762	12,101,987	10,455,048	4,708,709	4,131,868	8,545,000	5,626,524	5,765,000
WSF8 Total Operating Cost - WS	3,540,417	4,378,311	4,560,500	4,612,971	2,509,572	4,905,000	2,269,581	3,868,000
WSF12 Total Cost - WS	6,885,354	10,166,159	8,853,100	7,206,078	4,401,503	8,139,000	4,345,133	7,383,000
WSF14 Actual Capital Expenditure - WS	4,218,267	2,955,345	2,244,300	2,322,296	1,548,347	1,758,000	2,679,188	3,171,000

Note: United Water has not released any financial data

As shown in the graph below, Waikato District Council spent the most per property on capital improvements for water supply over the 2010/2011 financial year (\$259). The next highest figure was from Tauranga City Council at \$210. Capacity Wellington reported the highest actual capital expenditure, allocating \$11,908,000 expenditure to water supply capital improvement projects. The average water capital expenditure over all the authorities fell by 3% (between 09/10 and 10/11) to \$123 per property.

Revenue, Costs and Expenditure per Property - Water Supply



Wastewater Revenue and Costs

Confidence Gradings

B	B	A	A	B	A	A	A	A	A	N	A	A	B	WWF3
B	B	B	B	B	A	A	C	A	B	N	B	A	B	WWF4
B	B	B	A	A	B	A	A	A	A	N	A	A	A	WWF9
B	B	B	A	A	B	A	A	A	B	N	A	A	A	WWF13
B	B	B	B	A	B	A	C	A	B	N	B	A	A	WWF14
B	B	A	A	A	A	A	A	A	A	N	A	A	A	WWF15
B	B	B	B	A	A	A	C	A	B	N	B	A	A	WWF16

Tauranga City Council spent the highest amount per property on wastewater capital improvement projects; amounting to \$502 per property. Whangarei District Council had a significantly lower capital spend this year compared to the last two years. This was primarily due to large scale land purchase for a disposal system in 09/10 generating an uneven spend profile. The largest total spend on wastewater capital works was \$24,527,900 also by Tauranga City Council.

Total revenue per property varied greatly over the total group, from \$49 for Palmerston North to \$637 for Waipa District Council, with the average being \$349. The low revenues experienced by some councils can be attributed to the global financial crisis. Hamilton City Council attributes the difference between its cost and revenue figures in the table below to not having a targeted rating system for wastewater, but instead a general rate levied. The revenue figure therefore does not include a targeted rate, and it is not appropriate to include the general rate.

