



Australian Government  
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# National performance report 2022–23: urban water utilities

Part A



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## Disclaimer

This report has been produced by the Bureau of Meteorology with support from the Water Services Association of Australia; and the parties to the National Water Initiative (NWI), being the Australian Government and the governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory, the Northern Territory, Tasmania, and Western Australia (the contributors). These contributors accept no responsibility for the completeness or accuracy of any of the information contained in this report and make no representations about its suitability for any particular purpose. Users of this report should make their own judgements about those matters. To the extent permitted by law, the contributors exclude all liability for loss or damage arising from the use of or reliance on the information contained in this report, whether or not caused by any negligence or wrongdoing on the part of the contributors or their agents.





Australian Government  
Bureau of Meteorology



# National Performance Report 2022–23: urban water utilities

Part A



Government of Western Australia  
Department of Water and Environmental Regulation

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# A guide to this report

The following explanatory notes are provided to assist you to read and interpret the report.

## Key terms and abbreviations

Utilities that form part of a city, shire or regional council, or a similar local government entity, are reported under the town or city name within the tables and charts in the report. For example, Dubbo Regional Council is referred to as 'Dubbo' in tables and charts throughout the report.

In addition, several utilities are represented by shorter names to aid presentation in charts and tables:

- Aqwest–Bunbury Water Corporation (W) = Aqwest–Bunbury (W)
- Busselton Water (W) = Busselton (W)
- City of Kalgoorlie–Boulder (S) = Kal–Boulder (S)
- Goldenfields Water County Council = Goldenfields Water (W)
- Queanbeyan–Palerang Regional Council = Queanbeyan
- Queensland Bulk Water Supply Authority = Seqwater.

Abbreviations used in utility names include:

- P&W = Power and Water
- WC = Water Corporation.

Most utilities in this report provide both water and sewerage services. Where a utility provides only a single service (for example, only water supply), it is denoted using a code in brackets after the utility's name. The codes are:

- W = water supply only
- S = sewerage only.

## Bulk water authorities

Bulk water authorities operate in several jurisdictions across Australia and provide wholesale water and wastewater services. These authorities do not have direct relationships with retail customers. For example, Melbourne Water supplies bulk water and wastewater services to the seven (7) retail utilities in and surrounding the Melbourne metropolitan region.<sup>1</sup>

## Utility groups

For the purpose of this report, the contributing utilities are grouped by number of connected properties. The utility groups used are:

- Major – 100,000+ connected properties
- Large – 50,000 to 100,000 connected properties
- Medium – 20,000 to 50,000 connected properties
- Small – 10,000 to 20,000 connected properties.

Bulk water authorities are grouped separately and are not included in the analysis unless explicitly stated.

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<sup>1</sup> South East Water Ltd, Yarra Valley Water Corporation, Greater Western Water, Central Gippsland Water, Barwon Water, South Gippsland Water, and Westernport Water

## Reporting year

References to the 'reporting year' or '2022–23' refer to the reporting year between 1 July 2022 and 30 June 2023 inclusive.

## Missing or unavailable data

Missing or unavailable data are denoted in a table by a blank cell.

## Interpreting 'overview of results' tables

Example Figure 1 shows how to interpret the 'Overview of results' table provided for each indicator.

Size group	1 Range		2 Number of utilities with increase/decrease from previous year		3 Median or Total		4 Change in median/total from previous year (%)
	High	Low	Increase	Decrease	Previous year	Current year	
Major	249	140	10	1	158	162	3
	WC (Perth)	Logan					
Large	454	130	9	1	164	181	10
	P&W (Darwin)	Toowoomba					
Medium	479	143	17	1	175	201	15
	Lower Murray Water	MidCoast Water					
Small	450	80	19	5	174	179	3
	5 Multiply utilities	Ballina					
<b>All size groups</b>	<b>479</b>	<b>80</b>	<b>55</b>	<b>8</b>	<b>166</b>	<b>177</b>	<b>7</b>
	<b>Lower Murray Water</b>	<b>Ballina</b>					

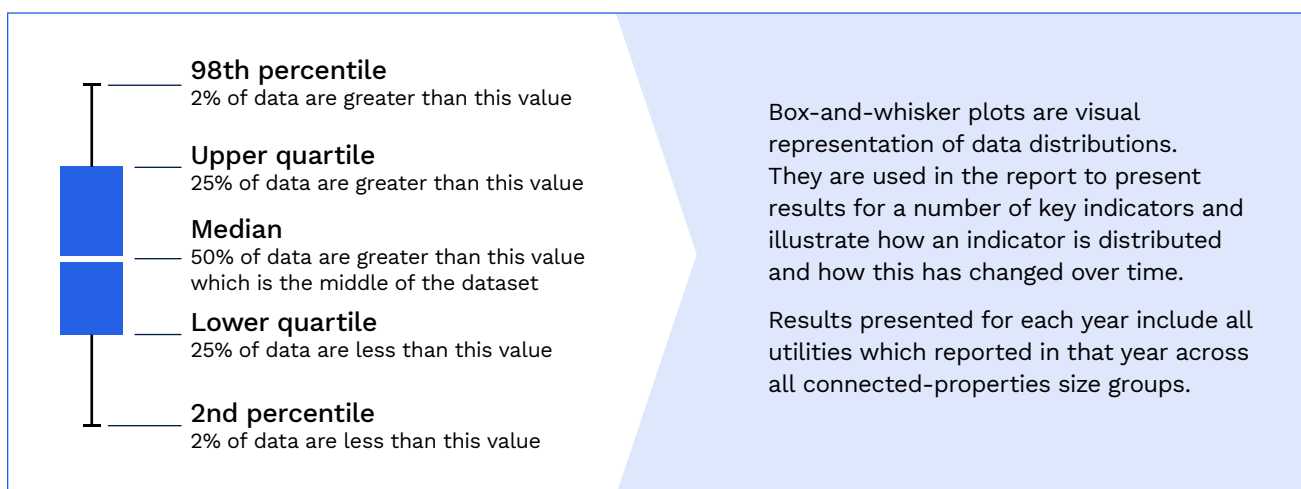
- 1 The range shows the utilities with the highest and lowest result in the current reporting year for each utility group.
- 2 These columns show the number of utilities reporting an increase or decrease from the previous year's results for each utility group. Utilities that did not report in both years are included in this column. The figures do not include utilities that reported no change from the previous year.
- 3 The median value is the middle number in the range of results. For example, if five utilities reported for this indicator and their results are 190, 195, 206, 207, and 210, the median is 206 as it is the middle number. The median value is calculated using data from all utilities reporting against this indicator in that year. For indicators that are not represented as an 'average' for the utility (for example, average duration of water interruptions), or are divided by the number of properties (per property), the summary tables present the sum (total) of the results. The total value for a year is the sum of the results for that year of all the utilities that reported in both years.
- 4 This column shows the percentage change between the current and previous years and is rounded to the nearest integer, except in cases where additional precision is required.
- 5 'Multiple utilities' is used when more than one utility recorded the same value.

**Example Figure 1 How to interpret an 'Overview of results' table**



## Interpreting box-and-whisker plots

The report uses box-and-whisker plots to show trends in the annual distribution of key indicators as shown in Example Figure 2.



Example Figure 2 How to interpret a box-and-whisker plot

## Interpreting data and commentary

When interpreting data and commentary in the report, it is important to consider the following:

- The indicator codes are noted in the titles of each section (for example, W12, F3, P7) and can be cross-referenced with the National urban water utility performance reporting framework: indicators and definitions handbook, January 2018. The median is the preferred metric for the reporting dataset, as outlier results can affect the average (mean), which can skew results towards the outliers.
- The median is the value at which 50% of utilities fall above and 50% fall below that point. Where average results are presented in addition to the median, they are to be interpreted together with the full dataset.
- Many factors can influence the performance of a utility, and individual performance indicators need to be interpreted in context. A low ranking for one indicator may not accurately reflect the overall performance of a utility. For example, a utility might have a low operating cost per property, but also poor drinking water quality and environmental performance, and a high level of complaints.
- In discussions of indicators, the 'normaliser' is often omitted to improve the flow of the commentary about indicators. For example, in the discussion of results for water main breaks per 100 km of water main, the commentary refers to a utility's 'water main breaks'. In this case, it is not the absolute number of water main breaks, rather, the number of breaks per 100 km from the water main.
- Single-service utilities are only included in the analysis of an indicator when a comparison can be made on a like-for-like basis with utilities that provide both water and sewerage services. For example, the overview tables for water and sewerage operating expenditure per connected property and for typical residential bills do not include single-service providers, but the overview tables for sewer overflows per 100 km of sewer main include all utilities that provide sewerage services.
- Financial time series information is given in real 2022–23 dollars; the impact of inflation is removed to ensure that years can be compared on a like-for-like basis. Consumer price index (CPI) figures can be found in Appendix E (CPI indexation).
- The percentage (%) change is calculated from the 2021–22 reporting year to 2022–23 with figures rounded to the nearest integer, except in cases where additional precision is required.

# Executive summary

*The National performance report 2022–23: urban water utilities* (2023 Urban NPR) compares the performance of 81 utilities and councils (utilities) and 5 bulk water authorities providing urban water services to over 25 million people across Australia. The 2023 Urban NPR is published by the Bureau of Meteorology (the Bureau) with information provided by utilities across Australia's states and territories. The report is the 18th in the series, and the 10<sup>th</sup> to be produced by the Bureau.

Part A of the report provides commentary on and analysis of key indicators. Part B of the report contains data for the full set of 166 indicators reported by utilities and bulk water authorities for all reporting years.

## Decreased volume of water supplied from major sources of water after a wet and warm climate in 2022–23

Australia's total rainfall was above to very much above average for much of the country particularly in the northern and south-eastern mainland, making 2022–23 the seventh wettest financial year on record. The mean daily temperature was also above average across the country.

Nationally, total urban water sourced from major sources of water decreased by 7% in 2022–23 with New South Wales reporting the highest decrease of 15%. High rainfalls and surface water availability significantly decreased the use of desalinated water. New South Wales was the exception with decreased volumes of water sourced from surface resources due to low water quality and increased use of desalinated water.

Similar to the previous year, surface water was the dominant source in all states and territories except Western Australia which relied mostly on groundwater. Groundwater was an important source for water supply in Perth, where it increased by 5% compared to 2021–22.

## Decreased reliance on desalination and shift to surface water supplies to meet water demands in most major urban areas

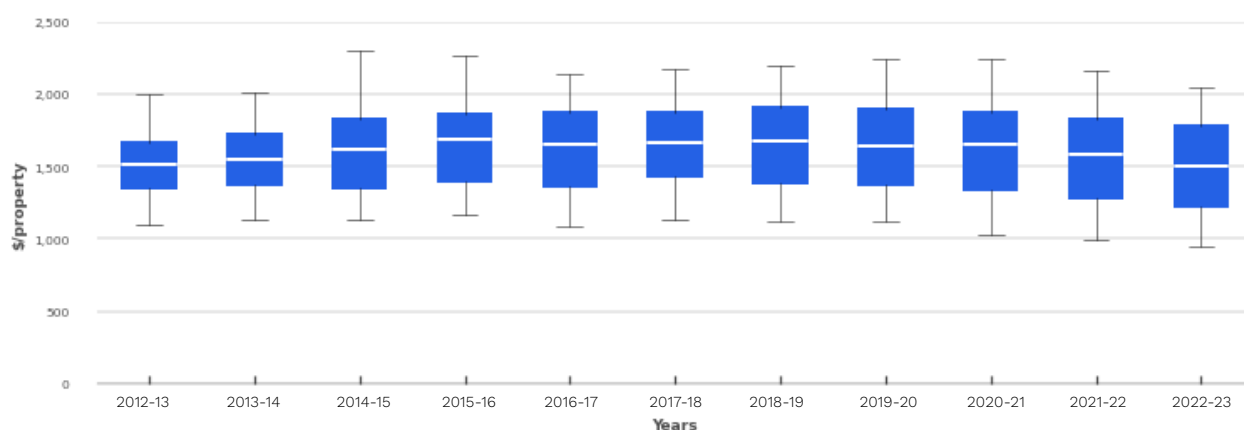
Increased surface water availability as a result of high rainfall in much of Australia decreased the use of desalinated water and shifted the urban water supply to surface water resources in 2022–23. All states that have desalination plants reported a significant decrease in production compared to 2021–22, except Sydney which almost tripled the volume of water sourced from desalinated marine water compared to the previous year. This was due to deteriorated surface water quality from significant flood events in the current year. Sydney also supplied the highest volume of water sourced from surface water compared with other urban areas in 2022–23.

## Continued decrease in greenhouse gas emissions in most major urban areas

Nationally, the total net greenhouse gas emissions continued to decrease in 2022–23 compared to the previous year (9%) across all states and territories. All major cities achieved decreased greenhouse gas emissions in 2022–23, except Darwin which reported a 4.5% increase in its emissions. Perth continued to report the highest net greenhouse gas emissions, due to having the highest use of desalinated water. Perth also continued to represent the highest decrease percentage (33.2%) in emissions compared to the previous year.

## Decreasing trend in typical residential bills for water and wastewater services

In 2022–23, the typical residential bill declined by 6% on the national scale compared to the previous year. The declining trend has been continuing since 2019–20. All major urban areas experienced a decrease in their typical residential bills for water and wastewater services during 2022–23. Of these, Canberra and Adelaide showed the highest percentage decrease (above 8%) in the price of their services compared to the previous year. Melbourne reported the lowest and Darwin reported the highest total typical residential bills of the major urban centres in 2022–23.

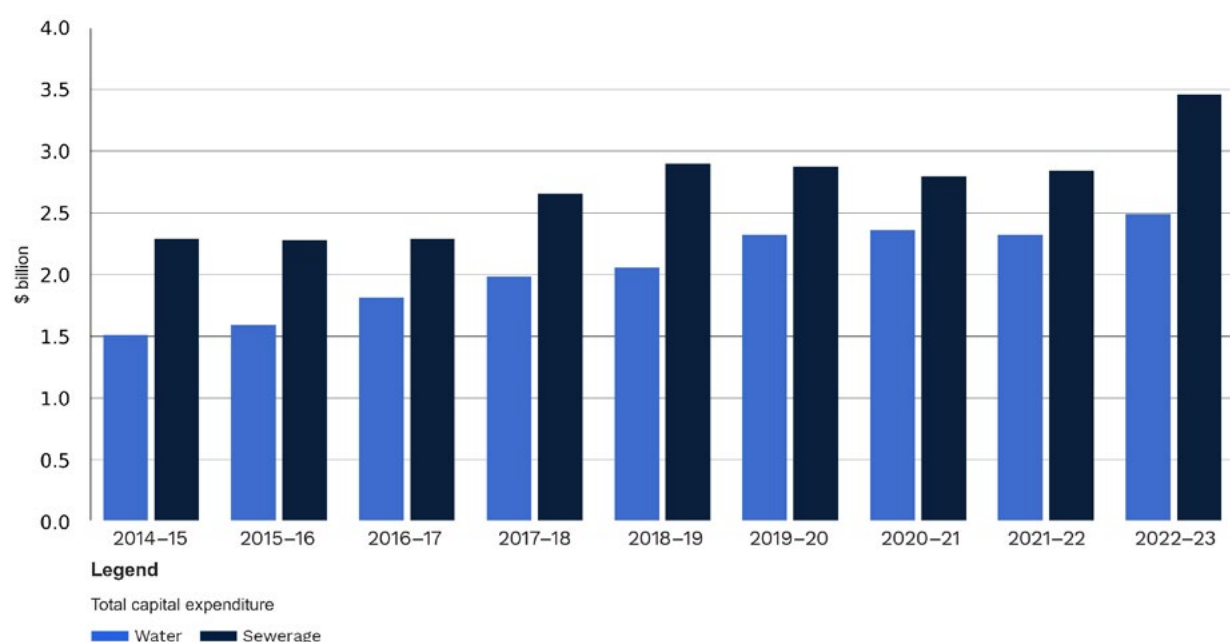


**Figure 1 Typical residential bill: water supply and wastewater (\$), 2012–13 to 2022–23**

For more information about bills, see Chapter 4 Pricing and Appendix A Tables A3 and A4.

## Significant increase in total capital expenditure for water and wastewater services

In 2022–23, the total capital expenditure on water and wastewater services significantly increased as a result of capital program development for several utilities across different states. The increase in total capital expenditure for wastewater services was larger than that for water supply. Among major urban areas, Darwin reported the highest increase and Canberra reported the lowest increase compared to the previous year.



**Figure 2 Total capital expenditure: water supply and sewerage (\$ billion) for utilities that reported all 9 years (excluding bulk water utilities)**

For more details about capital expenditure see Chapter 5 Finance and Appendix A, Table A5.





# 1 Introduction

## 1.1 Context and overview

This *National performance report 2022–23: urban water utilities* (2023 Urban NPR) supports the commitments made by states and territories under the National Water Initiative (NWI) to report publicly and independently on the performance of water utilities.<sup>2</sup>

The 2023 Urban NPR compares the performance of 81 utilities and councils (utilities) and 5 bulk water authorities that provide urban water and sewerage services to over 25 million people across Australia. It is produced by the Bureau of Meteorology (the Bureau) in conjunction with state and territory governments and the Water Services Association of Australia.

Part A of this report provides commentary on, and analysis of, key indicators that apply to retail and distribution utilities. The major urban centre analysis in Chapter 2 includes performance data for bulk water suppliers. Part B of this report contains data for the full set of 166 indicators that are reported on by urban water utilities and bulk water authorities for all reporting years.

The analysis and commentary provide context for each indicator, discuss changes in reporting methods, and highlight trends within and/or between different utility groups. The utilities are grouped according to the number of properties they are connected to, as explained in ‘A guide to this report’.

The commentary and analysis in the 2023 Urban NPR are not intended to be a comprehensive explanation of every reported indicator. They present some of the more apparent trends or differences between years and utilities. Most of the information is sourced from publicly available sources, such as annual reports, regulatory decisions and utility websites.

## 1.2 Reporting

The 86 utilities (including 5 bulk water authorities) contributing data to the 2023 Urban NPR are listed in Appendix C. Table 1.1 summarises the utility size groups by jurisdiction.

Seventy-two of the 86 utilities included in this report provide both reticulated water supply and wastewater (sewerage) services. The remaining utilities provide only water supply or sewerage services. In summary, the report includes data for:

- 72 utilities providing water supply and sewerage services
- 5 utilities providing only water supply services
- 4 utilities providing only sewerage services
- 5 bulk water authorities.

There were no changes in the number of utilities reporting to the NPR framework in 2022–23 compared to 2021–22. However, the financial data for 8 utilities in regional New South Wales (specifically Goulburn Mulwaree Council, Kempsey Shire Council, Lismore City Council, MidCoast Council, Orange City Council, Queanbeyan-Palerang Regional Council, Shoalhaven City Council and Snowy Monaro Regional Council) were unavailable at the time of report preparation. Consequently, this data is not included in the analysis of this report.

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<sup>2</sup> National Water Initiative clauses 75–76



Table 1.1 Utilities reporting in the 2023 Urban NPR by size group and jurisdiction

Jurisdiction	Bulk	Major	Large	Medium	Small	Total
Australian Capital Territory		1				1
New South Wales	2	3	1	13	12	31
Northern Territory			1		1	2
Queensland	2	4	5	4	7	22
South Australia		1			1	2
Tasmania		1				1
Victoria	1	4	5	5	1	16
Western Australia		1	1		9	11
<b>Total</b>	<b>5</b>	<b>15</b>	<b>13</b>	<b>22</b>	<b>31</b>	<b>86</b>

## 1.3 Locations of utilities

Figure 1.1 shows the administrative boundaries of all utilities reporting data for the 2023 Urban NPR. Further details about the utilities are available from the relevant utility websites. While the SA Water Corporation provides services across South Australia, it does not provide water and wastewater services to all communities, which are also serviced by councils and private entities.<sup>3</sup>

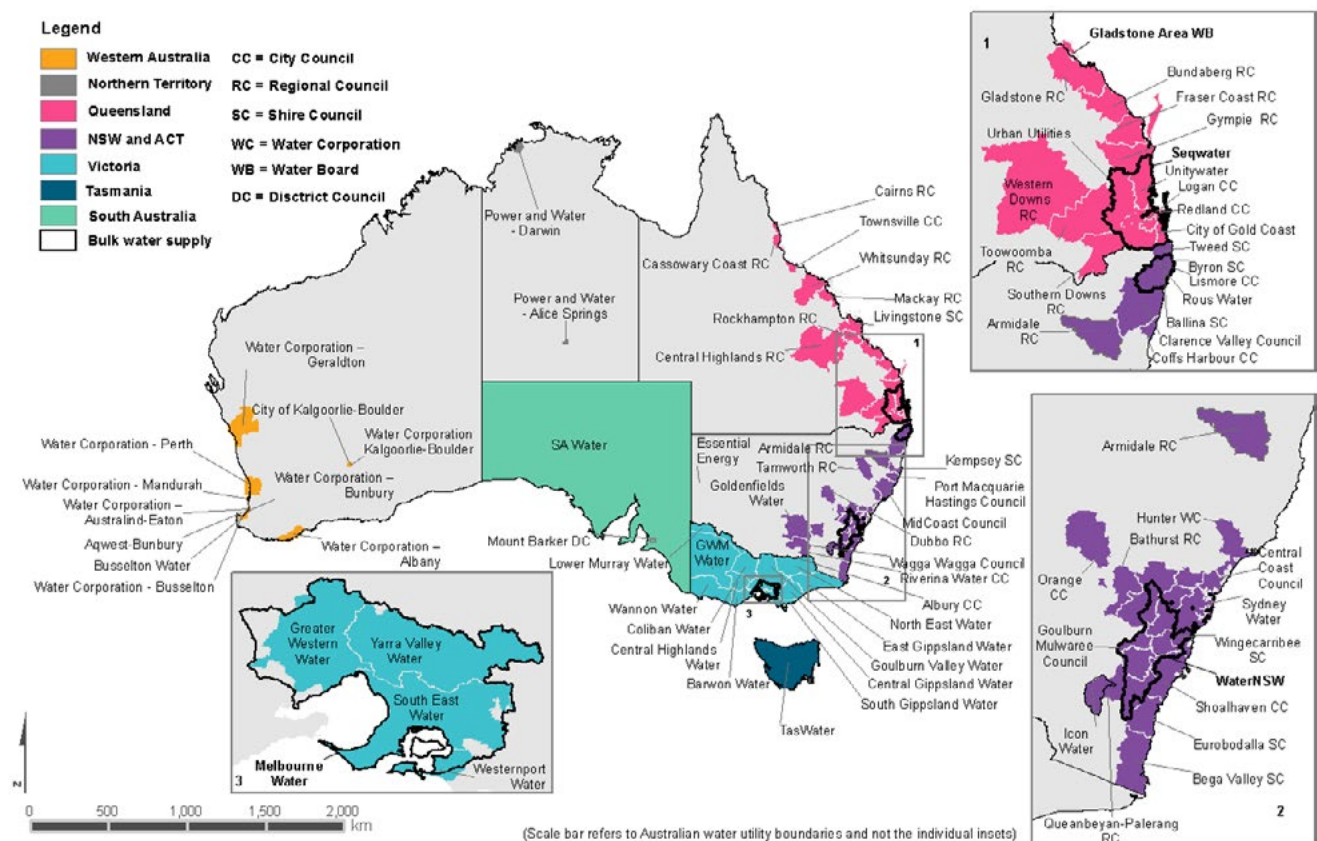


Figure 1.1 The administrative boundaries of all utilities reporting data for 2022–23

<sup>3</sup> Maps of cities and towns serviced by SA Water are available in SA Water's 2022–23 annual report p.9. [2022-23-SA-Water-Annual-Report.pdf \(sawater.com.au\)](https://www.sawater.com.au/2022-23-SA-Water-Annual-Report.pdf)





## 1.4 Key drivers

Key drivers of water utility performance presented in the 2023 Urban NPR include rainfall, temperature, utility size and sources of water.

Other factors also affect performance but are not discussed in detail. These include:

- network density
- soil types
- the age and condition of infrastructure
- impacts of the COVID-19 pandemic
- geographic location and remoteness
- government policy and regulation.

### 1.4.1 Rainfall

Rainfall can affect utility performance in many ways.

