

2013-14

# NSW WATER SUPPLY AND SEWERAGE

PERFORMANCE MONITORING REPORT





**2013-14**

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**BEST PRACTICE MANAGEMENT**

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (April 2015). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the Department of Primary Industries or the user's independent adviser.

## Minister's foreword



The *Performance Monitoring Report* for NSW water utilities for 2013-14 provides an overview of the current status and future water supply and sewerage needs of NSW.

This annual Report has been prepared by the NSW Office of Water and its predecessors since 1986, and presents the key performance indicators for all NSW urban water utilities. This enables each utility to monitor and improve its productivity and performance through benchmarking against similar utilities. The Report also highlights the overall statewide performance of the NSW regional local water utilities and compares that performance with interstate utilities. The Report is important for public accountability and has been strongly endorsed by both the Independent Pricing and Regulatory Tribunal and the Productivity Commission.

Through the NSW Government's Country Towns Water Supply and Sewerage Program, which includes the *NSW Best-Practice Management of Water Supply and Sewerage Framework* (see page viii), the State Government will continue to work with water utilities to ensure the community benefits from effective, sustainable and safe piped water supply and sewerage services.

To provide a balanced view of the long-term sustainability of NSW water utilities, the report adopts a triple bottom line accounting focus, with performance reported on the basis of social, environmental and economic performance indicators. These indicators include the utility's pricing signals and typical residential bill, compliance with the *Australian Drinking Water Guidelines 2011*, compliance with sewage treatment works licences, the volume of water used and recycled, greenhouse gas emissions, the fair value of assets and asset condition, including water main breaks and real water loss (leakage), the operating cost, whether each utility has achieved full cost recovery and its level of implementation of the 19 planning, pricing and management requirements of the Best-Practice Management Framework.

I am pleased to note the evidence shows that the NSW utilities are continuing to perform well and I encourage all the utilities to continue to implement the proven NSW Best-Practice Management Framework, including preparing a current integrated water cycle management strategy<sup>1</sup>, financial plan and asset management plan, monitoring their performance and implementing their annual Action Plan. By doing so, utilities will continue to operate efficiently, provide value for money to their community and improve the effectiveness and sustainability of their water and sewerage services.

**The Hon. Niall Blair MLC**  
**Minister for Primary Industries**  
**Minister for Lands and Water**

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<sup>1</sup> A water utility's peak planning document for water supply and sewerage is the later of its current integrated water cycle management strategy and financial plan ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)) and strategic business plan and financial plan.

## Acknowledgements

Local Government NSW (LGNSW) is acknowledged for its strong and continuing support for the NSW annual water supply and sewerage performance monitoring system since its commencement in 1986.

The public health regulator, NSW Health is acknowledged for its oversight of drinking water quality in regional NSW, including administering the preparation and implementation of a Drinking Water Management System (*Public Health Act 2010*) by each utility providing a public drinking water supply. NSW Health has also provided additional water quality data (from the NSW Health Drinking Water Database) and water quality monitoring compliance data. This data has been incorporated into Appendix D and Figures 4 and 5 of this Report and Tables 5 and 12 and Appendices D1 and D3 of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*.

The NSW Local Government Water Directorate is also acknowledged for its support and contributions and for permitting use of its *Technical Guidelines for Drought Management*.

The continuing success of the NSW Performance Monitoring System as a robust evidence basis for productivity and performance improvement is contingent on full participation by all NSW local water utilities (LWUs). The continuing participation of each LWU in the performance monitoring system and each LWU's significant efforts in providing current, accurate and timely data on its performance and in implementing the NSW Best-Practice Management Framework are therefore particularly acknowledged.

## List of NSW water utilities

This report discloses performance indicators for all NSW water utilities, comprising the 105 regional local water utilities (LWUs) together with the four metropolitan utilities (Sydney Water Corporation, Hunter Water Corporation, Water NSW (from January 1 2015, formerly Sydney Catchment Authority) and Hawkesbury Council). All the NSW utilities are listed in the table below in alphabetical order. To facilitate comparisons with similar sized LWUs, Appendices C to F of this report are sorted in order of the number of connected properties served. The number shown in the table below with each utility is its rank in terms of connected properties for water supply. For example, the table shows '11 Albury City', indicating that Albury City is the 11<sup>th</sup> LWU in the water supply tables. LWUs are grouped in four size ranges, namely over 10,000; 3,001 to 10,000; 1,501 to 3,000, and 200 to 1,500 connected properties.

### NSW water utilities (regional and metropolitan) in alphabetical order

11	Albury City	54	Deniliquin	59	Lachlan	3	Shoalhaven
29	Armidale Dumaresq	18	Dubbo	48	Leeton	35	Singleton
24	Ballina (R)	26	Essential Energy	31	Lismore (R)	52	Snowy River
100	Balranald (DS)	15	Eurobodalla	61	Liverpool Plains		Sydney Water
21	Bathurst Regional			102	Lockhart (NO WS)	13	Tamworth Regional
23	Bega Valley	12	Fish River WS (BS)			69	Temora (NO WS)
47	Bellingen	51	Forbes	5	MidCoast	68	Tenterfield
53	Berrigan (DS)			32	Mid-Western Regional	93	Tumbarumba
72	Bland (NO WS)	84	Gulgandra	38	Moree Plains	43	Tumut
78	Blayney (NO WS)	60	Glen Innes Severn	65	Murray (DS)	6	Tweed
89	Bogon	28	Goldenfields (NO SGE)	101	Murrumbidgee		
97	Bombala	1	Gosford	41	Muswellbrook	45	Upper Hunter
104	Boorowa	20	Goulburn Mulwaree			73	Upper Lachlan
87	Bourke (DS)	80	Greater Hume	34	Nambucca	85	Uralla
105	Brewarrina	30	Griffith	46	Narrabri	107	Urana (NO WS)
27	Byron (R)	94	Gundagai	63	Narrandera		
		44	Gunnedah	62	Narromine	9	Wagga Wagga (NO WS)
91	Cabonne	90	Gyra			88	Wakool (DS)
92	Carrathool	81	Gwydir	83	Oberon (R)	98	Walcha
103	Central Darling (DS)			19	Orange	79	Walgett (DS)
40	Central Tablelands (NO SGE)	76	Harden (R)			96	Warren (DS)
		30A	Hawkesbury (NO WS)	71	Palerang	55	Warrumbungle
14	Clarence Valley	86	Hay (DS)	36	Parkes		Water NSW (formerly SCA)
67	Cobar (R)		Hunter Water	7	Port Macquarie-Hastings	95	Weddin (NO WS)
66	Cobar WB (BS)					57	Wellington
10	Coffs Harbour	37	Inverell	17	Queanbeyan (R)	74	Wentworth (DS)
99	Coolamon (NO WS)					16	Wingecarribee
50	Cooma-Monaro	106	Jerilderie (DS)	33	Richmond Valley	2	Wyong
75	Coonamble	77	Junee (NO WS)	8	Riverina (NO SGE)	56	Yass Valley
58	Cootamundra (R)			4	Rous (BS) (NO SGE)	49	Young (R)
42	Corowa	25	Kempsey				
39	Cowra	70	Kyogle				

R – Reticulator; DS – Dual Supply; BS – Bulk Supplier; NO WS – No water supply; NO SGE – No sewerage

## Contents

Minister's foreword .....	i
Acknowledgements .....	ii
List of NSW water utilities.....	ii
Executive summary .....	v
The NSW Best-Practice Management of Water Supply and Sewerage Framework .....	viii
1. NSW performance monitoring system .....	1
1.1 Triple bottom line focus .....	1
1.2 Statewide performance .....	1
1.3 Utility performance comparison .....	1
1.4 TBL reports and action plans .....	1
2. Statewide performance summary .....	2
3. Interstate comparisons .....	17
4. Best-practice management .....	22
4.1 Best-Practice Management Framework.....	22
4.2 Implementation of framework.....	25
4.3 Eligibility for payment of a dividend.....	26
4.4 Climate variability .....	26
5. TBL reports and action plans .....	27
5.1 Triple bottom line (TBL) performance reports .....	27
5.2 Review performance and preparation of an action plan .....	27
5.3 Factors affecting performance .....	30
5.4 Benchmarking .....	31
6. General notes .....	32
Figures.....	35
Appendix A – National performance comparisons 1992-93 to 2013-14 .....	71
Appendix B – Example TBL water supply performance report and action plan.....	80
Appendix C – 2013-14 Best-Practice Management Implementation .....	84
Appendix D – 2013-14 NSW Water Utility Performance Summary.....	87
Appendix E – Water Supply – residential charges, bills, cost recovery .....	91
Appendix F – Sewerage – residential charges, bills, cost recovery .....	94
Appendix G – Data Validation Processes for the NSW Performance Monitoring System.....	97
Appendix H – Streamlining of the NSW Best-Practice Management Framework.....	106
Index .....	117

## Figures

### Social

Figure 1:	Typical residential bill – water supply and sewerage – P8 .....	35
Figure 2:	Typical residential bill – water supply – P3 .....	36
Figure 3:	Typical residential bill – sewerage – P6 .....	37
Figure 4:	Chemical water quality compliance – water supply .....	38
Figure 5:	Microbiological water quality compliance – water supply .....	39
Figure 6:	Water quality complaints – water supply – C9 .....	40
Figure 7:	Odour complaints – sewerage .....	41
Figure 8:	Total Complaints – water supply and sewerage – C13 .....	42
Figure 9:	Main breaks – water supply – A8 .....	43
Figure 10:	Percent of sewage treated that was compliant – E4 .....	44
Figure 11:	Sewer main breaks and chokes – sewerage – A14 .....	45

### Environmental

Figure 12:	Average annual residential water supplied – W12.....	46
Figure 13:	Average annual residential water supplied – coastal and inland LWUs – W12.....	47
Figure 14:	Peak day water supplied .....	48
Figure 15:	Real Losses – water supply – A10.....	49
Figure 16:	Non-revenue water – W10.1 per connection per day .....	50
Figure 17:	Compliance with BOD in licence – sewerage .....	51
Figure 18:	Compliance with SS in licence – sewerage .....	52
Figure 19:	Recycled water (percent effluent recycled) – sewerage – W27.....	53
Figure 20:	Total greenhouse gas emissions – water supply and sewerage – E12.....	54

### Economic

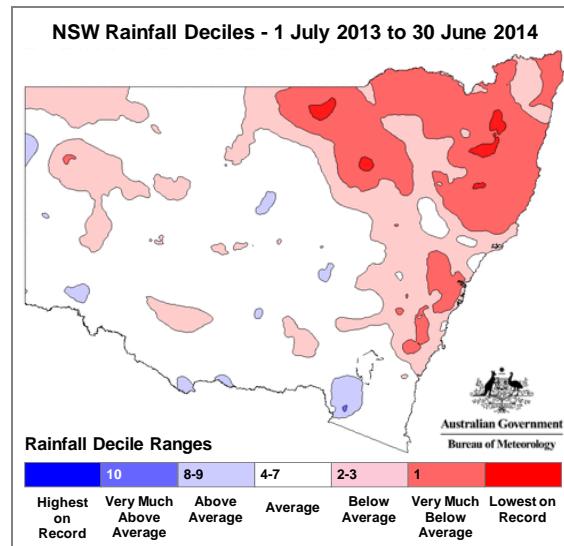
Figure 21:	Economic real rate of return – water supply and sewerage – F19 .....	55
Figure 22:	Economic real rate of return – water supply – F17 .....	56
Figure 23:	Economic real rate of return – sewerage – F18.....	57
Figure 24:	Operating cost (OMA) per property – water supply – F11 .....	58
Figure 25:	Operating cost (OMA) per property – sewerage – F12.....	59
Figure 26:	Operating cost (OMA) per kilolitre – water supply .....	60
Figure 27:	Management cost per property – water supply.....	61
Figure 28:	Management cost per property – sewerage .....	62
Figure 29:	Residential revenue from usage charges – water supply – F4.....	63
Figure 30:	Best-Practice Management implementation – water supply and sewerage .....	64
Figure 31:	Best-Practice Management implementation – water supply.....	65
Figure 32:	Best-Practice Management implementation – sewerage .....	66
Figure 33:	Typical developer charges – water supply.....	67
Figure 34:	Typical developer charges – sewerage .....	68
Figure 35:	Residential water usage charge – P1.3 .....	69
Figure 36:	Non-residential sewer usage charge .....	70

## Executive summary

In regional NSW, the reticulated public water supply and sewerage services are the single most important factor in protecting public health. However, in recent years NSW has been severely affected by drought and then by exceptionally wet years with major flooding in 2010-11 & 2011-12, followed by a moderately dry period in 2012-13 & 2013-14. In addition, the local water utilities continue to face significant challenges from issues such as climate variability, the effect of water sharing plans on water availability, population changes (growth along coastal NSW and a decline in some inland areas), together with a projected shortage of skills and resources in water engineering.

In such challenging operating conditions, sound strategic planning is essential. Utilities need to undertake such planning in accordance with the NSW Government's *Best-Practice Management (BPM) of Water Supply and Sewerage Framework* (page viii). Currently, 93 per cent of utilities have a sound strategic business plan (page 4), which includes a 30-year total asset management plan (TAMP) and 30-year financial plan. Annual review and update of the TAMP and financial plan and preparation and implementation of an annual Action Plan to Council (page 80) will ensure the long term effectiveness and sustainability of these services. In addition, all of the utilities are now achieving full cost recovery for water supply and 95 per cent for sewerage (page 87). The overall level of implementation of the 19 planning, pricing and management requirements of the *BPM Framework* is 90 per cent (page 84).

NSW local water utilities have continued to achieve consistently high standards notwithstanding the challenges outlined above. There has been a real increase of only 18% in the water supply median Typical Residential Bill (TRB) over the past 19 years (page 5) to \$582. The water supply TRB is now lower than the National Median and all the other Australian states and the capital city utilities except for Melbourne & country Victoria. The median TRB for water & sewerage combined is \$1251, which involves a real increase of 19% over this period. At the same time, 99.8 per cent of all 20,200 samples tested for *E. coli* complied with the *2011 Australian Drinking Water Guidelines (ADWG)*. The public drinking water supply for 99.9% of the urban population in regional NSW complied with ADWG, as did all of the regional utilities (page 87). Average annual residential water supplied is 173 kilolitres (kL) per property, which is 48 percent lower than that in 1991 (page 5). The trend in reductions is due mainly to the strong pay-for-use water pricing signals (page 5) with a median water usage charge of 213 cents per kilolitre (c/kL) together with implementation of water conservation measures by the utilities and some drought water restrictions.



## Utility characteristics

Like 2012-13, 2013-14 was a moderately dry year, with around 35% of the state receiving below average annual rainfall and around 75% of the water supply utilities receiving rainfall below their long term median annual rainfall. The 2013-14 statewide median rainfall was 77% of the long term median.

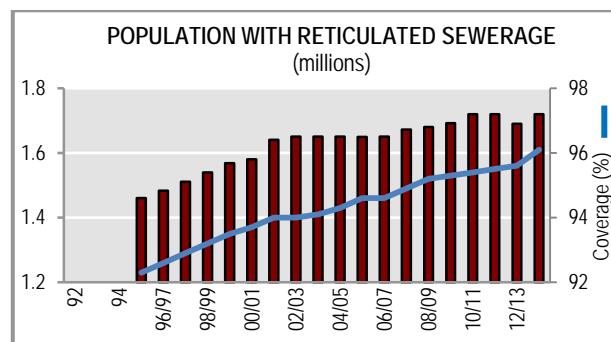
Since July 2013, 105 local water utilities (LWUs) have provided water supply and sewerage services to regional NSW (i.e. excluding Sydney and Hunter Water Corporations). Of these LWUs, 96 provided water supply services (including three bulk suppliers - Cobar Water Board, Fish River Water Supply and Rous County Council) while 99 LWUs provided sewerage services.

The LWUs provided a piped water supply to a population of 1.82 million (98.0 per cent coverage) and to 841,000 connected properties (page 87). The total water supplied was 306,000 megalitres (ML) which

has fallen by over 90,000 ML over the past 23 years. This is mainly due to the application of BPM Framework measures (e.g. strong pay-for-use pricing signals [box on page 5], water conservation and demand management including leakage reduction (page 10)), as well as some drought water restrictions.

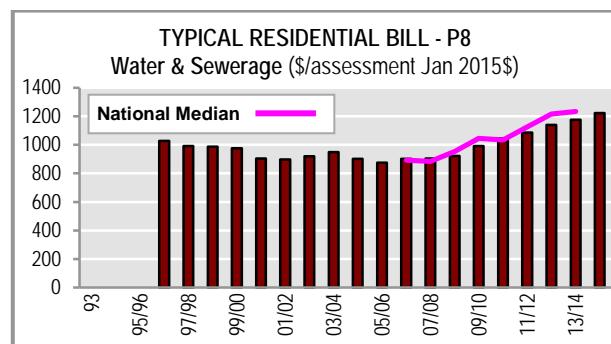
The LWUs also provided a piped sewerage service to 1.72 million people (96.1 per cent coverage).

Since implementation of the new Country Towns Water Supply and Sewerage (CTWSS) Program in 1996, the small town backlog sewerage services provided have increased the piped **sewerage coverage** (blue line) in regional NSW from 92.3 per cent to **96.1 per cent** of the urban population.



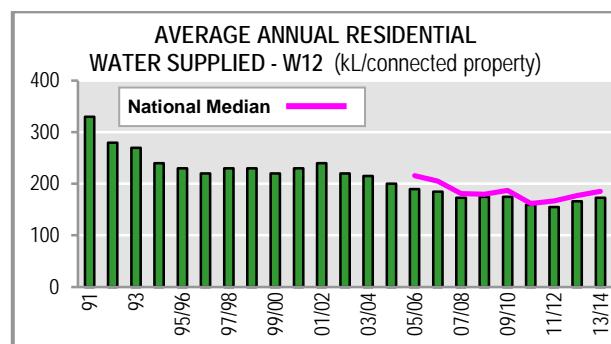
## Social

- The median typical residential bill for water supply is \$582 per assessment (Jan 2015\$), which has increased by 18% in real terms over the past 19 years [box on page 5]. The median typical residential bill for sewerage is \$669 and the median typical residential bill for water supply and sewerage is \$1251, which has increased by 19% over this period in real terms.
- Median water usage charge for the first step has risen to 213 c/kL. This is relatively high and provides a strong **pricing signal** to encourage efficient water use. Water usage charges now provide **73 per cent** of residential revenue, a major reform to the 20 per cent obtained 19 years ago [page 5].
- Median developer charge for water & sewerage is \$10,600 per equivalent tenement (pages 87, 67, 68). This is 32% of the \$33,200 median current replacement cost of system assets per assessment.
- The public drinking water supply for 99.9% of the urban population in regional NSW complied with ADWG (pages 8 and 87). Water quality complaints have remained low (pages 9, 40 and 87). The LWUs have skilled operators, with 339 operators meeting the *National Certification Framework for Water Treatment Operators* (page 16).
- Water main breaks are 10 per 100km of main. These have remained much lower than all the other Australian states and the capital city utilities, indicating good asset condition (pages 18, 9, 45, 87).



## Environmental

**Average annual residential water supplied** was 173 kL/connected property which was similar to country Victoria and lower than the National Median and all the other Australian states and capital city utilities, except for Melbourne and Brisbane (pages 18, 9, 46, 87). Average annual residential water supplied has fallen by 48 per cent over the past 23 years (from 330 to 173 kL/property).



- Ninety five per cent of utilities have implemented sound water conservation measures (page 84).
- Reuse of recycled water comprised 43,000 ML, which is 27 per cent of the total volume of sewage collected and was carried out by 84 per cent of the utilities, mostly for agriculture (pages 19, 53, 87).

- Compliance with the Environment Protection Authority (EPA) sewerage licences was 97 per cent of the 4,024 samples analysed for Biochemical Oxygen Demand (BOD) and 94 per cent of the 4,024 samples analysed for suspended solids (SS) (page 11). Ninety-two per cent of the utilities complied with their licence for BOD (pages 11, 51) & 82 per cent complied for suspended solids (pages 11, 52).

## Economic

The total revenue for the 105 regional utilities was \$1,360M (page 89) and the current replacement cost of their water supply and sewerage assets was \$27,600M (page 89).

- The median economic real rate of return was 1.3 per cent for water supply and sewerage which was higher than country Victoria but lower than the National Median and the capital city utilities (page 20). All LWUs are now achieving full cost recovery [box on page 13] for water supply and 95 per cent for sewerage (page 87).
- The median operation, maintenance and administration cost (OMA) for water supply and sewerage has increased from \$527 to \$830 (Jan 2014\$) over the past 22 years, largely due to more stringent standards for sewage treatment and increasing management costs. The water supply OMA cost was lower than the National Median and country utilities in all the other states but higher than most of the capital city utilities (pages 20, 14, 58, 59, 87).

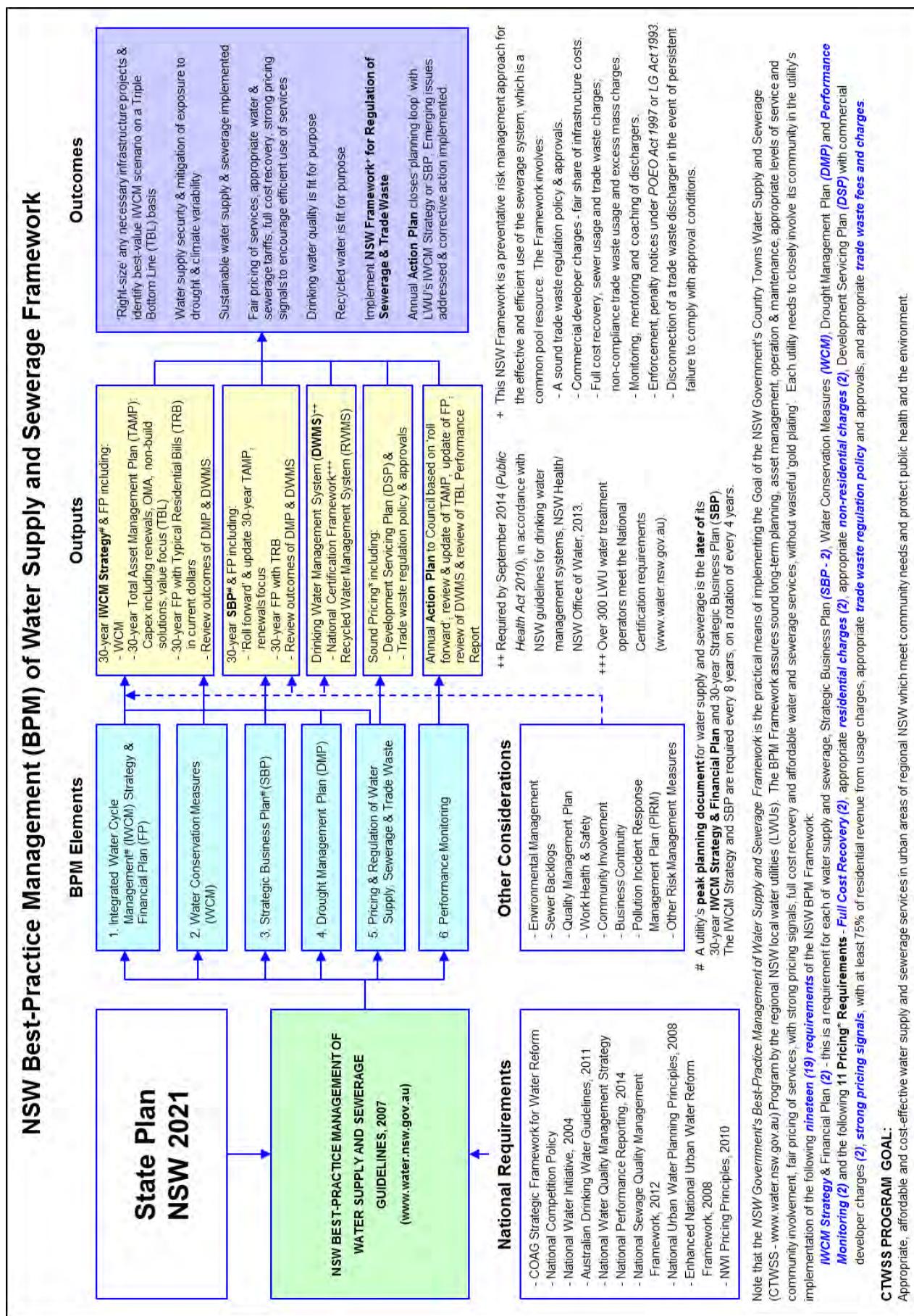
All NSW urban water utilities have abolished water allowances and have pay-for-use water pricing (page 91), thus enabling NSW to meet this key requirement of the National Water Initiative (NWI). Ninety-three per cent of utilities have a sound 30-year strategic business plan and financial plan (page 87), compared to 31% 16 years ago. Continued implementation of the BPM requirements by each utility will ensure the long term effectiveness and sustainability of these services.

### Best-practice management

The NSW Government continues to actively encourage the regional LWUs to achieve appropriate, affordable, cost-effective and sustainable water and sewerage services through implementation of the *NSW Best-Practice Management (BPM) of Water Supply and Sewerage Framework* (page viii). All the utilities need to implement the requirements of the *BPM Framework* (page 109).

- The overall level of implementation by the 105 NSW local water utilities (LWUs) of the 19 planning, pricing and management requirements of the *BPM Framework* is 90 per cent, compared to 46 per cent nine years ago. In addition, 45 per cent of the utilities have implemented all of the requirements for water and 52 per cent of the utilities have implemented all of the requirements for sewerage. [Figures on pages 64 to 66, pages 25, 84, 87].
- Implementation of all the requirements of the *BPM Framework* is a pre-requisite for payment of a dividend from the surplus of a utility's water or sewerage businesses (page 26). Each utility which meets these requirements is encouraged to pay such an 'efficiency dividend' to council's general revenue (required under National Water Initiative where practicable [box on page 13]).
- Such implementation is also required for financial assistance (page 26) towards the capital cost of backlog infrastructure (as at 1996) under the Government's Country Towns Water Supply and Sewerage (CTWSS) Program ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)) which is a major reform program.

**Data reliability** - the performance indicators for the 29 LWUs serving over 10,000 connected properties have been independently audited in accordance with the rigorous national auditing requirements (pages 34, 99) and have been reported in the *National Performance Report 2013-14* ([www.bom.gov.au](http://www.bom.gov.au)). These LWUs serve 75% of the connected properties in regional NSW. In addition all 30 NWI financial performance indicators for all the NSW LWUs have been independently audited annually since 2006-07. Furthermore the NSW Office of Water undertakes comprehensive data validation processes (page 97) to assure the ongoing data reliability of the NSW Performance Monitoring System (page 1).



# 1. NSW performance monitoring system

Performance monitoring and benchmarking are required under the *National Competition Policy* and the *National Water Initiative*, are important for public accountability and have been strongly endorsed by both the NSW Independent Pricing and Regulatory Tribunal and the Productivity Commission. Performance monitoring is also a key requirement of the *NSW Best-Practice Management of Water Supply and Sewerage Guidelines*<sup>2</sup> which drive the *NSW Best-Practice Management Framework* (page viii).

This *Performance Monitoring Report* presents the key NSW performance indicators (Figures 1 to 36 and Appendix D), discloses the overall Statewide performance of the regional NSW local water utilities (page 2) and compares that performance with interstate utilities (page 17 and Appendix A). The full suite of performance indicators is provided in the *2013-14 NSW Water Supply and Sewerage Benchmarking Report* which contains benchmarking data to enable each local water utility (LWU) to monitor trends in its performance indicators over the past six years and to benchmark its performance against that of similar LWUs. The benchmarking report is available on the NSW Office of Water website ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)). Independent auditing and data validation assure data reliability (page 97).

To facilitate comparisons, performance indicators have been prepared for each LWU's aggregated water businesses and aggregated sewerage businesses, rather than for individual water & sewerage systems.

## 1.1 Triple bottom line focus

To provide a balanced view of the long-term sustainability of the NSW utilities, this report continues to use a triple bottom line (TBL) accounting focus. This involves consideration of a utility's strategic business plan together with its social and environmental management practices, with performance reported on the basis of social, environmental and economic performance indicators.

## 1.2 Statewide performance

The Statewide performance of the NSW LWUs is provided in section 2 overleaf, where the performance indicators are calculated on a 'percentage of connected properties basis'. This is a weighted median on the basis of connected properties, which best reveals Statewide performance by giving due weight to larger LWUs and reducing the effect of smaller LWUs (page 32).

## 1.3 Utility performance comparison

When comparing reported performance, utilities should take account of the wide range of factors which can impact on their performance and typical residential bill, which is the principal indicator of the overall cost of a water or sewerage system. Such factors can produce a fundamental difference in performance.

For example, in the case of water supply, a utility which provides full water treatment and has its own bulk storage dam and raw water transfer mains and channels will have a much higher capital and operating cost structure than a utility which has a nearby good quality groundwater supply. Each utility can improve its productivity and performance by taking account of such factors and comparing its performance with utilities having similar characteristics.

For further detail on factors that impact on a utility's performance, refer to section 5.3 on page 30.

## 1.4 TBL reports and action plans

The NSW Office of Water provides each LWU with an annual TBL Performance Report and a template for its Action Plan to Council for its water supply business and for its sewerage business. The TBL reports provide a summary of the LWU's implementation of the requirements of the Best-Practice Framework & its performance for over 50 key performance indicators together with the Statewide & National medians & the LWU's relative performance against similar sized LWUs. TBL reports and action plans are discussed on page 27. An example TBL report [page 82] and action plan [page 80] are provided in Appendix B.

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<sup>2</sup> *Best-Practice Management of Water Supply and Sewerage Guidelines*, NSW Government 2007 ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

## 2. Statewide performance summary

The Statewide performance of the regional NSW local water utilities (LWUs) is provided below for the key performance indicators. The full suite of performance indicators over the past six years is shown in the *2013-14 NSW Water Supply and Sewerage Benchmarking Report* which is available on the NSW Office of Water website ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

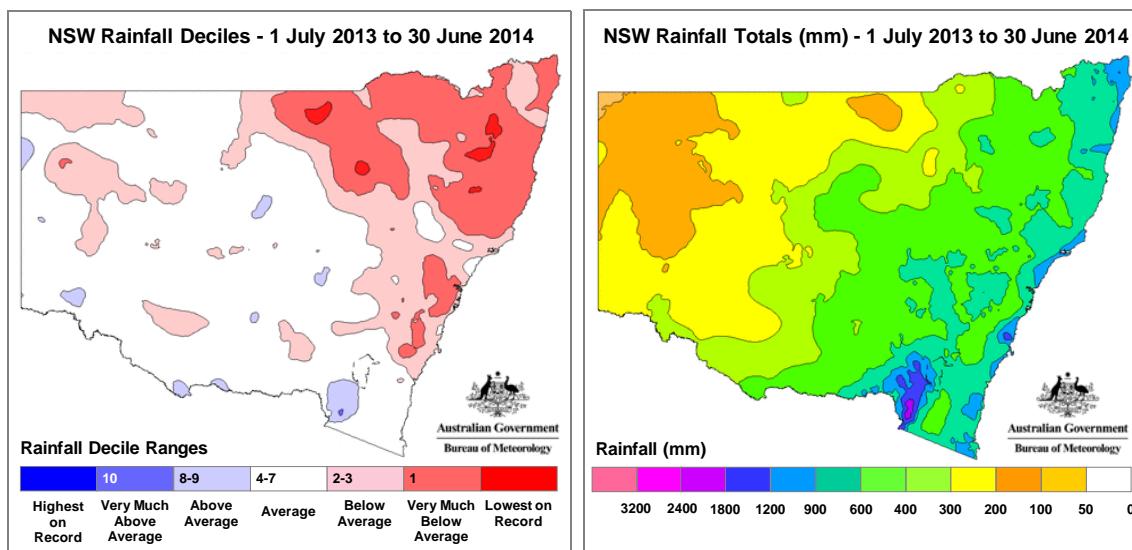
To provide a balanced view of the long-term sustainability of NSW water utilities, this report provides a triple bottom line (TBL) focus with performance reported on the basis of social, environmental and economic indicators.

Performance monitoring and benchmarking are required under National Competition Policy and the National Water Initiative<sup>3</sup>, are important for public accountability and have been strongly endorsed by the Independent Pricing and Regulatory Tribunal<sup>4</sup> and the Productivity Commission<sup>5</sup>.

### Utility characteristics

#### Rainfall

Like 2012-13, 2013-14 was a moderately dry year, with around 35% of the state receiving a below average annual rainfall (left figure below). The statewide median rainfall was 77% of the long term median (Figure 6 of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*). Seventy five percent of water supply utilities received less than their long term median annual rainfall. Bellingen (52%), MidCoast (55%), Moree Plains (52%), Nambucca (52%) and Walgett (47%) received the lowest percentage of their median annual rainfall. Essential Energy (121%), Bega Valley (121%), Berrigan (119%), Forbes (127%) and Murray (130%) received the highest percentage of their median annual rainfall.



The figures<sup>6</sup> above show the rainfall decile ranges for NSW (left) and the total annual rainfall (mm) for NSW (right), indicating the moderate rainfall received statewide in 2013-14.

**New residential dwellings** - median as a percent of the existing residential properties was:

- 0.9% connected to water supply; 1.0% connected to sewerage.

<sup>3</sup> *National Performance Framework – 2013-14 Urban Performance Report Indicators and Definitions*, National Water Commission/Water Services Association of Australia, June 2014 ([www.nwc.gov.au](http://www.nwc.gov.au)).

<sup>4</sup> *Pricing Principles for Local Water Authorities*, Independent Pricing and Regulatory Tribunal NSW, 1996.

<sup>5</sup> *Australia's Urban Water Sector*, Productivity Commission Inquiry Report No. 55, August 2011 ([www.pc.gov.au](http://www.pc.gov.au)).

<sup>6</sup> Source: Australian Bureau of Meteorology, 2014 ([www.bom.gov.au](http://www.bom.gov.au)).

**Renewals expenditure** - median as a percent of current replacement cost of system assets was:

- 0.5% for water supply and 0.5% for sewerage.

These may appear to be low, however they are considered to be appropriate as discussed in the box below and Item 9 on page 80.

### Infrastructure renewals

As noted on pages 23 and 108, assessment of infrastructure renewals requirements is a critical element of a utility's total asset management plan (TAMP), which must be documented in the utility's 30-year integrated water cycle management (IWCM) strategy and financial plan or strategic business plan and financial plan (page 22). Details of each LWU's infrastructure asset condition, asset rehabilitation activities, renewals expenditure, financial performance, system performance, typical residential bill, strategic planning and best-practice management (BPM) implementation are provided in Tables 5C and 5D of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*.

For water supply and sewerage, it is misleading to measure annual renewals expenditure on the basis of a nominal percentage (say one or two per cent) of the current replacement cost of assets. Rather, the bulk of renewals expenditure will be required towards the end of the economic life of an asset (e.g. a new water main with an economic life of 80 years would be expected to have minimal renewal expenditure before year 80). Therefore, LWUs should ensure that their financial plan addresses all future capital expenditure, including renewals, identified in a soundly based 30-year total asset management plan (TAMP) – capital works plan, operation plan, including non-build solutions and maintenance plan. They should ensure their Typical Residential Bill is in accordance with the projection in the later of their IWCM Strategy and Strategic Business Plan (Item 14 on page 80, page 107). They should also annually monitor income and expenditure and 'roll forward', review and update their TAMP and their 30-year financial plan (page 28). Funding in the financial plan involves an appropriate mix of the utility's annual income, accumulated cash and investments and borrowings. Further guidance on developing a cost-effective and robust **30-year renewals plan** is available in Item 7F of the July 2014 Strategic Business Planning Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)). Refer also to page 13 of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*. Strategic feedback and guidance is also available from the NSW Office of Water to assist LWUs proposing significant renewals capital expenditure ([Dilip.Dutta@dpi.nsw.gov.au](mailto:Dilip.Dutta@dpi.nsw.gov.au) or 9842 8499).

As shown on pages 9, 18, 43, 73 and 87, water main breaks for NSW LWUs have remained much lower than all the other states and the capital city utilities, indicating good water main asset condition.

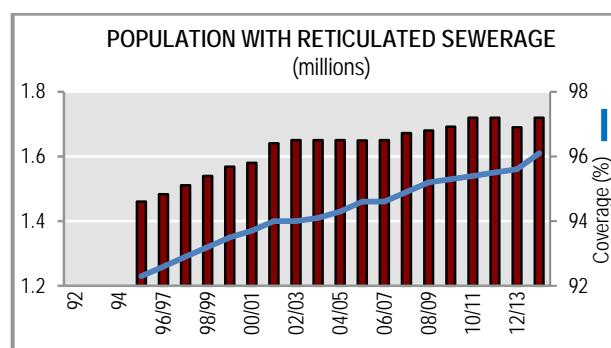
**Properties served per km of main** – median was:

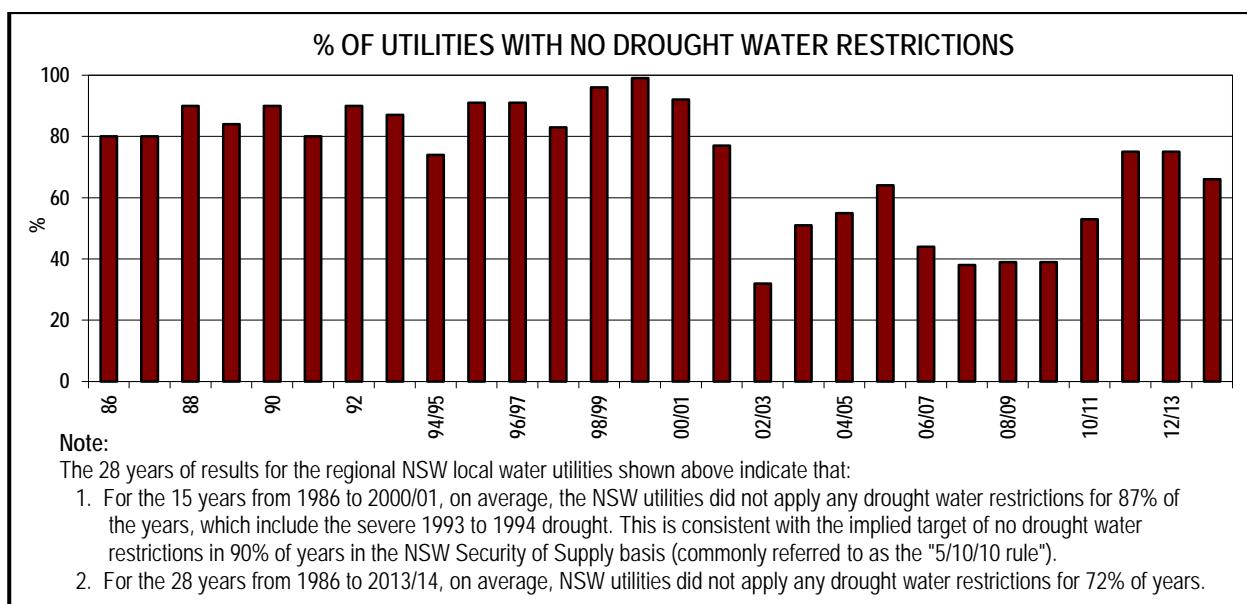
- 32 for water supply and 38 for sewerage. Refer also to the 2<sup>nd</sup> paragraph of page 17.

**Provision of reticulated sewerage** – The 2013-14 population provided with a piped sewerage service was 1.72 million (96.1% coverage – blue line). For water supply, the population served was 1.82 million (98.0% coverage). Refer also to footnote 8 on page 7, footnote 16 on page 17 and Figure 42 of the Benchmarking Report.

### Water restrictions

During at least part of 2013-14, 33% of LWUs applied drought water restrictions [Figure 22 of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*]. 95% of LWUs have implemented a sound drought management plan [column 4 on page 84].

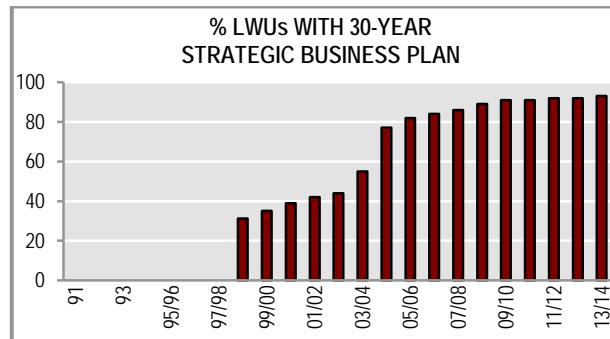




## Business plans

A LWU's **peak planning document** for water supply and sewerage is the **later of** its 30-year **IWCM strategy and financial plan** (page 22) and 30-year strategic business plan (**SBP**) and financial plan ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

The NSW Office of Water reviews LWU strategic business plans, which include a 30-year total asset management plan (page 23 – TAMP) and 30-year financial plan to ensure they are soundly based (pages 23 and 103). The percentage of utilities with a sound 30-year strategic business plan and financial plan has increased from 31% to 93% over the past 16 years. This now includes all LWUs serving over 3,000 properties. These utilities

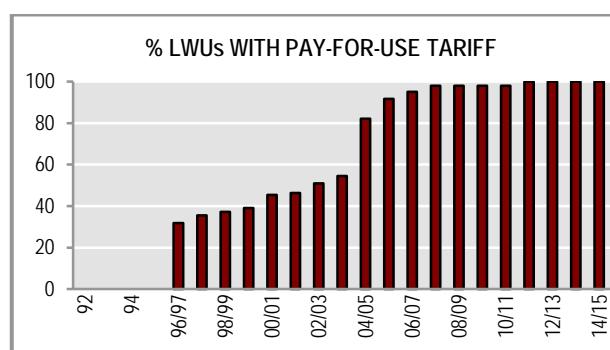


comply with National Competition Policy [column 34 on page 87] and cover over 99% of the connected properties in regional NSW. As the plans for 55 of these LWUs are now over 4 years old [shown as Yes\*], they now need to prepare a new 30-year IWCM Strategy, financial plan and report in accordance with the July 2014 IWCM Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)) [column 34 on page 87]. Similarly, the 16 LWUs whose IWCM Strategy is over 6 years old [shown as Yes+] need to prepare such a new IWCM Strategy, financial plan and report [column 34 on page 87]. Refer also to pages 22, 108, 111 and 113.

## Social – charges/bills

### Tariffs

All of the LWUs had both pay-for-use water pricing and full cost recovery for water supply. 95% of LWUs had sound pricing with full cost recovery for sewerage [column 2a on page 77 for both water supply and sewerage]. These are required under the National Water Initiative. From July 2012, all NSW utilities have had a metered potable water supply and pay-for-use water pricing with the completion of domestic metering and pricing by Walgett and Brewarrina.

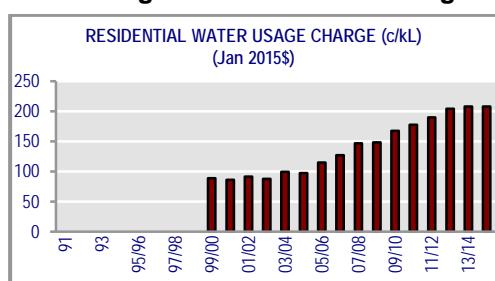


**Pay-for-use water supply tariff** – since July 2012, 100% of LWUs had a two-part tariff (i.e. an access charge and a usage charge for all potable water usage) or an inclining block tariff (column 5b on page 91). These tariffs comply with National Competition Policy and the National Water Initiative.

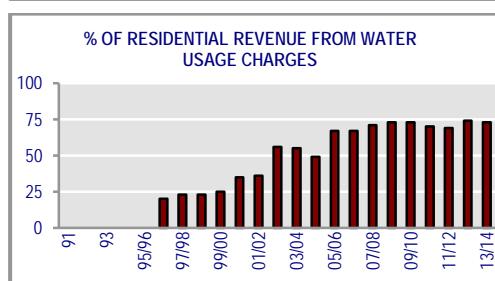
**Annual water allowance** – since July 2007, all NSW utilities have abolished the annual water allowances for their potable water supply.

## Case study

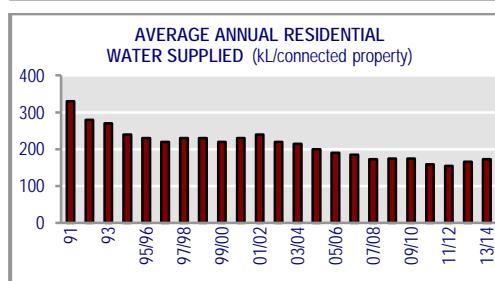
### The strategic benefits of the strong NSW pricing signals



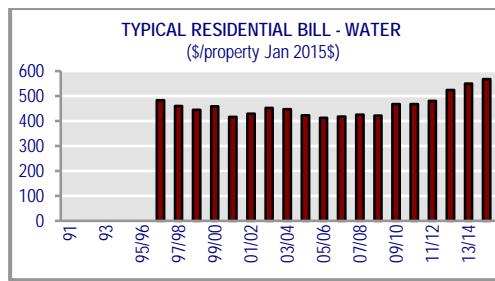
1. The Statewide median **residential water usage charge** has increased from effectively nil (i.e. a 'free water allowance') to 213 cents per kilolitre over the past 19 years [pages 69, 73 and 91]. Although 68% of the NSW local water utilities had a 'free water allowance' in 1996-97, these were fully abolished by July 2007.



2. The NSW LWUs have reformed their pricing through **strong pricing signals**, with **residential revenue from usage charges** increasing from 20% to 73% over the past 19 years. These pricing signals are higher than country Victoria, the National Median and all the reported results for the other Australian states and the capital city utilities except for Sydney and Canberra [pages 17, 63, 73, 87 and 91].



3. Increased water usage charges have sent strong pricing signals which have assisted the NSW utilities to achieve a **48% reduction** in the **residential water supplied** per property since 1991, which equates to a saving of 90 billion litres per annum. It has also enabled the NSW utilities to **avoid over \$1 billion in capital expenditure** over the last decade for augmenting headworks and treatment capacity.



4. The strong pricing signals and efficient water use have enabled the NSW utilities to **limit the real increase in the water supply typical residential bill (TRB) to 18%** over the past 19 years. The water supply TRB is now lower than the National Median and all the reported results for the other Australian states and the capital city utilities except for Melbourne and country Victoria (pages 17, 73, 87 & 91).

## Water usage charge

As noted in *Item 2* above, the Statewide median residential revenue from water usage charges is 73%, which enables residents to influence most of their water supply bills. Figure 29 on page 63 and column 13 on page 91 show that 60% of LWUs obtained at least 65% of their residential revenue from usage charges. Residential water supplied is shown on pages 46, 47, 18, 75, 87 and 91.

- As noted in *Item 1* above, the median water usage charge for the first step is 213 c/kL, which is relatively high [page 73]. Together with the residential revenue from usage charges (*Item 2* above),

this provides a strong pricing signal to encourage efficient water use [Figure 35 on page 69, column 5 on page 91]. As shown in *Item 4* on page 5, the real increase in the water supply typical residential bill (TRB) over the past 19 years has been limited to 18%. The real TRB for water supply and sewerage has increased by 19% over this period (page 7).

LWUs are reminded that Circular LWU 11 of March 2011 (refer also to the box on page 13) has removed the need for use of inclining block tariffs by LWUs. **The NSW Government encourages LWUs to use a 2-part tariff with a uniform water usage charge<sup>7</sup> per kL for all water use.** IPART has implemented such tariffs for Sydney, Hunter, Gosford and Wyong.

**Residential water billing in accordance with national guidelines** – 46% of LWUs now have residential water billing in accordance with the *National Guidelines for Residential Customers' Water Accounts, 2006*. In addition, a further 18% of LWUs have made significant progress towards such billing [column 5e of Appendix E on page 91].

**Sewer usage charge** – 79% of water utilities had a non-residential sewer usage charge per kL to provide a strong pricing signal to commercial and industrial dischargers [Figure 36 on page 70, column 3a on page 94]. The median sewer usage charge was 136 c/kL.

**Access charge** - median residential access charge per assessment was:

- \$170 for water supply [column 2 on page 91]
- \$669 for sewerage [column 1 on page 94].

**Developer charges** - median typical developer charge was:

- \$5,500 per equivalent tenement (ET) for water supply [Figure 33 on page 67, column 7 on page 91]
- \$5,100 per ET for sewerage [Figure 34 on page 68, column 7 on page 94].

The median current replacement cost of system assets for water supply and sewerage was \$16,500 and \$16,700 per assessment respectively. The typical developer charge for water & sewerage was \$10,600, which is 32% of the current replacement cost of system assets per assessment [column 8 on page 87].

81% of LWUs have appropriate liquid trade waste fees and charges, compared with 20% of LWUs nine years ago [column 4 on page 94 and column 2d on page 84]. The non-residential sewerage charges and the trade waste fees and charges levied by each LWU are shown respectively in Tables 7B and 7C of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*. The non-residential water supply charges are shown in Table 6B of the Benchmarking Report.

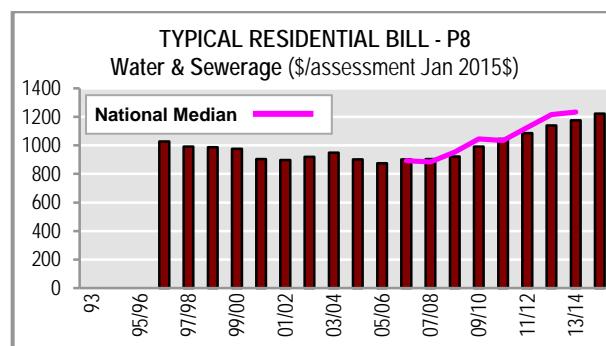
All LWUs should levy appropriate non-residential sewerage access and sewer usage charges, together with trade waste charges for **all** commercial and industrial dischargers to the sewerage system [item 5 on page 24 and page 104]. Each utility's TBL Performance Report compares the percentage of sewage discharged or the percentage of water supplied for non-residential customers with the percentage of the revenue from access and usage charges paid by such customers. Where a significant cross-subsidy is identified, the utility should move to phase it out. For example, note 7 on page 82 shows that 27% of the water supplied was non-residential, and that these customers paid 24% of the revenue, indicating fair pricing of services across the residential and non-residential sectors.

**Typical residential bill** - median 2014-15 typical residential bill per assessment was:

- \$582 for water supply [Figure 2 on page 36, column 8 on page 91]
- \$669 for sewerage [Figure 3 on page 37, column 8 on page 94], i.e. a total of \$1,251 for water and sewerage [Figure 1 on page 35].

<sup>7</sup> Refer to page 15 of the NSW Government's submission of May 2011 on the Productivity Commission's Draft Report 'Australia's Urban Water Sector, April 2011' (available at [www.pc.gov.au](http://www.pc.gov.au) and <http://www.water.nsw.gov.au/Urban-Water/default.aspx#draft>). Such a tariff is also recommended by the Productivity Commission's Report No. 55 on Australia's Urban Water Sector.

The typical residential bill (TRB) is the principal indicator of the overall cost for a water or sewerage system. It is the bill paid by a residential customer using the LWU's average annual residential water supplied (refer also to pages 29 and 32). As noted on page 5, the real increase in the Statewide water supply TRB has been limited to 18% over the past 19 years and is now lower than the National Median and all the reported results for the other Australian states and the capital city utilities except for Melbourne and country Victoria. As noted on page 6, the real TRB for water and sewerage was \$1,251 and has increased by 19% over this period [pages 18, 35, 73, column 6 on page 87].



## Social – health

**Population served** - the NSW Government's Country Towns Water Supply and Sewerage (CTWSS) Program ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)) has assisted the regional NSW local water utilities in achieving the present high levels of water supply and sewerage coverage<sup>8</sup> and the resulting public health and environmental protection for the urban population in regional NSW:

- water supply 98.0% coverage (1.82 million population served)
- sewerage 96.1% coverage (1.72 million population served).

### Australian Drinking Water Guidelines (ADWG) 2011

A **priority** issue for all NSW water supply utilities is preparing and implementing a risk-based drinking water management system (DWMS) in accordance with *NSW guidelines for drinking water management systems*, NSW Health and Office of Water, 2013. This is required from 1 September 2014 under the *Public Health Act 2010*. Annual review of your DWMS is required as noted on page 28.

A further **high priority** for each local water utility is to provide a public drinking water supply which:

1. Complies with ADWG for microbiological quality (health related).
2. Complies with ADWG for chemical quality (health related).
3. Maintains the microbiological<sup>9</sup> and chemical drinking water quality through providing appropriate water supply and treatment infrastructure and carrying out the necessary operation and maintenance activities. These include adjusting treatment processes in response to changes in raw water characteristics and regular inspections of service reservoirs<sup>9</sup> in order to detect and repair any defects in the reservoir roof, wall or vermin proofing which may allow contamination of the stored water by birds, wasps, vermin, animals & windborne contaminants.
4. Maintains effective disinfection and the integrity of the utility's water supply distribution systems in accordance with Circular LWU 18<sup>10</sup> of June 2014.

Guidance on items 3 and 4 above is available on pages 10 and Appendix E of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*.

In view of their importance for ensuring public health protection, any failures to achieve microbiological compliance in the last 2 financial years or any 'boil water alerts' in the last 18 months, the corrective action implemented and whether it was successful must be reported in your LWU's annual Action Plan to Council [note 4 on page 81]. Refer also to Item 2 on page 28.

Assistance available: [urbanwater@water.nsw.gov.au](mailto:urbanwater@water.nsw.gov.au) or (02) 9842 8495 or your Regional Water and Sewerage Treatment Officer (refer to page 36 of the *NSW Benchmarking Report*).

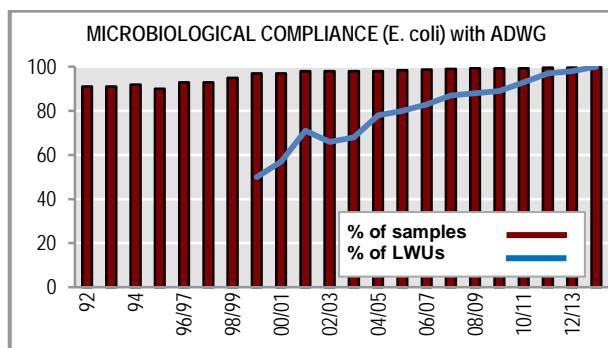
<sup>8</sup> The systematic provision of backlog sewerage services for unsewered small towns under the NSW Government's CTWSS Program has increased the sewerage coverage to 96.1% of the urban population, compared to 92.3% in 1996 (page 3).

<sup>9</sup> While a boil water alert will be necessary to protect the community, for example if a LWU's raw water sources become highly turbid due to major flooding, over 80% of recent boil water alerts in regional NSW were found to be avoidable through appropriate maintenance and chlorine residuals (page 10 of *2013-14 NSW Benchmarking Report*). LWUs need to follow the NSW Health response protocol if E. coli bacteria is found, or if there is failure of the disinfection system, or disinfection is otherwise ineffective e.g. due to poor treated water quality. [<http://www.health.nsw.gov.au/environment/water/Pages/nswhrp-microbiological.aspx>].

<sup>10</sup> A copy of Circular LWU 18 – *Assuring the Security of Urban Water Supplies* is available from [urbanwater@water.nsw.gov.au](mailto:urbanwater@water.nsw.gov.au).

The basis for assessing drinking water quality compliance is set out in section G4.6 on page 101.

**Microbiological compliance for *E. coli* (health related)** - of the 20,200 samples tested for *E. coli* in 2013-14, 99.8% complied with 2011 NHMRC/NRMMC Australian Drinking Water Guidelines (2011 ADWG), which was similar to the other Australian utilities [page 74]. All of the LWUs complied for microbiological quality, which is the primary health related indicator and is a **high priority** for each LWU. The percentage of LWUs complying with ADWG has increased from 50% to 100% (blue line) over the last 15 years. As noted on page 74, the 1996, 2004 and 2011 editions of ADWG are more stringent than the earlier guidelines. Eg. whilst 89% of LWUs complied with the 1987 Guidelines in 1998-99, only 50% of LWUs were able to comply with the 1996 ADWG one year later (ie. in 1999-00).



The box on page 7 provides information to assist LWUs to achieve microbiological compliance [Figure 5 on page 39, column 9 on page 87].

**Chemical compliance (health related)** - of the 4,500 samples tested, 99.4% complied with the 2011 ADWG for chemical water quality [Figure 4 on page 38, column 11 on page 87]. All of the LWUs complied with ADWG for chemical quality, which is also a **high priority** for each LWU.

**Physical compliance** - of the 4,600 samples tested, 98.4% complied with the 2011 ADWG for physical water quality (aesthetic). All of the LWUs complied with ADWG for physical water quality [Figure 12 of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*].

In both 2012-13 and 2013-14, the public drinking water supply for 99.9% of the urban population in regional NSW complied with 2011 ADWG for both microbiological and chemical water quality [Figures 4 and 5 on pages 38 and 39, columns 10 and 12 on page 87].

Over the past thirteen years microbiological compliance has ranged from 97% to 99.8%, and chemical compliance has ranged from 95% to 99.6%.

For LWUs with a number of separate water treatment works or sewage treatment works, the 2013-14 compliance with drinking water quality guidelines and EPA licence conditions have been pro-rated based on the number of samples tested for each treatment works. The full 2013-14 results for each of the 239 LWU water treatment works/chlorinators are disclosed in Appendix D1 of the *Benchmarking Report* available on the Office of Water website. Appendix D2 of the *Benchmarking Report* discloses the full 2013-14 results for each of the 300 LWU sewage treatment works.

Table 12 of the *Benchmarking Report* shows that 71 LWUs have a risk-based drinking water management system. Commencing in reporting for the 2014-15 financial year, such plans will need to comply with the *NSW guidelines for drinking water management systems, 2013* and to be independently audited in order to comply with the *Public Health Act 2010* and to report 'Yes' for 'Externally Assessed – NWI Indicator H5'.

A summary of sampling requirements under 2011 ADWG is provided in the *Benchmarking Report* [Appendix B – ADWG 2011 – Sampling location and frequency]. Each LWU should ensure that it adheres to the sampling frequencies specified in Part 3 of ADWG and to the NSW Health advice of the required sampling frequency for each of the utility's water sources.

In addition, in order to assure the continuing safety of drinking water supplies, Circular LWU 18<sup>10</sup> of June 2014 requires each LWU to carry out a detailed examination of each service reservoir & its roof to ensure it is secured from entry by birds, wasps, vermin, animals and windborne contaminants. Any deficiencies in the roof or mesh design will need to be rectified and a Summary Report provided to the Office of Water.

## Social – levels of service

**Sewage odour complaints** - median 1.0 per 1000 properties [pages 74 and 41]. Odour complaints, which are a key sewerage system performance indicator, have remained low over the past 20 years.

**Sewerage service complaints** – median was 8 per 1000 properties [Figure 44 of the *Benchmarking Report*]. Service complaints have fallen from 20 to 8 over the past 19 years.

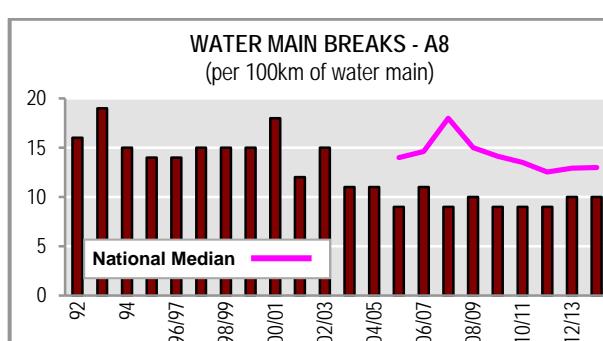
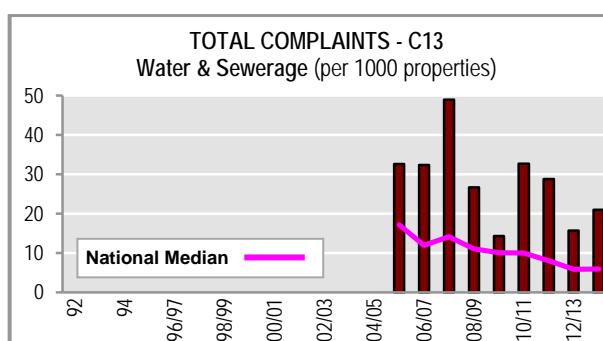
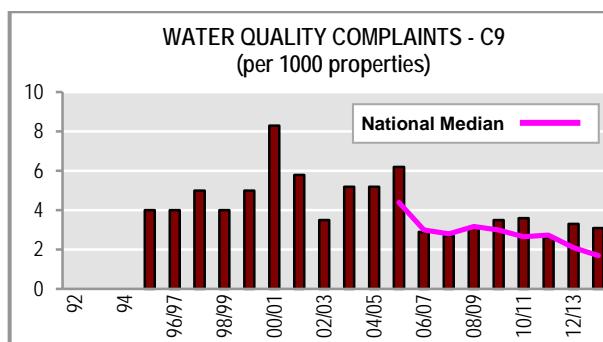
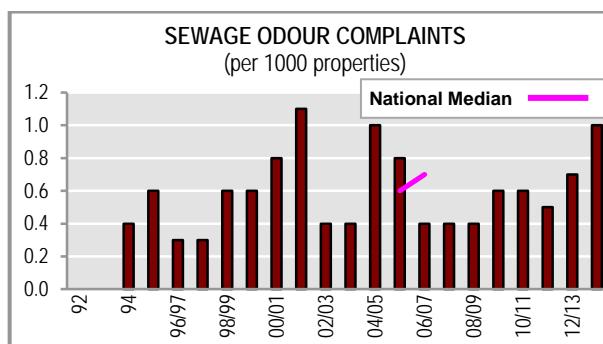
**Water quality complaints** – median was 3 per 1000 properties, similar to the other Australian utilities [pages 74 and column 13 on 87, Figure 6 on page 40].

**Water service complaints** – median was 6 per 1000 properties [Figure 19 of the *Benchmarking Report*].

Water quality complaints have fallen from a maximum of eight to three over the past 19 years while service complaints have decreased from seven to six. As indicated above, drinking water quality has improved over this period due to the commissioning of new water treatment facilities and improved operation and maintenance by LWUs.

**Total complaints** for water supply and sewerage – the statewide median was 21 per 1000 properties [page 42 and column 6 on page 87], which has fallen from a maximum of 49 over the past 9 years.

**Water main breaks** – median was 10 per 100km of main. This has remained much lower than all other Australian states and capital city utilities, indicating good water main asset condition [pages 18, 43, 74 and column 15 on page 87].

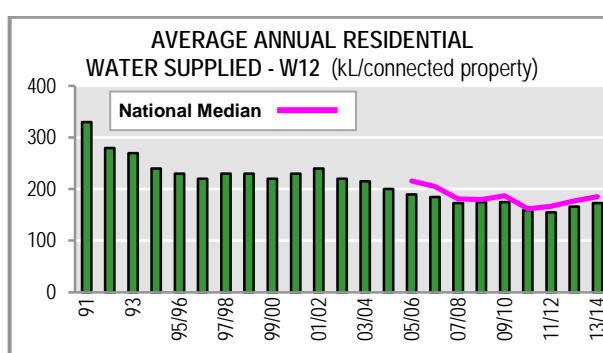


## Environmental – water usage and reuse

### Average annual residential water supplied

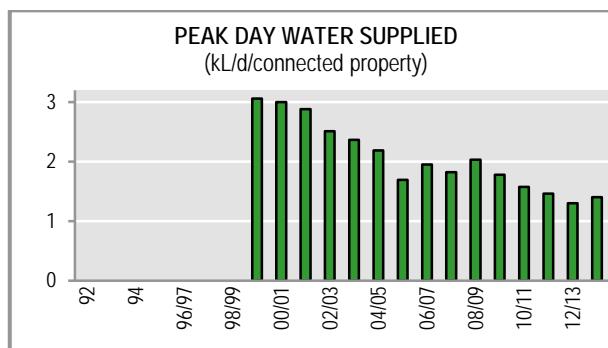
The Statewide median 'average annual residential water supplied' was 173 kL/connected property, which has fallen by 48% over the past 23 years [pages 5, 18 and 75, Figure 12 on page 46, column 17 on page 87, column 14b on page 91].

Note that for inland water utilities the hotter and drier climate, together with the use of evaporative



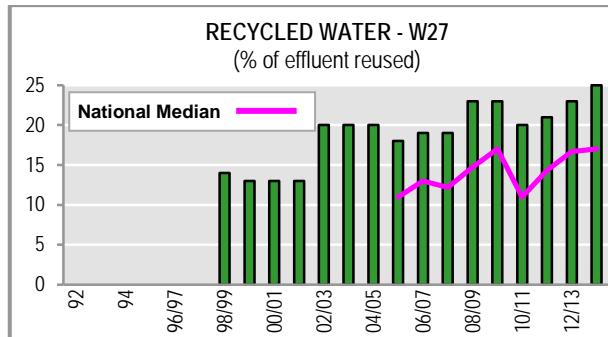
cooling, results in significantly higher residential water usage than coastal utilities. Water restrictions also affect this value. The weighted median 'average annual residential water supplied' for the inland utilities was 263 kL/connected property while the weighted median for coastal utilities was 157 kL/property [Figure 13 on page 47].

**Peak day water supplied** – median was 1.4 kL/d/connected property [page 48]. The Statewide median for this indicator has fallen by 54% over the last 14 years. Each LWU should carefully review the data for this indicator in its TBL Performance Report or 19-year Planning Data Set (refer to page 108) to ensure it 'right sizes' its water treatment works, service reservoirs and water supply distribution systems.

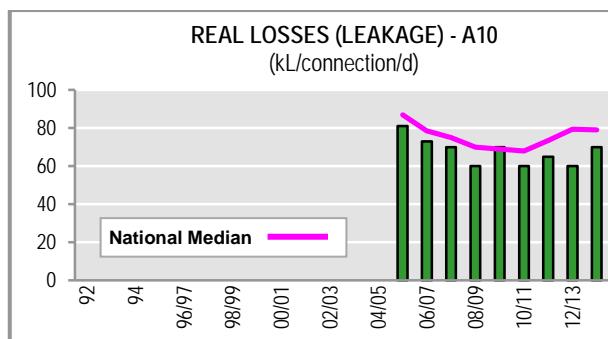


**Water conservation** – 95% of LWUs have implemented sound water conservation measures [column 3 on page 84], which is important for minimising wastage and reducing our environmental footprint. The water conservation measures implemented by each LWU are disclosed in Table 8C of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*.

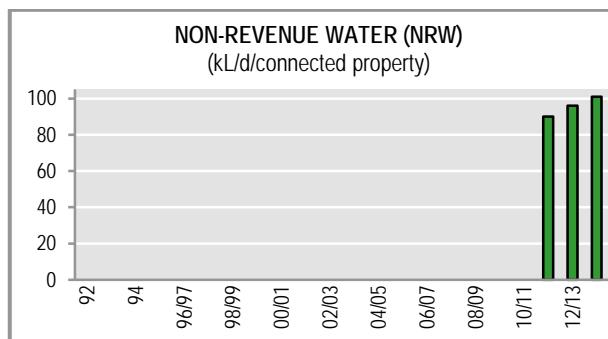
**Recycled water** - 84% of LWUs carried out re-use of effluent, mostly for agriculture [Figure 19 on page 53, column 21 on page 87]. The total volume of water recycled in the 2013-14 financial year was 43,000 ML. This was 27% of the total volume of sewage collected, compared to 14% in 1998-99. 26% of LWUs recycled over 50% of their effluent. The highest volume recycled by one utility was 5,500 ML (Wagga Wagga) and a further five utilities (Albury, Bathurst, Orange, Shoalhaven and Tamworth) each recycled over 2,000 ML. The demand for recycled water in 2013-14 remained stable as a result of the return to moderate rainfall conditions (77% of the long term median - page 2). Refer also to pages 19 and 76.



**Real losses (leakage)** – the Statewide median real water loss is 70 L/connection/d, which is lower than the National Median of 79 L/connection/d [pages 19, 75 and column 18 on page 87]. (Refer also to page 49). As indicated in note 8 on page 33, 82 LWUs have recently carried out water loss management, including leakage testing, analysis and leakage reduction. The Regional NSW Water Loss Management Program [footnote 25 on page 33] has resulted in reductions in the average water losses for the 68 participating LWUs from 154 to 92 L/connection/d, or from 16% to 10% of the potable water supplied, a total saving of 5,500 ML/a.



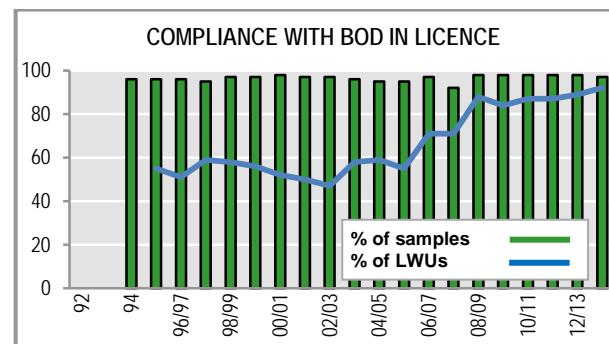
**Non-revenue water** – the Statewide median was 101 L/service connection/d [page 50].



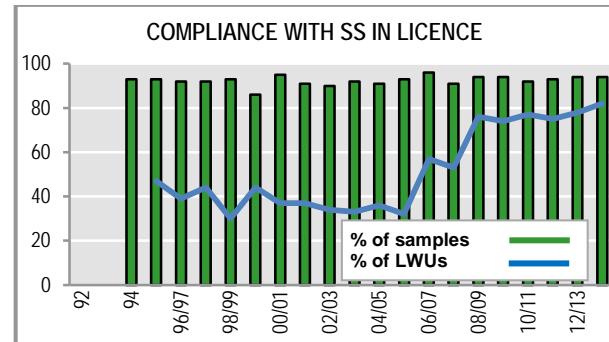
## Environmental – effluent management

**Sound sewerage and trade waste pricing and regulation** is an essential pre-requisite to the effective and efficient management of a sewerage system. Refer to the NSW Framework for Regulation of Sewerage and Trade Waste on page viii and pages 24, 16 and 104.

**Sewage effluent quality (BOD)** – 97% of the 4,024 sampling days complied with the 90-percentile limits of the Environment Protection Authority (EPA) licences for Biochemical Oxygen Demand (BOD) & 92% of LWUs complied with the 90-percentile limit of their BOD licence [page 76, Figure 17 on page 51]. Over the past 20 years Statewide compliance for BOD has ranged from 92% to 98%. The percentage of LWUs complying has increased from a low of 50% to 92% (blue line) over this period and licence limits for both BOD and Suspended Solids (SS) have become more stringent for many LWUs.