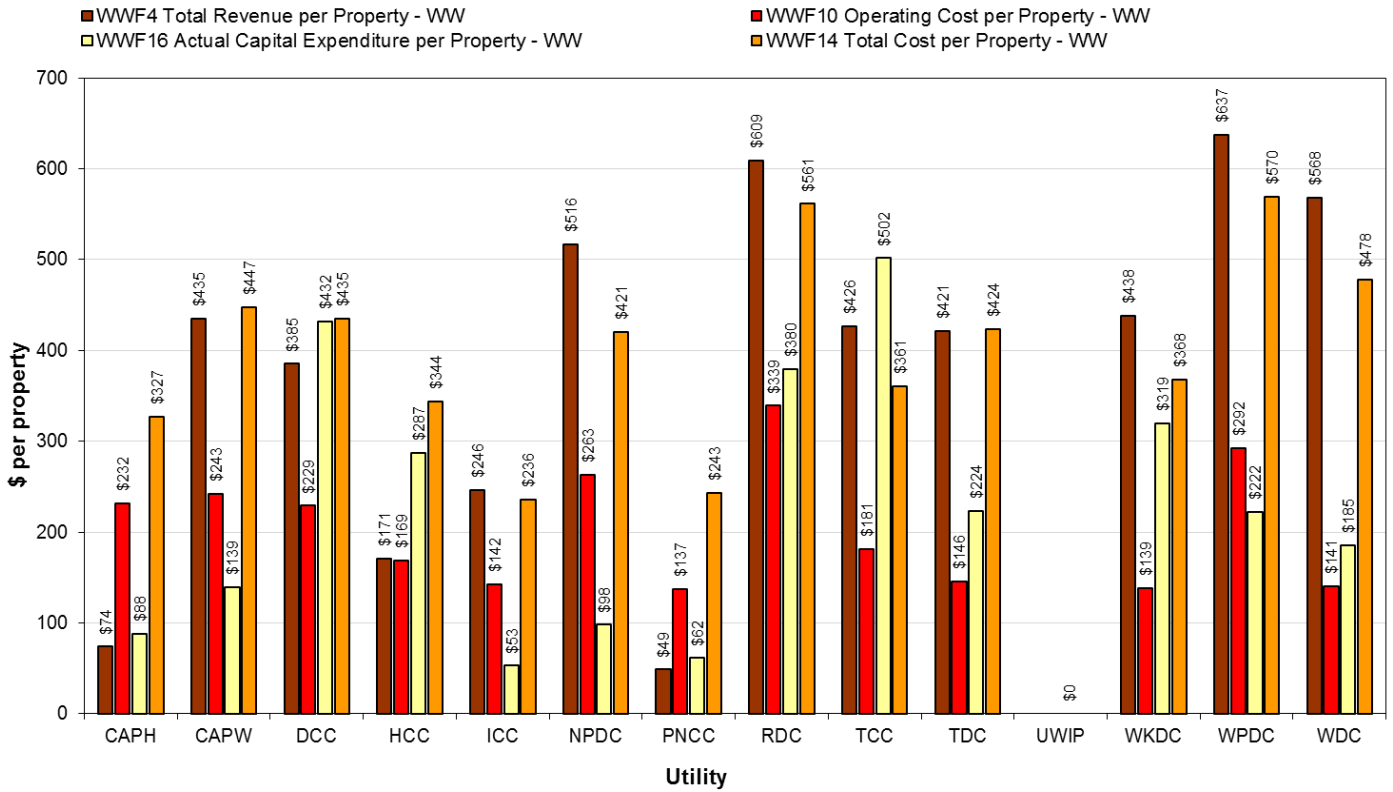
Actual Revenue and Costs – Wastewater (Group 1)

Utility	CAPW	HCC	DCC	TCC	CAPH
WWF3 Total Revenue – WW	30,062,000	4,729,434	18,513,900	20,850,408	2,953,000
WWF9 Total Operating Cost -WW	16,762,000	9,019,981	11,010,000	8,857,308	9,261,000
WWF13 Total Cost - WW	30,919,000	13,612,941	18,057,000	15,970,824	13,070,000
WWF15 Actual Capital Expenditure - WW	9,607,000	15,345,709	20,761,000	24,527,900	3,535,000

Actual Revenue and Costs – Wastewater (Group 2)

Utility	PNCC	WDC	NPDC	ICC	TDC	WPDC	WKDC	RDC
WWF3 Total Revenue – WW	1,488,861	13,566,699	14,156,218	5,355,313	6,812,103	7,076,000	3,08,429	12,678,000
WWF9 Total Operating Cost -WW	4,184,000	3,357,543	7,217,500	3,098,573	2,363,056	3,248,000	1,237,398	7,061,000
WWF13 Total Cost - WW	4,791,272	10,259,061	8,453,000	3,946,864	6,022,135	5,656,000	3,286,474	9,281,000
WWF15 Actual Capital Expenditure - WW	1,880,346	4,420,565	2,686,000	1,159,115	3,615,407	2,467,000	2,851,786	7,906,000

Revenue, Costs and Expenditure per Property - Wastewater



Stormwater Revenue and Costs

Confidence Gradings

B	B	A	A	A	B	A	N	A	N	A	A	A	SWF3
B	B	B	B	A	N	C	N	A	N	N	A	C	SWF4
B	B	A	N	A	A	A	N	A	A	A	A	A	SWF8
B	B	B	N	A	N	C	N	A	B	N	A	C	SWF9
B	B	A	N	A	A	A	N	A	A	A	A	A	SWF12
B	B	B	N	A	N	C	N	A	B	N	A	C	SWF13
B	B	A	A	A	A	A	N	A	A	A	A	A	SWF14
B	B	B	B	A	N	C	N	A	B	N	A	C	SWF15

Most participating utilities spent much less on stormwater capital improvements than on either water supply or wastewater system upgrades.

Of the Group 1 authorities, Capacity Wellington had the highest total operating cost of \$4,376,000 and Tauranga City Council has the highest actual capital expenditure of \$8,365,192. Tauranga City Council and Capacity Wellington both had very high total costs of providing stormwater services which was probably due to high depreciation and interest costs.