- Significant droughts with prolonged periods of low rainfall can stress urban water supply systems. Depending on the severity of the drought, security of the system and availability of climate-resilient water sources (for example, desalinated or recycled water), the utility may impose water restrictions to conserve water and ensure continuity of the water supply.
- Wet or dry conditions can affect demand for outdoor watering, resulting in a change in the volume of urban water and recycled water supplied to residents, councils, and parklands to be used for outdoor leisure activities such as golf courses (Water resource indicators W12, W26). Changes in water consumption affect the revenue collected by utilities, their profitability, and the strength of their water-usage pricing signal.
- Wet or dry conditions can affect decisions about the water sources used (Water resource indicators W1 to W7). Persistent dry conditions can trigger thresholds for production from desalination plants and the use of groundwater and recycled water sources, which affect the operating costs of utilities (Finance indicators F11 to F13). Also, to mitigate against the risk of variable raw water quality due to the ongoing severe wet weather and possible flooding conditions, the utility might decide to use more desalination water (increasing W3.1).
- Increased rainfall can result in infiltration of water into sewer systems, which can increase the volume of sewage to be pumped and treated, increasing the operating costs of utilities (Finance indicators F12, F13) and greenhouse gas emissions from sewage (Environment indicators E10, E12). Additional rainfall and sewer infiltration can also result in additional sewer overflows, especially during heavy rainfall.
- Extreme wet or dry conditions can cause expansion and shrinking of reactive clay soils in some parts of Australia. This can result in ground movement causing an increase in water or sewer main breaks (Asset indicators A8, A14), especially when conditions fluctuate rapidly from wet to dry or dry to wet. In periods of more consistent rainfall, the soils maintain more even moisture levels, resulting in less ground movement.

In 2022–23, Australia's total rainfall was 32% above the 1961–90 average, (at 612.6 mm, the seventh wettest year on record) compared to all observations since national records began in 1900. Rainfall for the financial year (Figure 1.2) was above average for much of Australia – very much above average for the northern and south-eastern mainland as well as the east coast of Tasmania. Some parts of northern Queensland, small parts of Northern Territory and the north of Western Australia experienced the highest rainfall on record. However, rainfall was below average for south-eastern Queensland, north-eastern New South Wales, south-western Tasmania, and some scattered areas in the west of Western Australia.

Winter, spring and summer rainfalls were all above average for Australia with the spring rainfall being the second wettest on record (behind spring 2010). However, the autumn rainfall was 10.1% below average for the whole Australia. September, October and November rainfalls were respectively the fifth, second and 10th highest on record for Australia while May 2023 was an exceptionally dry month for Australia. Below

average rainfall was also observed in western Tasmania, south and west Gippsland in Victoria, south-western and north-western Western Australia, the northern half of the New South Wales coast and south-eastern Queensland.

More information is available in the [Bureau's 2022–23 Climate and Water Statement](#).

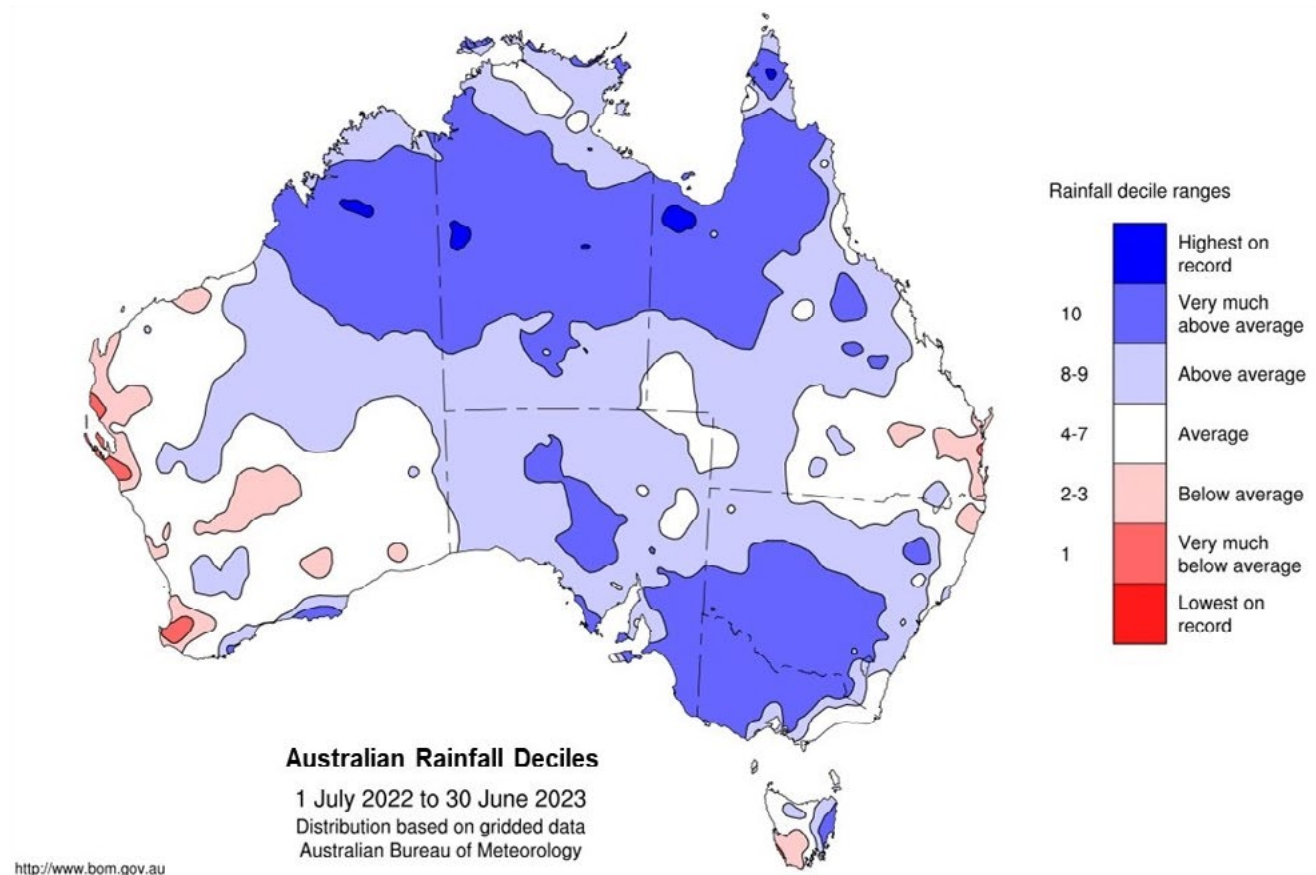


Figure 1.2 Rainfall decile map for 2022–23 (based on all years of data since 1900)

## 1.4.2 Temperature

Temperature can affect utility performance in many ways.

- Temperature can influence demand, particularly residential and non-residential outdoor demand. Prolonged periods of above-average temperatures can result in increased potable and recycled water (Water resource indicators W12, W26, W27) supply to residents, councils and parklands to be used for outdoor leisure activities such as golf courses. Changes in water consumption affect the revenue collected by water utilities, their profitability (Finance indicators F3, F24) and the strength of their water-usage pricing signal (Finance indicator F4).
- Hot weather can increase the risk of bushfires, resulting in resources being deployed to protect water supply catchments and mitigate the impacts of bushfires. Emergency deployments can affect operating expenditure (Finance indicators F11, F12 and F13). When responding to a bushfire, temporary water restrictions may be put in place to ensure the availability of supply and to meet firefighting requirements during extreme fire weather. These restrictions can affect the volume of water supplied by a utility and its operating cost and revenue. Poor water quality in a burnt catchment can affect the availability of water supply and the cost of treatment.
- Extended periods of heat or cold can affect the quality of water sources and supply, and in turn, decisions about water sources used (Water resource indicators W1 to W7) and the level of treatment required. For example, a heatwave can contribute to the decline in dissolved oxygen levels in a waterbody and can trigger the need to supply water from an alternative source, or increase water treatment, which affects the operating costs of utilities (Finance indicators F11 to F13).

- Changes in temperature can affect the quality of treated water as biological processes are particularly sensitive to extremes of heat or cold and rapid fluctuations in temperature. These events can have consequences for the quality of water supplied (Health indicators H1 to H5) and the need for treatment, which affect the operational costs of a utility (Finance indicators F11 to F13).
- Extended hot conditions cause dry soil conditions. Consequently, trees will seek out moisture and their roots can enter the sewer system, causing blockages and breaks (Asset indicators A14, A15), and increasing the number of water main breaks (Asset indicator A8).

In 2022–23, the mean daily temperature was 0.13°C above the 1961–90 average across the country. The mean maximum and minimum temperatures were 0.10°C and 0.16°C warmer than average, respectively. The annual mean temperature was close to average across most of mainland Australia (Figure 1.3). Mean temperature was above average for northern Queensland and the Northern Territory and some parts of south-eastern Western Australia as well as Tasmania. Mean temperature was below average across inland New South Wales, the Northern Territory and parts of north-east and southern Western Australia.

The national mean temperature for winter, spring and summer was above the 1961–90 average, while the national mean temperature for autumn was equal to the 1961–90 average, the coolest autumn since 2012. For autumn, the national mean maximum temperature was 0.39°C above average, while the national mean minimum temperature was 0.40°C below average, the coolest since 2015 and 2012 respectively. October 2022 and April 2023 had the lowest national mean temperature and were recorded as the coolest months since 2016 and 2015, respectively, whereas June 2023 was recorded as the seventh warmest on record for the whole of Australia.

More information is available in the [Bureau's 2022–23 Climate and Water Statement](#).

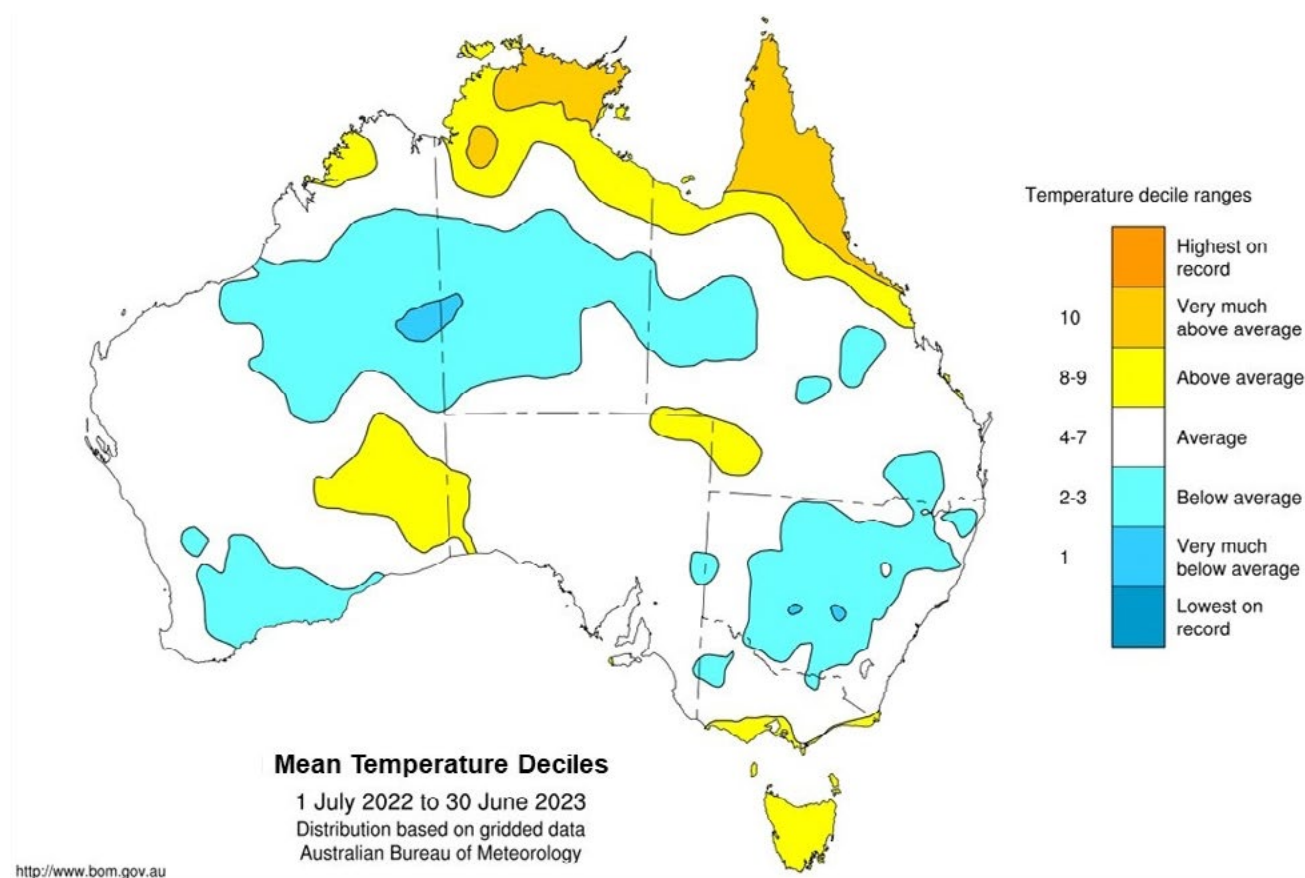


Figure 1.3 Mean daily temperature deciles for 2022–23 (based on all years of data since 1910)



### 1.4.3 Utility size

The size of a utility's customer base influences its performance on a range of indicators. This relationship may be causal, coincidental, or due to a related matter (for example, larger utilities may be subject to price regulation, unlike smaller utilities).

### 1.4.4 Sources of water

Two important drivers of performance are the sources of water used by a utility and the geographical relationship between the source and the urban centre it supplies. The combination and interaction of these drivers serve to create wide variations in engineering, operations and social challenges between utilities across the country.

The sources of water available to a utility are an important driver of several key performance indicators. For example, the cost of treating water to an acceptable standard and supplying it to users affects the revenue collected by water utilities, their profitability (Finance indicators F3, F24) and the strength of their water-usage pricing signal (Finance indicator F4).

Traditionally, Australians have relied on surface water and, to a lesser extent, groundwater to meet their urban consumption needs. The increased demand for urban water – resulting in a need to further develop and maintain ongoing water supply – is driven by many factors, including population growth and the reliability and security of existing sources (predominantly driven by water quality and climate variability). Financial, environmental and social factors reduce the feasibility of developing additional traditional sources of water especially considering that most suitable dam sites have already been developed. In response to this situation, utilities and bulk water authorities across the country are developing non-traditional supply sources – such as desalinated and recycled water – while continuing to explore options for harvesting stormwater and rainwater.

The diversification of water sources affects the performance of utilities by increasing the cost to treat water to an acceptable standard (to meet regulatory requirements) and to supply multiple water types to end users. For example, water from a 'protected' or 'closed' storage catchment is usually higher quality than water from an 'open' storage catchment and requires less treatment, which reduces the cost of supply.

The quality of water from groundwater sources varies greatly depending on the type and depth of the aquifer and has a significant impact on the extraction and treatment processes used and subsequent infrastructure and operational costs. Urban water supplied from recycled sources typically requires dual-pipe supply systems to separate recycled water from potable water, incurring greater infrastructure costs.

Figure 1.4 shows the annual supply from major sources of water, and the total supply, for utilities in each state and territory from 2018–19 to 2022–23.

- Water sourced from surface waters (that is, rivers, streams and dams; Water resource indicator W1) is the dominant water source in all states and territories (representing 82% of the total water sourced from major sources of water) except Western Australia, where most of the water (more than 40%) is sourced from groundwater (Water resource indicator W2).
- In 2022–23, total water sourced nationally decreased by 7%, mainly driven by the 37% decrease in water sourced from desalinated water. Above to very much above average rainfall in south-eastern Australia generated high inflows specifically in the Melbourne Water catchments. As a result, the need for desalinated water to supply demands in Victoria during 2022–23 was significantly reduced.
- The total surface water sourced on the national scale decreased by 5%, primarily influenced by a 19% decrease in the volume of surface water sourced in New South Wales. This decline was largely due to deteriorated water quality resulting from significant flood events in July 2022. Consequently, the primary source of drinking water shifted towards desalinated water, leading to a subsequent decrease in the overall volume of water supplied from surface sources.

- The volume of water sourced from surface water in the Northern Territory, South Australia and Tasmania experienced a slight increase of 1%. Additionally, there was a 5% increase reported in the Australian Capital Territory. Compared to 2021–22, Victoria reported the highest increase (26%) in sourcing its supplies from surface water resources, which was attributed to above to very-much above average rainfall and surface water availability in storages.
- The volume of water sourced from groundwater across the country increased by 4% from 2021–22, mainly driven by a 14% increase in Queensland due to low surface water availability in southern and south-eastern parts resulting in a shift towards groundwater resources in those areas. This was followed by New South Wales and Western Australia with 2% and 4% increases, respectively, in their total water sourced from groundwater. The total water sourced from groundwater in other states and territories decreased from the previous year. Compared to 2021–22, the Northern Territory reported the highest decrease (14%) in water sourced from groundwater.
- The volume of water sourced from desalinated water (Water resource indicator W3.1) in 2022–23 decreased (37%) for the third time since 2019–20 (18% decrease in 2020–21, and 10% decrease in 2021–22). The decrease was mainly driven by a 97% decrease in desalinated water sourced in Victoria as a result of higher surface water availability to supply demand. In the current year, as in the previous year, Tasmania, the Northern Territory and the Australian Capital Territory didn't source any water from the desalination of marine water. New South Wales was the only state to report an increase in the use of desalinated water, with nearly 3 times higher volume of water sourced from desalination than the previous year. This surge in usage was primarily driven by the low quality of surface water necessitating a greater reliance on desalination for supply.
- The volume of water sourced from recycled water (Water resource indicator W4/W26) in 2022–23 decreased slightly (2%). The decrease is mainly driven by 38% and 29% decreases in recycled water sourced in South Australia and the Australian Capital Territory, respectively. The Northern Territory and Victoria also reported slight decreases in total water sourced from recycled water (4% and 1% respectively). New South Wales, Western Australia and Queensland reported increases in the recycled water sourced. The increases and decreases can be attributed to the surface water availability in each state and the shift to using major sources of water to supply demands. Queensland reported the highest increase (14%) in water sourced from recycled water in the current year.

Water source breakdown (W1, W2, W3.1, W26) in each state and territory in ML, 2018–19 to 2022–23



Figure 1.4a Water source breakdown in each state and territory, 2018–19 to 2022–23

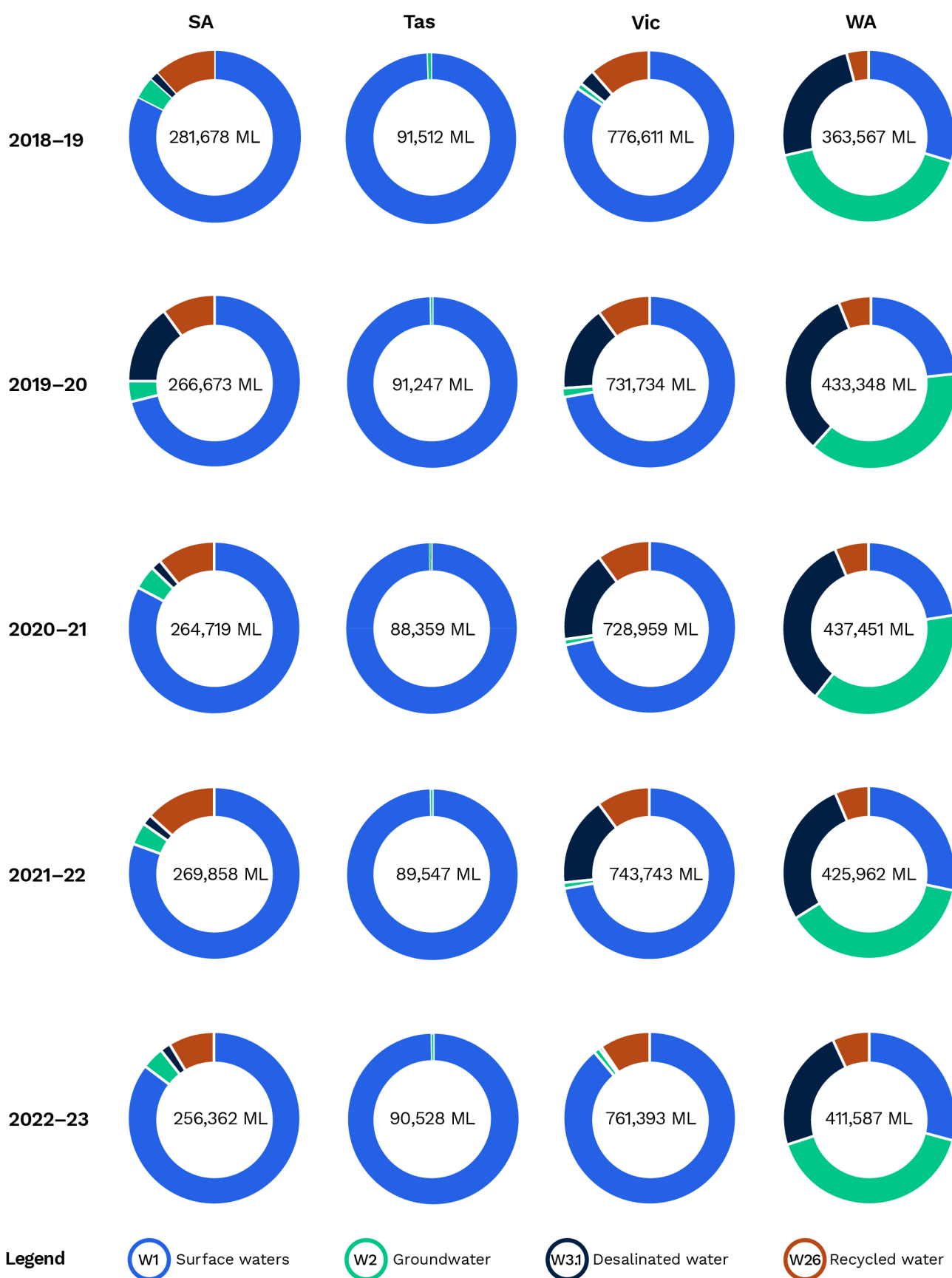


Figure 1.4b Water source breakdown in each state and territory, 2018-19 to 2022-23







## 2 Major urban centres

This chapter provides comparative tables and figures for a selection of key indicators for major urban centres.

The figures and tables are compiled using data supplied by the utilities detailed in Table 2.1.

The structure of utilities varies, therefore, the figures in this chapter should be treated with some caution and read in conjunction with the notes for each table. For example, to provide figures that represent Sydney and South East Queensland, it may be necessary to aggregate the numbers for both bulk water authorities and utilities servicing those areas. Melbourne (urban centre) data from the 2021–22 reporting year onward is not comparable with pre-2021–22 reporting years due to the creation of Greater Western Water. This resulted in the service area previously managed by Western Water being included in the calculations for Melbourne from the 2021–22 reporting year onward.

The historical values for all financial indicators have been adjusted using consumer price index (CPI) data to facilitate comparisons in real terms.

**Table 2.1 Data sources for capital city analyses**

Major urban centre	Utility (B denotes bulk supplier)
Perth	Water Corporation – Perth
Adelaide	SA Water Corporation
Canberra	Icon Water Limited
South East Queensland	Queensland Bulk Water Supply Authority (Seqwater) (B), Urban Utilities, Unitywater, City of Gold Coast, Redland City Council, and Logan City Council
Sydney	WaterNSW (B), Sydney Water Corporation
Melbourne	Melbourne Water (B), Greater Western Water, South East Water Ltd, Yarra Valley Water Corporation
Hobart	No data – TasWater services this area; performance data are available only on an aggregated basis for the entire state of Tasmania
Darwin	Power and Water – Darwin

### 2.1 Water resources

#### 2.1.1 Volume of water sources – W1, W2, W3.1, W26

Table 2.2 presents the volume (ML) of water sourced from surface water (W1), groundwater (W2), desalinated marine water (W3.1) and recycled water (W26) for each city.

In 2022–23, total water sourced for major urban centres on the national scale slightly increased by 0.34% compared to 2021–22. Canberra, South East Queensland, Sydney and Melbourne reported 5%, 4%, 2% and 1% increases, respectively, in the total volume of water sourced compared to the previous year. However, the total water sourced from different resources decreased for other major cities, with Adelaide reporting the highest decrease percentage of 10% from 2021–22. Among all water source types, recycled water contributed the lowest water volume (7%), and surface water contributed the highest water volume (77%) to the total water sourced for major urban centres.