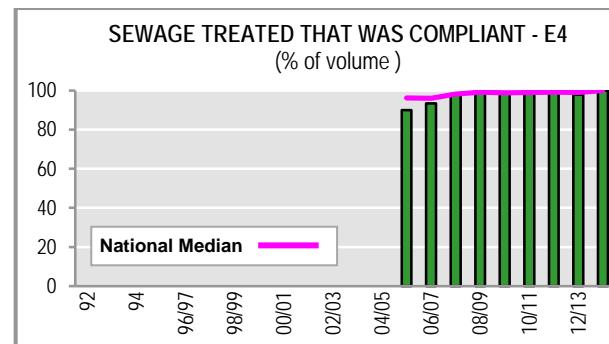
**Sewage effluent quality (SS)** – 94% of the 4,024 sampling days complied with the 90-percentile limits of the EPA licences for SS and 82% of utilities complied with 90-percentile limits of their SS licence [page 76, Figure 18 on page 52]. Over the past 20 years Statewide compliance for SS has ranged from 86% to 96%. The percentage of LWUs complying has increased from a low of 30% to 82% (blue line) over this period. The major cause of non-compliance is the growth of algae in maturation ponds being measured as SS.



**Greenhouse gas emissions** – total greenhouse gas emissions was 370 tonnes per 1000 properties, which is similar to the National Median [page 19, Figure 20 on page 54 and page 77].

**Biosolids reuse** – median LWU reuse of biosolids was 100% in 2013-14. This has increased from 43% in 1998-99 [page 76 and Table 15 of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*]. As noted on page 10, 27% of the total sewage volume collected was recycled.

**Sewage volume treated that was compliant** – median LWU sewage volume treated that was compliant was 100%, up from 90% 8 years ago [Figure 10 on page 44 and pages 77 and column 19 on page 87]. 48 LWUs fully complied with the regulator's requirements. 216 of the 300 LWU sewage treatment works were compliant at all times.



**Sewer main breaks and chokes** – median was 37 per 100 km of main [page 77, Figure 11 on page 45 and column 20 on page 87]. This has fallen from 75 to 37 over the past 22 years, partly as a result of revision of the national definition for this indicator in 2009-10. However, the NSW result is significantly higher than the National Median of 20 [page 77].

**Sewer overflows reported to the environmental regulator** – the Statewide median is 0.8 per 100km of main, which is higher than the National Median of 0.4 [page 77]. However, as results are dependent on the requirements of each state's regulator, it is not directly comparable across jurisdictions.

## Economic – financial

**Economic real rate of return** – median was:

- 1.2% for water supply
- 1.5% for sewerage

The economic real rate of return (ERRR) for water supply and sewerage was 1.3% [page 20, Figure 21 on page 55, page 78]. This has declined over the past 19 years and was higher than country Victoria but lower than the National Median and the capital city utilities. The 2001-2010 Millennium Drought and the high rainfalls in 2010-11 and 2011-12 (pages 4 and 2) had adversely impacted water supply and sewerage ERRRs. [Figures 22 and 23 on pages 56 and 57, columns 29 and 30 on page 87, column 12 on page 91, column 11 on page 94].

**Full cost recovery** - as indicated in Figures 22 and 23 on pages 56 and 57, full cost recovery was achieved by:

- 100% of utilities for water supply; and
- 95% of utilities for sewerage.

There remain five sewerage utilities which are not achieving full cost recovery [Figure 23 on page 57]. The basis for achieving long-term financial sustainability of water supply and sewerage services in regional NSW is discussed in Appendix G on page 84 of the *2010-11 NSW Performance Monitoring Report* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

Each LWU should continue to review its annual water, sewerage and trade waste tariffs, its developer charges, its operation, maintenance and administration costs, and its projected volume of water to be supplied to customers and the resulting revenue in order to ensure it achieves full cost recovery. This will ensure the utility meets this key requirement of the *Best-Practice Management Guidelines* ([http://www.water.nsw.gov.au/ArticleDocuments/36/town\\_planning\\_water\\_utilities\\_best-practice\\_management\\_of\\_water\\_supply\\_and\\_sewerage\\_guidelines\\_2007.pdf.aspx](http://www.water.nsw.gov.au/ArticleDocuments/36/town_planning_water_utilities_best-practice_management_of_water_supply_and_sewerage_guidelines_2007.pdf.aspx)) and the *National Water Initiative*. Further guidance on achieving full cost recovery and on assessing infrastructure renewal needs are provided in the boxes on pages 13 and 3 respectively. Refer also to Tables 5C and 5D of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

## ACHIEVING FULL COST RECOVERY FOR WATER SUPPLY

Some NSW utilities have been using a long-term financial model requiring input of water supply access and usage charges and projected volumes of water supplied to determine the required future revenue. A number of these utilities had experienced significant revenue shortfalls in recent years as a result of reduced water sales due to more efficient water use by residents, above average rainfall and/or drought water restrictions.

Accordingly, it is recommended that utilities do not use models involving access and usage charges in order to avoid such revenue shortfalls as well as potentially misleading customers on the required future access and usage charges. Rather, utilities should use a 30-year total asset management plan (TAMP – page 3) and a model such as the NSW Financial Planning Model (FINMOD – refer to pages 131 and 132 of the NSW Strategic Business Planning Guidelines ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)) which determines the required future typical residential bill and annual revenue in current dollars.

Your utility can then set each year's water supply tariff in accordance with Circular LWU 11 of March 2011 using an evidence based estimate of the residential water to be supplied in the next financial year, together with the access and usage charges required to yield the Typical Residential Bill and annual revenue in accordance with your 30-year financial plan.

Such an approach is transparent as the financial modelling discloses the required Typical Residential Bill (and annual revenue) in current dollars as required by Items 1 and 16 of the Strategic Business Planning Check List, July 2014 ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

In addition, annually setting your water supply tariff in accordance with Circular LWU 11 will minimise the risk of revenue shortfalls while maintaining Typical Residential Bills in accordance with your LWU's financial plan. Assistance is available from the Office of Water ([urbanwater@water.nsw.gov.au](mailto:urbanwater@water.nsw.gov.au) or (02) 9842 8508).

Each LWU which meets all the requirements of the *Best-Practice Management Framework* is encouraged to pay a dividend from the surplus of its water and sewerage businesses to the council's general revenue. A LWU which pays such an 'efficiency dividend' will be moving towards **upper bound pricing**, which is required under the National Water Initiative, where practicable.

Refer also to:

- page 6, which notes that the NSW Government and the Productivity Commission encourage all LWUs to use a 2-part tariff with a uniform water usage charge per kL for all water use;
- the box on page 5, which highlights the strategic benefits of the strong NSW pricing signals, and the resulting efficient water use and affordable typical residential bills; and
- note 3 on page 81 and page 107, which indicate that comparing your Typical Residential Bill (TRB) with the projection in the later of your IWCM Strategy and Financial Plan and your Strategic Business Plan is **mandatory in preparing your annual Action Plan to Council**. If you are not achieving full cost recovery, you will need to review & increase your access and/or usage charges in order to do so.

**Revenue** (revenue less grants for capital works) [column 23 on page 87 and page 84]

Total revenue was \$1360M comprising:

- \$731M for water supply and \$629M for sewerage.

**Net debt to equity** - the median net debt to equity was:

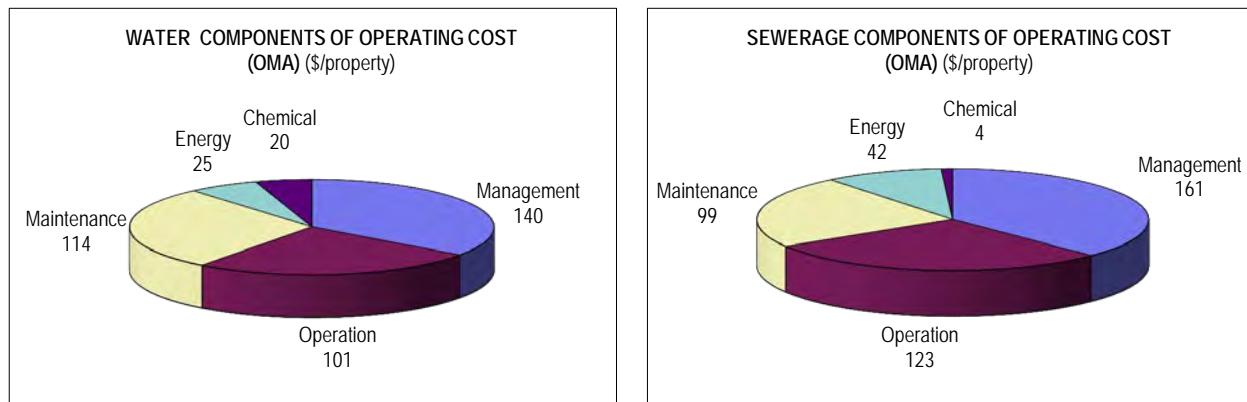
- 1% for water supply and sewerage [column 24 on page 87, page 78]. Refer also to the box above and to footnote 11 on page 14.

## Economic – efficiency

**Operating cost per property** – the median operating cost (OMA)\* per connected property was:

- Water Supply - \$400 per property [Figure 24 on page 58]
- Sewerage - \$430 per property [Figure 25 on page 59]

\* OMA – Operation, maintenance and administration



The median operating cost for water supply of \$400/property was lower than Brisbane, Melbourne, Adelaide, Sydney, the National Median and the country utilities in all the other Australian states but higher than Canberra and Perth. The median operating cost for sewerage of \$430/property was higher than country Victoria, the National Median and the capital city utilities. Refer also to pages 20, 77, 58 and 59.

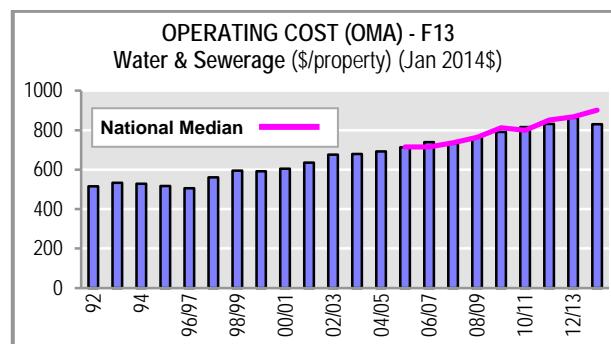
### Increased borrowing

Utilities facing significant capital investment are encouraged to make greater use of borrowings<sup>11</sup> to reduce their required Typical Residential Bill (TRB). As most water and sewerage assets are long-lived (eg. water mains have an economic life of 80 years [page 3]), **20-year loan terms are strongly recommended** in order to avoid placing an unfair financial burden on existing customers and to facilitate **inter-generational equity** ([urbanwater@water.nsw.gov.au](mailto:urbanwater@water.nsw.gov.au) or (02) 9842 8508).

Refer also to section 12 of the *NSW Water and Sewerage Strategic Business Planning Guidelines, July 2011* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

**Operating cost (OMA)** – \$830/property for water supply and sewerage [columns 31 and 32 on page 87]. This has increased from \$527 to \$830 (Jan 2014\$) over the past 22 years, largely due to more stringent standards for sewage treatment and to increasing management costs.

LWUs with higher operating costs than the above medians should carefully examine their operations to determine whether they can improve their cost-effectiveness [page 29].

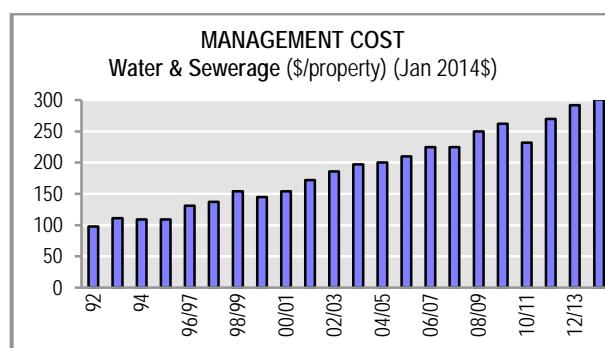
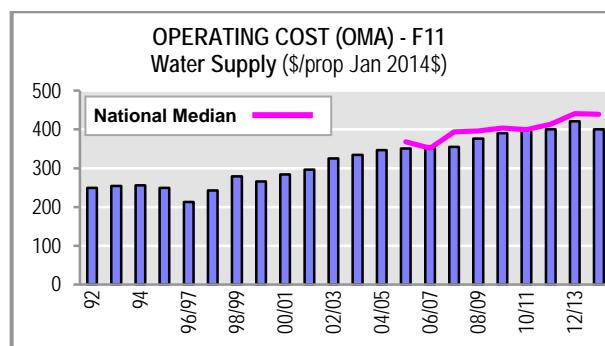


<sup>11</sup> It is important to note that most NSW LWUs have relatively little borrowings at present. In **2013-14** the Statewide median net debt to equity for LWU water and sewerage was 1% (range -35% to 23%). The **2013-14** net debt to equity for major Australian utilities include 96% for Sydney Water, 164% for ACT Electricity and Water, 179% for Melbourne Water, 127% for Yarra Valley Water, 68% for Queensland Urban Utilities, 53% for Water Corporation (WA), 45% for SA Water and 78% for Hunter Water (*National Performance Report 2013-14 for Urban Water Utilities*). Refer also to page 78. Providing your utility has a soundly based 30-year IWCM Strategy or strategic business plan, which includes a 30-year total asset management plan (TAMP) and 30-year financial plan (including sensitivity analysis – Item 17 of the 2014 Strategic Business Planning Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au))), net debt to equity of up to 50% when financing a major capital works program for growth and/or improved levels of service, would be satisfactory for NSW LWUs. Refer also to footnote 34 on page 106.

**Water supply operating cost** – the median water supply operating cost was 126 c/kL (Jan 2014\$). This has risen from 95 c/kL over the past 19 years largely due to the reduced volume of water supplied per property and higher management costs [Figure 26 on page 60, column 6 on page 91].

**Sewerage operating cost** – the median sewerage operating cost was 206 c/kL (Jan 2014\$). This has risen from 100 c/kL over the past 19 years due to more stringent standards for sewage treatment, reduced sewage volumes and increasing management costs [column 2 on page 94 and Figure 62 of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*].

**Management cost** – the median management cost was \$301/property for water supply and sewerage. The management cost per property has increased from \$170 to \$301 (Jan 2014\$) over the past 22 years. The median management cost per property for water supply was \$140 [Figure 27 on page 61]. The median management cost for sewerage was \$161 [Figure 28 on page 62].



**Treatment cost** – the median treatment cost per property was:

- \$58 for water treatment\*
- \$155 for sewage treatment (including chemical and energy costs).

\* Only the 61 utilities with water treatment works involving at least filtration and disinfection for over 50% of their supply have been considered.

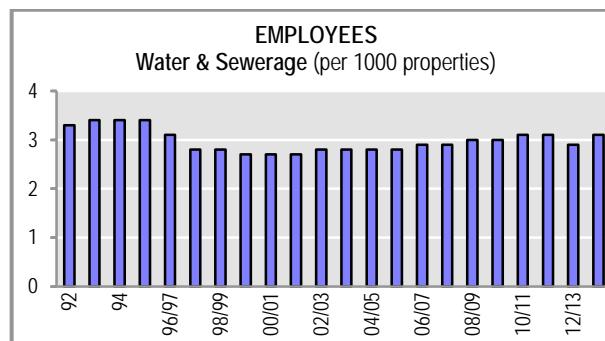
**Pumping cost** – the median pumping cost per connected property (including energy) was:

- \$43 for water supply
- \$68 for sewerage.

**Water main and sewer main cost** – the median water and sewer main cost per connected property was:

- \$74 for water mains
- \$47 for sewer mains.

**Number of employees** – the median number of employees was 3.1 per 1000 properties for water supply and sewerage, which was lower than the last reported values for country Victoria, Sydney and Hunter. This indicator has fallen from a maximum of 3.3 over the past 22 years. Each LWU's results are shown on Figures 8 and 39 of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*. Refer also to items 6a and 6b on page 30.



Water supply employees per 1000 properties has fallen by over 10% from a maximum of 1.7 to 1.5. Sewerage employees per 1000 properties has fallen by over 15% from a maximum of 1.8 to 1.5.

### Software, guidelines and training

Comprehensive software, guidelines and check lists (pages 23 and 24) to assist LWUs in developing appropriate water supply and sewerage strategic business plans (page 23), financial plans (page 23), community involvement<sup>12</sup>, pricing (pages 24 and 104), including water supply tariffs (page 24), sewerage tariffs (page 24), liquid trade waste fees and charges (page 105), developer charges (page 105), total asset management plans (TAMP - capital works plan, operation plan including non-build solutions and a maintenance plan (pages 23 and 111)), asset valuation<sup>13</sup>, integrated water cycle management (IWCM) strategies (page 23), water conservation and demand management (page 23), drought management (page 24), assessing future urban water security (page 26), greenhouse gas calculation (page 54) and trade waste regulation policies (page 105) continue to be available from the NSW Office of Water.

The NSW Government also provides **nationally certificated training** for water utility operators in water treatment, wastewater treatment, fluoridation, dam safety inspection and trade waste regulation ([www.water.nsw.gov.au](http://www.water.nsw.gov.au); [urbanwater@water.nsw.gov.au](mailto:urbanwater@water.nsw.gov.au) or (02) 9842 8508). In response to recent LWU requests, training courses on assuring the safety of water supply distribution systems, water treatment operation for engineers and risk management for water recycling projects will be provided in the 2015 calendar year.

In addition, the NSW Government provides **Update Seminars** in water treatment, wastewater treatment, trade waste regulation and Best-Practice Management for updating employee training and skills, which is required at least every 3 years ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

### National Certification Framework for Water Treatment Operators

Appendix I of the *2013-14 NSW Benchmarking Report* discloses that the 89 NSW LWUs responsible for providing water treatment<sup>#</sup> have a total of 294 fully qualified water treatment operators\* to operate the 154 LWU water treatment works and 85 chlorinators/aerators. In addition, a further 45 operators are qualified to operate the chlorinators and aerators<sup>+</sup>.

Continuing professional development and updating of operator training and skills is required at least every 3 years. The above 339 operators meet the requirements of the National Certification Framework for Water Treatment Operators.

<sup>#</sup> Excludes the 9 LWUs responsible for sewerage only (page ii), reticulators Cootamundra, Harden, Queanbeyan and Young, and Cobar Water Board which provides a bulk raw water supply.

<sup>\*</sup> Such operators have a Certificate III in Water Operations (Water Treatment) or equivalent and are employed in operating a LWU treatment works or a chlorinator/aerator (refer to page 23 of *NSW Guidelines for drinking water management systems*, NSW Health and NSW Office of Water, 2013 (<http://www.health.nsw.gov.au/environment/water/Documents/NSW-Guidelines%20for-Drinking-Water-Management-Systems.pdf>)).

<sup>+</sup> Such operators have a NSW Office of Water Part 1 Certificate (Chemical Dosing Systems) or equivalent, have also completed chlorine safety training and are employed in operating a LWU chlorinator/aerator (refer to page 23 of *NSW Guidelines for drinking water management systems*).

<sup>12</sup> NSW Water and Sewerage Community Involvement Guidelines – Consultation draft, October 2012, NSW Office of Water (available on request from [urbanwater@water.nsw.gov.au](mailto:urbanwater@water.nsw.gov.au)).

<sup>13</sup> NSW Reference Rates Manual for Valuation of Water Supply, Sewerage and Stormwater Assets, 2014, NSW Office of Water ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

### 3. Interstate comparisons

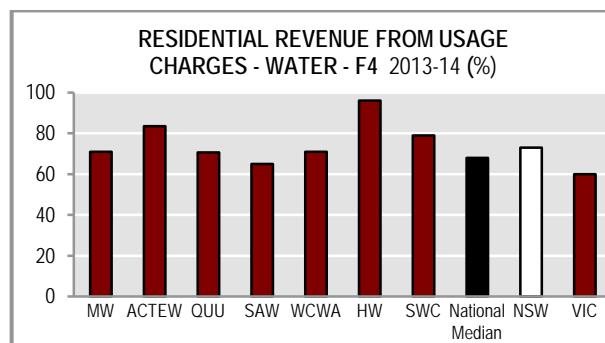
To provide an overall assessment of NSW Local Water Utilities (LWUs), the key performance indicators are compared below with those reported by interstate utilities<sup>14</sup>. For detailed graphs on interstate performance comparisons over the past 22 years and an explanation of the utility abbreviations, refer to Appendix A<sup>15</sup> on page 71.

It is noted that many performance indicators are significantly affected by the density of development (i.e. the number of properties served per km of water main or sewer main), which for country utilities such as the NSW LWUs and country Victoria is significantly lower than the capital city utilities [page 72]. Also, the performance of smaller utilities such as the NSW LWUs and the other country utilities is adversely affected by a lack of economy of scale<sup>16</sup>.

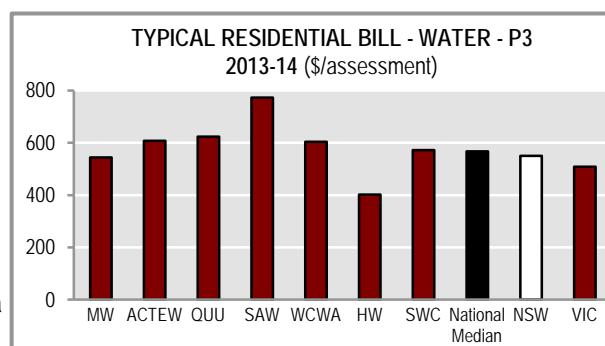
#### Social

**Compliance with microbiological water quality guidelines for NSW LWUs** was high (99.8% of the 20,200 samples tested) and similar to most other Australian utilities [pages 74, 39 and column 9 on page 87]. Also, **water quality complaints** of 3 per 1000 properties were low and similar to most other Australian utilities [pages 74, 40 and column 13 on page 87].

The NSW LWUs are continuing to provide strong pricing signals through their **residential revenue from usage charges** of 73% (NWI Indicator F4), which was higher than country Victoria, the National Median [note 9 on page 72] and all the reported results for the other Australian states and the capital city utilities except for Sydney and Canberra [pages 73, 5, 63, column 3 on page 87 and column 13 on page 91].



**Typical residential bill (TRB)** is the principal indicator of the overall cost of a water supply or sewerage system. It is the bill paid by a residential customer using the utility's average annual residential water supplied. The median **water supply TRB** for the NSW LWUs (NWI Indicator P3) is now lower than the National Median and all the reported results for the other Australian states and the capital city utilities except for Melbourne and country Victoria [pages 73, 5, 36, column 4 on page 87 and column 8 on page 91].

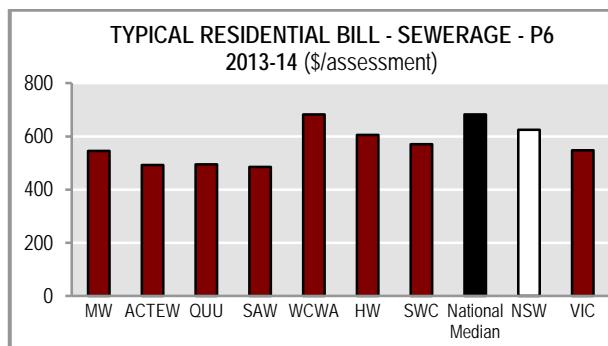


<sup>14</sup> Queensland Urban Utilities (QUU) commenced operation in July 2010 to provide water & sewerage services to former customers of Brisbane Water and 4 neighbouring councils (note 3 on page 72). From 2013-14, SA Water results include the country results due to the amalgamation of SA Water Adelaide and Country. Refer also to the **legend** and **notes 5, 9 and 10** on page 72.

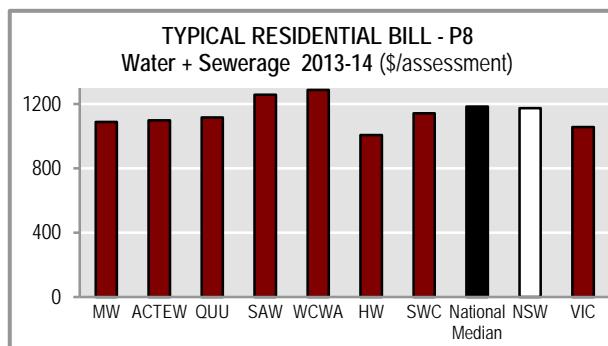
<sup>15</sup> Note 10 on page 72 explains why Hobart and Darwin have not been included in the comparisons. Although Notes 4 to 7 on page 72 indicate that Statewide results for the country utilities are only available for Victoria and NSW, it is possible to also compare the results for country NSW and country Victoria with the reported results for country utilities for a few key NWI Indicators such as F4, P3, P8, A8 and W12 above. This has been done using the reported results for 10 country utilities in Queensland, 2 country utilities in South Australia (prior to 2013-14) and 7 country utilities in Western Australia in the *National Performance Report 2013-14 for Urban Water Utilities* ([www.bom.gov.au](http://www.bom.gov.au)).

<sup>16</sup> The lack of economy of scale and the lower development density in small towns result in a **capital cost per property** for providing water supply trunk mains to a town of 300 properties being typically over **3 times** that required for servicing a contiguous city of 15,000 properties. The capital cost per property for other structures such as water treatment works, service reservoirs, pumping stations and dams is similarly affected. This highlights the importance of Government financial assistance towards the capital cost of servicing backlog areas (e.g. footnote 8 on page 7) and why appropriate standards should be used, such as those in the *National Handbook on Affordable Water Supply and Sewerage for Small Communities*, ARMCANZ/WSAA, 1999 (available on request from [urbanwater@water.nsw.gov.au](mailto:urbanwater@water.nsw.gov.au)).

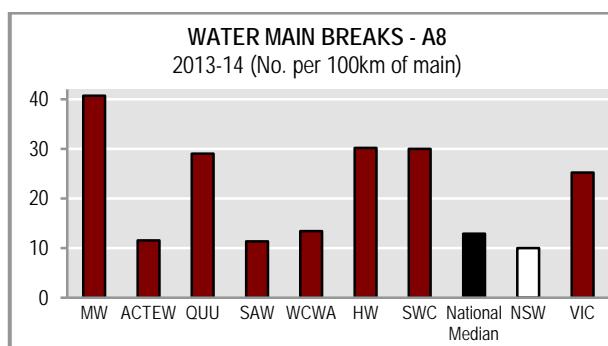
The median **sewerage TRB** for the NSW LWUs (NWI Indicator P6) was lower than the National Median and Perth, but higher than country Victoria and the other capital city utilities [pages 73, 38, column 5 on page 87 and column 8 on page 94].



The median **water and sewerage TRB** for the NSW LWUs (NWI Indicator P8) was lower than the National Median and all the other Australian states and capital city utilities, except for country Victoria, Melbourne, Canberra and Brisbane [pages 73, 7, 35 and column 6 on page 87]. However, the first step **water usage charge** for NSW LWUs of 213 c/kL and the **residential revenue from usage charges** (Indicator F4 on page 17) are relatively high and provide strong pricing signals to encourage efficient water use [pages 73 and 5].

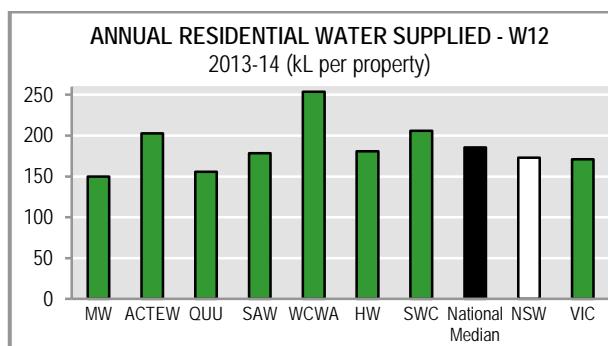


**Water main breaks** of 10 per 100 km for the NSW LWUs (NWI Indicator A8) have remained much lower than all the reported results for the other Australian states and the capital city utilities, indicating good water main asset condition [pages 74, 9, 43 and column 15 on page 87].

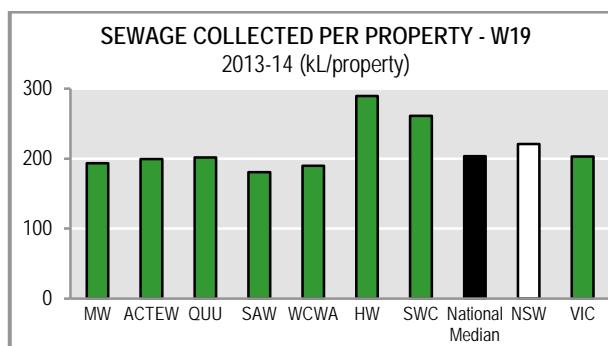


## Environmental

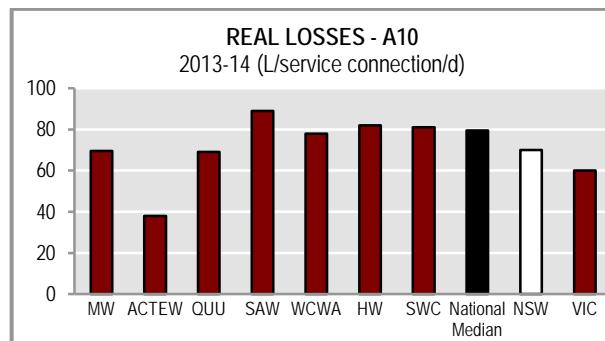
**Annual residential water supplied** (NWI Indicator W12) was 173 kL per connected property, which was similar to country Victoria and lower than the National Median and all the reported results for the other Australian states and capital city utilities except for Melbourne and Brisbane [pages 75, 9, 46 and column 17 on page 87].



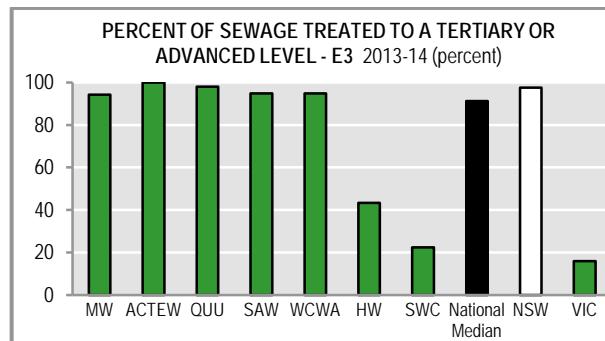
The **sewage collected per property** of 221 kL (NWI Indicator W19) was lower than Sydney but higher than country Victoria and the other capital city utilities [page 75 and Table 15 of the *Benchmarking Report*].



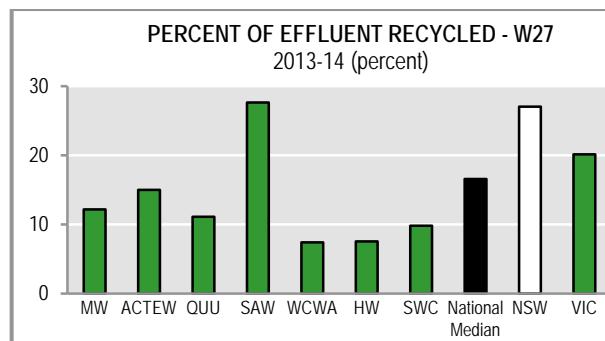
**Real losses (leakage)** of 70 L/connection/d (NWI Indicator A10) were similar to Melbourne and Brisbane and lower than the National Median and the capital city utilities except Canberra and country Victoria [pages 75, 49, 10, column 18 on page 87 and Figure 26 and Tables 8A, 10 and 10A of the *Benchmarking Report*].



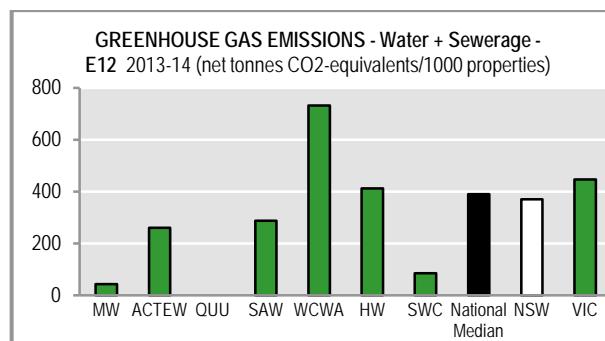
The **percentage of sewage treated to a tertiary level** of 100% (NWI Indicator E3) was the same as Canberra and Brisbane but higher than country Victoria, the National Median and the other capital city utilities [page 75 and Table 15 of the *Benchmarking Report*].



In total, 43,000 ML of **effluent** was **recycled** in regional NSW in 2013-14, which was 27% of the volume of sewage collected. This percentage (NWI Indicator W27) was higher than country Victoria, the National Median and all the capital city utilities except Adelaide [pages 76, 10, 53 and column 21 on page 87]. The total volume recycled by each LWU (NWI Indicator W26) is shown in column 22 on page 87.



Total **greenhouse gas emissions** (NWI Indicator E12) was 370 tonnes per 1000 properties [pages 77 and 54], which was lower than the National Median, country Victoria and Perth, but higher than the other capital city utilities.

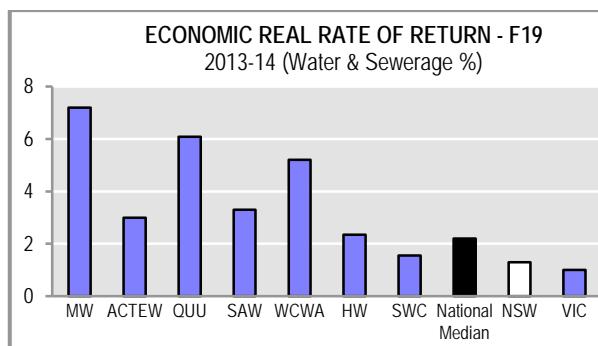


The **percent sewage treated that was compliant** (NWI Indicator E4) of 100% was similar to the National Median and most of the capital city utilities [pages 77, 11, 44 and column 19 on page 87 and Table 15 of the *Benchmarking Report*].

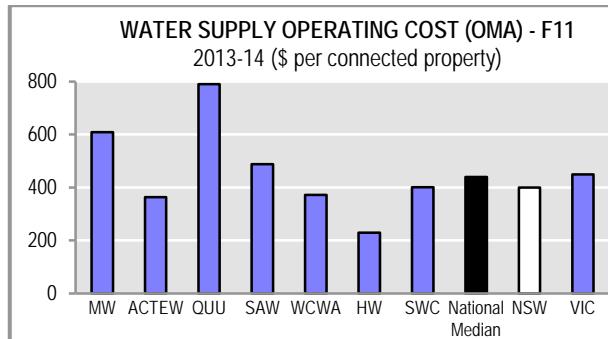
**Sewer overflows reported to the environmental regulator** (NWI Indicator E13) of 0.8 per 100 km of main were higher than the National Median [pages 77 and 11 and Table 15 of the *Benchmarking Report*], as were the **sewer main breaks and chokes** (NWI Indicator A14) of 37 per 100 km of sewer main [pages 77, 11, 45 and column 20 on page 87].

## Economic

**Economic real rate of return for water supply and sewerage** (NWI Indicator F19) of 1.3% [pages 77, 11 and 55] was higher than country Victoria but lower than the National Median and the capital city utilities. Refer also to pages 56 and 57 and to columns 27 and 28 on page 87.

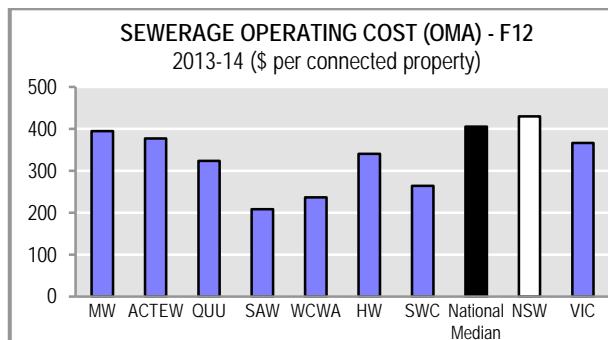


**Annual median operating cost** (OMA) for water supply (NWI Indicator F11) was \$400 per connected property [pages 78, 14 and 58], which was lower than Brisbane, Melbourne, Adelaide, Sydney, the National Median and the country utilities in all the other states but higher than Canberra and Perth. Water and sewerage OMA costs are shown in columns 31 and 32 on page 87.

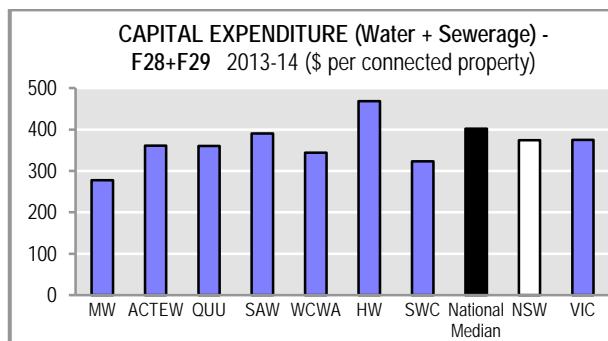


### The median operating cost for sewerage

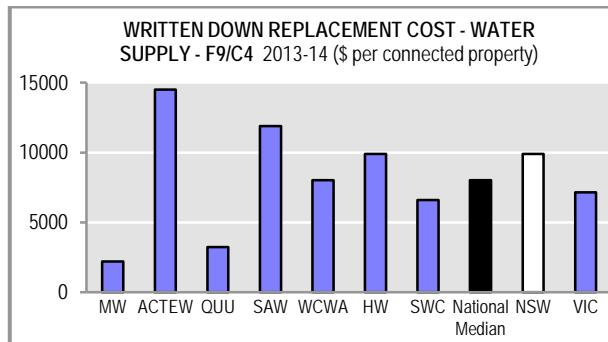
(NWI Indicator F12) was \$430 per connected property [pages 78, 14 and 59], which was higher than country Victoria, the National Median and the capital city utilities.



**Water and sewerage capital expenditure per property** (NWI Indicators F28 + F29) of \$374 [page 79 and column 25 on page 87] was similar to country Victoria, higher than Sydney, Melbourne and Perth but lower than the National Median and the other capital city utilities.

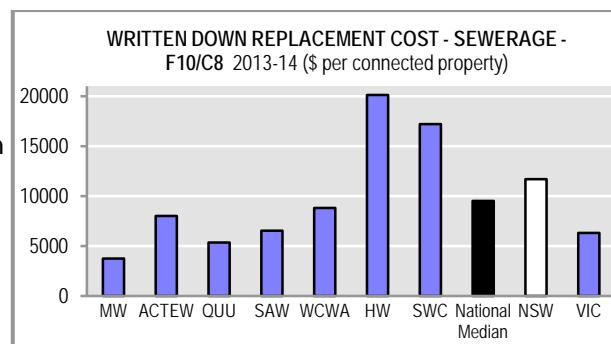


**Written down replacement cost per property for water supply** (NWI Indicator F9/C4) of \$9,900 [page 79 and Table 11 of the *Benchmarking Report*] was higher than country Victoria, the National Median and all the capital city utilities except Canberra and Adelaide.

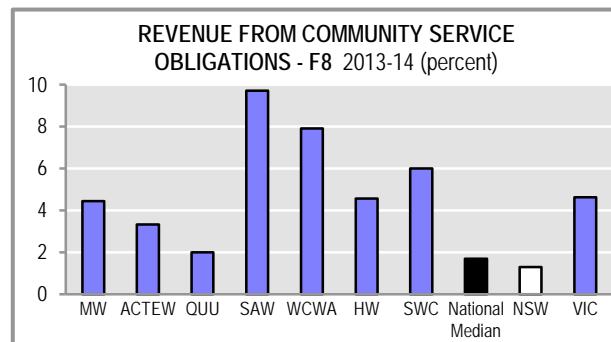


**Written down replacement cost per property for sewerage** (NWI Indicator F10/C8) of \$11,700 [page 79 and Table 16 of the *Benchmarking Report*] was higher than country Victoria, the National Median and all the capital city utilities except Sydney.

**Net Debt to equity** (NWI Indicator F22) of 1% [pages 78, 13 and column 24 on page 87] was lower than country Victoria, the National Median and all the capital city utilities. Refer also to footnote 11 on page 14 and Table 5A of the *Benchmarking Report*.



**Revenue from community service obligations** (NWI Indicator F8) of 1.3% [page 79 and Table 5A of the *Benchmarking Report*] was lower than country Victoria, the National Median and all the capital city utilities.



## 4. Best-practice management

### 4.1 Best-Practice Management Framework

The NSW Government's *Best-Practice Management (BPM) of Water Supply and Sewerage Framework* (page viii ([www.water.nsw.gov.au](http://www.water.nsw.gov.au))) is the practical means of implementing the Goal of the NSW Government's Country Towns Water Supply and Sewerage Program ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)) by the regional NSW urban water utilities through sound planning, pricing and management of services. It is based on the Best-Practice Management of Water Supply and Sewerage Guidelines ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)), which were updated in 2007. The BPM Framework addresses the 10 key national requirements (page viii) and is the key driver for reform of planning, pricing, management, operation and maintenance and for continuing productivity and performance improvement by each utility.

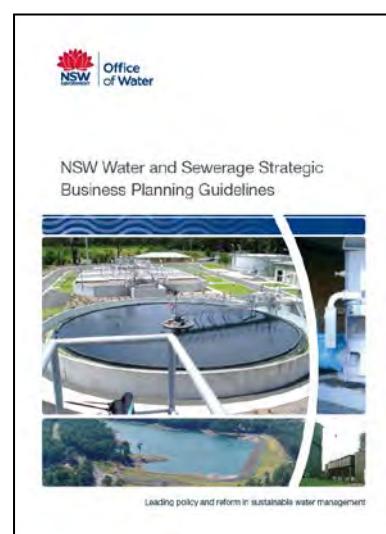
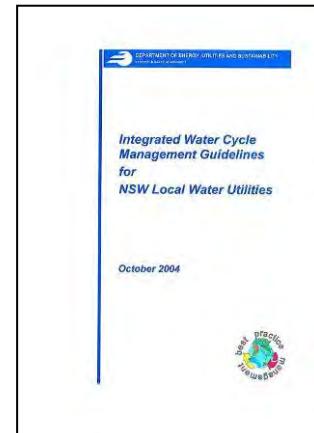
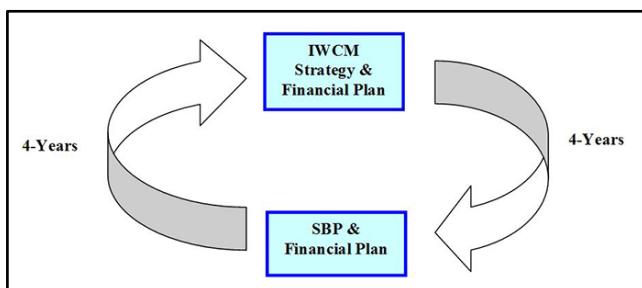
Implementing the 19 BPM requirements of the Framework will enable each utility to achieve appropriate, affordable, cost-effective and sustainable piped water supply and sewerage services. In addition, in order to pay a dividend from the surplus of its water supply and sewerage businesses or to seek financial assistance towards the capital cost of backlog infrastructure under the Country Towns Water Supply and Sewerage program, a utility must demonstrate such implementation.

All the utilities need to implement the above requirements (footnote 39 on page 109), which involve the following six interrelated elements:

1. Integrated Water Cycle Management
2. Water conservation and demand management
3. Strategic business planning
4. Drought management
5. Pricing and regulation of water supply, sewerage and trade waste
6. Annual performance monitoring

As noted on page 106, the NSW Best-Practice Management Framework has been streamlined in order to minimise the regulatory burden and the cost to LWUs, without diminishing effectiveness or efficiency in achieving the outcomes of the BPM Framework. This has resulted in deletion of 9 documents<sup>17</sup> previously required over an 8 year cycle. However, the analysis and responses required for the deleted documents have been subsumed into the IWCM Strategy and Financial Plan and the Strategic Business Plan (SBP) and Financial Plan, which will now need to be prepared every 8 years on a rotation of every 4 years.

A LWU's **peak planning document** for water supply and sewerage is the **later of its 30-year IWCM Strategy and financial plan and 30-year SBP and financial plan**. Refer also to pages 111 and 113.



<sup>17</sup> The 9 deleted documents are 4 water conservation plans, 2 IWCM Evaluation Studies, 1 IWCM Strategy, 1 Strategic Business Plan and 1 Drought Management Plan. Refer also to pages 108 and 112.

Accordingly, in addition to the 11 pricing requirements (page 104) and the annual performance monitoring (page 105), the streamlined implementation of the BPM Framework involves preparation of an IWCM Strategy and Financial Plan and a Strategic Business Plan and Financial Plan every 8 years on a rotation of every 4 years (pages 22 and 108). In addition, pages 28 and 111 show each LWU needs to annually 'roll forward', review and update its 30-year total asset management plan (TAMP) and its 30-year financial plan and to review its Drinking Water Management System (DWMS) and TBL Performance Report in order to identify and address any emerging issues and necessary corrective action in its annual Action Plan to Council. Importantly, this closes the 'planning loop' with the LWU's IWCM Strategy or SBP.

1. **Integrated Water Cycle Management (IWCM) Strategy and Financial Plan** – the IWCM strategy 'right sizes' any necessary infrastructure projects and identifies a 30-year strategy for water supply, sewerage and stormwater which provides the best value for money on the triple bottom line (TBL) basis of social, environmental and economic considerations. The IWCM Strategy and financial plan identify the best mix of capital works, non-build solutions, policies and operation and maintenance activities in a 30-year total asset management plan (TAMP), need to be undertaken in accordance with the July 2014 IWCM Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)) and need to be made available on the utility's website. Note that the 19 BPM requirements aid the development of a robust IWCM Strategy through the required sound planning, pricing and management of services. Refer also to pages 108, 111 and 113.
2. **Water conservation and demand management** are essential for ensuring efficient use of our valuable water resources and to improve environmental outcomes. These are now to be undertaken as part of the IWCM Strategy (July 2014 Check List) ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

Each LWU should develop and implement **cost-effective water conservation measures**, which include consideration of:

- active intervention – e.g. retrofit programs, rebates for water efficient appliances or rainwater tanks and building code programs (including BASIX);
- water pricing reform (Element 5 on page 24), community education and cost-effective water loss (i.e. leakage) reduction programs (page 10).

3. **Strategic business planning (SBP).** The community and governments are demanding increased accountability, increased levels of services and increased efficiency from water utilities. In addition, regulatory authorities are imposing more stringent environmental and health regulations. The LWU's 30-year strategic business plan facilitates sound asset management by addressing these issues and providing a framework within which the utility needs to negotiate appropriate levels of service with the community and develop its 30-year total asset management plan (TAMP). This involves a cost-effective capital works program<sup>18</sup> which discloses each of the growth, improved standards and renewals [box on page 3] components, together with a sound operation plan which includes cost-effective non-build solutions, and a maintenance plan. The SBP and financial plan need to be prepared in accordance with the July 2014 Strategic Business Planning Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)) and to be made available on the utility's website.

The strategic business plan must include the utility's proposed levels of service, 30-year total asset management plan and a sound 30-year financial plan which identifies the resulting Typical Residential Bill (in current dollars) over this period. Refer also to pages 4, 108, 111 and 113.

The *Integrated Planning and Reporting (IPR) Framework for local government in NSW, March 2013* has been designed to complement and avoid duplication with the *Best-Practice Management (BPM) of Water Supply and Sewerage Guidelines*. Page 109 highlights that under IPR, each **council is required to implement the BPM Framework requirements** for water supply and sewerage. The inputs to the IPR Framework from the BPM Framework for water supply and sewerage are

<sup>18</sup> I.e. fit for purpose and without wasteful 'gold plating'. Refer also to the 6<sup>th</sup> paragraph of page 102.

discussed on page 109 and illustrated on page 114. Refer also to pages 4, 95 and 99 of the *NSW Water and Sewerage Strategic Business Planning Guidelines, July 2011* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

4. **Drought management** is a fundamental responsibility of the LWU for ensuring continuity of supply. This needs to be documented in a drought management plan with an adopted schedule of trigger points for timely implementation of appropriate drought water restrictions and supplementary water sources. This is now implemented as part of the Strategic Business Plan (July 2014 Check List) ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

5. **Pricing and regulation of water supply, sewerage and trade waste.**

Best-practice pricing and regulation are fundamental to the effective delivery of water supply, sewerage and trade waste services, resulting in fair pricing of services, removal of significant cross-subsidies and protection of our valuable water resources and the environment. The strong pricing signals thus provided encourage both efficient water use by all users and compliance with discharge limits and waste minimisation by commercial and industrial dischargers. Refer also to the boxes on pages 5 and 13 and to page 104, which outlines the 11 pricing requirements of the BPM Framework.

The NSW Office of Water has published comprehensive *Water Supply, Sewerage and Trade Waste Pricing Guidelines 2002* and *Liquid Trade Waste Regulation Guidelines 2009* ([http://www.water.nsw.gov.au/Article/Documents/36/town\\_planning\\_water\\_utilities/liquid\\_trade\\_waste\\_guidelines.pdf.aspx](http://www.water.nsw.gov.au/Article/Documents/36/town_planning_water_utilities/liquid_trade_waste_guidelines.pdf.aspx)).

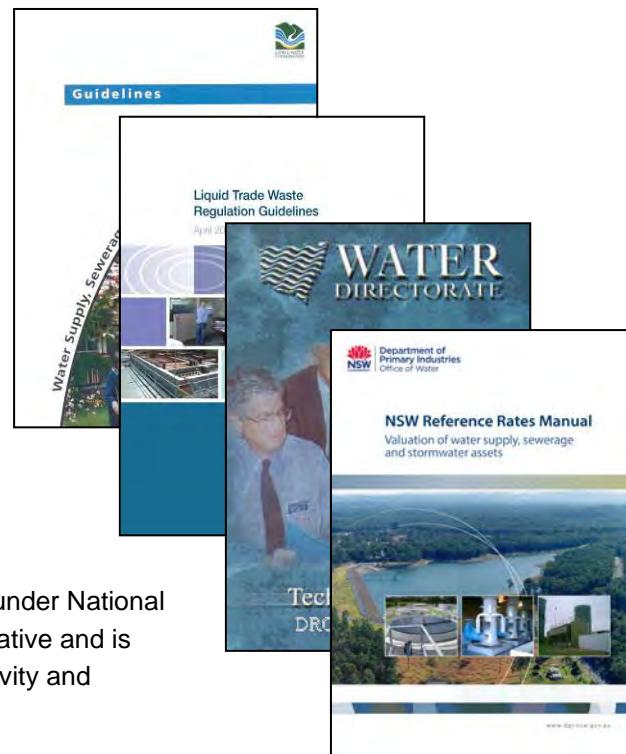
In addition to providing guidance for best-practice pricing and regulation by LWUs, these documents emphasise the need for appropriate pricing. Such pricing meets the key national requirements (page viii).

The comprehensive software and guidance provided for LWUs are noted on page 16.

6. **Annual performance monitoring** is required under National Competition Policy and the National Water Initiative and is essential for monitoring and improving productivity and performance and for public accountability.

Each LWU needs to continue to lodge its data on the NSW Performance Monitoring Database by 15 September each year [column 5 (water) and 3 (sewerage) on page 84]. Each LWU also needs to annually 'roll forward', review and update its 30-year TAMP and 30-year financial plan and review its DWMS and the TBL Performance reports and the Section 61 Reports (page 107) provided by the Office of Water in order to prepare and implement a sound Action Plan to Council which addresses any emerging issues or areas of under-performance [page 28]. Refer also to page 105.

Guidance for councillors on quickly understanding and using your TBL Performance Report and Action Plan is provided in Appendix G of the *NSW Water and Sewerage Strategic Business Planning Guidelines, July 2011* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)). This appendix will also assist the water and sewerage manager in preparing a sound Action Plan to Council. An updated version of this appendix is provided annually to each LWU with its TBL Performance Reports.



## 4.2 Implementation of framework

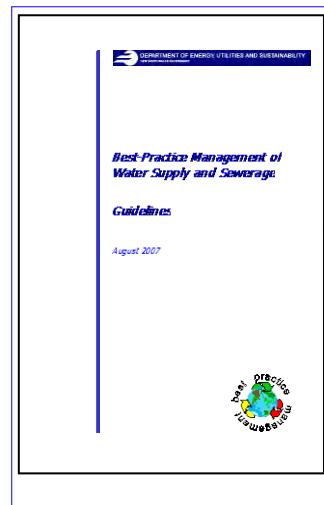
Water utilities are required to report whether they have implemented each of the 19 planning, pricing and management requirements of the *Best-Practice Management Framework* (ten for water supply and nine for sewerage – page viii) in Notes 2 and 3 of the Special Purpose Financial Statements of their 2013-14 Annual Financial Statements. The current implementation of the requirements is shown in Appendix C on page 84.

Following the 2014 streamlining of the NSW BPM Framework (page 106), a LWU which prepares an IWCM Strategy and Financial Plan in accordance with the 2014 IWCM Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au) – shown as Yes<sup>s</sup>) will meet 6 of the 19 BPM requirements (IWCM (W, S), Strategic Business Planning (W, S), Water Conservation and Drought Management). After 4 years the LWU will need to carry out a mid-term review and prepare a strategic business plan and financial plan in accordance with the 2014 Strategic Business Planning Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

Page 108 shows that annual performance monitoring and preparing and implementing a sound annual Action Plan to Council addresses a further 5 requirements (performance monitoring (W, S), full cost recovery (W, S), strong pricing signals – NWI Indicator F4), with the remaining 8 requirements addressed by sound residential pricing (W, S), non-residential pricing (W, S), commercial developer charges (W, S), a sound trade waste regulation policy and approvals and appropriate trade waste pricing.

As noted on page vii, the overall level of implementation of the above requirements was 90%, comprising 91% for water supply and 88% for sewerage. 45% of the utilities have implemented all the requirements for water supply and 52% have implemented all the requirements for sewerage [page 84 and Figures 30, 31, 32 on pages 64, 65, 66].

- **Strategic business plan & financial plan** – As shown on page 4, 93% of LWUs have a sound 30-year strategic business plan, financial plan and asset management plan [column 34 on page 87].
- **Pricing and cost recovery** - All LWUs now have both pay-for-use water supply pricing and full cost recovery for water supply, while 95% have both appropriate pricing and full cost recovery for sewerage [column 2a on page 84]. As noted on page 12, all LWUs have full cost recovery for water supply and 95% have full cost recovery for sewerage.
- **Residential revenue from usage charges** - 73% of utilities have achieved the requirements [column 3 on page 87, column 2c on page 84]. This includes 30 utilities (65%) with 4,000 or more connected properties [75%/25% split] and 43 utilities (91%) with fewer than 4,000 connected properties [50%/50% split].
- **Non-residential charges** - 85% of LWUs have appropriate non-residential water supply charges [column 2d on page 84] while 80% have appropriate non-residential sewerage charges [column 2c on page 77].
- **DSP and developer charges** - 83% of LWUs have an appropriate water supply Development Servicing Plan (DSP) with commercial developer charges and 82% of LWUs have a sewerage DSP [column 2e on page 84].
- **Liquid trade waste policy, fees and charges** - 85% of LWUs have an appropriate liquid trade waste regulation policy and have issued a liquid trade waste approval to all their trade waste dischargers [column 2f on page 84]. As noted on page 6, 81% of LWUs have appropriate liquid trade waste fees and charges [column 2d on page 84].
- **Water conservation plan** - As noted on page 10, 95% of LWUs have implemented a sound water conservation plan [column 3 on page 84].



- **Drought management plan** - As noted on page three, 95% of LWUs have implemented sound drought management [column 4 on page 84].
- **IWCM strategy** - 77% of LWUs reported that they have commenced their IWCM evaluation or strategy [columns 6 and 4 on page 84]. As noted on page 86, 69 LWUs have completed an IWCM Evaluation, 48 of which have also completed an IWCM Strategy. As noted on page 4, 16 of these utilities now need to prepare an IWCM Strategy, financial plan and report in accordance with the July 2014 IWCM Check List.

### 4.3 Eligibility for payment of a dividend

Appendix C on page 84 indicates that only 2% of the utilities are proposing to pay a dividend from the surplus of their water supply or sewerage businesses.

Following an update of the *Best-Practice Management Guidelines* in 2007, the utilities' continuing efforts have resulted in a steady increase in the level of implementation of the 19 planning, pricing and management requirements of the *Guidelines* and the *Best-Practice Management Framework* (page viii). As noted on page 25, 45% and 52% of the NSW utilities are now eligible to pay a dividend for water supply and sewerage, respectively. These utilities have appropriate, affordable, cost-effective and sustainable piped water supply and sewerage services.

As noted in the final paragraph in the box on page 13, each utility which has implemented all the requirements of the Framework is encouraged to pay an 'efficiency dividend' from the surplus of its water supply and sewerage businesses to the council's general revenue.

### 4.4 Climate variability

The NSW Government is tackling the challenge of the impact of climate variability on regional local water utilities by developing climate variability guidelines<sup>19</sup> which build on the existing robust<sup>20</sup> **NSW Security of Supply basis** for sizing of urban water supply headworks. The guidelines are informed by the results of a pilot study<sup>21</sup> on 11 existing water supplies in regional NSW. A Climate Change Steering Group involving the National Water Commission, CSIRO, Local Government NSW, the NSW Water Industry Directorate, NSW Public Works and the NSW Office of Water is responsible for overseeing the pilot study and the development of the guidelines.

The NSW Security of Supply basis for sizing water supply headworks was developed in response to the experiences and lessons learnt from the severe 1979-1983 drought. This basis for sizing headworks is commonly referred to as the "**5/10/10 rule**" and is designed to maintain water supply to customers with only moderate water restrictions during a more severe drought than had been experienced over the previous 100 or more years. Refer also to the box on page 4.

The pilot study has developed a sound basis for NSW LWUs to assess the impact of future climate variability on the secure yield of their urban water supply. The impact is influenced by the location of the LWU and the utility's headworks system.

Future 30-year IWCM strategies (pages 23 and 25) will need to include assessment of the secure yield of the utility's water supply in accordance with the new climate variability guidelines.

<sup>19</sup> Assuring future urban water security: Assessment and adaptation guidelines for NSW local water utilities, NSW Office of Water, Draft – December 2013 (available on request from [urbanwater@water.nsw.gov.au](mailto:urbanwater@water.nsw.gov.au)).

<sup>20</sup> *Impacts of the 2001-2007 Drought and Climate Change on Security of Water Supplies in Country NSW* – Peter Cloke, NSW Public Works and Sam Samra, NSW Office of Water, Institution of Engineers Australia, 32<sup>nd</sup> Hydrology and Water Resources Symposium, Newcastle, December 2009 (available on request from [urbanwater@water.nsw.gov.au](mailto:urbanwater@water.nsw.gov.au)).

<sup>21</sup> *NSW Response for Addressing the Impact of Climate Change on the Water Supply Security of Country Towns* – Sam Samra, NSW Office of Water and Peter Cloke, NSW Public Works, Institution of Engineers Australia, *Practical Responses to Climate Change National Conference*, Melbourne, October 2010 (available on request from [urbanwater@water.nsw.gov.au](mailto:urbanwater@water.nsw.gov.au)).

## 5. TBL reports and action plans

### 5.1 Triple bottom line (TBL) performance reports

The NSW Office of Water provides each utility and IPART with an annual triple bottom line (TBL) performance report for the utility's water supply business and for its sewerage business (a sample report is shown on pages 82 and 83).

Each LWU's annual TBL performance report provides a brief description of the LWU's water supply or sewerage system together with a summary of the LWU's performance for over 50 key performance indicators. The TBL reports also disclose whether the LWU has implemented each of the ten water supply and nine sewerage requirements of the *Best-Practice Management Framework*.

Each TBL report groups the above performance indicators under Characteristics, Social, Environmental and Economic factors. For each indicator, the LWU's result is shown together with the Statewide and National medians, the ranking of the LWU's result against all LWUs and also the ranking against similar sized LWUs. These rankings aim to assist each LWU to gain a quick appreciation of its relative performance. The rankings are based on quintile groupings, with the top 20% of LWUs for each indicator being ranked 1 and the bottom 20% being ranked 5 (LWUs in the range 40% to 60% are ranked 3).

LWUs will appreciate that each of the performance indicators is a 'partial' indicator only and therefore cannot be interpreted in isolation. It is also emphasised that the rankings are indicative only and do not take account of the wide range of factors which can impact on a LWU's performance, as discussed in section 5.3 on page 30. The aim of providing a ranking for each LWU's performance is to assist the LWU in quickly identifying any areas of apparent under-performance in comparison with similar sized LWUs.

The second page of the TBL reports provides graphs with the LWU's performance and Statewide medians over the past 10 years for 15 key indicators. These graphs enable the LWU to review trends over time for each indicator, which provide the most meaningful assessment of performance.

Each LWU needs to review its performance using its annual TBL performance reports for water supply and sewerage and to prepare and implement a sound annual Action Plan to Council which addresses any emerging issues or areas of under-performance, as outlined in section 5.2 below.

In addition, following the review of its TBL Performance Report, each LWU should 'roll forward', review and update its 30-year total asset management plan and 30-year financial plan. A brief report<sup>22</sup> to Council should be provided on the updated financial plan. Any necessary corrective action must be noted in the Action Plan to Council (Item 4 of page 28).

### 5.2 Review performance and preparation of an action plan

Each utility should aim to provide the levels of service negotiated with its community at the lowest sustainable typical residential bill. This is done by setting cost-reflective developer charges, non-residential charges and liquid trade waste fees and charges, and then minimising the Typical Residential Bill (TRB) on a sustainable basis. Utilities which have implemented the *Best-Practice Management Framework* and wish to pay an 'efficiency dividend' [box on page 13] to the Council's general revenue should also include the dividend amount.

Each LWU is required to prepare and implement a sound annual Action Plan to Council (page 28), based on its review of the TBL performance report, its DWMS, any Section 61 Reports and its updated TAMP and financial plan. The Action Plan addresses any areas of under-performance and documents any target dates for remedial actions. It should also report results for the financial year for the key actions set out in the later of the utility's Strategic Business Plan and IWCM Strategy. Refer also to pages 107 and 111.

<sup>22</sup> An example report to Council on the updated financial plan is provided in Appendix H of the *NSW Water and Sewerage Strategic Business Planning Guidelines, July 2011* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

## PREPARATION OF AN ACTION PLAN

The steps that each LWU should follow to review performance and prepare an annual action plan are:

1. **Check level of implementation of BPMF** and highlight requirements which have not been implemented. Any such requirements must be addressed as a priority in order to achieve sound planning, pricing and regulation of services by each LWU.
2. **Review performance** using the indicators shown on the first page of the TBL performance report for each of water supply and sewerage (example TBL report on pages 82 and 83). Particular note should be taken of indicators that appear to be less than satisfactory i.e. with a ranking of 4 or 5.
  - **DWMS** - review your DWMS (page 7) and document any required corrective action.
  - **Section 61 Reports** – include any required corrective action from the NSW Office of Water Section 61 Reports in the Action Plan if the work has not yet been completed.
3. **Identify any trends** over the past ten years in the selected performance indicators shown on the second page of the TBL performance report, and compare the latest values with the Statewide median values and the top 20%. In undertaking a review of indicators and trends in performance, LWUs should take note of the many factors that may contribute to the apparent under-performance (section 5.3 on page 30).
4. **Update Financial Plan** Annually 'roll forward', review and update your 30-year total asset management plan for projects completed, modified or deferred and input the results, together with your latest annual financial statements to prepare an update of your 30-year financial plan (pages 24, 107 and 111). Include any warranted corrective action in your Action Plan.
5. **Prepare Action Plan** Use the Action Plan template provided to your LWU together with your TBL reports. Example review and Action Plan is provided on pages 80 and 81 as the basis for your Action Plan. Consider any emerging issues and address areas of under-performance and document remedial actions (with target dates). Review targets set out in the later of your IWCM Strategy and financial plan and Strategic Business Plan (SBP) (particularly whether this year's **TRB** is consistent with your projection and any corrective action required from the above update of your 30-year financial plan (section 5.1 on page 27) and document appropriate actions. Include corrective action required from the review of your DWMS & any Section 61 Reports. Refer also to the box on page 7. Examples of 'emerging issues' which should be addressed in your utility's IWCM Strategy include:
  - What is your secure yield based on the "5/10/10 rule" (NSW Security of Supply Basis)?
  - What is the impact of climate variability on water supply secure yield (section 4.4 on page 26)?
  - Has your IWCM Strategy addressed 'liveability'<sup>23</sup>?

If further analysis is warranted (e.g. if the ranking of the performance indicator is low and remains unexplained or other factors suggest apparent under-performance), then steps 6 and 7 below may also be required.

6. Compare selected performance indicators with those of similar utilities in a similar size range using the Figures showing performance trends for four utility size ranges over the past six years in the Benchmarking Report (provided on the Office of Water website [www.water.nsw.gov.au](http://www.water.nsw.gov.au)). Where in-depth investigation is warranted for selected indicators, the LWU can also undertake process benchmarking.
7. Process benchmarking for selected indicators for areas of apparent under-performance, e.g. where the LWU has a low ranking (ie. 4 or 5) relative to LWUs with similar characteristics.

<sup>23</sup> Water supply, sewerage and stormwater systems can contribute to the 'liveability' of towns and cities, including watering of parks, gardens and playing fields and the use of water sensitive urban design to encourage the greening of urban areas and healthy

A key role for the annual Action Plan is to ‘**close the planning loop**’ with the later of your IWCM Strategy and financial plan and strategic business plan. The utility’s **TRB** must therefore be compared with its projection and any necessary corrective action documented in the Action Plan (box on page 13 and note 3 on page 81).

An example Action Plan is shown on pages 80 and 81. In order to assist LWUs, the NSW Office of Water will continue to provide a template for each LWU’s Action Plan together with the annual TBL reports for each LWU. The template will show your LWU’s results, the drivers for each indicator and the ranking relative to similar sized LWUs followed by the ranking relative to all LWUs. Space is provided for the LWU to document its proposed actions and its findings (the right hand column on pages 80 and 81).

In order to prepare and implement a sound Action Plan to Council, it will be necessary for each LWU to review its performance. In practice this means reviewing whether the performance indicators under ‘Health’, ‘Levels of Service’, ‘Environmental’ and ‘Economic’ are satisfactory, taking into account factors that may affect performance outlined in section 5.3 on page 30. If the indicators are unsatisfactory, the LWU will need to develop options to improve performance.

It is important to note that the **typical residential bill** is the **principal indicator of the overall cost** of a water supply or sewerage system and is the annual bill paid by a residential customer using the utility’s average annual residential water supplied [section 1.3 on page 1 and note 4 on page 32]. A critical element in minimising the typical residential bill and providing value for money for the community is to ensure that the operating cost (OMA) is efficient. Each LWU therefore needs to carry out an ongoing review of the components of its operating cost. Particular attention is required for components with a low ranking (ie. 4 or 5).

The components<sup>24</sup> of operating cost highlight the significant differences that can arise depending on the type of infrastructure (eg. whether a bulk storage dam is provided or whether the utility has a groundwater supply) and the type of service (eg. pumped vs gravity, full treatment vs chlorination). Components are:

*Management cost* – includes administration, engineering and supervision and is typically almost 40% of the total operating cost [Figures 27 and 28 on pages 61 and 62].

*Treatment cost (water)* – dependent on the type and quality of the water source and the extent of treatment provided. There are great economies of scale for the operation of water treatment works.

*Treatment cost (sewage)* – dependent on the type of treatment and the discharge requirements. Where discharge licence conditions are stringent (eg. low levels of phosphorus), treatment costs will be high. There are significant economies of scale for operation of treatment works.

*Pumping cost (water)* – dependent on topography and the location of the water source. For example, Essential Energy has a high pumping cost due to the long distance required to pump from the water source, while Fish River is almost a fully gravitational supply, with negligible pumping costs. There are significant economies of scale in pumping cost per property.

*Pumping cost (sewage)* – dependent on topography. There are significant economies of scale in pumping cost per property.

*Energy cost* – for water supply, this is mainly a consequence of pumping requirements. Energy cost may be reduced by maximising pumping in off-peak periods or by obtaining a competitive energy rate from the energy supplier (e.g. maximising off-peak pumping has provided annual savings in energy costs of over \$200,000 for a number of large water supplies).

urban creeks and waterways. Appropriate financial contributions from the beneficiaries of such ‘broader solutions’ (eg. a large water user or Council’s Planning, Parks & Gardens, Stormwater &/or Roads functions) should be included in the IWCM Strategy.

Refer also to Recommendation 10 of the National Water Commission’s report on *Urban Water in Australia Future Directions 2011* ([www.nwc.gov.au](http://www.nwc.gov.au)).

<sup>24</sup> Figures 31 to 37, Figures 60 to 66 and Tables 11, 13, 16 and 18 of the 2013-14 NSW Water Supply and Sewerage Benchmarking Report report these components for each LWU. Page 83 provides graphical comparisons of the components of operating cost. Refer also to pages 81 and 82.

For sewerage, energy cost is a component of pumping and treatment costs. Significant cost savings may be available by optimising energy use in the treatment process (e.g. such optimising of energy use has provided annual savings of over \$100,000 for a number of large sewage treatment works).

*Water and Sewerage mains cost* – this is dependent on the age and condition of the mains, the ground conditions and the number of connected properties per kilometre of mains.

## 5.3 Factors affecting performance

Many factors impact on a water utility's performance and make comparison of utilities a complex analysis. These factors include the extent of the services provided by each utility, geography, climate etc. An understanding of these factors is vital for valid interpretation of performance data.

The most meaningful indicators are the trends over time for each utility. However, even with these, care needs to be exercised due to changes in the factors over time. For comparison between utilities, each utility should benchmark its performance with utilities having similar characteristics. An example of some of the factors affecting performance of a utility's water supply system are outlined below.

### Location

1. **Climate** – the variability of rainfall is a key driver of water supply costs in relation to water demand and water supply security during droughts. This will affect both capital and operating costs. For example, the average annual residential water supplied in inland NSW is approximately 65% higher than coastal NSW [page 9 and Figures 12 and 13 on pages 46 and 47].
2. **Geography** – The geology, geography and topography can have a significant effect on water and sewage transportation costs, particularly with pumped systems compared to gravity systems.
3. **Water Resources Availability and Proximity** – Bulk storage and/or long water transfer mains and channels can incur significant capital and operating costs [note 10 on page 34]. Such costs would not apply for utilities relying on a nearby groundwater source or those receiving a regulated supply from a Water NSW dam.