Of the Group 2 authorities Waipa District Council had the highest total operating cost of \$1,375,000 and Palmerston North had the highest total cost of \$3,232,649.

Rotorua District Council stormwater system is managed by the transportation team and figures for revenue and costs were not available at the time of the performance review.

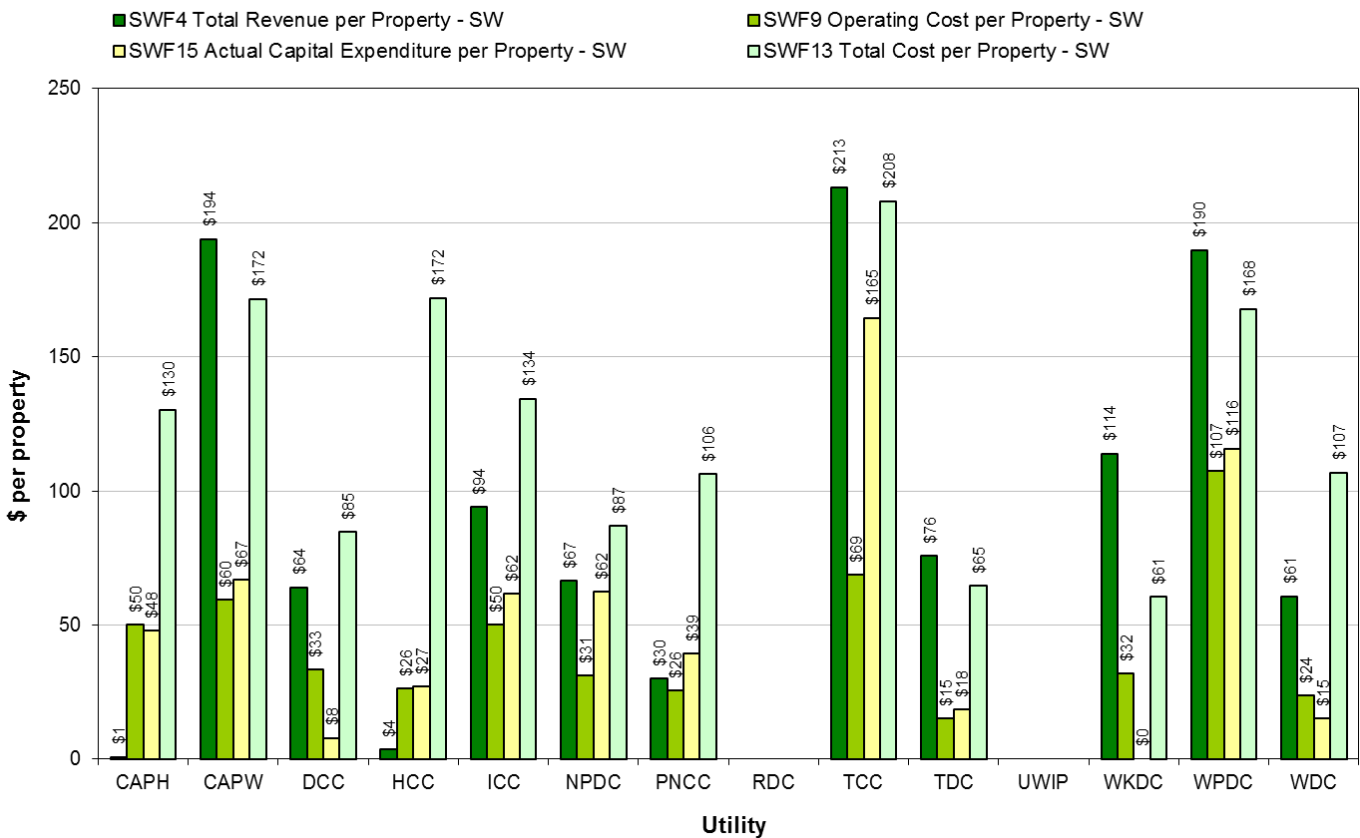
Actual Revenue and Costs – Stormwater (Group 1)