Similar to the previous year, Melbourne remained the largest supplier of surface water (452,668 ML). Sydney sourced the highest volume of recycled water (41,198 ML) to supply urban demands, followed by Melbourne (40,704 ML). Perth remained the largest supplier of groundwater (136,791 ML), similar to the previous year, and became the largest supplier of desalinated water (94,474 ML) to urban centres the current year. Similar to 2021–22, Sydney sourced the highest total volume of water (574,506 ML).

The total volume of desalinated water sourced in Melbourne significantly decreased compared to the previous year (from 125,382 ML to 4,180 ML). Above average rainfall and high surface inflows in the Melbourne Water Corporation catchments reduced the need for desalinated water to supply demand during 2022–23 compared to 2021–22.

**Table 2.2 Volume of water sourced in each urban centre (ML)**

Major urban centre	Surface water (W1)		Groundwater (W2)		Desalinated marine water (W3.1)		Recycled water (W26)		Total	
	2021–22	2022–23	2021–22	2022–23	2021–22	2022–23	2021–22	2022–23	2021–22	2022–23
Adelaide	161,965	155,506	-	-	5,323	4,804	33,122	20,706	200,410	181,016
Canberra	45,336	47,702	-	-	-	-	24	17	45,360	47,719
Darwin	38,401	38,891	3,334	2,258	-	-	-	-	41,735	41,149
Melbourne	322,381 <sup>a</sup>	452,668	60	140	125,382	4,180	45,242	40,704	493,065	497,692
Perth <sup>b</sup>	57,206	64,463	130,257	136,791	116,198	94,474	21,759	23,337	325,420	319,605
South East Queensland <sup>c</sup>	314,032	327,886	10,090	12,928	12,714	7,240	13,554	17,949	350,390	366,003
Sydney <sup>d</sup>	503,707	465,312	-	-	22,480	67,996	37,639	41,198	563,880	574,506

**Notes:**

- a Melbourne's surface water is sourced from Melbourne Water and Greater Western Water, while its recycled water is sourced from Melbourne Water and the 3 retailers (Yarra Valley Water, Greater Western Water and South East Water).
- b Perth's surface water (W1) volume reflects Water Corporation transferring water into surface water storages. In 2022–23, it diverted 120,263 ML from surface water (W1) and returned 55,800 ML. In 2021–22, WC (Perth) diverted 121,325 ML from surface water (W1) and returned 64,119 ML.
- c South East Queensland's surface water, groundwater and desalinated water are sourced from Seqwater. South East Queensland's recycled water is sourced from Seqwater and the retailers (Urban Utilities, Unitywater, City of Gold Coast, Logan City Council and Redland City).
- d Sydney's surface water (W1) is the total of the water received by Sydney Water from WaterNSW and the volume of water sourced directly.

## 2.1.2 Average volume of residential water supplied per property – W12

Table 2.3 reports the annual average volume (kL/property) of residential water supplied to customers in each major urban centre.

Compared to 2021–22, the volume of residential water supplied decreased for all major urban centres except for South East Queensland (reporting an increase of 1.4%). The highest decrease is related to Adelaide (8.2%), reflecting the high rainfall in those urban centres that decreased the volume of residential water needed to be supplied. The lowest decrease is reported by Sydney (1.1%).

For all major urban centres except South East Queensland, the annual average volume of residential water supplied per property was the lowest since 2018–19. Canberra, Sydney, Adelaide and Melbourne followed a downward trend over the past 6 years, declining by 22.1%, 11.6%, 11.4%, and 7.3% (estimated<sup>e</sup>), respectively, since 2018–19, with Canberra reporting the highest decrease in its downward trend.

**Table 2.3 Average volume of residential water supplied per property (kL/property)**

Major urban centre <sup>a</sup>	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Adelaide	202	198	196	195	179	-8.2
Canberra	204	202	176	163	159	-2.5
Darwin	380	373	360	374	349	-6.7
Melbourne <sup>bc</sup>	151	148	147	146	140	-4.1
Perth	219	227	227	228	219	-3.9
South East Queensland <sup>b</sup>	155	162	159	147	149	1.4
Sydney	199	189	186	178	176	-1.1

**Notes:**

- a The figures exclude bulk utilities because they do not supply to customers.
- b Melbourne and South East Queensland figures are the weighted averages for their respective retailers in each year (i.e. W8 – Total volume of water supplied to residential customers/C2 – Number of connected residential properties: water supply).
- c Melbourne figures from the 2021–22 reporting year onward are not comparable with pre-2021–22 reporting years due to the merging of City West Water and Western Water to form Greater Western Water on 1 July 2021. Values displayed in this table pre-2021–22 do not include the service area previously managed by Western Water.

### 2.1.3 Total volume of recycled water supplied – W26

Table 2.4 reports the total volume (ML) of recycled water supplied to customers (W26), aggregated by major urban centre. Unlike W4 (volume of water sourced from recycling plants), W26 includes all recycled water supplied for various uses.

Nationally, the total recycled water supplied across the major urban centres decreased by 4.9% from 2021–22. This was the lowest total volume over the past 6 years, also reflecting a decrease of 1.4% from 2018–19 levels. Among all major urban centres, Perth, South East Queensland and Sydney reported an increase in their total supplied recycled water, with South East Queensland reporting the highest increase (32.4%) from the previous year. Adelaide, Canberra and Melbourne reported a decrease in the total volume of recycled water supplied, with Adelaide representing the highest decrease (37.5%) from the previous year. The increases and decreases reflect the variability of rainfall in the major urban centres during 2022–23. Darwin did not supply any recycled water to customers during this reporting year.

See Section 3.2 for recycled water supplied by all utilities.



**Table 2.4 Total volume of recycled water supplied (ML)**

Major urban centre	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Adelaide	30,533	23,803	26,627	33,122	20,706	-37.5
Canberra	60	75	27	24	17	-29.2
Darwin	488	0	0	0	0	0.0
Melbourne <sup>ab</sup>	45,535	42,877	41,716	45,242	40,704	-10.0
Perth	9,817	20,681	22,579	21,759	23,337	7.3
South East Queensland <sup>a</sup>	15,445	14,874	15,468	13,554	17,949	32.4
Sydney	44,020	46,919	37,669	37,693	41,198	9.3

**Notes:**

- a Melbourne and South East Queensland figures are the aggregated figures for the bulk utility and the existing retailers in that reporting year.
- b Melbourne figures from the 2021–22 reporting year onward are not comparable with pre-2021–22 reporting years due to the merging of City West Water and Western Water to form Greater Western Water on 1 July 2021. Values displayed in this table pre-2021–22 do not include the service area previously managed by Western Water.

## 2.2 Pricing

### 2.2.1 Total typical residential bill – P8

Table 2.5 reports the total typical residential bill (\$) for water supply and wastewater in each major urban centre.

Nationally, the total typical residential bill decreased in all major urban centres from the previous year, with Canberra reporting the highest decrease of 8.7% and Sydney reporting the lowest decrease of 2.6% from 2021–22. Similar to the previous year, Melbourne reported the lowest total typical residential bill of \$982 compared to other major urban centres.

Total typical residential bill has followed a downward trend in Adelaide, Darwin and Melbourne since 2018–19, with Adelaide reporting the highest decline of 28.1% (from \$1,515 in 2018–19 to \$1,089 in 2022–23) over the past 6 years.

See Section 4.1 for the typical bills charged by all utilities.

**Table 2.5 Total typical residential bill (\$)**

Major urban centre <sup>a</sup>	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Adelaide	1,515	1,494	1,227	1,187	1,089	-8.3
Canberra	1,313	1,329	1,230	1,166	1,065	-8.7
Darwin	2,143	2,109	2,047	2,035	1,902	-6.5
Melbourne <sup>bc</sup>	1,157	1,148	1,143	1,044	982	-5.9
Perth	1,781	1,825	1,786	1,734	1,640	-5.4
South East Queensland <sup>b</sup>	1,646	1,690	1,680	1,587	1,522	-4.1
Sydney	1,269	1,276	1,142	1,099	1,070	-2.6

**Notes:**

- a The figures exclude bulk utilities as they do not supply to customers.
- b Melbourne and South East Queensland figures are the weighted average of the retail utilities in that year (i.e. P3 – Typical residential bill: water supply/C2 – Number of connected residential properties: water supply, and P6 – Typical residential bill: wastewater/C6 – Number of connected residential properties: wastewater).

- c Melbourne figures from the 2021–22 reporting year onward are not comparable with pre-2021–22 reporting years due to the merging of City West Water and Western Water to form Greater Western Water on 1 July 2021. Values displayed in this table pre-2021–22 do not include the service area previously managed by Western Water. The service area managed by Western Water pre-2021–22 makes up approximately 3.5% of total connections in the Melbourne urban centre from the 2021–22 reporting year onward.

## 2.3 Environment

### 2.3.1 Total net greenhouse gas emissions per 1,000 properties – E12

The contribution of the utilities' operations to greenhouse gas emissions (t CO<sub>2</sub> equivalent/1,000 properties), aggregated by major urban centre, is reported in Table 2.6.

Compared to the previous year, emissions decreased for all major cities, except for Darwin. Perth reported the highest decrease in emissions by 33.2% (change from 567 t CO<sub>2</sub> equivalent/1,000 properties in 2021–22 to 379 t CO<sub>2</sub> equivalent/1,000 properties this year) while reporting the highest total emissions among all major urban centres in 2022–23. High emissions in Perth correlate with the high percentage of water sourced from desalination in this city. South East Queensland reported the second-highest decrease in emissions, of 18.8% compared to the previous year.

Darwin reported an increase of 4.5% in its total emissions per 1,000 properties during 2022–23. Similar to the previous year, Adelaide reported the lowest emissions among all major urban centres in 2022–23, as well as the highest decrease of 69.1% in emissions since 2018–19.

Canberra and Sydney followed a downward trend in the total emissions over the past 6 years and represented a decline of 51.8% and 12.2%, respectively, compared to 2018–19 levels.

See Section 8.1 for total net greenhouse gas emissions by all utilities.

**Table 2.6 Total net greenhouse gas emissions per 1,000 properties (t CO<sub>2</sub> equivalent/1,000 properties)**

Major urban centre	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Adelaide	434	332	342	143	134	-6.3
Canberra	363	331	196	177	175	-1.1
Darwin	215	213	199	223	233	4.5
Melbourne <sup>ac</sup>	249	278	249	245	229	-6.5
Perth	510	701	695	567	379	-33.2
South East Queensland <sup>b</sup>	200	204	205	202	164	-18.8
Sydney	180	175	169	168	158	-6.0

**Notes:**

- a Melbourne figures are the weighted average of the three retailers (i.e. E12/C4 – Total connected properties) and Melbourne Water. Melbourne Water's emissions are calculated based on the total connected properties of the 3 active retailers in each year.
- b South East Queensland figures are the weighted average of the retailers (i.e. E12/C4 – Total connected properties).
- c Melbourne figures from the 2021–22 reporting year onward are not comparable with pre-2021–22 reporting years due to the merging of City West Water and Western Water to form Greater Western Water on 1 July 2021. Values displayed in this table pre-2021–22 do not include the service area previously managed by Western Water.

## 2.4 Finance

### 2.4.1 Combined operating cost per property: water supply and wastewater – F13

Table 2.7 reports the combined operating cost (\$/property) of the utilities' water and sewerage operations, aggregated by major urban centre.

In real terms, combined operating costs per property decreased for all major urban centres except Perth and South East Queensland, which reported increases of 0.3% and 1.4%, respectively, from the previous year. Darwin, which experienced a large increase from 2018–19 to 2019–20 due to changes in corporate overheads and COVID-19, reported the highest decrease, of 7.9% in 2022–23. The lowest decrease was reported by Sydney, with only 0.8% less in costs than the previous year.

Canberra and Melbourne followed a downward trend in their combined operating costs per property while Perth followed an overall upward trend over the past 6 years (changing from 630 to 725 \$/property since 2018–19).

See Section 5.3 for combined operating costs for all utilities.

**Table 2.7 Combined operating cost: water supply and wastewater (\$/property)**

Major urban centre	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Adelaide	672	610	627	641	609	-5.0
Canberra	1,134	1,079	976	953	906	-4.9
Darwin	1,020	1,358	1,282	1,010	930	-7.9
Melbourne <sup>a</sup>	1,051	1,045	1,004	939	888	-5.4
Perth	630	706	675	723	725	0.3
South East Queensland	1,343	1,379	1,323	1,271	1,289	1.4
Sydney	828	830	757	736	730	-0.8

**Note:**

- a Melbourne figures from the 2021–22 reporting year onward are not comparable with pre-2021–22 reporting years due to the merging of City West Water and Western Water to form Greater Western Water on 1 July 2021. Values displayed in this table pre-2021–22 do not include the service area previously managed by Western Water.

### 2.4.2 Total capital expenditure: water supply and wastewater – F16

Table 2.8 reports the combined capital expenditure (\$000s) related to the utilities' water and sewerage operations, aggregated by major urban centre.

Overall, the sum of total capital expenditure for water supply and wastewater service increased by 17% from the previous year. All major urban centres experienced an increase compared to the previous year. Darwin reported the highest increase of 36.2% from 2021–22 to 2022–23, yet it was the major urban centre with the lowest total capital expenditure for the current year (36,527 thousand dollars). This was followed by Sydney (an increase of 31.7%) which reported the highest total capital expenditure among all major urban centres in 2022–23 (1,739,736 thousand dollars).

See Section 5.1 for combined capital expenditure for all utilities.

**Table 2.8 Total capital expenditure: water supply and wastewater (\$000s)**

Major urban centre	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Adelaide	324,441	386,327	319,148	270,048	283,211	4.9
Canberra	101,460	116,054	97,513	71,595	72,405	1.1
Darwin	38,543	23,253	22,992	26,813	36,527	36.2
Melbourne <sup>ab</sup>	1,117,101	1,174,363	1,218,103	1,187,164	1,348,509	13.6
Perth	530,909	452,946	415,136	369,808	400,776	8.4
South East Queensland <sup>a</sup>	791,794	935,756	925,321	934,934	1,020,686	9.2
Sydney <sup>a</sup>	1,335,682	1,152,495	1,105,094	1,320,527	1,739,736	31.7

**Notes:**

- a Melbourne, South East Queensland and Sydney figures are the aggregate for the bulk utility and the respective retailers.
- b Melbourne figures from the 2021–22 reporting year onward are not comparable with pre-2021–22 reporting years due to the merging of City West Water and Western Water to form Greater Western Water on 1 July 2021. Values displayed in this table pre-2021–22 do not include the service area previously managed by Western Water.

## 2.5 Customers

### 2.5.1 Total water and sewerage complaints per 1,000 properties – C13

Table 2.9 reports the total number of complaints per 1,000 properties received by utilities for water and sewerage services, aggregated by major urban centre.

Except for Perth, all major urban centres experienced improved customer satisfaction (based on complaints as an indicator of satisfaction) with a decrease in the number of complaints received in 2022–23 compared to 2021–22. While similar to the previous year, Perth had the lowest levels of total water and sewerage complaints per 1,000 properties (0.6). Canberra reported the highest number of complaints per 1,000 properties (16.1) while showing a 20.7% decrease from the previous year. Darwin had the largest decrease in complaints (from 49.0 in 2021–22 to 2.0 in 2022–23).

See Section 6.2 for water and sewerage complaints for all utilities.

**Table 2.9 Total number of water and sewerage complaints per 1,000 properties (complaints/1,000 properties)**

Major urban centre	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Adelaide <sup>a</sup>	2.1	2.2		2.9	1.2	-58.6
Canberra	2.8	3.4	2.2	20.3 <sup>c</sup>	16.1	-20.7
Darwin	60.4	50.9	59.2	49.0	2.0	-95.9
Melbourne <sup>b</sup>	6.9	7.0	7.7	6.2	5.5	-11.3
Perth	0.8	0.8	0.6	0.4	0.6	50.0
South East Queensland	5.3	5.7	5.7	4.9	4.5	-8.2
Sydney	2.5	2.1	2.0	2.4	1.8	-25.0

**Notes:**

- a No data was available for Adelaide in 2020–21.
- b Melbourne figures from the 2021–22 reporting year onward are not comparable with pre-2021–22 reporting years due to the merging of City West Water and Western Water to form Greater Western Water on 1 July 2021. Values displayed in this table pre-2021–22 do not include the service area previously managed by Western Water.
- c From the 2021–22 reporting year, data collection systems and processes for Canberra started to capture complaints via all channels including those where the complaint is resolved at the first point of contact.



## 2.5.2 Average duration of an unplanned interruption: water supply – C15

Table 2.10 reports the average duration (minutes) of unplanned interruptions to water supply in a utility's operation, aggregated by major urban centre.

Four out of 7 major urban centres reported a decline in their average duration of unplanned water supply interruptions, with Darwin and South East Queensland representing the highest and lowest decreases, respectively, from the previous year. Adelaide continued to decrease its average duration of unplanned interruption to water supply from 243 minutes in 2018–19 to 165 minutes in 2022–23, a decrease of 32.1%. Perth followed an upward trend in its average duration of unplanned water supply interruption from 103 minutes in 2018–19 to 162 minutes in 2022–23, an increase of 14.9%.

See Section 6.1 for unplanned interruptions to water supply for all utilities.

**Table 2.10 Average duration of an unplanned interruption: water supply (minutes)**

Major urban centre	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Adelaide	243	204	188	181	165	-8.8
Canberra	135	136	147	136	132	-2.9
Darwin <sup>a</sup>			139	102	77	-24.5
Melbourne <sup>b</sup>	95	101	98	103	110	6.8
Perth	103	111	140	141	162	14.9
South East Queensland	124	119	121	134	132	-1.5
Sydney	143	187	200	192	231	20.3

**Notes:**

- a No data is available for Darwin before 2020–21.
- b Melbourne figures from the 2021–22 reporting year onward are not comparable with pre-2021–22 reporting years due to the merging of City West Water and Western Water to form Greater Western Water on 1 July 2021. Values displayed in this table pre-2021–22 do not include the service area previously managed by Western Water.

# 3 Water resources

## 3.1 Average annual residential water supplied – W12

The average annual residential water supplied indicator (W12) reports the average volume (kL/property) of metered and estimated non-metered potable and non-potable water supplied to residential properties during the reporting year. It is derived by dividing the total volume of residential water supplied (W8) by the number of connected residential water properties (C2). The average volume is influenced by a number of factors, including:

- climate
- rainfall
- water conservation measures (for example, water restrictions)
- availability of water supply
- housing density
- water prices.

Rainfall is the most influential factor affecting residential consumption. An increase in rainfall should reduce demand and a decrease in rainfall should increase demand. A decrease in rainfall can result in a significant decrease in runoff into storages and trigger demand-management measures such as water restrictions.

Average annual residential water supply (W12) data for all utilities reporting in 2022–23 is given in Table A1, Appendix A.

### 3.1.1 Key findings

Table 3.1 presents a summary of the median average annual volume of water supplied to residential customers by utility size group.

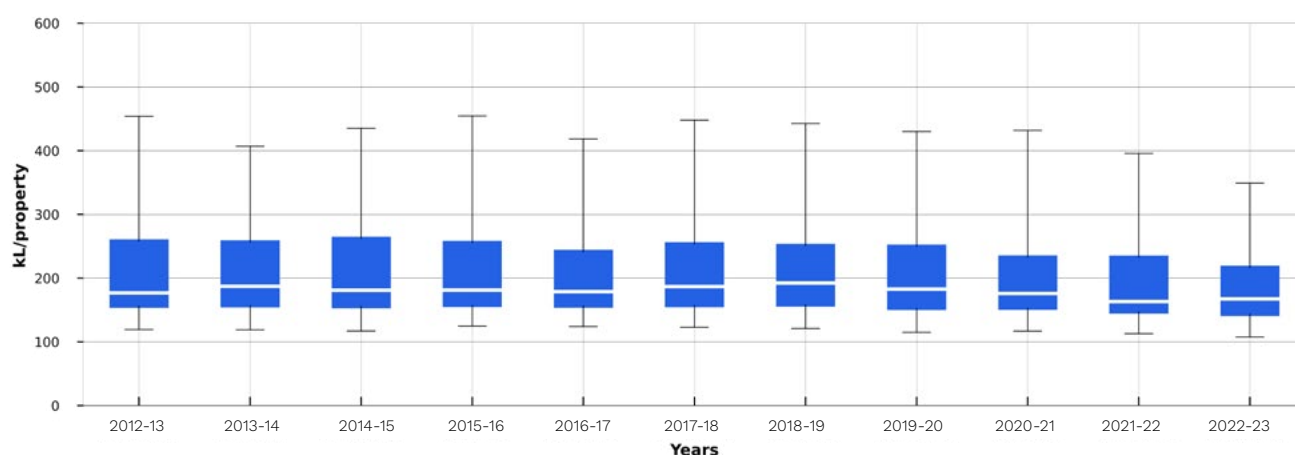
**Table 3.1 Overview of results: Average annual residential water supplied (kL/property)**

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	219	135	4	11	157	152	-3%
	WC (Perth)	Logan					
Large	349	130	4	8	185	181	-2%
	P&W (Darwin)	Toowoomba					
Medium	388	108	9	13	166	171	3%
	Lower Murray Water	Eurobodalla					
Small	390	88	8	18	183	180	-2%
	P&W (Alice Springs)	Westernport Water					
<b>All size groups (national)</b>	<b>390</b>	<b>88</b>	<b>25</b>	<b>50</b>	<b>163</b>	<b>169</b>	<b>4%</b>
	<b>P&amp;W (Alice Springs)</b>	<b>Westernport Water</b>					

**Note:** The median average annual residential water supplied (kL/property) for each year is calculated using data from all active utilities providing water supply services in that reporting year.

Nationally, there was a 4% increase in the average annual water supplied in 2022–23, driven by a 3% increase in the median for the Medium size group. The changes are small and similar across the different size utility groups. The decrease in the average annual residential water supplied in the Major, Large and Small size groups is consistent with the above to very much above average rainfall across most of the country. However, numerous floods affected water quality negatively, which explains the increased average annual residential water supplied for the Medium size group.

The number of utilities reporting a decrease in the average annual residential water supplied was higher than the number of utilities reporting an increase in all size groups (overall 50 out of 75 utilities reported a decrease). Water Corporation – Albany (Western Australia) in the Small size group was the only utility that had no change in its average annual residential water supplied compared to the previous year. Bundaberg Regional Council reported the highest decrease percentage (20.5%) in average annual residential water supplied and Ballina Shire Council (New South Wales) reported the highest increase percentage (18.6%).



**Figure 3.1 Average annual residential water supplied (kL/property)**

Figure 3.1 shows a box-and-whisker plot of the average annual volume of residential water supplied for all utilities reporting W12. Across all utilities, the distribution of median residential water supply was the smallest in the past 11 years due to the above and very much average rainfall received across much of Australia over the last 4 years.

### 3.1.2 Results and analysis – Major utility group

Figure 3.2 shows a ranked breakdown of the average volume of residential water supplied for each utility in the Major utility group from 2018–19 to 2022–23.

Similar to the previous year, the largest average annual volume of water supplied to residential customers was reported by the Water Corporation – Perth and SA Water Corporation regions (219 and 177 kL/property, respectively).

Variations from the previous year ranged from an 8.6% decrease by SA Water Corporation (South Australia) (the highest decrease percentage) to a 1.8% increase by City of Gold Coast (the highest increase percentage).