### Utility characteristics

4. **Asset Life Cycle** – Recently constructed systems have much lower maintenance and renewals costs compared to older systems. Refer also to the box on page 3.
5. **Development density** – Distribution networks are a major investment component of a water supply system. The density of urban development has a large effect on the infrastructure cost (e.g. the number of properties served per km of main varies in regional NSW from 3 to over 70). A further key factor is the number of small discrete urban water supply systems operated by the utility which tend to greatly increase the operating cost per property. Refer also to footnote 16 on page 17.
6. **Size of LWU** – there are significant economies of scale for large utilities, particularly the capital cost of infrastructure and the operating cost of water treatment works.
- 6a. **Employees** – the number of employees per 1,000 properties is a good indicator of operating and management costs. If the number of employees per 1,000 properties is significantly higher than the median for the size of LWU, you should examine the management structure and identify the reasons for the difference and provide a brief explanation or your proposed remedial action in the Action Plan. However, it is important to note that a higher number of employees per 1,000 properties is needed for **small** non-contiguous **water supply systems** and for **small water or sewage treatment works**.
- 6b. **Employee awareness and training** is of strategic importance in the safe and effective delivery of water supply and sewerage services, eg. refer to Element 7 of the NSW guidelines for drinking water management systems, NSW Health and NSW Office of Water, 2013

([www.health.nsw.gov.au/environment/water](http://www.health.nsw.gov.au/environment/water)). In particular, LWUs need to ensure that water treatment operators, wastewater treatment operators, dam safety officers, trade waste officers and engineers update their training and skills at least every 3 years. Refer to the boxes on page 16. LWUs should provide an average of at least 2 days/a of appropriate training for each employee. Refer to Tables 9 and 14 of the 2013-14 NSW Benchmarking Report ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)) for the training currently provided by each LWU.

## Social – levels of service

7. **Service standards** – increasingly stringent standards for water quality and environmental health may result in additional capital and operating costs to the utility. Similarly, requirements for minimum pressures or rates of flow can also affect costs.
8. **Filtered supply** – will incur both a high capital cost per property and a high treatment cost per property for small discrete urban water supply systems (utilities without ‘unfiltered’ or ‘groundwater’ after their name in Appendices C to E have water treatment involving at least filtration and disinfection for over 50% of their water supply) [note 11 on page 34].

## Environmental

9. **High residential water supplied per property** – such utilities should examine opportunities for achieving efficient water use through water demand management and providing appropriate water pricing signals to customers including the residential water usage charge/kL (Figure 35 on page 69) and the residential revenue from water usage charges (Figure 29 on page 63). As noted on Figure 29, many utilities with 3,000 to 10,000 connected properties are providing relatively weak pricing signals to their residential customers through their water usage charges. These utilities should review their tariff structure to provide appropriate pricing signals. Assistance is available from the NSW Office of Water in this regard (page 16). Refer also to the box on page 5.

## Economic

10. **High loan payment per property** – indicates a relatively high capital cost per property, recent construction of significant capital works or use of short-term loans. **Twenty-year loan terms are strongly recommended** in order to avoid unfairly burdening existing customers and to facilitate **inter-generational equity**. Refer also to the boxes on pages 13 and 14.
11. **High pumping cost** – is influenced mainly by topography and geography. As noted on page 29, the LWU may be able to achieve significant savings in energy cost.

Similar considerations to those listed in this section apply to sewerage. In addition, a significant cost impactor is whether the LWU is operating nutrient removal facilities at its treatment works or providing filtration and disinfection of its treated sewage effluent. Refer also to pages 14 and 15.

## 5.4 Benchmarking

Each LWU can improve its performance in areas of apparent under-performance by benchmarking its key work processes with those of one or two high-performing similar LWUs and implementing the best-practices thus identified. This will provide better customer service, reduced environmental impact and better value for the community.

In addition, each LWU should undertake ‘Syndicate Benchmarking’ with a group of LWUs with similar characteristics in order to determine current best-practice and to identify existing practices which each LWU can improve. Such process benchmarking should be highly cost-effective for all NSW LWUs.

## 6. General notes

1. **Triple bottom line (TBL) focus** – To provide a balanced view of the long-term sustainability of the regional local water utilities (LWUs), a triple bottom line accounting focus has been adopted, with performance reported on the basis of social, environmental and economic indicators.
2. **Data validation** – the comprehensive data validation procedures for the NSW Performance Monitoring System are shown in Appendix G on page 97. These procedures include matters such as aggregated businesses, assessments, connected properties, charges and bills, urban water supplied, operating cost and management cost, drinking water quality compliance, sewage treatment works compliance and implementation of the NSW Best-Practice Management Framework.
3. **Statewide medians** – This report refers to Statewide medians for the regional local water utilities, which are calculated on a ‘percentage of connected properties’ basis. These are a weighted median on the basis of connected properties and best reveal Statewide performance by giving due weight to larger LWUs and reducing the effect of smaller LWUs. LWU rankings on a ‘percentage of LWUs’ basis are also provided where appropriate (e.g. for comparison of LWUs in the ‘Ranking’ columns of the two-page TBL Performance Report (example in Appendix B on page 82)).
4. **Typical residential bill (TRB)** – The typical residential bill per assessment is the annual bill paid by a residential customer using the LWU’s average annual residential water supplied and is the **principal indicator of the overall cost of a water supply or sewerage system**. Pensioners pay a lower amount due to the \$87.50 pensioner rebate as do owners of vacant lots as they pay no water usage charges. Refer also to pages 29 and 7.

**Calculation of TRB** – The 2014-15 typical residential bill is based on a customer of the LWU’s principal water supply or sewerage system using the LWU’s 2013-14 average annual residential water supplied per connected property. Refer also to section G4.3 on page 100. These bills and tariff details are shown in Appendices E and F on pages 91 and 94. The typical residential bill for 2013-14 and previous years is based on the reported average annual residential water supplied for that year (2013-14 residential water supplied is shown in column 17 of Appendix D on page 87 and column 14b of Appendix E on page 91). As noted on pages 93 and 96, the charges, bills and costs shown in Appendices E and F are those applicable for the relevant financial year and involve no CPI adjustment.

5. **Average annual residential water supplied** – The average annual residential water supplied per connected property (NWI Indicator W12) is shown in column 17 of page 87 and includes both potable and non-potable water supplied. W12 is also shown in column 14b of Appendix E on page 91; column 14c on page 91 shows the residential water supplied (potable + non-potable) **per capita**; column 14a on page 91 shows the **potable** water supplied per connected property. Where a LWU has not separately reported its residential water supplied, such volume has been estimated using the Statewide average of 58% of the LWU’s total potable water supplied. As indicated in note 6 below, the potable water supplied and the total water supplied (potable + non-potable) have been separately reported for the 11 LWUs with a dual water supply. Refer also to pages 9 and 18.
6. **Dual supplies** – Eleven LWUs had a dual water supply to over 50% of their residential customers in July 2013 (i.e. with a potable supply for indoor use and a non-potable supply for outdoor use).

The total annual residential water supplied (i.e. potable + non-potable) in kilolitres per property for those LWUs with a dual water supply is shown below, together with their potable residential water supplied in brackets. These volumes were: Balranald 516 (133), Berrigan 427 (237), Bourke 1,114 (284), Central Darling 632 (179), Hay 1,019 (155), Jerilderie 1,187 (246), Murray 287 (172), Wakool 507 (143), Walgett 1,341 (621), Warren 797 (302) and Wentworth 407 (74).

The typical residential bill (TRB) has been calculated for those LWUs with a dual supply using the

above volumes. The TRB for Deniliquin and Moree Plains has also taken into account the significant volumes of non-potable supply provided by these LWUs.

7. **Water losses** – For consistency with national and international performance reporting, water losses comprise *Real Losses* (mostly leakage) plus *Apparent Losses* (under-registration of customer meters and illegal use). *Unbilled Water* supplied (fire fighting and mains flushing) is not a water loss but is a component of non revenue water (NRW) (below and note 8). Real losses and NRW apply to the potable water supply only.

As noted on page 15 of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*, NWI Indicator A10 (real losses in L/connection/d) is the relevant measure for **tracking a LWU's leakage performance over time**. Each LWU's real losses (L/connection/d) are shown in Figure 15 on page 49 and column 41 of Table 10 of the *Benchmarking Report*.

Due to perverse impacts shown on page 14 of the above Benchmarking Report, it is inappropriate to track a utility's leakage as a percentage of the total water supplied. Similarly, use of Unaccounted for Water (UFW) is not appropriate. Rather '**Non Revenue Water (NRW)**' (L/connection/d) should be used, as recommended by the International Water Association – Reference: Kenneth J Brothers, Assessing UFW and Variable Water Rate Impacts, Use and Loss Metrics in a Declining Water Consumption Environment, IWA Water Loss Conference, 2012, February 2012, Manila, Philippines.

NRW (L/connection/d) is shown in Figure 16 on page 50 and column 41f of Table 10 of the *Benchmarking Report*. In addition, the 2013-14 adopted volume of NRW (NWI Indicator W10.1) and NRW as a percentage of the total potable water supplied are shown in columns 15 and 16 of Table 8A of the *Benchmarking Report*.

8. **Minimum real loss and NRW** – Further to note 7 above, the NSW Performance Monitoring System determines minimum values for each LWU's real loss and NRW as shown below.

Leakage studies for 74 NSW LWUs indicate an average leakage from potable water supply distribution systems of 3% to 13% of total potable water supplied, as shown in column 41e of Table 10 of the *Benchmarking Report*. These utilities have recently carried out a reservoir drop test, waste metering or night flow analysis to determine their real losses and opportunities for leakage reduction. Only 10 of these utilities had a real loss of under 6%. In addition, Table 10A of the *Benchmarking Report* discloses the real losses for 68 LWUs 'before' and 'after' leakage reduction under the Regional NSW Water Loss Management Program<sup>25</sup>. For these LWUs, Table 10A indicates average real losses of 10% of the potable water supplied after leakage reduction.

Accordingly, a **minimum real loss** (mostly leakage) of 6% of the total potable urban water supplied (NWI Indicator W11.1) has been adopted. Reported real losses of less than 6% have only been accepted where the utility has provided evidence to support the adoption of a lower value. Where such evidence has not been provided, real losses have been increased to 6% of W11.1 and are shown in italics bold in column 8 of Table 8 of the *2012-13 Benchmarking Report*. Refer also to the final paragraph below on NRW and to page 10.

Similarly, Statewide analysis of **NRW** (*Real Losses*, *Apparent Losses* and *Unbilled Water* supplied (refer to note 7 above)) for NSW water utilities other than bulk water suppliers, indicates a minimum of 10% of the potable water supplied.

Accordingly, a **minimum NRW** of 10% of the total potable urban water supplied (W11.1) has been adopted. Where a LWU has reported NRW of less than 10% of the potable water supplied, the reported NRW has been increased to 10%, unless the LWU has provided evidence of a Real Loss of less than 6%. In such cases, the adopted value for NRW has been determined as the Real Loss plus

<sup>25</sup> Refer to Table 10A of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*. In addition, results from the Regional NSW Water Loss Management Program (WLMP) are available at <http://www.lgnsw.org.au/policy/water/water-loss-management-program>.

4%. Any increases to the real loss (above) or to the NRW (W10.1) have also been applied to W11.1. The adjusted values of the real loss, NRW (W10.1) and the total potable urban water supplied (W11.1) are shown in italics bold in columns 8, 9 and 10 of Table 8 of the *Benchmarking Report*.

**9. Sydney Water, Hunter Water and Water NSW (formerly Sydney Catchment Authority (page ii))**

– The performance indicators for Sydney Water, Hunter Water and Water NSW were obtained from the *National Performance Report 2013-14 for Urban Water Utilities* ([www.bom.gov.au](http://www.bom.gov.au)).

**10. Bulk storage** – utilities that provide bulk storage dams for their water supply incur significant capital and operating costs for these facilities, resulting in a higher typical residential bill and operating cost per property (refer to Item 3 on page 30). The following 45 regional utilities provided such bulk storage: Armidale, Ballina, Bathurst, Bega Valley, Bourke, Brewarrina, Byron (Mullumbimby), Cabonne, Central Tablelands, Clarence Valley, Cobar, Coffs Harbour, Essential Energy, Eurobodalla, Fish River, Glen Innes-Severn, Gosford, Goulburn Mulwaree, Guyra, Inverell, Kempsey, Kyogle, Lachlan, Leeton, Lithgow, MidCoast, Mid-Western Regional, Moree Plains, Orange, Palerang, Parkes, Port Macquarie-Hastings, Richmond Valley, Rous, Shoalhaven, Tamworth, Tenterfield, Tweed, Upper Hunter, Upper Lachlan, Uralla, Warrumbungle, Wingecarribee, Wyong, Yass Valley. Details of each utility's major sources of water are shown in Table 5B of the *2013-14 NSW Benchmarking Report*.

**11. Unfiltered** – a utility where over 50% of its supply is an unfiltered surface water supply i.e. the utility does not have a water treatment works providing filtration and disinfection for >50% of its supply.

**Groundwater** – a utility with >50% of its supply comprising good quality unfiltered groundwater.

**Reticulator** – a utility which purchases >70% of its source water from a bulk supplier and reticulates water to householders in its area.

**Bulk supplier** – a utility which provides a bulk water supply to other utilities, rather than reticulating water to householders.

**Dual supply** – a utility with a potable reticulated water supply for indoor uses and a separate non-potable supply reticulated for outdoor uses to over 50% of its residential customers (page 32).

**12. National Water Initiative (NWI) indicators** – There are 32 NSW water utilities with > 10,000 connected properties including 3 metropolitan utilities & 29 regional utilities. These utilities reported their performance in the *National Performance Report 2013-14* based on a nationally agreed framework of indicator definitions. The reported NWI performance indicators (including key financial performance indicators) have been independently audited. The results that have met the rigorous NWI auditing requirements have been published in the *National Performance Report 2013-14* and are shown in Appendix F of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report* (available on [www.water.nsw.gov.au](http://www.water.nsw.gov.au)). Appendix F of the *Benchmarking Report* discloses the NSW results for all the approximately 150 NWI performance indicators. Some of the reported non-financial performance indicators failed to meet the NWI auditing requirements. These results have been excluded from both the *National Performance Report 2013-14* and Appendix F of the *Benchmarking Report*. However they have been included in the Figures and in Appendices D, E and F of this report.

**13. Reported NWI indicators –**

**Appendix D** reports the results for NWI indicators C4, W11, F4, P3, P6, P8, H3, H4, C9, C15, A8, C13, W12, A10, E4, A14, W27, F1+F2, F22, F28+F29, F16, F17, F18, F11 and F12.

**Appendix E** reports indicators P1, P1.2, P1.12, P1.3, P1.4, P3, F17, F4, P2.1, W12 and C4.

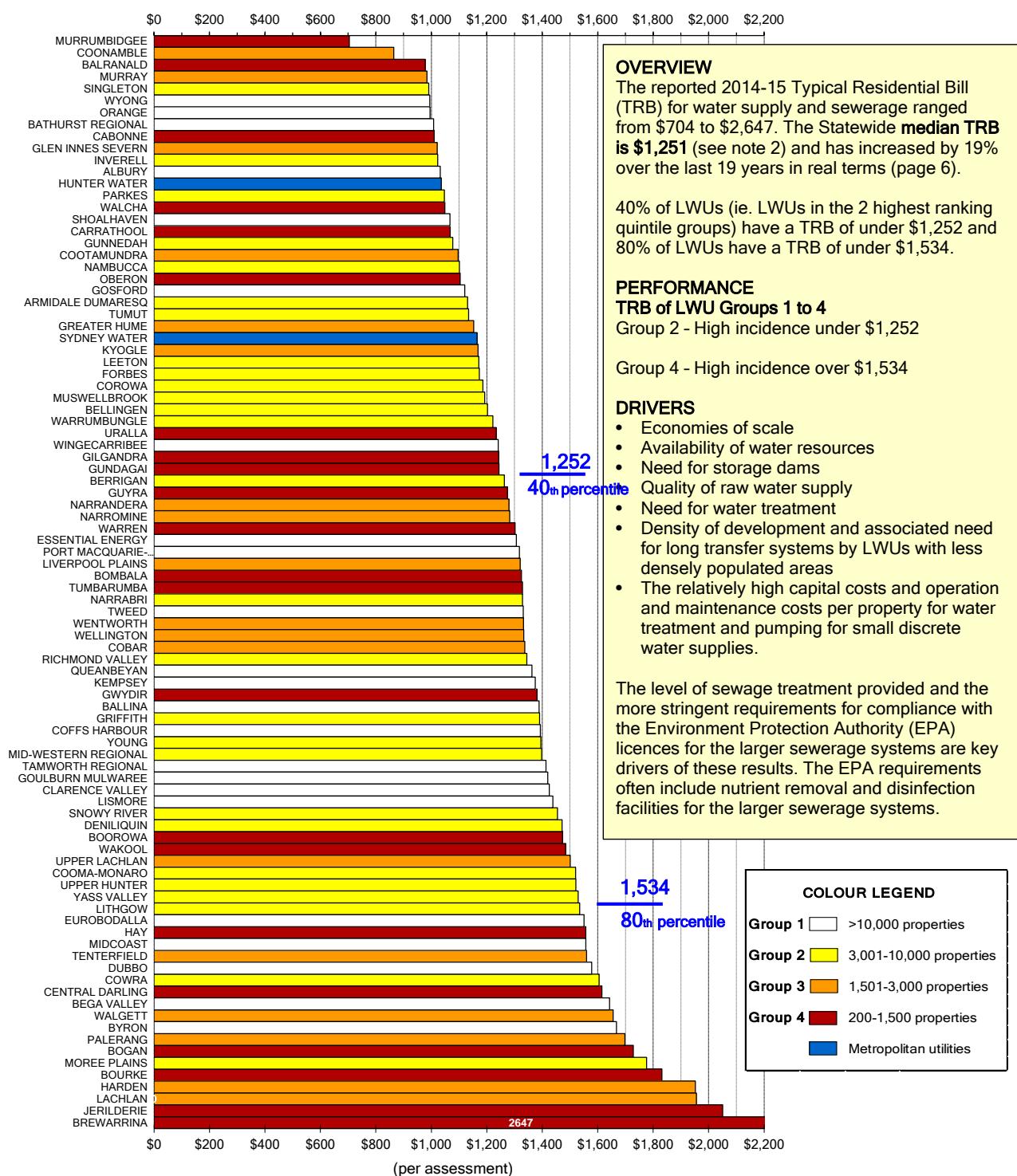
**Appendix F** reports indicators P4.1, P4.2, P6, F18, W19 and C8.

The 2013-14 results for indicators C9, C13, A8, E4, A14, W12, W10, W10.1, W27, E12, F19, F17, F18, F11, F12 & F4 are shown in Figures 6, 8 & 9, 10, 11, 12, 15, 16, 19, 20, 21, 22, 23, 24 & 29.

The 2014-15 results for indicators P8, P3, P6 and P1.3 are shown in Figures 1, 2, 3 and 35.

All the NSW LWUs have complied with indicators E6, H1 and H7. Results for indicators H5 and H6 are reported in Table 12 of the *NSW Benchmarking Report*.

Figure 1: Typical Residential Bill (\$ per assessment) - Water Supply &amp; Sewerage 2014-15 - P8

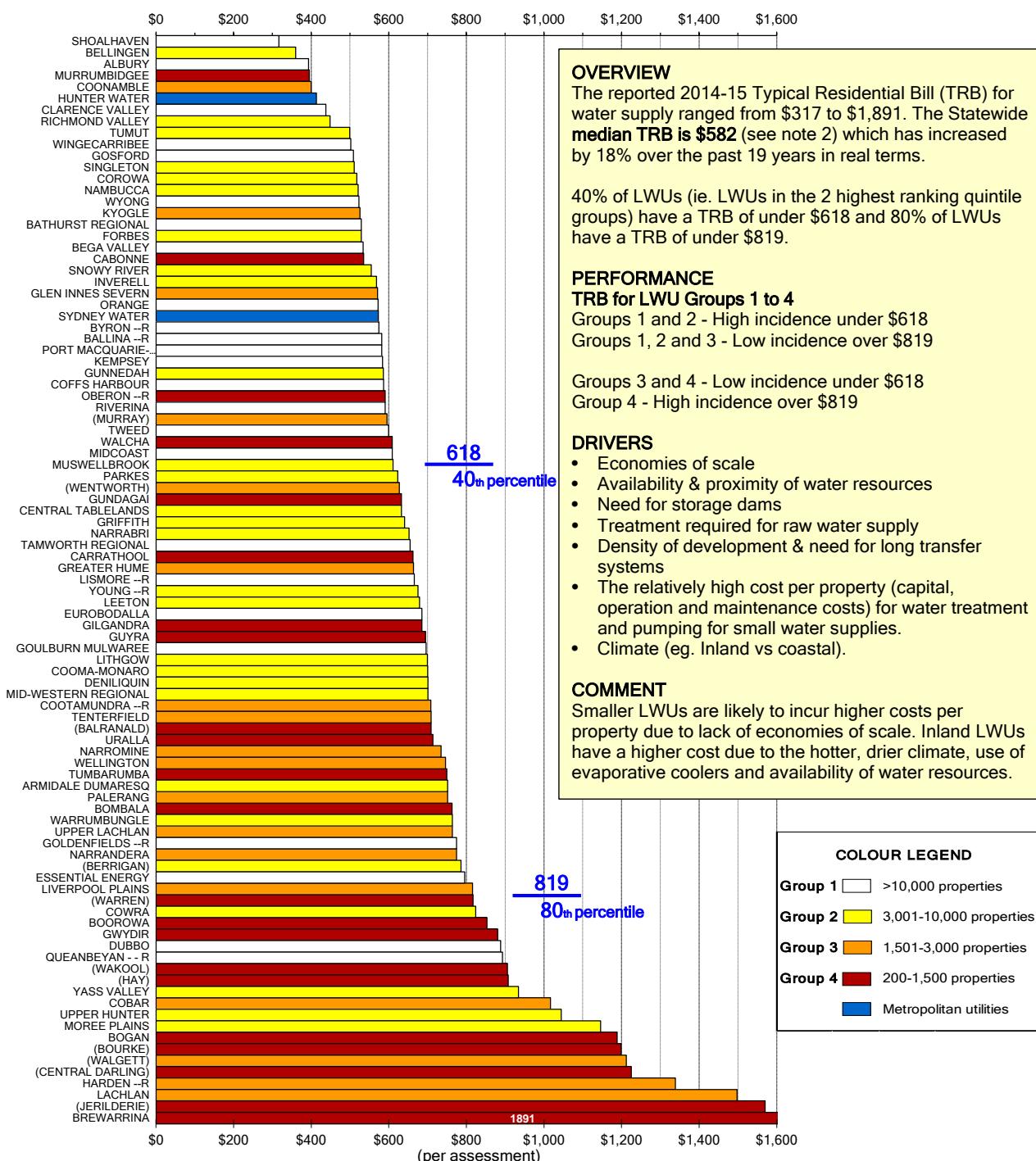


**Parameter:** (2013-14 Average Residential Water Supplied x 2014-15 Water Usage Charges) + 2014-15 Water and Sewerage Access Charges

**Notes:**

1. This figure shows ranked values of the 2014-15 typical residential bill for water supply and sewerage [NWI Indicator P8] for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
2. The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
3. Refer also to pages 7, 18, 73 and 87.
4. For general notes see page 32.

Figure 2: Typical Residential Bill (\$ per assessment) - Water Supply 2014-15 - P3

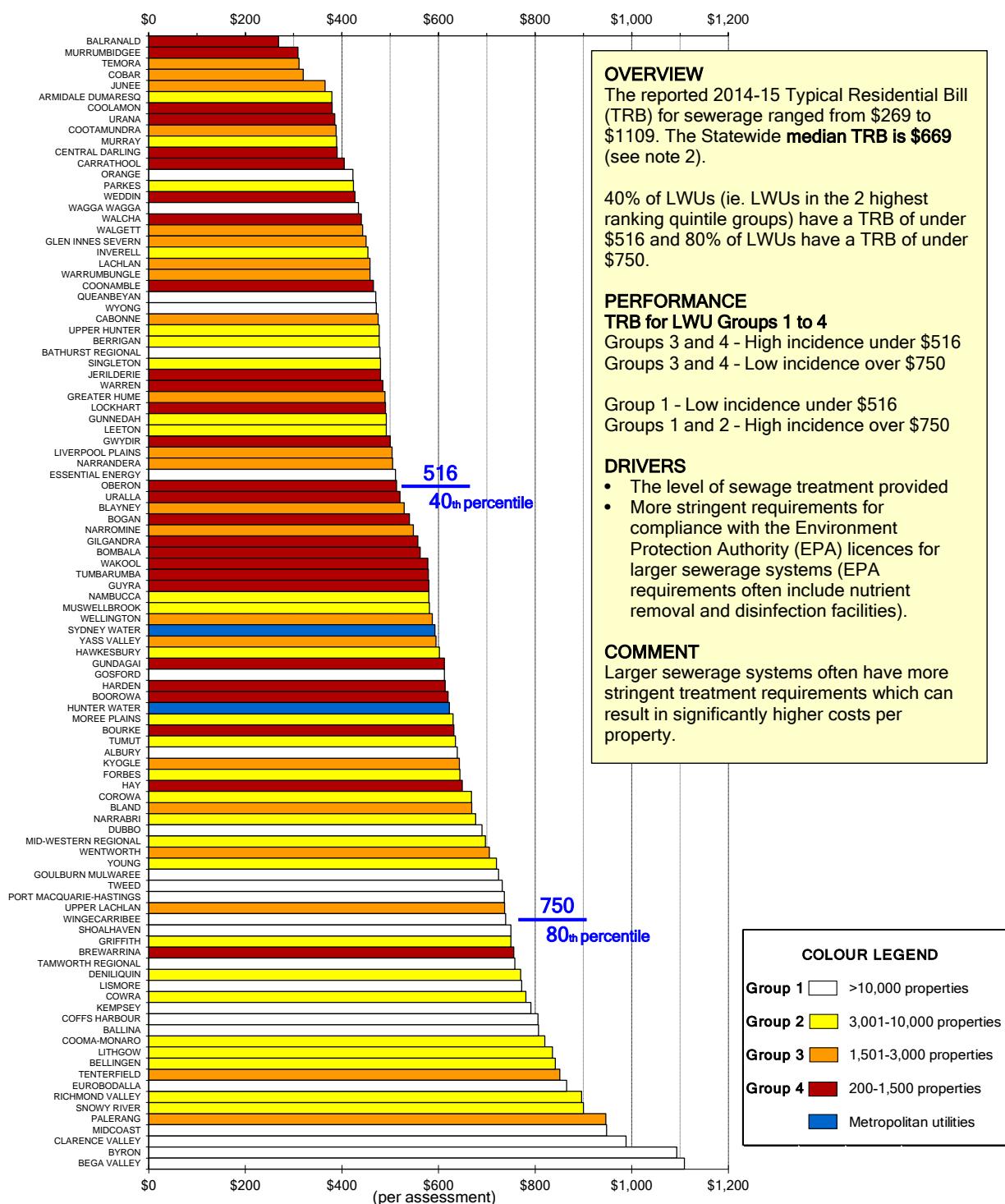


**Parameter:** (2013-14 Average Residential Water Supplied x 2014-15 Water Usage Charges) + 2014-15 Water Access Charge

**Notes:**

1. This figure shows ranked values of the 2014-15 typical residential bill for water supply [NWI Indicator P3] for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
2. The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
3. As shown in the box on page 5, the increase in the real water supply Typical Residential Bill (TRB) over the past 19 years has been limited to 18%.
4. Refer also to pages 5, 6, 73, 87 and 91.
5. The 11 LWUs with a dual water supply (ie. a potable supply for indoor use and a non-potable supply for outdoor use) are enclosed in brackets. Reticulators are suffixed by --R. Refer also to Notes 4 and 6 on page 32.
6. For general notes see page 32.

Figure 3: Typical Residential Bill (\$ per assessment) - Sewerage 2014-15 - P6

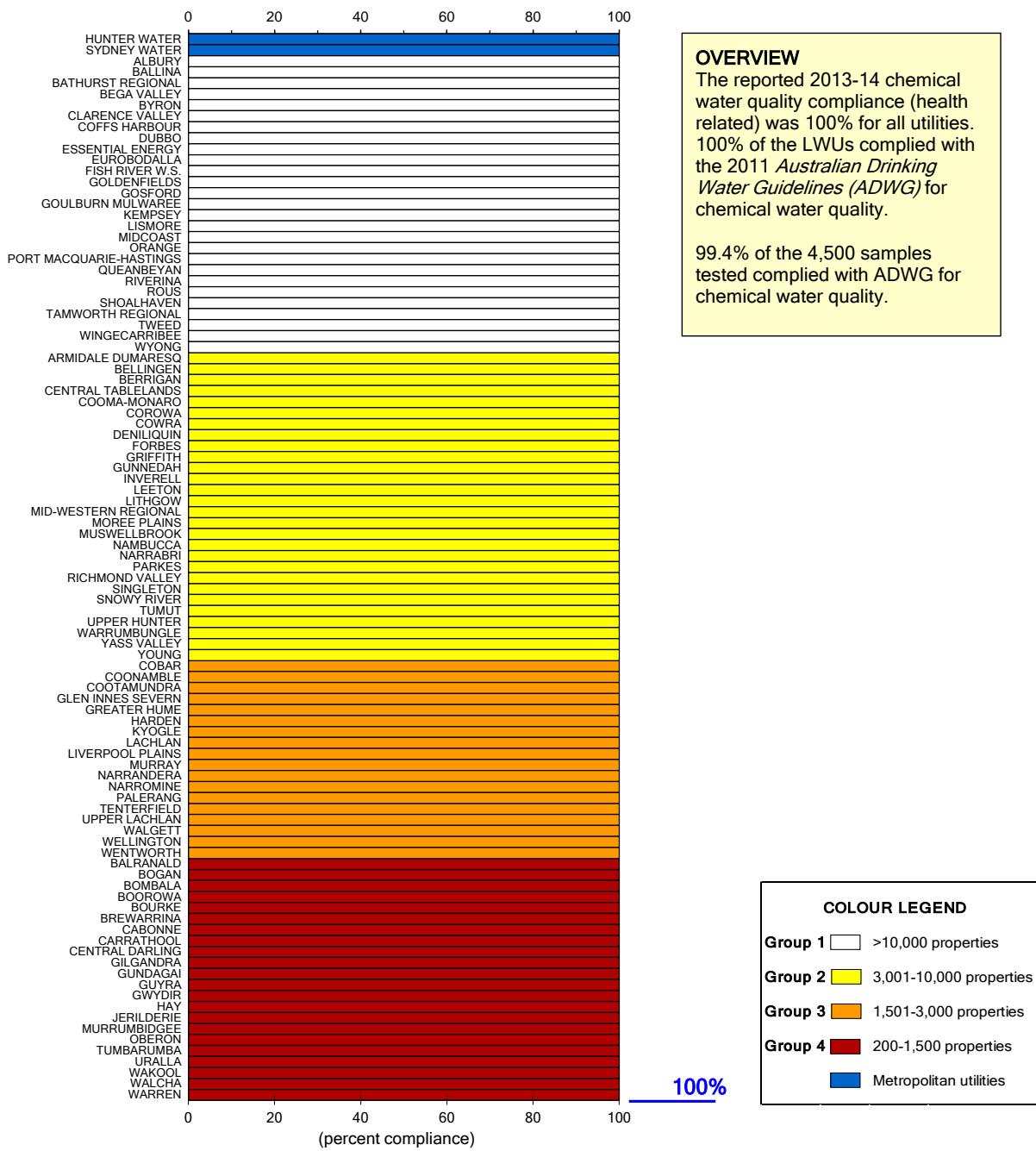
**Parameter:**

Residential Access Charge

**Notes:**

- This figure shows ranked values of the 2014-15 typical residential bill for sewerage [NWI Indicator P6] for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- Refer also to pages 6, 73, 87 and 94.
- For general notes see page 32.

Figure 4: Chemical Water Quality Compliance - Water Supply 2013-14

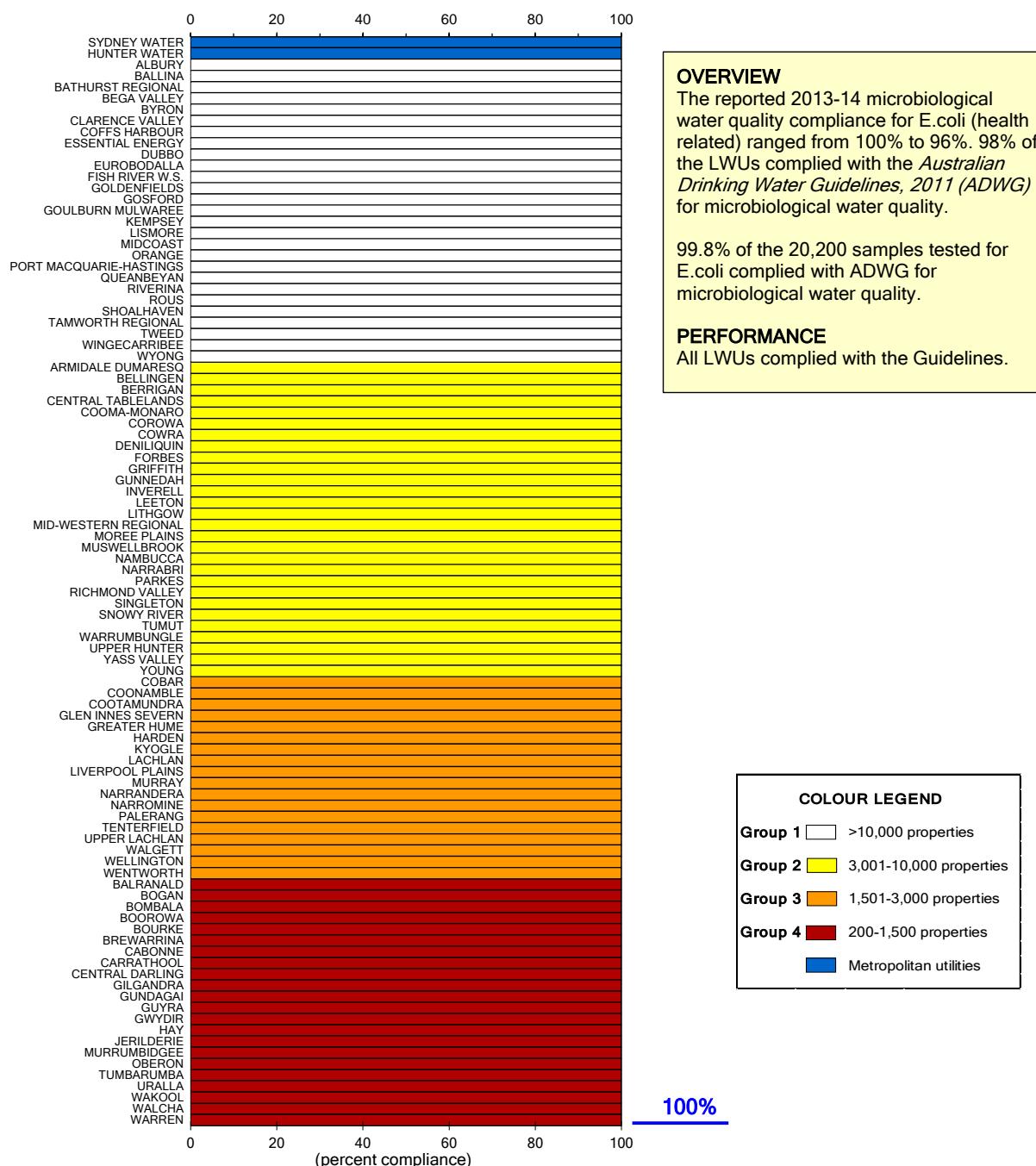


**Parameter:** Percentage of distribution system water samples complying with the chemical criteria of the 2011 NHMRC/NRMMC *Australian Drinking Water Guidelines*.

**Notes:**

- This figure shows ranked values of the 2013-14 distribution system chemical water quality compliance (health related) with the 2011 NHMRC/NRMMC Australian Drinking Water Guidelines (ADWG) for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- For a LWU to comply with the 2011 ADWG for chemical water quality (health related), the required number of samples must be tested and the 95th percentile of results must be less than the guideline value for each chemical. Non-potable supplies are excluded.
- For LWUs with more than one water treatment works, the reported compliance has been pro-rated on the basis of the number of samples tested at each treatment works.
- For 2013-14, the public drinking water supply for 99.9% of the urban population in regional NSW complied with 2011 ADWG for both microbiological and chemical water quality, as did all of the regional utilities.
- Refer also to pages 7, 8, 87 and 101.
- For general notes see page 32.

Figure 5: Microbiological Water Quality Compliance - Water Supply 2013-14

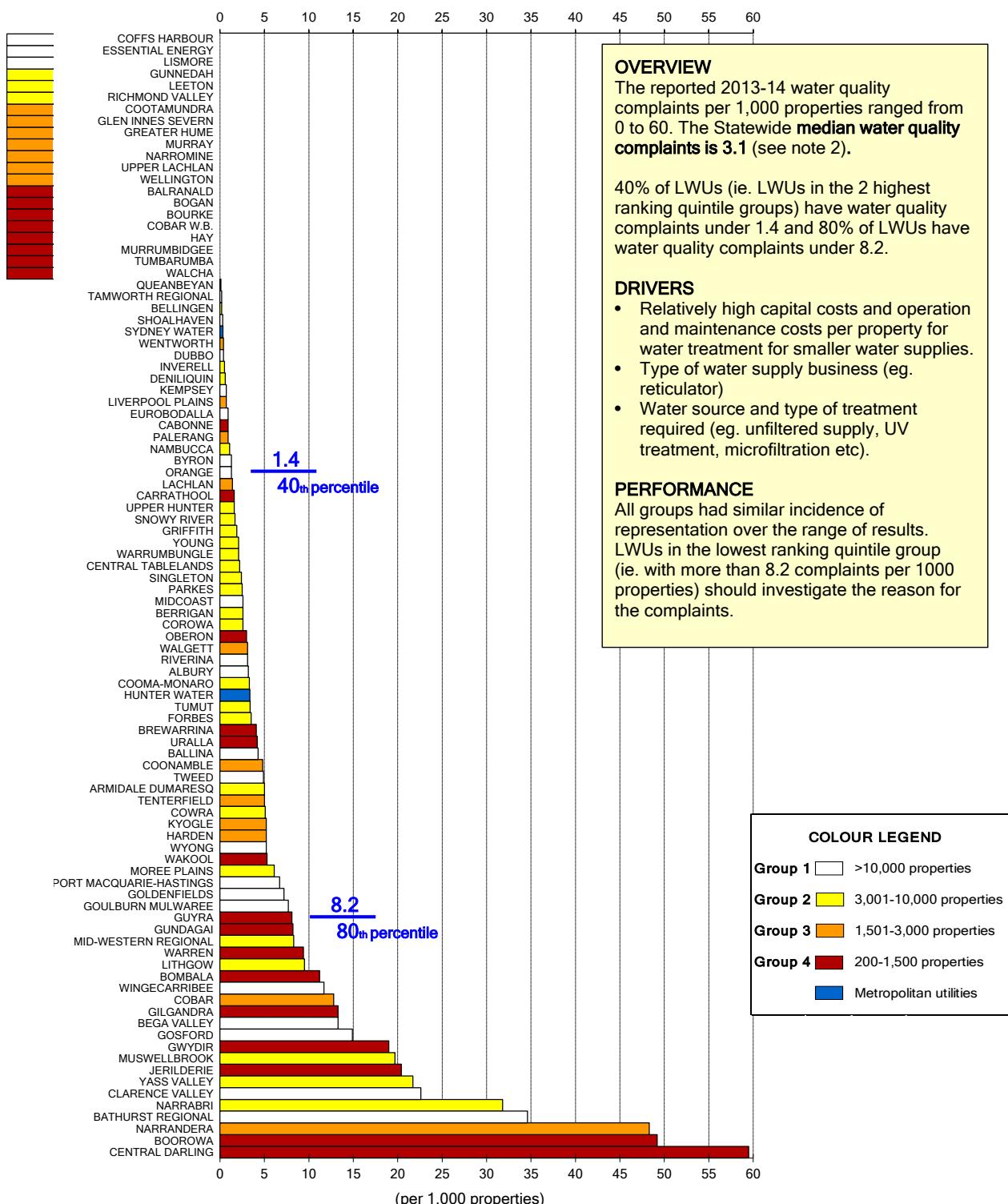


**Parameter:** Percentage of distribution system water samples complying with the microbiological criteria of the 2011 NHMRC/NRMMC *Australian Drinking Water Guidelines*.

**Notes:**

1. This figure shows ranked values of the 2013-14 distribution system microbiological water quality compliance (health related) with the 2011 NHMRC/NRMMC Australian Drinking Water Guidelines for E. coli for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
2. For a LWU to comply with the 2011 Australian Drinking Water Guidelines for microbiological water quality (health related), the required number of samples must be tested and at least 98% of the samples must contain no E.coli. Non-potable water supplies are excluded.
3. For LWUs with more than one water treatment works, the reported compliance has been pro-rated on the basis of the number of samples tested at each treatment works.
4. For 2013-14, the public drinking water supply for 99.9% of the urban population in regional NSW complied with 2011 ADWG for both microbiological and chemical water quality, as did all of the regional utilities.
5. Refer also to pages 7, 8, 74, 87 and 101.
6. For general notes see page 32.

Figure 6: Water Quality Complaints - Water Supply 2013-14 - C9



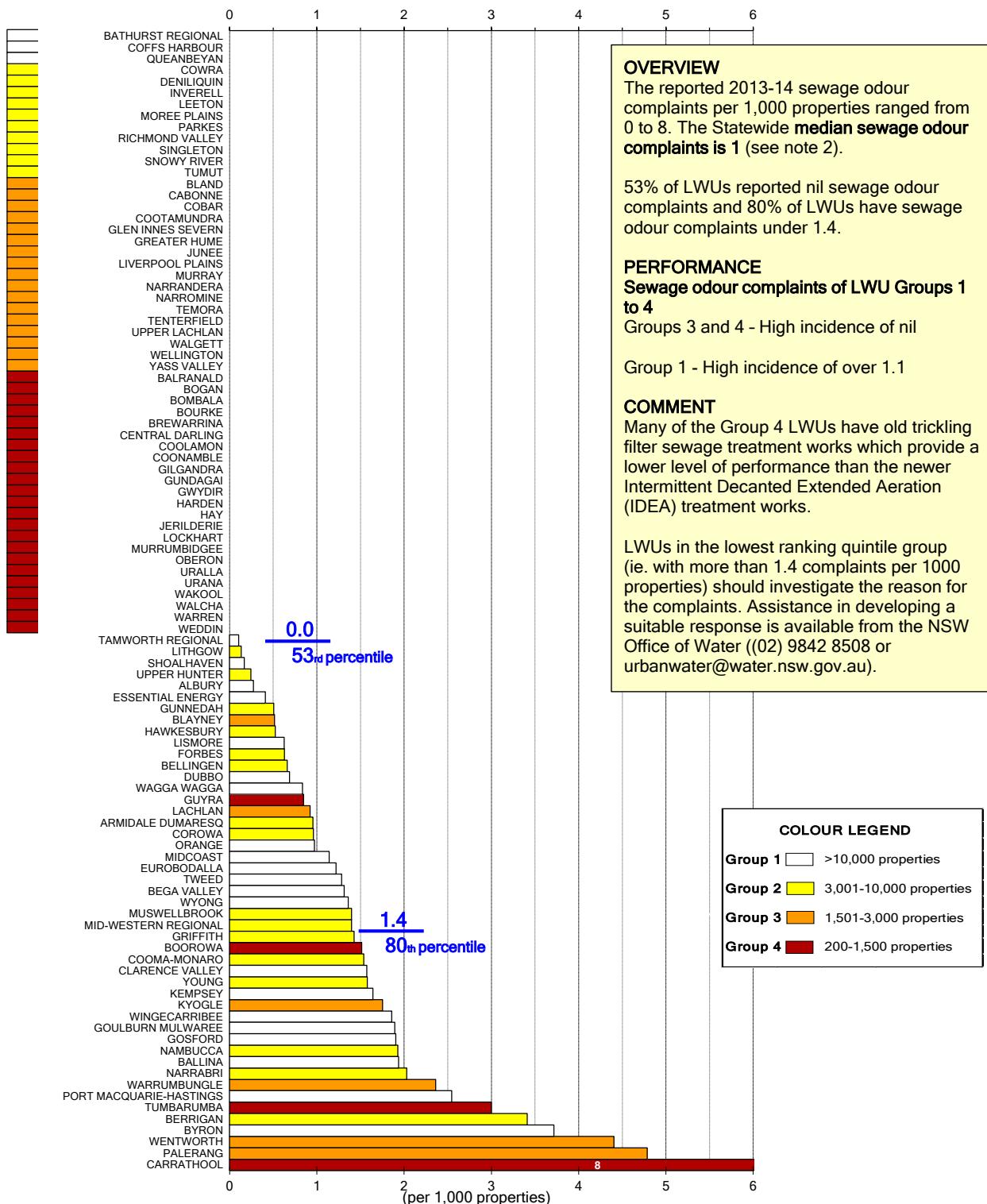
Parameter:

Number of water quality complaints (W101b) x 1,000  
No. connected properties

Notes:

1. This figure shows ranked values of the 2013-14 number of water quality complaints [NWI Indicator C9] per 1000 connected properties for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
2. The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
3. Refer also to pages 9, 74 and 87.
4. For general notes see page 32.

Figure 7: Odour Complaints - Sewerage 2013-14

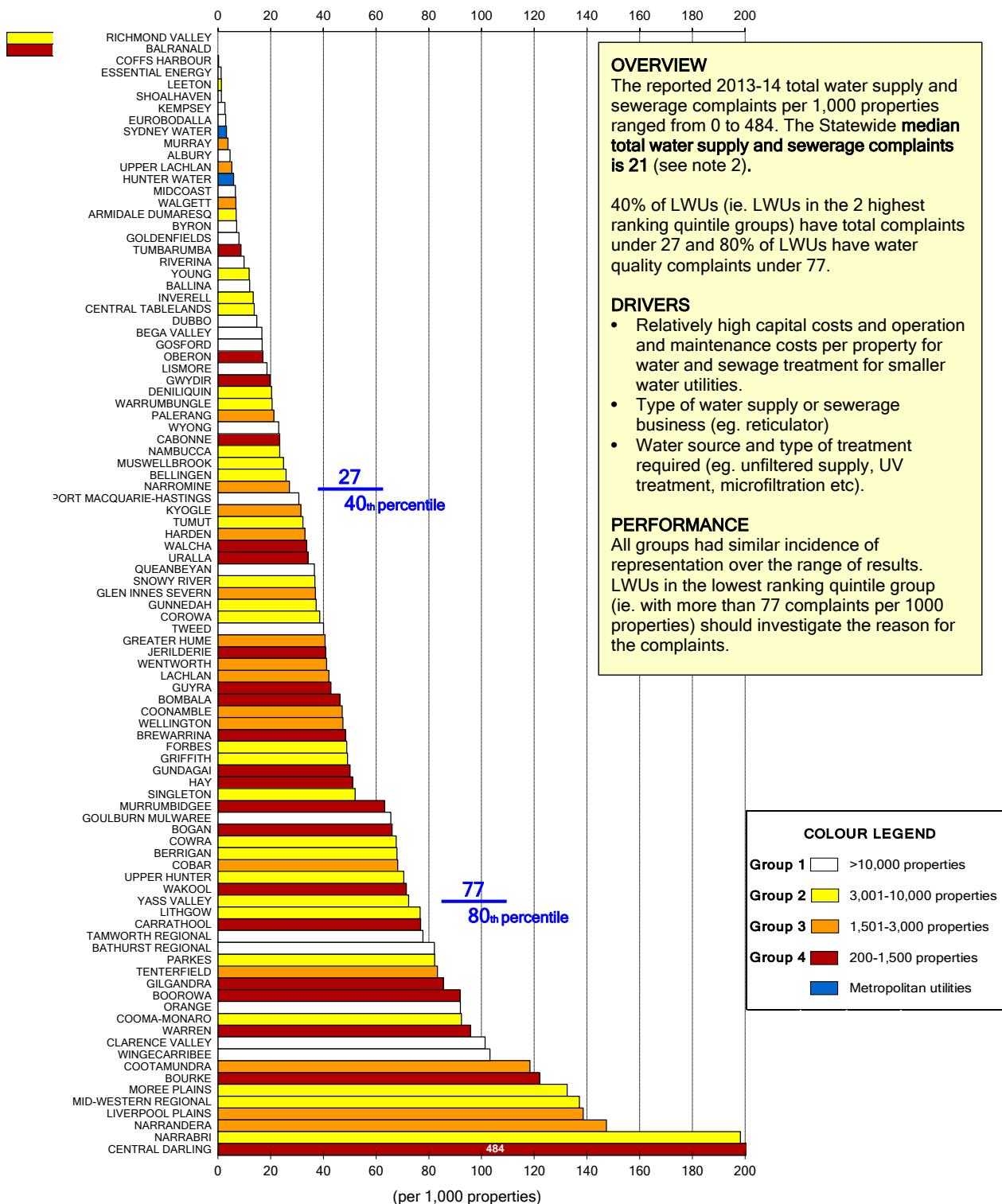


**Parameter:** Number of odour complaints from sewerage treatment works and pumping stations (S39) x 1,000  
No. connected properties

**Notes:**

1. This figure shows ranked values of the 2013-14 number of sewage odour complaints per 1000 connected properties for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
2. The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
3. Refer also to pages 9 and 74.
4. For general notes see page 32.

Figure 8: Total Complaints - Water Supply and Sewerage 2013-14 - C13

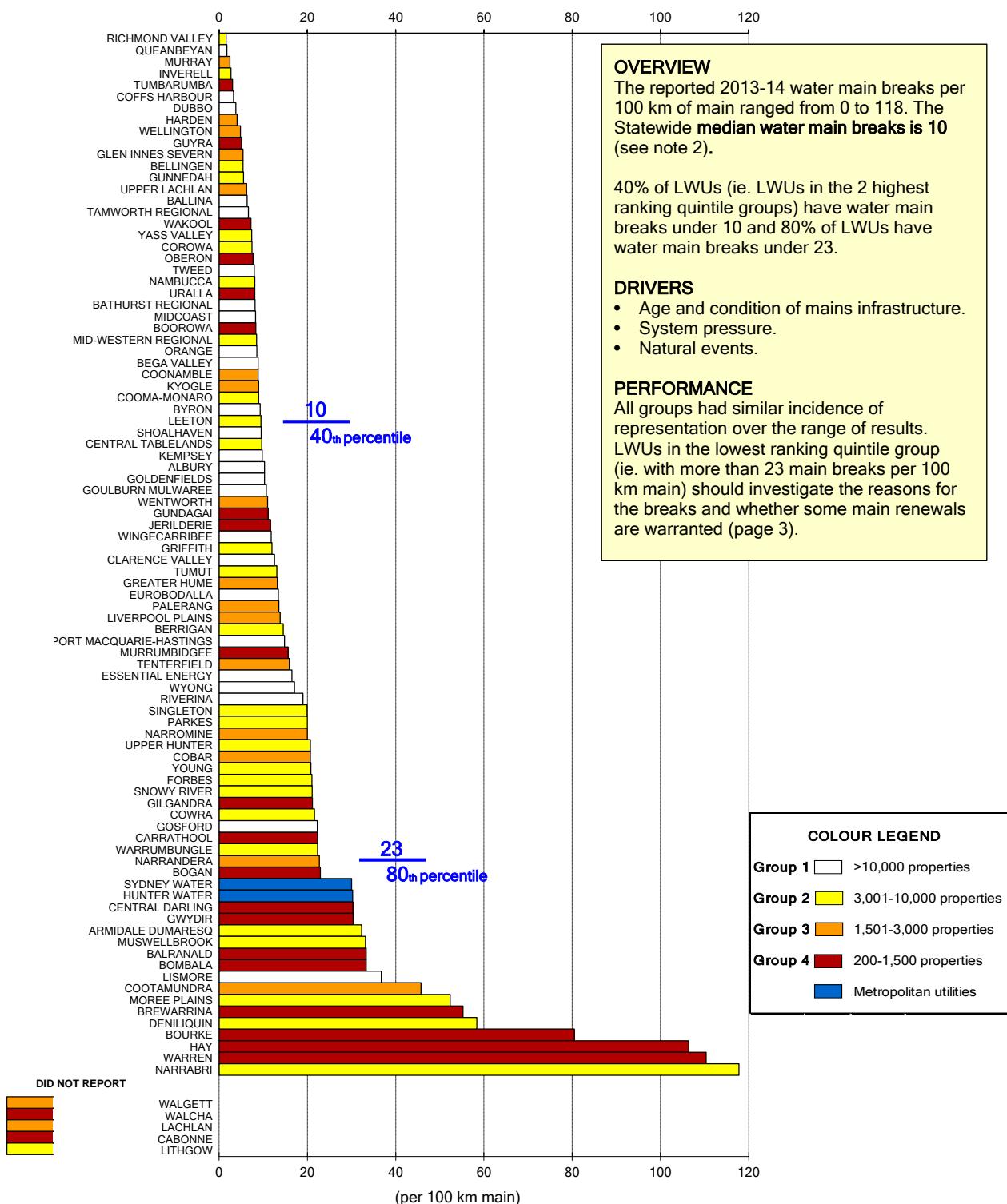


**Parameter:**  $\frac{[\text{No. of water complaints (W102)} + \text{No. of sewerage complaints (S40)}] \times 1,000}{\text{No. connected properties}}$

**Notes:**

- This figure shows ranked values of the 2013-14 number of total complaints for water supply and sewerage [NWI Indicator C13] per 1000 connected properties for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- Refer also to pages 9 and 87.
- For general notes see page 32.

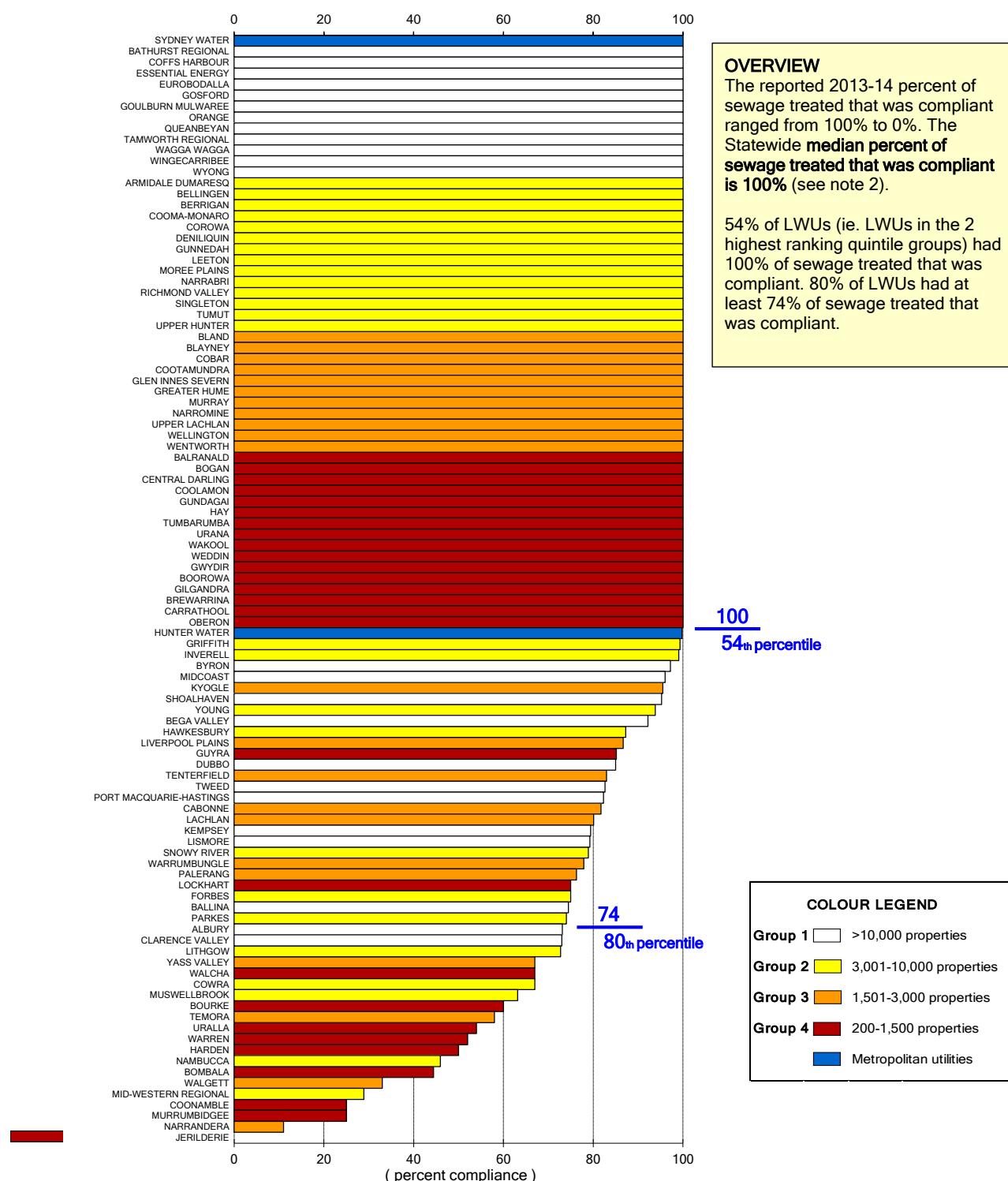
Figure 9: Main Breaks - Water Supply 2013-14 - A8

**Parameter:**

$$\frac{\text{No of pipeline breaks (W104)} \times 1,000}{\text{Length of distribution and trunk mains (W22)}}$$
**Notes:**

1. This figure shows ranked values of the 2013-14 number of water main breaks [NWI Indicator A8] per 100 km of main for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
2. The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
3. Refer also to pages 9, 18, 74 and 87.
4. For general notes see page 32.

Figure 10: Percent of Sewage Treated that was Compliant 2013-14 - E4

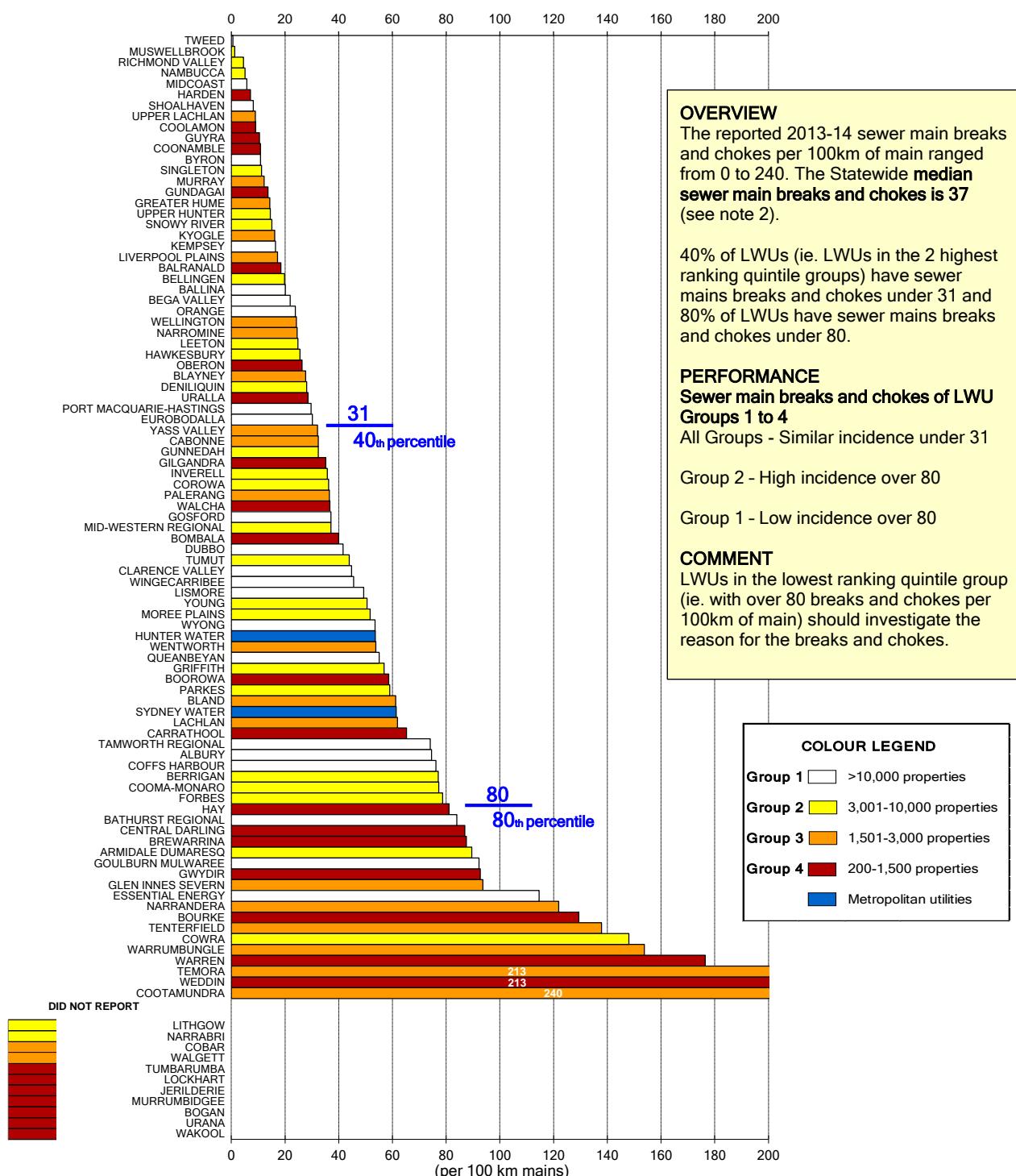


**Parameter:** Volume of Sewage Treated that was Compliant  
Total Volume of Sewage Treated

**Notes:**

- This figure shows ranked values of the 2013-14 per cent of sewage treated that was compliant [NWI Indicator E4] for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- Refer also to pages 11, 77 and 87.
- For general notes see page 32.

Figure 11: Sewer Main Breaks and Chokes - Sewerage 2013-14 - A14

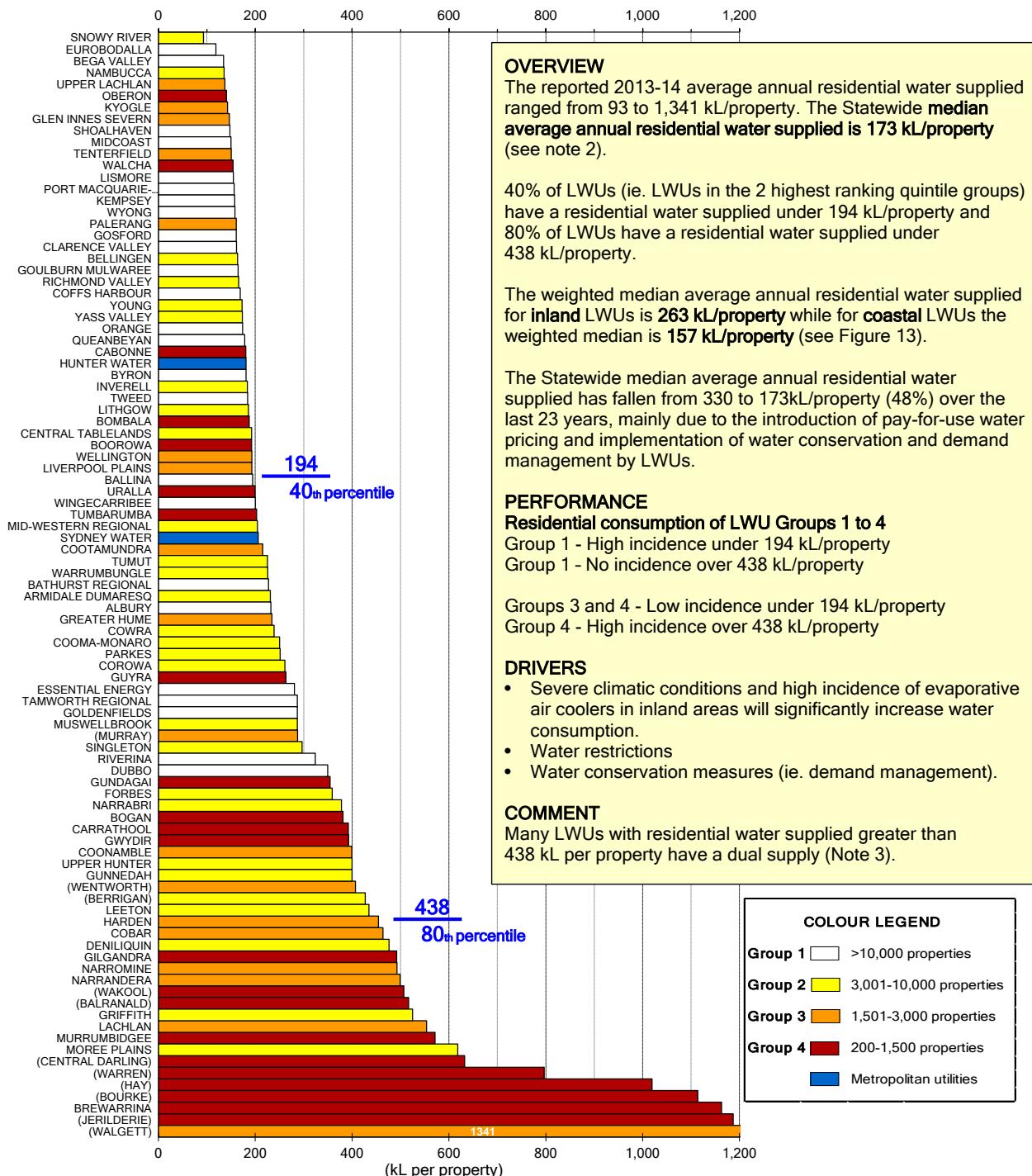
**Parameter:**

Total number of sewer main breaks and chokes (S64) x 100  
Length of reticulation/gravity mains (S7) + Length of rising/pressure mains (S8)

**Notes:**

- This figure shows ranked values of the 2013-14 sewer main breaks and chokes [NWI Indicator A14] for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- Refer also to pages 11, 77 and 87.
- For general notes see page 32.

Figure 12: Average Annual Residential Water Supplied 2013-14 - W12



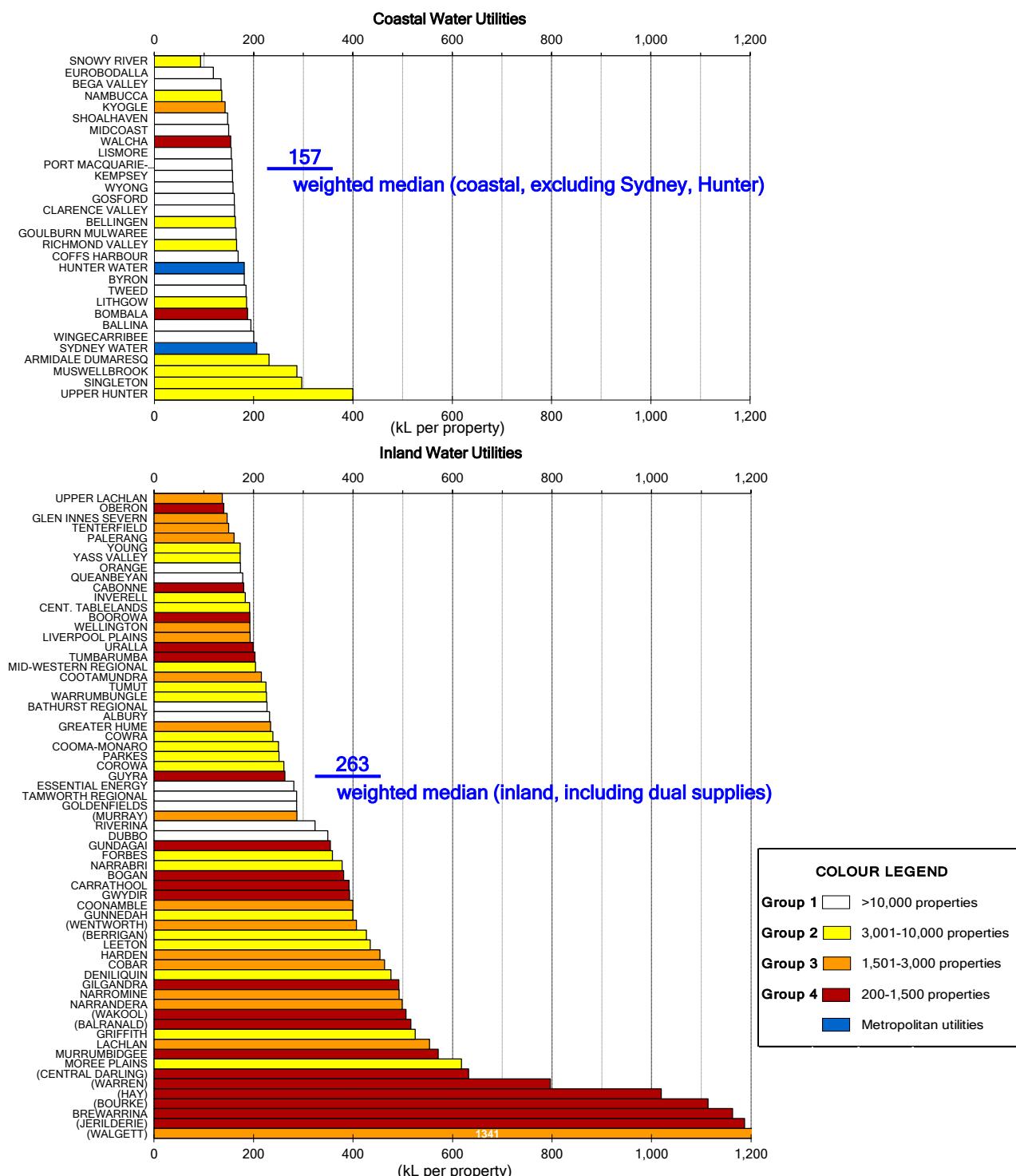
Parameter:

Annual residential water supplied x 1,000  
No. residential connected properties

**Notes:**

- This figure shows ranked values of the 2013-14 average annual residential water supplied [NWI Indicator W12] per connected property for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- The 11 LWUs with a dual water supply (ie. a potable supply for indoor use and a non-potable supply for outdoor use) are enclosed in brackets. Refer to Note 6 on page 32.
- Refer also to pages 5, 9, 18, 75, 87 and 91.
- For general notes see page 32.