Utility	CAPW	HCC	DCC	TCC	CAPH
SWF3 Total Revenue - SW	14,266,000	169,812	3,081,000	10,846,294	33,000
SWF8 Total Operating Cost - SW	4,376,000	1,227,087	1,608,200	3,495,430	1,999,000
SWF12 Total Cost - SW	12,620,000	8,001,294	4,073,200	10,578,708	5,204,000
SWF14 Actual Capital Expenditure - SW	4,919,000	1,258,021	381,000	8,365,192	1,915,000

Actual Revenue and Costs – Stormwater (Group 2)

Utility	PNCC	WDC	RDC	NPDC	ICC	TDC	WPDC	WKDC
SWF3 Total Revenue - SW	912,438	1,808,286	-	1,883,845	2,028,681	1,261,987	2,431,345	1,739,625
SWF8 Total Operating Cost - SW	780,979	708,632	-	880,200	1,082,154	254,847	1,375,000	486,708
SWF12 Total Cost - SW	3,232,649	3,178,208	-	2,462,500	2,891,276	1,074,148	2,149,000	924,803
SWF14 Actual Capital Expenditure - SW	1,199,059	455,687	-	1,762,200	1,328,416	306,856	1,481,000	-

Revenue, Costs and Expenditure per Property - Stormwater



Appendix 1: Data Confidence Descriptions

RATING	DESCRIPTION	PROCESSES	ASSET DATA
A	Highly reliable	Strictly formal process for collecting and analysing data. Process is documented and always followed by all staff. Process is recognised by industry as best method of assessment.	Very high level of data confidence. Data is believed to be 95-100% complete and + or - 5% accurate. Regular data audits verify high level of accuracy in data received.
B	Reliable	Strong process to collect data. May not be fully documented but usually undertaken by most staff.	Good level of data confidence. Data is believed to be 80- 95% complete and + or - 10% to15% accurate. Some minor data extrapolation or assumptions has been applied. Occasional data audits verify reasonable level of confidence.
C	Less Reliable	Process to collect data established. May not be fully documented but usually undertaken by most staff.	Average level of data confidence. Data is believed to be 50-80% complete and + or- 15-20% accurate. Some data extrapolation has been applied based on supported assumptions. Occasional data audits verify reasonable level of confidence.
D	Uncertain	Semi formal process usually followed. Poor documentation. Process to collect data followed about half the time.	Not sure of data confidence, or data confidence is good for some data, but most of dataset is based on extrapolation of incomplete data set with unsupported assumptions.
E	Very uncertain	Ad hoc procedures to collect data. Minimal or no process documentation. Process followed occasionally.	Very low data confidence. Data based on very large unsupported assumptions, cursory inspection and analysis. Data may have been developed by extrapolation from small, unverified data sets.
N	No data	No process exists to collect data.	No data available. <i>Please note</i> that 'no data available' is different to collecting a legitimate data value of (0), where the data confidence could potentially be very high.

Appendix 2: Definitions of Measures

XX Calculated field

Common data: Background Information			
CB1	Total Jurisdictional Area	Total land area under the Council's jurisdiction	ha
CB2	Total Jurisdictional Population	Total residential population living within the "Total Jurisdictional Area"	Nu
CB3	Properties - All Residential	Total number of residential properties within the "Total Jurisdictional Area"	Nu
CB4	Properties - All Business	Total number of business properties within the "Total Jurisdictional Area"	Nu
CB5	Properties - All Rural	Total number of rural properties within the "Total Jurisdictional Area"	Nu
CB6	Properties - All Other	Total number of properties other than residential, business and rural properties, within the "Total Jurisdictional Area"	Nu
CB7	Total Jurisdictional Properties	Total number of all properties in the "Total Jurisdictional Area"	Nu
Common Data: Social			
CS1	Water Quality Complaints	Total number of water quality complaints received by the organisation per annum	Nu
CS2	Public Consultation Policy or Process	If the organisation has adopted a formal consultation policy, how are the public/customers able to access or obtain a copy of the policy and what are the main features of the policy. If not, how does the orgn consult with or involve the public/customers in decision making - Description in Comments field.	yes/no
Water Supply Measures: Background Information			
WSB1	Total Water Serviced Area	Total area serviced by the (public) reticulated water supply network	ha
WSB2	Total Water Serviced Population	Total <u>residential</u> population served in the "Total Water Serviced Area"	Nu
WSB3	Total Water Serviced Properties - Residential	Total number of <u>residential</u> properties serviced in the "Total Water Serviced Area"	Nu
WSB4	Total Water Serviced Properties - Non-residential	Total number of <u>non-residential</u> properties serviced in the "Total Water Serviced Area"	Nu
WSB5	Total Water Serviced Properties	<u>Total number of all residential</u> and non-residential properties serviced in the "Total Water Serviced Area"	Nu
WSB6	Total Bulk Water Supplied	Total volume of bulk water supplied. This is 'System Input' in terms of the standard Water Balance.	m ³
WSB7	Total Water Consumed	Total volume of water consumed by <u>all customers</u> (residential and non-residential). This is 'Revenue Water' in terms of the standard Water Balance.	m ³
WSB8	Average Residential Water Consumed per Person per Day	Average residential water consumed per litres per person per day	litres/person /day
WSB9	Average Age of Pipelines	Average Age of All Pipelines within the "Total Water Serviced Area"	Nu