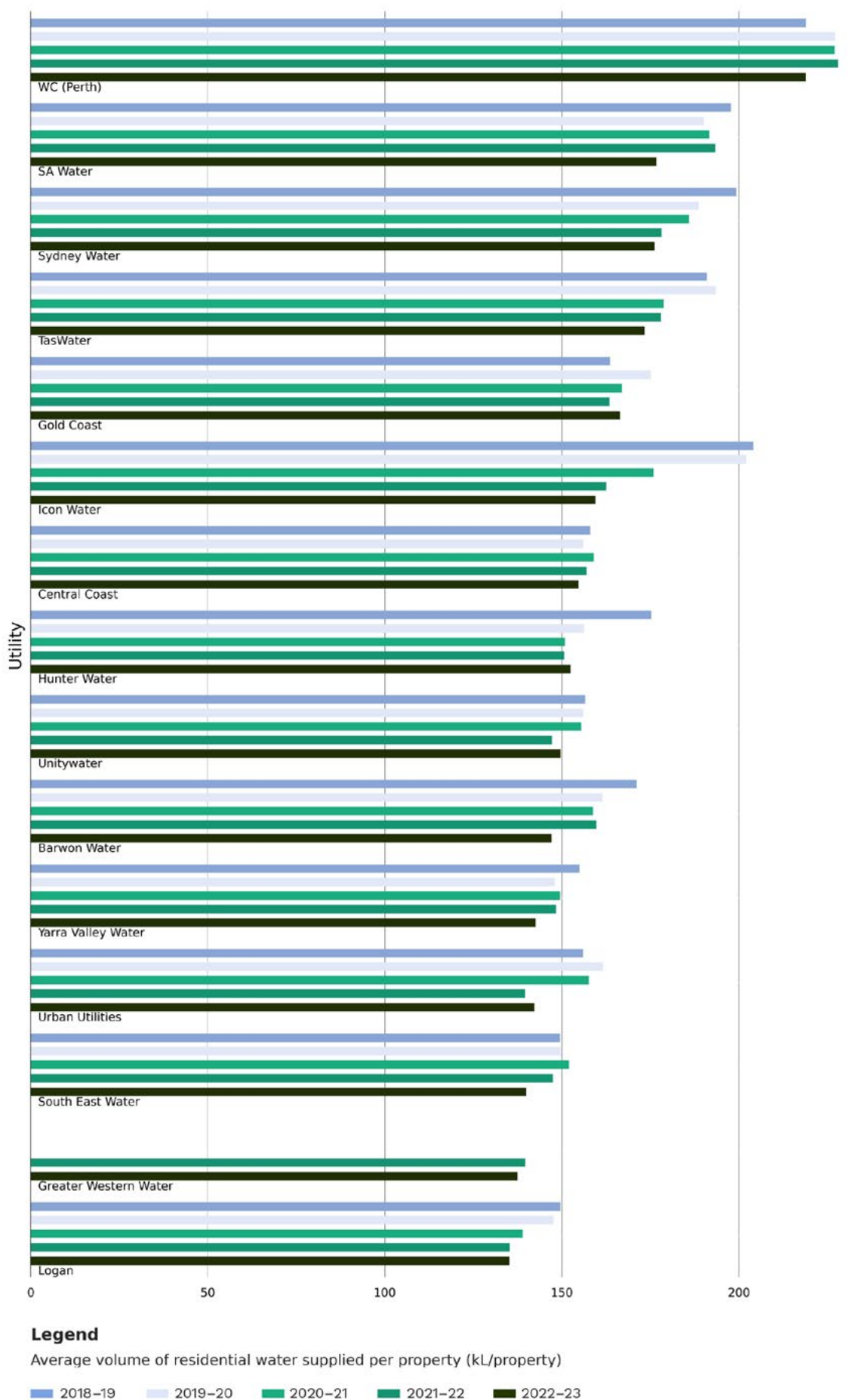


Figure 3.2 Average annual residential water supplied (kL/property) – Major utility group



## 3.2 Total recycled water supplied – W26

Total recycled water supplied (ML) is the sum of all treated sewage effluent used by the utility and its customers. It includes residential, commercial, industrial, agricultural and environmental use as well as on-site use by the utility.

The volume of recycled water supplied is affected by a number of factors, including:

- availability of potable water
- size of the utility
- the utility's proximity to potential customers (for example, agricultural users, major industrial customers, and recreational facilities)
- fluctuations in sewage received and effluent available for recycling
- government policy.

Total recycled water supplied (W26) data for all utilities reporting in 2022–23 is presented in Table A2, Appendix A.

### 3.2.1 Key findings

Table 3.2 presents a summary of the total recycled water supplied by utility size group.

**Table 3.2 Overview of results: Total recycled water supplied (ML)**

Utility group	Range		No. utilities with increase/decrease from 2021–22		Total		Change in total from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	41,198	17	8	6	128,581	120,936	-6%
	Sydney Water	Icon Water					
Large	11,898	0	7	4	22,864	25,903	13%
	North East Water	P&W (Darwin)					
Medium	6,492	0	13	8	33,354	37,360	12%
	Albury	Riverina Water (W)					
Small	2,298	0	7	19	16,788	14,852	-12%
	WC (Albany)	Multiple utilities					
<b>All size groups (national)</b>	<b>41,198</b>	<b>0</b>	<b>35</b>	<b>37</b>	<b>201,587</b>	<b>199,051</b>	<b>-1%</b>
	<b>Sydney Water</b>	<b>Multiple utilities</b>					

**Note:** The total recycled water supplied (ML) is calculated using data from all utilities that reported data for W26 in both the 2021–22 and 2022–23 reporting years.



There has been a slight decrease in the total volume of recycled water supplied on the national scale by 1% in 2022–23. The Large and Medium utility groups showed increases of 13% and 12%, respectively, while the total volume of recycled water supplied decreased by 6% among the Major utility groups and by 12% among the Small utility group.

There was a large range of variation in the changes compared to the previous year, with Unitywater in the Major utility group reporting the highest increase percentage of 148.5% in recycled water supplied (a change from 200 ML in 2021–22 to 497 ML in 2022–23), and Lismore City Council in the Small utility group reporting the highest decrease percentage of 97.9% (a change from 332 ML in 2021–22 to 7 ML in 2022–23).

### **3.2.2 Results and analysis – Major utility group**

In 2022–23, the total volume of recycled water supplied was 199,051 ML, and around 61% of this total was supplied by the Major utility group. Similar to the previous year, Sydney Water Corporation was the largest supplier of recycled water with 41,198 ML. Several utilities in the Large, Medium and Small size groups reported the lowest level (0 ML) this year.

# 4 Pricing

## 4.1 Typical residential bill: water supply and wastewater – P8

The typical residential bill (\$) for water supply and wastewater (P8) is the sum of fixed charges and volumetric-usage charges for water and sewage billed to a residential customer. The typical bill is based on each utility's average annual volume of residential water supplied (W12) and its pricing structure (P1, P1.2 to P1.7, P4.1 to P4.3). Prices are set by government or, in some jurisdictions, by a regulator, council or utility.

Water bills are influenced by a number of factors, including:

- size of the utility's customer base
- geographical location
- distribution of the customer base
- local topography
- climate
- available sources of water
- government policy and legislation.

The mix of fixed and usage charges, and the level of water consumption, affect the typical residential bill.

When drawing comparisons between utilities, it is important to note that changes in a typical bill may result from both changes to average consumption and changes to the price of water.

Historically, residential water bill pricing models have varied across the nation. Most utilities now have a water supply pricing model based on a 2-part structure. A fixed component and a component based on volumetric usage.

Townsville City Council and Whitsunday Regional Council remain exceptions as ratepayers have a choice between a fixed allocation and a 2-part structure.<sup>4</sup>

Unlike residential water supply pricing, most utilities have a fixed price model for wastewater services. The exceptions are the Melbourne utilities<sup>5</sup>, Central Coast Council and Unitywater. These utilities have both a fixed and volumetric component in their wastewater charges.

Billing data is indexed using the consumer price index (CPI) to facilitate comparison in real terms.

Typical residential bill (P8) data for all utilities reporting in 2022–23 is presented in Table A3, Appendix A.

### 4.1.1 Key findings

Table 4.1 presents a summary of the median typical residential bills by utility size group.

Nationally, median typical residential bills for water and wastewater services decreased by 6% from 2021–22. This equates to a \$92 decrease in the median typical residential bill. Overall, the water and wastewater utilities in the Major utility group reported the highest decrease of 8% from 2021–22 compared with other utility groups. Byron Shire Council in the Small size group reported the highest and Goulburn Valley Water in the Large size group reported the lowest typical residential bill.

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<sup>4</sup> <https://www.whitsundayrc.qld.gov.au/our-council/about-council/rates-fees-and-charges/water-billing-options-and-water-tariff-calculator>

<sup>5</sup> Greater Western Water, Yarra Valley Water, and South East Water



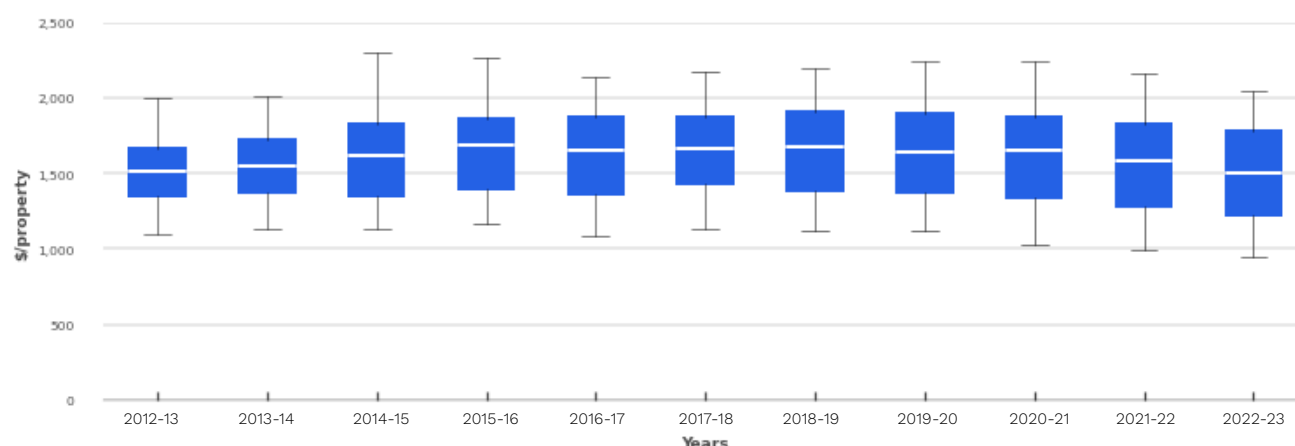
Most utilities reported a decrease in their typical residential bill from 2021–22, which ranged up to the highest proportional decrease of 11.4% for Mackay Regional Council. Of the three utilities (all in the Medium size group) reporting a small increase, Port Macquarie Hastings Council had the largest increase of 2.8%.

**Table 4.1 Overview of results: Typical residential bill: water supply and wastewater (\$)**

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	1,710	947	0	15	1,173	1,078	-8%
	Gold Coast	Greater Western Water					
Large	1,902	841	0	12	1,514	1,430	-6%
	P&W (Darwin)	Goulburn Valley Water					
Medium	1,892	1,018	3	18	1,630	1,520	-7%
	Gladstone	Lower Murray Water					
Small	2,133	1,018	0	23	1,830	1,744	-5%
	Byron	Mount Barker					
<b>All size groups (national)</b>	<b>2,133</b>	<b>841</b>	<b>3</b>	<b>68</b>	<b>1,587</b>	<b>1,495</b>	<b>-6%</b>
	<b>Byron</b>	<b>Goulburn Valley Water</b>					

**Note:** The typical residential bill in each year is calculated using data from all active utilities supplying both water and wastewater services in that year.

Figure 4.1 shows a box-and-whisker plot of typical residential bills for all utilities reporting data in a given year. The typical residential bill was steady for 6 successive years from 2015–16 to 2020–21 but has decreased for the last 2 years. The national median typical residential bill decreased by 6% from 2021–22 to its lowest in the 2012–2023 period.



**Figure 4.1 Typical residential bill: water supply and wastewater (\$), 2012–13 to 2022–23**



### 4.1.2 Results and analysis – Major utility group

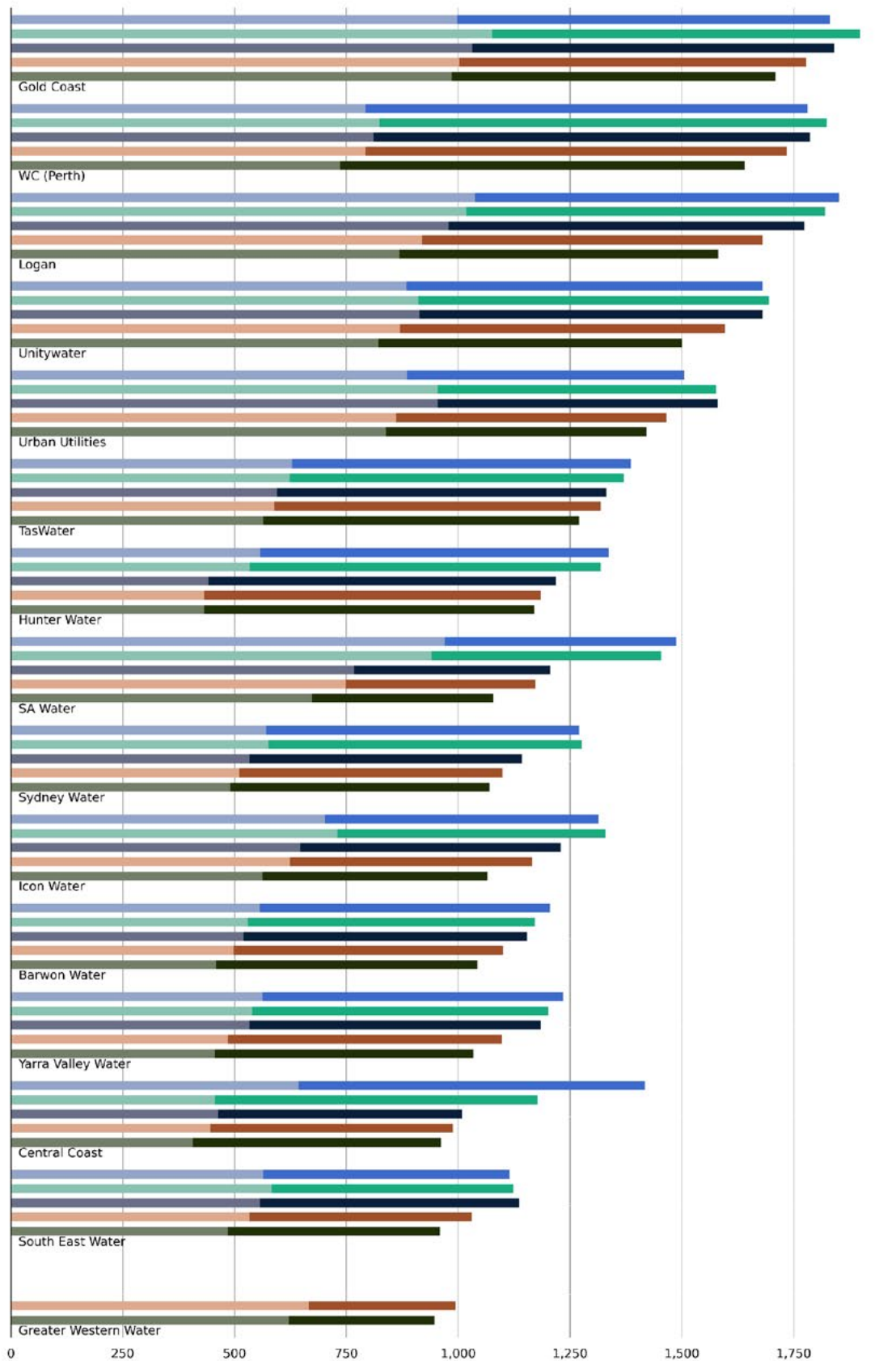
Figure 4.2 presents a ranked breakdown of the typical residential bill for the Major utility group. The figure shows the water (P3) and wastewater (P6) components of the bill for active utilities that have reported their information in 2022–23.

Following a similar trend from the previous year, the median typical residential bill decreased from 2021–22 for all utilities in the Major size group. This decrease applied to both water supply and wastewater services for all utilities except for Central Coast Council where the wastewater component of the bill was slightly higher than 2021–22.

City of Gold Coast reported the highest typical residential bill (\$1,710) in this size group and was highest for both water supply and wastewater services. City of Gold Coast, Water Corporation – Perth and Logan City Council remained the highest 3 utilities for pricing.

Greater Western Water reported the lowest typical residential bill this year (\$947) while South East Water Corporation and Central Coast Council had similarly lower costs for these services.

The proportional decrease in typical residential bills from 2021–22 ranged between 1.2% (Hunter Water Corporation) and 8.7% (Icon Water Limited).



**Legend**

Typical residential bill (\$)

2018-19	Water	Wastewater	2021-22	Water	Wastewater
2019-20	Water	Wastewater	2022-23	Water	Wastewater
2020-21	Water	Wastewater			

Figure 4.2 Typical residential bill: water supply and wastewater (\$) – Major utility group

## 4.2 Annual residential bill based on 200 kL per annum: water supply and wastewater – P7

The annual bill (\$) based on 200 kL for water and wastewater services (P7) is the sum of the annual bill for the supply of 200 kL of water (P2) and the annual bill for the provision of wastewater services for a residential customer using 200 kL of water (P5).

While the typical residential bill (P8) is the best guide to determining the impact of pricing on customers, the annual bill based on 200 kL aids comparisons between utilities. Adopting a consistent 200 kL as the basis for the bill partially normalises the data, correcting for differences in the volumes of water supplied and providing insight into price variations.

Billing data is indexed using the consumer price index (CPI) to facilitate comparison in real terms.

The annual bill based on 200 kL (water supply and wastewater) data for related utilities is presented in Table A4, Appendix A.


### 4.2.1 Key findings

Table 4.2 presents a summary of the median 200 kL/annum residential bill data by utility size group.

**Table 4.2 Overview of results: Annual residential bill based on 200 kL per annum: water supply and wastewater (\$)**

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	1,879	1,132	1	14	1,298	1,223	-6%
	Logan	Greater Western Water					
Large	1,877	804	0	12	1,520	1,442	-5%
	Toowoomba	Goulburn Valley Water					
Medium	3,165	818	2	19	1,644	1,571	-4%
	Tweed	Lower Murray Water					
Small	2,327	1,018	2	22	1,811	1,754	-3%
	Kempsey	Mount Barker					
<b>All size groups (national)</b>	<b>3,165</b>	<b>804</b>	<b>5</b>	<b>67</b>	<b>1,658</b>	<b>1,582</b>	<b>-5%</b>
	<b>Tweed</b>	<b>Goulburn Valley Water</b>					

**Note:** The 200 kL residential bill data for water supply and wastewater for each year are calculated using data from all active utilities reporting against the P2 and P5 indicators in that year.



On a 200 kL/annum basis, the national median bill in 2022–23 decreased (5%) from 2021–22. The median annual residential bill based on 200 kL/annum decreased for all utility size groups, with the Major size group experiencing the highest decrease (6%) from 2021–22.

Despite a 4.1% decrease from the previous year, the annual residential bill based on 200 kL for Tweed Shire Council remained significantly higher than other utilities in all size groups. There were 3 utilities lower than \$1000/property, with Goulburn Valley Water in the Large size group the lowest at \$804.

After reporting the highest increase in the Small utility group last year, Livingston Shire Council had the overall largest drop in the normalised annual residential bill (11.3% from 2021–22). Most decreases were in the 1% to 5.5% range. Among all utility size groups, only 5 utilities reported increased annual residential bills based on 200 kL from 2021–22; Central Coast Council in the Major size group was the highest of these at 4.7%.

The greatest variation in the annual residential bill based on 200 kL was in the Medium size group, with a \$2,347/property difference between the highest (Tweed Shire Council) and lowest (Lower Murray Water).

## **4.2.2 Results and analysis – Major utility group**

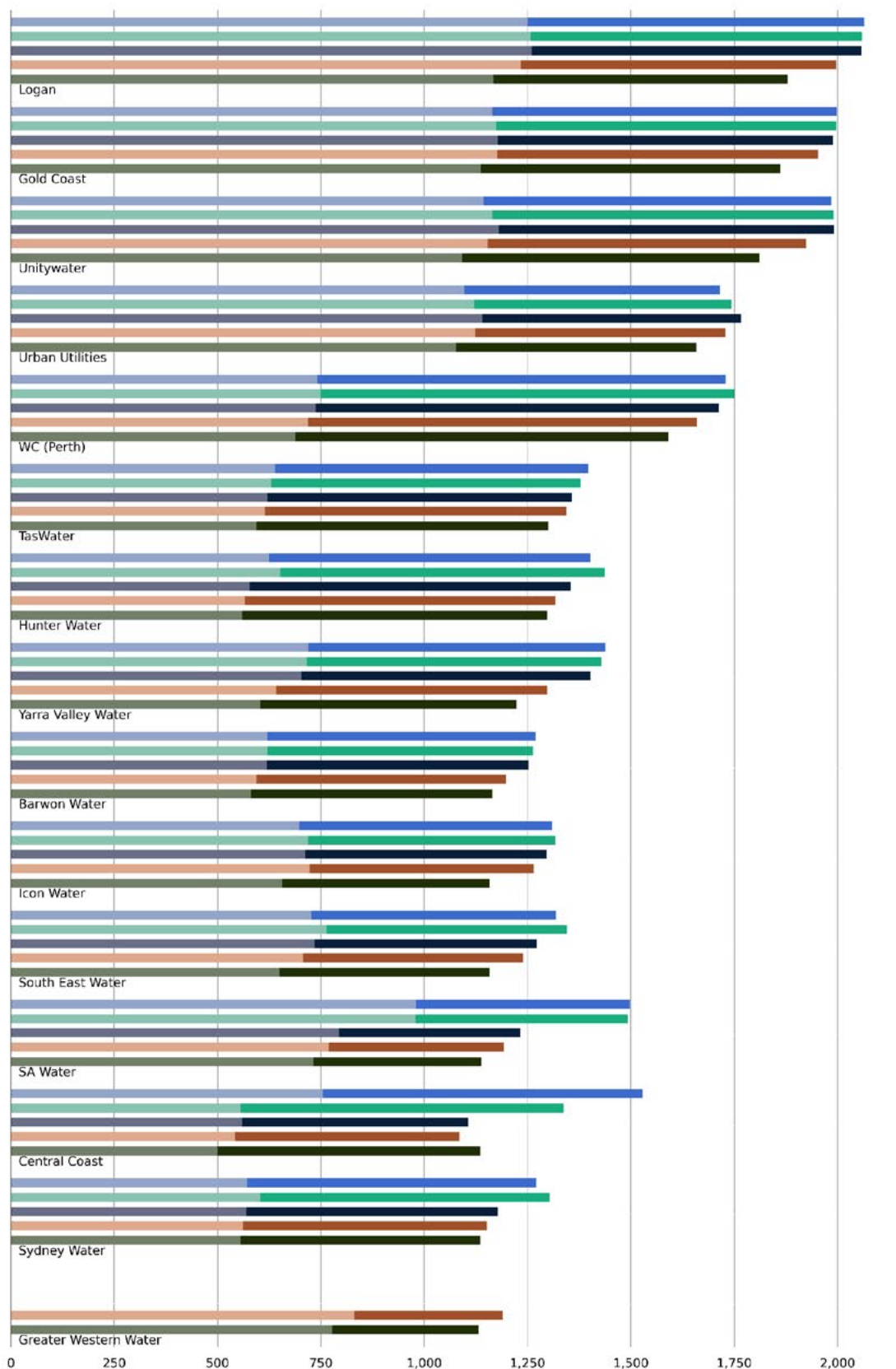
Figure 4.3 presents a ranked breakdown of the annual residential bill based on 200 kL for the active utilities within the Major utility group that have reported their information in 2022–23.

Continuing the trend from 2021–22, the annual residential bill based on 200 kL decreased for nearly all utilities in the Major size group in this reporting year. The exception was Central Coast Council where the normalised cost for these services increased by 4.7% due to a 17% increase in wastewater charges. However, Central Coast Council remains one of the lower priced utilities, with Greater Western Water the lowest at \$1,132/property. There was less than \$35 difference in annual residential bill based on 200 kL between the 8 cheapest utilities in this size group.

Icon Water Limited had the largest decrease (8.5%) in the annual residential bill based on 200 kL from 2021–22, with the largest drop in both the water supply and wastewater components.

The Queensland and Western Australian water utilities continued to report the highest annual residential bill based on 200 kL in the Major size group, Logan City Council being the highest in 2022–23 at \$1,879/property.