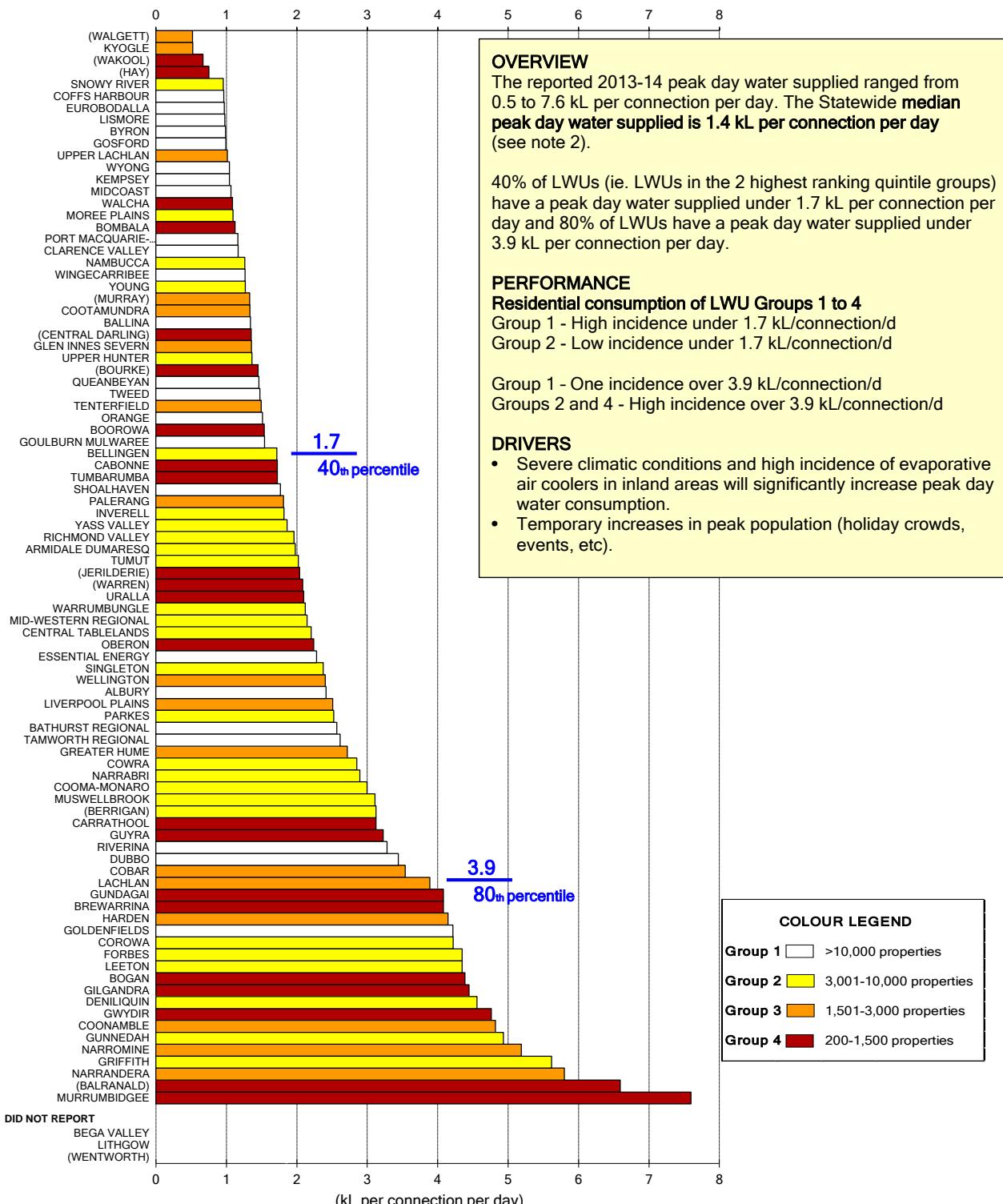
Figure 13: Average Annual Residential Water Supplied - Coastal &amp; Inland LWUs 2013-14 - W12

**Parameter:**

$$\frac{\text{Annual residential water supplied} \times 1,000}{\text{No. residential connected properties}}$$
**Notes:**

1. This figure shows ranked values of the 2013-14 average annual residential water supplied [NWI Indicator W12] per connected property for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
2. The weighted median is calculated on the basis of connected properties.
3. The 11 LWUs with a dual water supply (i.e. a potable supply for indoor use and a non-potable supply for outdoor use) are enclosed in brackets. Refer to Note 6 on page 32.
4. For general notes see page 32.

Figure 14: Peak Day Water Supplied 2013-14

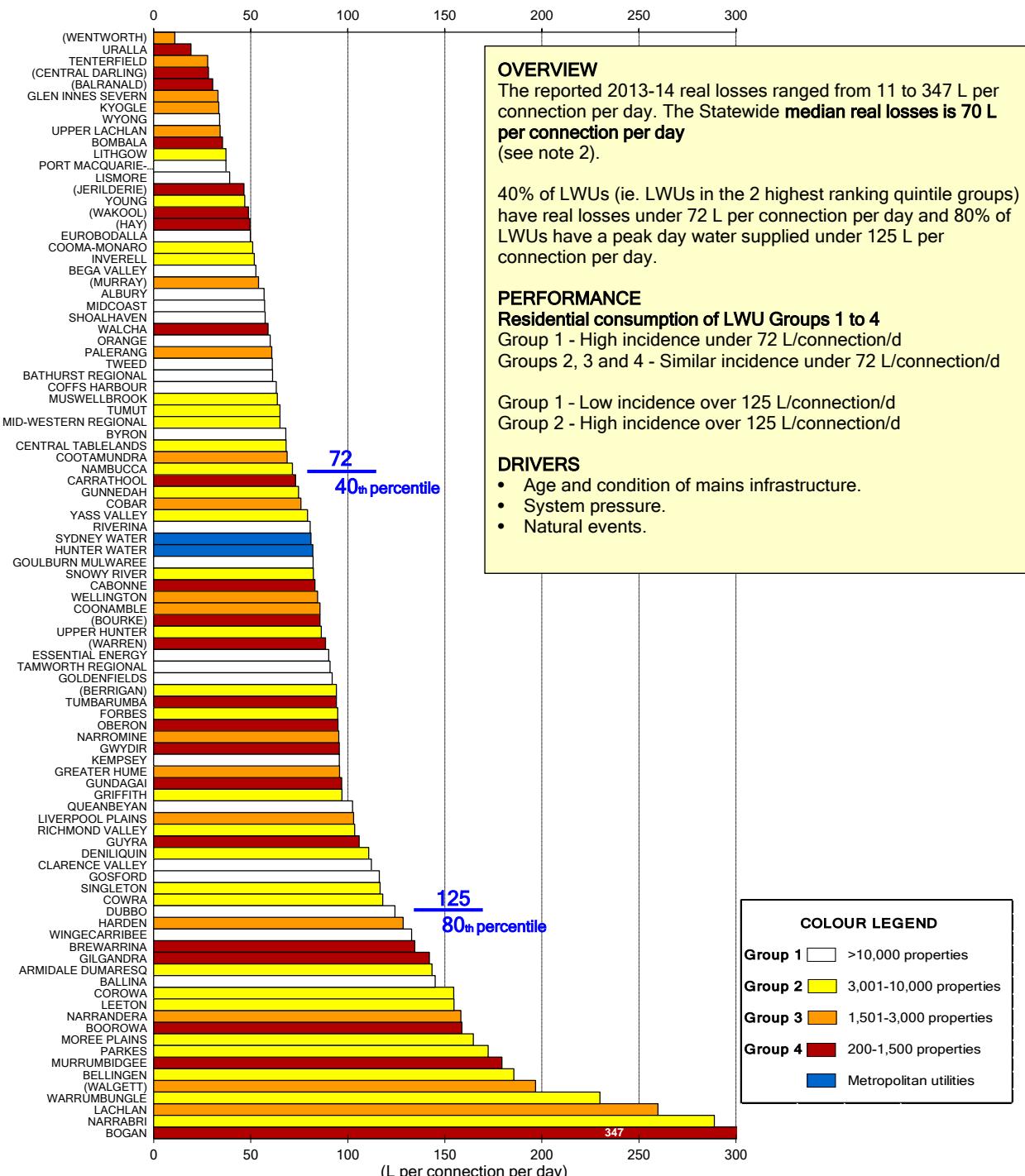
**Parameter:**

Peak day water supplied (W82) / 365  
No. of service connections (W30)

**Notes:**

- This figure shows ranked values of the 2013-14 peak day water supplied per connection per day for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- Refer also to pages 5, 9, 10 and to Figure 8 and Table 4 of the 2013-14 NSW Water Supply and Sewerage Benchmarking Report.
- For general notes see page 32.

Figure 15: Real Losses - Water Supply 2013-14 - A10



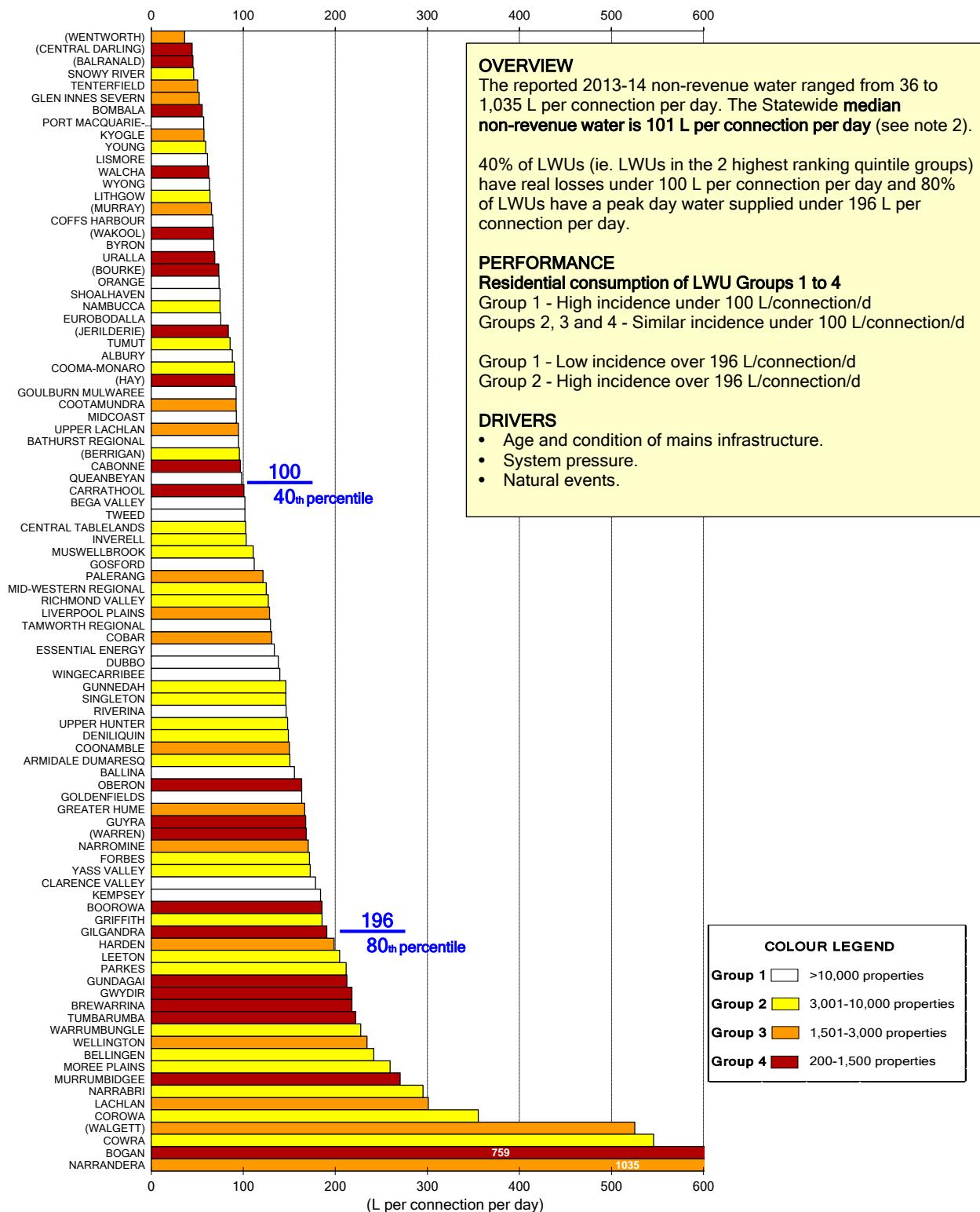
Parameter:

Real losses / 365  
No. of service connections (W30)

Notes:

- This figure shows ranked values of the 2013-14 real losses for water supply [NWI Indicator A10] per service connection per day for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- Refer also to pages 10, 19, 75 and 87.
- For general notes see page 32.

Figure 16: Non-Revenue Water 2013-14 - W10.1 per connection per day



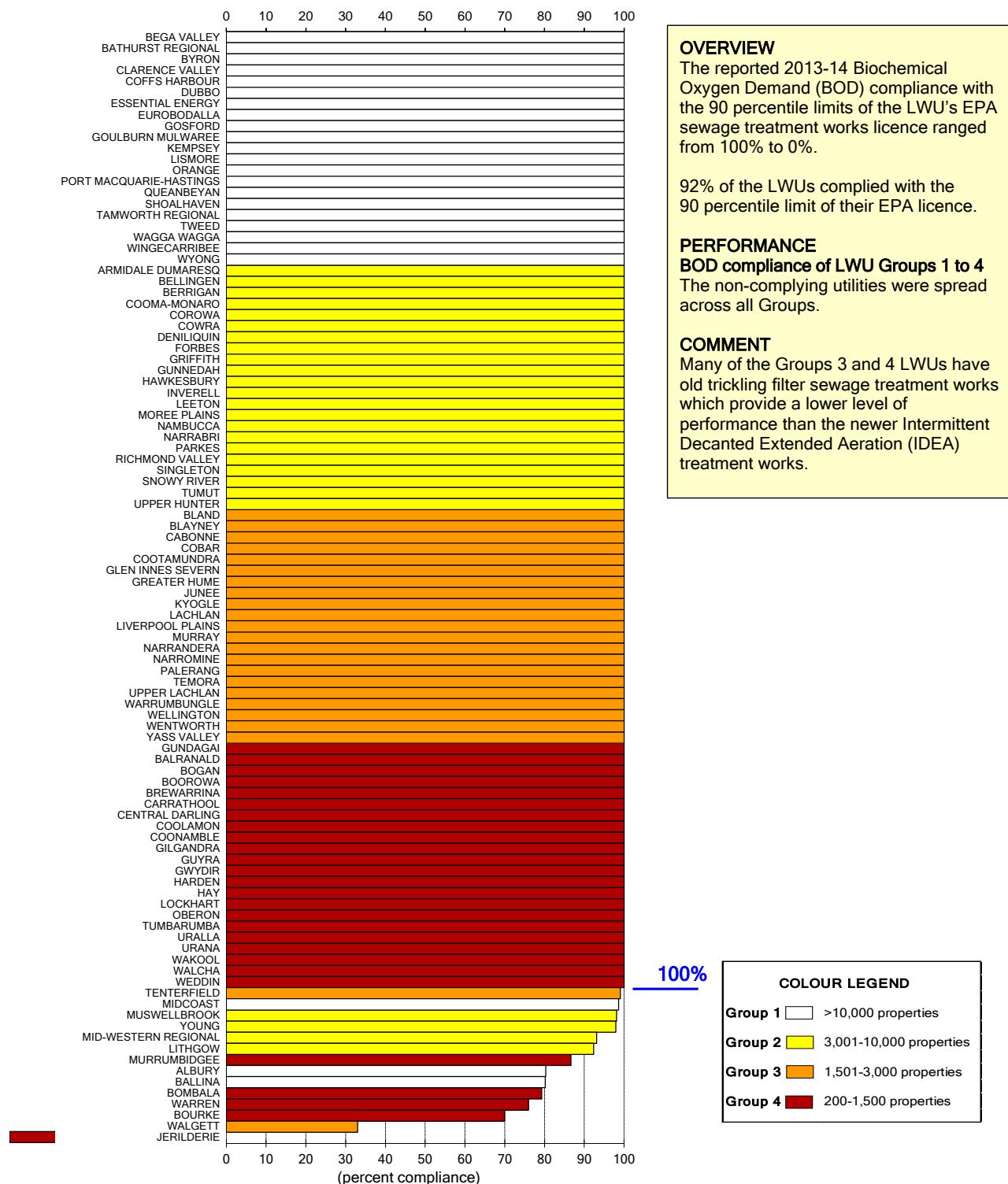
Parameter:

Non-revenue water / 365  
No. of service connections (W30)

Notes:

1. This figure shows ranked values of the 2013-14 non-revenue water [NWI Indicator W10.1 per connection per day] for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
2. The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
3. Refer also to page 10 and Figure 29 of the 2013-14 NSW Water Supply and Sewerage Benchmarking Report.
4. For general notes see page 32.

Figure 17: Compliance with BOD in Licence - Sewerage 2013-14

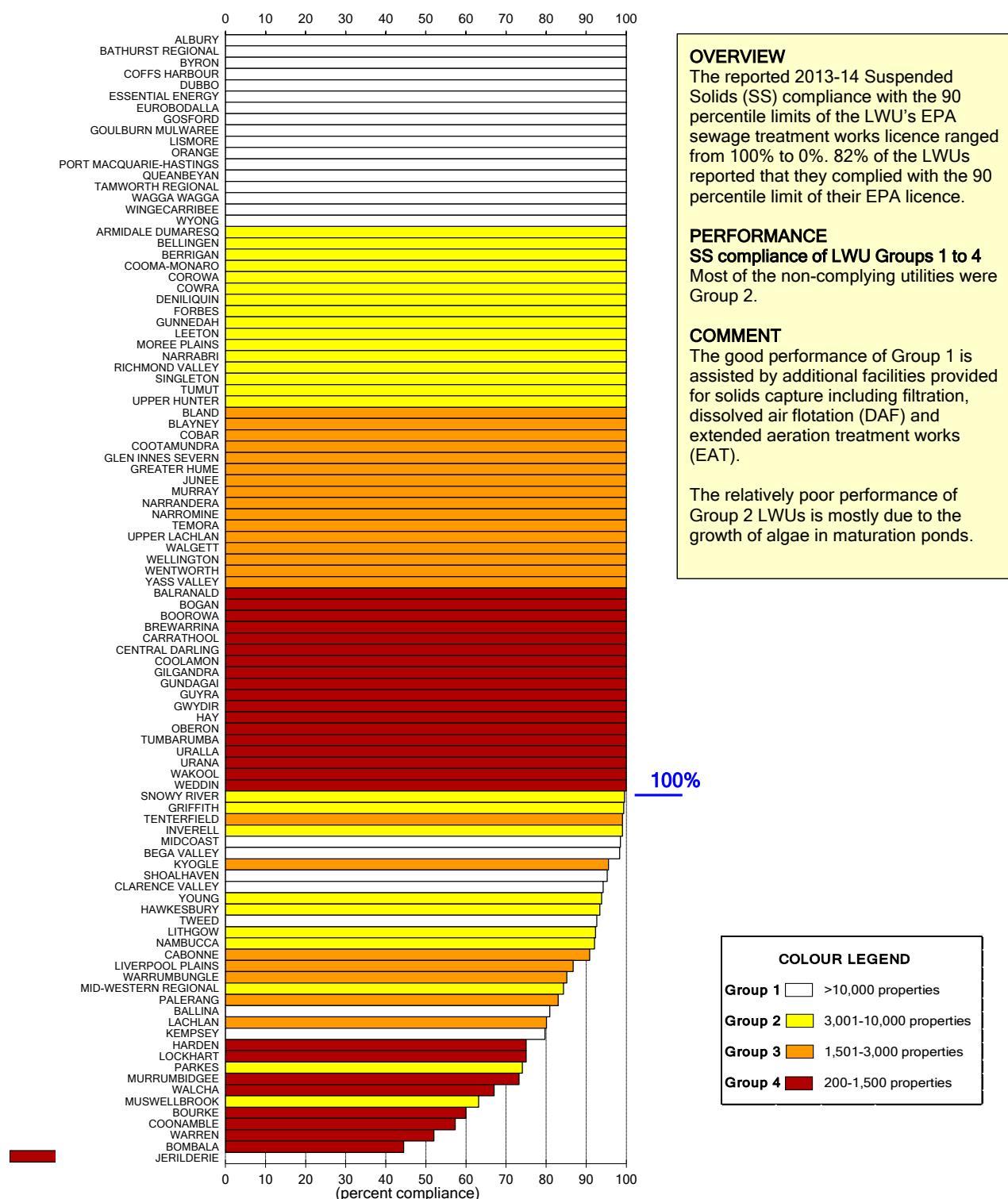


**Parameter:** Percentage of samples complying with 90 percentile Environment Protection Authority (EPA) licence limits for biochemical oxygen demand (BOD) (ST50)

**Notes:**

1. This figure shows ranked values of the 2013-14 percent compliance with the 90 percentile Environment Protection Authority (EPA) licence limits for biochemical oxygen demand (BOD) for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
2. Refer also to page 11.
3. For general notes see page 32.

Figure 18: Compliance with SS in Licence - Sewerage 2013-14

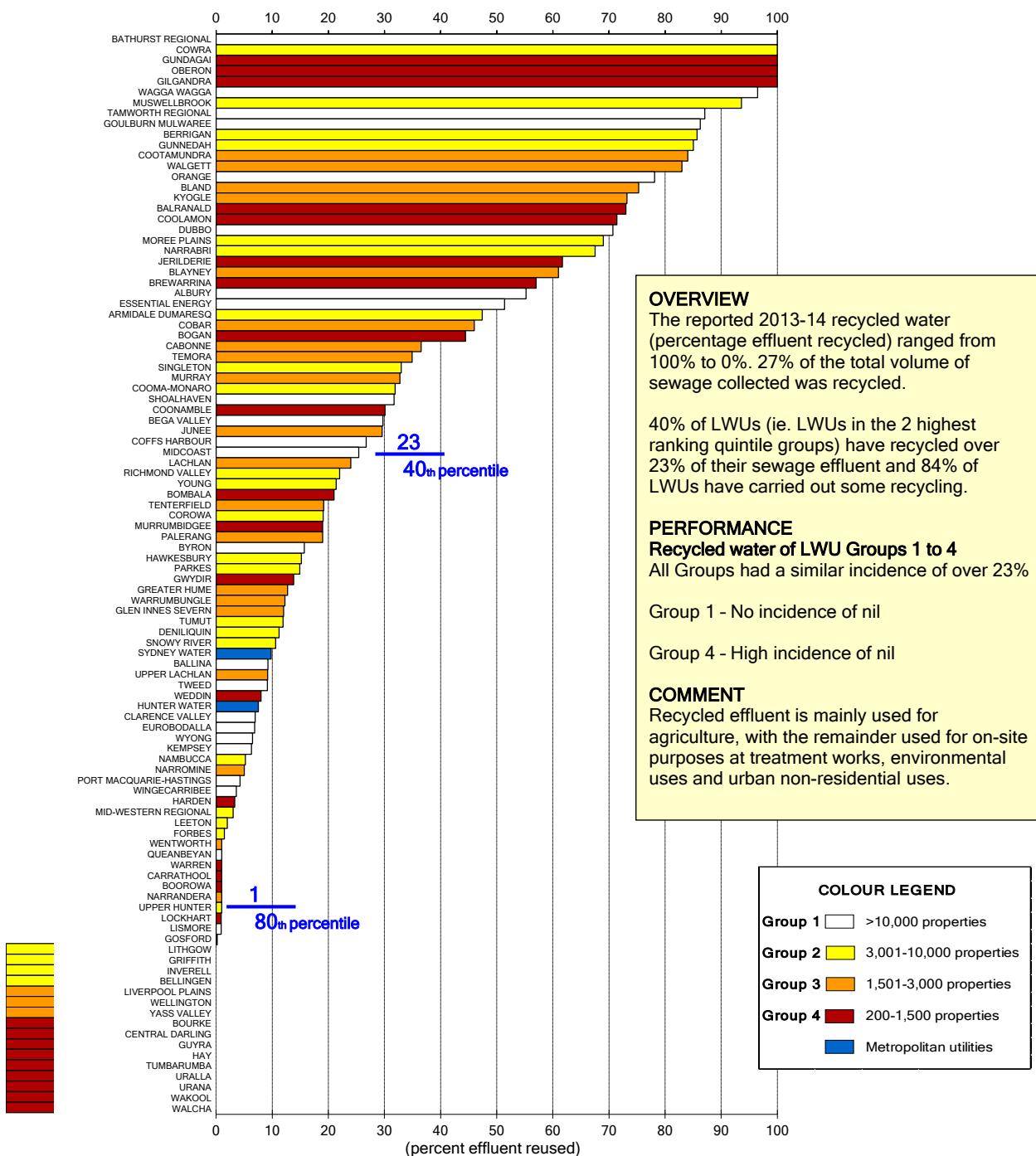


**Parameter:** Percentage of samples complying with 90 percentile Environment Protection Authority (EPA) licence limits for suspended solids (SS) (ST52)

**Notes:**

1. This figure shows ranked values of the 2013-14 percent compliance with the 90 percentile Environment Protection Authority (EPA) licence limits for suspended solids (SS) for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
2. Refer also to page 11.
3. For general notes see page 32.

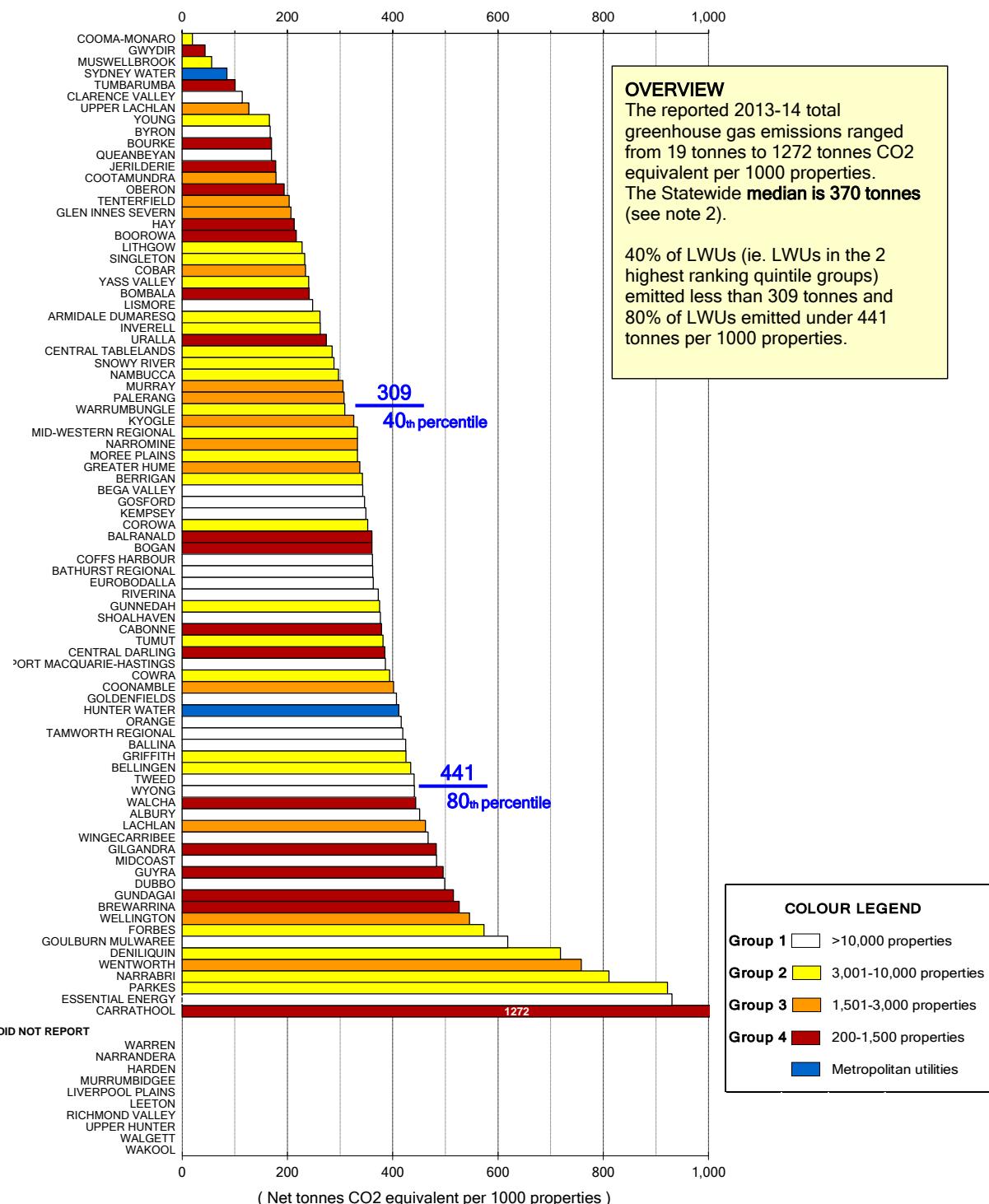
Figure 19: Recycled Water (percent effluent recycled) - Sewerage 2013-14 - W27

**Parameter:**

$$\frac{\text{Total volume of effluent recycled (W158)} \times 100}{\text{Volume of sewage receiving secondary treatment (ST18)}}$$
**Notes:**

- This figure shows ranked values of the 2013-14 recycled water (NWI Indicator W27 - % of sewage effluent recycled) for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- For LWUs which did not report their 2013-14 volumes recycled, the 2012-13 percentage has been shown. These utilities are shown in **italics** bold in Column 21 of Appendix D. The volume of water recycled is shown in column 22 of Appendix D.
- Reuse of recycled water was carried out by 84% of LWUs. Statewide, 27% of the total volume of sewage collected was recycled. The total volume recycled in regional NSW was 43,000ML. 26% of LWUs recycled over 50% of their effluent. The highest volume recycled by a utility was 5,500ML (Wagga Wagga) and a further 5 utilities (Albury, Bathurst, Orange, Shoalhaven and Tamworth) each recycled over 2,000ML.
- Refer also to pages 10, 19, 76 and 87.
- For general notes see page 32.

Figure 20: Total Greenhouse Gas Emissions 2013-14 - E12

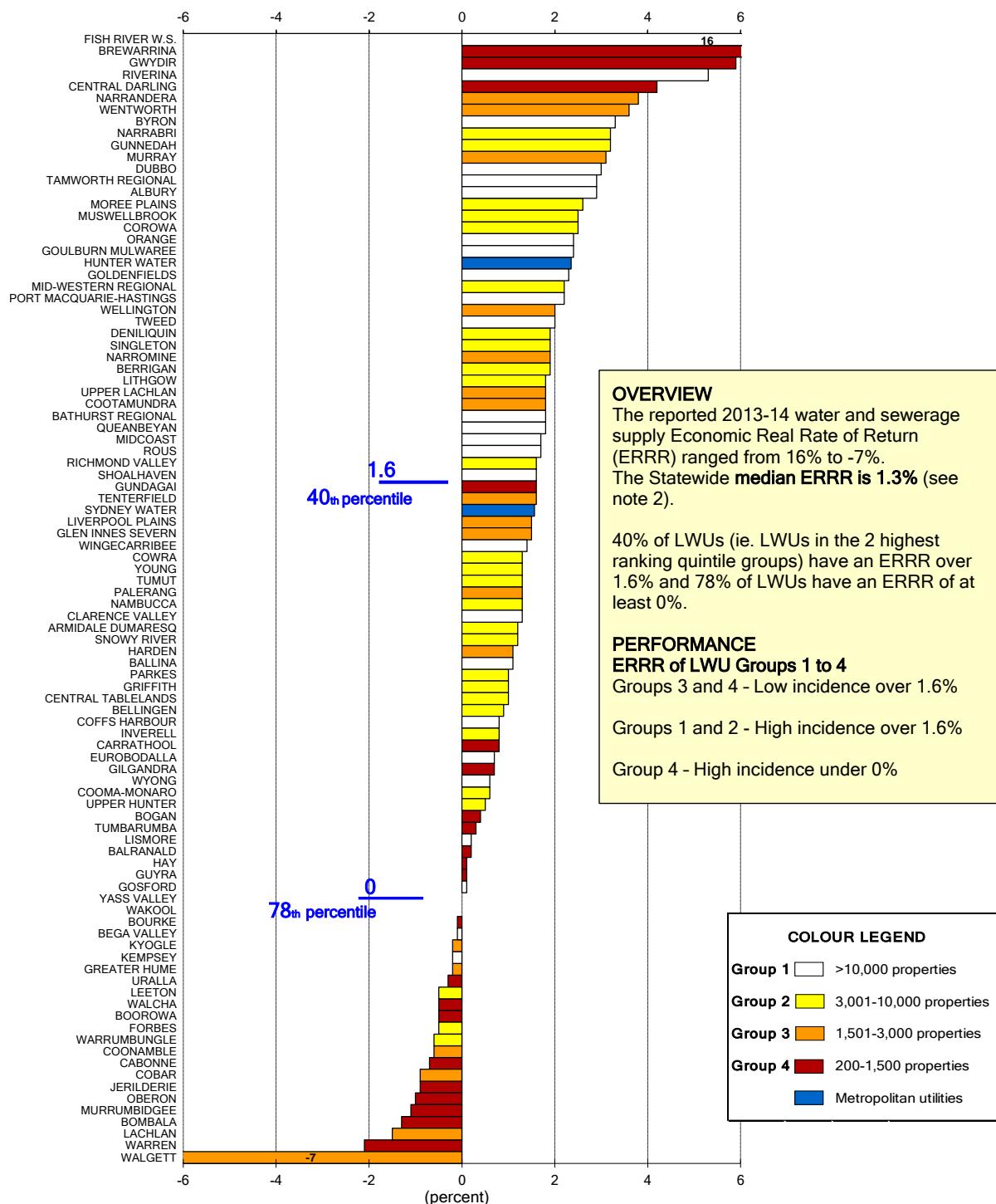


**Parameter:**  $\frac{\text{Total Greenhouse gas emissions (water and sewerage)} \times 1,000}{\text{No. connected properties}}$

**Notes:**

- This figure shows ranked values of the 2013-14 total greenhouse gas emissions [NWI Indicator E12] per 1,000 connected properties for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- The NSW Greenhouse Gas Calculator is available in Appendix G of the 2013-14 NSW Water Supply and Sewerage Benchmarking Report.
- Refer also to pages 11, 19 and 77.
- For general notes see page 32.

Figure 21: Economic Real Rate of Return - Water and Sewerage 2013-14 - F19

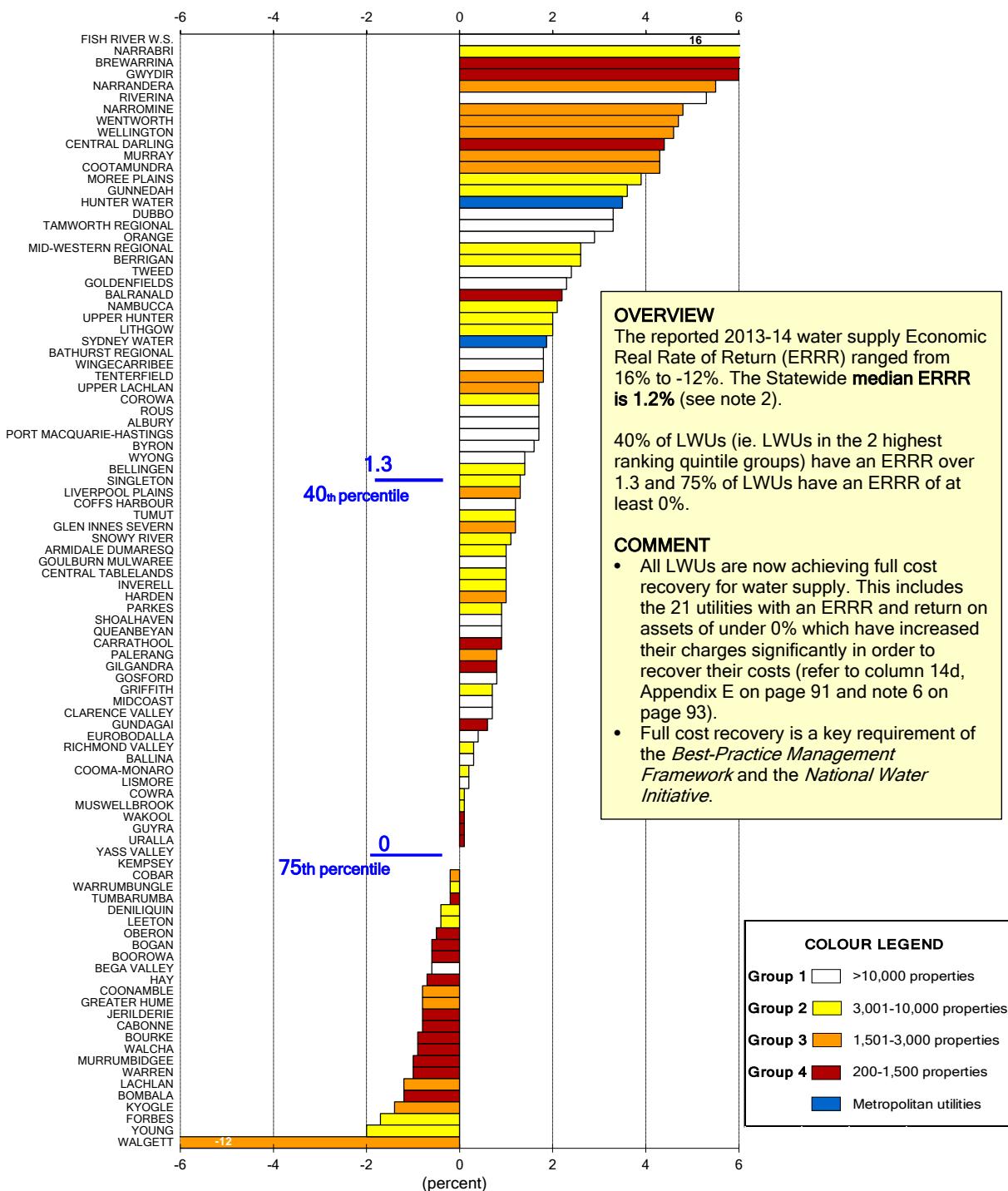


**Parameter:** 
$$\frac{(\text{Operating Result (W15+S16)} + \text{Interest Expense (W4a+S4a)} - \text{Interest Income (W9+S10)} - \text{Grants for acquisition of assets (W11a+S12a)}) \times 100}{\text{Written down replacement cost of system assets, plant and equipment (W33+S34)}}$$

**Notes:**

- This figure shows ranked values of the 2013-14 water and sewerage economic real rate of return (ERRR - NWI Indicator F19) for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- Refer also to pages 12, 20, 78 and 87.
- For general notes see page 32.

Figure 22: Economic Real Rate of Return - Water Supply 2013-14 - F17

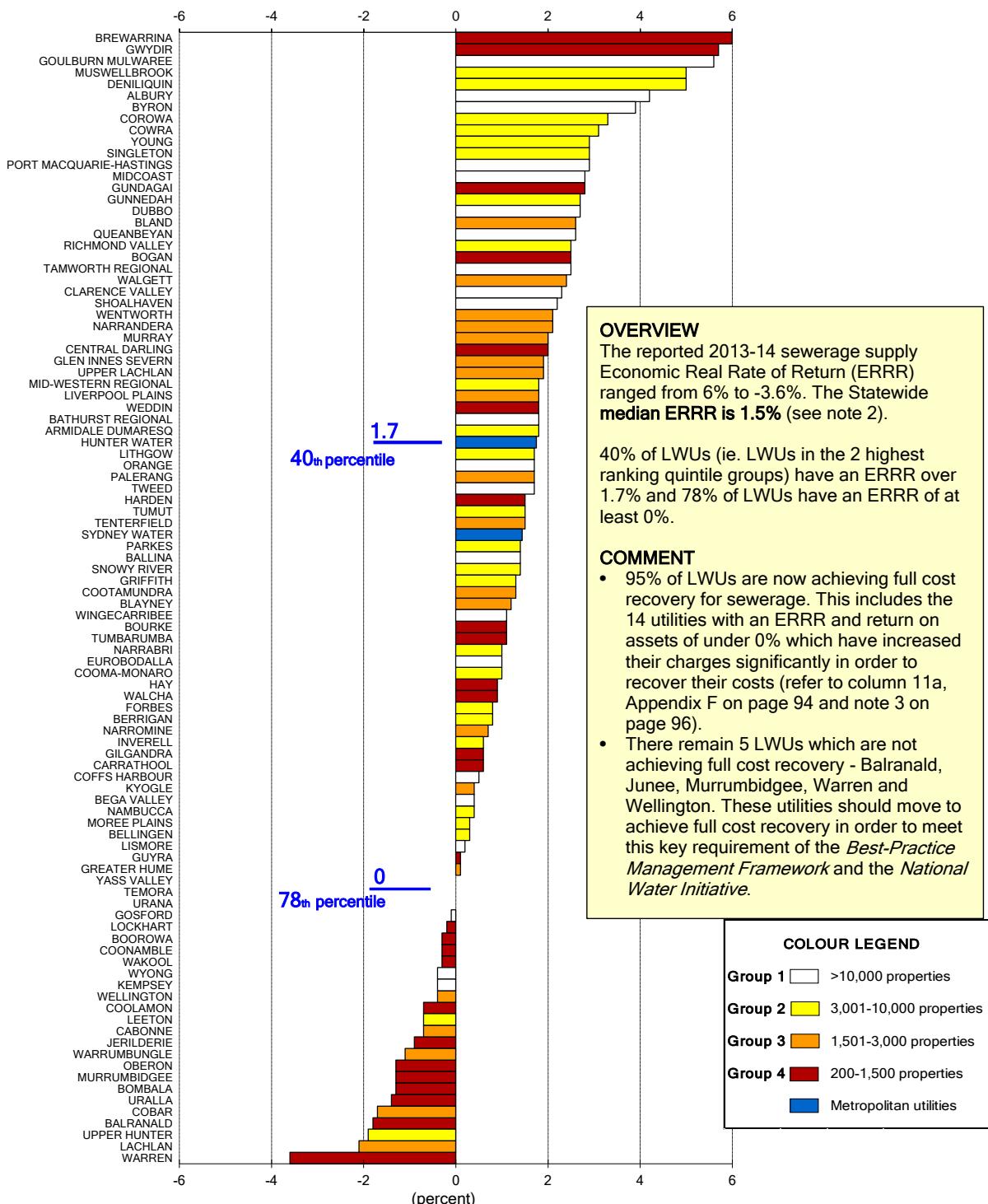


**Parameter:**  $(\text{Total Income (W13)} - \text{Interest Income (W9)} - \text{Grants for acquisition of assets (W11a)} - \text{Total Expenses (W5)} + \text{Interest Expenses (W4a)} + \text{Revaluation Deccrements (W4b)} + \text{Other Expenses (W4c)}) \times 100$   
Written down replacement cost of system assets, plant and equipment (W33)

**Notes:**

- This figure shows ranked values of the 2013-14 water supply economic real rate of return (ERRR - NWI Indicator F17) for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- Refer also to pages 12, 13, 87 and 91.
- For general notes see page 32.

Figure 23: Economic Real Rate of Return - Sewerage 2013-14 - F18

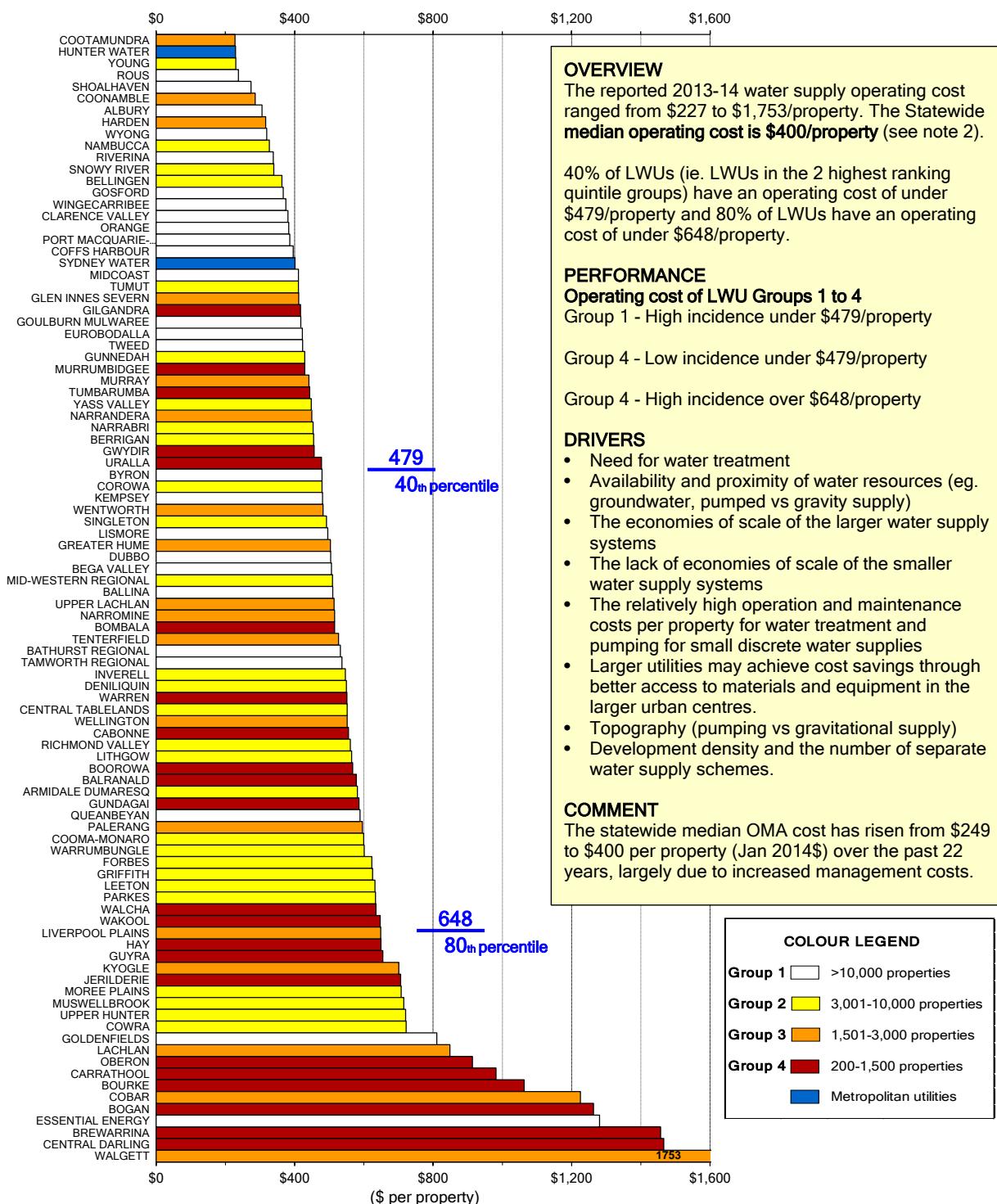


**Parameter:**  $(\text{Total Income (S14)} - \text{Interest Income (S10)} - \text{Grants for acquisition of assets (S12a)} - \text{Total Expenses (S5)} + \text{Interest Expenses (S4a)} + \text{Revaluation Decrements (S4b)} + \text{Other Expenses (S4c)}) \times 100$   
Written down replacement cost of system assets, plant and equipment (S34)

**Notes:**

1. This figure shows ranked values of the 2013-14 sewerage economic real rate of return (ERRR - NWI Indicator F18) for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
2. The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
3. Refer also to pages 12, 13, 87 and 94.
4. For general notes see page 32.

Figure 24: Operating Cost (OMA) per property - Water Supply 2013-14 - F11

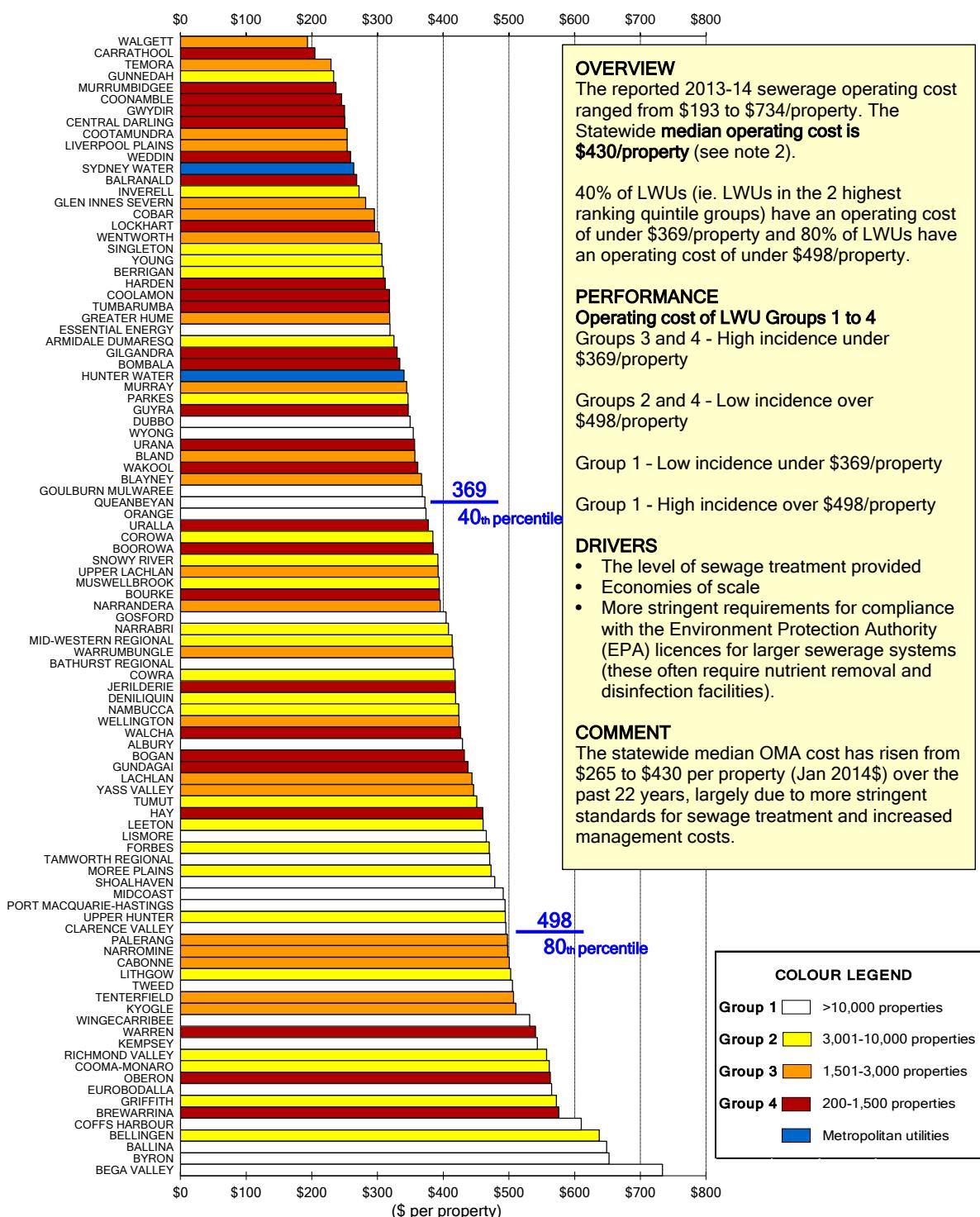
**Parameter:**

Management expenses (SSW1) + Total operation expenses (SSW2) - Purchase of water + Bulk supplier's OMA  
No. connected properties

**Notes:**

1. This figure shows ranked values of the 2013-14 water supply operating cost (OMA - operation, maintenance and administration - NWI Indicator F11) per property for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
2. The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
3. Refer also to pages 15, 20, 78 and 87.
4. For general notes see page 32.

Figure 25: Operating Cost (OMA) per property - Sewerage 2013-14 - F12

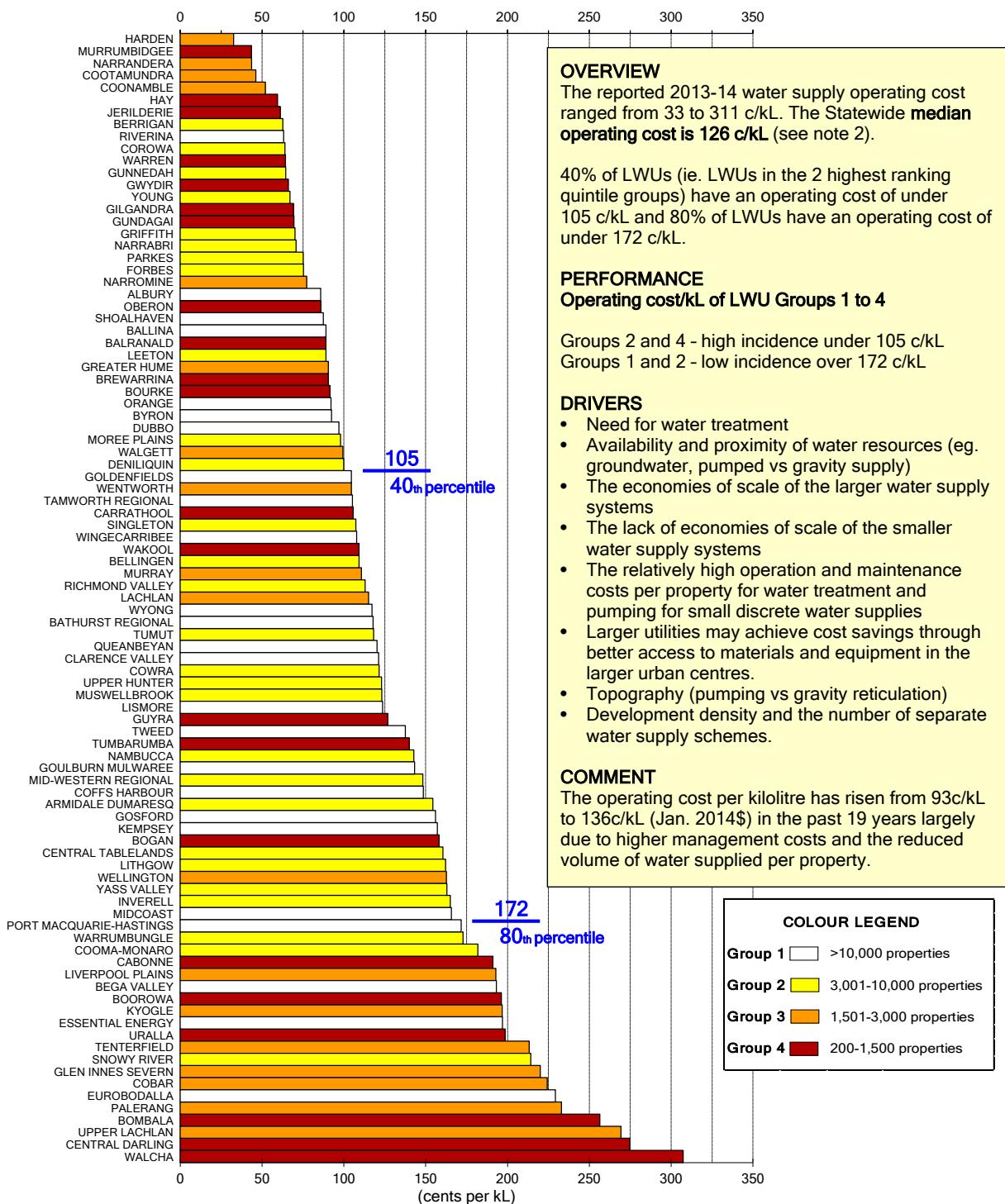
**Parameter:**

Management expenses (S1) + Total operation expenses (S2)  
No. connected properties

**Notes:**

- This figure shows ranked values of the 2013-14 sewerage operating cost (OMA - operation, maintenance and administration - NWI Indicator F12) per property for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- Refer also to pages 15, 20, 78 and 87.
- For general notes see page 32.

Figure 26: Operating Cost (OMA) per kilolitre - Water Supply 2013-14

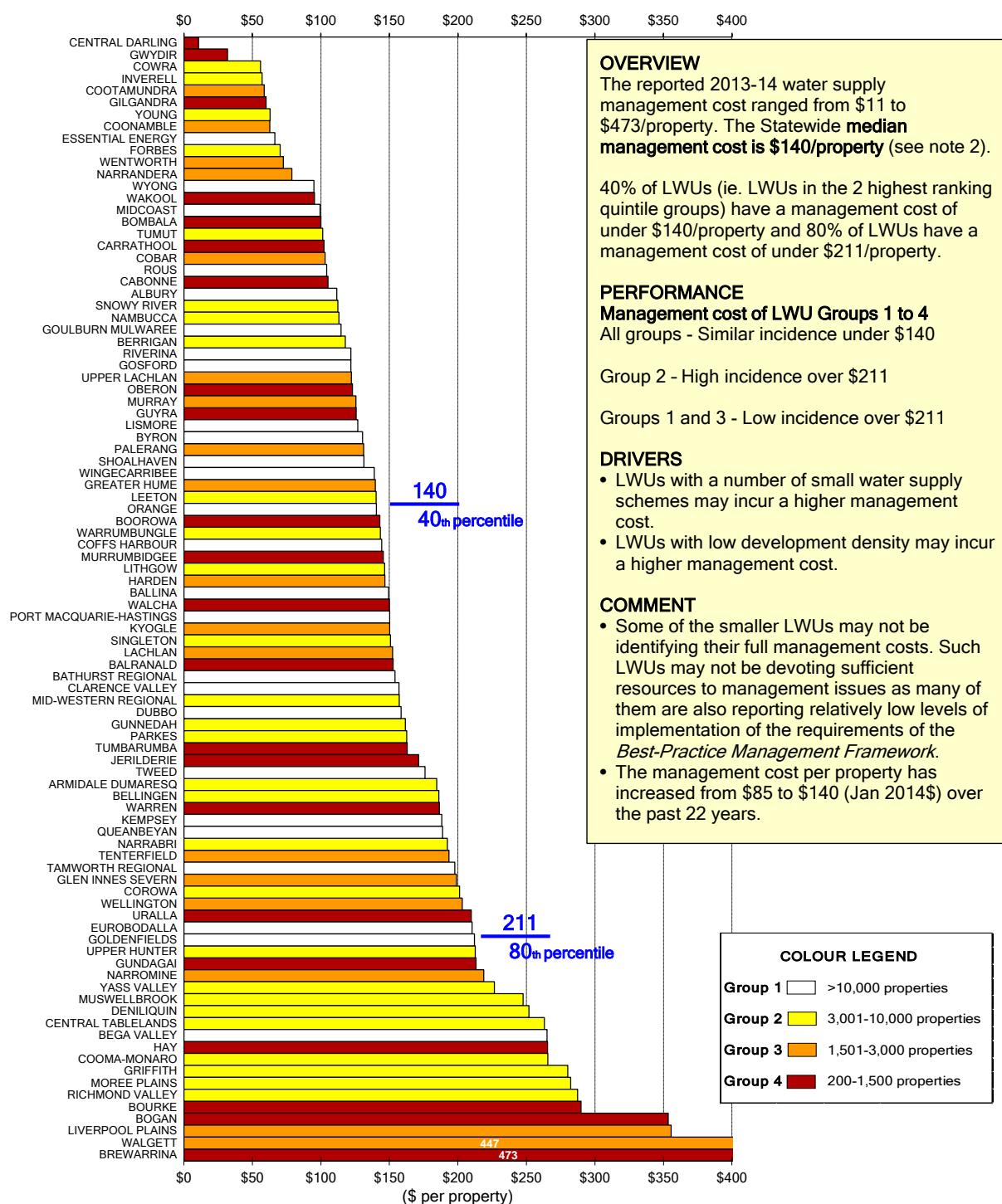


**Parameter:** Management expenses (W1) + Total operation expenses (W2) - Purchase of water (W2o) + Bulk Supplier's OMA  
Total Potable Water Supplied (Q62)

**Notes:**

1. This figure shows ranked values of the 2013-14 water supply operating cost (OMA - operation, maintenance and administration) per kL for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
2. The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
3. Refer also to pages 15 and 91.
4. For general notes see page 32.

Figure 27: Management Cost per property - Water Supply 2013-14

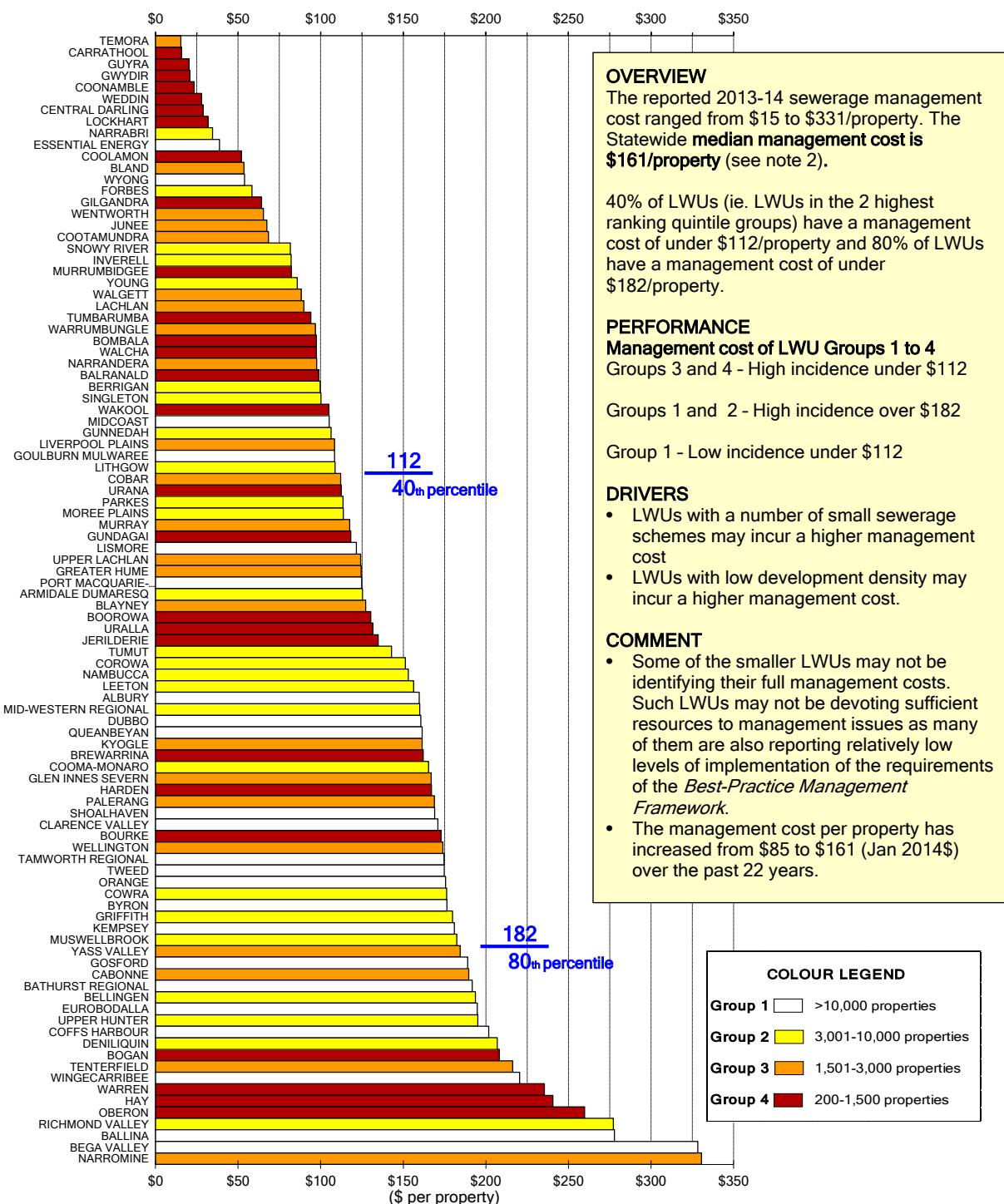
**Parameter:**Administration Cost (W1a) + Engineering Cost (W1b)

No. of connected properties

**Notes:**

- This figure shows ranked values of the 2013-14 water supply management cost per property for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- Refer also to page 15.
- For general notes see page 32.

Figure 28: Management Cost per property - Sewerage 2013-14

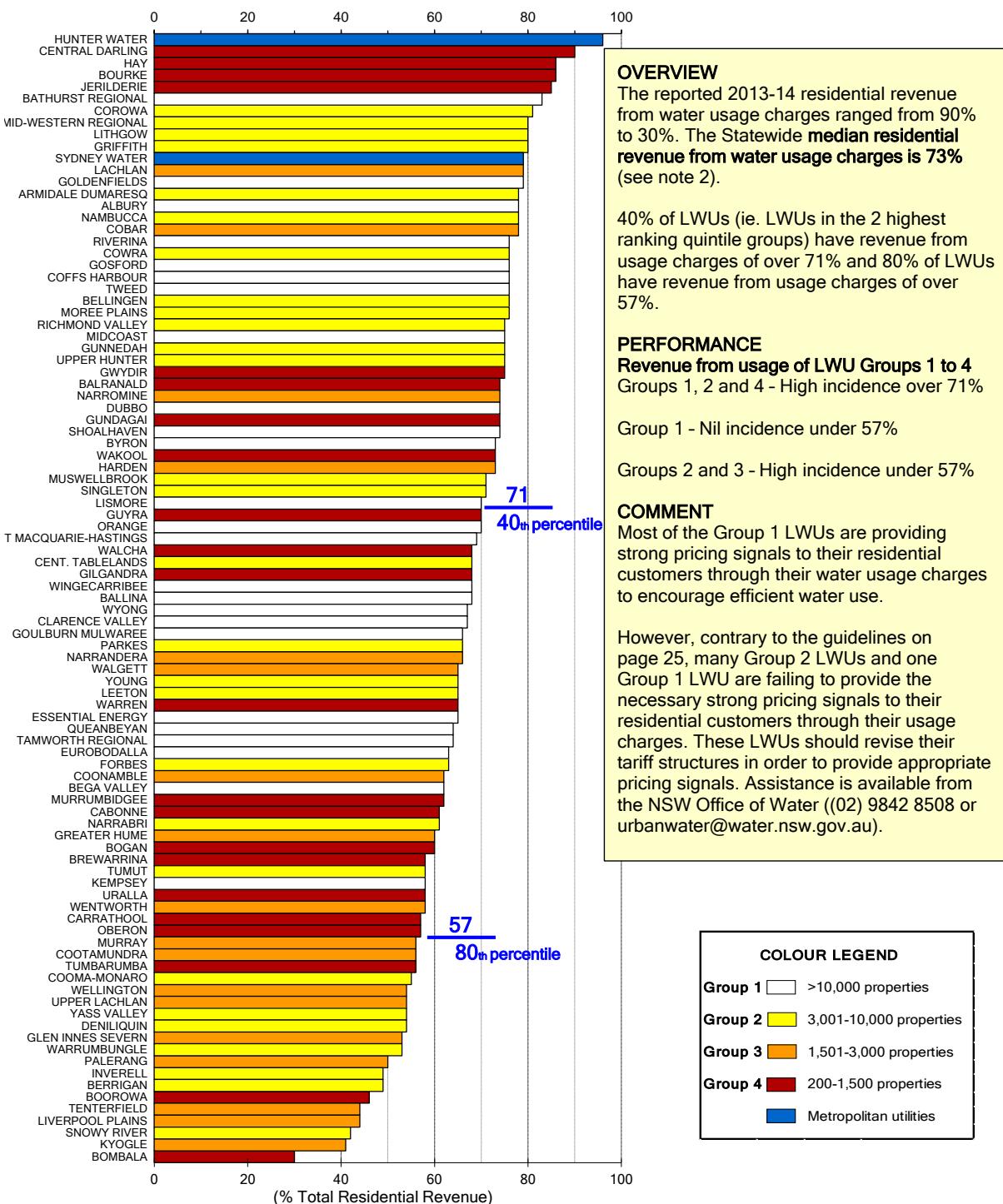
**Parameter:**

Administration Cost (S1a) + Engineering Cost (S1b)  
No. of connected properties

**Notes:**

- This figure shows ranked values of the 2013-14 sewerage management cost per property for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- Refer also to page 15.
- For general notes see page 32.