Water Supply Measures: Asset Quantities			
WSA1	Total Length of Public Water Supply Network	Total length of Public Water Supply Network within the "Total Water Serviced Area"	Km
WSA2	Total Water Pumpstations	Total number of water pumpstations within the "Total Water Serviced Area"	Nu
WSA3	Total Water Storage Reservoirs	Total number of water storage reservoirs supplying the "Total Water Serviced Area"	Nu
WSA4	Total Water Stored in Reservoirs	Total amount (or estimate of total) water stored in reservoirs within the "Total Water Serviced Area"	m ³
WSA5	Total Water Meters	Total number of water meters within the "Total Water Serviced Area"	Nu
WSA6	Total Water Meters on Residential Connections	Total number of water meters on residential connections within the "Total Water Serviced Area"	Nu
Water Supply Measures: Environmental			
WSE1	Network Waterloss	Total network waterloss. Please explain in the comments how this is measured (ILI, CARL or other).	m ³
WSE2	Energy Use - WS	Average daily energy use across all water treatment plants within the "Total Water Serviced Area"	kWh
Water Supply Measures: Social			
WSS1	Unplanned Total Interruptions - WS	The number of unplanned interruptions to service experienced by properties in the "Total Water Serviced Area", excludes third party damage.	Nu
WSS2	Unplanned Interruption Frequency - WS	"Unplanned Total Interruptions" per 1000 properties in the "Total Water Serviced Area"	Nu/1000 prop
WSS3	Watermain Breaks	Total Number of (public) watermain breaks in the "Total Water Serviced Area", including bursts and leaks in all diameter mains	Nu
WSS4	Third Party Incidents - WS	The number of unplanned interruptions to service caused by third parties	Nu
WSS5	Price - Fixed Charge	The fixed charge (inc GST) for <u>residential</u> customers (if applicable otherwise leave blank)	\$
WSS6	Price - User Charge	The user charge (inc GST) for <u>residential</u> customers (if applicable otherwise leave blank)	\$/m ³
WSS7	Annual Bill Based on 200 m3/yr Consumption	The average cost of a <u>residential</u> customer's bill based on an annual consumption of 200 m3	\$/200m ³
Water Supply Measures: Financial			
WSF1	Operating Revenue - WS	Operating Revenue for the reporting year relating to the " <u>Total Water Serviced Area</u> " Excludes Developer contributions	\$
WSF2	Developer Revenue - WS	Development contributions (asset and cash payment)	\$
WSF3	Total Revenue - WS	Total water supply revenue for the reporting year, <u>relating to the "Total Water Serviced Area"</u>	\$
WSF4	Total Revenue per Property - WS	Total Revenue per <u>serviced</u> property	\$/property
WSF5	Reticulation Opex Costs	All costs associated with the operation and maintenance of the water supply network (including pump stations)	\$
WSF6	Management Costs	Organisational costs (includes salary, accommodation, IT, consultancy and contractor costs)	\$