### Legend

Annual bill based on 200kL (\$)

2018-19	Water	Wastewater	2021-22	Water	Wastewater
2019-20	Water	Wastewater	2022-23	Water	Wastewater
2020-21	Water	Wastewater			

Figure 4.3 Annual bill based on 200 kL: water supply and wastewater (\$) – Major utility group.

# 5 Finance

## 5.1 Total capital expenditure: water supply and wastewater – F16

Total capital expenditure (\$000s) on water supply and wastewater (F16) provides a measure of the total level of capital investment by each utility and the size of the utility and its capital responsibilities.

Capital expenditure programs often affect operational expenditure. They are influenced by several factors, including the:

- age of a utility's infrastructure
- stage of each asset's lifecycle
- time and duration of a project.

Capital expenditure data is indexed using the consumer price index (CPI) to facilitate comparison in real terms.

Total capital expenditure for water supply and wastewater data for all utilities reporting in 2022–23 is presented in Table A5, Appendix A.

### 5.1.1 Key findings

Table 5.1 presents a summary of total capital expenditure for water and wastewater by utility size group. In real terms, total capital expenditure rose by 16% to \$5.9 billion, which is a significant increase in rate of spending from previous years. This reflects the progression of the capital programs of several utilities such as Barwon Water which has nearly doubled both water supply and wastewater capital expenditure this year. As in previous years, Sydney Water had the highest total capital expenditure for 2022–23.

**Table 5.1 Overview of results: Total capital expenditure: water and wastewater (\$000s)**

Utility group	Range (\$ million)		No. utilities with increase/decrease from 2021–22		Total		Change in total from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	1,675,146	66,402	12	3	4,245,826	4,919,105	16%
	Sydney Water	Central Coast					
Large	128,276	6,689	9	2	408,344	482,201	18%
	Townsville	Redland City					
Medium	61,769	3,563	11	6	306,074	365,220	19%
	Eurobodalla	Coffs Harbour					
Small	17,580	2,332	9	7	127,564	139,548	9%
	Bega Valley	Ballina					
<b>All size groups (national)</b>	<b>1,675,146</b>	<b>2,332</b>	<b>41</b>	<b>18</b>	<b>5,087,808</b>	<b>5,906,074</b>	<b>16%</b>
	<b>Sydney Water</b>	<b>Ballina</b>					

**Note:** Total capital expenditure for water and wastewater services in each year is calculated using data from active utilities reporting against F14 and F15 in both years.

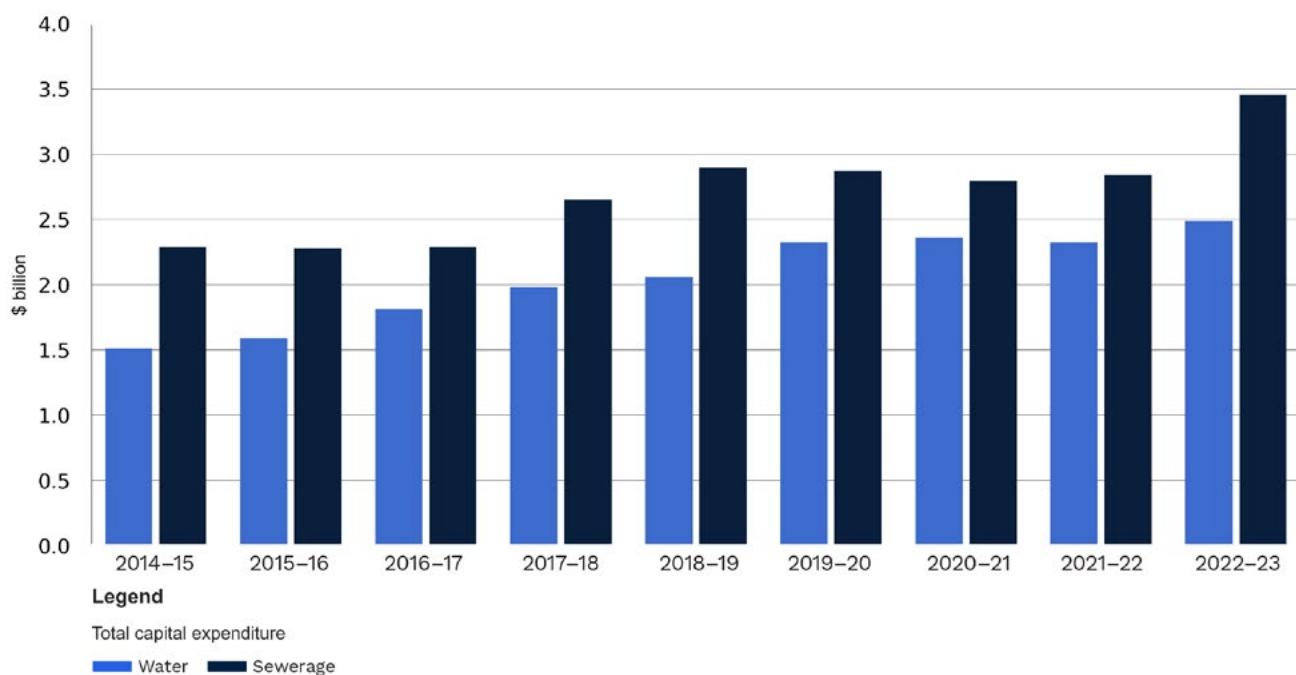


Figure 5.1 Total capital expenditure: water supply and wastewater (\$ billion) for active utilities that reported all 9 years (excluding bulk water utilities)

## 5.1.2 Results and analysis – Major utility group

An increase in capital expenditure across water and wastewater operations was reported by 12 out of the 15 utilities in the Major utility group. Only 3 utilities reported a decrease after multiple years of higher spending on capital works, with City of Gold Coast having the largest proportional decrease (34.3%). Barwon Water and Central Coast Council had the most significant increases, nearly doubling capital expenditure from 2021–22.

## 5.2 Capital expenditure per property: water supply (F28) and wastewater (F29)

Capital expenditure (\$/property) on water supply (F28) and wastewater (F29), on a per connected property basis, provides a measure of capital investment by each utility relative to its customer base. The normalisation on a per connected property basis facilitates a comparison between utilities.

Capital expenditure data is indexed using the consumer price index (CPI) to facilitate comparison in real terms.

Capital expenditure data per connected property, for water and wastewater services, for all utilities reporting in 2022–23 is presented in Tables A6 and A7, Appendix A.

### 5.2.1 Key findings

Tables 5.2 and 5.3 present a summary of the median capital expenditure of utilities providing water and wastewater services, respectively, by utility size group.

Table 5.2 Overview of results: Capital expenditure per property: water supply (\$/property)

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	485	91	11	4	167	233	40%
	TasWater	Gold Coast					
Large	1,053	51	8	3	260	327	26%
	Townsville	Redland City					
Medium	2,278	34	9	8	271	312	15%
	Eurobodalla	Coffs Harbour					
Small	1,403	58	10	6	253	499	97%
	Mount Barker	Ballina					
<b>All size groups (national)</b>	<b>2,278</b>	<b>34</b>	<b>38</b>	<b>21</b>	<b>253</b>	<b>250</b>	<b>-1%</b>
	<b>Eurobodalla</b>	<b>Coffs Harbour</b>					

**Note:** Median capital expenditure per property: water supply (\$/property) for each year is calculated using data from utilities providing water and wastewater services that reported against F28 in that year.

Table 5.3 Overview of results: Capital expenditure per property: wastewater (\$/property)

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	770	174	13	2	251	340	35%
	Logan	Greater Western Water					
Large	454	61	5	6	278	270	-3%
	Townsville	Redland City					
Medium	983	43	9	8	219	320	46%
	Fitzroy River Water	Albury					
Small	965	35	7	10	292	240	-18%
	Mount Barker	Armidale					
<b>All size groups (national)</b>	<b>983</b>	<b>35</b>	<b>34</b>	<b>26</b>	<b>255</b>	<b>294</b>	<b>15%</b>
	<b>Fitzroy River Water</b>	<b>Armidale</b>					

**Note:** Median capital expenditure: wastewater (\$/property) in each year is calculated using data from all active utilities providing water and wastewater services that reported against F29 in that year.



In 2022–23, the median capital expenditure for water supply per property increased for all utility size groups and was higher for 38 utilities compared to the previous year. The Small utility group had the largest increase of 97% from 2021–22.

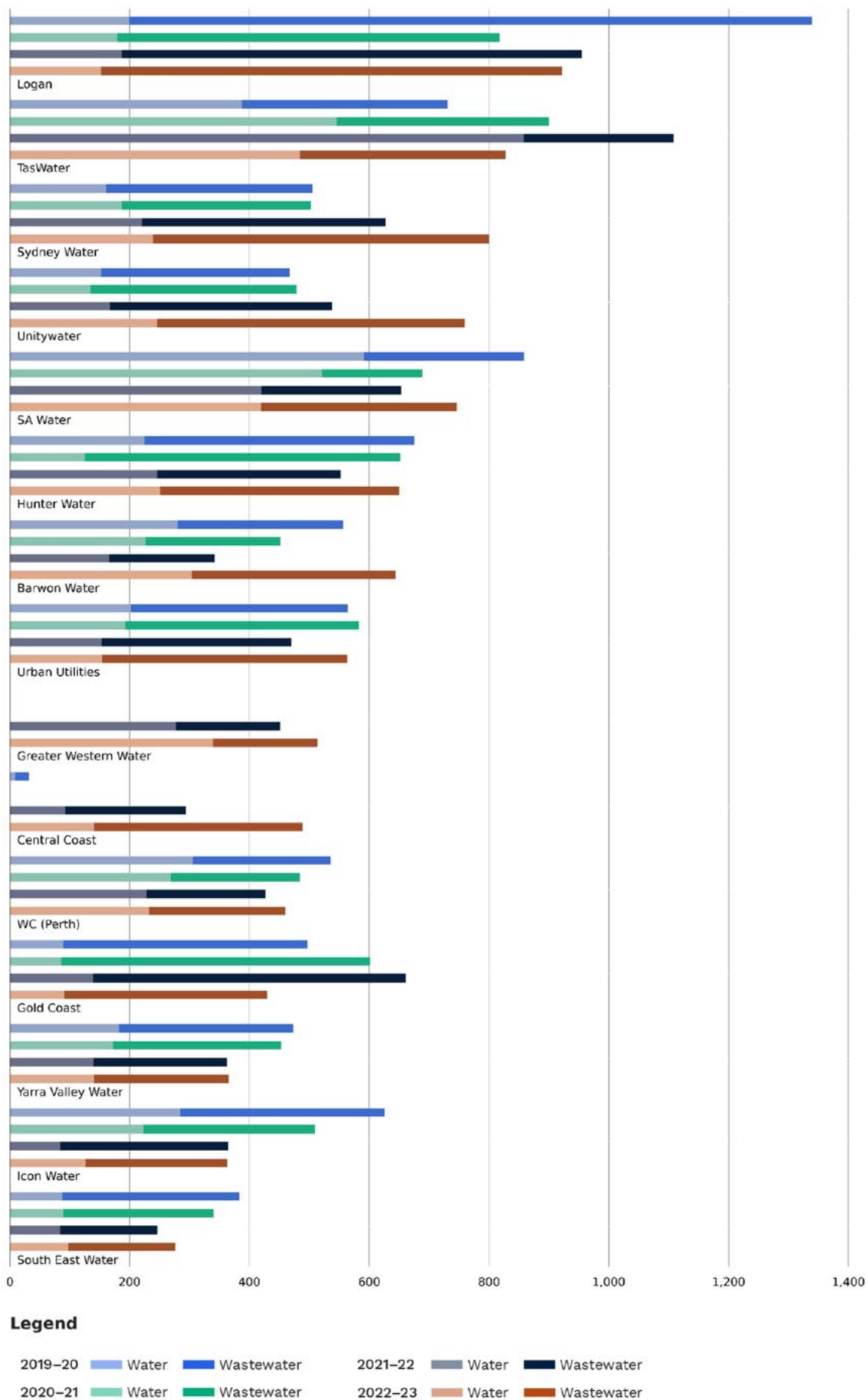
The national median capital expenditure per property on wastewater services increased by 15%, mainly driven by a 46% increase in the capital expenditure of the utilities within the Medium size group. All utilities in the Major size group, except Icon Water Limited and the City of Gold Coast, reported increased expenditure for wastewater services. There was a decrease of 18% in the Small size group and a slight decrease (3%) in the Large utility group.

### **5.2.2 Results and analysis – Major utility group**

Figure 5.2 shows a ranked breakdown of capital expenditure on a per connected property basis for the Major utility group. The figure shows the water supply (F28) and wastewater (F29) components of the total expenditure and reinforces the year-to-year variation.

There is typically volatility in capital expenditure due to the phasing of major projects. The mean capital expenditure on water and wastewater services combined was 20% higher than in 2021–22.

Barwon Water had the highest increase from 2021–22, nearly doubling its capital expenditure per property on both water supply (83.1%) and wastewater (93.3%) services over the reporting period. Despite a reduction this year, Logan City Council had the highest combined capital expenditure per property. City of Gold Coast had the highest combined decrease with a 34.9% reduction in water supply and wastewater combined capital spending per property in 2022–23 from the previous year.



## 5.3 Combined operating cost per property: water supply and wastewater – F13

Combined operating costs (\$/property) for water supply and wastewater on a per property basis (F13) provides a measure of a utility's operation, maintenance and administration costs in relation to the number of properties serviced. Operating costs are influenced by:

- utility size
- government policy
- climate and rainfall
- distance and method by which water is transported (for example, piped)
- sources of water (for example, purchased from a bulk utility or sourced from dams or alternative sources such as desalination plants)
- input costs (for example, fuel, chemicals and labour)
- level of water and sewage treatment required
- capital procurement strategies (for example, public–private partnerships or build–own–operate–transfer [BOOT] schemes).

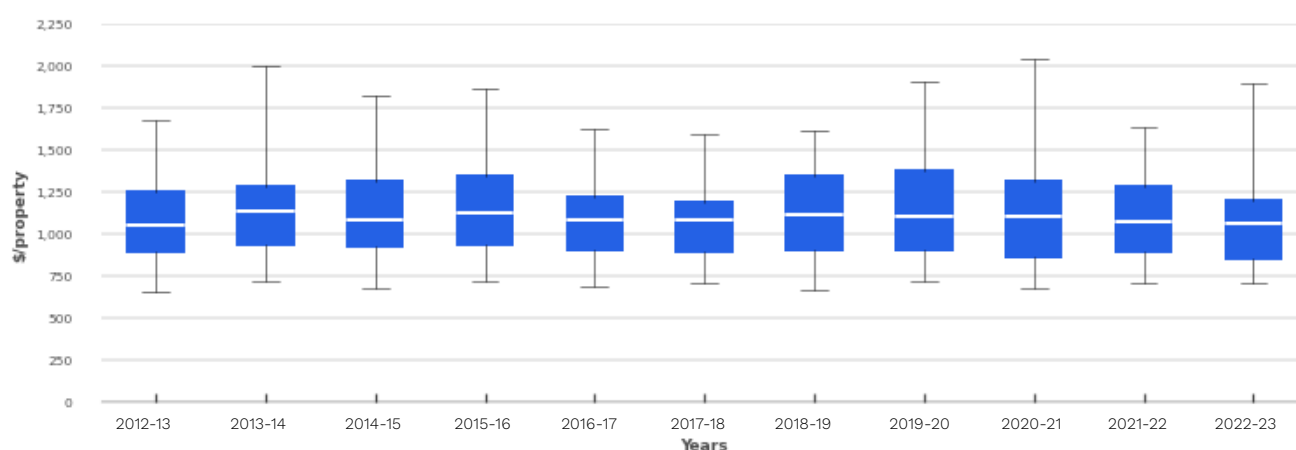
Operating costs are increasing, particularly for larger utilities. However, operating costs per property can fall as the size of the utility increases due to economies of scale.

Operating cost data are indexed using the consumer price index (CPI) to facilitate comparison in real terms.

Combined operating cost (water supply and wastewater) data for all utilities reporting in 2022–23 is presented in Table A8, Appendix A.

### 5.3.1 Key findings

Figure 5.3 shows a box-and-whisker plot of combined operating cost (water supply and wastewater) data for all utilities reporting F13 for a given reporting year from 2012–13 to 2022–23. Table 5.4 presents a summary of the median combined operating costs per property by utility size group.



**Figure 5.3 Combined operating cost per property: water supply and wastewater (\$/property)**

In 2022–23, the national median operating cost (on a per property basis for utilities delivering both water and wastewater services) was \$1,065, a slight increase (1%) from 2021–22 (Table 5.4).

Despite a slight increase in the combined median operating costs per property for water and wastewater across all utilities in 2022–23, the Major utilities group reported a more significant decrease of 7% in costs. Nationally, 38 utilities across all size groups reported decreases in their operating expenditure per property, while 24 utilities reported increases.

Table 5.4 Overview of results: Combined operating cost per property: water and wastewater (\$/property)

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	1,448	692	6	9	914	852	-7%
	Gold Coast	Hunter Water					
Large	1,410	743	4	7	1,028	1,093	6%
	Townsville	Cairns					
Medium	2,071	754	10	8	1,068	1,030	-4%
	Gladstone	Clarence Valley					
Small	1,974	543	4	14	1,187	1,148	-3%
	Byron	Mount Barker					
<b>All size groups (national)</b>	<b>2,071</b>	<b>692</b>	<b>24</b>	<b>38</b>	<b>1,059</b>	<b>1,065</b>	<b>1%</b>
	<b>Gladstone</b>	<b>Hunter Water</b>					

**Note:** Table 5.4 is based on F13 Combined operating cost per property: water supply and wastewater for the reporting utilities that provide both reticulated water supply and wastewater services. This is not always a straight addition of F11 and F12 and depends on the relative numbers of connected water properties and connected sewerage properties. For this reason, some figures presented in the charts and tables may differ from those based on a summation of F11 and F12.

### 5.3.2 Results and analysis – Major utility group

Figure 5.4 presents a ranked breakdown of operating expenditure per connected property for water supply and wastewater services for the Major utility group. The figure shows the component of operating expenditure for water (F11) and wastewater (F12) expenditure for each Major utility from 2018–19 to 2022–23.



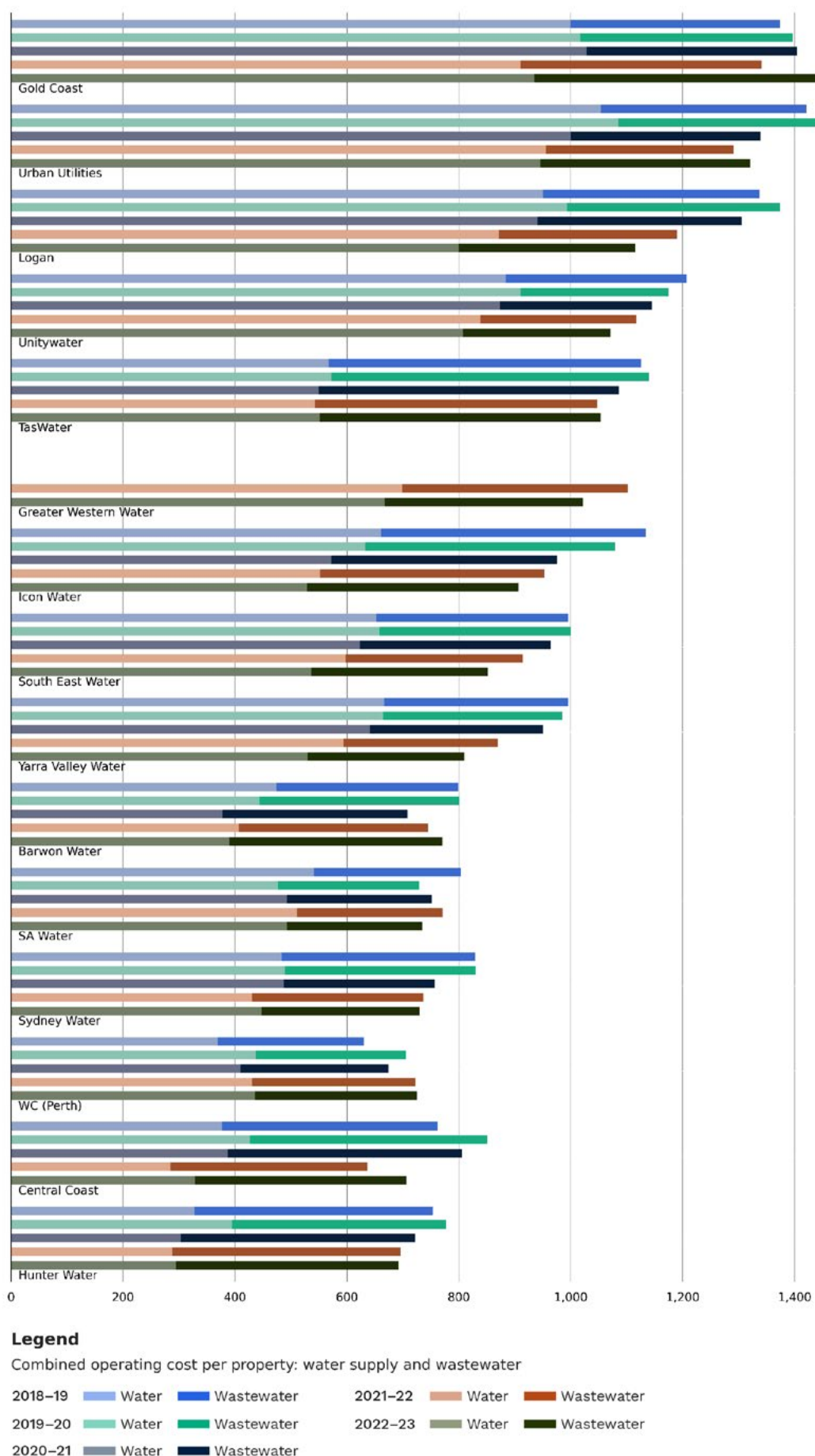


Figure 5.4 Combined operating cost: water supply and wastewater (\$/property) – Major utility group

## 5.4 Community service obligations ratio – F8

Revenue from community service obligations (CSOs) as a percentage of a utility's total income (F8) is a measure of the extent to which activities undertaken by a utility are subsidised.

Payments for CSOs (F25) to a utility by a state or territory government are made when a utility is directed to undertake activities that they would not perform on a solely commercial basis. CSOs in the water sector may be provided to:

- allow reductions on bills to certain disadvantaged customer groups (for example, pensioners)
- allow utilities to charge common tariffs across all geographical regions despite cost differences
- ensure the delivery of government policy (for example, by administering rebates)
- allow utilities to provide services to high-cost areas where full cost recovery would otherwise result in unaffordable bills.

CSO data for all utilities reporting in 2022–23 is presented in Table A9, Appendix A.

### 5.4.1 Key findings

Table 5.5 presents a summary of the revenue from CSOs, by utility size group.

Nationally, there was a 26% decrease in the median revenue from CSOs from 2021–22, largely because of the significant reduction within the Major size utility group. More utilities reported a decrease this year than last year (36 in 2022–23 to 27 in 2021–22).

**Table 5.5 Overview of results: Community service obligations ratio**

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	0.1070	0	3	10	0.0346	0.0242	-30%
	SA Water	Multiple utilities					
Large	0.0578	-0.0787	2	8	0.0190	0.0189	-1%
	North East Water	WC (Mandurah)					
Medium	0.0681	0.0020	9	7	0.0088	0.0104	18%
	GWMWater	Mackay					
Small	0.1401	-0.8339	2	11	0.0074	0.0069	-7%
	P&W (Alice Springs)	WC (Geraldton)					
<b>All size groups (national)</b>	<b>0.1401</b>	<b>-0.8339</b>	<b>16</b>	<b>36</b>	<b>0.0151</b>	<b>0.0111</b>	<b>-26%</b>
	<b>P&amp;W (Alice Springs)</b>	<b>WC (Geraldton)</b>					

**Notes:** Median revenue from community service obligations (%) for each year is calculated using data from all utilities providing data in that year. In Western Australia, some regional schemes recover adequate revenue to cover the cost of service of the scheme, including the community service obligations, and these schemes partially offset the net loss of other regional services. When reported independently, these schemes will show a negative operating subsidy.

### 5.4.2 Results and analysis – Major utility group

The Major utility group reported a decrease in median CSO payments of 30% from 2021–22.