Figure 29: Residential Revenue from Usage Charges - Water Supply 2013-14 - F4

**Parameter:**

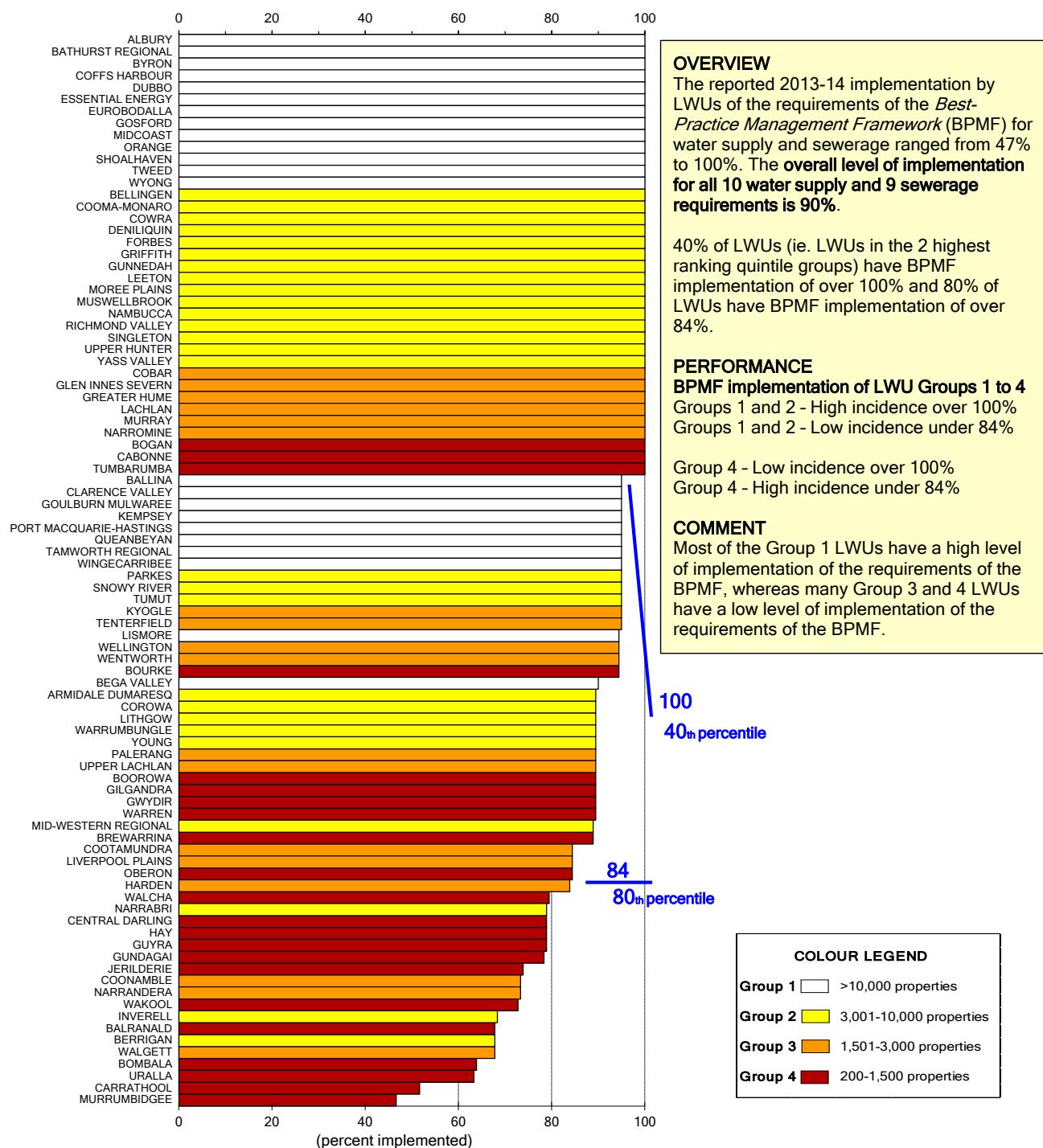
Revenue from Residential Water Usage Charges (W7b) x 100

Revenue from Residential Access Charges (W7a) + Revenue from Residential Water Usage Charges (W7b)

**Notes:**

- This figure shows ranked values of the 2013-14 percentage revenue from residential water usage charges [NWI Indicator F4] for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- As shown in the box on page 5, the increase in the real water supply Typical Residential Bill (TRB) over the past 19 years has been limited to 18%.
- Refer also to the box on page 5 and pages 17, 73, 87 and 91.
- For general notes see page 32.

Figure 30: Best-Practice Management Implementation (%) - Water Supply & Sewerage 2013-14

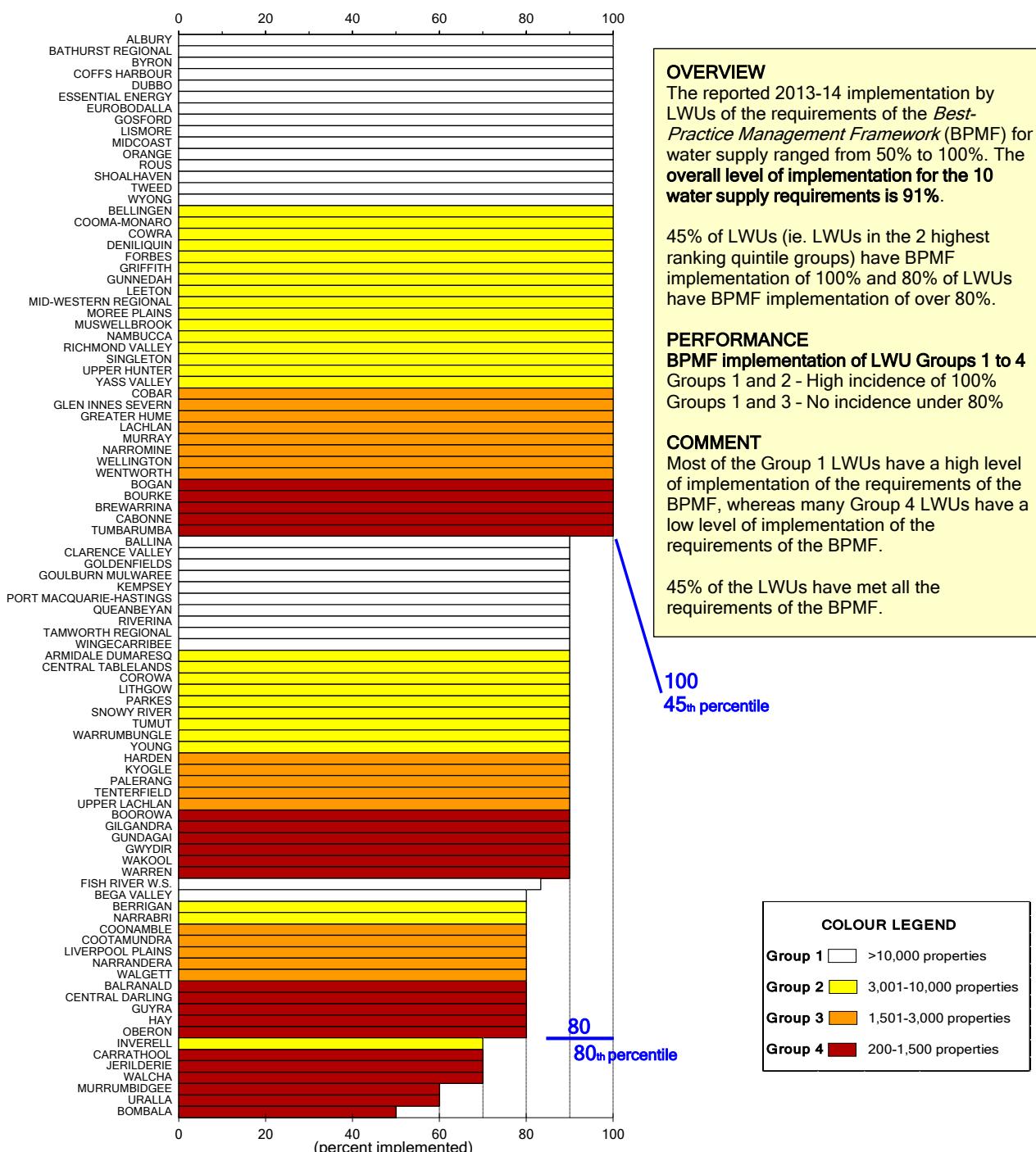


### Parameter: Implementation of the 19 water supply and sewerage Best-Practice Management Requirements (%)

## Notes:

1. This figure shows ranked values of the 2013-14 level of implementation of the 19 planning, pricing and management requirements of the *NSW Best-Practice Management of Water Supply and Sewerage Framework* for water supply and sewerage for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
2. Refer also to pages viii and 25 and Appendix C on page 84.
3. For general notes see page 32.

Figure 31: Best-Practice Management Implementation (%) - Water Supply 2013-14

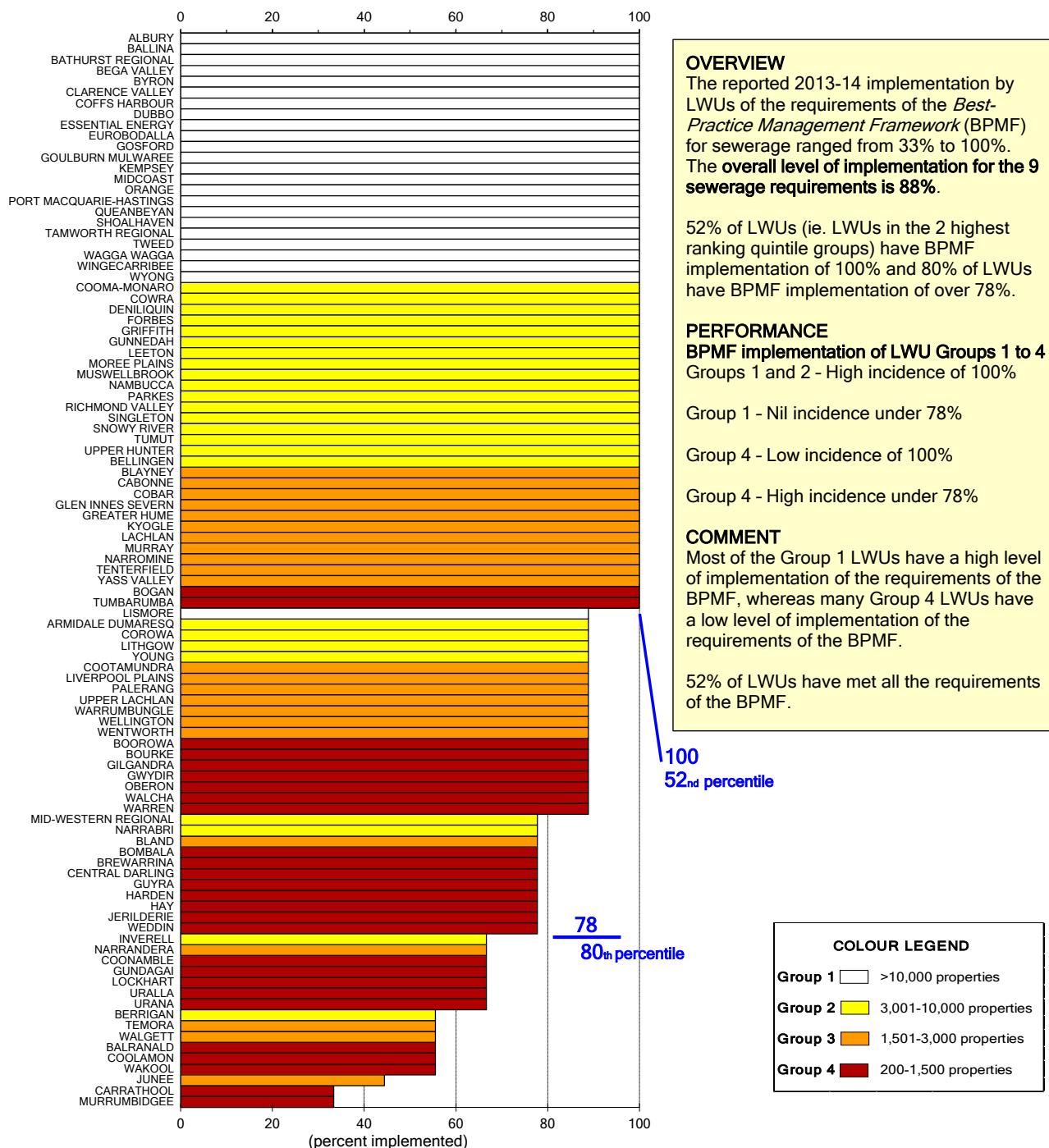
**Parameter:**

Implementation of the 10 water supply Best-Practice Management Requirements (%)

**Notes:**

- This figure shows ranked values of the 2013-14 level of implementation of the requirements of the *NSW Best-Practice Management of Water Supply and Sewerage Framework* for water supply for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
- The 10 requirements for implementing best-practice for water supply are: complete sound Strategic Business Plan & Financial Plan; Pricing with full cost-recovery, without significant cross subsidies; appropriate residential charges; required residential revenue from water usage charges; appropriate non-residential charges; sound Water Conservation implemented; sound Drought Management implemented; Development Servicing Plan with commercial developer charges; complete Performance Reporting by 15 September; and Integrated Water Cycle Management strategy commenced (page viii).
- Refer also to page 25 and Appendix C on page 84.
- For general notes see page 32.

Figure 32: Best-Practice Management Implementation (%) - Sewerage 2013-14

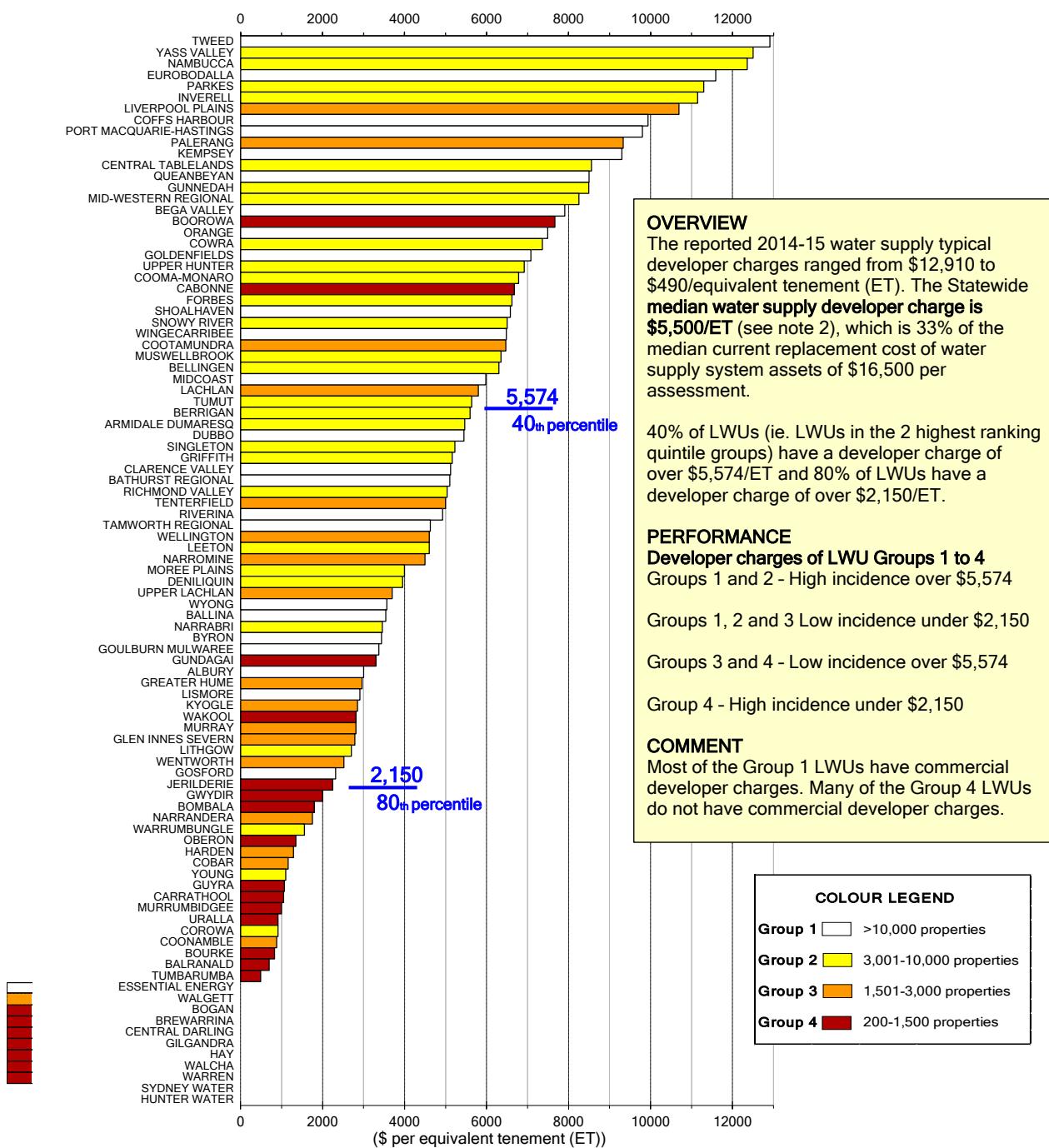
**Parameter:**

Implementation of the 9 sewerage Best-Practice Management Requirements (%)

**Notes:**

1. This figure shows ranked values of the 2013-14 level of implementation of the requirements of the *NSW Best-Practice Management of Water Supply and Sewerage Framework* for sewerage for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
2. The 9 requirements for implementing best-practice for sewerage are: complete sound Strategic Business Plan & Financial Plan; Pricing with full cost-recovery, without significant cross subsidies; appropriate residential charges; appropriate non-residential charges; appropriate trade waste fees & charges; Development Servicing Plan with commercial developer charges; liquid trade waste approvals & current Trade Waste Policy; complete Performance Reporting by 15 September; and Integrated Water Cycle Management strategy commenced (page viii).
3. Refer also to page 25 and Appendix C on page 84.
4. For general notes see page 32.

Figure 33: Typical Developer Charges - Water Supply 2014-15

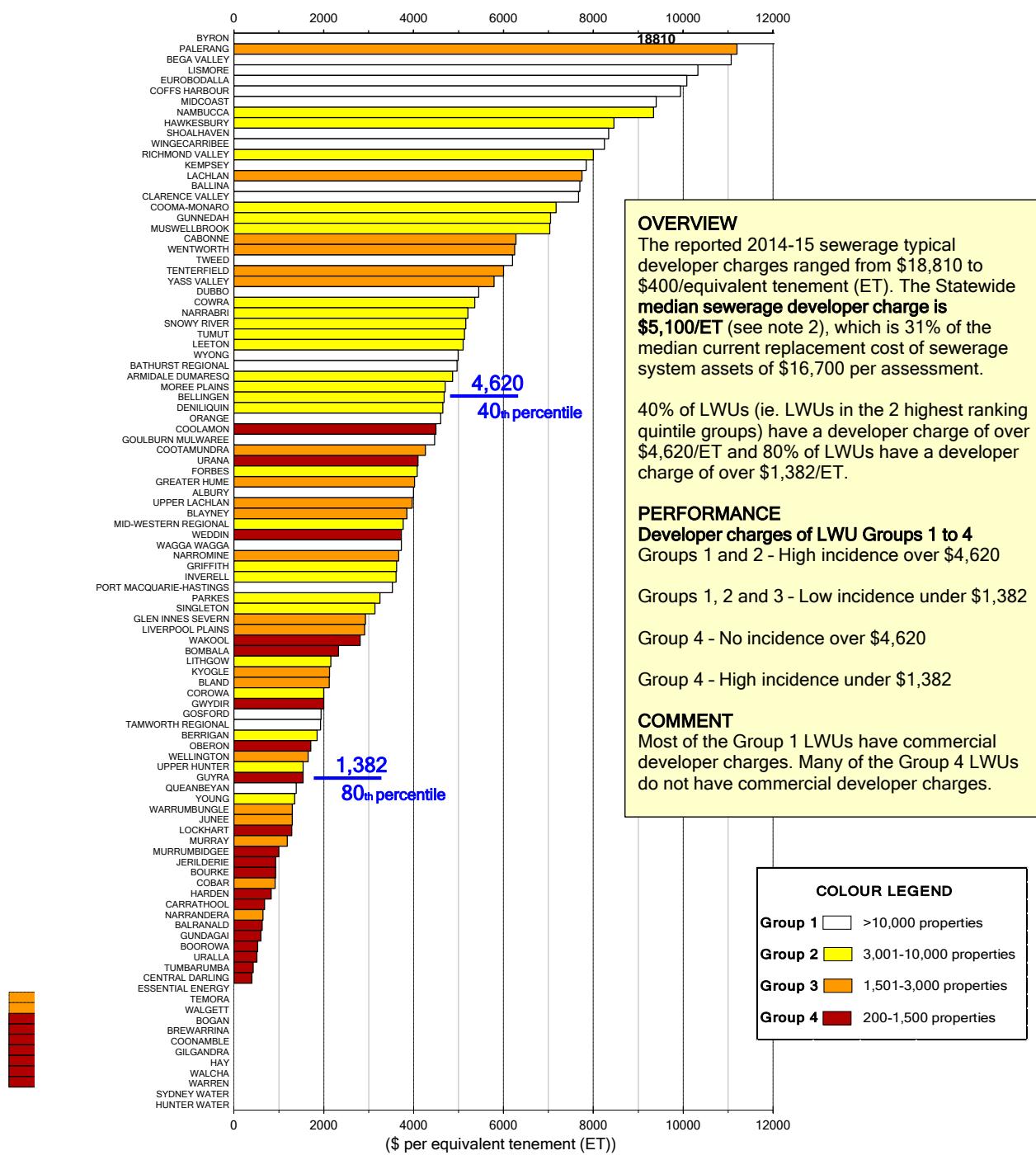


**Parameter:** Typical Water Supply Developer Charge (W36)

**Notes:**

1. This figure shows ranked values of the 2014-15 typical developer charge for water supply for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
2. The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
3. 84 LWUs levied water supply developer charges.
4. 83% of LWUs have an appropriate water supply Development Servicing Plan (DSP) with commercial developer charges. This includes the following 12 utilities which have received an exemption from needing to levy commercial water supply developer charges due to their low growth of under 5 lots/a - Bogan, Boorowa, Bourke, Brewarrina, Central Darling, Coonamble, Essential Energy, Gilgandra, Hay, Kyogle, Tumbarumba and Warren.
5. Refer also to pages 6 and 91.
6. For general notes see page 32.

Figure 34: Typical Developer Charges - Sewerage 2014-15

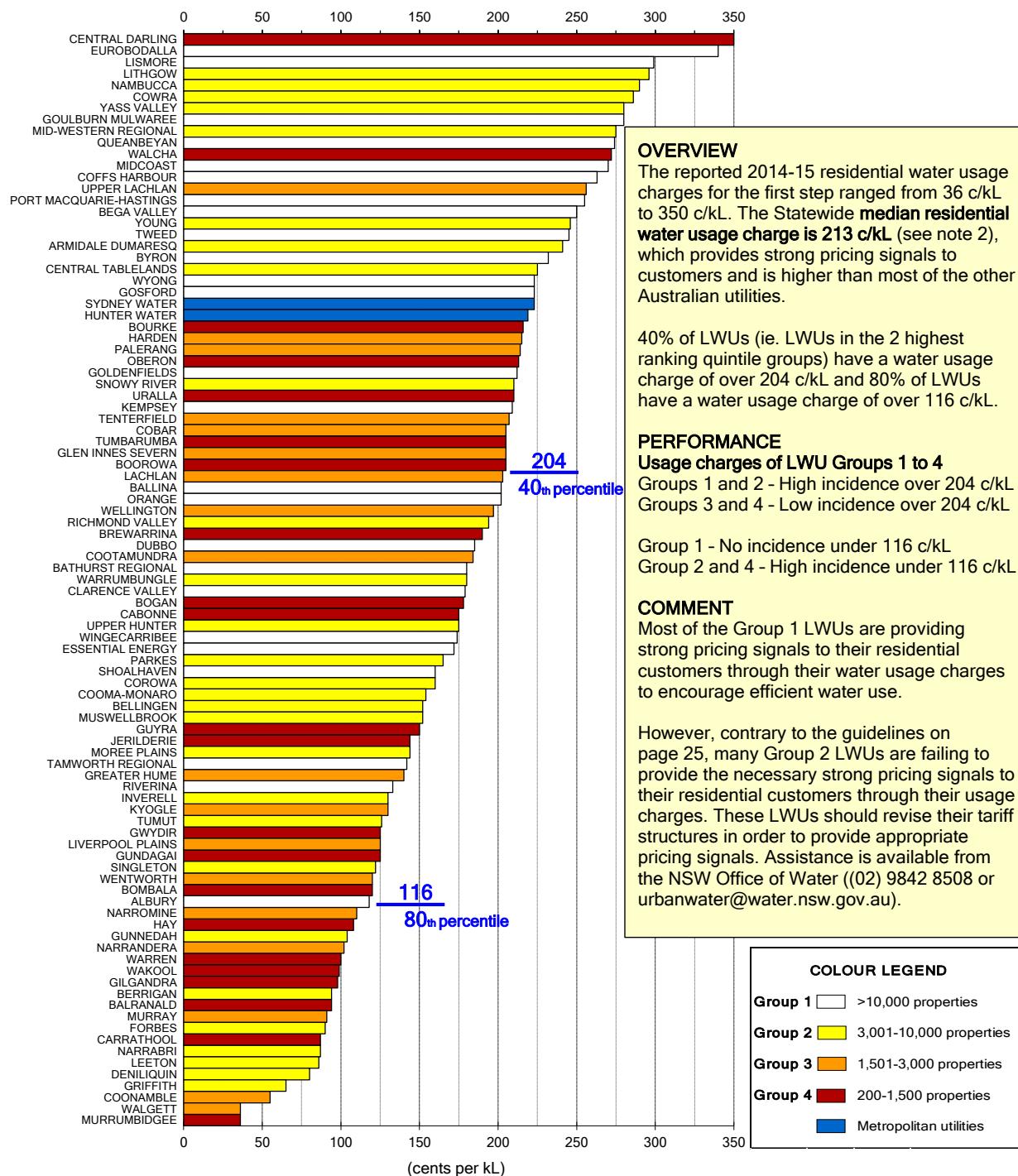


**Parameter:** Typical Sewerage Developer Charge (S36)

**Notes:**

- This figure shows ranked values of the 2014-15 typical developer charge for sewerage for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4).
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- 90 LWUs levied sewerage developer charges.
- 82% of LWUs have an appropriate sewerage Development Servicing Plan (DSP) with commercial developer charges. This includes the following 12 utilities which have received an exemption from needing to levy commercial sewerage developer charges due to their low growth of under 5 lots/ha - Bogan, Boorowa, Bourke, Brewarrina, Central Darling, Coonamble, Essential Energy, Gilgandra, Hay, Kyogle, Tumbarumba and Warren.
- Refer also to pages 6 and 94.
- For general notes see page 32.

Figure 35: Residential Water Usage Charge 2014-15 - P1.3

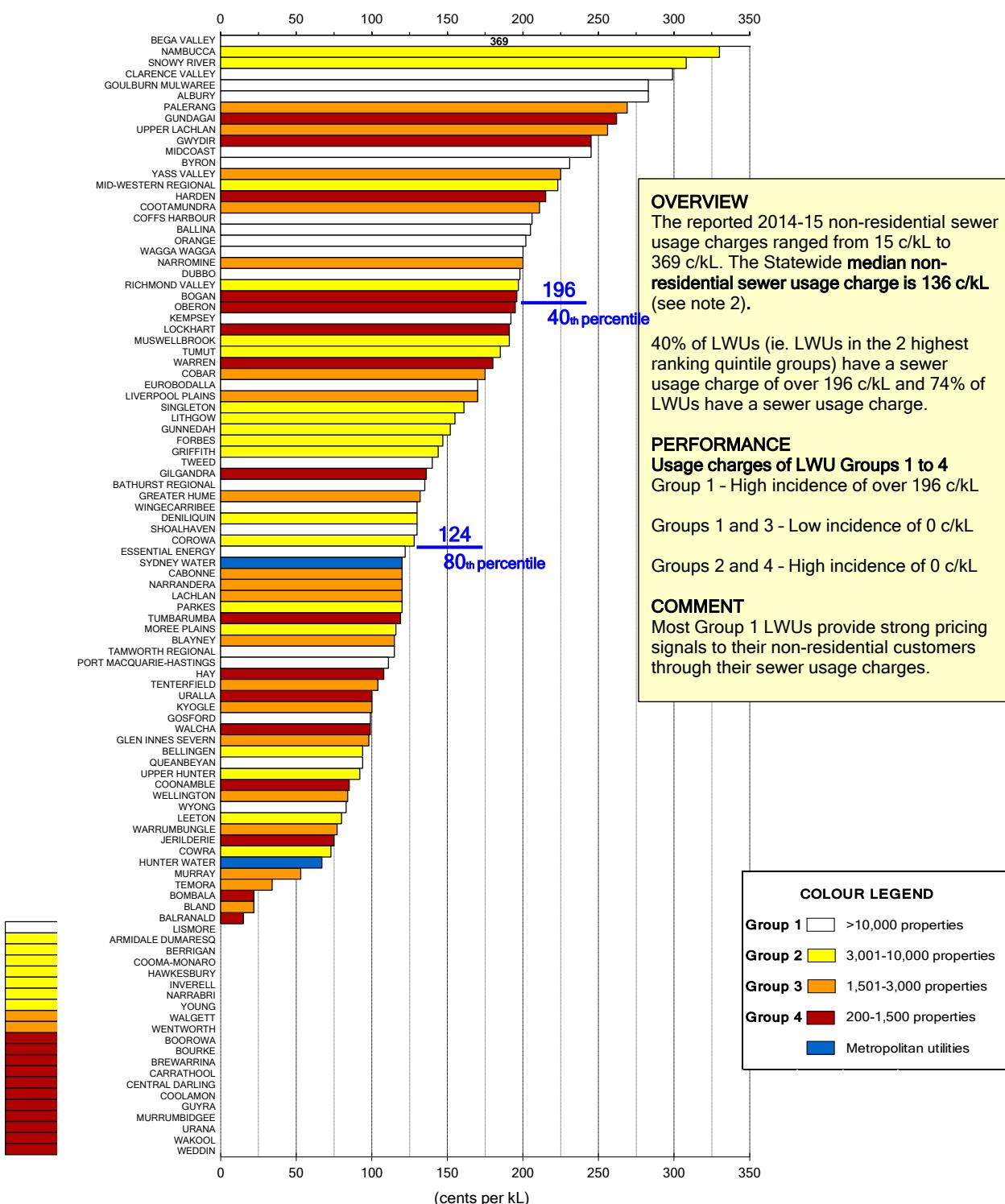


**Parameter:** Residential Water Usage Charge

**Notes:**

1. This figure shows ranked values of the 2014-15 residential water usage charge [NWI Indicator P1.3] for the first step for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
2. The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
3. As shown in the box on page 5, the real increase in the Statewide median water supply Typical Residential Bill (TRB) over the past 19 years has been limited to 18%.
4. Refer also to pages 5, 73 and 91.
5. For general notes see page 32.

Figure 36: Non-residential Sewer Usage Charge 2014-15



**Parameter:** Non-residential Sewer Usage Charge

**Notes:**

- This figure shows ranked values of the 2014-15 non-residential sewer usage charge for each Local Water Utility (LWU) in 4 groups, based on the number of connected properties served - over 10,000 (Group 1), 3,001 to 10,000 (Group 2), 1,501 to 3,000 (Group 3) and 200 to 1,500 (Group 4). The metropolitan water utilities (Sydney Water Corporation and Hunter Water Corporation) are shown in blue.
- The Statewide median is a weighted median calculated on the basis of connected properties. It best reveals statewide performance of the regional NSW utilities by giving due weight to larger LWUs and reducing the effect of smaller LWUs.
- Refer also to pages 6 and 94.
- For general notes see page 32.

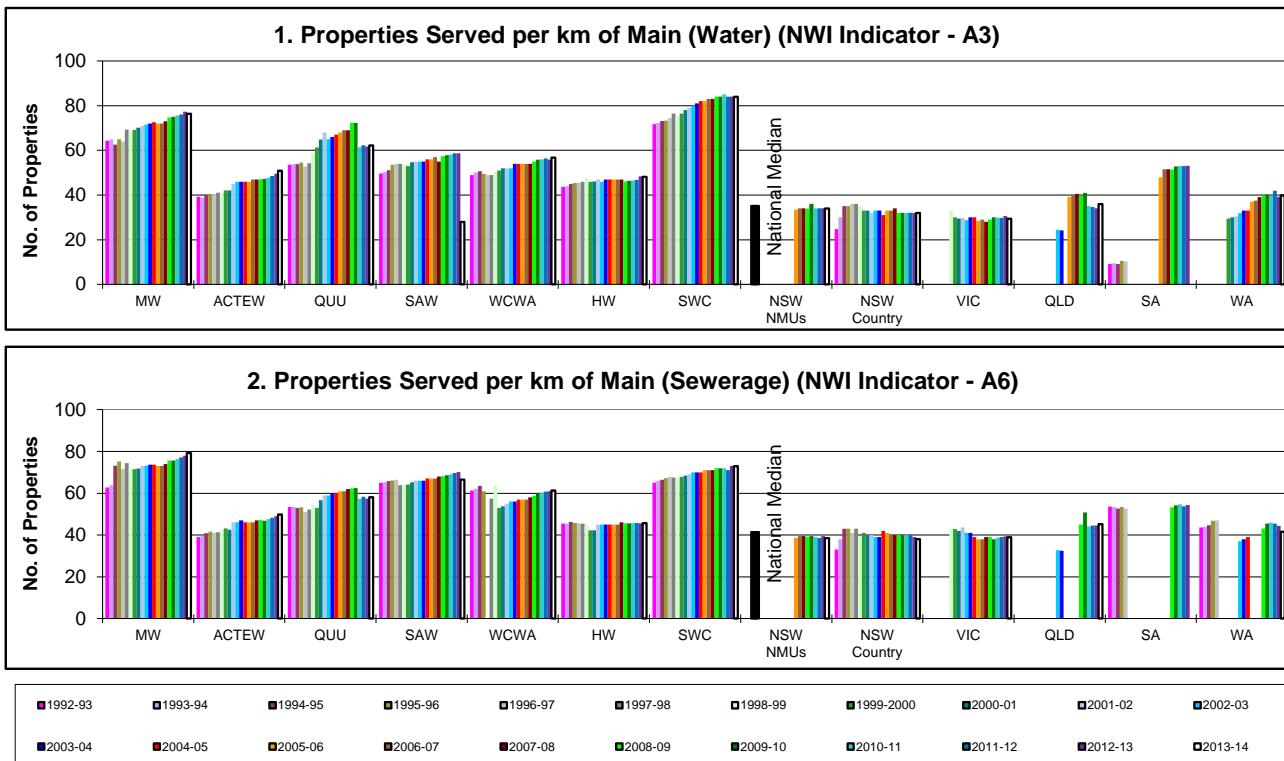
# Appendix A

## National performance comparisons 1992-93 to 2013-14

### Contents

Graph No.	NWI Indicator	Performance Indicator	Page
<b>Utility Characteristics</b>			
1.	<b>A3</b>	Properties Served per km of Main (Water)	72
2.	<b>A6</b>	Properties Served per km of Main (Sewerage)	72
<b>Social</b>			
3.	<b>P1.3</b>	Residential Usage Charge 1st Step (Water)	73
4.	<b>F4</b>	Residential Revenue from Usage Charges - Water (%)	73
5.	<b>P3</b>	Typical Residential Bill (Water)	73
6.	<b>P6</b>	Typical Residential Bill (Sewerage)	73
7.	<b>P8</b>	Typical Residential Bill (Water + Sewerage)	73
<b>Social (Water)</b>			
8.	<b>H3</b>	Microbiological Water Quality Compliance	74
9.	<b>C9</b>	Water Quality Complaints	74
10.	<b>A8</b>	Water Main Breaks	74
<b>Social (Sewerage)</b>			
11.		Sewage Odour Complaints	74
12.	<b>E3</b>	Percent of Sewage Treated to a Tertiary or Advanced Level	75
<b>Environmental (Water)</b>			
13.	<b>A10</b>	Real Losses (Leakage)	75
14.	<b>W12</b>	Average Annual Residential Water Supplied	75
<b>Environmental (Sewerage)</b>			
15.	<b>W19</b>	Sewage Collected per property	75
16.	<b>W27</b>	Percent of Effluent Recycled	76
17.	<b>E8</b>	% Biosolids Reused	76
18.		Sewerage Compliance with BOD in Licence	76
19.		Sewerage Compliance with SS in Licence	76
20.	<b>A14</b>	Sewerage mains breaks and chokes	77
21.	<b>E4</b>	Percent Sewage Volume Treated that was Compliant	77
22.	<b>E12</b>	Total Net Greenhouse Gas Emissions	77
23.	<b>E13</b>	Sewer overflows reported to the environmental regulator	77
<b>Economic</b>			
24.	<b>F19</b>	Economic Real Rate of Return (Water & Sewerage) (%)	78
25.	<b>F11</b>	Operating Cost (OMA) per property (Water)	78
26.	<b>F12</b>	Operating Cost (OMA) per property (Sge)	78
27.	<b>F22</b>	Net Debt to Equity (%)	78
28.	<b>F9/C4</b>	Water Supply Written Down Replacement Cost (\$ per property)	79
29.	<b>F10/C8</b>	Sewerage Written Down Replacement Cost (\$ per property)	79
30.	<b>F28</b>	Water Supply Capital Expenditure (\$ per property)	79
31.	<b>F29</b>	Sewerage Capital Expenditure (\$ per property)	79
32.	<b>F8</b>	Revenue from Community Service Obligations (%)	79

## PERFORMANCE COMPARISONS - Utility Characteristics



### Metropolitan Water Utilities

MW	Melbourne Water Consolidated (see note 1)
ACTEW	ACT Electricity and Water
QUU	Queensland Urban Utilities (Brisbane) (see note 3)
SAW	SA Water Corporation (Adelaide)
WCWA	WA Water Corporation (Perth)
HW	Hunter Water Corporation
SWC	Sydney Water Corporation

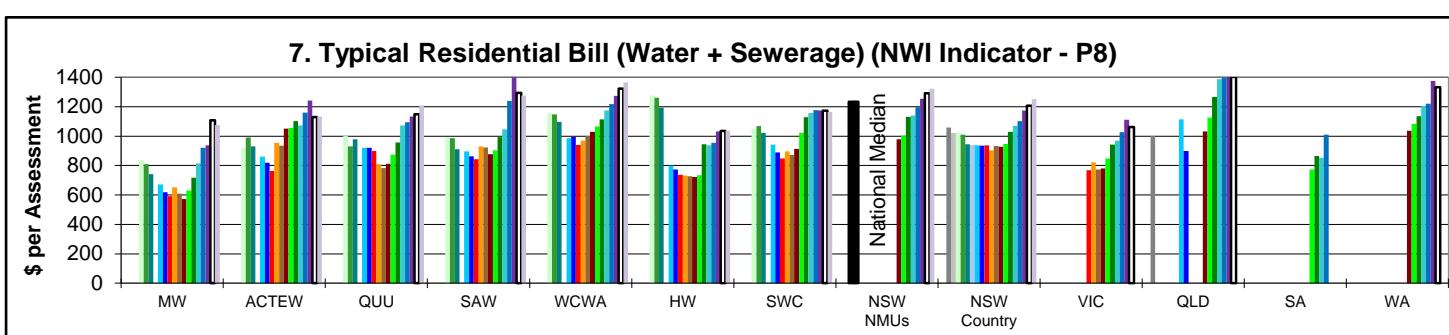
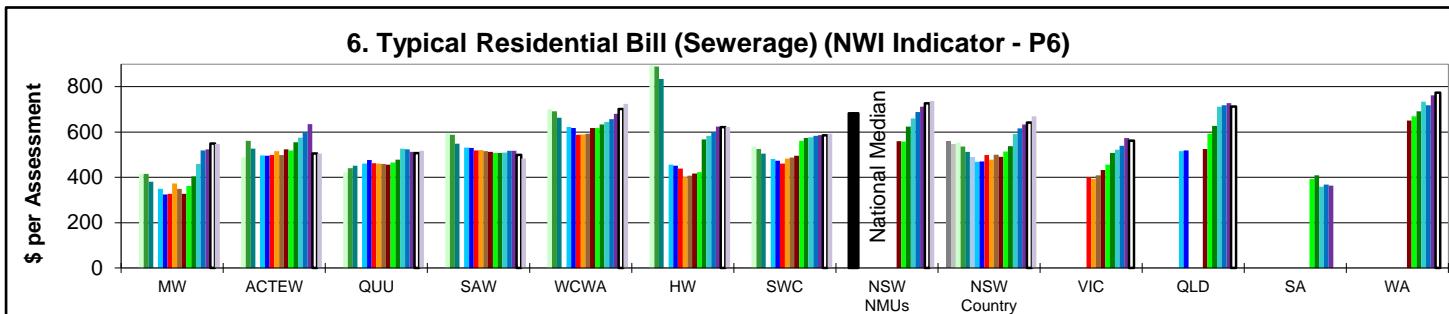
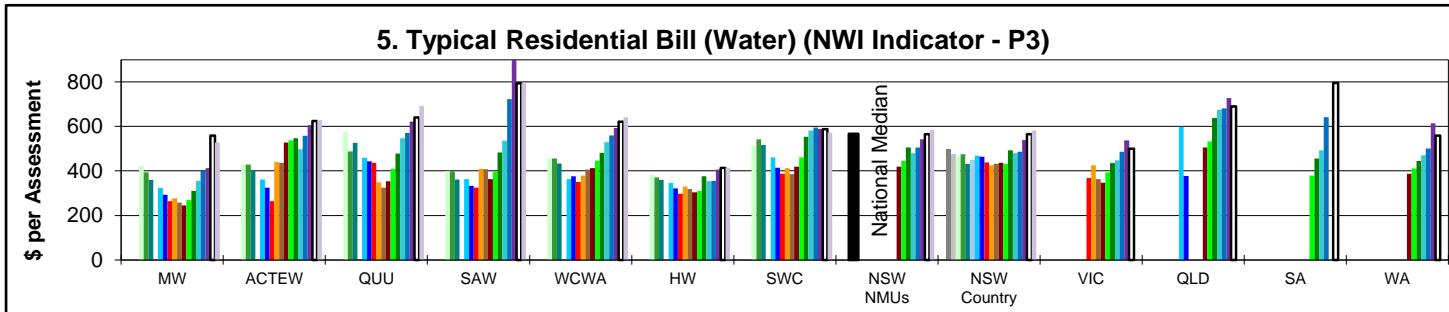
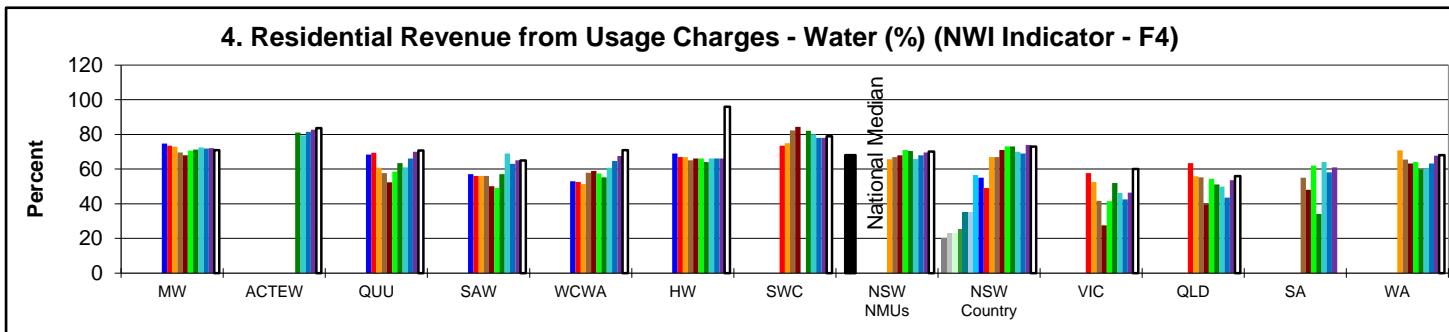
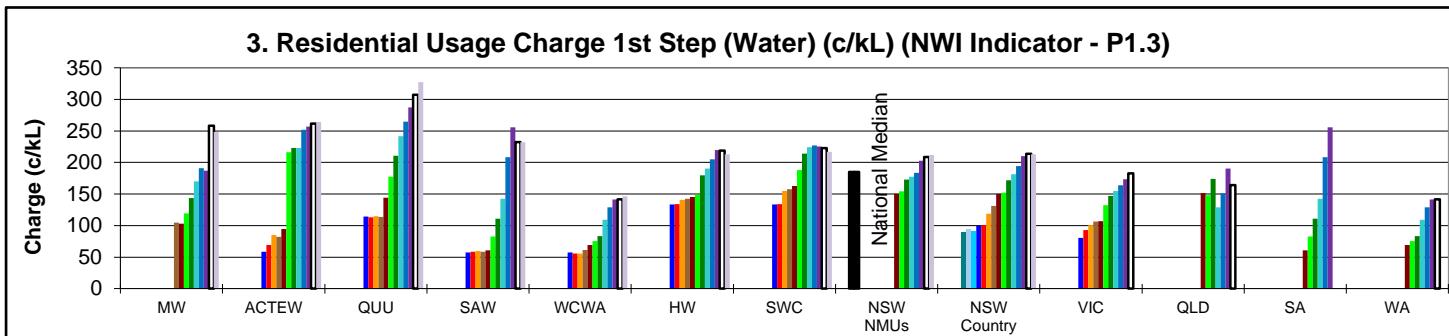
### Country Water Utilities

NSW NMUs	Median of NSW regional LWUs with > 10,000 connected properties
NSW Country	Statewide median for all NSW regional LWUs
VIC	VIC Country (see note 4)
QLD	QLD Country (see note 6)
SA	SA Country (see note 5)
WA	WA Country (see note 7)

### NOTES:

1. Melbourne Water was disaggregated into 4 constituent utilities in 1994. Melbourne Water Consolidated results for 1994-95 to 2013-14 are either aggregated results of the constituent utilities or consolidated results reported in the *National Performance Report 2013-14*, *WSAA Facts* (note 2) or reported in *Urban Water Review* (note 4).
2. Metropolitan Utilities - *National Performance Report 2013-14* used to obtain results from 2001-02 to 2013-14 ([www.bom.gov.au](http://www.bom.gov.au)). *WSAA Facts 2005* and *WSAA Facts 1999* (published by the Water Services Association of Australia) used to obtain results from 1994-95 to 1999-00.
3. Queensland Urban Utilities (QUU) was formed by aggregating Brisbane Water, Ipswich City Council, Scenic Rim Regional Council, Lockyer Valley Regional Council and Somerset Regional Council. QUU commenced operations on 1 July 2010. The results shown for QUU prior to 2010-11 are those reported in the *NPR* and *WSAA Facts* for Brisbane Water.
4. Victorian Country - *Urban Water Review 1998* and *2004-2005*, (published by the Victorian Water Industry Association) used to obtain results for Victoria Country from 1996-97 to 2004-05. Results from 2005-06 to 2013-14 obtained from median of Victorian utilities (excluding Melbourne Water and its constituents) published in the *2013-14 National Performance Report*.
5. SA Country - *Government Trading Enterprises Performance Indicators 1992-93 to 1996-97 and 1990-91 to 1994-95*, (published by Steering Committee on National Performance Monitoring of Government Trading Enterprises), used to obtain results for 1990-91 to 1996-97. Results from 2005-06 to 2012-13 obtained from median of SA NMUs (Whyalla and Mt Gambier) published in the *National Performance Report 2012-13*. **The results shown from 2005-06 do not report the overall performance of SA country utilities.** The 2012-13 results are for 2 utilities. Country SA was not reported separately in 2013-14 and the 2013-14 results for SAW (Adelaide) include SA Country.
6. QLD Country - *Urban Water Service Providers Queensland Report 2003-2004*, (published by Queensland Department of Natural Resources and Mines), used to obtain results from 2002-03 and 2003-04. These results are for 18 large and medium utilities and exclude Brisbane City Council. Results from 2005-06 to 2013-14 obtained from median of QLD NMUs (Cairns, Mackay, Gold Coast, Gympie, Logan, Rockhampton, Toowoomba, Townsville, Unity Water, Wide Bay Water) published in the *National Performance Report 2013-14*. **The results shown for 2005-06 to 2011-12 report a maximum of 7 of the approximately 70 Queensland country utilities.** The 2013-14 results are for 10 utilities.
7. WA Country - *Government Trading Enterprises Performance Indicators 1992-93 to 1996-97 and 1990-91 to 1994-95*, (published by Steering Committee on National Performance Monitoring of Government Trading Enterprises), used to obtain results for 1990-91 to 1996-97. Results from 1999-2005 obtained from *Water Performance Information* on 32 Major WA Towns 1999-2003 and 2001-2005 prepared by the Western Australia Economic Regulation Authority. The results are for regional towns and do not include Perth. Results from 2005-06 to 2013-14 obtained from median of WA NMUs (Albany, Australind/Eaton, Bunbury, Busselton, Geraldton, Kalgoorlie-Boulder, Mandurah) published in the *National Performance Report 2013-14*. **The results shown from 1999 do not report the overall performance of WA country utilities.** The 2013-14 results are for water supply and sewerage utilities for the above 7 regions.
8. Except for Graphs 3 and 5 to 7, which are in 2014-15 dollars, financial data is presented in 2013-14 dollars.
9. The National Median is the median value of the 2013-14 results published in the *National Performance Report 2013-14*.
10. Hobart and Darwin results have not been included in the graphs due to space limitations and the limited data coverage by these utilities. For Darwin, 2013-14 results for NWI indicators W12, P8, F13, A8, C9 and H3 are 407, 1784, 1005, 20, 2 and 100% respectively. For Tasmanian Water and Sewerage Corporation, which includes Hobart, results are available for only 1 of these indicators - H3 (99%).

## PERFORMANCE COMPARISONS - Social



**NOTES** 1. The Typical Residential Bill (TRB) is the annual bill paid by a residential customer using the utility's average annual residential water supplied.

2. The TRB is the principal indicator of the overall cost of a water supply or sewerage system.

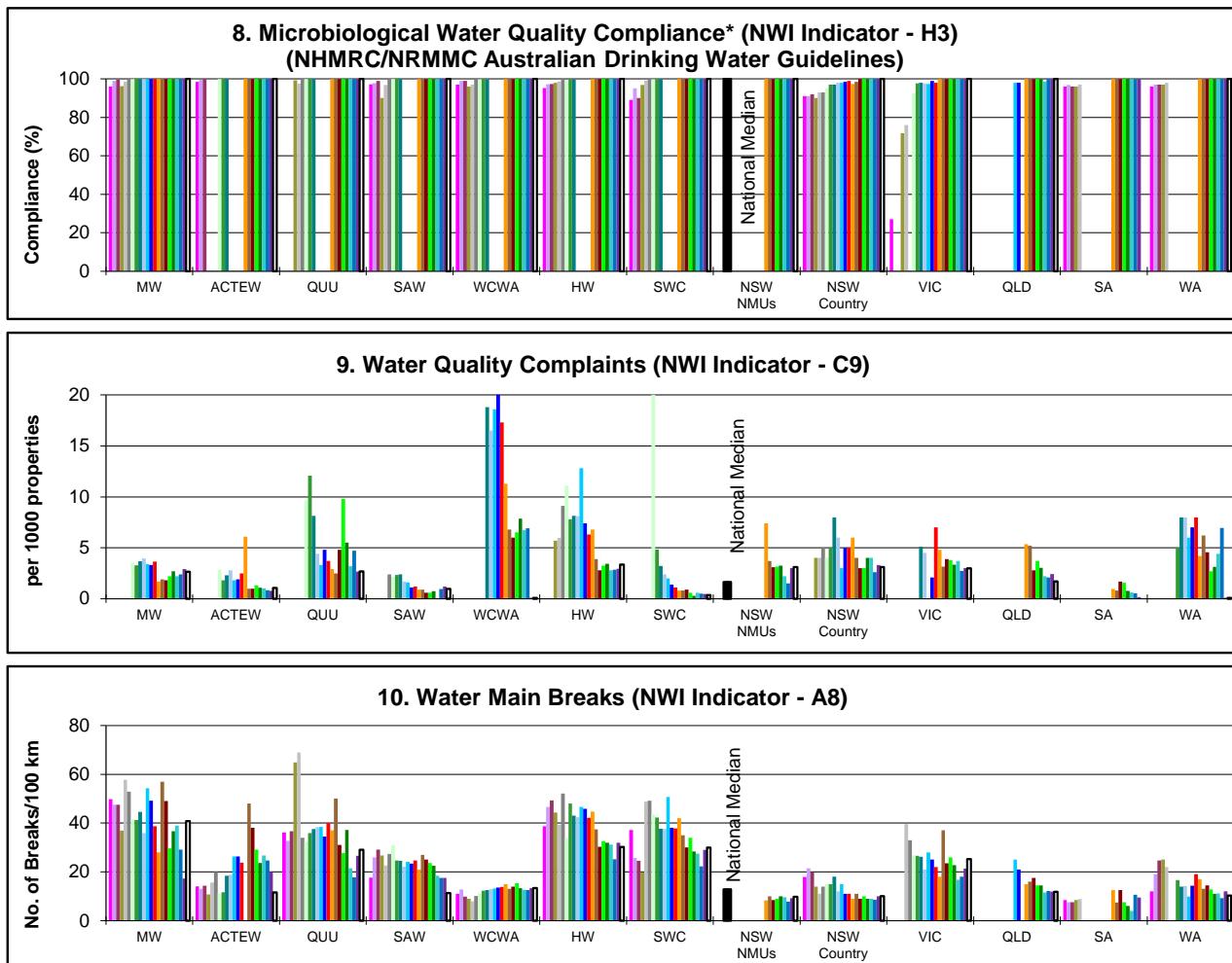
3. The 2014-15 Usage Charge and TRB (graphs 3 and 5 to 7) for the metropolitan water utilities have been determined from data published on each utility's website.

4. As the 2009-10 to 2013-14 values for Indicator F4 were not reported by ACTEW, they have been conservatively estimated in graph 4 from the utility's reported TRB and fixed charge for these years:  

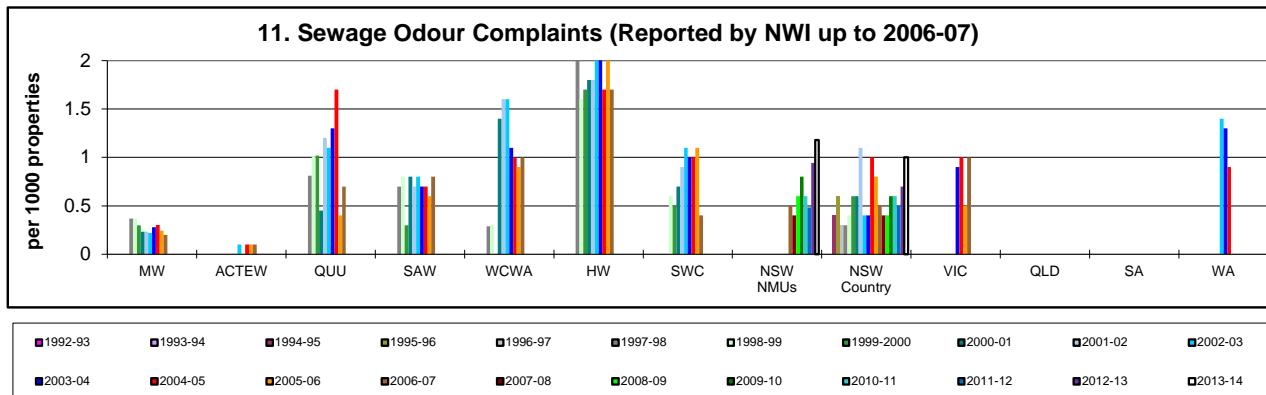
$$(\text{TRB} - \text{Fixed Charge})/\text{TRB} \times 100$$

1992-93 1993-94 1994-95 1995-96 1996-97 1997-98 1998-99 1999-2000 2000-01 2001-02 2002-03 2003-04  
 2004-05 2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15

## PERFORMANCE COMPARISONS - Social (Water)



## PERFORMANCE COMPARISONS - Social (Sewerage)



### \* Microbiological Water Quality Compliance

1991 to 1998 results are generally on the basis of the 1987 NHMRC/AWRC Drinking Water Quality Guidelines.

1998-99 and subsequent results are generally on the basis of E. coli in the more stringent

1996 NHMRC/ARMCANZ and 2004 NHMRC/NRMMC Australian Drinking Water Guidelines (ADWG) [refer also to page 8].

The exceptions are Victorian country utilities where results up to 2003-04 are on the basis of the less stringent 1984 World Health Organisation Guidelines and which are now on the basis of the Victorian Safe Drinking Water Regulations 2005, and also Melbourne Water where prior to 2004-05 the results are on the basis of the above 1987 Guidelines and which were subsequently on the basis of the 2004 ADWG.

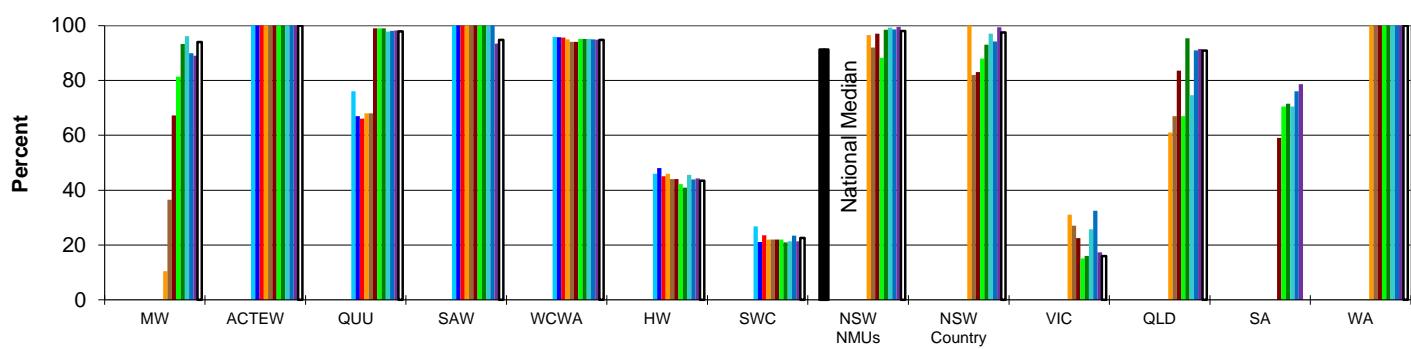
For 2005-06 to 2013-14, the results shown are for "% of population where microbiological compliance was achieved", in accordance with NWI Indicator H3.

As noted on page 8 of the 2013-14 NSW Water Supply and Sewerage Performance Monitoring Report

([www.water.nsw.gov.au](http://www.water.nsw.gov.au)), in 2013-14 the public drinking water supply for 99.9% of the urban population in regional NSW complied with 2011 ADWG for both microbiological and chemical water quality. 99.8% of the 20,200 samples tested complied for microbiological water quality (health related) and 99.4% of the 4,500 samples tested complied for chemical water quality (health related).

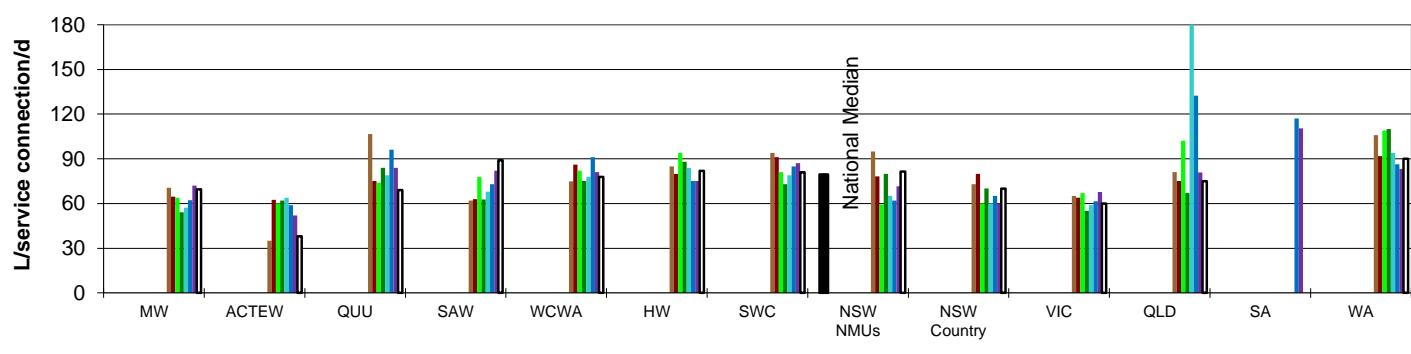
## PERFORMANCE COMPARISONS - Social (Sewerage)

12. Percent of Sewage Treated to a Tertiary or Advanced Level (NWI Indicator - E3)

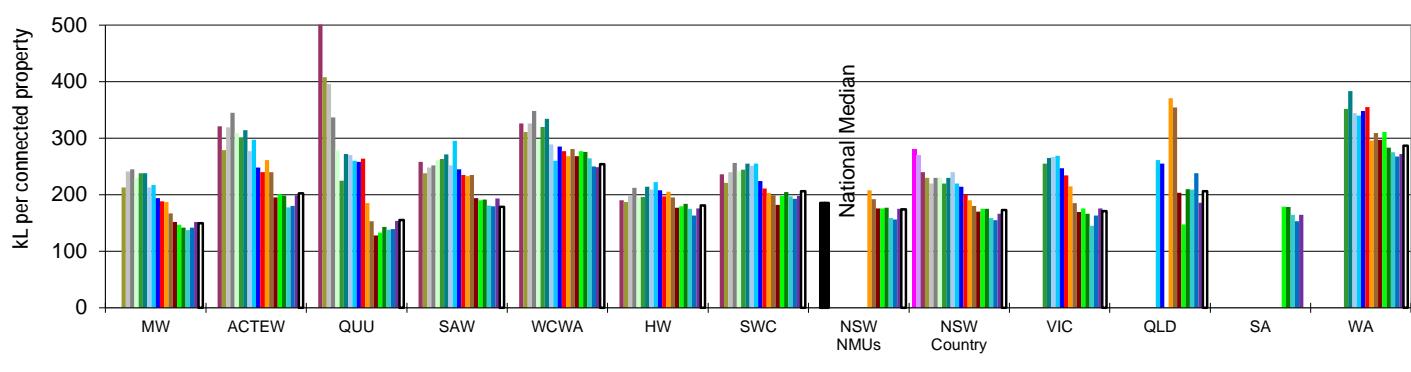


## PERFORMANCE COMPARISONS - Environmental (Water)

13. Real Losses (Leakage) (NWI Indicator - A10)

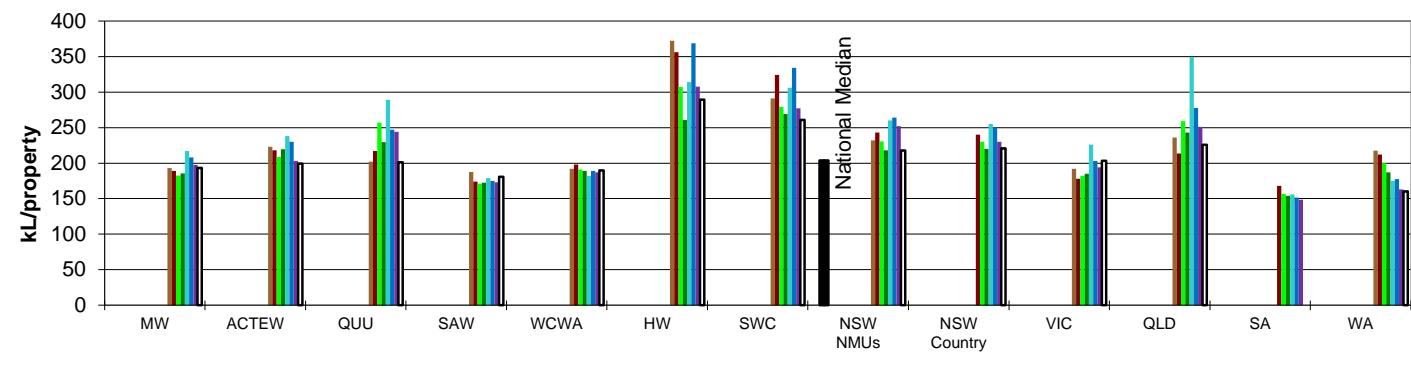


14. Average Annual Residential Water Supplied (NWI Indicator - W12)



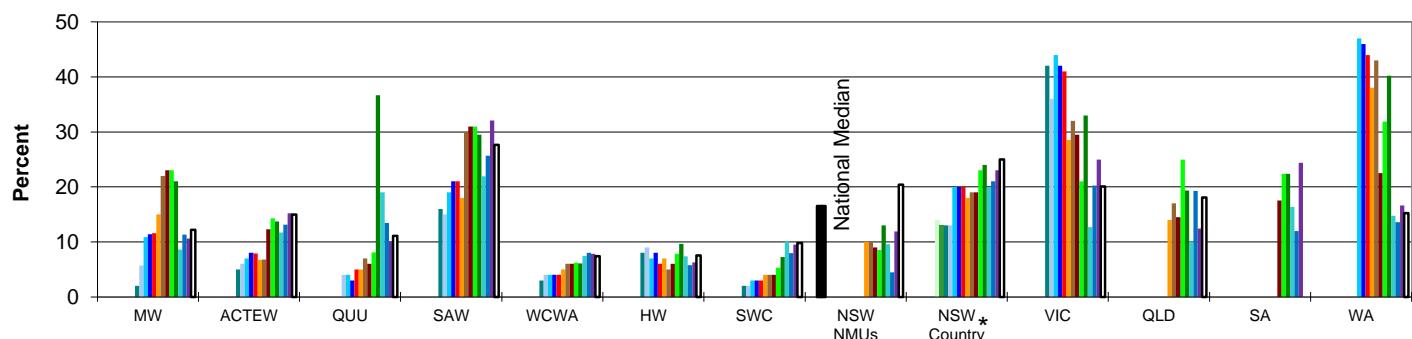
## PERFORMANCE COMPARISONS - Environmental (Sewerage)

15. Sewage Collected per property (NWI Indicator - W19)

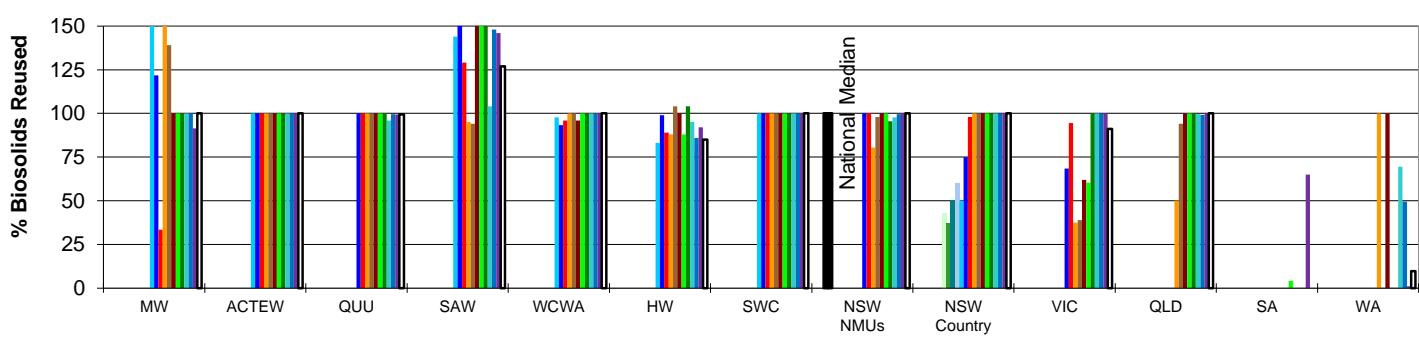


## PERFORMANCE COMPARISONS - Environmental (Sewerage)

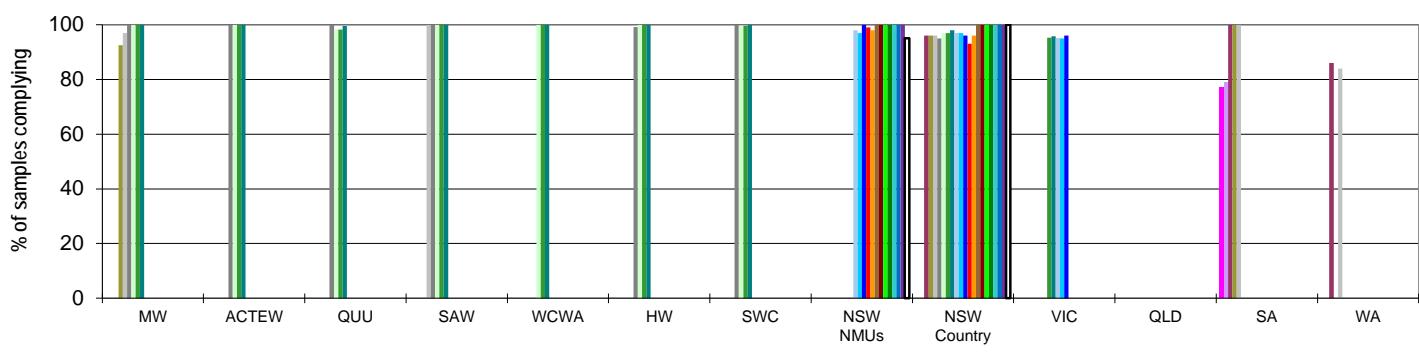
16. Percent of Effluent Recycled (NWI Indicator - W27)



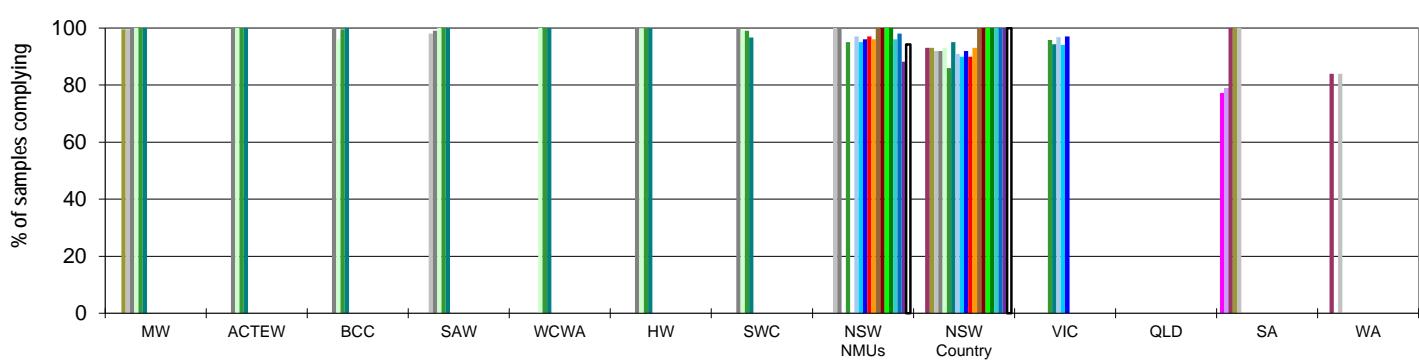
17. % Biosolids Reused (NWI Indicator - E8)



18. Sewerage Compliance with Biochemical Oxygen Demand (BOD) in Licence



19. Sewerage Compliance with Suspended Solids (SS) in Licence



1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03
2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14

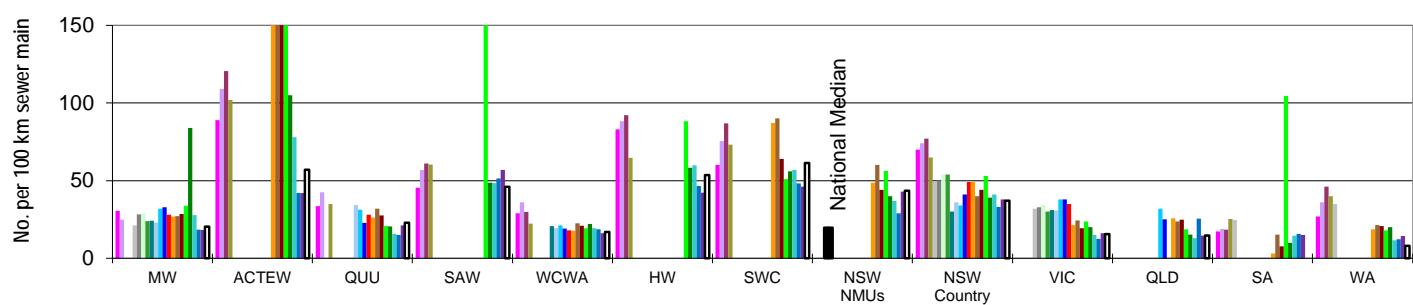
\* NSW Effluent Result

The values shown for country NSW are the percentages of total volume of sewage collected in regional NSW that was recycled.