WSF7	Energy Costs	Electricity costs	\$
WSF8	Total Operating Cost - WS	Total water supply operating cost for the reporting year <u>relating to the "Total Water Serviced Area"</u>	\$
WSF9	Operating Cost per Property - WS	Total Operating Cost per <u>serviced</u> property	\$/property
WSF10	Annual Depreciation	The current cost annual depreciation funding for water supply assets	\$
WSF11	Interest	The total interest for the reporting year relating to the "Total Water Serviced Area"	\$
WSF12	Total Cost - WS	The total cost of providing water supply services for the reporting year <u>relating to the "Total Water Serviced Area"</u>	\$
WSF13	Total Cost per Property - WS	Total Cost per <u>serviced</u> property	\$/property
WSF14	Actual Capital Expenditure - WS	Actual capital expenditure on water supply for the reporting year <u>relating to the "Total Water Serviced Area"</u>	\$
WSF15	Actual Capital Expenditure per Property - WS	Actual Capital Expenditure per <u>serviced</u> property	\$/property
Wastewater Measures: Background Information			
WWB1	Total Wastewater Serviced Area	Total area serviced by the (public) reticulated wastewater network	Ha
WWB2	Total Wastewater Serviced Population	Total <u>residential</u> population served in the "Total Wastewater Serviced Area"	Nu
WWB3	Total Wastewater Serviced Properties - Residential	Total number of <u>residential</u> properties serviced within the "Total Wastewater Serviced Area"	Nu
WWB4	Total Wastewater Serviced Properties - Non-residential	Total number of <u>non-residential</u> properties serviced within the "Total Wastewater Serviced Area"	Nu
WWB5	Total Wastewater Serviced Properties	Total number of all residential and non-residential properties serviced within the "Total Wastewater Serviced Area"	Nu
WWB6	Total Trade Waste Properties	Total number of trade waste properties within the "Total Wastewater Serviced Area"	Nu
WWB7	Total Trade Waste Volume	Volume of Trade Waste Produced within the "Total Wastewater Serviced Area"	m ³
WWB8	Total Wastewater Produced	Total annual volume of Wastewater produced within the "Total Wastewater Serviced Area"	m ³
Wastewater Measures: Asset Quantities			
WWA1	Total Length of Public Wastewater Network	Total length of (public) <u>wastewater mains</u> in the "Total Wastewater Serviced Area"	Km
WWA2	Total Wastewater Pumpstations	Total number of wastewater pumpstations within the "Total Wastewater Serviced Area"	Nu
WWA3	Total Wastewater Treatment Plants	Total number of wastewater treatment plants owned by (operated for) the organisation in delivering wastewater services within the "Total Wastewater Serviced Area"	Nu
WWA4	Wastewater Treatment Plant Capacity per Day	Total average design capacity of "Total Wastewater Treatment Plants" per day	m ³ /day

Wastewater Measures: Environmental			
WWE1	Wastewater Overflows	Total number of wastewater overflows	Nu
WWE2	Total Pumpstation Overflows	Total number of pumpstation overflows in the "Total Wastewater Serviced Area"	Nu
WWE3	Energy Use - WW	Average daily energy use across all wastewater treatment plants	kWh
Wastewater Measures: Social			
WWS1	Price - Fixed Charge	The fixed charge (inc GST) for <u>residential</u> customers (if applicable otherwise leave blank)	\$
WWS2	Price - User Charge	The user charge (inc GST) for <u>residential</u> customers (if applicable otherwise leave blank)	\$/m ³
WWS3	Annual Wastewater Bill Based on 200 m ³ /yr Water Consumption	The average cost of a residential customer's wastewater bill based on an annual water consumption of 200 m ³	\$/200m ³ water
Wastewater Measures: Financial			
WWF1	Operating Revenue - WW	Operating revenue for the reporting year <u>relating to the "Total Wastewater Serviced Area"</u> (Excludes developer contributions)	\$
WWF2	Developer Revenue - WW	Development contributions (asset and cash payment)	\$
WWF3	Total Revenue - WW	Total wastewater revenue for the reporting year, <u>relating to the Total Wastewater Serviced Area</u> (not unserviced properties)	\$
WWF4	Total Revenue per Property - WW	Total Revenue per <u>serviced</u> property	\$/property
WWF5	Reticulation Opex Costs	All costs associated with the operation and maintenance of the wastewater network (including pump stations <u>but excluding treatment</u>)	\$
WWF6	Total Treatment Costs	Costs of Operating and Maintaining the Treatment Plant Operation	\$
WWF7	Management Costs	Organisational costs (includes salary, accommodation, IT, consultancy and contractor costs)	\$
WWF8	Energy Costs	Electricity Costs	\$
WWF9	Total Operating Cost - WW	Total Wastewater operating cost for the reporting year <u>relating to the Total Wastewater Serviced Area</u>	\$
WWF10	Operating Cost per Property - WW	Total Operating Cost per <u>serviced</u> property	\$/property
WWF11	Annual Depreciation	The current cost annual depreciation funding for wastewater assets	\$
WWF12	Interest	The total interest for the reporting year <u>relating to the "Total Wastewater Serviced Area"</u>	\$
WWF13	Total Cost - WW	The total cost of providing wastewater services for the reporting year <u>relating to the Total Wastewater Serviced Area</u>	\$
WWF14	Total Cost per Property - WW	Total Cost per <u>serviced</u> property	\$/property