SA Water Corporation continued to have the highest proportion of revenue from CSOs of 11% in the current reporting year. For this utility, CSO payments are used to subsidise non-profitable water services, to provide water services in country areas at metropolitan water prices.

Barwon Water reported the largest percentage increase, with its CSO revenue increasing from 4.3% in 2021–22 to 4.5% in 2022–23. Central Coast Council reported the largest decrease, with a 33.3% reduction in the ratio of revenue coming from CSO compared with the previous year.

# 6 Customer

## 6.1 Average duration of an unplanned interruption: water – C15

The average duration (minutes) of an unplanned interruption (C15), is the average time a customer is without water supply due to an unforeseen interruption that requires attention by the utility.

Unplanned interruptions include scheduled interruptions that exceed the time limit given in the original notification. The indicator is a measure of customer service, the condition of the water network and how effectively the network is managed.

The average duration is influenced by the:

- scale of the event causing the interruption
- location of the interruption (for example, the proximity to a repair crew and the depth of the burst pipe)
- utility's response policy for outlying areas
- number of maintenance and repair staff at the utility's disposal.

Note that a single event affecting a small number of properties for a long duration can cause large annual variations in this indicator, especially for smaller utilities.

Data on the average duration of an unplanned interruption (water supply) for all active utilities reporting in 2022–23 is presented in Table A10, Appendix A.

### 6.1.1 Key findings

Table 6.1 presents a summary of average duration of unplanned interruptions by utility size group.

**Table 6.1 Overview of results: Average duration of an unplanned interruption: water (minutes)**

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	231.0	90.1	8	6	137.0	130.4	-5%
	Sydney Water	South East Water					
Large	273.0	61.3	5	6	108.9	96.0	-12%
	Redland City	Cairns					
Medium	422.0	7.4	12	8	95.0	103.8	9%
	Tamworth	Mackay					
Small	456.0	18.8	9	7	105.8	103.5	-2%
	Bega Valley	Livingstone					
<b>All size groups (national)</b>	<b>456.0</b>	<b>7.4</b>	<b>34</b>	<b>27</b>	<b>115.0</b>	<b>112.0</b>	<b>-3%</b>
	<b>Bega Valley</b>	<b>Mackay</b>					

**Note:** Median average duration of an unplanned interruption: water (minutes) for each year is calculated for all active utilities that reported data for C15 in that year.

The median average duration of unplanned interruptions decreased by 3% from 115 minutes in 2021–22 to 112 minutes in 2022–23 on a national scale. Bega Valley Shire Council in New South Wales from the Small size group had the longest (456 minutes) and Mackay Regional Council in Queensland in the Medium size group, had the shortest (7.4 minutes) duration of unplanned interruption of all size groups, as they did last year.

Southern Downs Regional Council in the Small utility size group reported the largest decrease (85.1%, from 247.5 minutes in 2021–22 to 36.8 minutes in 2022–23) while Goldenfields Water County Council in the Small utility size group reported the largest increase (227.3%, from 55 minutes in 2021–22 to 180 minutes in 2022–23).

## 6.1.2 Results and analysis – Major utility group

Figure 6.1 presents a ranked breakdown of the average duration of an unplanned interruption for the Major utility group from 2018–19 to 2022–23. The figure highlights the large year-to-year variation in the indicator for all utilities in the Major size group that can result from a single major mains break.

Sydney Water Corporation reported the highest (231 minutes) and South East Water Corporation reported the lowest (90.1 minutes) average duration of unplanned interruptions in 2022–23. The City of Gold Coast average duration of unplanned interruptions (126.3 minutes) decreased by 20.3% from 2021–22, after a gradual increase from 126 minutes in 2018–19 to 158.5 minutes in 2021–22.

Figure 6.1 illustrate both increases and decreases in the average duration of unplanned interruptions for the Major size group in 2022–23. Notably, Water Corporation – Perth reported an increase of 14.9% compared to 2021–22 following an unchanged condition last year. Yarra Vally Water Corporation, Logan City Council and Barwon Water demonstrated minimal variance, remaining nearly unchanged.



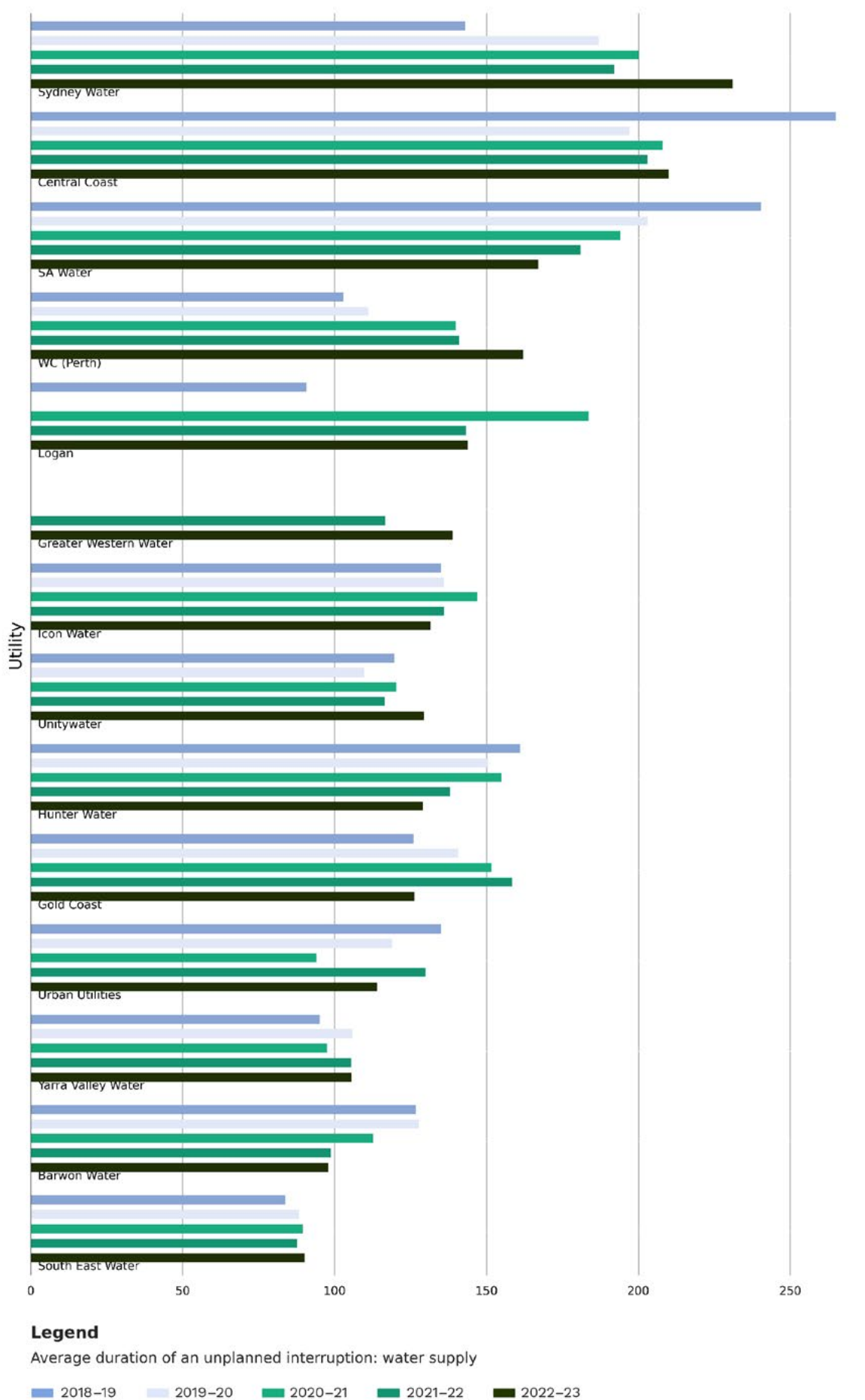


Figure 6.1 Average duration of an unplanned interruption: water (minutes) – Major utility group

## 6.2 Number of water and sewerage complaints per 1,000 properties – C13

The total number of water and sewerage complaints per 1,000 properties (C13) is a measure of a utility's customer satisfaction and operational performance. A complaint can be a written or verbal expression of dissatisfaction made about an action, a proposed action or a failure to act by the water utility, its employees or contractors.

Complaints from different customers about the same issue are counted as separate complaints.

Total water and sewerage complaints data for all active utilities reporting in 2022–23 is presented in Table A11, Appendix A.

### 6.2.1 Key findings

Table 6.2 presents a summary of the total water and sewerage complaints by utility size group. Nationally, there was a 14% increase in the median number of complaints from 2021–22, despite the decrease of the median in all size groups. Goulburn Mulwaree Council reported the highest number of complaints per 1,000 properties (97) in the Small size group for 2022–23, while Gympie Regional Council reported the lowest number (0.13) in the same utility size group.

**Table 6.2 Overview of results: Number of water and sewerage complaints per 1,000 properties (complaints/1,000 properties)**

Utility group	Range		No. utilities with increase/decrease from 2021–21		Median		Change in median from 2021–21 (%)
	High	Low	Increase	Decrease	2021–21	2022–23	
Major	16.12	0.55	7	8	4.33	3.94	-9%
	Icon Water	WC (Perth)					
Large	9.05	0.29	7	5	4.44	3.01	-32%
	Goulburn Valley Water	Townsville					
Medium	90.00	0.19	9	11	12.00	9.00	-25%
	Clarence Valley	Gladstone					
Small	97.00	0.13	9	13	10.40	6.00	-42%
	Goulburn Mulwaree	Gympie					
<b>All size groups (national)</b>	<b>97.00</b>	<b>0.13</b>	<b>32</b>	<b>37</b>	<b>5.68</b>	<b>6.45</b>	<b>14%</b>
	<b>Goulburn Mulwaree</b>	<b>Gympie</b>					

**Note:** The median number of water and sewerage complaints per 1,000 properties for each year is calculated for all active and non-bulk reporting utilities that provide both reticulated water supply and wastewater services in that year.

### 6.2.2 Results and analysis – Major utility group

Figure 6.2 shows a ranked breakdown of the total water and sewerage complaints per 1,000 properties from 2018–19 to 2022–23 for the Major utility group.

In this group, Icon Water Limited in the Australian Capital Territory reported the highest number of water and sewerage complaints per 1,000 properties (16.12). Water Corporation – Perth in Western Australia reported the lowest number (0.55) of total complaints per 1,000 properties for 2022–23, while also reporting the highest increase (57.1%) from 2021–22. Barwon Water in Victoria reported the lowest increase (0.1%) in the total water and sewerage complaints per 1,000 properties from 2021–22.

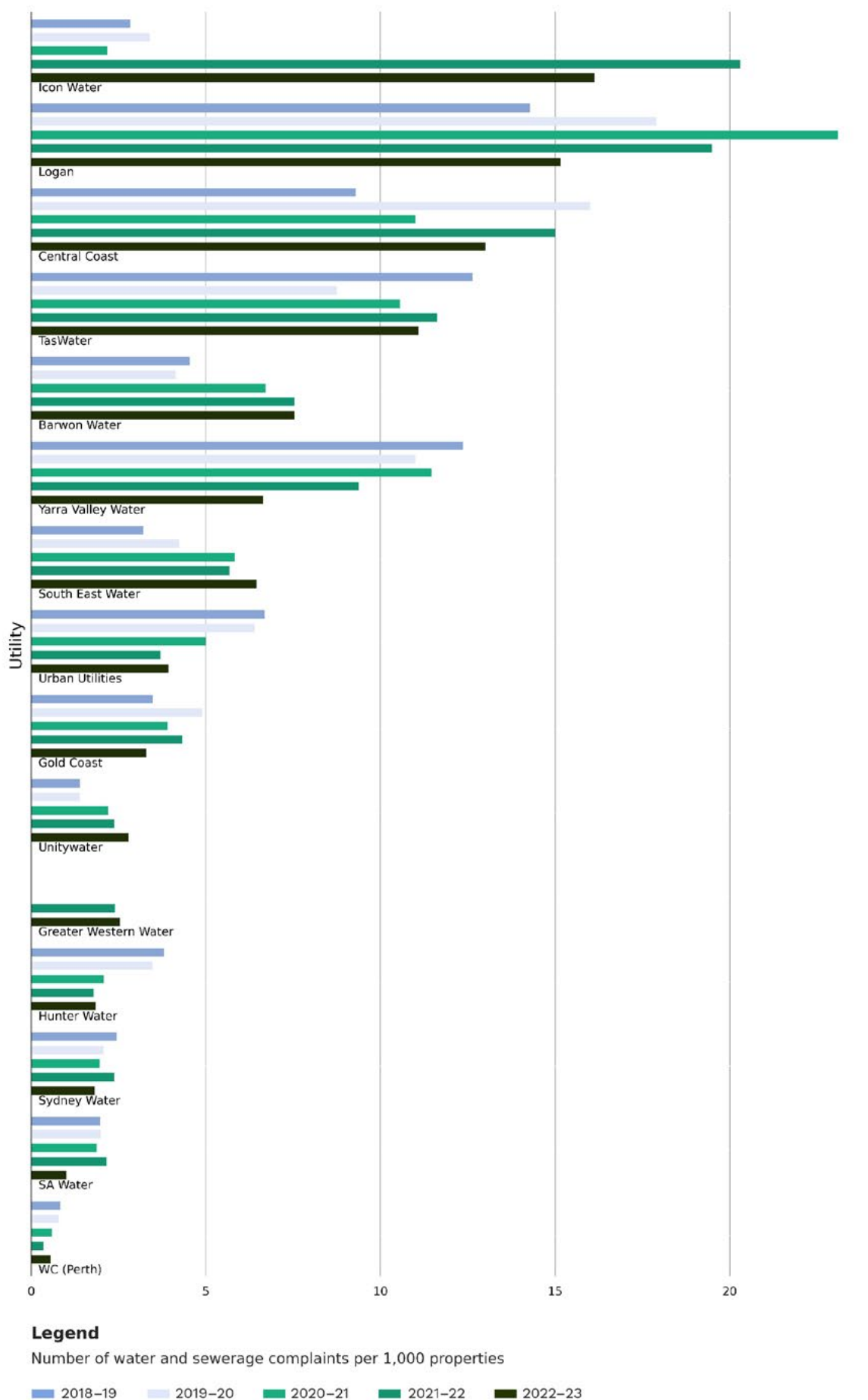


Figure 6.2 Total complaints: water and sewerage (per 1,000 properties) – Major utility group

## 6.3 Percentage of calls answered by an operator within 30 seconds – C14

The percentage of calls answered by an operator within 30 seconds (C14) measures the number of calls answered within 30 seconds after the 'operator' option is selected. It is a measure of the efficiency of a utility's customer service centre and is affected by:

- the ratio of customer service staff to customers
- severe events, such as storms or floods, that result in a large increase in customer calls.

Data on the percentage of calls answered by an operator within 30 seconds for all active utilities reporting in 2022–23 are presented in Appendix A, Table A12.

**Table 6.3 Overview of results: Percentage of calls answered within 30 seconds (%)**

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	94.4	16.1	2	9	65.3	57.8	-11%
	Logan	WC (Perth)					
Large	97.3	59.0	3	4	77.6	74.2	-4%
	Townsville	Shoalhaven					
Medium	99.7	0	6	9	78.0	75.0	-4%
	East Gippsland Water	Tamworth					
Small	98.1	37.0	4	2	78.5	77.0	-2%
	Busselton (W)	Western Downs					
<b>All size groups (national)</b>	<b>99.7</b>	<b>16.1</b>	<b>15</b>	<b>24</b>	<b>75.0</b>	<b>74.2</b>	<b>-1%</b>
	<b>East Gippsland Water</b>	<b>WC (Perth)</b>					

**Note:** Median percentage of calls answered by an operator within 30 seconds for each year is calculated for all active utilities reporting data in that year.

### 6.3.1 Key findings

Nationally, the median percentage of calls answered within 30 seconds for 2022–23 decreased by 1% compared to 2021–22. Across all size groups, there was a decrease, with the Major size group reporting the highest percentage decline of 11% compared to 2021–22.

Among all utility size groups, East Gippsland Water in Victoria (Medium size group) answered 99.7% of the calls within 30 seconds while Water Corporation – Perth in the Major size group answered the lowest percentage of the calls within 30 seconds (16.1%).

### 6.3.2 Results and analysis – Major utility group

Figure 6.3 shows a ranked breakdown of the percentage of calls answered by an operator within 30 seconds from 2018–19 to 2022–23 for the Major utility group.

Compared with 2021–22, most of the utilities in the Major utility size group reported a decrease in the percentage of the calls answered within 30 seconds while City of Gold Coast and Sydney Water Corporation remained unchanged. In this size group, Logan City Council had the best performance, answering 94.4% of calls within 30 seconds while Water Corporation – Perth showed the lowest performance, answering 16.1% of calls within 30 seconds.

Water Corporation – Perth also reported the largest decrease (53.5%), and Central Coast Council in New South Wales reported the highest increase (19.2%) in the percentage of calls answered by an operator within 30 seconds from 2021–22 to 2022–23.

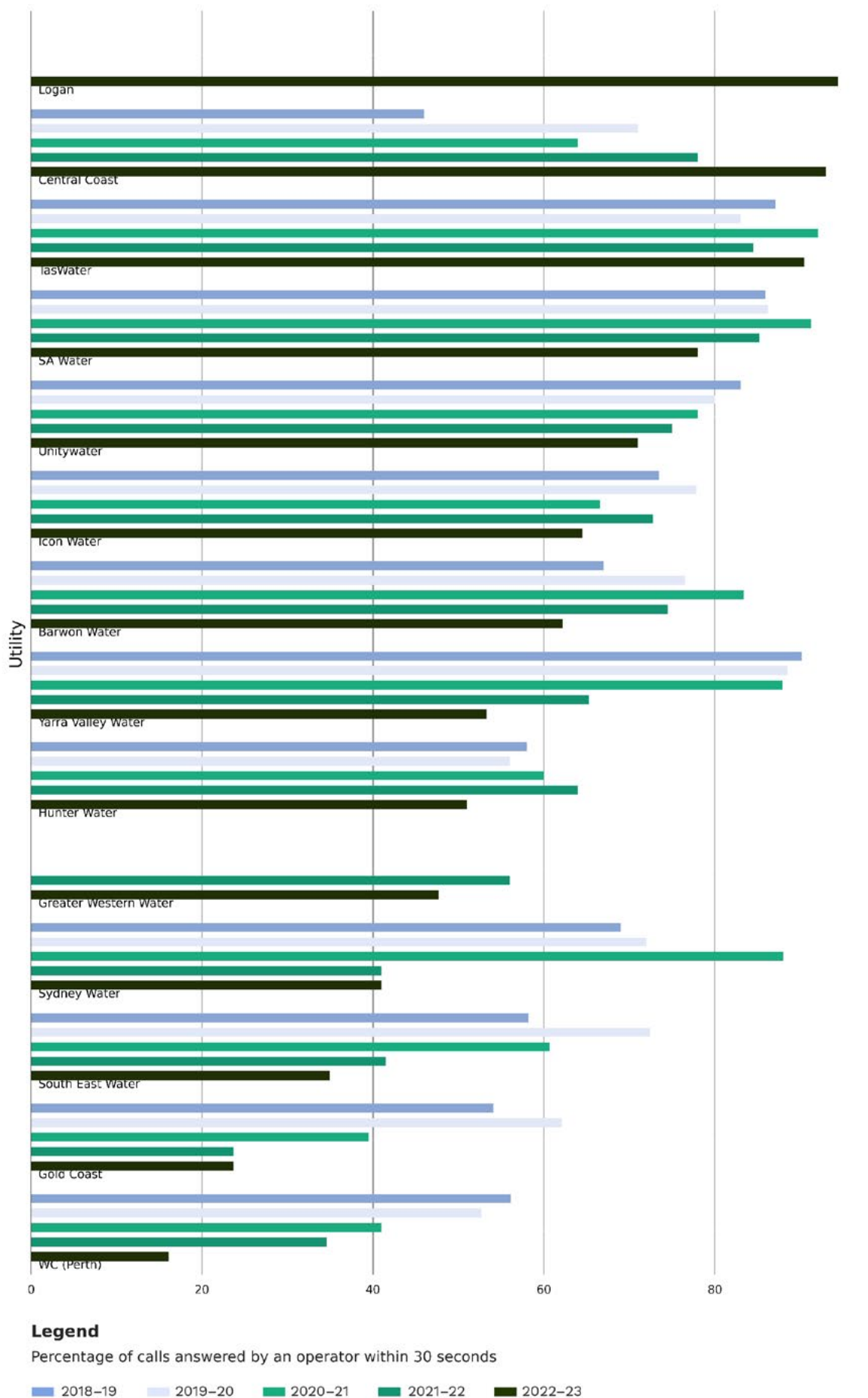


Figure 6.3 Percentage of calls answered by an operator within 30 seconds – Major utility group



# 7 Asset

## 7.1 Number of water main breaks, bursts and leaks per 100 km of water mains – A8

The number of water main breaks, bursts and leaks per 100 km of water mains (A8) is the total number of breaks, bursts and leaks in all distribution system mains<sup>6</sup>, excluding breaks associated with headworks and transfer mains. It provides an indication of both customer service and the condition of the network. The number of main breaks is influenced by various factors, including:

- soil type
- rainfall
- pipe material
- age and condition of the network.

Data on the number of water main breaks, bursts and leaks per 100 km of water mains for all utilities reporting in 2022–23 are presented in Appendix A, Table A13.

### 7.1.1 Key findings

Figure 7.1 shows that the national median number of main breaks in 2022–23 increased slightly (7%) from 2021–22, following the modest increases since 2018–19.

Table 7.1 presents a summary of the number of water main breaks per 100 km of water main by utility size group. The largest increase (18%) was reported in the Large size group, whereas the Medium size group reported the largest decrease of 6%. Additionally, Byron Shire Council within the Small size group reported the highest number of water main breaks, bursts and leaks per 100 km of water (55.4), while Mount Barker District in the Medium size group reported the lowest number (0).

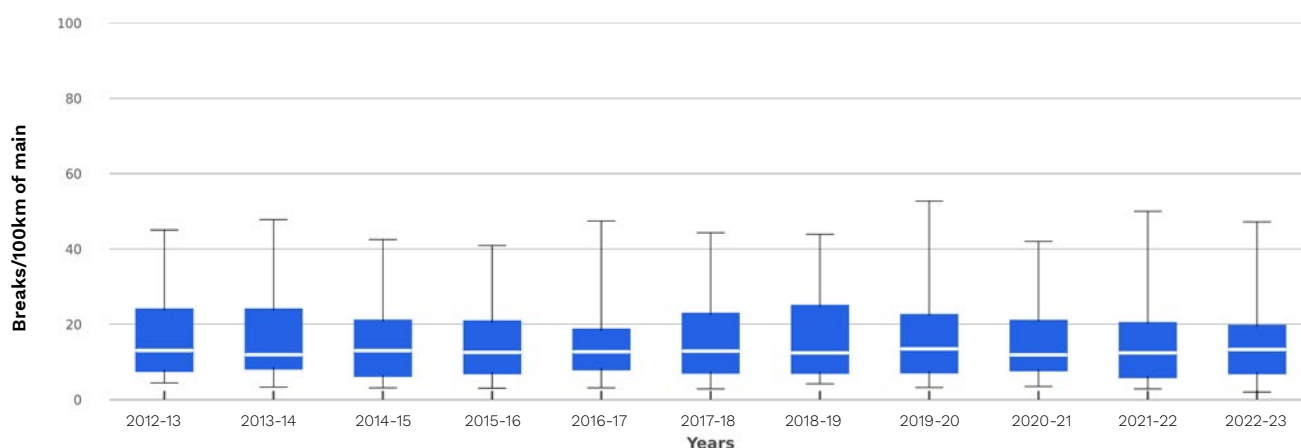


Figure 7.1 Number of water main breaks, bursts and leaks per 100 km of water mains

<sup>6</sup> The figure includes both potable and non-potable water mains.