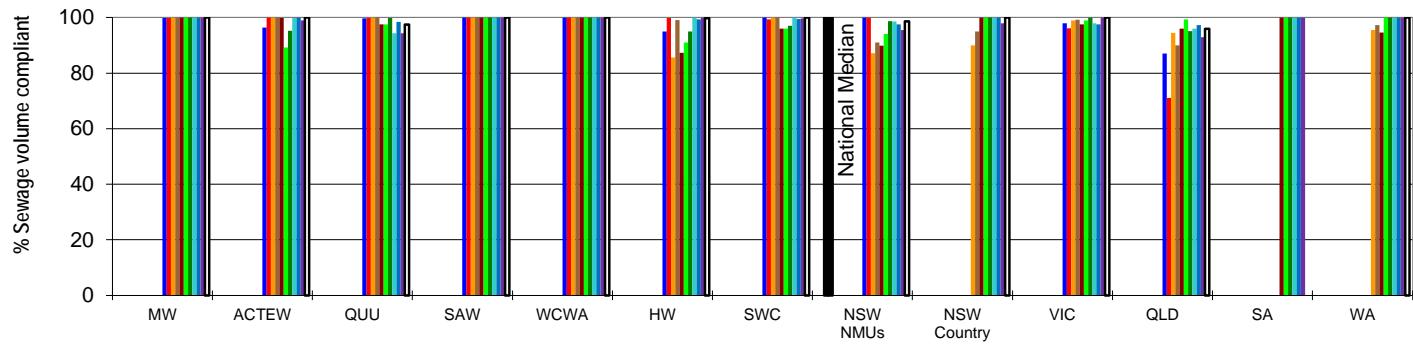
For country NSW, 43,000 ML of wastewater was recycled in 2013-14, which is 27 per cent of the total volume of sewage collected and was carried out by 84 per cent of the utilities, mostly for agriculture.

## PERFORMANCE COMPARISONS - Environmental (Sewerage)

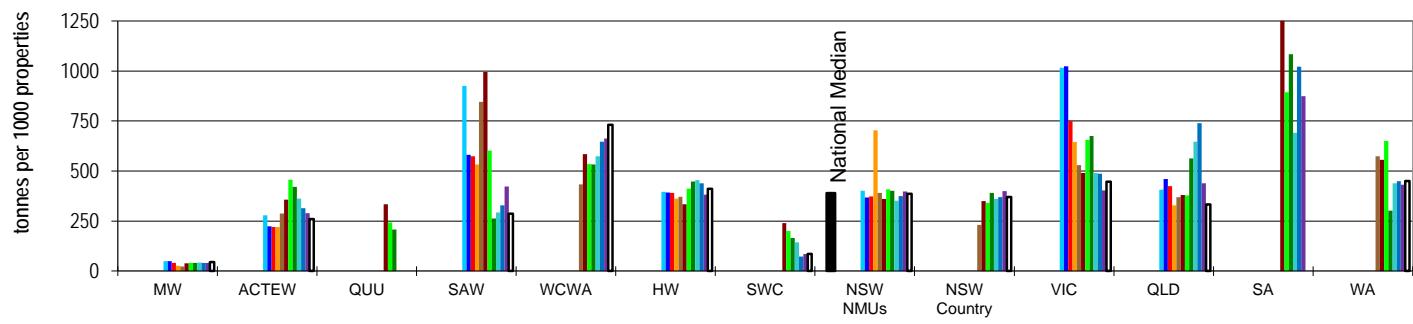
20. Sewerage mains breaks and chokes\* (per 100km sewer main)  
(NWI Indicator - A14)



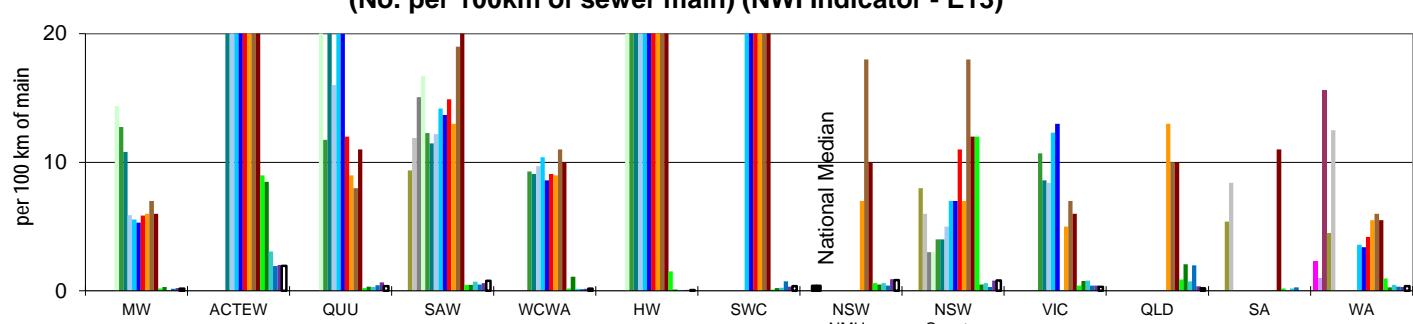
21. Percent Sewage Volume Treated that was Compliant (NWI Indicator - E4)



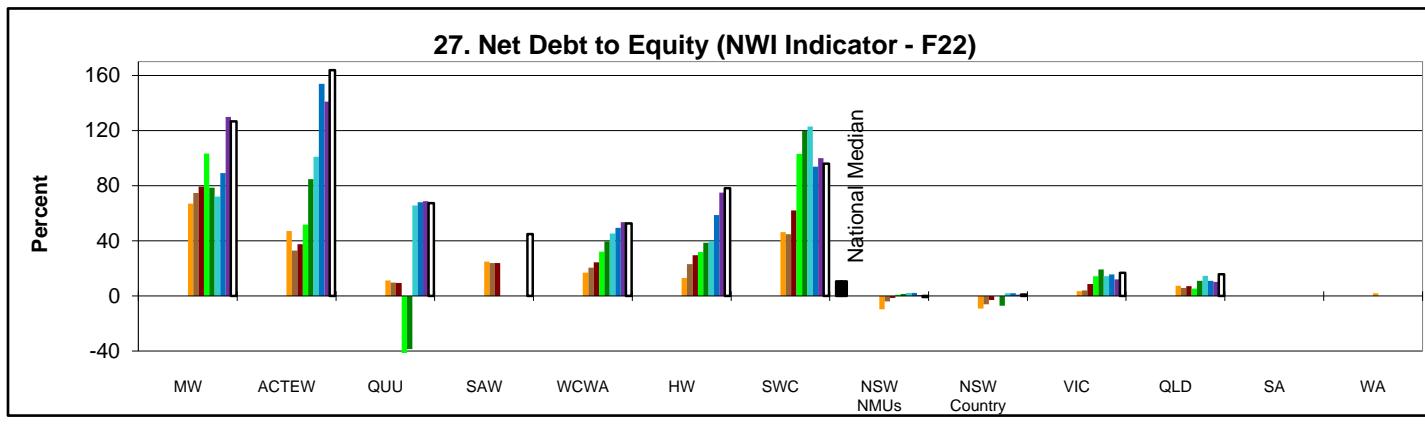
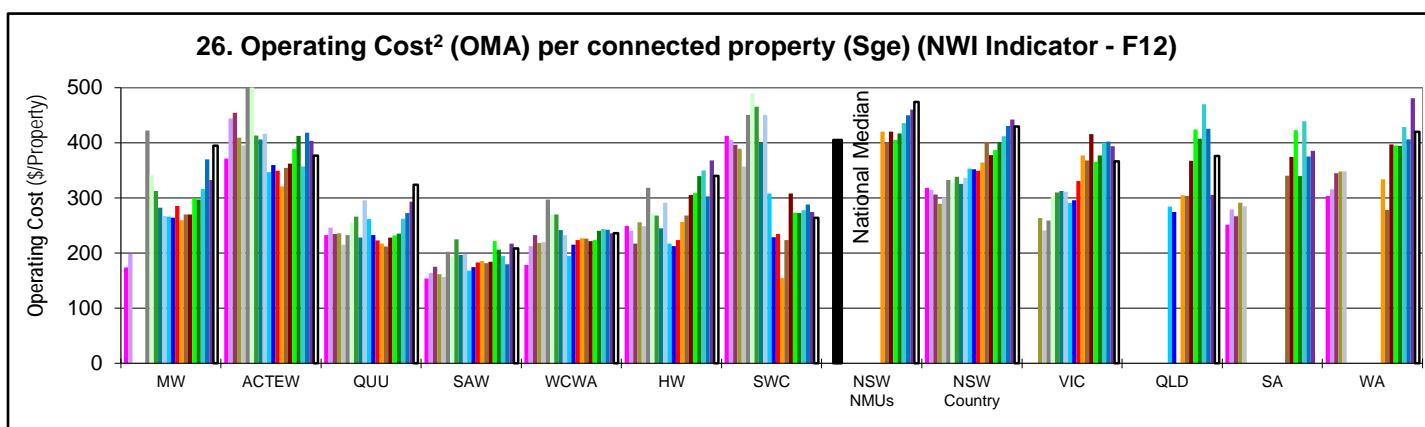
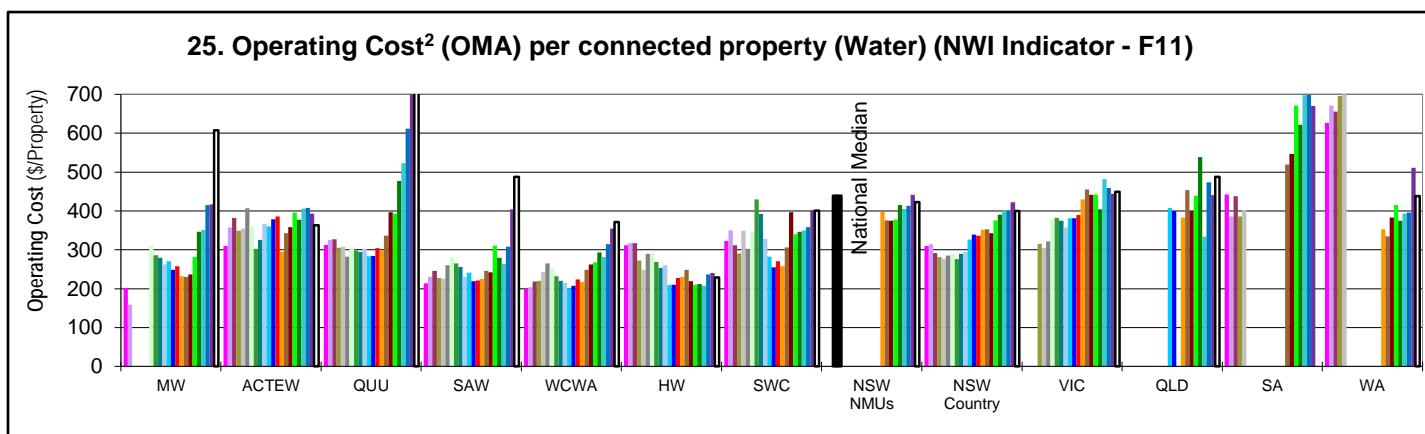
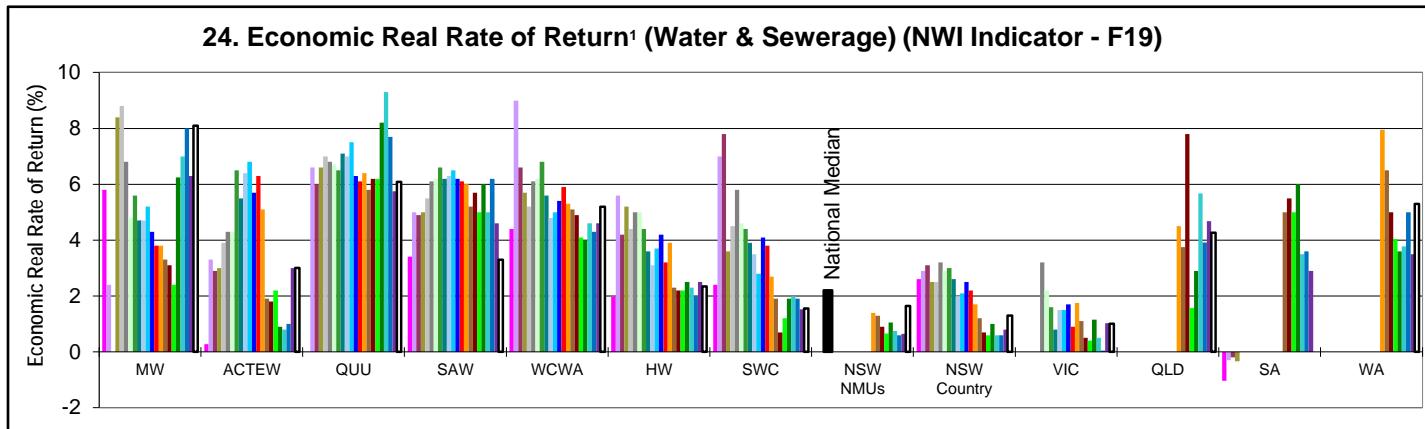
22. Total Net Greenhouse Gas Emissions (Water & Sewerage)  
(net tonnes CO2-equivalents per 1000 properties) (NWI Indicator - E12)



23. Sewer overflows reported to the environmental regulator\*  
(No. per 100km of sewer main) (NWI Indicator - E13)

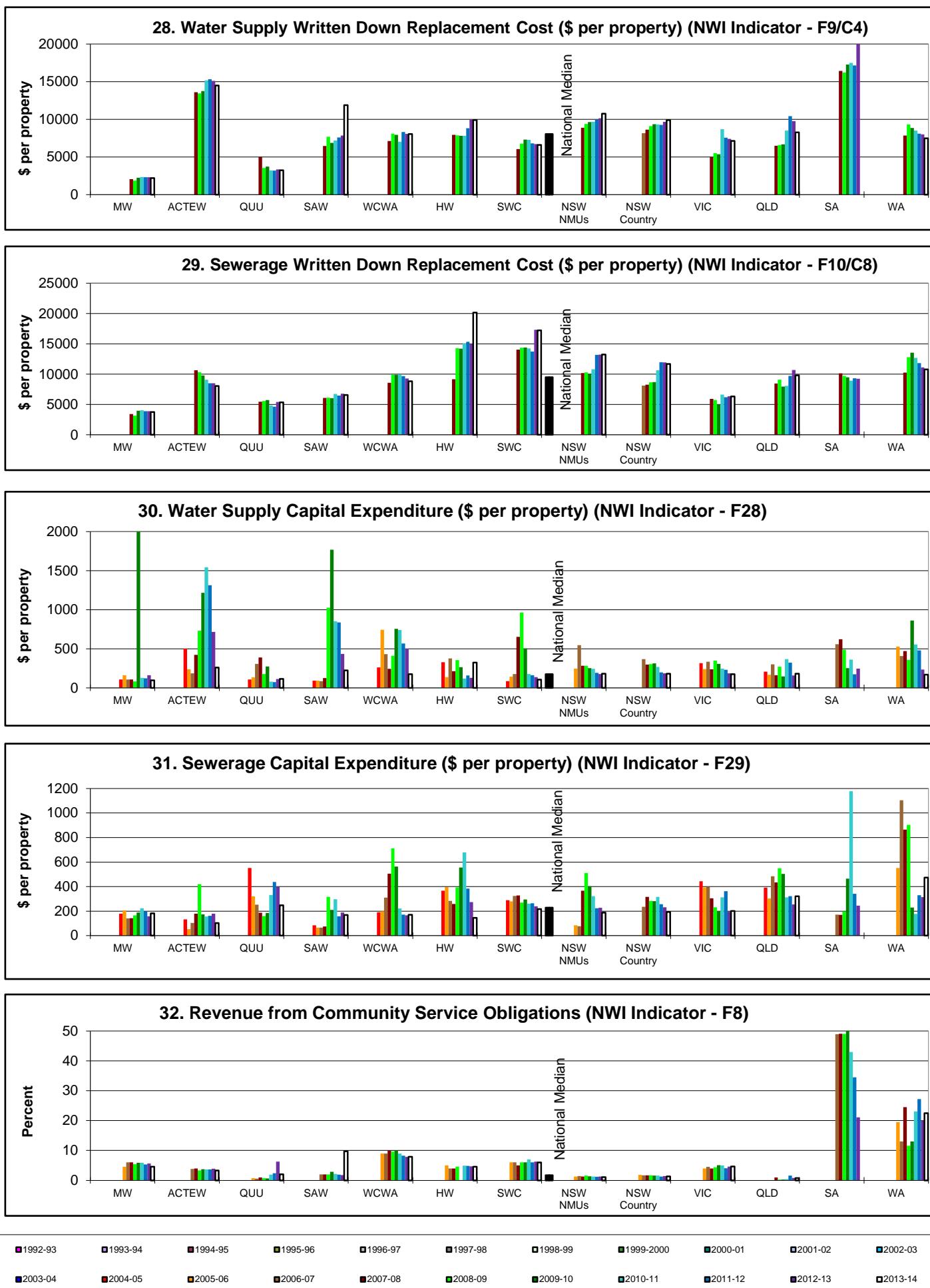


## PERFORMANCE COMPARISONS - Economic



**NOTES:** 1. As the economic real rate of return (ERRR) was not reported by utilities other than NSW NMUs and Country NSW in 2001/02 to 2004/05, the reported values for "return on assets" has been shown in graph 24 for all the other utilities for these years.  
 2. Operating Cost (OMA) is the Operation, Maintenance and Administration Cost in 2013-14\$.

## PERFORMANCE COMPARISONS - Economic



**NOTES:**

1. The Water Supply Capital Expenditure per property shown for Melbourne Water for 2009-10 includes the full \$3.5B capital expenditure by a private consortium for the Victorian Desalination Plant project.
2. The Water Supply Capital Expenditure per property shown for Queensland Urban Utilities (QUU) for 2009-10 includes the \$230M capital expenditure by SEQ Water and LinkWater.

# Appendix B

## Example TBL Water Supply Performance Report and Action Plan

### Coffs Harbour City Council Water Supply – Action Plan Page 1

#### Summary

In 2013-14, Coffs Harbour City Council has implemented all 19 planning, pricing and management requirements (10 water, 9 sewerage) of the *NSW Best-Practice Management Framework* and its performance has continued to be very good.

The key actions required are shown below for Indicators 20 and 32. Note also Indicators 12 and 14 and that a new IWCM Strategy and financial plan are required in 2016.

Key action from Council's Strategic Business Plan:

- Strategic business plan and financial plan completed in May 2012

(<http://www.coffsharbour.nsw.gov.au/places-for-living/Documents/Strategic-Business-Plans-Water-Supply-Sewerage.pdf>).

INDICATOR	RESULT <sup>2</sup>	COMMENT/DRIVERS	ACTION	
<b>Best-Practice Management Framework</b>	Implemented all the Best-Practice Requirements <sup>1</sup>	Very good	Implementation of the requirements demonstrates effectiveness and sustainability of water supply business. 100% implementation is required for eligibility to pay an 'efficiency dividend'.  Prepare a new 30-year IWCM Strategy, Financial Plan and Report in accordance with the July 2014 IWCM Check List ( <a href="http://www.water.nsw.gov.au">www.water.nsw.gov.au</a> ) as the existing IWCM Strategy is over 6 years old.	
<b>CHARACTERISTICS</b>				
5	Connected property density	37 per km of main Highest ranking (1, 1)	A connected property density below 30 can significantly increase the cost per property of providing services, as will also a high number of small discrete water supply schemes.	
9	Renewals expenditure	0.3% Lowest ranking (5, 4)	May require review  Adequate funds must be programmed for works outlined in the Asset Management Plan – page 3 of the 2013-14 NSW Performance Monitoring Report.	Satisfactory. Appropriate renewals included in capital works program reported in Council's Strategic Business Plan 2012.
10	Employees	1.7 per 1,000 props Highest ranking (1, 3)	Good	Satisfactory in view of Council's storage dams and water treatment works.
<b>SOCIAL - CHARGES</b>				
12	Residential water usage charge	263 c/kL Highest ranking (1, 1)	Good  Benefits of strong pricing signals are shown on page 5 of the 2013-14 NSW Performance Monitoring Report.	Good. Consider replacing the existing inclining block tariff with a two-part tariff [refer to Circular LWU11] with a uniform usage charge for all water use, as recommended by the NSW Government and the Productivity Commission.
13	Residential access charges	\$143 per assessment Highest ranking (1, 1)	Good	See 12.
14	Typical residential bill <sup>3</sup> (TRB)	\$587 per assessment Low ranking (1, 2)	Good  TRB should be consistent with projection in the financial plan. Drivers – OMA Management Cost and Capital Expenditure.	The TRB of \$587 is satisfactory as it is greater than the projected TRB of \$571 (2014/15\$) in Council's SBP. The 2015-16 tariff will be determined in accordance with Circular LWU11 of March 2011.
15	Typical developer charges	\$9900 per ET Highest ranking (1, 1)	Good	
16	Residential revenue from usage charges	76% of residential Highest ranking (1, 2)	Very good  ≥ 75% of residential revenue should be generated through usage charges.	See 12.
<b>SOCIAL – HEALTH</b>				
19	Physical quality compliance	Yes Highest ranking (1, 1)	Very good	
19 a	Chemical quality compliance	Yes Highest ranking (1, 1)	Very good	
20	Microbiological compliance <sup>4</sup>	Yes Highest ranking (1, 1)	Very good  Critical indicator. LWUs should annually review their risk based Drinking Water quality Management System (DWMS) in accordance with NSW Guidelines for drinking water quality management systems, NSW Health and NSW Office of Water, 2013.	Also address the requirements of Circular LWU 18 of June 2014 and any Section 61 Reports from the Office of Water. Include the corrective actions identified in your Action Plan.

1. Council needs to annually 'roll forward', review and update its 30-year total asset management plan (TAMP) and 30-year financial plan, review Council's TBL Performance Report and prepare an **Action Plan** to Council. The Action Plan is to include any actions identified in Council's annual review of its DWMS (Indicator 20) and any Section 61 Reports from the NSW Office of Water. Refer to pages 27, 28, 107 and 111 of the 2013-14 NSW Water Supply and Sewerage Performance Monitoring Report.

2. The ranking relative to similar size LWUs is shown first (Col. 2 of TBL Report) followed by the ranking relative to all LWUs (Col. 3 of TBL Report).

## Coffs Harbour City Council Water Supply – Action Plan Page 2

INDICATOR		RESULT		COMMENT/DRIVERS	ACTION
<b>SOCIAL – LEVELS OF SERVICE</b>					
25	Water quality complaints	0 per 1,000 props Highest ranking (1, 1)	Very good	Critical indicator of customer service. Can be influenced by the type of business - e.g. unfiltered supply.	
26	Service complaints	0.2 per 1,000 props Highest ranking (1, 1)	Very good	Key indicator of customer service.	Council's reporting system has been revised to record complaints only, [ie. expressions of dissatisfaction], in accordance with the definition of this indicator.
27	Incidence of unplanned interruptions	9 per 1,000 props Highest ranking (1, 2)	Very good	Key indicator of customer service, condition of network and effectiveness of operation.	
30	Number of main breaks	3 per 100km of main Highest ranking (1, 1)	Very good	Drivers – condition and age of water mains, ground conditions.	Satisfactory, as result is equal to the Statewide Median of 10 breaks per 100 km of main.
32	Total Days Lost	3.4% Highest ranking (1, 4)	Very good		Will be reviewed.
<b>ENVIRONMENTAL</b>					
33	Average annual residential water supplied	169 kL per prop Highest ranking (1, 2)		Drivers – available water supply, climate, location (Inland or coastal), pricing signals (Indicator 12), restrictions.	
34	Real losses (leakage)	60 L/c/d Highest ranking (1, 2)	Very good	Loss reduction is important where an LWU is facing drought water restrictions or the need to augment its water supply system.	
<b>ECONOMIC</b>					
43	Economic Real Rate of Return (ERRR)	1.2% Highest ranking (1, 3)	Good	Reflects the rate of return generated from operating activities (excluding interest income and grants). An ERRR or ROA of $\geq 0\%$ is required for full cost recovery.	Satisfactory. See 14.
44	Return on assets (ROA)	-0.2% Lowest ranking (5, 4)	May require review	See 43.	
45	Net debt to equity – water and sewerage	14% Highest ranking (1, 1)	Very good	LWUs facing significant capital investment are encouraged to make greater use of borrowings – page 13 of the 2012-13 NSW Performance Monitoring Report.	
46	Interest cover	1 Median ranking (3, 3)	Satisfactory	Drivers – in general, an interest cover $> 2$ is satisfactory.	
47	Loan payment	\$523 per prop Highest ranking (1, 1)	Very good	The component of TRB required to meet debt payments. Drivers – expenditure on capital works, short term loans.	
49	Operating cost (OMA)	\$396 per prop Highest ranking (1, 1)	Very good	Prime indicator of the financial performance of an LWU. Drivers – development density, level of treatment, management cost, topography, number of discrete schemes and economies of scale.	The components below have been carefully reviewed as part of developing Council's strategic business plan.
51	Management cost	\$144 per prop Highest ranking (1, 3)	Very good	Typically about 40% of the OMA. Drivers – No. of employees. No. of small discrete water schemes.	
52	Treatment cost	\$76 per prop Highest ranking (1, 2)	Very good	Drivers – type and quality of water source. Size of treatment works	Satisfactory, as Council has a dissolved air flotation water treatment works.
53	Pumping cost	\$15 per prop Highest ranking (1, 1)	Very good	Drivers – topography, development density and location of water source.	
55	Water main cost	\$91 per prop Highest ranking (1, 3)	Very good	Drivers – age and condition of mains. Ground conditions. Development density.	
56	Capital expenditure	\$137 per prop Lowest ranking (5, 4)		An indicator of the level of investment in the business. Drivers – age and condition of assets, asset life cycle and water source.	

3. Review and comparison of the 2014-15 **Typical Residential Bill (Indicator 14)** with the projection in the later of your IWCM Strategy and financial plan and your Strategic Business Plan is **mandatory**.  
In addition, if both indicators 43 and 44 are negative, you must report your proposed 2015-16 typical residential bill to achieve full cost recovery.

4. **Microbiological compliance (Indicator 20)** is a **high priority** for each NSW LWU. Corrective action for non-compliance ( $\leq 97\%$ ), or any 'boil water alerts' must be reported in your Action Plan. Refer to pages 7, 8 and 28 of the 2013-14 NSW Water Supply and Sewerage Performance Monitoring Report ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

## Coffs Harbour City Council Water Supply TBL Report (Page 1)

## Coffs Harbour City Council

## TBL Water Supply Performance

2013-14

WATER SUPPLY SYSTEM - Coffs Harbour City Council serves a population of 70,200 (24,890 connected properties). Water is sourced from the Nymboida River (part of the Regional Water Supply which includes Shannon Creek Dam) and also from the Orara River. Water is transferred to Karangi Dam where it is treated and supplied to the Coffs Harbour area which stretches from Sawtell to Corindi. Council has 2 storage dams at Karangi and Woolgoolga (total storage capacity 5,870ML), not including the 30,000ML Shannon Creek Dam. Council has 2 smaller systems providing treated water to Coramba and Nana Glen villages. The water supply network comprises a dissolved air flotation treatment works, a conventional water treatment works and a chlorinator, 18 service reservoirs (88 ML), 7 pumping stations, 43.2 ML/d delivery capacity into the distribution system, 180 km of transfer and trunk mains and 510 km of reticulation.

PERFORMANCE - Coffs Harbour City Council achieved 100% implementation of the NSW BPM requirements. The 2014-15 typical residential bill was \$587 which was close to the statewide median of \$582 (Indicator 14). The economic real rate of return was similar to the statewide median (Indicator 43). The operating cost (OMA) per property was \$396 which was close to the statewide median of \$400 (Indicator 49). Water quality complaints were negligible compared to the statewide median of 3 (Indicator 25). Compliance was achieved for microbiological water quality (100% of the population, 3 of 3 zones compliant), chemical water quality and physical water quality. There were no failures of the chlorination system or the treatment system. Coffs Harbour City Council reported no water supply public health incidents. Current replacement cost of system assets was \$413M (\$15,600 per assessment). Cash and investments were \$34M, debt was \$83M and revenue was \$20M (excluding capital works grants).

## IMPLEMENTATION OF REQUIREMENTS OF NSW BEST-PRACTICE MANAGEMENT (BPM) FRAMEWORK

(1) Complete Current Strategic Business Plan & Financial Plan	YES <sup>12</sup>	(3) Sound water conservation implemented	YES
(2) (2a) Pricing - Full Cost Recovery, without significant cross subsidies	Yes	(4) Sound drought management implemented	YES
(2b,2c) Pricing - Appropriate Residential Charges	Yes	(5) Complete performance reporting (by 15 September)	YES
(2d) Pricing - Appropriate Non-residential Charges	Yes	(6) Integrated water cycle management strategy	YES
(2e) Pricing - DSP with Commercial Developer Charges	Yes	IMPLEMENTATION OF ALL REQUIREMENTS	100%

## TRIPLE BOTTOM LINE (TBL) PERFORMANCE INDICATORS

UTILITY	CHARACTERISTICS	NWI No.	LWU RESULT	RANKING		MEDIANS
				>10,000 properties	All LWUs	
		C1 1 Population served: 70200	Col 1	94	2	91
		C4 2 Number of connected properties: 24890	Col 2	1.3	1	0.9
		3 Residential connected properties (% of total)	Prop/km	37	4	32
		4 New residences connected to water supply (%)	ML	65	5	35
		A3 5 Properties served per kilometre of water main	ML	0	1	77
		6 Rainfall (% of median annual rainfall)	%	126	1	6,800
		W11 7 Total urban water supplied at master meters (ML)	%	0.3	4	152
		8 Peak week to average consumption (%)	per 1,000 prop	1.7	4	0.5
		9 Renewals expenditure (% of current replacement cost of system assets)				1.5
		10 Employees per 1000 properties				
		P1 11 Residential tariff structure for 2014-15: inclining block; independent of land value; access charge \$143				
		P1.3 12a Residential water usage charge for 2013-14 for usage <365 kL (c/kL)	c/kL (2013-14)	255	1	208
		12 Residential water usage charge for 2014-15 for usage <365 kL (c/kL)	c/kL (2014-15)	263	2	185
		P3 14a Typical residential bill for 2013-14 (\$/assessment)	\$ (2013-14)	569	4	213
		14 Typical residential bill for 2014-15 (\$/assessment)	\$ (2014-15)	587	3	550
		15 Typical developer charge for 2014-15 (\$/equivalent tenement)	\$ (2014-15)	9,900	1	582
		F4 16 Residential revenue from usage charges (% of residential bills)	%	76	2	5,500
		F5 17 Revenue per property - water (\$/property)	\$/prop	810	3	68
		18 Water Supply Coverage (% of Urban Population with reticulated WS)	% of population	99.5	3	73
		H6 18a Risk based drinking water quality plan?		Yes		99.6
		19 Physical compliance achieved? Note 10		Yes		
		19a Chemical compliance achieved? Note 10		Yes		
		H4 19b % population with chemical compliance		100	1	100
		20 Microbiological (E. coli) compliance achieved? Note 10		Yes	1	100
		H3 20a % population with microbiological compliance		100	1	100
		C9 25 Water quality complaints per 1000 properties	per 1,000 prop	0	1	2
		C10 26 Water service complaints per 1000 properties	per 1,000 prop	0.2	1	3
		C17 27 Incidence of unplanned interruptions per 1000 properties	per 1,000 prop	9	2	2
		C15 28 Average duration of interruption (min)	min	120	1	50
		A8 30 Number of water main breaks per 100 km of water main	per 100km	3	1	96
		31 Drought water restrictions (% of time)	% of time	0	1	150
		32 Total days lost (%)	%	3.4	4	113
		W12 33 Average annual residential water supplied - STATEWIDE (kL/property)	kL/prop	169	3	13
		33a Average annual residential water supplied - COASTAL LWUs (kL/property)	kL/prop	169	4	185
		33b Average annual residential water supplied - INLAND LWUs (kL/property)	kL/prop			
		A10 34 Real losses (leakage) (L/service connection/day)	L/connection/day	60	2	263
		35 Energy consumption per Megalitre (kiloWatt hours)	kWh	461	2	70
		36 Renewable energy consumption (% of total energy consumption)	%	360	3	79
		E12 36a Net greenhouse gas emissions - WS & Sae (net tonnes CO2 - equivalents per 1000 properties)	t CO2			
		F17 42 Current replacement cost per assessment (\$)	\$	15,600	4	16,500
		43 Economic real rate of return - Water (%)	%	1.2	3	1.2
		44 Return on assets - Water (%)	%	-0.2	5	1.9
		F22 45 Net Debt to equity - WS&Sqe (%)	%	14	1	1.1
		F23 46 Interest cover - WS&Sqe		1	3	11
		F24 47 Loan payment per property - Water (\$)	\$	523	1	4
		47b Net profit after tax - WS & Sge (\$'000)	\$'000	-3,200	5	2
		F11 48 Operating cost (OMA) per 100km of main (\$'000)	\$'000	1,450	4	64
		49 Operating cost (OMA) per property (\$/prop) Note 8	\$/prop	396	2	1180
		50 Operating cost (OMA) per kilolitre (cents)	c/kL			5345
		51 Management cost (\$/prop)	\$/prop	144	3	1,290
		52 Treatment cost (\$/prop)	\$/prop	76	4	400
		53 Pumping cost (\$/prop)	\$/prop	15	2	126
		54 Energy cost (\$/prop)	\$/prop	12	2	43
		55 Water main cost (\$/prop)	\$/prop	91	3	25
		F28 56 Capital Expenditure (\$/prop)	\$/prop	67	5	74
					4	181
						175

NOTES:

1 Col 2 rankings are on a % of LWUs basis - best reveals performance compared to similar sized LWUs (ie. Col 1 is compared with LWUs with >10,000 properties).

2 Col 3 rankings are on a % of LWUs basis - best reveals performance compared to all LWUs (ie. Col 1 is compared with all LWUs).

3 Col 4 (Statewide Median) is on a % of connected properties basis- best reveals statewide performance (gives due weight to larger LWUs & reduces effect of smaller LWUs).

4 Col 5 (National Median) is the median value for the 67 utilities reporting water supply performance in the National Performance Report 2013-14 ([www.bom.gov.au](http://www.bom.gov.au)).

5 LWUs are required to annually review key projections & actions in the later of their IWCM Strategy and financial plan and their Strategic Business Plan and to annually 'roll forward', review and update their 30-year total asset management plan (TAMP) and 30-year financial plan.

6 2014-15 Non-residential Tariff: Access Charge based on Meter Size: 40mm \$572, Two Part Tariff; Usage Charge 263c/kL.

7 Non-residential water supplied was 27% of potable water supplied excluding non-revenue water.

Non-residential revenue was 24% of annual rates and charges, indicating fair pricing of services between the residential and non-residential sectors.

8 The operating cost (OMA) per property was \$396. Components were: management (\$144), operation (\$114), maintenance (\$104), energy (\$12) & chemical (\$19).

9 Rehabilitations included 0.1% of water mains, 0.07% of service connections and 2.4% of water meters. Renewals expenditure was \$168,000/100km of main.

10 Compliance with ADWG 2011 for drinking water quality is shown as "Yes" if compliance has been achieved (indicators 19, 19a & 20).

11 Council has 2 fully qualified water treatment operators who meet the requirements of the National Certification Framework. 93% of employees received 2 or more days of training.

12 As Council's IWCM Strategy is over 6 years old, it will need to prepare a new 30-year IWCM Strategy, financial plan and report in accordance with the July 2014 IWCM Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

## Coffs Harbour City Council Water Supply TBL Report (Page 2)

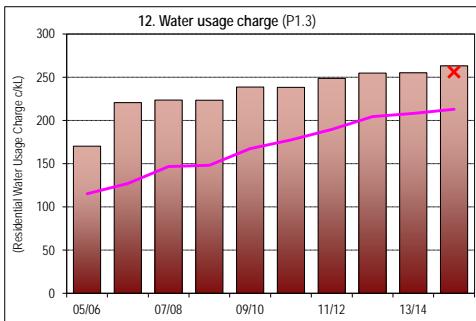
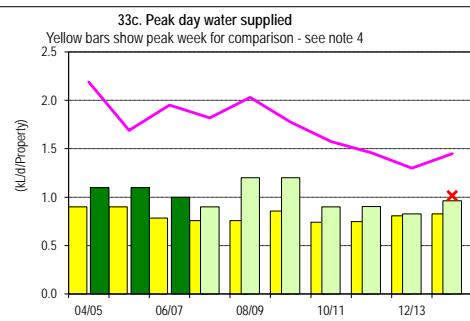
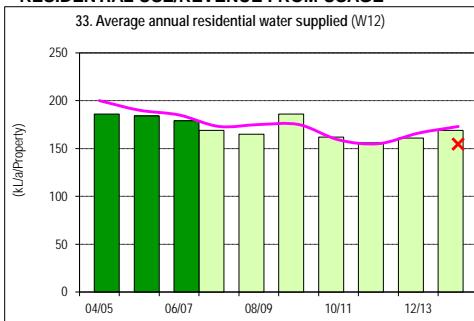
### Coffs Harbour City Council

### TBL Water Supply Performance (page 2)

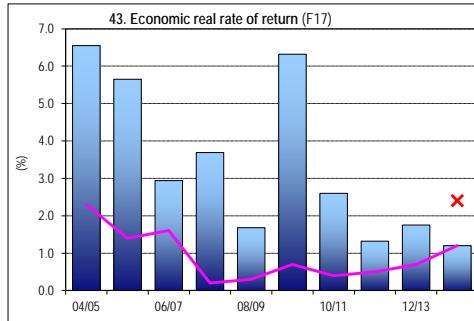
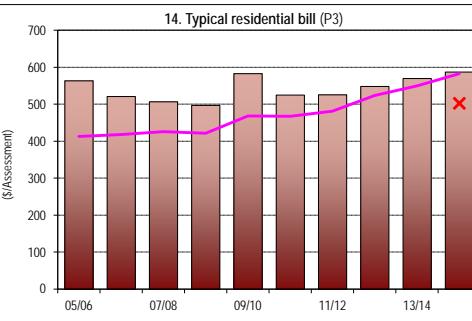
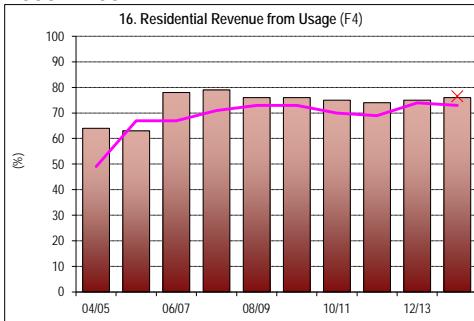
2013-14

(Results shown for 10 years together with 2013-14 Statewide Median and Top 20%)

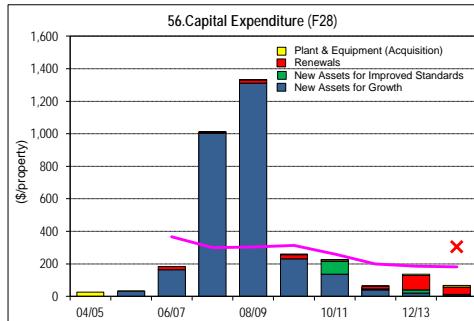
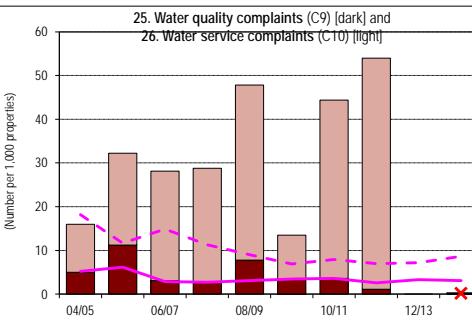
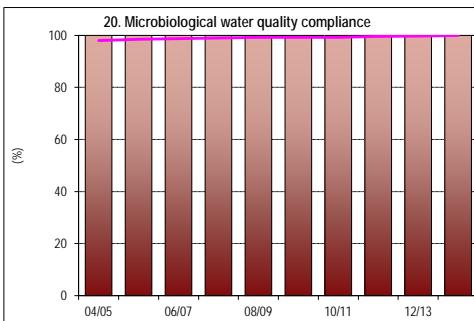
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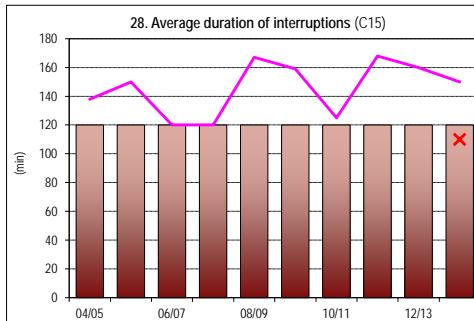
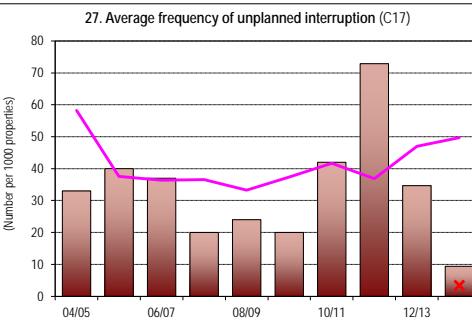
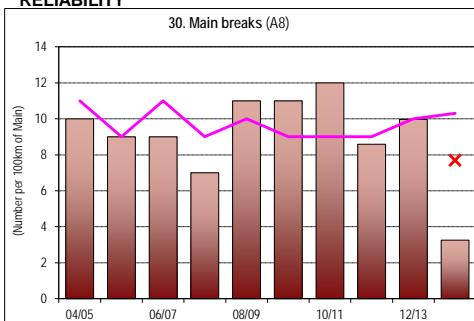
#### COST RECOVERY



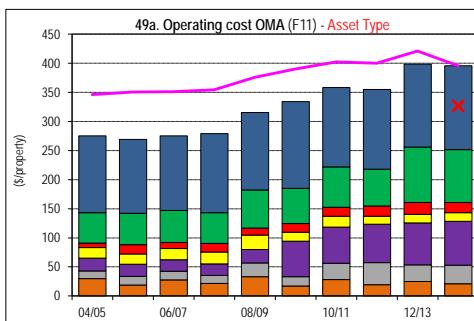
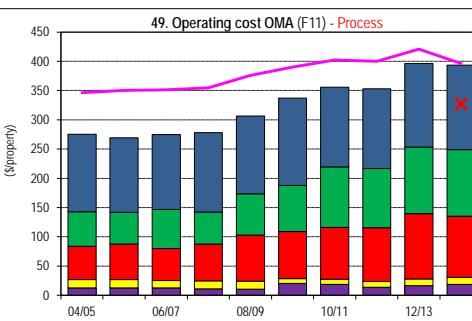
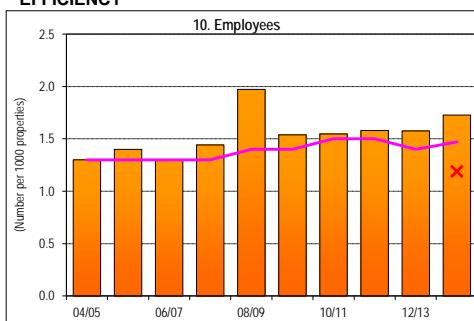
#### WATER QUALITY/CUSTOMER SERVICE/CAPITAL EXPENDITURE



#### RELIABILITY



#### EFFICIENCY



#### NOTES:

1. Costs are in Jan 2014\$ except for graphs 12 and 14, which are in Jan 2015\$.
2. Microbiological water quality compliance 1999-00 to 2003-04 was on the basis of 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines for E. coli; from 2004-05 to 2010-11 compliance was on the basis of the 2004 NHMRC/NRMMC Australian Drinking Water Guidelines (ADWG) and for 2011-12 to 2013-14 compliance was on the basis of the 2011 ADWG.
3. Indicators 33 and 33c - Green shading of bars shows % of time Drought Water Restrictions applied in each year:
4. Indicator 33c - Yellow bars show Peak Week Water Supplied for comparison with Peak Day Water Supplied shown in green.

LEGEND  
 State Median for all years   
 Top 20% for 2013-14

0 - 30%   
 30-50%   
 >50% of time

# Appendix C - 2013-14 Best-Practice Management Implementation

WATER UTILITY (sorted on connected properties)	WATER SUPPLY & SEWERAGE REVENUE (\$M)	WATER SUPPLY												SEWERAGE																					
		IMPLEMENTATION OF BPM REQUIREMENTS (see Note 1)												IMPLEMENTATION OF BPM REQUIREMENTS (see Note 1)																					
		(1) Strategic Business Plan		(2) Pricing and Developer Charges (Yes/No)					(3) Sound Water Conservation Plan implemented (Yes/No)		(4) Sound Drought Management Plan implemented (Yes/No)		(5) Complete performance Reporting by 15 September each year (Yes/No)		(6) Integrated Water Cycle Management Strategy Commenced (Yes/No)		(7) Overall implementation of all 10 requirements (Note 2) (%)		(8) Proposed Dividend from Surplus \$'000		(1) Strategic Business Plan		(2) Pricing and Developer Charges (Yes/No)					(3) Complete performance Reporting by 15 September each year (Yes/No)		(4) Integrated Water Cycle Management Strategy Commenced (Yes/No)		(7) Overall implementation of all 9 requirements (Note 3) (%)		(8) Proposed Dividend from Surplus \$'000	
		Complete	Current	20 to 30-year SBP & FP (Yes/No)	(2a) Full cost-recovery, minimal cross subsidies	(2b) Appropriate Residential Charges	(2c) Revenue from Residential Usage Charges >=75% (Note 8)	(2d) Appropriate Non-Residential Charges	(2e) DSP with Commercial Developer Charges	(3) Sound Water Conservation Plan implemented (Yes/No)	(4) Sound Drought Management Plan implemented (Yes/No)	(5) Complete performance Reporting by 15 September each year (Yes/No)	(6) Integrated Water Cycle Management Strategy Commenced (Yes/No)	(7) Overall implementation of all 10 requirements (Note 2) (%)	(8) Proposed Dividend from Surplus \$'000	Complete	Current	20 to 30-year SBP & FP (Yes/No)	(2a) Full cost-recovery, minimal cross subsidies	(2b) Appropriate Residential Charges	(2c) Appropriate Non-Residential Charges	(2d) DSP with Trade Waste Fees & Charges	(2e) Liquid trade waste regulation policy and approvals implemented	(3) Complete performance Reporting by 15 September each year (Yes/No)	(4) Integrated Water Cycle Management Strategy Commenced (Yes/No)	(7) Overall implementation of all 9 requirements (Note 3) (%)	(8) Proposed Dividend from Surplus \$'000								

## LWUs with &gt;10,000 Properties

1	Gosford	88.7	Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100	Yes+	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100	
2	Wyong	80.2	Yes*	Yes	Yes	Yes*	Yes	Yes	Yes	Yes	YesC	100	Yes*	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100	
3	Shoalhaven	63.6	Yes+	Yes	Yes	Yes*	Yes	Yes	Yes	Yes	YesC	100	1,420	Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
4	Rous (Bulk Supplier) (NO SGE)	22.5	Yes*	Yes				Yes	Yes	Yes	YesC	100												1,253
5	MidCoast	69.2	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
6	Tweed	68.1	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
7	Port Macquarie-Hastings (Unfiltered)	62.1	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesE	90	940	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesE	100
8	Riverina (Groundwater) (NO SGE)	27.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	90												
9	Wagga Wagga (NO WS)	16.6												Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesE	100
10	Coffs Harbour	47.7	Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100		Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
11	Albury City	36.8	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
12	Fish River WS (Bulk Supplier, No Sge)	10.0	Yes*	Yes					Yes	Yes		83												
13	Tamworth Regional	43.1	Yes*	Yes	Yes		Yes	Yes	Yes	Yes	YesC	90		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
14	Clarence Valley	30.4	Yes+	Yes	Yes		Yes	Yes	Yes	Yes	YesC	90		Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
15	Eurobodalla	34.3	Yes+	Yes	Yes	Yes*	Yes	Yes	Yes	Yes	YesC	100		Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
16	Wingecarribee	28.3	Yes*	Yes	Yes		Yes	Yes	Yes	Yes	YesC	90		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
17	Queanbeyan (Reticulator)	31.5	Yes*	Yes	Yes		Yes	Yes	Yes	Yes	YesE	90		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesE	100
18	Dubbo	32.0	Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100		Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
19	Orange	27.3	Yes*	Yes	Yes	Yes*	Yes	Yes	Yes	Yes	YesC	100		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
20	Goulburn Mulwaree	20.9	Yes	Yes	Yes		Yes	Yes	Yes	Yes	YesC	90		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
21	Bathurst Regional	25.6	Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100		Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
22	Lismore (Reticulator)	21.6	Yes	Yes	Yes	Yes*	Yes	Yes	Yes	Yes	YesC	100		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	89
23	Bega Valley (Unfiltered)	26.8	Yes*	Yes		Yes	Yes	Yes	Yes	Yes	Yes	80		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
24	Ballina (Reticulator)	26.8	Yes+	Yes	Yes		Yes	Yes	Yes	Yes	YesC	90		Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
25	Kempsey (Groundwater)	18.1	Yes+	Yes	Yes		Yes	Yes	Yes	Yes	YesC	90		Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
26	Essential Energy	21.3	Yes+	Yes	Yes	Yes*	Yes	Yes	Yes	Yes	YesC	100		Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
27	Byron (Reticulator)	24.4	Yes*	Yes	Yes	Yes*	Yes	Yes	Yes	Yes	YesC	100		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
28A	Goldenfields (Reticulator) (NO SGE)	13.5	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90												
28B	Goldenfields (Bulk) (NO SGE)	4.9	Yes*	Yes			Yes	Yes	Yes	Yes	Yes	86												
% of LWUs 'Yes' (>10,000 connected properties)		100%	100%	100%	64%	96%	96%	100%	96%	100%	89%	94% Overall	100%	100%	100%	96%	100%	100%	100%	100%	100%	100%	100%	100% Overall

## LWUs with 3,001 - 10,000 Properties

29	Armidale Dumaresq	13.9	Yes\*	Yes	90		Yes\*	Yes	89															


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# Appendix C - 2013-14 Best-Practice Management Implementation

WATER UTILITY (sorted on connected properties)			WATER SUPPLY & SEWERAGE REVENUE (\$M)	WATER SUPPLY												SEWERAGE											
				IMPLEMENTATION OF BPM REQUIREMENTS (see Note 1)												IMPLEMENTATION OF BPM REQUIREMENTS (see Note 1)											
				(1) Strategic Business Plan	(2) Pricing and Developer Charges (Yes/No)					(3) Sound Water Conservation Plan implemented (Yes/No)	(4) Sound Drought Management Plan implemented (Yes/No)	(5) Complete performance Reporting by 15 September each year (Yes/No)	(6) Integrated Water Cycle Management Strategy Commenced (Yes/No)	(7) Overall implementation of all 10 requirements (Note 2) (%)	(8) Proposed Dividend from Surplus \$'000	(1) Strategic Business Plan	(2) Pricing and Developer Charges (Yes/No)					(3) Complete performance Reporting by 15 September each year (Yes/No)	(4) Integrated Water Cycle Management Strategy Commenced (Yes/No)	(7) Overall implementation of all 9 requirements (Note 3) (%)	(8) Proposed Dividend from Surplus \$'000		
					(2a) Full cost-recovery, minimal cross subsidies	(2b) Appropriate Residential Charges	(2c) Revenue from Residential Usage Charges >=75% (Note 8)	(2d) Appropriate Non-Residential Charges	(2e) DSP with Commercial Developer Charges								(2a) Full cost-recovery, minimal cross subsidies	(2b) Appropriate Residential Charges	(2c) Revenue from Residential Usage Charges >=75% (Note 8)	(2d) Appropriate Non-Residential Charges	(2e) DSP with Commercial Developer Charges						
50	Cooma-Monaro		6.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
51	Forbes		5.0	Yes*	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
52	Snowy River (Unfiltered)		6.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
53	Berrigan (Dual Supply)		4.7	Yes*	Yes	Yes	Yes*		Yes	Yes	Yes	Yes	Yes	Yes	Yes		80		Yes*	Yes	Yes		Yes		Yes		56
54	Deniliquin		5.2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	100
55	Warrumbungle		4.0	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90		Yes	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	89
56	Yass Valley		5.3	Yes+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100		Yes+	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
% of LWUs 'Yes' (3,001 - 10,000 connected properties)			100%	100%	100%	75%	86%	93%	100%	100%	89%	94%	Overall		100%	100%	100%	81%	85%	93%	93%	100%	85%	93%	93%	Overall	
LWUs with 1,501 - 3,000 Properties																											
57	Wellington		4.7	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	YesC	89
58	Cootamundra (Reticulator)		3.6	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	80		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	89	
59	Lachlan		4.0	Yes*	Yes*	Yes	Yes	Yes	Yes	Yes*	Yes	Yes	Yes	Yes	Yes	100		Yes*	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	100	
60	Glen Innes Severn		3.2	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
61	Liverpool Plains		4.1		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesE	80		Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesE	89
62	Narramine (Groundwater)		2.7	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100		Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
63	Narrandera (Groundwater)		2.9	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	80		Yes*	Yes	Yes	Yes	Yes	Yes	Yes		67	
65	Murray (Dual Supply)		4.1	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesE	100		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	YesE	100
67	Cobar		3.8	Yes	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100		Yes	Yes*	Yes	Yes	Yes	Yes	Yes	YesC	100
66	Cobar WB		4.2	Yes*	Yes*											43											
68	Tenterfield		3.6	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90		Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100	
69	Temora (NO WS)		0.7															Yes*	Yes	Yes	Yes						56
70	Kyogle		2.4	Yes*	Yes*	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	90		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100
71	Palerang		4.5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90		Yes	Yes	Yes	Yes	Yes	Yes	Yes		89	
72	Bland (NO WS)		1.2															Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes		78
73	Upper Lachlan		3.0	Yes*	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	90		Yes*	Yes	Yes	Yes	Yes	Yes	Yes		89	
74	Wentworth (Dual Supply)		3.7	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesE	100		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	YesE	89
75	Coonamble (Groundwater)		1.6	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	80		Yes*	Yes	Yes	Yes	Yes	Yes	Yes		67	
76	Harden (Reticulator)		2.8	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	90		Yes*	Yes	Yes	Yes	Yes	Yes	Yes		78	
79	Walgett (Dual Supply)		2.4		Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesE	80		Yes	Yes	Yes						56
80	Greater Hume		2.8	Yes	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesE	100		Yes	Yes	Yes	Yes	Yes	Yes	YesE	100	
% of LWUs 'Yes' (1,501 - 3,000 connected properties)			89%	100%	95%	79%	89%	84%	84%	95%	100%	68%	88%	Overall		94%	94%	100%	89%	78%	89%	83%	100%	61%	88%	Overall	
LWUs with 200 - 1,500 Properties																											
77	Junee (NO WS)		0.7															Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes		44
78	Blayney (NO WS)		1.5																								

# Appendix C - 2013-14 Best-Practice Management Implementation

WATER UTILITY (sorted on connected properties)	WATER SUPPLY & SEWERAGE REVENUE (\$M)	WATER SUPPLY										SEWERAGE												
		IMPLEMENTATION OF BPM REQUIREMENTS (see Note 1)										IMPLEMENTATION OF BPM REQUIREMENTS (see Note 1)												
		(1) Strategic Business Plan	(2) Pricing and Developer Charges (Yes/No)					(3) Sound Water Conservation Plan implemented (Yes/No)	(4) Sound Drought Management Plan implemented (Yes/No)	(5) Complete performance Reporting by 15 September each year (Yes/No)	(6) Integrated Water Cycle Management Strategy Commenced (Yes/No)	(7) Overall implementation of all 10 requirements (Note 2) (%)	(8) Proposed Dividend from Surplus \$'000	(1) Strategic Business Plan	(2) Pricing and Developer Charges (Yes/No)					(3) Complete performance Reporting by 15 September each year (Yes/No)	(4) Integrated Water Cycle Management Strategy Commenced (Yes/No)	(7) Overall implementation of all 9 requirements (Note 3) (%)	(8) Proposed Dividend from Surplus \$'000	
		Complete Current 20 to 30-year SBP & FP (Yes/No)	(2a) Full cost-recovery, minimal cross subsidies	(2b) Appropriate Residential Charges	(2c) Revenue from Residential Usage Charges >=75% (Note 8)	(2d) Appropriate Non-Residential Charges	(2e) DSP with Commercial Developer Charges							Complete Current 20 to 30-year SBP & FP (Yes/No)	(2a) Full cost-recovery, minimal cross subsidies	(2b) Appropriate Residential Charges	(2c) Appropriate Non-Residential Charges	(2d) Appropriate Trade Waste Fees & Charges	(2e) DSP with commercial developer charges	(2f) Liquid trade waste regulation policy and approvals implemented				
102	Lockhart (NO WS)	0.4														Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesE	67
103	Central Darling (Dual Supply)	2.8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	78	
104	Boorowa	1.0	Yes	Yes*	Yes	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	89	
105	Brewarrina	1.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesC	100	Yes	Yes	Yes	Yes	Yes	Yes	YesC	78	
106	Jerilderie (Dual Supply)	0.7	Yes*	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	Yes	Yes	Yes	Yes	70	Yes*	Yes	Yes	Yes	Yes	Yes	Yes	78	
107	Urana (NO WS)	0.2													Yes*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	YesE	67
% of LWUs 'Yes' (200 - 1,500 connected properties)		82%	100%	100%	95%	64%	64%	77%	86%	100%	59%	83%	Overall	82%	86%	96%	61%	64%	64%	64%	100%	61%	75% Overall	
TOTAL 'YES' for large LWUs (>\$10M Revenue) <sup>6</sup>		33	33	31	22	29	31	33	32	33	31	19		30	30	30	28	29	29	29	30	30	26	
% of Large LWUs (33 WS LWUs and 30 SGE LWUs)		100%	100%	100%	67%	88%	94%	100%	97%	100%	94%	58%		100%	100%	100%	93%	97%	97%	97%	100%	100%	87%	
TOTAL 'YES' for remainder of LWUs (<\$10M Revenue) <sup>6</sup>		57	63	62	51	50	49	59	59	63	45	24		62	64	68	51	51	52	55	69	48	25	
% of Small LWUs (63 WS LWUs and 69 SGE LWUs)		90%	100%	100%	81%	79%	78%	94%	94%	100%	71%	38%		90%	93%	99%	74%	74%	75%	80%	100%	70%	36%	
TOTAL 'YES' for all LWUs		90	96	93	73	79	80	91	91	96	76	43		92	94	98	79	80	81	84	99	78	51	
% all LWUs		94%	100%	100%	78%	85%	83%	95%	95%	100%	79%	45%		93%	95%	99%	80%	81%	82%	85%	100%	79%	52%	
Overall Implementation for all WS Businesses														91%	Overall Implementation for all SGE Businesses								88%	

**Notes:**

- Best-Practice Management requirements are set out in "Best-Practice Management of Water Supply and Sewerage Guidelines August 2007" (BPMG).
- There are 10 requirements which must be satisfied for water supply. These are (1), (2a), (2b), (2c), (2d), (2e), (3), (4), (5) and (6) shown in the table above for water supply.
- There are 9 requirements which must be satisfied for sewerage. These are (1), (2a), (2b), (2c), (2d), (2e), (2f), (3) and (4) shown in the table above for sewerage.
- The level of implementation of the 19 planning, pricing and management requirements of the BPMG shown in the table above is from Notes 2 or 3 of the Special Purpose Financial Statements reported by each LWU in their Annual Financial Statements, supplemented by other data provided to the NSW Office of Water by the LWU. Documents which have met the requirements (including strategic business plans and IWCM evaluations and strategies) provided by LWUs to the NSW Office of Water by February 2015 are included in the results reported.
- As shown above and in Table 8C of the 2013-14 NSW Water Supply and Sewerage Benchmarking Report, 48 LWUs have completed their 30-year IWCM Strategy (shown as 'YesC' in columns (6) and (4) above) for water supply and sewerage respectively. A further 21 LWUs have completed an IWCM Evaluation, and are shown as 'YesE' above. A further 12 LWUs are currently preparing their IWCM Evaluation and are shown as 'Yes' above. The IWCM Evaluations and Strategies have been reviewed by the NSW Office of Water and found to be soundly based. Similarly, the strategic business plans and trade waste policies shown as Yes above have been reviewed by the NSW Office of Water and found to be soundly based. However, the water conservation and drought management plans have only been briefly examined to confirm that they address the required issues.
- The revenue for LWUs with water supply only or sewerage only is shown left justified above. For these LWUs, the relevant revenue to be classified as a "large LWU" is \$5M.
- For requirement (2c) utilities with 4,000 or more connected properties which obtained 70% to 74% of residential revenue from usage charges are shown as Yes\*. Yes\* is also shown for Wyong and Essential Energy, whose prices are determined by IPART. Yes\*\* is shown for Eurobodalla which obtained 64% of its residential revenue from usage charges as the Minister has approved replacement of the 75% requirement with 70% (due to the high incidence of holiday houses, which are unoccupied for most of the year). Utilities with fewer than 4,000 connected properties serve 11% of the connected properties in regional NSW and are only required to achieve 50% for requirement (2c). Such utilities which have obtained 45% to 49% residential revenue from water usage charges are shown as Yes\*. 30 LWUs (65%) with 4,000 or more properties have met this requirement, as have 43 LWUs (91%) with fewer than 4,000 properties. Bulk water suppliers are not required to meet requirements (2b), (2c) or (2d) which refer to residential water tariffs.
- Yes\* for requirement (1) indicates that as the strategic business plan and financial plan for these 55 LWUs are now over 4 years old, the LWU needs to prepare a new 30-year IWCM Strategy and financial plan in accordance with the July 2014 IWCM Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)). Similarly, the 16 LWUs whose IWCM Strategy is over 6 years old [shown as Yes+] need to prepare such a new IWCM Strategy, financial plan and report [column 34 on page 87]. Refer also to pages 4, 22 and 23.
- Yes\* for requirement (2a) for water supply or for sewerage indicates that the LWU has significantly increased their 2014/15 charges in order to recover their costs. Refer also to page 104.
- Yes\* for requirement (2e) for water supply or for sewerage indicates that the LWU has commercial developer charges in place but is yet to complete and implement its Development Servicing Plan (DSP). Yes<sup>e</sup> for these requirements indicates the LWU is exempt from the requirement to prepare a DSP due to low growth (under 5 lots/ha).
- Yes\* for requirement (2f) for sewerage indicates that the LWU has adopted a trade waste policy before 2009, which needs significant updating.
- As shown above, the overall levels of implementation of the requirements of the Best-Practice Management Guidelines for water supply (for all 10 requirements) were: 94% for LWUs with >10,000 properties; 94% for LWUs with 3,001 - 10,000 properties; 88% for LWUs with 1,501 - 3,000 properties and 83% for LWUs with 200 - 1,500 properties respectively. The overall level of implementation for water supply for all LWUs was 91%.
- As shown above, the overall levels of implementation of the requirements of the Best-Practice Management Guidelines for sewerage (for all 9 requirements) were: 100% for LWUs with >10,000 properties; 93% for LWUs with 3,001 - 10,000 properties; 88% for LWUs with 1,501 - 3,000 properties and 75% for LWUs with 200 - 1,500 properties respectively. The overall level of implementation for sewerage for all LWUs was 88%.
- The overall implementation of requirements for water supply and sewerage was 90%.