WWF15	Actual Capital Expenditure - WW	Actual capital expenditure on wastewater for the reporting year <u>relating to the Total Wastewater Serviced Area</u>	\$
WWF16	Actual Capital Expenditure per Property - WW	Actual Capital Expenditure per <u>serviced</u> property	\$/property
Stormwater Measures: Background Information			
SWB1	Total Stormwater Serviced Area	Total area serviced by the (public) reticulated stormwater network.	Ha
SWB2	Total Stormwater Serviced Population	Total <u>residential</u> population served in the "Total Stormwater Serviced Area"	Nu
SWB3	Total Stormwater Serviced Properties - Residential	Total number of <u>residential</u> properties serviced in the "Total Stormwater Serviced Area"	Nu
SWB4	Total Stormwater Serviced Properties - Non-residential	Total number of <u>non-residential</u> properties serviced in the "Total Stormwater Serviced Area"	Nu
SWB5	Total Stormwater Serviced Properties	<u>Total number of all residential and non-residential</u> properties serviced in the "Total Stormwater Serviced Area"	Nu
Stormwater Measures: Asset Quantities			
SWA1	Total Length of Public Stormwater Network	Length of public stormwater mains within the "Total Stormwater Serviced Area" that are owned and substantially maintained by the organisation	Km
SWA2	Stormwater Treatment Devices	Total number of (public) stormwater treatment devices within the "Total Stormwater Serviced Area"	Nu
Stormwater Measures: Social			
SWS1	Price - Fixed Charge	The fixed charge (inc GST) for <u>residential</u> customers (if applicable, otherwise leave blank)	\$
SWS2	Price - User Charge	The user charge (inc GST) for <u>residential</u> customers (if applicable otherwise leave blank)	\$/m ³
Stormwater Measures: Financial			
SWF1	Operating Revenue - SW	Operating revenue for the reporting year relating to the " <u>Total Stormwater Serviced Area</u> " (Excludes developer contributions)	\$
SWF2	Developer Revenue - SW	Development contributions (asset and cash payment)	\$
SWF3	Total Revenue - SW	Total stormwater revenue (income) for the reporting year, relating to the " <u>Total Stormwater Serviced Area</u> " (not unserviced properties)	\$
SWF4	Total Revenue per Property - SW	Total Revenue per <u>serviced</u> property	\$/property
SWF5	Reticulation Opex Costs	All costs associated with the operation and maintenance of the stormwater network (including pump stations and quality treatment)	\$
SWF6	Management Costs	Organisational costs (includes salary, accommodation, IT, consultancy and contractor costs)	\$
SWF7	Energy Costs	Electricity costs	\$
SWF8	Total Operating Cost - SW	Total stormwater operating cost <u>relating to the "Total Stormwater Serviced Area"</u>	\$
SWF9	Operating Cost per Property - SW	Total Operating Cost per <u>serviced</u> property	\$/property

SWF10	Annual Depreciation	The current cost annual depreciation funding for stormwater assets	\$
SWF11	Interest	The total interest for the reporting year relating to the "Total Stormwater Serviced Area"	\$
SWF12	Total Cost - SW	The total cost of providing stormwater services for the reporting year, <u>relating to the "Total Stormwater Serviced Area"</u>	\$
SWF13	Total Cost per Property - SW	Total Cost per <u>serviced</u> property	\$/property
SWF14	Actual Capital Expenditure - SW	Actual capital expenditure on stormwater for the reporting year <u>relating to the "Total Stormwater Serviced Area"</u>	\$
SWF15	Actual Capital Expenditure per Property - SW	Actual Capital Expenditure per <u>serviced</u> property	\$/property