Table 7.1 Overview of results: Number of water main breaks, burst and leaks per 100 km of water mains (mains breaks/100 km)

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	47.2	3.7	6	8	17.2	16.8	-2%
	TasWater	Logan					
Large	25.6	2.9	6	6	13.9	16.4	18%
	Cairns	WC (Mandurah)					
Medium	46.2	1.4	8	14	10.6	9.9	-6%
	GWMWater	Clarence Valley					
Small	55.4	0	14	12	12.2	12.7	4%
	Byron	Mount Barker					
<b>All size groups (national)</b>	<b>55.4</b>	<b>0</b>	<b>34</b>	<b>40</b>	<b>12.4</b>	<b>13.3</b>	<b>7%</b>
	<b>Byron</b>	<b>Mount Barker</b>					

**Note:** The median for water main breaks, burst and leaks per 100 km of water mains in each year was calculated using data from all utilities (dual-service and single-service providers) reporting data against A8 in that year.

## 7.1.2 Results and analysis – Major utility group

Figure 7.2 presents a ranked breakdown of the water main breaks for each utility in the Major utility group from 2018–19 to 2022–23.

The Major utility group reported a slight decrease (2%) in the number of breaks per 100 km of water mains, with 6 out of the 15 Major utilities reporting an increase from 2021–22 to 2022–23 (Water Corporation – Perth was the only utility that reported no change). Sydney Water Corporation reported the largest increase (19.8%), while Logan City Council reported the largest decrease (28.8%) from 2021–22 to 2022–23.

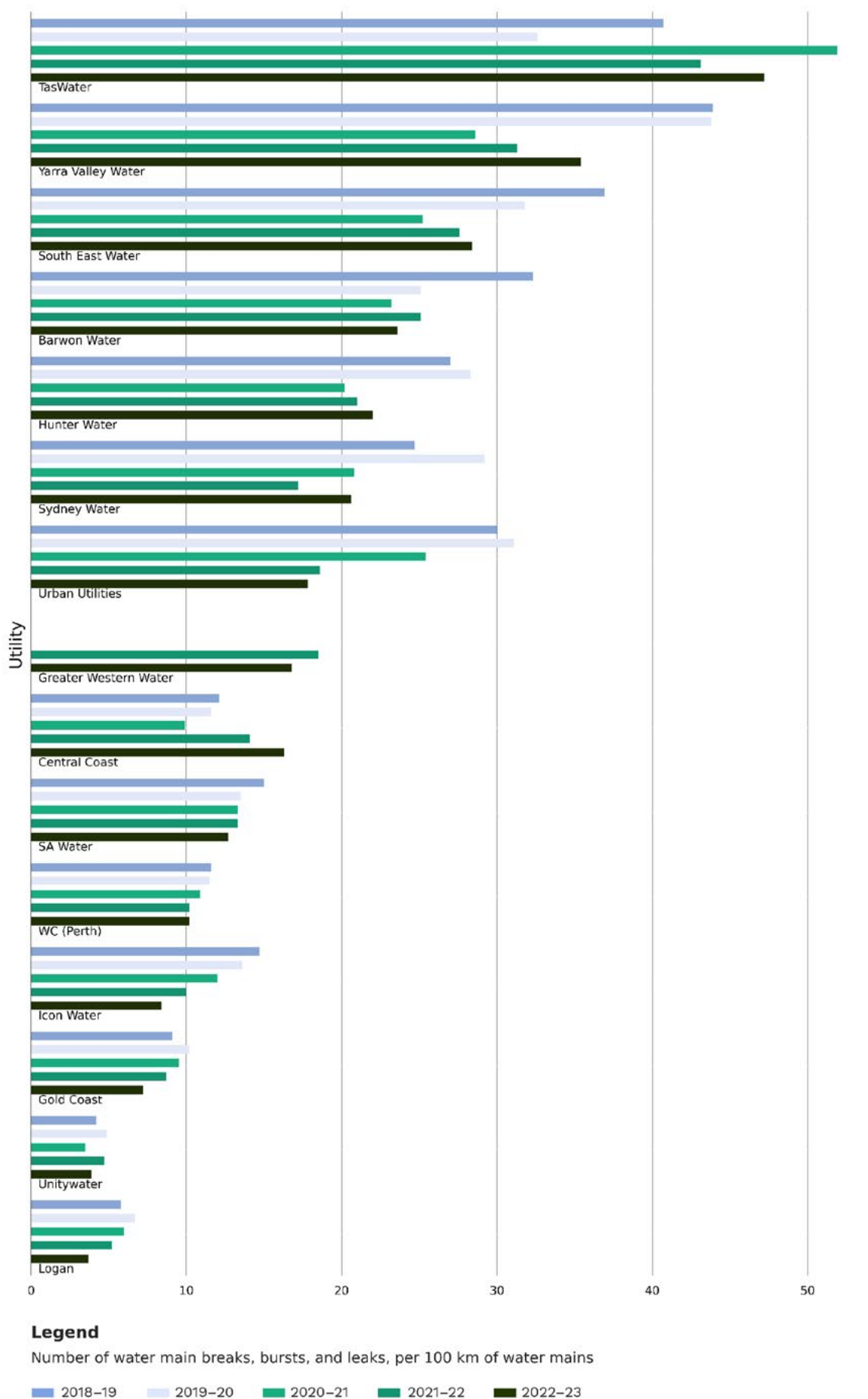


Figure 7.2 Water main breaks, bursts and leaks per 100 km of water mains – Major utility group

## 7.2 Number of sewer mains breaks and chokes per 100 km – A14 and number of property connection sewer breaks and chokes per 1,000 properties – A15

Indicator A14 reports the number of sewer breaks and chokes per 100 km of sewer mains, and A15 reports the number of property connection sewer breaks and chokes per 1,000 properties. The indicators are presented together to provide a complete picture of sewer system performance as utilities have sewer networks with various configurations.

- Some utilities have a very long property connection (for example, from the customer's sanitary drain to the middle of a road), while others have a very short or no property connection (that is, the sanitary drain may connect straight to the sewer main, which runs down an easement at the back of the property).
- Some utilities do not own<sup>7</sup> or maintain the property connections and therefore do not report on them in accordance with the definition of the indicator.
- Other utilities are responsible for only a portion of property sewer connections and so only report results on those for which they are responsible.

The performance of a sewerage system is influenced by:

- soil type
- pipe material
- sewerage configuration
- age
- tree root intrusion
- management of trade waste
- volume of sewage inflows
- rainfall.

Results reflect both the condition of the network and the level of customer service. For the reasons given above, care should be taken in comparing the performance of utilities against each other using these indicators.

Data on sewer mains breaks and chokes for all utilities reporting in 2022–23 are presented in Appendix A, Table A14. Property connection sewer breaks and chokes for all utilities reporting in 2022–23 are presented in Appendix A, Table A15.

### 7.2.1 Key findings

Table 7.2 presents a summary of the number of sewer mains breaks and chokes per 100 km of sewer main by utility group.

Table 7.3 presents a summary of the property connection sewer breaks and chokes per 1,000 properties by utility group.

In 2022–23, there was a national median of 14.3 sewer main breaks and chokes per 100 km of sewer main, which was a 14% decrease from 2021–22 (Table 7.2). There was an 11% decrease in the sewer breaks and chokes per 1,000 properties (Table 7.3). The decrease in median sewer breaks and chokes was due to a decrease in all size groups while the decrease in median number of property connection sewer breaks and chokes was due to a decrease in all size groups except the Large size group.

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<sup>7</sup> For such utilities, the property owner is responsible for the property's sewer connections.

**Table 7.2 Overview of results: Number of sewer mains breaks and chokes per 100 km of sewer main (breaks and chokes/100 km)**

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	49.8	4.4	2	13	27.3	22.5	-18%
	Barwon Water	Gold Coast					
Large	45.8	4.2	4	8	15.9	14.6	-9%
	Townsville	Gippsland Water					
Medium	75.0	1.9	3	17	17.5	11.5	-34%
	Albury	Mackay					
Small	219.0	0.9	10	16	12.3	11.8	-5%
	Snowy Monaro	WC (Busselton) (S)					
<b>All size groups (national)</b>	<b>219.0</b>	<b>0.9</b>	<b>19</b>	<b>54</b>	<b>16.7</b>	<b>14.3</b>	<b>-14%</b>
	<b>Snowy Monaro</b>	<b>WC (Busselton) (S)</b>					

**Note:** The median number of sewer mains breaks (per 100 km of sewer main) in each year is calculated using data from all utilities (dual-service and single-service providers) reporting data against A14 in that year.

**Table 7.3 Overview of results: Number of property connection sewer breaks and chokes per 1,000 properties (breaks and chokes/1,000 properties)**

Utility group	Range		No. utilities with increase/decrease from 2021–21		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	31.0	0.1	0	14	4.0	3.2	-20%
	SA Water	Sydney Water					
Large	6.2	0.6	4	7	2.1	3.0	43%
	Townsville	Redland City					
Medium	21.1	0.1	10	11	4.6	3.8	-17%
	GWMWater	Port Macquarie Hastings					
Small	38.5	0	4	15	5.4	2.8	-48%
	Essential Energy	Mount Barker					
<b>All size groups (national)</b>	<b>38.5</b>	<b>0</b>	<b>18</b>	<b>47</b>	<b>3.8</b>	<b>3.4</b>	<b>-11%</b>
	<b>Essential Energy</b>	<b>Mount Barker</b>					

**Note:** The median number of property connection sewer breaks and chokes per 1,000 properties in each year is calculated using data from all utilities (dual-service and single-service providers) reporting data against A15 in that year.

### 7.2.2 Results and analysis – Major utility group

Figure 7.3 shows a ranked breakdown of the sewer mains breaks and chokes (per 100 km of sewer main) for each Major utility from 2018–19 to 2022–23 and Figure 7.4 shows a ranked breakdown of property connection sewer breaks and chokes per 1,000 properties.

Only 2 of the 15 Major utilities reported an increase in sewer mains breaks and chokes per 100 km sewer main, while all reported a decrease in sewer breaks and chokes per 1,000 properties from 2021–22 to 2022–23. Sydney Water Corporation reported the largest decrease both in breaks and chokes per 100 km of sewer mains (33.3%, Figure 7.3) and in sewer breaks and chokes per 1,000 properties (50.0%, Figure 7.4) compared to 2021–22. The overall decrease in sewer main breaks and chokes is consistent with the continuation of above-average rainfall for most of Australia in 2022–23, leading to wet soil conditions and a decreased risk of breaks and chokes.



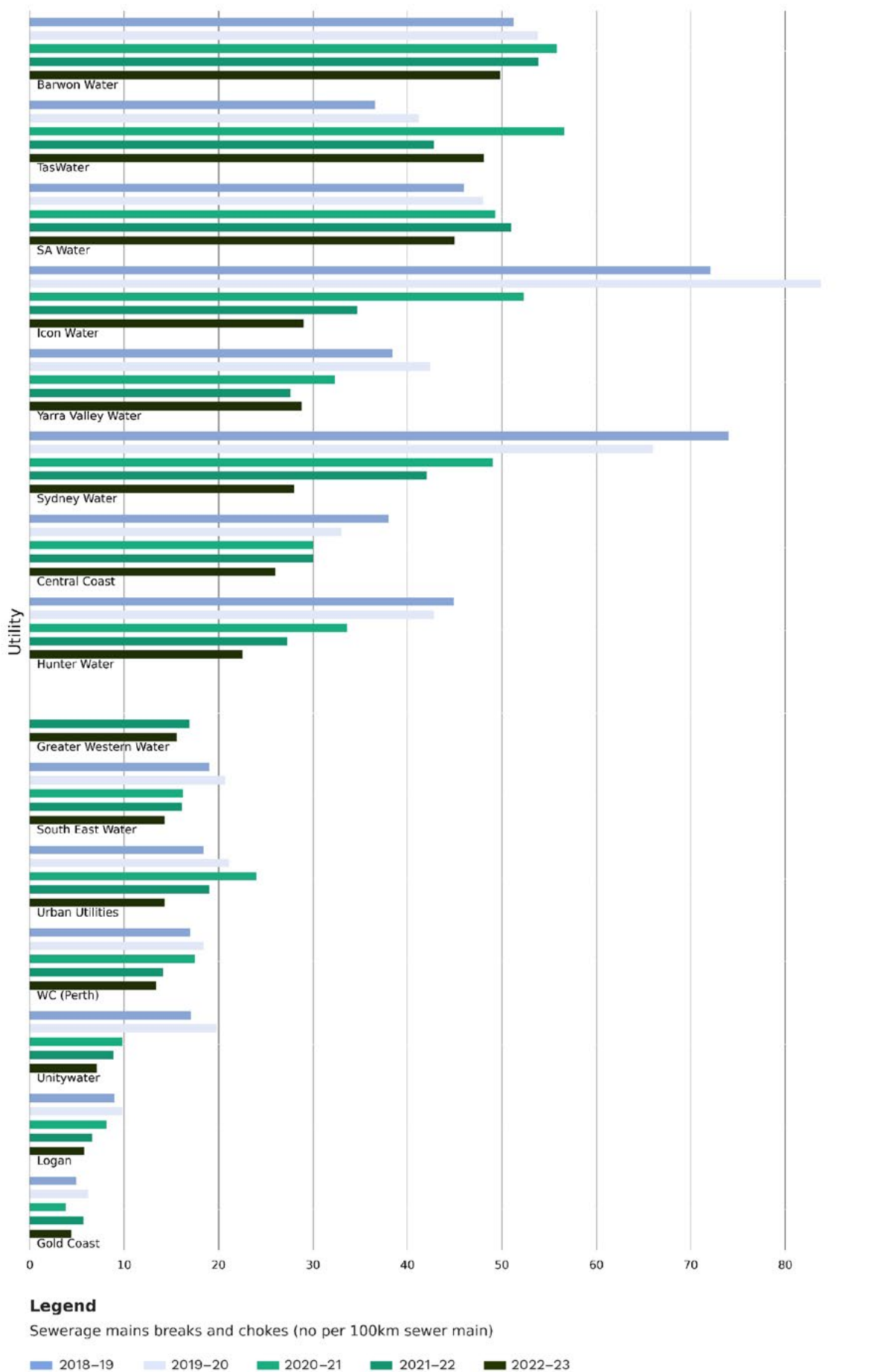


Figure 7.3 Sewer mains breaks and chokes per 100 km of sewer main – Major utility group

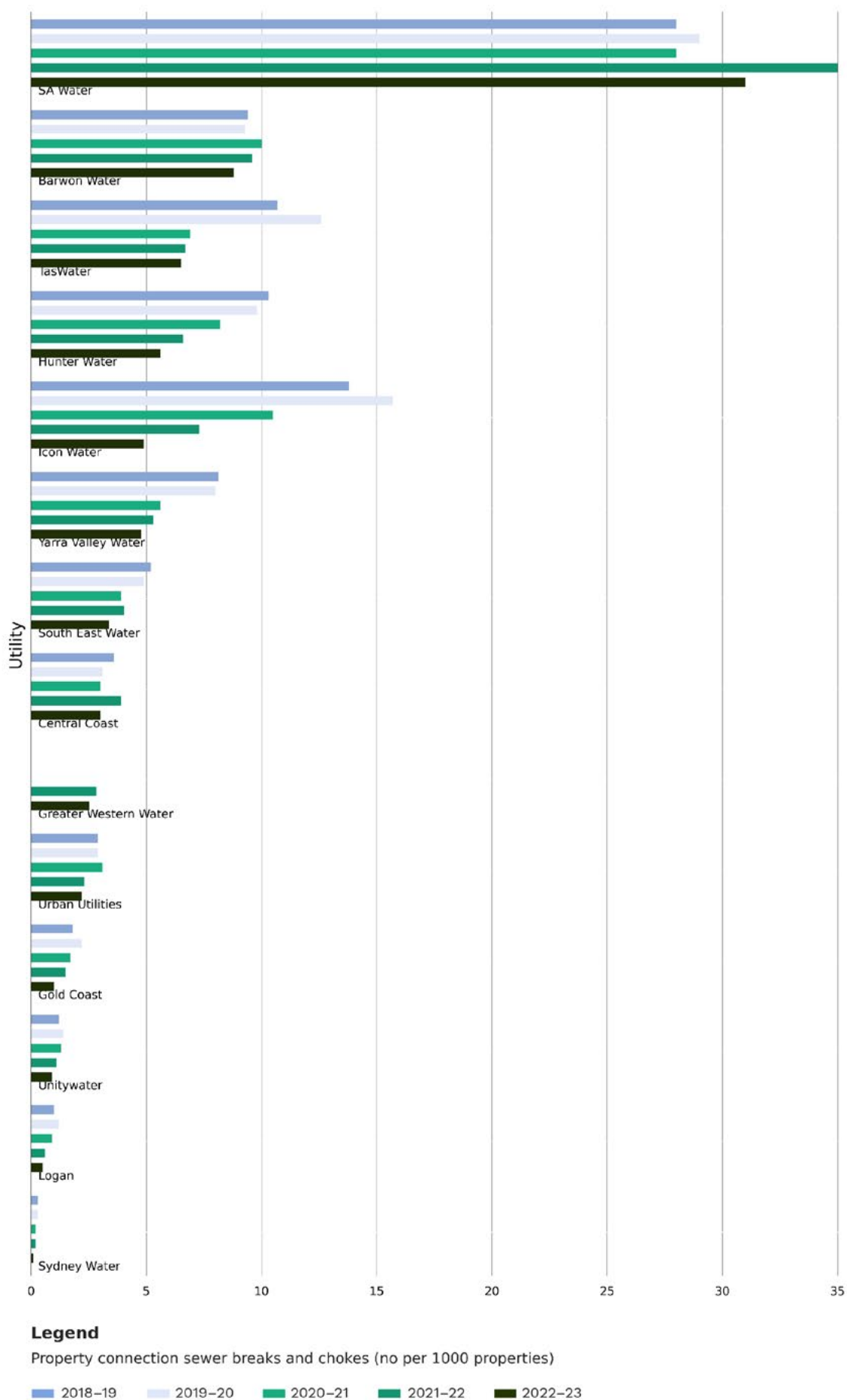


Figure 7.4 Property connection sewer breaks and chokes per 1,000 properties – Major utility group

## 7.3 Real losses: service connections – A10

‘Real’ losses (A10) are leakages and overflows from potable water mains, service reservoirs and service connections before the customer meter (L/service connection/day). This indicator excludes metering errors, unauthorised consumption (apparent losses), and unbilled authorised consumption (for example, water used for firefighting). Performance of this indicator may be influenced by the condition of mains, infrastructure and water pressure.

Real losses are estimated using a range of assumptions, including assumed errors in metered water deliveries, estimates of unmetered components, and metering of night flows, and may not be as accurate as other indicators (such as water main breaks) when comparing utilities.

Real loss data for all utilities reporting in 2022–23 is presented in Appendix A, Table A16.

### 7.3.1 Key findings

Table 7.4 presents a summary of the real losses by utility size group.

From 2021–22 to 2022–23, the national median across all size groups increased slightly by 1% to 72 L/service connection/day.

As in previous years, Cassowary Coast Regional Council in the Small size group reported the highest real losses among all utilities (415.7 L/service connection/day in 2022–23), with a 16% increase from the previous year.

**Table 7.4 Overview of results: Real losses: service connections (L/service connection/day)**

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	319.0	0.1	11	3	65.8	70.5	7%
	TasWater	Greater Western Water					
Large	362.0	16.2	7	5	68.2	66.5	-2%
	P&W (Darwin)	Redland City					
Medium	220.8	0.1	7	12	65.5	60.0	-8%
	Fitzroy River Water	Multiple utilities					
Small	415.7	18.0	14	10	107.0	140.0	31%
	Cassowary Coast	Westernport Water					
<b>All size groups (national)</b>	<b>415.7</b>	<b>0.1</b>	<b>39</b>	<b>30</b>	<b>71.5</b>	<b>72.0</b>	<b>1%</b>
	<b>Cassowary Coast</b>	<b>Multiple utilities</b>					

**Note:** The median real losses (L/service connection/day) for each year are calculated using data from all utilities (dual-service and single-service providers) reporting data against A10 in that year.

Figure 7.5 shows a box-and-whisker plot of the real losses for all utilities reporting A10 for a given reporting year from 2012–13 to 2022–23. The figure highlights a larger range of changes among utilities that have reported, compared to the previous year. The median for 2022–23 has remained almost the same as the previous year, but the change range was the largest since 2012–13.

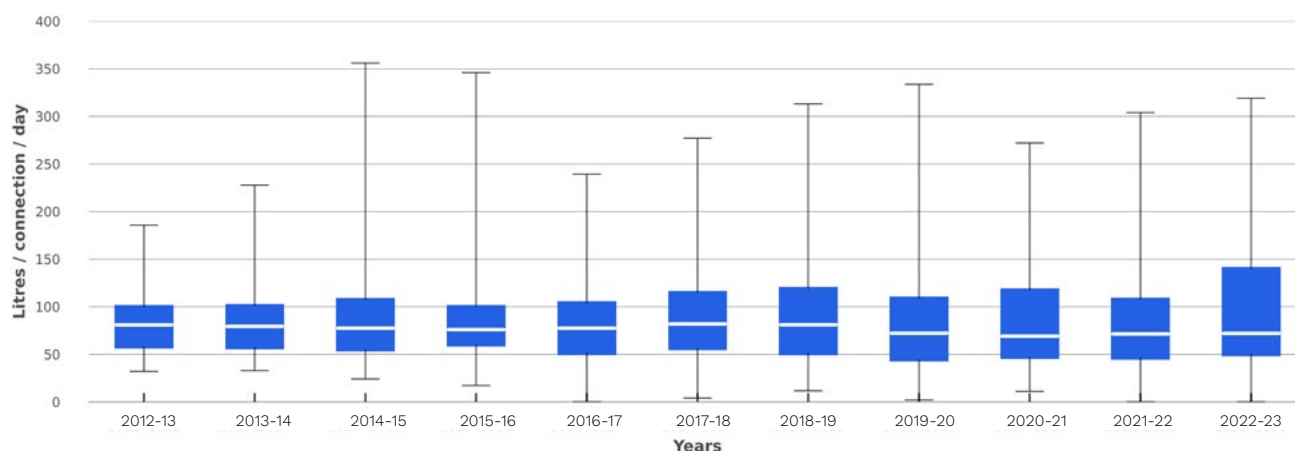


Figure 7.5 Real losses (L/service connection/day)

### 7.3.2 Results and analysis – Major utility group

Figure 7.6 presents a ranked breakdown of the real losses per annum for each Major utility from 2018–19 to 2022–23. Eleven utilities reported an increase in real losses between 2021–22 and 2022–23 with Urban Utilities remaining unchanged. Barwon Water reported the highest increase (96.7%), from 30 L/service connection/day in 2021–22 to 59 L/service connection/day in 2022–23 while Logan City Council reported the highest decrease (24.0%), from 70.9 L/service connection/day in 2021–22 to 53.9 L/service connection/day in 2022–23.