# Appendix D - 2013-14 NSW Water Utility Performance Summary

WATER UTILITY	CHARACTERISTICS		BILLS / PRICING						HEALTH				LEVELS OF SERVICE				ENVIRONMENT				FINANCIAL						EFFICIENCY		BPM								
	Water Supply Connected Properties (No.) <sup>4</sup>	Total Urban Water Supplied (ML) <sup>2,3</sup>	Residential Revenue from Usage Charges (%)	Typical Residential Bill			Typical Developer Charge WS & SGE	Current Replacement Cost WS & SGE	Water Quality Compliance (2011 ADWG)			Water Quality Complaints WS	Ave Duration of Unplanned Interruption WS (per 1000 props)	Water Main Breaks WS (per 1000 props)	Total Complaints WS & SGE (No./1000 props)	Average Annual Residential Water Supplied WS (per 1000 props)	Real Water Loss WS	Sge Treated that was Compliant (L / connection / d)	Sge Mains Breaks & Chokes (No. per 100km of main)	Effluent Recycled SGE	Total Revenue WS & SGE (\$M) <sup>3,8</sup>	Net Debt to Equity WS & SGE (%)	Capital Expenditure		Economic Real Rate of Return		Full Cost Recovery		Operating Cost OMA		Best Practice Implementation						
				WS	SGE	WS & SGE			E.coli Compliance		Chemical Compliance			WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS								
				Achieved? Note 12	% Pop'n with Compliance Note 11	Achieved? Note 11			% Pop'n with Compliance (10) H3		% Pop'n with Compliance (12) H4			(13) C9	(14) C15	(15) A8	(16) C13	(17) W12	(18) A10	(19) E4	(20) A14	(21) W27	(22) W26	(23) F1+F2	(24) F22	(25) F28 + F29	(26) F16	(27) F17	(28) F18	(29) F11	(30) F11	(31) F12	(32) F12	(33) F12	(34) F12		
				(9)	(10)	(11)			(13) C9		(14) C15			(15) A8	(16) C13	(17) W12	(18) A10	(19) E4	(20) A14	(21) W27	(22) W26	(23) F1+F2	(24) F22	(25) F28 + F29	(26) F16	(27) F17	(28) F18	(29) F11	(30) F11	(31) F12	(32) F12	(33) F12	(34) F12				
Sydney Water	1,848,000	541,492	79	572	571	1,142			Yes	100	Yes	100	0.4	151	30	3	206	81	100	61	10	46,943	2,530	96	323	587	1.9	1.4		401	264						
Hunter Water	235,835	73,725	96	402	606	1,008			Yes	100	Yes	100	3.4	128	30	6	181	82	100	54	8	4,895	302	78	469	109	3.5	1.8		229	340						
Water NSW		551,686																																			
<i>LWUs with &gt; 10,000 Properties</i>																																					
1 Gosford	71,480	16,530	76	475	576	1,051	4,160	43,800	Yes	100	Yes	100	15	311	22	17	161	120	100	37	0	32	88.7	6	577	40.5	0.8	-0.1	Y	Y*	367	404	100	Yes+			
2 Wyong	61,430	14,800	67*	518	458	976	5,450	37,300	Yes	100	Yes	100	5	200	17	23	158	30	100	54	6	962	80.2	10	431	26.4	1.4	-0.4	Y	Y*	319	354	100	Yes*			
3 Shoalhaven	46,980	14,700	74	317	714	1,031	14,900	26,100	Yes	100	Yes	100	0.3	220	10	1	148	60	95	8	32	2,352	63.6	0	538	23.7	0.9	2.2	Y	Y	274	478	100	Yes+			
4 Rous (BS) (NO SGE)	46,780	1,480				8,860	9,300	Yes	100	Yes	100	0.6	195	121								22.5	4		5.5	1.7				238		100	Yes*				
5 MidCoast	38,560	9,560	75	565	920	1,485	15,000	35,300	Yes	100	Yes	94	3	8	7	150	60	96	6	25	1,439	69.2	23	302	11.3	0.7	2.8	Y	Y	411	491	100	Yes*				
6 Tweed	31,840	9,770	77	553	691	1,244	18,600	42,500	Yes	100	Yes	100	5	149	8	40	184	60	83	1	9	604	68.1	2	418	13.1	2.4	1.7	Y	Y	423	505	100	Yes*			
7 Port Macquarie-Hastings (UF)	30,100	6,670	69*	550	704	1,254	14,400	31,400	Yes	100	Yes	100	7	174	15	31	157	40	82	30	4	363	62.1	-5	316	8.9	1.7	2.9	Y	Y	386	494	95	Yes*			
8 Riverina (GW) (NO SGE)	29,550	15,790	76	532		4,800	11,200	Yes	100	Yes	100	3	173	19	10	324	80				27.3	-7	209	6.2	5.3				338		90	Yes					
10 Coffs Harbour	24,890	6,530	76*	569	783	1,352	18,900	41,200	Yes	100	Yes	100	0	120	3	0	169	60	100	76	27	1,436	47.7	14	434	10.3	1.2	0.5	Y	Y	396	610	100	Yes+			
11 Albury	23,590	7,880	79	349	561	910	7,560	31,500	Yes	100	Yes	100	3	124	10	5	232	60	73	75	55	2,468	36.8	-2	254	5.7	1.7	4.2	Y	Y	306	429	100	Yes*			
12 Fish River WS (UF,BS) (NO SGE)	23,500	6,770							Yes	100	Yes	100	0	600	80							10.0	0		1.0	15.6				143		83	Yes*				
13 Tamworth Regional	21,420	10,280	64	638	738	1,376	6,390	31,500	Yes	100	Yes	100	0.2		7	78	287	90	100	74	87	4,128	43.1	-2	1,012	20.6	3.3	2.5	Y	Y	536	471	95	Yes*			
14 Clarence Valley	21,410	6,550	67	427	907	1,334	12,500	39,000	Yes	100	Yes	100	23		13	101	161	110	73	45	7	176	30.4	10	694	10.8	0.7	2.3	Y	Y	380	495	95	Yes+			
15 Eurobodalla	19,570	3,610	64	631	844	1,475	21,100	40,500	Yes	100	Yes	100	0.9	190	13	3	119	50	100	30	7	216	34.3	1	364	6.7	0.4	1.0	Y	Y	423	565	100	Yes+			
16 Wingecarribee	18,960	5,450	69	474	71																																

# Appendix D - 2013-14 NSW Water Utility Performance Summary

WATER UTILITY	CHARACTERISTICS		BILLS / PRICING					HEALTH				LEVELS OF SERVICE				ENVIRONMENT					FINANCIAL					EFFICIENCY		BPM																		
	Water Supply Connected Properties (No.) <sup>4</sup>	Total Urban Water Supplied (ML) <sup>2,3</sup>	Residential Revenue from Usage Charges (%)	Typical Residential Bill			Typical Developer Charge WS & SGE	Current Replacement Cost WS & SGE	Water Quality Compliance (2011 ADWG)			Water Quality Complaints WS (per 1000 props)	Aveg Duration of Unplanned Interruption WS (mins)	Water Main Breaks WS & SGE (No./1000 props)	Total Complaints WS (per 1000 props)	Real Water Loss WS (kL/connected prop)	Sge Treated that was Compliant WS (%)	Sge Mains Breaks & Chokes WS (%)	Effluent Recycled		Total Revenue WS & SGE (\$M) <sup>3,8</sup>	Net Debt to Equity WS & SGE (%)	Capital Expenditure		Economic Real Rate of Return		Full Cost Recovery		Operating Cost OMA		Best Practice Implementation															
				WS	SGE	WS & SGE			E.coli Compliance		Chemical Compliance																																			
				Achieved? Note 12	% Pop'n with Compliance Note 11	Achieved? Note 12			E.coli Compliance		Chemical Compliance																																			
				(9)	(10) H3	(11)			(13) C9	(14) C15	(15) A8	(16) C13	(17) W12	(18) A10	(19) E4	(20) A14	(21) W27	(22) W26	(23) F1+F2	(24) F22	(25) F28 + F29	(26) F16	(27) F17	(28) F18	(29)	(30)	(31) F11	(32) F12	(33)	(34)																
37	Inverell	5,500	1,780	49	548	440	988	14,300	30,000	Yes	100	Yes	100	0.5	60	3	13	183	50	99	36	0	6.7	-7	139	0.7	1.0	0.6	Y	547	272	68	Yes*													
38	Moree Plains (GW)	4,570	3,280	76*	1,066	565	1,631	11,300	29,800	Yes	93	Yes	100	6	60	52	133	618	160	100	52	69	874	9.2	9	81	0.4	3.9	0.3	Y	707	473	100	Yes*												
39	Cowra	5,260	2,860	77	824	781	1,605	12,700	34,800	Yes	100	Yes	100	5	180	22	68	239	120	67	148	100	565	8.6	6	714	3.5	0.1	3.1	Y	722	418	100	Yes*												
40	Central Tablelands (NO SGE)	5,450	1,730	68	613		8,330	20,921	Yes	100	Yes	100	2	180	10	14	192	70					5.2	-4	87	0.5	1.0		Y	552		90	Yes													
41	Muswellbrook	5,790	3,250	71	597	568	1,165	13,040	26,800	Yes	100	Yes	100	20	234	33	25	287	60	63	1	94	905	11.4	-22	1,352	7.7	0.1	5.0	Y	715	394	100	Yes+												
42	Corowa	5,450	3,990	81*	490	625	1,115	2,740	18,300	Yes	100	Yes	100	3	120	7	39	261	150	100	36	19	166	8.1	-9	134	0.7	1.7	3.3	Y	479	384	89	Yes+												
43	Tumut	4,450	1,550	58	487	620	1,107	10,500	24,200	Yes	100	Yes	100	3	120	13	32	225	70	100	44	12	110	6.8	1	153	0.7	1.2	1.5	Y	411	451	95	Yes*												
44	Gunnedah (GW)	4,460	2,970	75	570	456	1,026	15,000	27,800	Yes	99	Yes	99	0	180	6	37	400	70	100	32	85	580	6.7	-21	316	1.4	3.6	2.7	Y	429	233	100	Yes												
45	Upper Hunter	4,400	2,390	75*	1,005	454	1,459	9,950	29,300	Yes	100	Yes	100	2	50	21	71	400	90	100	15	1	11	7.4	-11	434	1.9	2.0	-1.9	Y	720	495	100	Yes												
46	Narrabri (GW)	4,490	2,880	62	607	615	1,222	8,440	33,600	Yes	100	Yes	100	32	90	118	198	378	290	100	0	68	487	8.0	-22	222	1.0	6.8	1.0	Y	453	408	79	Yes*												
47	Bellingen (UF)	4,080	1,360	77	417	725	1,142	11,100	30,400	Yes	100	Yes	100	0.2	120	5	26	163	190	100	20	0	5.9	-20	324	1.1	1.4	0.3	Y	363	637	100	Yes													
48	Leeton	3,910	2,580	65	663	480	1,143	9,500	32,600	Yes	100	Yes	100	0	120	9	1	434	150	100	25	2	13	5.6	-20	477	1.7	-0.4	-0.7	Y	632	461	100	Yes*												
49	Young (R)	4,730	1,130	66	623	720	1,343	2,330	25,800	Yes	100	Yes	100	2	120	21	12	173	50	94	51	21	109	6.0	6	1,921	7.3	-2.0	2.9	Y*	230	307	89	Yes												
50	Cooma-Monaro	3,670	1,210	55*	668	781	1,449	13,700	36,400	Yes	100	Yes	100	3	180	9	92	250	50	100	77	32	184	6.4	-7	841	2.9	0.2	1.0	Y	599	561	100	Yes												
51	Forbes	3,680	2,410	63	477	466	943	10,400	33,800	Yes	100	Yes	100	4	120	21	49	359	90	75	79	1	10	5.0	-15	567	1.9	-1.7	0.8	Y*	623	470	100	Yes*												
52	Snowy River (UF)	5,230	820	42	546	840	1,386	17,080	32,100	Yes	100	Yes	100	2	120	21	37	93	80	79	15	11	58	6.6	-6	735	3.6	1.1	1.4	Y	340	392	95	Yes												
53	Berrigan (DS)	3,520	2,550	49*	773	464	1,237	7,300	22,100	Yes	100	Yes	100	3	60	14	68	427	90	100	77	86	540	4.7	-16	148	0.5	2.6	0.8	Y	455	309	68	Yes*												
54	Deniliquin	3,510	1,930	54*	654	750	1,404	8,460	25,700	Yes	100	Yes	100</																																	

# Appendix D - 2013-14 NSW Water Utility Performance Summary

WATER UTILITY	CHARACTERISTICS		BILLS / PRICING						HEALTH				LEVELS OF SERVICE				ENVIRONMENT				FINANCIAL						EFFICIENCY		BPM						
	Water Supply Connected Properties	Total Urban Water Supplied	Residential Revenue from Usage Charges	Typical Residential Bill			Typical Developer Charge	Current Replacement Cost	Water Quality Compliance (2011 ADWG)	Water Quality Complaints	Ave Duration of Unplanned Interruption	Water Main Breaks	Total Complaints	Average Annual Residential Water Supplied	Real Water Loss	Sge Treated that was Compliant	Sge Mains Breaks & Chokes	Effluent Recycled		Total Revenue	Net Debt to Equity	Capital Expenditure		Economic Real Rate of Return		Full Cost Recovery		Operating Cost OMA		Best Practice Implementation					
				WS	SGE	WS & SGE			E.coli Compliance																			Chemical Compliance							
				Achieved?	% Pop'n with Compliance	Achieved?			Note 12																			Note 11	Note 10	Note 9					
				(\$)	(\$)	(\$)			(\$/ET)																			(\$/assmnt)	(\$)	(\$)					
				(1) C4	(2) W11	(3) F4			(4) P3																			(5) P6	(6) P8	(7)					
<i>LWUs with 200 - 1,500 Properties</i>																																			
81	Gwydir	1,470	1,020	75	861	500	1,361	4,000	17,500	Yes	100	Yes	100	19	180	30	20	393	100	100	93	14	38	2.2	-6	124	0.2	6.0	5.7	Y	Y	456	250	89	Yes+
83	Oberon (R)	1,340	640	57	536	446	982	2,970	24,200	Yes	100	Yes	100	3	120	8	17	140	90	100	26	100	350	2.1	-4	120	0.2	-0.5	-1.3	Y*	Y*	913	563	84	Yes
84	Gulgandra (GW)	1,350	820	68*	664	515	1,179		24,600	Yes	100	Yes	100	13	90	21	85	492	140	100	35	100	257	1.8	-12	330	0.4	0.8	0.6	Y	Y*	417	330	89	Yes*
85	Uralla	1,430	340	59	682	495	1,177	1,370	18,000	Yes	100	Yes	100	4	120	8	34	199	20	54	29	0		1.4	-9	0		0.1	-1.4	Y	Y*	478	377	63	
86	Hay (DS)	1,330	1,430	86*	886	634	1,520		33,400	Yes	100	Yes	100	0	120	106	51	1,019	50	100	81	0		2.0	-16	150	0.2	-0.7	0.9	Y*	Y	650	460	79	Yes*
87	Bourke (DS)	1,380	1,600	86*	1,186	618	1,804	1,760	28,700	Yes	100	Yes	100	0	45	80	122	1,114	90	60	129	0		2.5	-17	41	0.1	-0.9	1.1	Y*	Y	1063	394	94	Yes
88	Wakool (DS)	1,500	770	73*	885	561	1,446	5,620	44,500	Yes	100	Yes	100	5	60	7	72	507	50	100	0	0		2.2	-8	524	0.6	0.1	-0.3	Y	Y	647	361	73	Yes
89	Bogon	1,140	870	60	1,133	540	1,673		39,600	Yes	100	Yes	100	0	95	23	66	381	350	100	0	44	80	2.4	-14	171	0.2	-0.6	2.5	Y*	Y	1263	432	100	Yes
90	Gyra	1,240	640	70	682	561	1,243	2,540	36,300	Yes	100	Yes	100	8.1	180	5	43	263	110	85	11	0		1.9	-6	65	0.1	0.1	0.1	Y	Y	655	347	79	Yes*
91	Cabonne	1,160	340	62	488	465	953	11,800	51,500	Yes	100	Yes	100	0.9	150		23	180	80	82	32	37	107	2.5	-4	567	0.8	-0.8	-0.7	Y*	Y*	555	500	100	Yes
92	Carrathool (GW)	1,280	860	57	615	375	990	1,730	23,500	Yes	100	Yes	100	2	180	22	77	392	70	100	65	1		2.0	-4	1,027	1.3	0.9	0.6	Y	Y	982	205	52	
93	Tumbarumba	1,160	370	56*	727	541	1,268	920	45,000	Yes	76	Yes	100	0	180	3	9	203	90	100	0	0		1.6	-5	976	1.0	-0.2	1.1	Y*	Y	443	318	100	Yes*
94	Gundagai	980	820	74*	579	544	1,123	3,900	31,000	Yes	100	Yes	100	8	60	11	50	354	100	100	14	100	234	1.6	-11	69	0.1	0.6	2.8	Y	Y	586	438	78	Yes*
96	Warren (DS)	960	790	65*	793	485	1,278		28,400	Yes	100	Yes	100	9	120	110	96	797	90	52	176	1	2	1.1	-20	314	0.3	-1.0	-3.6	Y*	N	551	541	89	Yes
97	Bombala	890	180	30*	633	543	1,176	4,030	56,800	Yes	100	Yes	100	11	40	33	46	188	40	44	40	21	43	1.0	-14	162	0.1	-1.2	-1.3	Y*	Y	516	334	64	
98	Walcha	920	190	69	576	425	1,001		25,900	Yes	100	Yes	100	0			34	154	60	67	37	0		1.0	-8	76	0.1	-0.9	0.9	Y*	Y	635	427	79	Yes*
100	Balranald (DS)	910	580	74*	664	269																													

## Notes

1. This table shows the key 2013-14 performance indicators for NSW water utilities. More detailed indicators are shown in Tables 6 to 18 and Figures 1 to 68 of the 2013-14 NSW Water Supply and Sewerage Benchmarking Report.
2. **No WS** = not responsible for water supply; **No SGE** = not responsible for sewerage; **BS** = bulk supplier; **DS** = dual supply; **GW** = groundwater; **UF** = unfiltered; **R** = reticulator.
- For LWUs with No WS or No SGE, results are shown left justified and are not included in the median calculation for water supply and sewerage. NWI indicator numbers are shown in bold below the column number (eg. column (1), NWI indicator **C4**).
3. Where an LWU has not reported an item for 2013-14, the value previously reported has been used where available. Such values are shown in this table in **italics bold**.
4. The number of connected properties shown in column (1) for LWUs with "No WS" is the number of sewerage connected properties.
5. **NSW Water Utilities**  
In NSW there are 109 water utilities comprising:
  - ◆ 4 metropolitan water utilities (Sydney and Hunter Water Corporations, Water NSW (from 1 January 2015, formerly Sydney Catchment Authority (SCA)) and Hawkesbury Council), and
  - ◆ 105 regional Local Water Utilities (LWUs).
 The 105 LWUs comprise:
  - ◆ 100 local government councils (under *Local Government Act 1993*),
  - ◆ 5 LWUs (Gosford Council, Wyong Council, Cobar WB, Fish River WS, Essential Energy) under the *Water Management Act 2000*.
 Of the 105 LWUs,
  - ◆ 96 were responsible for water supply (including 3 for bulk supply - Cobar WB, Fish River WS & Rous Water)
  - ◆ 99 were responsible for sewerage.
  - ◆ 90 were responsible for both water supply and sewerage, 6 for water supply only and 9 for sewerage only.
6. **Totals for Regional NSW**  
The totals shown below are for regional NSW and therefore exclude Sydney and Hunter Water Corporations, Water NSW and Hawkesbury Council. The totals exclude double-counting where bulk water suppliers are involved.
  - ◆ **Number of water supply connected properties** in regional NSW was 841,000 (col (1)).
  - ◆ **Total annual urban water supplied** was 306,000 ML (column (2)).
  - ◆ **Total revenue** for water supply and sewerage was \$1,360M (column (23)).
  - ◆ **Total current replacement cost (CRC)** of WS and SGE assets was \$27,600M, with a median of \$33,200 per assessment (column (8)).
7. **Statewide medians (regional LWUs):**
  - ◆ **Residential revenue from water usage charges** - Median is 73% (column (3)), which has increased from 20% to 73% over the past 19 years due to LWU tariff reform and strong pricing signals to encourage efficient water use (page 5).
  - ◆ **Typical residential bill (TRB)** for water and sewerage - \$1175/assessment for 2013-14 (column (6)).  
The water supply TRB was \$550 (column (4)) and the sewerage TRB was \$625 (column (5)).
  - ◆ **Typical developer charge** for water and sewerage - \$10,200/ET for 2013-14 (column (7) and Appendices E and F).
  - ◆ **Water quality complaints** - 3 per 1000 properties (column (13)).
  - ◆ **Average duration of unplanned interruptions** for water supply - 150 minutes (column (14)).
  - ◆ **Water main breaks** - 10 breaks per 100km of main (column (15)).
  - ◆ **Total water supply and sewerage complaints** - 21 per 1000 properties (column (16)).
  - ◆ **Average annual residential water supplied** - 173kL/connected property (col (17)). This has decreased by 48% since 1991 (page 5).
  - ◆ **Real water loss** - 70 L/connection/d (column (18)).
  - ◆ **Median sewage volume that was compliant** - 100% (column (19)).
  - ◆ **Median sewerage main breaks and chokes** - 37 per 100km of main (column (20)).
8. **Statewide medians (financial):**
  - ◆ **Economic real rate of return (ERRR)** for water supply and sewerage was 1.3% (page 12).  
The water supply ERRR was 1.2% and the sewerage ERRR was 1.5% (columns (27) and (28)).
  - 100% of LWUs are achieving full cost recovery for water supply and 95% are achieving full cost recovery for sewerage (columns (29) & (30)).
  - The remaining 5 sewerage utilities which are not achieving full cost recovery need to do so. Refer also to Appendices E and F.
  - ◆ **Net debt/equity** for water and sewerage was 1% (column (24)).

8. **Statewide medians (financial)** continued from left:
  - ◆ **Operation, maintenance & administration cost (OMA)** for water supply was \$400 and sewerage was \$430 (cols (31) & (32)). OMA includes part of the OMA cost of the bulk water supplier but excludes the purchase cost of water. However, NWI indicator F11 includes the purchase cost of water and therefore may differ from column (31). Refer to page 101 of Appendix G.
  - ◆ **Management cost** for water supply and sewerage - \$301/connected property. Water supply management cost was \$140 and sewerage management cost was \$161 per connected property.
  - ◆ **Capital expenditure** for water supply and sewerage - \$374/property (column (25)). The total capital expenditure for water supply and sewerage was \$400M (column (26)).
9. **Category 1 Businesses** - 67 LWUs are Category 1 businesses (ie. with an annual revenue of over \$2M) as defined in the *NSW Government's Policy Statement on Application of National Competition Policy to Local Government, June 1996*. 66 such LWUs are responsible for water supply and 50 such LWUs are responsible for sewerage.
10. **Pay-for-use water supply tariff** - All of the 93 LWUs providing reticulated water have a pay-for-use water supply tariff (Appendix E) (ie. a two-part tariff or an inclining block tariff). Such tariffs comply with IPART recommendations and the *COAG Strategic Framework for Water Reform*.
11. **Physical and chemical water quality** - 98.4% of the 4,600 physical samples and 99.4% of the 4,500 chemical samples tested for NSW LWUs achieved 100% compliance with the *2011 Australian Drinking Water Guidelines (ADWG)*. All LWUs complied with chemical quality (health related) and are shown as 'Yes' in column (11) (pages 7, 8, 38, 39 and 101). All LWUs complied with physical quality (page 8). The results shown for H4 in column 12 are based on population.
12. **Microbiological water quality** - E.coli contamination is the primary health-related indicator.
  - ◆ **E.coli** - 99.8% of the 20,200 samples tested for NSW LWUs achieved 100% compliance with the 2011 ADWG. All LWUs complied with these guidelines and are shown as 'Yes' in column (9). The public drinking water supply for 99.9% of the urban population in regional NSW complied with both the microbiological and chemical requirements of the 2011 ADWG (columns (10) and (12)).
13. **Compliance with EPA Discharge Licence for Sewerage**
  - ◆ **BOD** - 97% of the 4,024 sampling days for NSW LWUs achieved 100% compliance with the 90-percentile limit of their EPA licence for BOD (Biochemical Oxygen Demand). 92% of LWUs complied with the EPA licence for BOD.
  - ◆ **SS** - 94% of the 4,024 sampling days for NSW LWUs achieved 100% compliance with the 90-percentile limit of their EPA licence for SS (Suspended Solids). 82% of LWUs complied with their EPA licence for SS. 16 LWUs had no EPA discharge licence limit.
14. **Best-Practice implementation** - overall the LWUs have implemented 90% of the requirements of the NSW Best-Practice Management Framework (column 33).
15. **Strategic Business Plans** (page 4) - 98 LWUs (93%) have completed a sound 30-year water and/or sewerage Strategic Business Plan, which includes a 30-year total asset management plan and a 30-year financial plan (column 34). These LWUs have demonstrated the long term financial sustainability of their water supply and sewerage businesses to comply with National Competition Policy. These plans cover over 99% of the connected properties in regional NSW. As the plans of 55 of these utilities are now over 4 years old (shown as "Yes" in column 34), these utilities now need to prepare a 30-year IWCM Strategy, financial plan and report in accordance with the July 2014 IWCM Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)). Similarly, the 16 LWUs whose IWCM Strategy is over 6 years old [shown as Yes<sup>+</sup>] need to prepare such a new IWCM Strategy, financial plan and report [column 34].
16. **Total Urban Water Supplied** of 306,000 ML(column (2)) comprises 269,000 ML potable water, 26,000 ML non-potable water and 12,000ML recycled water. Similarly, the average annual residential water supplied (column 3) includes non-potable & recycled water.
17. **Reuse of recycled water** comprised 43,000ML which is 27% of the volume of sewage collected and was carried out by 84% of utilities, mostly for agriculture (columns 21 & 22). Refer also to pages 53 and 76.
18. **National Water Initiative (NWI) Indicators** - The 32 NSW water utilities with over 10,000 connected properties (3 metropolitan utilities and 29 regional utilities) are required to report their performance under the NWI. The results that have met the rigorous NWI auditing requirements have been published in the *National Performance Report 2013-14*. Refer also to Notes 12 and 13 on page 34.
19. The performance indicators for Sydney and Hunter Water Corporations and Water NSW were obtained from the *National Performance Report 2013-14 for Urban Water Utilities* ([www.bom.gov.au](http://www.bom.gov.au)).

## Appendix E - Water supply - residential charges, bills & cost recovery

WATER UTILITY	RESIDENTIAL CHARGES															Billing (2006 National Guidelines)	Operating Cost (OMA) (%) Implementation	Typical Residential Bill based on Col(14b) (Includes Special Levies)	COST RECOVERY															Full Cost Recovery? (FCR, Y/Y%)	Total Connected Properties (15) C4 (13d) 13/14																						
	Type of Tariff	Fixed Charge (or Minimum) (\$)	Special Levies (\$)	Usage Charge (for Step 1 and Step 2)								Step 1 Step 2																																													
				Step 1				Step 2																																																	
				Step (kL) (5a) P1.3	Charges (c/kL) (5b) P1.3	Step (kL) (5c) P1.4	Charges (c/kL) (5d) P1.4																																																		
				13/14 P1	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14	14/15 12/13 13/14																										
	Sydney Water	Two Part	Two Part	139	125	114		All	All	All	219	217	223			100	100				572	572	573			2.4	1.9	1.9	78	79	198	206	198	206		Y	1,840,000																				
	Hunter Water	Two Part	Two Part	19	17	18		All	All	All	208	213	219			100	100				395	402	414			2.2	2.8	3.5	95	96	176	181	176	181		Y	23,853,500																				
<i>LWUs with &gt; 10,000 Properties</i>																																																									
1	Gosford	Two Part	Two Part	99	126	150		All	All	All	212	217	223			100	100	176	170	156	1,230	1,310	2,320	446	475	509	-1.5	-0.2	0.0	-0.5	0.7	0.8	76	76	156	161	156	161	182	Y	71,480,000																
2	Wyong	Two Part	Two Part	167	170	172		All	All	All	212	217	223			100	100	123	131	117	2,820	2,840	3,570	519	518	523	-1.3	-0.2	0.0	1.1	1.2	1.4	67*	67*	155	157	166	158	167	Y	61,430,000																
3	Shoalhaven	Two Part	Two Part	81	81	81		<450	All	All	155	160	160	>450		100	100	101	92	87	6,580	6,580	6,580	310	317	317	1.2	2.0	1.6	0.5	1.2	0.9	76	74	147	147	148	148	198	Y	46,980,000																
4	Rous (Bulk Supplier) (No Sge)																	73	96	96	8,650	8,860	9,090				0.3	0.8	1.2	1.0	1.1	1.7						Y	46,780,000																		
5	MidCoast	Inclining Block	Inclining Block	174	180	205		<200	<200	<200	250	257	270	>200	>200	>200	279	288	302	97	97	223	190	166	5,650	5,820	5,980	531	565	609	-3.7	-1.5	-0.7	-2.2	0.1	0.7	75	75	143	150	143	150	178	Y	38,500,000												
6	Tweed	Inclining Block	Inclining Block	128	138	148		<300	<300	<300	205	225	245	>300	>300	>300	310	340	370	90	100	143	149	138	12,150	12,580	12,910	489	553	600	-0.3	-0.2	1.7	0.5	0.6	2.4	75	77	176	184	176	184	199	Y	31,840,000												
7	Port Macquarie-Hastings (Unfiltered)	Inclining Block	Inclining Block	163	173	183		<270	<270	<270	227	241	255	>270	>270	>270	454	482	510	33	33	168	168	172	9,610	9,760	9,800	516	550	582	0.7	-0.2	1.8	0.6	-0.5	1.7	73	69*	155	157	155	157	146	Y	30,100,000												
8	Riverina (Groundwater) (No Sge)	Inclining Block	Inclining Block	120	140	160		<500	<500	<500	110	121	133	>500	>500	>500	166	183	200	100	100	75	71	63	3,800	4,800	4,930	483	532	591	1.5	3.6	5.6	1.5	3.5	5.3	77	76	330	324	330	324	339	Y	29,550,000												
10	Coffs Harbour	Inclining Block	Inclining Block	135	139	143		<365	<365	<365	248	255	263	>365	>365	>365	372	383	395	100	100	127	146	149	9,190	9,680	9,940	534	569	587	-0.3	0.6	-0.2	1.3	1.8	1.2	75*	76*	161	169	161	169	153	Y	24,890,000												
11	Albury City	Inclining Block	Inclining Block	90	94	113		<225	<225	<225	92	107	118	>225	>225	>225	187	206	216	100	100	99	92	86	3,400	3,400	3,000	344	349	393	-1.0	0.8	1.9	-1.1	0.7	1.7	79	79	250	232	250	232	276	Y	23,590,000												
12	Fish River WS (Bulk Supplier) (No Sge)			MAQ	MAQ	MAQ																															Y	23,500,000																			
13	Tamworth Regional	Inclining Block	Inclining Block	235	242	248		<400	<400	<400	134	138	142	400-800	400-800	400-800	201	207	213	80	80	129	110	105	4,400	4,510	4,630	580	638	655	2.7	1.9	3.6	2.3	1.5	3.3	60	64	258	287	258	287	340	Y	21,420,000												
14																																																									

Medians (% of LWUs basis excl bulk suppliers) for >10,000 Properties 170 174 203 212 121 5,715 584 0.01 14 0.7 14 70 70 172 174 172 174 196 0.1% without FCR

LWUs with 3,001 - 10,000 Properties																																													
Region	Local Government Area	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type	Block Type																
29	Armidale Dumaresq	Inclining Block	Inclining Block	225	220	215		<400	<400	<400	236	241	241	400-1000	400-1000	400-1000	313	320	320	10	10	194	119	154	5,210	5,520	5,470	845	756	751	0.9	2.7	0.9	1.0	2.7	1.0	8	8	23	223	272	231	237	Y	8,590
30	Griffith	Inclining Block	Inclining Block	126	129	129		<200	<200	<200	60	63	65	>200	>200	>200	111	120	125	15	15	89	78	70	3,550	4,420	5,160	635	621	641	-0.1	1.0	1.0	-0.4	0.4	0.7	8*	8*	55	505	572	525	408	Y	8,900
31	Lithgow	Inclining Block	Inclining Block	125	135	150		<250	<250	<250	270	284	296	>250	>250	>250	405	426	445	40	40	266	185	162	2,230	2,230	2,700	712	662	699	1.1	0.9	3.5	1.1	1.2	2.0	8*	8	28	186	218	184	Y	8,070	
32	Mid Western Regional	Two Part	Two Part	120	135	140		All	All	All	254	265	275				30	30		170	158	148	7,840	8,030	8,250	606	676	701	0.3	2.9	2.5	0.4	3.1	2.6	8	8*	19	204	191	204	240	Y	7,930		
33	Richmond Valley	Inclining Block	Inclining Block	114	120	127		<200	<200	<200	176	185	194	>200	>200	>200	264	278	292			128	121	113	4,950	4,950	5,040	439	427	448	-0.5	0.8	0.3	-0.7	0.4	0.3	75	76	18	166	184	166	171	Y	7,150
34	Nambucca (Groundwater)	Two Part	Two Part	100	109	128		All	All	All	246	281	290							125	119	143	11,770	12,030	12,360	442	490	521	2.5	2.9	1.3	1.8	2.3	2.1	78	79	13	135	139	135	149	Y	6,340		
35	Singleton	Inclining Block	Inclining Block	165	171	149		<450	<450	<450	100	103	122	>450	>450	>450	185	191	226	100	100	104	105	107	4,930	5,100	5,230	447	477	511	2.5	4.5	3.7	0.9	1.2	1.3	56	71*	28	297	282	297	250	Y	6,740
36	Parkes	Inclining Block	Inclining Block	225	225	215		<400	<400	<400	145	155	165	>400	>400	>400	280	300	310	70	70	73	77	75	10,540	10,960	11,300	629	608	623	1.6	4.5	3.5	0.2	1.5	0.9	66*	67	27	247	279	251	260	Y	5,940
37	Inverell	Inclining Block	Inclining Block	310	320	330		<500	<500	<500	120	124	130	>500	>500	>500	140	144	150			170	169	165	10,570	10,830	11,150	530	548	569	0.2	0.7	1.3	-0.1	0.5	1.0	74	74	18	183	183	183	211	Y	5,500
38	Moree Plains (Groundwater Dual S)	Inclining Block	Inclining Block	245	270	270		<750	<750	<750	116	131	144	>750	>750	>750	150	169	186	60	60	100	103	98	6,486	6,650	4,000	661	1066	1146	-1.3	0.2	3.0	-0.1	1.4	3.9	71	76*	35	608	367	618	625	Y	4,570
39	Cowra	Two Part	Two Part	287	186	186		<400	All	All	205	286	286	>400						130	119	122	7,120	7,360	7,360	712	824	824	0.7	2.2	0.4	1.0	2.5	0.1	76*	77	20	223	226	239	321	Y	5,260		
40	Central Tablelands (No Sge)	Inclining Block	Two Part	200	200	200		<450	<450	All	199	215	225	>450	>450		299	323		80	80	167	152	160	8,730	8,330	8,560	601	613	632	-1.3	0.7	0.9	-1.0	0.7	1.0	68*	68	20	192	201	192	162	Y	5,450
41	Muswellbrook	Inclining Block	Inclining Block	175	175	175		<350	<350	<350	140	147	152	>350	>350	>350	210	220	228	100	100	113	118	123	3,090	6,190	6,350	550	597	611	2.9	3.7	1.9	1.4	2.3	0.1	69*	71	28	287	268	287	318	Y	5,790
42	Corowa	Two Part	Inclining Block	200	200	100		All	All	<450	105	111	160							66	59	64	730	730	910	517	490	518	2.1	4.1	2.3	1.1	3.5	1.7	63*	81*	30	261	302	261	348	Y	5,450		

## Appendix E - Water supply - residential charges, bills & cost recovery

## *LWUs with 1,501 - 3,000 Properties*

57	Wellington	Inclining Block	Inclining Block	346	358	366	<300	<300	<300	187	193	197	300-500	300-500	300-500	190	196	201	100	100	159	162	163	4,640	4,600	4,600	712	730	746	-1.5	2.6	3.3	0.2	4.1	4.6	5.5	5	5	196	193	193	211	Y'	2,910											
58	Cootamundra (Reticulator)	Two Part	Two Part	284	302	312	All	All	All	165	178	184				20	30	106	72	46	5,870	6,160	6,470	622	686	709	6.3	1.9	4.3	6.3	1.9	4.3	55*	5*	5*	205	216	216	225	28	Y'	3,000													
59	Lachlan	Inclining Block	Inclining Block	278	288	308	<450	<450	<450	180	190	203	>450	>450	>450	275	285	305	100	100	116	111	115	5,800	5,800	5,800	1337	1401	1498	-0.7	-0.3	-0.7	-1.2	-0.8	-1.2	79*	79*	79*	541	541	541	554	554	622	Y*	2,830									
60	Glen Innes Severn	Inclining Block	Inclining Block	250	260	270	<450	<450	<450	192	198	205	>450	>450	>450	288	298	308				187	190	220	3,470	2,720	2,790	505	551	571	-3.2	0.0	0.3	-2.7	0.7	1.2	52	5	5	133	147	133	147	167	Y'	2,950									
61	Liverpool Plains	Inclining Block	Inclining Block	543	559	575	<300	<300	<300	116	120	125	>300	>300	>300	191	197	203	50	50	148	153	193	10,690	10,690	10,690	762	791	816	0.9	1.3	1.3	0.6	1.1	1.3	40	4	4	189	193	189	237	Y'	2,790											
62	Narromine (Groundwater)	Two Part	Two Part	174	183	193	All	All	All	100	105	110							91	92	93	65	77	4,240	4,380	4,500	886	700	735	2.4	5.4	6.5	-0.1	3.7	4.8	30*	4	4	712	493	716	493	482	Y'	2,120										
63	Narrandera (Groundwater)	Two Part	Two Part	250	258	266	All	All	All	97	99	102										62	59	44	1,000	1,000	1,750	609	752	775	10.5	1.2	8.4	6.7	9.6	5.5	63	6*	6*	370	499	370	499	56	Y'	2,070									
65	Murray (Dual Supply)	Two Part	Two Part	238	250	262	All	All	All	83	87	91										99	77	111	2,130	2,730	2,810	695	568	595	1.2	3.7	4.4	1.3	3.6	4.3	66*	5*	5*	262	172	556	287	310	Y'	3,100									
65	Murray (Non Potable)	Two Part	Two Part	88	92	97	All	All	All	63	66	69																									244	15				3,100													
67	Cobar	Inclining Block	Inclining Block	220	227	233	<450	<450	<450	115	200	205	450-550	450-550	450-550	200	290	300				129	158	224	1,510	1,160	1,160	660	992	1017	0.9	2.6	-0.1	0.8	2.6	-0.2	77*	9	9	382	382	464	464	46	Y*	2,260									
66	Cobar WB																					54	58	69																									Y*						
68	Tenterfield	Inclining Block	Inclining Block	361	379	398	<450	<450	<450	188	197	207	>450	>450	>450	216	227	238				260	222	213	4,500	5,500	5,000	623	675	709	-3.5	-0.8	1.8	-3.4	-0.7	1.8	42*	4*	4*	139	150	139	150	193	Y'	2,100									
70	Kyogle	Inclining Block	Inclining Block	283	321	340	<200	<200	<200	120	120	130	>200	>200	>200	180	180	180	90	90	239	236	197	2,570	2,570	2,850	444	492	525	0.4	-0.1	-1.6	0.6	0.1	-1.4	42	2	2	134	143	134	143	175	Y*	1,910										
71	Palerang	Inclining Block	Inclining Block	384	397	407	<200	<200	<200	202	208	214	>200	>200	>200	318	328	337	100	100	231	238	233	8,700	9,000	9,330	740	732	752	5.4	0.9	0.3	4.8	0.8	0.8	50	5	5	176	161	176	161	173	Y'	2,210										
73	Upper Lachlan	Inclining Block	Inclining Block	370	393	413	<200	<200	<200	226	240	256	>200	>200	>200	300	318	339	90	90	229	211	269	3,530	3,700	3,700	683	722	764	0.5	5.2	1.7	0.3	4.5	1.7	54	5	5	138	137	138	137	25	Y'	1,970										
74	Wentworth (Dual Supply)	Inclining Block	Inclining Block	250	260	265	<250	<250	<250	120	120	120	>250	>250	>250	280	280	280				95	122	105	2,440	2,400	2,520	568	617	627	3.2	5.0	4.6	2.7	4.5	4.7	55	5*	5*	60	74	350	407	612	Y'	2,270									
74	Wentworth (Non Potable)	Inclining Block	Inclining Block	130	135	140	<700	<700	<700	40	40	40	>700	>700	>700	110	110	110																												2,270									
75	Coonamble (Groundwater)	Inclining Block	Inclining Block	121	145	170	<370	<370	<370	44	49	55	>370	>370	>370	67	74	90				68	67	52	670	670	880	225	348	400	1.1	2.3	0.3	-1.7	0.9	-0.8	73	3	3	236	399	236	399	469	Y'	1,660									
76	Harden (Reticulator)	Inclining Block	Inclining Block	338	350	358	<450	<450	<450	201	210	215	>450	>450	>450	300	314	321</td																																					

## *LWILs with 200 - 1,500 Properties*

LWUS with 200 - 1,500 Properties																																														
ID	Name	Supply			Demand			Demand			Demand			Demand			Demand			Demand			Demand			Demand			Demand																	
		Inclining Block	Inclining Block	390	390	390		<600	<600	<600	120	120	125	>600	>600	>600	195	195	195	25	25	100	112	66	2,000	2,000	2,000	74	861	881	2.2	1.7	4.5	3.2	3.0	6.0	48*	75	295	393	295	33	527	Y	1,470	
81	Gwydir							All	All	All	176	193	213				184	193	86	1,230	1,310	1,350	507	536	591	-0.2	-0.4	-0.8	-0.2	-0.4	-0.5	60	57	151	140	151	140	140	Y*	1,340						
83	Oberon (Reticulator)			Two Part	Two Part	241	265	292																																						
84	Gilgandra (Groundwater)			Two Part	Two Part	205	212	219				All	All	All	92	95	98				10	10	65	50	69		63	64	686	1.0	1.5	1.4	0.1	0.8	0.8	68*	68*	465	476	482	492	561	Y	1,350		
85	Uralla			Two Part	Two Part	259	283	295				All	All	All	175	200	210				96	100	216	222	199	850	880	910	589	682	714	-0.9	-0.1	0.4	-0.9	-0.3	0.1	57*	59	189	199	189	199	242	Y	1,430
86	Hay (Dual Supply)			Inclining Block	Inclining Block	122	126	129				<300	<300	<300	103	106	108	>300	>300	>300			70	62	59		849	886	908	0.4	-0.1	-0.5	0.1	-0.4	-0.7	86*	86*	166	155	96	109	1369	Y*	1,330		

## Appendix E - Water supply - residential charges, bills & cost recovery

NOTES: 1. Residential Revenue from Usage Charges: Where this is marked \*, it has been calculated from the projected typical residential bill for the 2014/15 financial year as this provides a higher value than the result for the 2013/14 financial year.

30 LWUs with 4,000 or more properties (65%) obtained at least 70% of residential revenue from water usage charges (column 13). This includes Wyong and Essential Energy, who have been granted a deemed compliance as their prices are regulated by IPART, and Eurobodalla, who has Ministerial approval for a 70% requirement due to their high incidence of unoccupied holiday houses (refer also to note 7 on page 86). 43 LWUs (91%) with fewer than 4,000 properties obtained at least 45% of their residential revenue from usage charges.

2. The charges, bills and costs shown for each financial year are those applicable at that time and involve no CPI adjustment. Column (5e) shows that 46% of LWUs now have residential water billing in accordance with the National Guidelines for Residential Customers' Water Accounts. A further 18% of LWUs have made significant progress towards such billing.

3. Dual Water Supplies: 11 LWUs had a dual water supply to over 50% of their residential customers with a potable supply for indoor use and a non-potable supply for outdoor use (refer to General Notes - Note 8 on page 31).

4. Average Annual Residential Water Supplied (Dual Supplies): The 11 Dual Supply LWUs are shown on two rows. The first row is labelled Dual Supply while the second row is labelled Non-Potable.

The first row in column (14a) shows the **potable** average Annual Residential Water Supplied while the second row in column (14b) shows the **non-potable** Average Annual Residential Water Supplied (see also Note 8 on page 31).

The total potable plus non-potable Average Annual Residential Water Supplied is shown in the first row in column (14b) and column (14c).

5. Median Annual Residential Water Supplied: The median Average Annual Residential Water Supplied (potable plus non-potable) has fallen by 48% over the last 23 years to 173 kL/property (169 L/person/d)

6. Full Cost Recovery has been achieved by all 96 LWUs. These comprise 75 utilities which had either an Economic Real Rate of Return or Return on Assets of  $\geq 0$  for the 2013/14 financial year (shown as "Y" in col (14d)).

They also include 21 utilities which have significantly increased their 2014/15 charges in order to recover their costs (shown as "Y\*").

There has been a 4% increase in the Average Annual Residential Water Supplied since 2012-13 to 173kL/property which has increased the water supply revenue of some LMUs.

# Appendix F - Sewerage - Residential Charges & Bills, Cost Recovery

WATER UTILITY	RESIDENTIAL CHARGES						NON-RESIDENTIAL CHARGES						Typical Residential Bill (\$/Equivalent Tenement [ET])	Typical Developer Charge (\$/assessment)	COST RECOVERY												
	Fixed Charge (\$) (or Minimum)			Operating Cost (OMA)			Non-Res Sewer Usage Charge		Liquid Trade Waste Charges		Non-Res & Trade Waste				Return on Assets		Economic Rate of Return (Sewerage)		Full Cost Recovery?	Recycled Water Usage Charge	Sewage Collected	Connected Properties					
	(\$)			(c/kL)			(Not including SDF)		Usage Charge		Appropriate TW Charges ?		Charges (% of Annual Charges)		Volume (% of sge collected)		(%)		(%)	(c/k)	(kL/prop)	(No.)					
	(1)	P4.1		(2)			(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)				
	12/13	13/14	14/15	11/12	12/13	13/14	13/14	14/15	13/14	14/15	13/14	14/15	13/14	13/14	12/13	13/14	14/15	12/13	13/14	14/15	11/12	12/13	13/14				
Sydney Water	570	571	592				130	120		184	Y	Y				552	571	592			1.6	1.4	1.4	Y	178	26	17,900

## *LWUs with > 10,000 Properties*

LWSS with > 10,000 Properties																															
1	Gosford	535	576	612	134	189	181	107	99	162	167	Y	Y	18	18	2,650	2,850	1,940	535	576	612	-0.1	-0.4	-0.2	-0.1	-0.4	-0.1	Y*	13	23	6,978
2	Wyong	463	516	471	112	126	144	86	83	83	126	Y	Y	12	25	2,500	2,610	4,990	463	458	471	-0.4	-0.2	-0.3	-0.4	-0.2	-0.4	Y*	12	24	6,032
3	Shoalhaven	678	714	750	216	255	239	120	130	161	164	Y	Y	14	17	8,340	8,340	8,340	678	714	750	1.6	1.4	1.6	2.1	1.9	2.2	Y	20	41	8,999
5	MidCoast (Combined)	920	920	948	215	263	304	238	245	243	250	Y	Y	15	21	8,890	9,150	9,400	920	920	948	0.9	1.3	1.3	2.2	2.8	2.8	Y	16	35	10,404
6	Tweed	650	691	732	154	175	229	130	140	190	200	Y	Y	16	26	5,840	6,040	6,200	650	691	732	1.0	0.5	1.5	1.0	0.6	1.7	Y	21	30	3,037
7	Port Macquarie-Hastings	674	704	736	103	145	160	106	111	150	155	Y	Y	5	6	4,450	4,650	3,530	674	704	736	1.4	0.7	2.6	1.1	0.6	2.9	Y	11	38	27,500
9	Wagga Wagga	434	434	434	150	188	191	200	200	170	175	Y	Y	31	14	3,500	3,500	3,730	434	434	434	0.0	-0.3	-0.5	0.6	0.5	0.3	Y	18	28	26,290
10	Coffs Harbour	760	783	806	164	199	267	200	206	158	163	Y	Y	21		8,790	9,260	9,940	760	783	806	0.6	-0.4	-0.4	1.6	0.1	0.5	Y		28	23,540
11	Albury City	489	561	639	177	205	210	265	283	158	166	Y	Y	25	30	4,160	4,160	4,000	489	561	639	0.5	2.2	3.9	0.9	2.6	4.2	Y		24	21,940
13	Tamworth Regional	716	738	758	141	152	192	112	115	168	172	Y	Y	24	55	1,830	1,880	1,930	716	738	758	1.0	0.9	1.6	2.1	1.8	2.5	Y	6	24	19,350
15	Eurobodalla	816	844	865	291	296	324	166	170	133	136	Y	Y	13	13	9,590	9,830	10,080	816	844	865	1.0	0.7	0.6	1.6	1.1	1.0	Y		14	18,020
17	Queanbeyan	365	414	470	176	205	172	83	94	180	204	Y	Y	14	16	1,310	1,330	1,390	365	414	470	-1.9	-1.0	3.6	-3.5	-2.2	2.6	Y		26	16,670
19	Orange	349	384	423	115	137	163	179	202	179	202	Y	Y	23	24	3,960	4,500	4,600	349	384	423	1.6	2.2	2.7	0.7	1.2	1.7	Y		29	16,470
18	Dubbo	615	652	690	197	204	200	187	198	161	165	Y	Y	3	35	5,180	5,340	5,450	615	652	690	2.1	2.3	3.4	1.7	1.8	2.7	Y		15	16,020
16	Wingecarribee	662	711	739	123	151	237	135	130	161	165	Y	Y	14	24	7,830	8,030	8,250	662	711	739	0.5	0.8	0.6	1.1	1.4	1.1	Y		25	15,600
14	Clarence Valley	829	907	988	203	232	287	275	299	255	260	Y	Y	17	10	7,300	7,480	7,670	829	907	988	0.2	-0.3	0.6	1.2	1.1	2.3	Y		12	14,640
21	Bathurst Regional	433	456	479	125	137	139	125	135	200	210	Y	Y	36	34	4,680	4,820	4,970	433	456	479	0.4	1.1	2.2	0.0	0.7	1.8	Y		29	15,450
24	Ballina	674	734	807	169	201	306	186	205	148	163	Y	Y	20		7,260	7,470	7,700	674	734	807	0.2	-0.2	-0.2	0.4	0.6	1.4	Y		22	13,940
22	Lismore	701	738	772	116	128	159			103	Y	Y	20	23	8,080	8,310	10,330	701	738	772	-0.5	1.0	0.3	-0.8	0.5	0.2	Y		23	12,760	
23	Bega Valley	1045	1081	1109	369	455	425	321	369	100	100	Y	Y	9	35	9,450	10,500	11,070	1045	1081	1109	0.7	-0.7	-0.1	1.2	-0.2	0.4	Y		13	12,180
27	Byron*	735	758	780	173	171	217	229	231	229	220	Y	Y	25	30	9,980	12,580	18,810	1013	1060	1093	0.0	-1.5	1.3	2.3	1.2	3.9	Y	1	30	10,490
26	Essential Energy	497	497	511	257	234	225	119	122	190	196	Y	Y	22	40				497	497	511							Y*	17	14	9,720
20	Goulburn Mulwaree	675	699	724	237	215	211	273	283	240	250	Y	Y	30	29	3,840	3,930	4,470	675	699	724	4.0	5.6	5.6	4.3	5.8	5.6	Y		15	10,570
25	Kempsey	680	736	791	158	216	275	179	192	179	192	Y	Y	24	21	7,420	7,630	7,840	680	736	791	-0.6	-1.2	-1.1	0.0	-0.6	-0.4	Y*	18	19	9,740

Medians (% of LWUs basis excl bulk suppliers)

738 214 *23 out of 24 have non-res sewer usage charges*

24 out of 24 have trade waste charges

62

72

13

17

OLWLs d

## What can we achieve?

CD

1 WIIs with 3 001 - 10 000 Properties

LWUS with 5,001 - 10,000 Properties																															
Rank	Local Government Area	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033												
29	Armidale Dumaresq	368	379	379	148	164	124		145	145	Y	Y	34	29	4,640	4,870	4,870	368	379	379	1.4	0.5	2.1	0.9	-0.1	1.8	Y		62	838	
31	Lithgow*	488	836	836	132	155	222	155	155	160	160	Y	Y	10		1,790	1,790	2,160	767	836	836	0.2	1.8	1.8	1.9	-3.5	1.7	Y		26	7,488
30A	Hawkesbury	570	584	602	166	238	204		119	123	Y	Y	27	31	8,050	8,250	8,460	570	584	602	-1.6	0.1	-0.2	-1.9	-0.2	-0.4	Y*	163	269	7,655	
30	Griffith	708	729	750	254	199	209	141	144	116	119	Y	Y	23	14	2,050	3,100	3,620	708	729	750	1.6	0.6	0.3	1.5	1.6	1.3	Y		274	7,011
33	Richmond Valley	829	870	896	190	220	230	191	197	146	157	Y	Y	17		24,320	8,000	8,000	829	870	896	0.1	1.6	0.9	1.5	2.9	2.5	Y		422	6,655
32	Mid Western Regional	586	651	697	152	198	258	208	223					13	26	3,560	3,650	3,770	586	651	697	1.4	2.8	1.1	1.0	3.3	1.8	Y		160	7,155
34	Nambucca	448	588	580	145	178	214	364	330	169	174	Y	Y	28	8	8,890	9,090	9,340	448	588	580	-0.1	1.5	0.0	0.5	-1.1	0.4	Y		198	5,711
35	Singleton	441	468	480	122	142	161	157	161	144	148	Y	Y	24		2,960	3,060	3,140	441	468	480	6.0	3.6	5.6	3.7	5.3	2.9	Y		190	5,622
37	Inverell	427	440	454	131	106	111							8	8	3,420	3,510	3,610	427	440	454	0.2	1.1	1.3	0.2	0.5	0.6	Y		245	4,711
41	Muswellbrook	550	568	581	214	212	233	185	191	125	128	Y	Y	17		5,460	6,850	7,030	550	568	581	5.3	11.9	6.0	4.2	10.7	5.0	Y		169	5,722
36	Parkes	400	412	424	102	127	149	116	120	175	180	Y	Y	26	20	4,100	4,100	3,250	400	412	424	3.9	5.2	3.2	3.1	3.1	1.4	Y		232	5,033
42	Corowa	600	625	668	287	249	230	120	128	162	166	Y	Y	16	7	2,010	2,010	2,000	600	625	668	1.2	2.0	2.8	1.0	2.5	3.3	Y		167	5,211

# Appendix F - Sewerage - Residential Charges & Bills, Cost Recovery

WATER UTILITY	RESIDENTIAL CHARGES				NON-RESIDENTIAL CHARGES								Typical Residential Bill	COST RECOVERY																	
	Fixed Charge (\$) (or Minimum)	Operating Cost (OMA)			Non-Res Sewer Usage Charge		Liquid Trade Waste Charges			Non-Res & Trade Waste		Typical Developer Charge			Return on Assets		Economic Real Rate of Return (Sewerage)		Full Cost Recovery?	Recycled Water Usage Charge	Sewage Collected	Connected Properties									
		(\$) (1) P4.1			(Not including SDF) (c/kL) (3a)		Usage Charge (c/kL) (3b)		Appropriate TW Charges ? (4)		Charges (% of Annual Charges) (5)		Volume (% of sge collected) (6)		(\$/Equivalent Tenement [ET]) (7)		(\$/assessment) (8) P6		(%) (9)		(%) (11) F18		(FCR) (Y/Y*/N) (11a)	(c/kL) (11b)	(kL/prop) (11c) W19	(No.) (12) C8 13/14					
		12/13	13/14	14/15	11/12	12/13	13/14	13/14	14/15	13/14	14/15	13/14	14/15	13/14	12/13	13/14	14/15	12/13	13/14	14/15	11/12	12/13	13/14	13/14	13/14						
38	Moree Plains	650	565	630	162	184	137	152	116	163	168	Y	Y	35	15	4,530	4,670	4,700	650	565	630	1.3	0.4	0.2	1.4	0.3	0.3	Y	10	344	4,080
44	Gunnedah	422	456	492	96	111	133	146	152	135	146	Y	Y	28	18	6,580	6,810	7,050	422	456	492	2.7	3.2	3.5	1.6	2.3	2.7	Y		176	3,960
46	Narrabri	590	615	677	173	184	223			200	200	Y	Y	7	28	4,680	5,080	5,210	590	615	677	2.2	5.5	1.5	1.6	4.6	1.0	Y		183	3,940
43	Tumut	600	620	635	195	218	206	180	185			Y	Y	26		5,200	5,000	5,130	600	620	635	0.7	2.0	2.1	0.0	1.6	1.5	Y		219	4,220
49	Young	700	720	720	75	97	229			156	156	Y	Y	21	33	1,250	1,280	1,350	700	720	720	12.8	5.1	1.3	11.5	5.3	2.9	Y		134	3,800
39	Cowra	755	781	781	175	222	262	73	73	155	159	Y	Y	22		5,190	5,360	5,360	755	781	781	0.7	1.3	1.5	3.2	3.5	3.1	Y		160	3,540
45	Upper Hunter	439	454	477	165	170	185	88	92			Y	Y	17	7	2,300	2,300	1,540	439	454	477	-0.5	1.9	-1.0	-1.8	0.9	-1.9	Y*		267	4,090
52	Snowy River	780	840	900	432	315	421	288	308	175	175	Y	Y	35	41	5,400	9,400	5,160	780	840	900	0.5	0.1	1.2	0.1	0.0	1.4	Y	100	93	4,740
51	Forbes	452	466	644	175	285	219	141	147	65	67	Y	Y	22	36	3,850	3,980	4,080	452	466	644	1.1	-1.6	0.9	0.9	-1.8	0.8	Y		215	3,180
50	Cooma-Monaro	751	781	820	201	255	311			170	170	Y	Y	15		6,800	7,000	7,170	751	781	820	0.2	1.1	1.4	-0.3	0.6	1.0	Y		180	3,250
53	Berrigan	382	464	477	122	214	170							18	10	1,750	1,800	1,850	382	464	477	-1.0	-2.0	1.9	-2.4	-2.9	0.8	Y	26	182	3,520
48	Leeton	465	480	492	145	162	231	78	80	171	177	Y	Y	32	18	5,000	5,000	5,100	465	480	492	1.0	1.0	0.4	-0.6	-0.5	-0.7	Y		199	3,270
54	Deniliquin	750	750	770	220	246	236	130	130	162	166	Y	Y	21	7	4,580	4,700	4,650	750	750	770	1.1	5.5	4.7	0.5	5.3	5.0	Y		177	3,180
Medians (% of LWUs basis excl bulk suppliers) for 3,000 to 10,000 Properties				640		220	18	out of 24 have non-res sewer usage charges		21	out of 24 have trade waste charges					4,675		640		1.4			1.5	0	LWUs did not achieve FCR						
LWUs with 1,501 - 3,000 Properties																															
47	Bellingen	677	725	842	233	241	313	91	94	136	140	Y	Y	7	13	4,450	4,790	4,680	677	725	842	-0.6	0.0	0.9	-1.3	-0.4	0.3	Y		204	3,030
60	Glen Innes Severn	420	434	450	127	120	129	95	98	162	162	Y	Y	6	8	2,500	2,850	2,930	420	434	450	0.8	1.3	1.7	0.8	1.5	1.9	Y		218	2,810
58	Cootamundra	328	376	388	82	114	136	204	211	135	140	Y	Y	25	14	2,960	4,030	4,260	328	376	388	0.0	1.3	1.3	0.0	1.3	1.3	Y		187	2,820
57	Wellington	555	574	587	201	199	203	82	84	148	151	Y	Y	23	9	1,910	1,910	1,650	555	574	587	-0.7	-1.3	-1.2	-0.6	-0.4	N		209	2,650	
91	Cabonne	450	465	475	266	305	361	120	120	160	160	Y	Y	17	42	5,060	5,300	6,280	450	465	475	-0.1	-0.5	-0.5	-0.5	-0.6	-0.7	Y*		139	2,140
80	Greater Hume	386	445	489	174	177	185	120	132	160	160	Y	Y	25	15	3,000	3,000	4,020	386	445	489	-0.5	-0.4	0.4	-0.8	-0.6	0.1	Y	60	172	2,610
59	Lachlan	422	440	458	157	190	199	117	120	134	140	Y	Y	5	23	7,750	7,750	7,75													

# Appendix F - Sewerage - Residential Charges & Bills, Cost Recovery

WATER UTILITY	RESIDENTIAL CHARGES				NON-RESIDENTIAL CHARGES								Typical Residential Bill	COST RECOVERY																		
	Fixed Charge (\$) (or Minimum) (\$)	Operating Cost (OMA)			Non-Res Sewer Usage Charge (Not including SDF)	Liquid Trade Waste Charges			Non-Res & Trade Waste		Typical Developer Charge (\$/Equivalent Tenement [ET])				Return on Assets (%)		Economic Real Rate of Return (Sewerage) (%)		Full Cost Recovery? (FCR) (Y/Y*/N)	Recycled Water Usage Charge (c/kL)	Sewage Collected (kL/prop)	Connected Properties (No.)										
					(c/kL)	Usage Charge (c/kL) (3a)	Appropriate TW Charges ? (c/kL) (3b)	Charges (% of Annual Charges) (5)	Volume (% of sge collected) (6)					(\$/assessment)																		
		12/13	13/14	14/15	11/12	12/13	13/14	13/14	14/15	13/14	14/15	13/14	14/15	12/13	13/14	14/15	12/13	13/14	14/15	11/12	12/13	13/14	13/14									
<i>LWUs with 200 - 1,500 Properties</i>																																
84 Gilgandra	476	515	557	138	142	176	124	136	195	215	Y	Y	21	20			476	515	557	-1.8	-1.5	0.8	-2.1	-1.6	0.6	Y*	7	188	1,370			
73 Upper Lachlan	665	705	737	109	94	116	240	256			19	6	3,760	3,900	3,970		665	705	737	0.1	1.4	2.5	0.0	1.1	1.9	Y		339	1,530			
87 Bourke	598	618	632	245	189	252			177	177	Y	Y	14	3	930	930	930		598	618	632	1.1	3.0	2.0	-0.1	1.9	1.1	Y		157	1,220	
86 Hay	613	634	649	206	182	205	106	108			15	5					613	634	649	1.7	2.0	1.3	1.1	1.5	0.9	Y		224	1,280			
83 Oberon	388	446	513	340	225	218	148	195			39	17	1,570	1,660	1,710		388	446	513	0.7	-0.1	-0.9	0.3	-0.5	-1.3	Y*		258	1,220			
81 Gwydir	500	500	500	117	90	104	245	245	130	130	Y	Y	53	16	2,000	2,000	2,000		500	500	500	4.9	-15.2	7.0	2.8	-16.4	5.7	Y	12	239	1,150	
85 Uralla	479	495	520	164	257	341	100	100	120	120	Y	Y			5	590	490	510	479	495	520	-0.8	1.0	-0.7	-1.0	-0.6	-1.4	Y*		111	1,110	
95 Weddin	297	356	427	96	101	146							5	9	2,800	3,040	3,730		297	356	427	0.9	1.2	1.9	0.8	1.0	1.8	Y		178	930	
89 Bogan	465	540	540	42	45	221	196	196	157	157	Y	Y	35	19			465	540	540	1.6	3.7	3.4	0.9	2.8	2.5	Y		196	970			
76 Harden	589	600	614	65	49	50	210	215	210	215	Y	Y	18	26	3,000	824	830		589	600	614	1.3	2.6	2.2	9.4	1.8	1.5	Y		623	940	
88 Wakool	543	561	578	101	122	106							6	9	2,672	2,810	2,810		543	561	578	-0.6	-0.7	0.2	-1.3	-1.3	-0.3	Y		339	1,010	
93 Tumbarumba	506	541	579	105	143	160	111	119	135	135	Y	Y	21	27	430	430	430		506	541	579	1.9	0.9	2.0	0.6	0.0	1.1	Y		199	1,000	
94 Gundagai	484	544	612	309	291	153	233	262	281	316	Y	Y	40	26	580	600	600		484	544	612	-0.3	2.3	3.1	-0.4	2.1	2.8	Y		285	820	
92 Carrathool	363	375	405	159	194	89									660	680	680		363	375	405	-1.5	-1.6	0.6	-1.5	-1.6	0.6	Y		230	830	
96 Warren	485	485	485	240	217	243			180	177	Y	Y	23				485	485	485	0.3	-1.0	-1.6	-2.6	-3.5	-3.6	N		223	790			
99 Coolamon	350	360	380	236	275	303							4	4,500	4,500	4,500		350	360	380	1.3	0.1	-0.3	0.7	-0.4	-0.7	Y*	23	105	1,000		
102 Lockhart	464	475	490	161	202	228	185	191	75	75	Y	Y				1,200	1,250	1,290		464	475	490	0.6	0.0	0.4	-0.4	-0.9	-0.2	Y	62	130	880
98 Walcha	416	425	440	110	198	220	96	99	146	150	Y	Y	22	10			416	425	440	2.5	2.1	1.8	1.3	1.2	0.9	Y		194	790			
100 Balranald	269	269	269	73	85	127	15	15	125	130	Y	Y	16			610	630	630		269	269	269	0.4	-0.1	-1.0	-0.6	-0.9	-1.8	N		212	850
97 Bombala	525	543	562	127	144	149	21	22	21	22	Y	Y	20			2,200	2,270	2,330		525	543	562	0.8	-0.9	-0.8	0.1	-1.4	-1.3	Y*		225	770
101 Murrumbidgee	300	300	309	104	110	130									1,000	1,000	1,000		300	300	309	0.3	-0.5	-0.5	-0.7	-1.2	-1.3	N		182	790	
90 Guyra	545	561	580	133	212	186					Y	Y	14	7	450	1,500	1,540		545	561	580	1.2	-0.2	0.0	1.3	-0.2	0.1	Y	11	186	1,180	
104 Boorowa	544	563	620	231	168	173					Y	Y	11	7	740	520	530		544	563	620	-0.2	0.6	0.3	-1.2	-0.3	-0.3	Y		223	660	
105 Brewarrina	734	734	756	308	124	145							10				734	734	756	0.0	4.5	-0.1	0.0	4.4	6.0	Y		396	500			
106 Jerilderie	480	480	480	212	206	222	75	75	162		Y	33			930	930	930		480													

# Appendix G – Data Validation Processes for the NSW Performance Monitoring System

## G1 INTRODUCTION

The NSW Performance Monitoring System (page 1) is a ‘**one stop shop**’ which minimises red tape, avoids duplication in reporting and enables the NSW Office of Water to annually provide the required local water utility (LWU) data to the Australian Bureau of Meteorology [BOM - for the annual National Performance Report for Urban Water Utilities ([www.bom.gov.au](http://www.bom.gov.au))] and the Australian Bureau of Statistics.

A prime objective of the NSW Performance Monitoring System is to reliably determine the Statewide performance of the regional NSW local water utilities. This requires analysis of statewide medians and totals for key performance indicators in order to reveal historical trends and enable interstate performance comparisons<sup>26</sup>. A further objective is to publish performance data which is accurate and which is not misleading, both for individual LWUs and for statewide indicators. The achievement of these objectives is contingent on obtaining a full and accurate data set. To this end, the NSW Office of Water annually critically reviews all reported data to identify any anomalies or inconsistencies and undertakes actions where appropriate to validate and/or correct such anomalous data. In addition, in order to obtain a fully representative data set for six of the more critical performance indicators, the Office of Water adopts the previous year’s reported data for those few LWUs that omitted to report such data for the current year. Such data is shown in italics bold in Appendices C, D, E and F (section G3 on page 98).

In addition to the extensive independent auditing of the reported NSW data (page vii and footnote 27 on page 99), this appendix outlines the data validation processes undertaken by the Office of Water to identify and address apparent anomalies in the reported data and to develop a full data set which assures ongoing data reliability for the NSW Performance Monitoring System.

The NSW Office of Water is responsible for managing the NSW Government’s *Country Towns Water Supply and Sewerage (CTWSS) Program* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)), which is a major reform Program. The Office of Water oversees and monitors utility performance, provides leadership, guidance, software and training (page 16) to the utilities and is the primary regulator for the 105 regional LWUs.

## G2 ANOMALOUS DATA

The quality and consistency of data reported by LWUs in the *NSW Performance Monitoring Database* varies significantly. To assist LWUs in reporting their data, the database includes a facility that screens the data and provides an alert to notify the user where data is inconsistent, out of range or incomplete. Most LWUs accurately report their performance data. However, review by the Office of Water of the full data set from all LWUs consistently reveals a small but significant percentage of anomalous data. This may arise due to misinterpretation of an indicator definition, due to errors in data handling (input or misreading), due to inconsistencies in the data stream or due to errors/omissions in the data itself.

Data that is inconsistent or anomalous includes:

- **Incomplete data** - data that is not reported or left blank in the current year’s reported data.
- **Inconsistent data** - reported data that is inconsistent with historic values or out of expected range.

<sup>26</sup> Refer to page 17 and Appendix A on page 71. Such performance comparisons may provide valuable insights on opportunities for continuing to improve performance and to provide better value for money to residents.

- **Errors in data** - reported data that is in error (e.g. text instead of numerals, percentage greater than 100, data where the summation does not agree etc.).
- **Unsubstantiated data** - reported data that is out of expected range with no substantiating evidence (e.g. leakage less than 6% of the total water supplied or a reported number of assessments which differs significantly from historical trends or from that reported in the utility's Annual Financial Statements).
- **Data that conflicts with data from other sources** - reported data that differs significantly from data available elsewhere (e.g. drinking water quality compliance results from NSW Health, data from the LWU's annual financial statements, IWCM Strategies etc.).

Anomalous data must be reviewed and either validated or rejected. The procedures undertaken by the Office of Water to validate data are outlined in the following sections.

## G3 VALIDATION OF DATA

The Office of Water undertakes various broad screening procedures and follows this up with intensive manual and computerised validation procedures. The criteria used in the validation process for the more critical indicators are shown in section G4 on page 99. Following screening and validation, the Office of Water reviews all anomalous reported values and anomalies are either:

- referred to the LWU for confirmation, or
- adjusted where relevant data from other sources is available, or
- rejected and left as blank, or
- adjusted where the reported value is unsubstantiated or does not meet adopted criteria.

In addition, in order to enable reporting of Statewide totals and medians for six of the more critical indicators (Total Urban Water Supplied, Operating Cost, Management Cost, Current Replacement Cost, Total Volume of Sewage Collected and Volume of Effluent Recycled), where a LWU has not reported current data, the data reported for the previous year has been adopted and is shown in *italics bold* in Appendices C, D, E and F of this Report and Tables 3 to 18 of the *2013-14 NSW Water Supply and Sewerage Benchmarking Report*.

It is noted that the 105 NSW LWUs each report more than 180 water supply indicators and a similar number of sewerage indicators together with their financial indicators (from the LWUs' Annual Financial Statements). Of these indicators, approximately 50 for each of water supply and sewerage are key indicators which are shown on each LWU's annual TBL Performance Report (pages 82 and 83). Of these 50 key indicators, 20 are considered to be critical indicators to determine a LWU's performance and the criteria for validating these critical indicators are described in section G4 on page 99.

Screening and validation procedures identify the more significant anomalies, and anomalies occurring in key indicators will be followed up with the LWU. However, there may be instances where an error is not identified. To allow for this, the Office of Water also provides a draft copy of tables of performance indicators to each LWU for its review prior to finalisation of the annual report.

The Office of Water procedures for validation and adjustment of selected data are detailed below.

**Incomplete data** - Where a LWU has not reported data, the validation process is as follows:

- For critical indicators, refer to the criteria outlined in section G4.
- For other key indicators, the Office of Water will contact the LWU to obtain such data, unless the reported value can be adjusted in accordance with data obtained from an alternative source.
- For less significant indicators, the field will be left blank.

**Inconsistent data** - Where the reported value is inconsistent with historic values, out of expected range or otherwise inconsistent, the validation process is as follows:

- For critical indicators, refer to the criteria outlined in section G4.
- For other key indicators, the Office of Water will contact the LWU to review the reported data, unless the reported value can be adjusted in accordance with data from an alternative source.
- For less significant indicators, the reported value will be deleted and the field left blank.

**Errors in data** - Where a reported value is obviously in error (e.g. numbers reported as text, values reported as \$M instead of '\$000 etc.), the Office of Water will correct the error. Where there is some doubt, if it is a key indicator the LWU will be requested to review the reported value, otherwise it will be deleted and the field left blank.

**Unsubstantiated data** - Where the reported value is out of the expected range and is unsubstantiated, the validation process is as follows:

- For critical indicators, refer to the criteria outlined in section G4.
- For other key indicators, the Office of Water will contact the LWU to review the reported data, unless the reported value can be adjusted in accordance with data from an alternative source.
- For less significant indicators, the reported value will be deleted and the field left blank.

**Data that conflicts with data from other sources** - Where reported data conflicts with data obtained from alternative sources (e.g. the utility's strategic business plan or IWCM Strategy, NSW Health, Environment Protection Authority, Special Schedules etc.) the Office of Water will review the data and will either adjust the data to agree with the alternative source or request confirmation of the data from the LWU.

**Audited data** - The NWI requires an independent audit to be undertaken every 3 years<sup>27</sup> of the water supply and sewerage performance reporting for those LWUs with over 10,000 connected properties. The Office of Water approves each LWU's proposed auditor, after confirming that the auditor has met the NWI Auditing Requirements and reviews the audit findings for the non-financial data and requests confirmation or follow up by the LWU's auditor for indicators that fail the audit.

**Financial data** – the financial data is reviewed by the Office of Water and any omissions or inconsistencies are referred to the LWU for confirmation. Independent audits are conducted annually for all of the 30 NWI financial performance indicators, which are reported in Notes 2 and 3 of the Special Purpose Financial Statements to each LWU's annual financial statements.

LWUs are required to annually report the fair value<sup>28</sup> and the current replacement cost depreciation of their water supply and sewerage assets in their audited Annual Financial Statements.

## G4 CRITERIA FOR ADJUSTMENT OF CRITICAL INDICATORS

The Office of Water takes care to ensure that the critical indicators are consistent and accurate. The criteria adopted by the Office of Water to review and where necessary adjust anomalous data for critical indicators are outlined on the following page.

<sup>27</sup> Independent audits of the auditable indicators in the *National Performance Framework 2013-14* for the 29 LWUs required to report nationally were undertaken in 2006-07, 2009-10 and 2012-13. Indicators which met the rigorous national auditing requirements have been published in the *National Performance Report 2013-14*. These LWUs serve 75% of the connected properties in regional NSW. In addition the reported values for the 30 NWI financial performance indicators have been independently audited annually since 2006-07 for all of the LWUs.

<sup>28</sup> In accordance with the Australian Accounting Standards Board's AASB116 Property Plant and Equipment. The *NSW Reference Rates Manual for Valuation of Water Supply, Sewerage and Stormwater Assets*, NSW Office of Water 2014 provides current unit rates and guidance on the valuation and depreciation of such assets. Available at [www.water.nsw.gov.au](http://www.water.nsw.gov.au).

## G4.1 AGGREGATED BUSINESSES

The performance indicators in the NSW Performance Monitoring System are determined for each LWU's aggregated water supply or sewerage businesses rather than for individual water supply or sewerage systems. This is done to align with national performance reporting and to facilitate comparisons. In addition, detailed data showing the performance of each of the 539 LWU water and sewerage treatment works is published in Appendices D1 and D2 of the annual *NSW Water Supply and Sewerage Benchmarking Report* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)). Refer also to Section G4.6 on page 101.

## G4.2 CONNECTED PROPERTIES

Performance indicators are determined on a 'per connected property' basis for consistency with the National Performance Framework. A connected property is a property that is connected to the water supply or sewerage system, as opposed to an assessment, which is a bill issued by a water utility.

**Determination of number of assessments** – The number of assessments is determined from a review of the data reported by the LWU in the NSW Performance Monitoring Database and the number of assessments reported by the LWU in its annual financial statements (Special Schedule Nos 3 and 5) together with the historic data. The number of assessments adopted must be consistent with historic data.

**Calculation of connected properties** – The number of connected properties is calculated as the product of the number of assessments times the ratio of the number of connected properties per assessment for each of water supply & sewerage (Tables 9 & 14 of the *NSW Benchmarking Report*). The Office of Water has worked with LWUs to establish these ratios which do not change significantly from year to year.

## G4.3 CHARGES AND BILLS

**Charges** – water supply and sewerage charges (access charges and usage charges) are shown in Appendices E and F on pages 91 and 94 for a LWU's principal water supply or sewerage system (charges are also shown for the non-potable supply component in dual supply systems). LWUs with multiple residential tariffs (i.e. those with different charges for separate water supply or sewerage systems) are shown in Tables 6A and 7A of the *NSW Benchmarking Report*. The charges shown in Appendices E and F include the charges for the current reporting year (2013-14) and also for the forthcoming year (2014-15) and are obtained by the Office of Water from each LWU's website.

**Typical residential bill (TRB)** – the TRB is calculated for each LWU's principal water supply system. The TRB is calculated from the utility's average annual volume of residential water supplied per connected property multiplied by the usage charge and added to the access charge. If the LWU has a dual supply system, the above calculation is repeated to obtain the non-potable water component which is added to the potable component to obtain the total TRB. Refer also to note 4 on page 32.

The current TRB is calculated from the current charges and the current residential water supplied. The TRB for the forthcoming reporting year is estimated from the forthcoming year's charges applied to the current residential water supplied. In the following year, the TRB will be recalculated using the actual volume of residential water supplied in that year. Therefore the current TRB shown in column 8 of Appendix E may differ from the corresponding TRB shown in the previous year's reports.

## G4.4 URBAN WATER SUPPLIED

**Total potable urban water supplied** – Where a LWU has not reported its total potable urban water supplied, the data reported for the previous year has been adopted (shown in italics bold in the tables).

**Residential water supplied** – Where a LWU has reported residential water use but not commercial or industrial use, the reported residential use has been reduced and a commercial component has been included. Similarly, where a LWU has not reported residential water use, a residential component has

been included. The residential component in each case has been calculated on the basis of the statewide average percentage of 58% of the LWU's total potable urban water supplied (NWI Indicator W11.1).

**Real Losses** (mostly leakage) - Where a LWU has reported a real loss of less than 6% of the total potable urban water supplied and has not provided evidence to substantiate such a low value of leakage, the reported real loss has been increased to 6%. In this case, the total potable urban water supplied has also been increased to include the additional leakage component. These adjusted values of real losses are shown in italics bold in column 8 of Table 8 of the *2013-14 Benchmarking Report*. Refer also to page 10 and note 8 on page 33.

**Non Revenue Water (NRW)** (Real losses (mostly leakage), Apparent Losses (under-registration of customer meters and illegal use) plus Unbilled Water supplied (eg. mains flushing and firefighting)) – Where a LWU has reported NRW of less than 10% of the total potable urban water supplied (W11.1), the reported NRW has been increased to 10%, unless the LWU has provided evidence of a Real Loss of less than 6%. In such cases, the adopted value for NRW has been determined as the Real Loss plus 4%. The adjusted values of NRW and total potable urban water supplied (W11.1) are shown in italics bold in columns 9 and 10 of Table 8 of the *Benchmarking Report*. Refer also to note 8 on page 33.

## G4.5 EFFICIENCY

**Operating Cost (OMA)** – NWI indicators F11 and F13 (water supply operating cost per property and water and sewerage operating cost per property respectively) are calculated in accordance with the NWI definitions and reported accordingly in the *National Performance Report* and in Appendix F of the *NSW Benchmarking Report*.

However in this *Performance Monitoring Report* and in Tables 5 and 11 and Figures 31 to 33 of the *NSW Benchmarking Report*, where a LWU purchases water from a bulk water provider, the operating cost calculated for the LWU excludes the purchase cost of the bulk water but includes an appropriate proportion of the operating cost of the bulk water provider. The cost allocated to the LWU is calculated by multiplying the operating cost of the bulk provider by the ratio of the water purchased by the LWU to the total water supplied by the bulk provider to all customers. This is done in order to provide a 'level playing field' comparison of operating costs by not penalising reticulators through inclusion of the capital cost component of providing the bulk supply, which is included in the purchase price of the water.

Where a LWU has not reported its operating cost, the previous year's operating cost per property has been adopted (shown in italics bold in the tables).

**Management Cost** – Where a LWU has not reported its management cost, the previous year's management cost per property has been adopted (shown in italics bold in the tables).

## G4.6 DRINKING WATER QUALITY COMPLIANCE

Drinking Water Quality Compliance for each LWU is based on the number of samples tested as part of the *NSW Health Drinking Water Monitoring Program* supplemented with samples reported by the LWU in the *NSW Performance Monitoring Database*. A LWU has complied with the 2011 NHMRC/NRMMC Australian Drinking Water Guidelines (2011 ADWG) for microbiological water quality (i.e. it is shown as 'Yes' in column (9) of page 87) if the required number of samples has been tested and at least 98% of samples had no *E.coli*<sup>29</sup>. Where *E. coli* is detected in a microbiological sample, further investigation is needed to determine whether there is a real problem with drinking water quality in accordance with the NSW Health protocol: ([www.health.nsw.gov.au/environment/water/Pages/nswhrp-microbiological.aspx](http://www.health.nsw.gov.au/environment/water/Pages/nswhrp-microbiological.aspx)).

<sup>29</sup> This value (98%) has been determined by NSW Health in accordance with section 10.3.1 on page 10-11 of 2011 ADWG and is the same value as applied for the 2004 ADWG.

Where a LWU has not complied with 2011 ADWG, the percentage of samples which complied is shown in columns (9) and (11) of page 87 for microbiological and chemical compliance respectively.

Similarly, chemical water quality (health related<sup>30</sup>) is satisfactory (shown as 'Yes' in column (7) of page 87) if the required number of samples has been tested and the 95th percentile of results does not exceed the guideline value for each chemical. Non-potable supplies are excluded.

Physical (aesthetic) water quality is satisfactory if the required number of samples has been tested and the mean of results does not exceed the guideline value for each characteristic.

Where a LWU has more than one treatment works, the reported compliance has been pro-rated on the basis of the number of samples tested at each treatment works. Where a LWU has not reported the number of samples tested or the compliance of samples from a particular treatment works and no details are available from NSW Health, the percentage of complying samples for that treatment works is deemed to be zero. Refer also to pages 7 and 8.

As noted on page 28, annual review of your Drinking Water Management System (DWMS) is required and any required corrective action needs to be included in your annual Action Plan to Council. Refer also to Circular LWU 18 (page 7).

It is important that specialist LWU infrastructure, such as water and sewage treatment works, dams and recycling projects, is fit for purpose, robust, cost-effective and without wasteful 'gold plating' which causes unwarranted increases to the customer bills. In this regard, any LWU proposals for the construction or modification of a dam, a water or sewage treatment works or a recycling project require NSW Office of Water approval under section 60 of the *Local Government Act, 1993* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)). Similarly, acceptance of a high or medium risk trade waste discharge to a LWU sewerage system requires a NSW Office of Water Section 90(1) concurrence (page 105).

The section 60 approval involves an independent and objective review which allows the NSW Office of Water to share its insights and expertise in overseeing the 539 LWU water and sewage treatment works and 119 LWU dams. The section 60 review provides assurance to the community that the proposed specialist infrastructure is fit for purpose and provides a robust, safe, cost-effective and soundly based solution, without wasteful 'gold plating'. Refer also to pages 109 and 115.

In addition, under section 61 of the *Local Government Act, 1993*, the NSW Office of Water carries out regular inspections of the 539 LWU water and sewage treatment works and provides feedback and mentoring to the LWU operators. Refer also to pages 109 and 115.

Each operator in charge of a water or sewage treatment works in regional NSW is required to have appropriate qualifications and experience ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)). NOW conducts comprehensive operator training courses for LWU water and sewage treatment works operators ([www.water.nsw.gov.au](http://www.water.nsw.gov.au) and [urbanwater@water.nsw.gov.au](mailto:urbanwater@water.nsw.gov.au) [page 16]). The detailed performance of each of these treatment works is publicly disclosed annually in Appendices D1 and D2 of the *NSW Benchmarking Report* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)). Refer also to pages 109 and 115.

Similarly, under the Aboriginal Communities Water and Sewerage Program ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)), the NSW Office of Water carries out regular inspections of the water and sewerage infrastructure for 60 discrete Aboriginal Communities in NSW. The 2013-14 drinking water quality results for these communities are disclosed in Appendix D3 of the *2013-14 NSW Benchmarking Report* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

## G4.7 SEWERAGE

**Sewage Collected** – Where a LWU did not report the current year's volume of sewage collected, either the previous year's value or the current year's volume of sewage treated has been adopted, whichever is the larger (shown in **italics bold** in the tables).

<sup>30</sup> The 2011 ADWG specify guideline limits for chemical water quality (health related). Aesthetic parameters such as aluminium, calcium, chloride, iodine, iron, magnesium, sodium, total dissolved solids (TDS) and zinc are excluded.

**Effluent Recycled** – Where a LWU has not reported a value for effluent recycled but has reported greater than 10% recycling in previous years, the percentage recycled for the current reporting year is assumed to be the same as that for the previous year (shown in italics bold in the tables).

**Compliance with Licence for Prescribed Indicators** – LWU Licence limits are generally 90 percentile limits. A LWU is deemed to comply with its licence for each prescribed indicator (i.e. compliance is 100%) if it achieves  $\geq 90\%$  compliance. Where there is no licence limit for a prescribed indicator, compliance is shown as 100%. Where a LWU has not reported the compliance for a sewage treatment works, compliance for that treatment works is deemed to be zero.

**Sewage Treatment Works (STW) Compliance** - A STW is fully compliant if it meets its licence conditions for all prescribed indicators. If any indicator which is prescribed in the licence fails to meet the licence conditions (i.e. BOD, Suspended Solids, Total Nitrogen, Oil and Grease, Phosphorous, Faecal Coliforms, Ammonia, pH), then the STW is deemed not to comply with its licence. Refer also to page 11.

## G5 IMPLEMENTATION OF THE BEST-PRACTICE MANAGEMENT FRAMEWORK

LWUs must implement the 19 planning, pricing and management requirements of the *NSW Best-Practice Management Framework* (pages viii, 22, 23 and footnote 39 on page 109). LWUs will thus achieve appropriate, affordable, cost-effective and sustainable piped water supply and sewerage services and comply with *National Competition Policy* and with the *National Water Initiative*. Meeting the requirements of the Framework is a pre-requisite for payment of a dividend from the surplus of the water supply or sewerage businesses to the council's general revenue and for financial assistance towards the capital cost of backlog infrastructure (as at 1996) under the CTWSS Program (page 26 and page 13).

Each LWU reports its implementation of the requirements of the *Best-Practice Management Framework* in Notes 2 and 3 of the Special Purpose Financial Statements to its annual financial statements. The Office of Water assesses this reported implementation against the 19 requirements set out in Table 1 of the *Best-Practice Management Guidelines, 2007* (10 for water supply and 9 for sewerage – refer to pages 25, viii and 108). The assessment procedure for each requirement is shown below. Where a LWU has not reported its implementation against one or more of the requirements, the Office of Water will assess the LWU's implementation from other available data (e.g. annual financial statements, Strategic Business Plans submitted previously and completion of performance reporting via the *NSW Performance Monitoring Database*). Otherwise, the LWU will be deemed not to have implemented that particular requirement. Each LWU's implementation results are shown in Appendix C on page 84.

A LWU's **peak planning document** for water supply and sewerage is the **later of its IWCM Strategy and financial plan and SBP and financial plan** (page 22).

**Strategic Business Plan and Financial Plan** – The strategic business plan needs to be prepared in accordance with the July 2014 Strategic Business Plan Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)). Guidance for LWUs is available in the *NSW Water and Sewerage Strategic Business Planning Guidelines, NSW Office of Water, July 2011* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)). Refer also to pages 108, 111 and 113.

As noted on page 4, the NSW Office of Water reviews LWU strategic business plans and financial plans in order to ensure they are soundly based. A LWU has met the requirement if it has prepared a sound 30-year water and/or sewerage strategic business plan and financial plan in accordance with the above Check List. Such a plan must include a sound 30-year total asset management plan (TAMP) (pages 22 and 23) and demonstrate the long-term financial sustainability of the LWU's water and/or sewerage businesses and compliance with National Competition Policy. Where a LWU has a strategic business plan but the plan is more than 4 years old, it is deemed to have provisionally met the requirement, and is shown as Yes\* in Appendix C on page 84 (columns 1) and Appendix D on page 87 (column 34).

As noted on pages 4, 86 and 90, such a LWU now needs to prepare a 30-year IWCM Strategy and 30-year financial plan in accordance with the July 2014 IWCM Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

As noted on pages 27 & 28 each LWU needs to annually ‘roll forward’, review and update its 30-year total asset management plan for projects completed, modified or deferred and to prepare an updated 30-year financial plan. A brief report to Council should be provided on the updated financial plan, including any necessary corrective action (Example Report to Council is provided on page 131 of the NSW Strategic Business Planning Guidelines). Refer also to pages 107 and 111.

**Pricing – The 11 pricing requirements** of the NSW Best-Practice Management Framework (page viii) are outlined below. These incorporate implementation of the NSW Framework for Regulation of Sewerage and Trade Waste<sup>31</sup>, which includes implementation of appropriate sewerage and trade waste charges and developer charges, as well as a sound trade waste regulation policy and an approval for each trade waste discharger. As noted on pages 24, 104 and 105, the pricing requirements include a non-residential sewer usage charge/kL and non-compliance trade waste usage and excess mass charges. In addition, the framework for regulation of sewerage and trade waste also involves mentoring and coaching of dischargers and enforcement measures which include financial penalties and finally, disconnection of a trade waste discharger in the event of persistent failure to comply with approval conditions (pages viii and 24).

**Full cost recovery** – Full cost recovery (lower bound pricing) is achieved if either the economic real rate of return or the return on assets is  $\geq 0$  (shown as ‘Y’ in column 14d of Appendix E on page 91 and column 11a of Appendix F on page 94). As noted on page 99, assets must be valued at fair value and current replacement cost depreciation must be applied.

Alternatively, if a LWU has significantly increased its charges in order to recover its costs, it is also deemed to have full cost recovery (shown as ‘Y\*’ in column 14d of Appendix E on page 91 and column 11a of Appendix F on page 94). Refer also to page 13 of this report and to Appendix G on page 84 of the *2010-11 NSW Water Supply and Sewerage Performance Monitoring Report* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

**Pay-for-use-pricing** – For water supply, this requires pay-for-use pricing, with the residential tariff independent of land value and no free water allowance. Refer to column 2a of Appendix C on page 84. Refer also to columns 1, 5b and 5d of Appendix E on page 91. All the NSW utilities have now met this requirement (page 5).

**Residential revenue from water usage charges > 75%** - In order to provide strong pricing signals to residents and encourage efficient water use, the water supply tariff for LWUs with 4,000 or more connected properties must be such that at least 75% of residential revenue is obtained through water usage charges. At least 50% of residential revenue from usage charges is required for LWUs with fewer than 4,000 properties. Where a LWU has not met the above requirements but has obtained at least 70% (or 45% for fewer than 4,000 properties) of residential revenue from usage charges, it is deemed to have provisionally met the requirement and is shown as Yes\*. Refer also to page 5, page 17, column 2c of Appendix C on page 84, column 13 of Appendix E on page 91 and to column 3 of Appendix D on page 87.

**Appropriate non-residential water supply charges** – Appropriate water usage charge per kL and access charge relative to customer’s capacity requirements. Refer to column 2d of page 84.

**Residential sewerage charges** – Residential tariff is independent of land value. Refer to column 2b of Appendix C on page 84.

**Non-residential sewerage charges** – This requires a two part tariff, with an appropriate sewer usage charge/kL and an access charge that is reflective of the peak load the customer may place

<sup>31</sup> The NSW Framework for Regulation of Sewerage and Trade Waste is a preventative risk management approach for achieving effective and efficient use of the sewerage system, which is a common pool resource (page viii).

on the sewerage system. Refer to column 2c of Appendix C on page 84 and column 3a of Appendix F on page 94.

**Liquid trade waste fees and charges** – This requires appropriate trade waste fees and charges<sup>32</sup> to be applied to all liquid trade waste dischargers. These include non-compliance trade waste usage and excess mass charges (page viii). Refer to column 2d of Appendix C on page 84 and to column 4 of Appendix F on page 94.

A sound liquid **trade waste regulation policy** (endorsed by the NSW Office of Water) and an appropriate approval for each trade waste discharger is a further requirement. Refer to column 2f of Appendix C on page 84. Refer also to page 24.

In view of the potential risks to sewerage infrastructure, public health and safety and the environment, from uncontrolled trade waste discharges, the acceptance of trade waste discharges<sup>32</sup> to the sewerage system requires the NSW Office of Water's concurrence under section 90(1) of the *Local Government Act, 1993* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

**Developer charges** – The requirement is met if an appropriate Development Servicing Plan (DSP) with commercial developer charges is implemented. Utilities which have commercial developer charges but have not completed a DSP are assigned provisional implementation and are shown as Yes\*. In addition utilities with growth of under 5 lots/a are granted an exemption and are shown as Yes<sup>e</sup>. Refer to columns 2e of Appendix C on page 84. Refer also to column 7 of Appendix E on page 91 (water supply) and column 7 of Appendix F on page 94 (sewerage). Until the release of any new developer charges guidelines, the NSW utilities are authorised to continue to annually index their existing water supply and sewerage developer charges.

**Complete Performance Report by due date** – A LWU meets the requirement if it completes its performance reporting for water and/or sewerage by the due date (currently 15 September each year) & prepares and implements a sound annual Action Plan to Council (pages 27 and 28). Refer to column 5 of Appendix C on page 84 (water) and column 3 on page 84 (sewerage). Refer also to pages 24, 107 & 111.

**Water conservation** – The requirement is met if the LWU has a water conservation and demand management plan. Refer to column 3 of Appendix C on page 84. Refer also to page 23.

**Drought management** – The requirement is met if the LWU has a drought management plan. Refer to column 4 of Appendix C on page 77. Refer also to page 24.

**Integrated water cycle management** – As noted on page 23, a utility's IWCM Strategy needs to 'right size' any necessary infrastructure projects and identify a 30-year strategy for water supply, sewerage and stormwater which provides the best value for money on the triple bottom line (TBL) basis of social, environmental and economic considerations. The NSW Office of Water reviews each LWU's IWCM Strategy to ensure it is soundly based. The IWCM Strategy needs to identify the best mix of capital works, non-build solutions, policies and operation and maintenance activities. Note that the 19 Best-Practice Management requirements aid the development of such a strategy through the required sound planning, pricing and management of services. Refer also to pages 108, 111 and 113.

The requirement is met if the LWU has commenced an integrated water cycle management (IWCM) study. Refer to column 6 of Appendix C on page 84 (water supply) and to column 4 on page 84 (sewerage). Refer also to pages 16, 25 and 26.

Following the 2014 streamlining of the NSW BPM Framework (page 106), a LWU which prepares a 30-year IWCM Strategy and Financial Plan in accordance with the July 2014 IWCM Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au) – shown as Yes<sup>s</sup>) will meet 6 of the 19 BPM requirements (IWCM (W, S), Strategic Business Planning (W, S), Water Conservation and Drought Management). Refer also to pages 23, 25 and 108.

<sup>32</sup> Liquid Trade Waste Regulation Guidelines, 2009 ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)). Refer also to pages 11, 16, 24, 25, 102 and 104.

# Appendix H – Streamlining of the NSW Best-Practice Management Framework

## H1 Overview

As noted on page 22, the *NSW Best-Practice Management (BPM) of Water Supply and Sewerage Framework* (page viii) has been streamlined through the July 2014 Integrated Water Cycle Management (IWCM) Check List and the Strategic Business Planning (SBP) Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)) in order to minimise the regulatory burden and cost to LWUs, without diminishing effectiveness or efficiency in achieving the outcomes of the BPM Framework. The streamlining has reduced by 9 the number of documents required to be prepared by each LWU (Figure H2 on page 112).

As also noted on page 22, a LWU's **peak planning document** for water supply and sewerage is the **later of** its 30-year **IWCM Strategy and financial plan** (on the basis of the July 2014 IWCM Check List) and its **SBP and financial plan** (on the basis of the July 2014 SBP Check List). The IWCM Strategy and SBP are required every 8 years on a rotation of every 4 years (Figures H1 and H3 on pages 111 and 113). The key **outputs** of the IWCM Strategy or SBP are the **30-year TAMP<sup>33</sup>** and **30-year financial plan** and an affordable required Typical Residential Bill (**TRB**) on the basis of the agreed levels of service (LOS) and the projected demographic growth<sup>34</sup>.

In preparing an IWCM Strategy the focus is on evaluating the merits of alternative options/scenarios to cost-effectively address current and future issues/deficiencies in meeting regulatory requirements and the agreed levels of service (LOS) with respect to water security, water quality, water distribution system and sewage management system to 'right size' any required infrastructure and identify the best-value IWCM scenario and strategy on the triple bottom line (TBL) basis of social, environmental and economic considerations (Figure H3). However, the SBP is focussed on 'rolling forward', reviewing and updating the TAMP from the IWCM Strategy and analysing the renewals component of the TAMP to develop a sound 30-year renewals plan. The annual Action Plan provided to Council for endorsement and implementation closes the 'planning loop' with the later of the IWCM Strategy and SBP by annually updating the progress/achievements against the adopted 30-year TAMP and FP after 'rolling forward', reviewing and updating the TAMP and FP and reviewing its Drinking Water Management System (DWMS) and TBL Performance Report from the NSW Office of Water (Figure H1).

All the regional NSW urban water utilities need to implement the 19 BPM requirements (footnote 39 on page 109). These requirements aid the development of a robust IWCM Strategy and SBP through the required sound planning, pricing and management of services.

<sup>33</sup> A 30-year **total asset management plan (TAMP)** is required as part of the utility's IWCM Strategy or SBP and provides a framework within which the utility needs to negotiate appropriate levels of service with the community and develop its 30-year TAMP. This involves a cost-effective capital works program which discloses each of the growth, improved standards and renewals components (page 4), together with a sound operation plan which involves cost-effective non-build solutions and a maintenance plan. As noted above, the IWCM Strategy and financial plan needs to be in accordance with the July 2014 IWCM Check List and the SBP and financial plan need to be in accordance with the July 2014 Strategic Business Planning Check List.

<sup>34</sup> Care is required to ensure that the projected demographic growth is realistic and that **sensitivity analysis** (Item17 of the Strategic Business Planning Check List) is carried out to ensure that the adopted financial plan is robust, with an affordable required Typical Residential Bill (TRB).

A **high level of demographic growth** will require significant investment in water supply and sewerage infrastructure, which a LWU may plan to largely fund by projected future developer charges and annual charges from the new development. However, if the infrastructure required for such demographic growth is constructed by the LWU and the growth fails to materialize, the LWU will face shortfalls in revenue from both future developer charges and annual charges from the new development. Meeting the LWU's loan obligations for this infrastructure may therefore require a significant increase to the LWU's projected TRB. However, sensitivity analysis on the above basis would enable the LWU to make prudent investment decisions based on **realistic** demographic projections and to prepare a robust financial plan and required TRB which can cope with likely future movements in inflation and borrowing and investment rates.

## H2 The Streamlined BPM Framework

Figures H1 to H6 on pages 111 to 116 highlight the key characteristics of the streamlined BPM Framework, financial planning considerations and associated infrastructure technology and operation strategies:

- Figure H1 on page 111 shows the **Streamlined BPM Framework**, which requires the preparation of a 30-year IWCM Strategy, financial plan and report<sup>35</sup> and a Strategic Business Plan (SBP), financial plan and report every 8 years, on a rotation of every 4 years. As noted on page 106, the 30-year IWCM Strategy ‘right sizes’ any required infrastructure and identifies the scenario which provides the best value for money on the above TBL basis (page 106).

Figure H1 also shows each LWU needs to continue to prepare and implement an annual Action Plan to Council (page 27 and 28) after ‘rolling forward’, reviewing and updating its 30-year total asset management plan (TAMP – capital works plan, operation plan, maintenance plan and non-build solutions), updating its 30-year financial plan, reviewing its Drinking Water Management System (DWMS) and annual triple bottom line (TBL) Performance Reports and Section 61 inspection reports provided by the NSW Office of Water and addressing any emerging issues or areas of under-performance. The LWU’s annual Action Plan thus continues to close the LWU’s ‘planning loop’ with the later of its IWCM Strategy and SBP (page 106) and to highlight any corrective action the LWU needs to carry out.

It is noted that the required TRB depends on the quantum of works in the TAMP which in turn is dependent on the agreed LOS and the projected demographic growth<sup>34</sup>. For instance adopting a higher LOS and higher demographic growth would generally result in a large quantum of works in the TAMP resulting in a higher required TRB. Therefore it is imperative that the community and the LWU carefully consider and regularly review the LOS and demographic growth when developing the IWCM Strategy and SBP.

Figure H1 shows that rather than placing its completed IWCM Strategy or SBP on a shelf to gather dust, each LWU needs to annually ‘roll forward’ the 30-year TAMP in its IWCM Strategy and to review and update the TAMP for projects completed, modified or deferred. The LWU then needs to update its 30-year financial plan using the updated TAMP and the LWU’s latest annual financial statements (Special Schedules 3 and 4 for water supply and 5 and 6 for sewerage) in order to **determine**:

- **whether the required TRB** (in the current year’s dollars) in its IWCM Strategy or SBP remains **satisfactory**, and
- **whether the actual TRB** in its annual TBL Performance Report is **consistent with** the above **required TRB**<sup>36</sup>. Where the above analysis identifies the need for corrective action, the LWU must implement the necessary changes to the next year’s annual charges in order to ensure the LWU continues to achieve full cost recovery and to provide the necessary strong pricing signals which encourage efficient use of the LWU’s water and sewerage infrastructure. Refer also to note 3 on page 81.

The annual **Action Plan** to Council, which is the key water and sewerage working document provided to Council for endorsement and implementation each year, highlights the LWU’s **achievements** to date and any **corrective actions** needed to address emerging issues or areas of under-performance. Refer also to the footnote 36 below.

<sup>35</sup> An example 30-year financial plan and report to assist LWUs is available from the NSW Office of Water on request (urbanwater@water.nsw.gov.au).

<sup>36</sup> Appendix H of the *NSW Water and Sewerage Strategic Business Planning Guidelines* ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)) provides an example and guidance on the annual updating of the financial plan, assessing the adequacy of the actual TRB and preparing a brief report to Council on the updated financial plan.

The Action Plan to Council must report whether the LWU's water and sewerage systems are performing in accordance with its adopted peak planning document (the later of the SBP and financial plan and the IWCM Strategy and financial plan (page 106)) and whether corrective action is needed to achieve BPM requirements, eg:

- Full cost recovery
- Strong pricing signals
- Drinking water management system review
- Rectify areas of under-performance.

Refer also to page 107 and Figure H5 on page 115.

- Figure H2 on page 112 compares the 2013 Requirements with the Streamlined 2014 Requirements and shows the deleted documents over the 8 year planning cycle, as a result of the Streamlined BPM Framework (the **9 deleted documents** are: 4 x Water Conservation Plans, 2 x IWCM Evaluation studies, 1 x IWCM Strategy, 1 x SBP, 1 x Drought Management Plan).
- A LWU's **peak planning document** for water supply and sewerage is the **later of** its 30-year **IWCM Strategy and financial plan** and 30-year **SBP and financial plan**.

A 19-year water supply and sewerage **planning data set** of 170 performance indicators has been compiled by the NSW Office of Water to assist LWUs preparing an IWCM Strategy or SBP. The data set is based on the LWU data reported in the NSW Performance Monitoring System since 1994/95. An [example data set based on the data reported by Coffs Harbour City Council](#) (PDF 1.1 MB) can be downloaded. Such data sets are now available to each LWU on request from the NSW Office of Water by contacting an [urban water officer](#) (Performance Monitoring).

Figure H3 on page 113 shows the key characteristics of a LWU's **IWCM Strategy** and financial plan and the **SBP** and financial plan. As noted on page 106, the focus of the IWCM Strategy is on evaluating alternative options/scenarios to cost-effectively address current and future issues/deficiencies in meeting the regulatory requirements and agreed levels of service with respect to water security, water quality, water distribution system and sewage management system to 'right size' any required infrastructure and identify the best-value IWCM scenario and strategy on a triple bottom line basis. However the focus of the SBP is on 'rolling forward', reviewing and updating the TAMP from the IWCM Strategy and analysing the renewals component of the TAMP to develop a sound **30-year renewals plan**<sup>37</sup>, the first 5 years of which include only proven evidence based renewals that provide value for money. Refer also to the boxes on page 3 and 13 and Tables 5C and 5D of the 2013-14 NSW Benchmarking Report.

Preparation of an **IWCM Strategy**, financial plan and report in accordance with the July 2014 IWCM Check List will address **6** of the 19 **BPM requirements** (2 x IWCM Strategy, 2 x SBP, Water Conservation plan, Drought Management Plan). After 4 years the LWU will need to prepare a SBP, financial plan and report in accordance with the July 2014 SBP Check List.

Preparation of an annual **Action Plan** to Council for each of water supply and sewerage will address another **5 BPM requirements** (2 x Performance Monitoring, 2 x Full Cost Recovery and 1 x Strong Pricing Signals (NWI Indicator F4)).

The remaining **8 pricing requirements**<sup>38</sup> of the BPM Framework are addressed through:

- Commercial developer charges (x 2) [page 105]

<sup>37</sup> The NSW Office of Water will be preparing tools and guidance materials on identifying and implementing a cost-effective & robust 30-year renewals plan. Refer also to Item 7F of the July 2014 Strategic Business Planning Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

<sup>38</sup> Refer to page 104 for further information on all **11 pricing requirements** of the BPM Framework.

- Sound residential pricing (x 2) [page 104]
- Sound non-residential pricing (x 2) [page 104]
- Sound trade waste regulation policy and approval conditions [page 105]
- Appropriate trade waste fees and charges [page 105].
- Figure H4 on page 114 shows the **water supply** and sewerage **inputs to** each council's Integrated Planning and Reporting (IPR) from its IWCM Strategy and financial plan or its SBP and financial plan. As shown on page 114, the adopted 30-year **TAMP** and **financial plan** from the later of a Council's IWCM Strategy and SBP is the **Resourcing Strategy** of the IPR for water supply and sewerage. The Delivery Program and Operation Plan comprise the first four years of the TAMP and financial plan. The annual Action Plan to Council provides the key information for the Annual Report of the IPR. The water supply and sewerage levels of service (LOS) from the IWCM Strategy or SBP are also a key input to the Community Strategic Plan.

It is important to note that under IPR<sup>39</sup>, each **council is required to implement the BPM Framework** requirements for water supply and sewerage infrastructure. Importantly as shown on page viii, the BPM Framework addresses the **10 key national requirements** for water supply and sewerage, including *National Competition Policy*, the *National Water Initiative (NWI)*, the *National Urban Water Planning Principles 2008*, the *NWI Pricing Principles 2010*, the *National Sewage Quality Management Framework 2012*, the *Australian Drinking Water Guidelines (updated 2013)*, and the *National Performance Framework 2014*.

- Figure H5 on page 115 shows the **interaction** between the **BPM Framework, S60, S61 and LWU operations**. *Section 60 of the Local Government Act 1993* assures the use of '**right infrastructure technology**' for the specialist areas of water and sewage treatment works, dams and water recycling projects (page 102). The Section 61 inspections assure **effective**, efficient and safe **operation and maintenance** for this infrastructure (page 102). **Nationally certificated training** in water and wastewater treatment, fluoridation, dam safety inspection and liquid trade waste regulation enables LWU operators to acquire the necessary knowledge and skills to effectively and efficiently operate and maintain this infrastructure (pages 16 and 102). Significant achievements of the regional NSW utilities include that 339 LWU operators have met the requirements of the National Certification Framework for Water Treatment Operators ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

As noted on page 22, implementation of the 19 requirements of the BPM Framework by each LWU ensures sound planning, pricing, management and operation and maintenance of their urban water services. This includes maintaining a current 30-year total asset management plan (TAMP), 30-year financial plan, full cost recovery and strong pricing signals to encourage

<sup>39</sup> Page 20 of the *Integrated Planning and Reporting Manual for local government in NSW, March 2013* ([www.olg.nsw.gov.au](http://www.olg.nsw.gov.au)) highlights the following more stringent requirements which apply for water supply and sewerage:

**"Councils responsible for water supply and sewerage infrastructure"**

Councils that have responsibility for water supply and sewerage infrastructure need to comply with the requirements and timeframes of the NSW Government's *Best-Practice Management of Water Supply and Sewerage Guidelines, 2007*. These requirements include:

- Preparing and implementing a 30 year Integrated Water Cycle Management (IWCM) Strategy
- Preparing and implementing a 20-30 year Strategic Business Plan, Financial Plan and associated asset management plans
- Annual Performance Monitoring, including preparing an annual Action Plan to review the council's performance and to identify and address any areas of under-performance. The review also includes whether the current Typical Residential Bill is in accordance with the projection in the Strategic Business Plan and any proposed corrective action.

The development of both the IWCM Strategy and the Strategic Business Plan require significant community involvement. Further information on these requirements is available from the NSW Office of Water website [www.water.nsw.gov.au](http://www.water.nsw.gov.au)."

efficient use of the LWU's water infrastructure.

Each utility annually reports in the '**one stop shop**' NSW Performance Monitoring System and the NSW Office of Water provides each utility its TBL Performance Reports in April<sup>40</sup> each year following release of the National Performance Report by the Bureau of Meteorology (BOM).

As shown in Figure H1 on page 111 and noted on page 106, each utility needs to continue to prepare and implement an annual Action Plan to Council after 'rolling forward', reviewing and updating its total asset management plan (TAMP – capital works plan, operation plan, maintenance plan and non-build solutions), updating its financial plan, reviewing its Drinking Water Management System (DWMS) and annual triple bottom line (TBL) Performance Reports and Section 61 inspection reports provided by the NSW Office of Water and addressing any emerging issues or areas of under-performance. The LWU's annual Action Plan thus continues to close the LWU's 'planning loop' with its IWCM Strategy or SBP and to highlight any corrective action the LWU needs to carry out. Refer also to pages 27 and 28.

- Figure H6 on page 116 provides an overview of the **BPM Framework planning process** and its timeline for each of the IWCM Strategy (left hand side), the Strategic Business Plan (right hand side) and the annual update of financial plan (centre) for the annual Action Plan to Council.

The left hand side of Figure H6 shows that through the **IWCM Strategy** a new 30-year TAMP is determined on the triple bottom line basis of social, environmental and economic considerations. Approximate typical residential bills (TRBs) are satisfactory for comparing the IWCM scenarios on a triple bottom line basis. The preferred IWCM Scenario with its 30-year TAMP is then 'fine-tuned' as the LWU prepares its 30-year financial plan and report. This includes sensitivity analysis<sup>34</sup> to ensure the LWU's financial plan is robust & the projected TRB remains affordable.

The right hand side and centre of Figure H6 show that the **SBP** and the **annual financial plan** for the annual **Action Plan** 'roll forward', review and update the TAMP from the preferred IWCM Scenario to prepare a 30-year financial plan, which uses the LWU's latest Special Schedules 3 to 6 (page 107). As for the IWCM Strategy, the financial plan and report for the SBP include appropriate sensitivity analysis to ensure the projected TRB remains affordable.

In regard to existing water supply or water and sewerage **county councils**, Page 19 of the *IPR Manual for local government in NSW, March 2013* indicates:

#### **'Requirements for county councils'**

It is not expected that County Councils will prepare a Community Strategic Plan, because this work will be undertaken by their constituent councils.

However, County Councils will be required to prepare a minimum 10 year strategic plan for the activities undertaken by their organisation. This plan must give due regard to the Community Strategic Plan/s of the constituent councils and be developed in consultation with the constituent councils. Community engagement will also be required on the issues specific to the County Council's plan.'

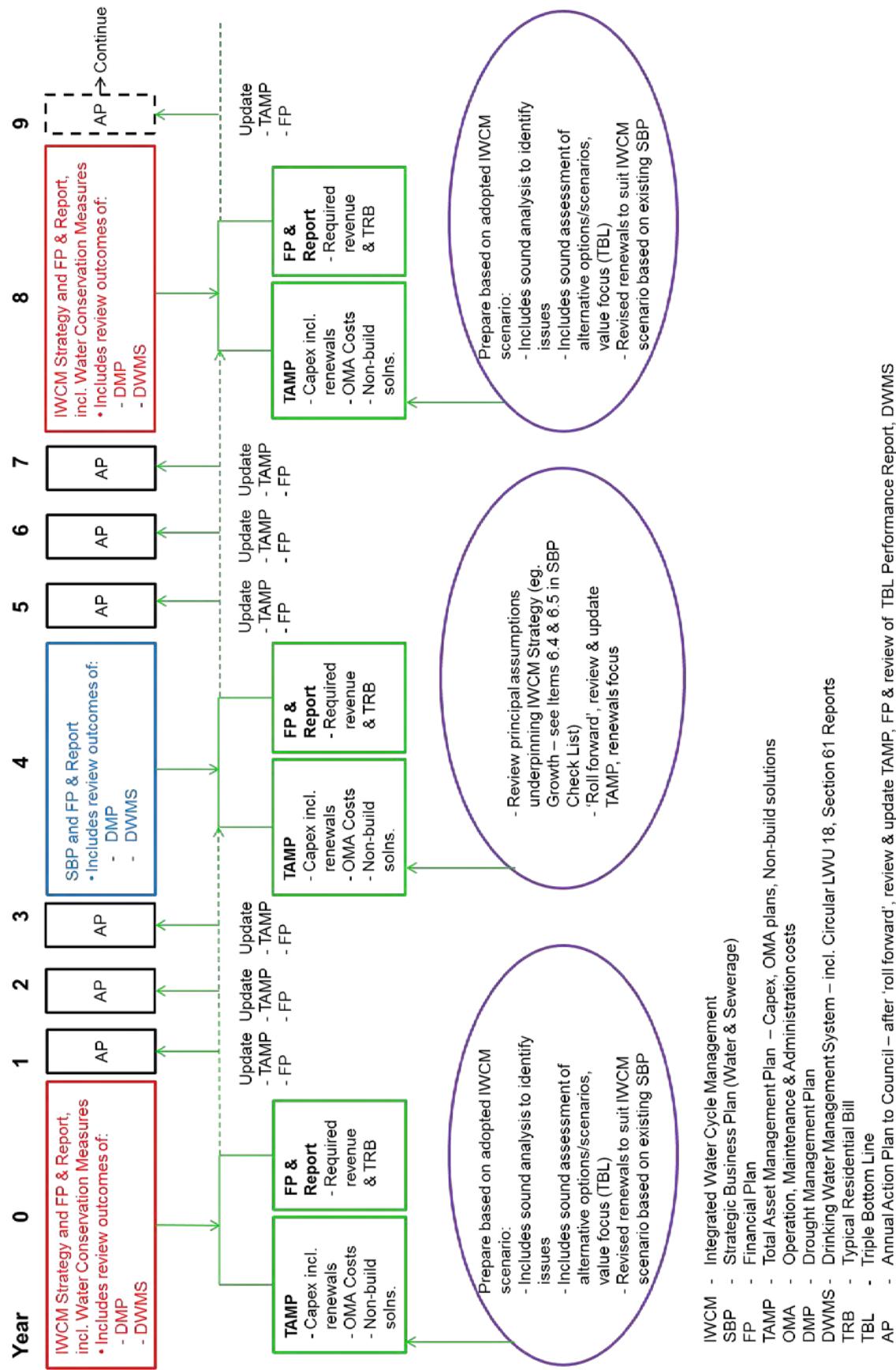
As noted in footnote 39 on page 109, all **councils** responsible for water supply or sewerage, including county councils **need to implement** the **BPM Framework** requirements. As a '10 year business activity strategic plan' does not meet the BPM Framework requirements, each **county council must prepare a 30-year** water supply and sewerage **IWCM Strategy and financial plan**<sup>41</sup> which also needs to address relevant considerations in the Community Strategic Plans of its constituent councils. Refer also to footnote 4 on page 1 of the July 2014 IWCM Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

<sup>40</sup> To assist LWU planning, a draft of each LWU's TBL Reports will be made available by the Office of Water in February each year.

<sup>41</sup> The IWCM Strategy and financial Plan need to be prepared in accordance with the July 2014 Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

Refer also to pages 22 and 23. As noted on pages 109 and 114, the adopted 30-year total asset management plan (**TAMP**) and **financial plan** from the later of a Council's IWCM Strategy and Strategic Business Plan is its **Resourcing Strategy** of the IPR for water supply and sewerage.

**Figure H1 - The Streamlined BPM Framework**  
**2 Documents Required Every 8 Years (IWCM Strategy and SBP)**



**Figure H2 - Comparison: 2013 Requirements and the 2014 Streamlined Requirements**  
**9 Documents Deleted**

2013 Requirements (11 Documents)											2014 Streamlined Requirements (9 Documents Deleted)									
Year	0	1	2	3	4	5	6	7	8	Year	0	1	2	3	4	5	6	7	8	
<b>SBP</b>	SBP & FP				SBP & FP				SBP & FP	<b>SBP</b>					SBP & FP				SBP & FP	
<b>IWCM</b>	Evaluation Study						Evaluation Study			<b>IWCM</b>		Evaluation Study								Strategy & FP
<b>Water Cons. Plan (WCP)</b>	WCP		WCP		WCP		WCP		WCP	<b>Water Cons. Plan (WCP)</b>		WCP		WCP						
<b>Drought Mgt. Plan (DMP)</b>	DMP									<b>Drought Mgt. Plan (DMP)</b>		DMP								
<b>Development Servicing Plan (DSP)</b>	DSP					DSP				<b>Development Servicing Plan (DSP)</b>		DSP								
<b>Drinking Water Mgt. System (DWMS)</b>	DWMS	Review	Review	Review	Full Review	Review	Review	Full Review	Review	<b>Drinking Water Mgt. System (DWMS)</b>	DWMS	Review	Review	Full Review	Review	Review	Review	Review	Full Review	

**Note:**

In addition to the peak planning documents of IWCM Strategy & FP and SBP & FP, each LWU needs to continue to prepare an annual **Action Plan to Council** (pages 107 & 111).

- FP - Financial Plan
- IWCM - Integrated Water Cycle Management
- SBP - Strategic Business Plan (Water & Sewerage)
- DMP - Drought Management Plan
- WCP - Water Conservation Plan
- DWMS - Drinking Water Management System – incl. Circular LWU 18, Section 61 Reports

**Figure H3 - The Peak Planning Documents – IWCM Strategy & FP and SBP & FP****2014 Streamlined Requirements - 2 Documents Required Every 8 Years (IWCM Strategy & FP and SBP & FP)**

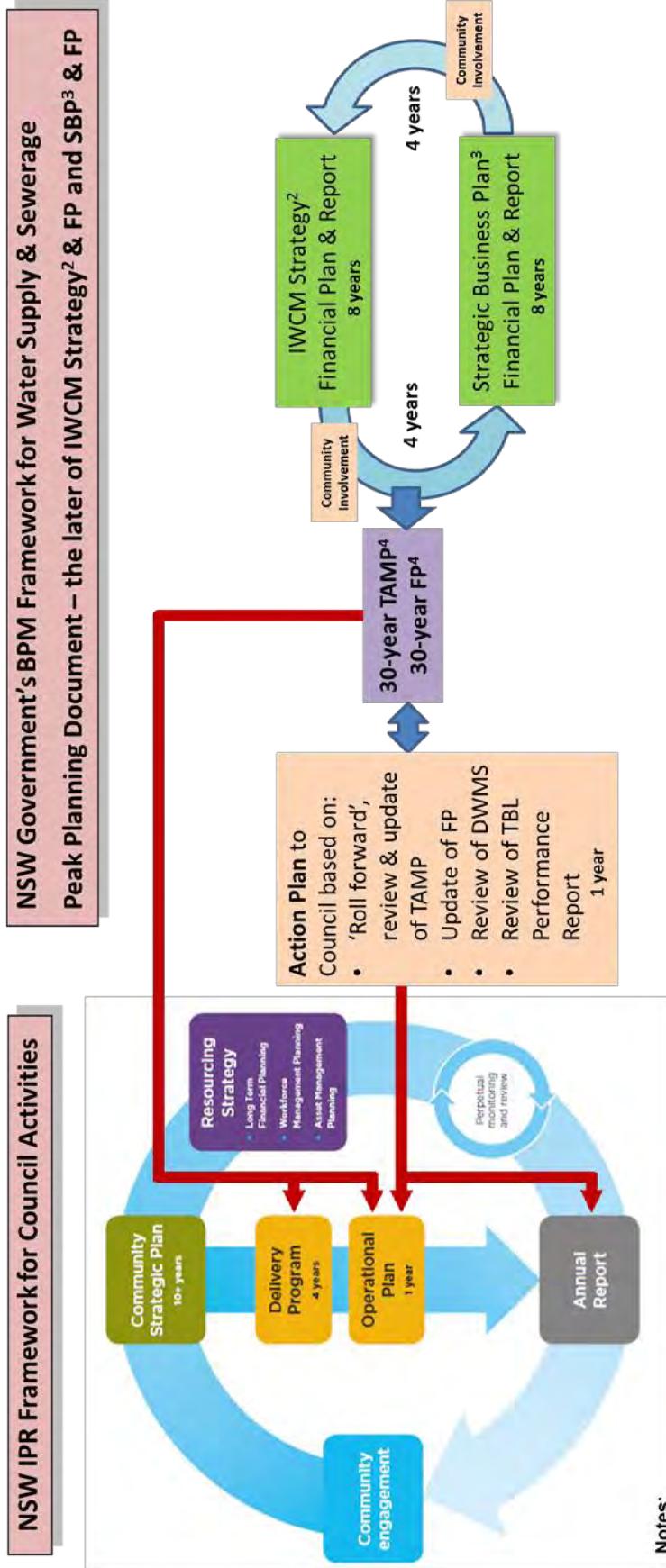
Years	0	1	2	3	4	5	6	7	8	
<b>SBP &amp; FP</b>					<b>SBP and FP &amp; Report</b> Including 'roll forward', review & update TAMP, renewals focus, Required revenue & TRB • Includes review outcomes of: - DMP - DWMS					
<b>IWCM Strategy &amp; FP</b>					<b>IWCM Strategy and FP &amp; Report</b> , including Water Conservation Measures, TAMP – sound assessment of alternative scenarios, value focus (TBL), Required revenue & TRB • Includes review outcomes of: - DMP - DWMS					<b>IWCM Strategy and FP &amp; Report</b> , including Water Conservation Measures, TAMP – sound assessment of alternative scenarios, value focus (TBL), Required revenue & TRB • Includes review outcomes of: - DMP - DWMS

**Note:**

In addition to the peak planning documents of IWCM Strategy & FP and SBP & FP, each LWU needs to continue to prepare an annual **Action Plan to Council** (pages 107 & 111).

IWCM	- Integrated Water Cycle Management
SBP	- Strategic Business Plan (Water & Sewerage)
FP	- Financial Plan
TAMP	- Total Asset Management Plan – Capex, OMA plans, Non-build solutions
OMA	- Operation, Maintenance & Administration costs
DMP	- Drought Management Plan
DWMS	- Drinking Water Management System – incl. Circular LWU 18, Section 61 Reports
TBL	- Triple Bottom Line
TRB	- Typical Residential Bill

**Figure H4 - Inputs to Integrated Planning & Reporting (IPR) Framework from NSW Government's BPM Framework for Water Supply & Sewerage**

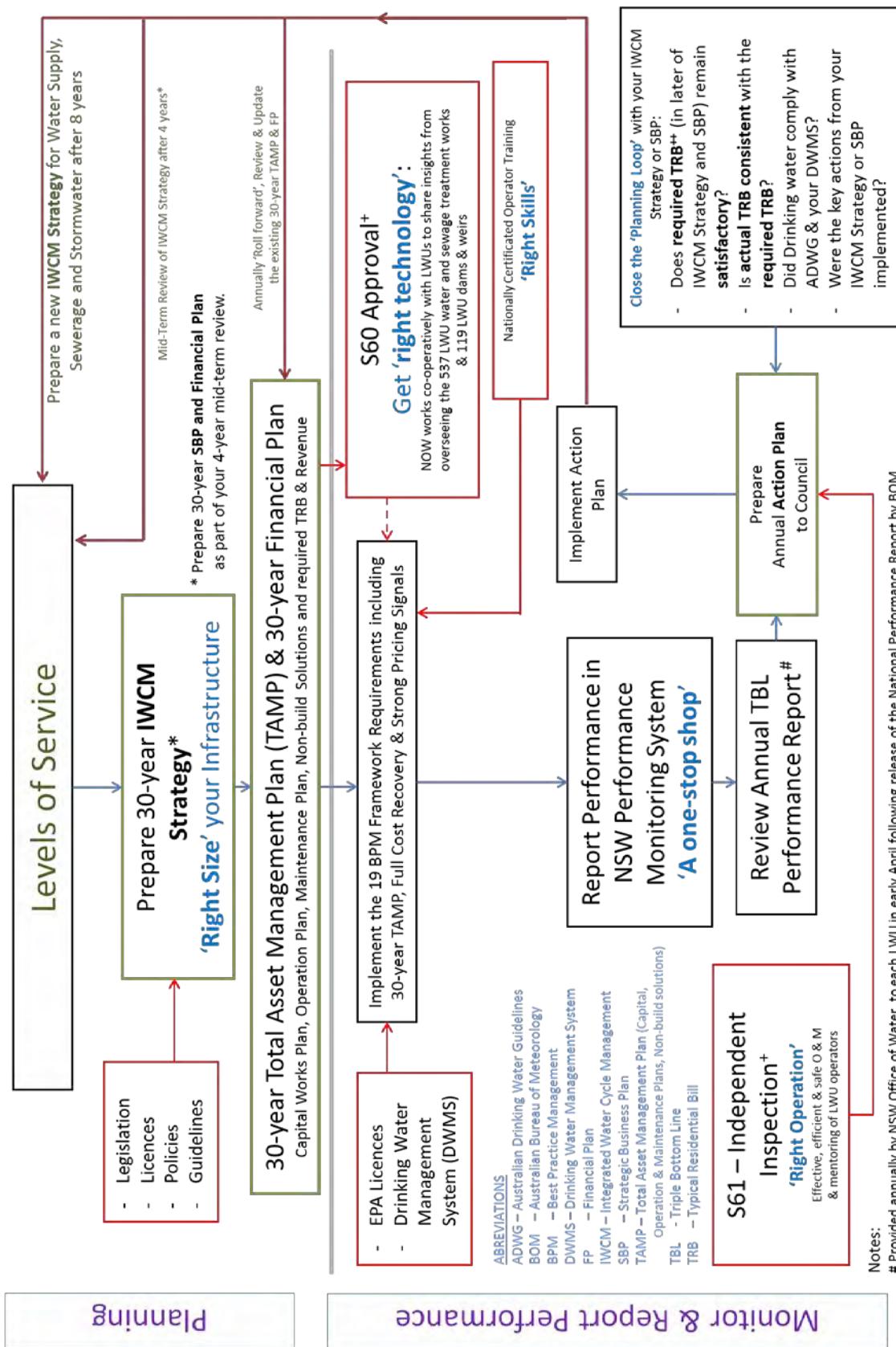


**Notes:**

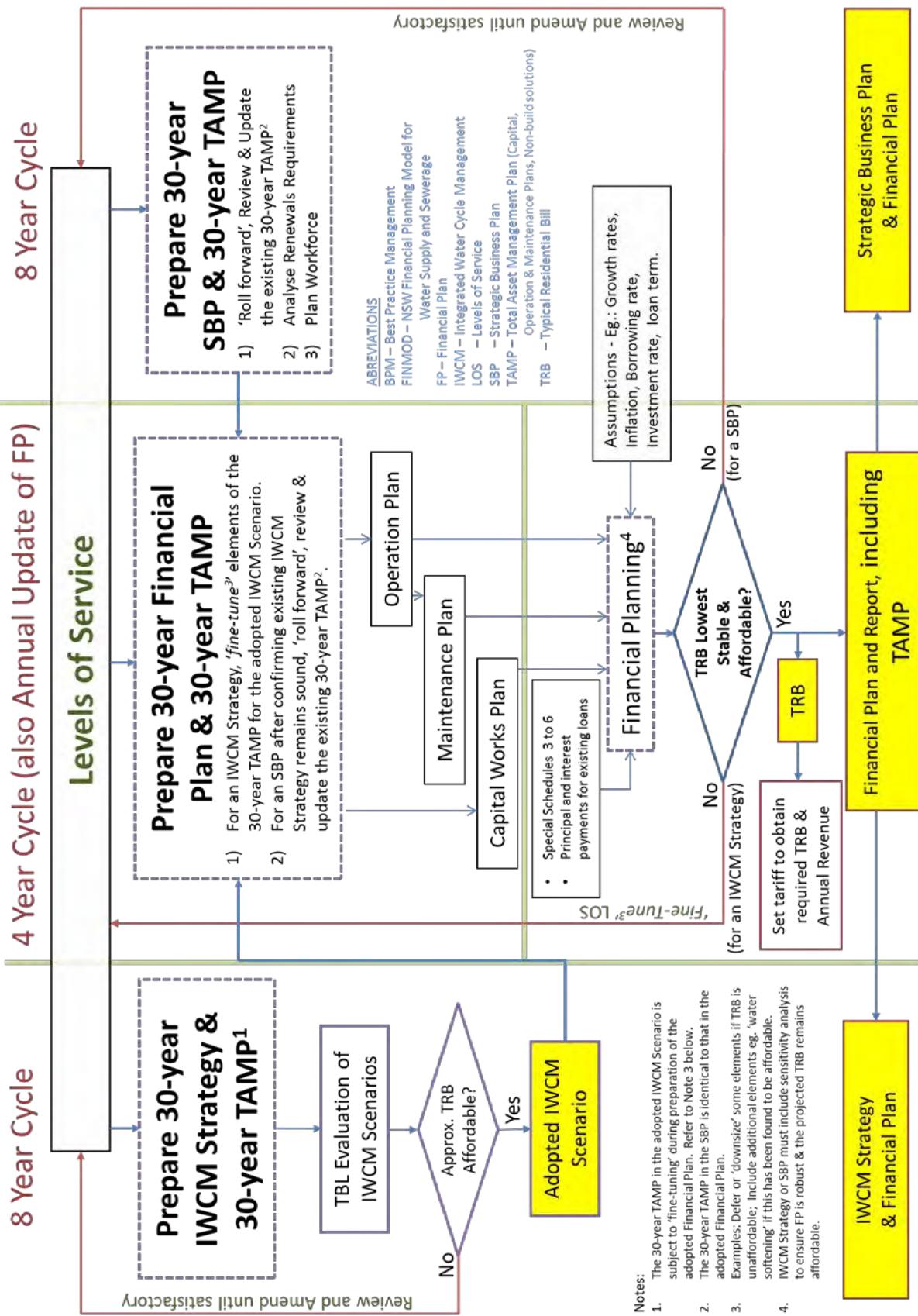
1. As indicated on page 20 of the *Integrated Planning & Reporting Manual for local government in NSW, March 2013* ([www.oig.nsw.gov.au](http://oig.nsw.gov.au)) Councils responsible for water supply and sewerage infrastructure need to comply with the requirements of the NSW Government's Best-Practice Management of Water Supply and Sewerage Guidelines, 2007. Refer also to page 109, including footnote 38.
2. In accordance with the IWCM Strategy Check List of July 2014 ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).
3. In accordance with the Strategic Business Planning Check List of July 2014 ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).
4. The adopted 30-year total asset management plan (TAMP) and 30-year financial plan from the later of a Council's IWCM Strategy and Strategic Business Plan are its 'Resourcing Strategy' for water supply and sewerage.

BPM	- Best-Practice Management
IWCM	- Integrated Water Cycle Management
SBP	- Strategic Business Plan (Water & Sewerage)
FP	- Financial Plan
TAMP	- Total Asset Management Plan – Capex, OMA plans, Non-build solutions
OMA	- Operation, Maintenance & Administration costs
DWMS	- Drinking Water Management System – incl. Circular LWU 18, Section 61 Reports
TBL	- Triple Bottom Line
TRB	- Typical Residential Bill

**Figure H5 - Interaction of BPM Framework, S60, S61 & LWU Operations**



## Figure H6 – Overview of BPM Framework Planning



# Index

## Note:

Page numbers shown in:

- **black bold** are the main reference to each topic;
- **blue bold** refer to figures comparing the performance of the **NSW utilities**; and
- **red bold** refer to graphs of **Interstate performance comparisons**.

5/10/10 rule, 4, **26**  
 Access Charge, **6**, 91, 94  
 Achieving Full Cost Recovery for Water Supply, 13  
 Action Plan, **1**, 27, 28, 80  
 Aggregated Businesses, 100  
 Annual Water Allowance, vii, **5**  
 Anomalous Data, 97  
 Apparent Loss, 33, **101**  
 Appropriate Non-Residential Water Supply Charges, 25, **105**  
 Asset Condition, **3**, 9  
 Asset Life Cycle, 30  
 Asset Valuation, 99  
 Audited Data, 34, **99**  
 Australian Drinking Water Guidelines, **7**, 101  
 Average Annual Residential Water Supplied, vi, **5**, **9**, 18, 32, **46**, **47**, **75**, 87, 91  
 Average Duration of Unplanned Interruption, 87  
 Benchmarking, 31  
 Best-Practice Implementation, vii, **21**, **64**, **65**, **66**, 84  
 Best-Practice Management, vii, **22**, 25  
 Best-Practice Framework, vii, viii, 1  
 Best-Practice Management (BPM) Guidelines, viii, **22**  
 Best-Practice Management of Water Supply and Sewerage Framework, vii, viii, 1  
 Biosolids Reuse, 11, **76**  
 BPM Documents, **111**, 112, 113, 114  
 BPM Framework, viii, 22  
 BPM Framework – Streamlining, 22, 105, **106**, 111, 112, 113, 114  
 BPM Requirements, viii, 23, 25, 106, **108**  
 Bulk Storage, 34  
 Bulk Supplier, 34  
 Capital Cost of Backlog Infrastructure, vii  
 Capital Expenditure, **20**, **79**, 87  
 Charges and Bills, 91, 94, **100**, 107  
 Chemical Compliance (water quality), **8**, **38**, 87, 102  
 Climate, v, 27, **30**  
 Climate Variability, 26  
 'Closing the Planning Loop', 23, **29**, 107, 110  
 Community Involvement, 16  
 Comparison of Key Performance Indicators, 28  
 Compliance with STW Licence, **11**, 102  
 Compliance with Microbiological Water Quality Guidelines, **8**, 17, 101  
 Compliance with EPA licence, vii, **11**  
 Conflicting Data, 97  
 Connected Properties, 87, 91, 94, **99**  
 Country Towns Water Supply and Sewerage Program, i, v, vii  
 Coverage, 7  
 Criteria for Adjustment of Critical Indicators, 99  
 Current Replacement Cost, vii, 87  
 Data Reliability, **1**, 97  
 Data Validation, 28, **97**  
 Data Validation Processes for the NSW Performance Monitoring System, 97  
 Debt to Equity, **13**, 21, **78**, 87  
 Demand Management, 22, **23**, 26, 84  
 Developer Charges, **6**, 25, **67**, **68**, 84, 87, 91, 94, 105  
 Development Density, 17, **30**, **72**  
 Development Servicing Plan, **25**, 84  
 Dividend Payment, 12, **26**, 84  
 Drinking Water Management System, 7

Drinking Water Quality Compliance, **8, 38, 39, 74, 101**

Drought Management, **3, 22, 24, 26, 84, 105**

Drought Water Restrictions, **v, 3**

DSP, **25, 84**

Dual Water Supplies, **32**

Economic - Efficiency, **14, 58, 59, 78**

Economic - Financial, **12, 56, 57, 78, 79**

Economic Characteristics, **vii**

Economic Factors, **31**

Economic Real Rate of Return, **vii, 12, 20, 55, 56, 57, 78, 87, 91, 94**

Economy of Scale, **17**

Efficiency, **58, 59, 78, 101**

Effluent Management, **11**

Effluent Recycled, **vi, 11, 19, 53, 76, 102**

Eligibility for Payment of a Dividend, **26**

Emerging Issues, **28**

Employees, **15**

Energy Cost, **29**

Environmental - Effluent Management, **9, 53, 76, 77**

Environmental - Water Usage and Reuse, **9, 75, 76**

Environmental Factors, **9, 31**

Errors in Data, **97**

Example TBL Report and Action Plan, **80, 82**

Executive Summary, **v**

Factors Affecting Performance, **30**

Fair Value of Assets, **99**

Filtered Supply, **31**

Financial Data, **99**

Financial Performance Indicators, **vii, 12**

Financial Planning, **v, vii, 25, 103**

Fit for Purpose, **102**

Framework for Regulation of Sewerage and Trade Waste, **viii, 11**

Full Cost Recovery, **12, 13, 91, 94, 104**

Future Directions 2011, **29**

General Notes, **32**

Geography, **30**

'Gold plating', **102**

Greenhouse Gas Emissions, **11, 21, 54, 77**

Groundwater, **33**

Health, **7, 87, 101**

Healthy Urban Creeks and Waterways, **30**

High Loan Payment, **31**

High Pumping Cost, **31**

High Residential Water Supplied / Property, **31**

Hunter Water Corporation, **34**

Identifying Trends, **28**

Implementation of Requirements of Best-Practice Management Guidelines, **vii, 24, 25, 64, 65, 66, 103**

Incomplete Data, **97**

Inconsistent Data, **97**

Increased Borrowing (need for), **14**

Infrastructure Renewals, **3**

Integrated Planning and Reporting (IPR), **23, 108, 114**

Integrated Water Cycle Management, **22, 26, 84, 87, 105**

Interstate Comparisons, **17, 71**

Interstate Comparisons - Economic, **20, 78**

Interstate Comparisons - Environmental, **18, 75**

Interstate Comparisons - Social, **17, 73**

IPR, **23, 108, 114**

Lack of Economy of Scale, **17**

Leakage, **11**

Liquid Trade Waste Concurrence, **102, 105**

Liquid Trade Waste Fees & Charges, **25, 84, 105**

Liquid Trade Waste Policy, **25, 84, 105**

Liquid Trade Waste Regulation, **11, 24, 102, 105**

List of NSW Water Utilities, **ii**

Liveability, **28**

Mains Cost, **15, 29**

Management Cost, **15, 29, 61, 62, 87, 101**

Microbiological Compliance, **8, 39, 87, 101**

National Certification Framework for Water Treatment Operators, **vi, 16**

National Competition Policy, **1**

National Performance Comparisons, **71**

National Performance Framework, **vii, 34**

National Performance Report, **34**

National Water Initiative, vii, **1**  
 National Water Initiative (NWI) Indicators, 34  
 Net Debt/Equity, **13**, 21, **78**, 87  
 Net Profit After Tax, 87  
 New Residential Dwellings, 2  
 Non-Residential Charges, **25**, **70**, 84  
 Non-Residential Sewerage Charges, **25**, **70**, 84, 94, 105  
 Non Revenue Water, **33**, **50**, 101  
 Non-compliance with SS Licence, **52**  
 NSW Best-Practice Management of Water Supply and Sewerage Framework, vii, **viii**, 1  
 NSW Best-Practice Management of Water Supply and Sewerage Guidelines, 1  
 NSW Framework for Regulation of Sewerage and Trade Waste, **viii**, 11  
 NSW Financial Planning Model, 13  
 NSW Security of Supply Basis, 4, **26**  
 NSW Water Utilities, ii  
 Number of Assessments, 99  
 Number of Employees, 15  
 OMA, vii, **14**, 20, 87, 101  
 Operating Cost (OMA), **14**, 20, **58**, **59**, **60**, **78**, 87, 94, 101  
 Operating Cost Components, 29  
 Operating Cost per Property, **14**, 20, **58**, **59**, **78**, 87  
 Pay-For-Use Pricing, **69**, **73**, 104  
 Pay-For-Use Water Supply Tariff, 5  
 Peak Day Water Supplied, **48**  
 Peak Planning Document, **22**, 108  
 Performance Indicators, 1  
 Performance Monitoring, **1**, 22, 23  
 Performance Reporting by Utilities, 1, 84, **105**  
 Performance Summary, 2  
 Physical Compliance (water quality), **8**, 102  
 Planning Loop, 29  
 Planning Requirements, **viii**, **22**, 23  
 Population Served, 7  
 Preparation of an Action Plan, **27**, 28  
 Preventative Risk Management Approach, **viii**, **105**  
 Pricing, 4, 5, 91, 94, **104**  
 Pricing and Cost Recovery, 27  
 Pricing and Regulation of Sewerage and Trade Waste, **viii**, **11**, 24  
 Pricing and Regulation of Water Supply, Sewerage and Trade Waste, **viii**, **22**, 24  
 Pricing Requirements, **viii**, **22**, **24**  
 Pricing Signals, 5  
 Process Benchmarking, 28  
 Properties Served per km of Main, 3, **72**  
 Provision of Reticulated Sewerage, 3  
 Public Health, **7**, 87, 101  
 Pumping Cost, **15**, 29  
 Rainfall, **v**, **2**  
 Real Loss (Leakage), **11**, 19, 33, **49**, **75**, 87, 101  
 Recycled Water, vi, **11**, 19, **53**, **76**, 87  
 Recycled Water Usage Charge, 94  
 Regulation of Sewerage and Trade Waste, **11**, 24, 25  
 Reliability of NSW Performance Monitoring System, **1**, 97  
 Renewals Expenditure, 3  
 Requirements of Best-Practice Management Framework, **viii**, 24  
 Residential Revenue from Usage Charges, 17, **25**, **63**, **73**, 91  
 Residential Sewerage Charges, **6**, **37**, **73**, 94, 104  
 Residential Water Billing in Accordance With National Guidelines, **6**, 91  
 Residential Water Supplied, vi, **5**, **9**, 18, 32, **46**, **47**, **75**, 87, 91  
 Residential Water Usage Charges, **73**, 91  
 Residential Usage Charges > 75%, **69**, 91, **104**  
 Reticulator, 33  
 Return on Assets, 91, 94, **104**  
 Revenue, **13**, **63**, 84, 87  
 Revenue from Community Service Obligations, **21**, **79**  
 Review of Performance, **27**, 28  
 Risk Management, **viii**, **105**  
 Section 60, 102  
 Section 61, 102  
 Section 90(1), **102**, 105  
 Security of Supply, 26

Service Standards, 17, 31

Sewage Collected, 18, 75, 94, 102

Sewage Effluent Quality (BOD), 11, 51, 76, 102

Sewage Effluent Quality (SS), 11, 52, 76, 102

Sewage Odour Complaints, 8, 41, 76, 87

Sewage Treated that was Compliant, 11, 19, 44, 77, 87, 102

Sewage Treatment Works Compliance, 103

Sewer Main Breaks and Chokes, 11, 19, 77

Sewer Main Cost, 15

Sewer Overflows Reported to the Environmental Regulator, 11, 19, 77, 87

Sewer Overflows to the Environment, 45, 87

Sewer Usage Charge, 6, 70, 94, 105

Sewerage and Trade Waste Regulation, 11, 24, 25

Sewerage Complaints, 9, 41

Sewerage Compliance, 76

Sewerage Coverage, 7

Sewerage Operating Cost, 14, 15, 20, 59, 78

Size of LWU (impact of), 17, 30

Social - Charges and Bills, 4, 73

Social - Health, 7, 74, 101

Social - Levels of Service, 8, 31, 74

Software and Guidelines, 16

Special Levies, 91

Statewide Medians, 1, 32

Statewide Performance, 1, 17, 32, 71

Strategic Benefits of Strong Pricing Signals, 5

Strategic Business Plan, v, vii, 4, 22, 84, 87, 103

Streamlining of BPM Framework, 22, 106, 111, 112, 113

Strong NSW Pricing Signals, 5

Sydney Catchment Authority (now Water NSW), 34

Sydney Water Corporation, 34

Tariffs, 4, 91, 94, 100, 104

TBL Reports and Action Plans, 1, 27, 80, 82

Total Complaints, 42

Total Revenue, vii, 84, 87

Total Water Supplied, v, 87

Trade Waste Concurrence, 102, 105

Trade Waste Fees and Charges, 25, 84, 94, 105

Trade Waste Policy, 25, 84, 105

Trade Waste Pricing and Regulation, 11, 25

Trade Waste Regulation, 24, 102, 105

Trade Waste Usage Charge, 94

Treatment Cost, 15, 29

Triple Bottom Line Focus, 1, 32

Triple Bottom Line Performance Reports, 27, 82

Typical Residential Bill, v, 6, 17, 26, 32, 35, 36, 37, 73, 91, 94, 100

Unbilled Water, 101

Unfiltered, 33

Unsubstantiated Data, 99

Upper Bound Pricing, 13

Urban Water in Australia - Future Directions 2011, 30

Urban Water Supplied, 75, 87, 101

Usage Charge, 5, 6, 69, 70, 73, 91, 94, 100, 104, 105

Utility Characteristics, v, 2, 30, 72

Utility Performance Comparison, 1, 28, 87

Validation of Data, 98

Water Complaints, 9, 40, 74, 87

Water Conservation, vi, 9, 22, 23, 26, 105

Water Losses, 33, 101

Water Main Breaks, vi, 9, 18, 43, 74, 87

Water Main Cost, 15

Water Properties Served per km of Main, 72

Water Quality Complaints, 40, 74, 87

Water Quality Compliance, vi, 8, 74, 87, 101

Water Resource Availability and Proximity, 30

Water Restrictions, 3

Water Security, 26

Water-Sensitive Urban Design, 28

Water Supplied, 75, 87, 101

Water Supply Coverage, 7

Water Supply Operating Cost, 14, 15, 20, 58, 60, 78

Water Usage Charge, 5, 69, 73, 91, 100, 104

Written Down Replacement Cost, 20, 79