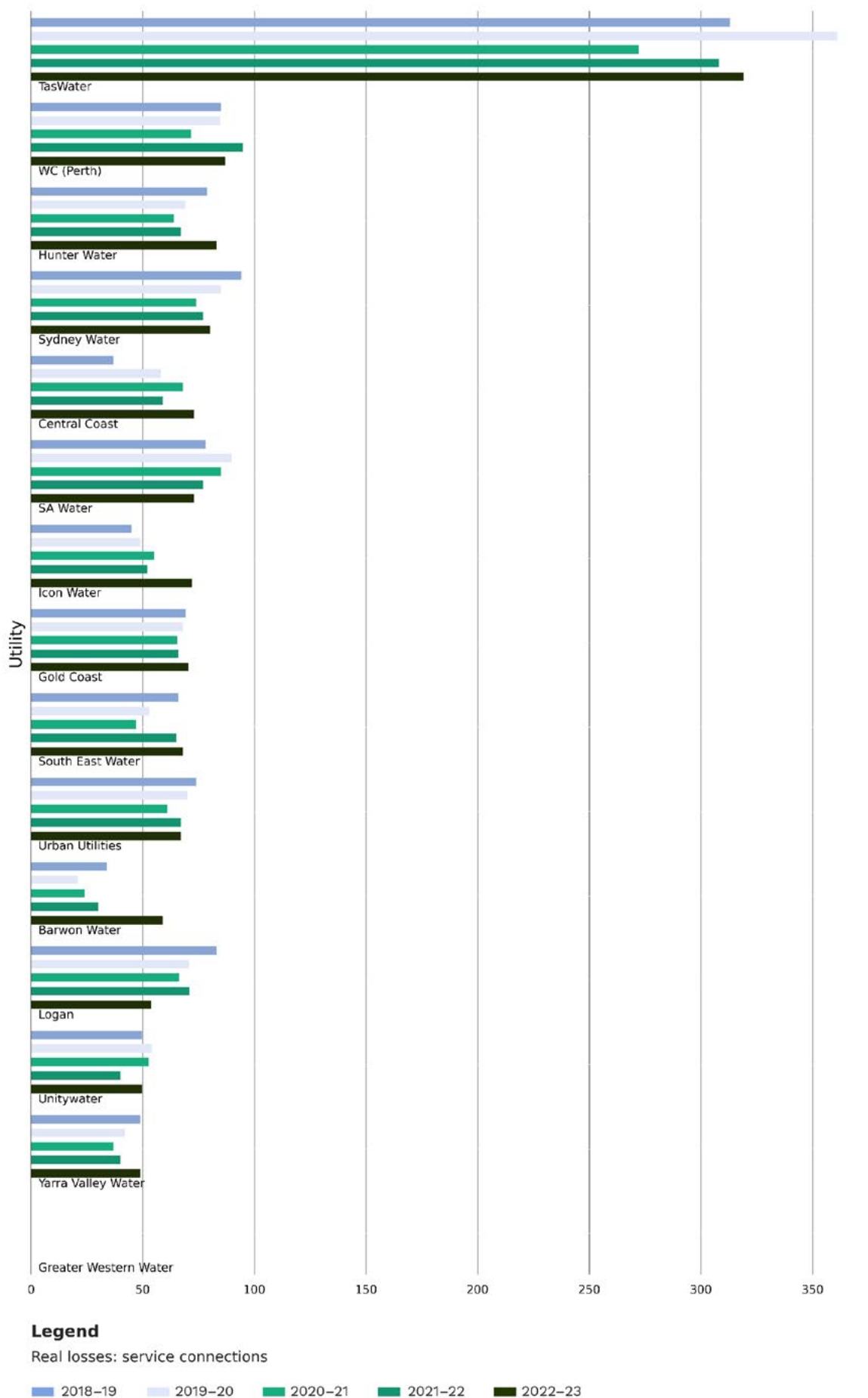


Figure 7.6 Real losses: service connections (L/service connection/day) – Major utility group

# 8 Environment

## 8.1 Total net greenhouse gas emissions per 1,000 properties – E12

The total net greenhouse gas emissions per 1,000 properties indicator (E12) reports the contribution of a utility's operations to greenhouse gas emissions (t CO<sub>2</sub> equivalent/1,000 properties). Utilities' calculations are required to refer to the National Greenhouse Accounts (NGA) Factors issued by the Commonwealth Department of Climate Change, Energy, the Environment and Water and must also be updated annually. Greenhouse gas emissions are reported in net terms – any quantity of carbon sequestered through activities such as the purchase of carbon offsets is deducted.

The NGA outlines 3 distinct types of emissions factors that may need to be calculated to estimate the full greenhouse impact of an organisation's activities:

- direct emission factors (Scope 1), which calculate the quantity of carbon dioxide equivalent (CO<sub>2</sub> equivalent) emitted per unit of activity at the point of emission release
- indirect emission factors (Scope 2), which calculate the greenhouse impact of purchasing and consuming electricity (that is, the impact of burning fuels – coal or gas – at the power station)
- various emission factors (Scope 3), including the impact of various activities – disposal of waste, employee business travel, and the transportation of products.

Comparing different utilities' net greenhouse gas emissions is a difficult exercise and should be undertaken with caution due to the number of variables affecting emissions, including:

- sources of water
- gravity versus pumped networks
- geographical conditions (influencing the need for pumping)
- the number of large-volume customers
- the extent of industry within the customer base
- the prevailing greenhouse policy in the jurisdiction
- the method of calculation.

Total net greenhouse gas emissions data for 2022–23 is presented in Table A17, Appendix A.

### 8.1.1 Key findings

Table 8.1 presents a summary of the total net greenhouse gas emissions by utility size group.



**Table 8.1 Overview of results: Total net greenhouse gas emissions per 1,000 properties (t CO<sub>2</sub> equivalent/1,000 properties)**

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	496	0	1	13	181	166	-8%
	Central Coast	Logan					
Large	676	172	3	9	405	337	-17%
	Shoalhaven	Central Highlands Water (Vic)					
Medium	803	0.1	6	12	404	329	-19%
	MidCoast Council	Mackay					
Small	858	223	6	16	426	386	-9%
	Goulburn Mulwaree	WC (Australind/Eaton)					
<b>All size groups (national)</b>	<b>858</b>	<b>0</b>	<b>16</b>	<b>50</b>	<b>360</b>	<b>329</b>	<b>-9%</b>
	<b>Goulburn Mulwaree</b>	<b>Logan</b>					

**Note:** The median total net greenhouse gas emissions for each year is calculated using data from all utilities supplying both water and wastewater services reporting data for E12 for that year.

The median total net greenhouse gas emissions decreased by 9% on the national scale, which was a similar result to the previous few years.

## 8.1.2 Results and analysis – Major utility group

The Major utility group reported an 8% decrease in the median net greenhouse gas emissions from 2021–22 to 2022–23. Logan City Council reported the highest decrease (100%) due to the purchase of accredited carbon credits, making it the lowest total net greenhouse gas emitter (0 t CO<sub>2</sub> equivalent/1,000 properties). Central Coast Council reported the highest increase (19.5%) and was the highest total net greenhouse gas emitter with 496 t CO<sub>2</sub> equivalent/1,000 properties in 2022–23. While Water Corporation – Perth has been the highest emitter in previous years, a significant reduction in the median net greenhouse gas emissions (33.1% from 2021–22) brought its emissions down to 379 t CO<sub>2</sub> equivalent/1,000 properties in 2022–23.

# 9 Health

## 9.1 Percentage of population for whom microbiological compliance was achieved – H3

This indicator reports the percentage of the population serviced by the utility for whom microbiological compliance was achieved.

Compliance is assessed against the *Australian Drinking Water Guidelines 2011*<sup>8</sup> or licence conditions imposed on the utility by their regulator. Typically, utilities record very high compliance. However, unforeseen events may deliver a lower compliance result, and the cause of non-compliance is not always traceable.

Microbiological compliance data for 2022–23 is presented in Appendix A, Table A18.

### 9.1.1 Key findings

Table 9.1 presents a summary of the percentage of population for which microbiological compliance was achieved by utility size group.

In 2022–23, nationally and across all utility size groups, the median remained at 100% (no change from the previous year). The majority of utilities achieved 100% microbiological compliance, except for South East Water Corporation (Major size group), North East Water (Large size group), Bundaberg Regional Council (Medium size group), which all achieved 99.9% microbiological compliance, and Coliban Water (Large size group), which achieved 95% microbiological compliance, largely due to issues caused by flooding in the area.

**Table 9.1 Overview of results: Percentage of population for which microbiological compliance was achieved**

Utility group	Range		No. utilities with increase/decrease from 2021–22		Median		Change in median from 2021–22 (%)
	High	Low	Increase	Decrease	2021–22	2022–23	
Major	100.0	99.9	0	1	100.0	100.0	0%
	Multiple utilities	South East Water					
Large	100.0	95.0	0	2	100.0	100.0	0%
	Multiple utilities	Coliban Water					
Medium	100.0	99.9	1	1	100.0	100.0	0%
	Multiple utilities	Bundaberg					
Small	100.0	100.0	0	0	100.0	100.0	0%
	Multiple utilities	Multiple utilities					
<b>All size groups (national)</b>	<b>100.0</b>	<b>95.0</b>	<b>1</b>	<b>4</b>	<b>100.0</b>	<b>100.0</b>	<b>0%</b>
	<b>Multiple utilities</b>	<b>Coliban Water</b>					

**Note:** The median percentage of population for which microbiological compliance was achieved for each year was calculated using data from all utilities supplying both water services and reporting data against H3 in that reporting year.

### 9.1.2 Results and analysis – Major utility group

All utilities in the Major utility group achieved 100% microbiological compliance over the last 5 years, except for South East Water Corporation which achieved 99.9 % in the 2022–23 and 2020–21 reporting years.

<sup>8</sup> [www.nhmrc.gov.au/guidelines/publications/eh52](http://www.nhmrc.gov.au/guidelines/publications/eh52), updated January 2022

# Appendix A Individual utility group tables

- Tables A1 to A18 present a summary of key indicators by utility group for the period
- 2018–19 to 2022–23.
- Utilities are sorted in descending order based on their percentage changes in value from 2021–22 within each utility size group.

**Table A1 W12 – Average annual residential water supplied (kL/property), by utility size group, 2018–19 to 2022–23**

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Gold Coast	164	175	167	163	166	1.8
Urban Utilities	156	162	158	140	142	1.8
Unitywater	157	156	155	147	150	1.7
Hunter Water	175	156	151	151	152	1.1
Logan	150	148	139	135	135	-0.1
Sydney Water	199	189	186	178	176	-1.1
Central Coast	158	156	159	157	155	-1.4
Greater Western Water				140	137	-1.6
Icon Water	204	202	176	163	159	-1.9
TasWater	191	193	179	178	173	-2.6
Yarra Valley Water	155	148	149	148	143	-3.8
WC (Perth)	219	227	227	228	219	-4.0
South East Water	149	150	152	147	140	-5.1
Barwon Water	171	161	159	160	147	-7.9
SA Water	198	190	192	193	177	-8.3
<b>Median</b>	<b>167</b>	<b>162</b>	<b>159</b>	<b>157</b>	<b>152</b>	
<b>Mean</b>	<b>175</b>	<b>172</b>	<b>168</b>	<b>162</b>	<b>158</b>	
<b>Large</b>						
Redland City	169	174	184	174	181	4.1
North East Water	224	214	200	179	181	1.3
Shoalhaven	146	155	155	142	143	0.9
Gippsland Water	177	161	164	156	156	0.1
Cairns	254	257	250	255	249	-2.5
Central Highlands Water (Vic)	161	151	147	147	142	-3.7
Toowoomba	163	162	150	135	130	-4.0
P&W (Darwin)	380	373	360	374	349	-6.6
WC (Mandurah)	212	220	220	223	204	-8.5

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Coliban Water	210	195	194	192	175	-9.0
Goulburn Valley Water	285	261	254	240	217	-9.5
Townsville	314	363	342	342	293	-14.5
<b>Median</b>	<b>211</b>	<b>205</b>	<b>197</b>	<b>185</b>	<b>181</b>	
<b>Mean</b>	<b>225</b>	<b>224</b>	<b>218</b>	<b>213</b>	<b>202</b>	
<b>Medium</b>						
Port Macquarie Hastings	160	144	154	152	177	16.5
Tamworth	247	141	159	178	202	13.3
East Gippsland Water	160	153	145	126	134	5.8
Mackay	187	215	168	196	203	3.5
Tweed	177	177	172	157	162	3.5
Coffs Harbour	154	151	140	143	147	3.1
Albury	252	246	218	192	195	1.4
South Gippsland Water	119	115	118	115	115	0.6
MidCoast Council	155	144	149	131	131	0.3
Fraser Coast	186	191	186	163	162	-0.9
Wingecarribee	206	218	177	168	165	-1.6
Clarence Valley	159	115	164	162	159	-2.0
Dubbo	337	207	198	194	190	-2.1
Queanbeyan	158	171	184	151	147	-2.6
Riverina Water (W)	343	338	264	257	248	-3.6
Eurobodalla	121	121	117	113	108	-4.8
Gladstone	239	251	253	217	200	-7.6
Wannon Water	147	141	139	144	131	-9.5
Fitzroy River Water	375	383	365	317	279	-12.2
GWMWater	249	241	224	230	199	-13.4
Lower Murray Water	519	520	477	461	388	-15.9
Bundaberg	243	261	284	236	188	-20.5
<b>Median</b>	<b>186</b>	<b>184</b>	<b>174</b>	<b>166</b>	<b>171</b>	
<b>Mean</b>	<b>222</b>	<b>211</b>	<b>202</b>	<b>191</b>	<b>183</b>	
<b>Small</b>						
Ballina Ballina	183	173	168	161	191	18.6
Goldenfields Water (W)	305	288	230	209	232	10.9
Southern Downs	152	100	104	106	116	9.3
Bathurst	194	144	156	157	168	6.7
Kempsey	147	146	175	125	127	1.9
Armidale	226	141	141	141	143	1.6
Western Downs	204	201	193	168	169	1.0
Aqwest-Bunbury (W)	240	245	236	236	238	0.9

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
WC (Albany)	169	169	164	163	163	0.0
Busselton (W)	265	261	258	264	262	-0.7
Cassowary Coast	219	220	224	236	233	-1.4
WC (Australind/Eaton)	283	289	283	281	275	-2.1
Byron	200	200	199	199	193	-3.2
WC (Geraldton)	279	286	291	288	276	-4.4
Westernport Water	91	89	93	92	88	-4.7
Bega Valley	145	163	148	135	128	-5.1
Goulburn Mulwaree	150	153	136	140	132	-5.5
Orange	166	163	160	158	148	-6.1
WC (Kal–Boulder) (W)	284	300	279	275	258	-6.4
Gympie	158	169	166	155	145	-6.5
P&W (Alice Springs)	457	451	432	420	390	-7.0
Whitsunday	268	304	276	277	257	-7.2
Essential Energy	275	277	250	236	218	-7.5
Lismore	148	127	123	126	115	-8.5
Livingstone	317	349	328	313	284	-9.3
Central Highlands	443	430	465	396	325	-18.0
Mount Barker					96	
Snowy Monaro			125		145	
<b>Median</b>	<b>212</b>	<b>201</b>	<b>193</b>	<b>183</b>	<b>180</b>	
<b>Mean</b>	<b>229</b>	<b>225</b>	<b>215</b>	<b>210</b>	<b>197</b>	

Table A2 W26 – Total recycled water supplied (ML), by utility size group, 2018–19 to 2022–23

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Unitywater	1,160	1,292	772	200	497	148.5
Gold Coast	7,712	7,306	7,466	6,146	7,036	14.5
Urban Utilities	4,776	4,532	3,909	3,315	3,745	13.0
Sydney Water	44,020	46,919	37,669	37,693	41,198	9.3
WC (Perth)	9,817	20,681	22,579	21,759	23,337	7.3
Central Coast	674	825	631	550	584	6.2
Hunter Water	3,862	4,651	3,206	3,132	3,215	2.7
Yarra Valley Water	2,473	2,427	2,851	3,069	3,097	0.9
South East Water	8,073	6,825	6,803	7,310	7,159	-2.1
Greater Western Water				6,233	5,961	-4.4
Barwon Water	5,998	4,683	3,951	3,642	3,145	-13.6
Icon Water	60	75	27	24	17	-29.2
SA Water	32,312	26,400	28,565	35,291	21,845	-38.1
Logan	625	789	582	217	100	-53.9
<b>Median</b>	<b>4,776</b>	<b>4,651</b>	<b>3,909</b>	<b>3,478</b>	<b>3,480</b>	
<b>Mean</b>	<b>9,351</b>	<b>9,800</b>	<b>9,155</b>	<b>9,184</b>	<b>8,638</b>	
<b>Large</b>						
Goulburn Valley Water	390	307	270	2,334	3,899	67.1
Redland City	94	121	100	96	143	49.0
Shoalhaven	2,185	2,218	1,642	1,135	1,580	39.2
Toowoomba	2,597	2,105	1,809	713	840	17.8
North East Water	7,955	8,093	8,443	10,628	11,898	11.9
Cairns	1,926	533	1,731	1,847	1,982	7.3
Gippsland Water	2,054	1,969	2,128	2,043	2,137	4.6
WC (Mandurah)	239	220	244	253	234	-7.5
Townsville	1,367	1,383	1,358	1,517	1,285	-15.3
Central Highlands Water (Vic)	1,680	1,628	1,934	1,946	1,645	-15.5
Coliban Water	1,510	1,411	1,093	352	260	-26.1
P&W (Darwin)	488	0	0	0	0	
<b>Median</b>	<b>1,595</b>	<b>1,397</b>	<b>1,500</b>	<b>1,326</b>	<b>1,432</b>	
<b>Mean</b>	<b>1,874</b>	<b>1,666</b>	<b>1,729</b>	<b>1,905</b>	<b>2,159</b>	
<b>Medium</b>						
GWMWater	2,569	0	2,698	2,084	4,344	108.4
Queanbeyan	70	70	375	268	525	95.9
Clarence Valley	376	386	332	216	310	43.5
Coffs Harbour	965	1,281	774	474	608	28.3
Albury	2,457	3,297	5,173	5,302	6,492	22.4



Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Port Macquarie Hastings	440	610	384	291	343	17.9
Tweed	879	874	777	532	618	16.2
MidCoast Council	1,432	1,398	685	593	659	11.1
Tamworth	4,563	3,622	1,818	2,188	2,414	10.3
Fraser Coast	5,591	6,918	4,880	4,595	4,999	8.8
Fitzroy River Water	717	735	748	760	818	7.6
Gladstone	3,174	2,494	3,812	3,603	3,845	6.7
Wagga Wagga (S)	4,986	4,819	5,188	5,458	5,583	2.3
Mackay	4,263	4,034	446	446	446	0.0
Wannon Water	2,008	1,725	1,454	1,858	1,714	-7.8
East Gippsland Water	1,139	1,072	1,346	1,521	1,372	-9.8
Bundaberg	533	585	531	447	353	-21.0
Dubbo	2,448	2,159	1,483	1,732	1,329	-23.3
Lower Murray Water	483	408	477	584	391	-33.0
Eurobodalla	239	433	190	111	71	-36.0
South Gippsland Water	111	122	194	189	116	-38.6
Wingecarribee	186	171	86	102	10	-90.2
<b>Median</b>	<b>1,052</b>	<b>973</b>	<b>761</b>	<b>589</b>	<b>639</b>	
<b>Mean</b>	<b>1,801</b>	<b>1,692</b>	<b>1,539</b>	<b>1,516</b>	<b>1,698</b>	
<b>Small</b>						
Bega Valley	628	762	407	213	381	78.9
Ballina	782	688	748	573	960	67.5
Gympie	111	97	93	68	88	29.4
WC (Geraldton)	248	210	224	216	245	13.4
Westernport Water	109	76	83	106	119	12.3
WC (Australind/Eaton)	733	721	740	742	775	4.4
Goulburn Mulwaree	1,533	237	338	260	264	1.5
WC (Albany)	2,081	2,085	2,357	2,351	2,298	-2.3
P&W (Alice Springs)	1,001	927	1,019	1,148	1,107	-3.6
Western Downs	1,075	1,105	754	695	669	-3.7
Kal-Boulder (S)	773	1,126	1,378	1,379	1,317	-4.5
Snowy Monaro			87	66	62	-6.1
WC (Busselton) (S)	287	254	272	273	251	-8.1
Central Highlands	1,857	1,939	1,817	1,797	1,651	-8.1
Southern Downs	1,279	894	863	2,013	1,831	-9.0
Whitsunday	358	317	386	365	314	-14.0
Livingstone	1,480	1,047	836	852	730	-14.3
Essential Energy	484	617	499	444	377	-15.1
Kempsey	145	149	75	51	42	-17.6

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
WC (Bunbury) (S)	124	127	115	118	95	-19.5
Bathurst	691	762	788	761	598	-21.4
Mount Barker				275	179	-34.9
Armidale	1,188	846	484	361	214	-40.7
Byron	642	516	493	302	177	-41.4
Orange	3,074	2,723	2,677	1,027	101	-90.2
Lismore	15	17	21	332	7	-97.9
Cassowary Coast	0			0	0	
<b>Median</b>	<b>691</b>	<b>705</b>	<b>493</b>	<b>361</b>	<b>264</b>	
<b>Mean</b>	<b>828</b>	<b>760</b>	<b>702</b>	<b>622</b>	<b>550</b>	

Table A3 P8 – Typical annual bill (\$), by utility size group, 2018–19 to 2022–23

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Hunter Water	1,336	1,319	1,218	1,185	1,171	-1.2
Sydney Water	1,270	1,276	1,142	1,099	1,070	-2.6
Central Coast	1,417	1,178	1,009	988	961	-2.7
Urban Utilities	1,505	1,577	1,580	1,466	1,421	-3.1
TasWater	1,386	1,371	1,331	1,319	1,270	-3.7
Gold Coast	1,831	1,898	1,841	1,778	1,710	-3.8
Greater Western Water				994	947	-4.7
Barwon Water	1,205	1,172	1,154	1,100	1,043	-5.2
WC (Perth)	1,781	1,824	1,786	1,734	1,640	-5.4
Yarra Valley Water	1,235	1,201	1,185	1,098	1,034	-5.8
Logan	1,851	1,820	1,774	1,681	1,581	-5.9
Unitywater	1,681	1,695	1,681	1,596	1,500	-6.0
South East Water	1,115	1,123	1,136	1,031	959	-7.0
SA Water	1,488	1,454	1,206	1,173	1,078	-8.1
Icon Water	1,313	1,329	1,230	1,166	1,065	-8.7
<b>Median</b>	<b>1,402</b>	<b>1,350</b>	<b>1,224</b>	<b>1,173</b>	<b>1,078</b>	
<b>Mean</b>	<b>1,458</b>	<b>1,446</b>	<b>1,377</b>	<b>1,294</b>	<b>1,230</b>	
<b>Large</b>						
Shoalhaven	1,376	1,398	1,376	1,281	1,268	-1.0
Redland City	1,731	1,735	1,878	1,828	1,802	-1.4
North East Water	1,091	1,068	1,023	928	913	-1.6
Townsville	1,795	1,806	1,821	1,787	1,705	-4.6
Cairns	1,556	1,556	1,563	1,587	1,514	-4.6
Toowoomba	1,792	1,896	1,822	1,742	1,659	-4.8
Central Highlands Water (Vic)	1,450	1,398	1,360	1,277	1,213	-5.0
WC (Mandurah)	1,962	1,997	1,955	1,921	1,799	-6.4
Coliban Water	1,599	1,530	1,501	1,417	1,324	-6.6
P&W (Darwin)	2,143	2,109	2,047	2,036	1,902	-6.6
Gippsland Water	1,556	1,503	1,488	1,442	1,345	-6.7
Goulburn Valley Water	1,094	1,033	1,000	911	841	-7.7
<b>Median</b>	<b>1,578</b>	<b>1,543</b>	<b>1,532</b>	<b>1,514</b>	<b>1,430</b>	
<b>Mean</b>	<b>1,595</b>	<b>1,586</b>	<b>1,570</b>	<b>1,513</b>	<b>1,440</b>	
<b>Medium</b>						
Port Macquarie Hastings	1,745	1,731	1,783	1,761	1,810	2.8
Gladstone	1,904	1,953	2,008	1,887	1,892	0.3
Fitzroy River Water	1,526	1,562	1,556	1,461	1,463	0.1
South Gippsland Water	1,152	1,137	1,187	1,152	1,140	-1.0

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Fraser Coast	1,766	1,771	1,790	1,704	1,668	-2.1
East Gippsland Water	1,363	1,350	1,334	1,283	1,249	-2.7
Lower Murray Water	1,158	1,147	1,098	1,048	1,018	-2.9
Coffs Harbour	1,652	1,738	1,695	1,686	1,634	-3.1
Tamworth	1,690	1,524	1,572	1,569	1,520	-3.1
Wingecarribee	1,574	1,606	1,538	1,486	1,438	-3.2
Tweed	1,802	1,814	1,767	1,670	1,609	-3.7
Eurobodalla	1,965	1,978	1,979	1,916	1,836	-4.2
Queanbeyan	1,907	1,638	1,871	1,692	1,619	-4.3
MidCoast Council	2,164	2,092	2,083	1,928	1,844	-4.4
Dubbo	1,957	1,678	1,671	1,630	1,551	-4.8
Albury	1,419	1,385	1,297	1,198	1,135	-5.3
Wannon Water	1,279	1,261	1,230	1,169	1,103	-5.6
Clarence Valley	1,880	1,760	1,898	1,889	1,773	-6.1
Bundaberg	1,705	1,695	1,699	1,595	1,495	-6.3
GWMWater	1,566	1,553	1,505	1,412	1,321	-6.4
Mackay	1,711	1,729	1,721	1,654	1,465	-11.4
<b>Median</b>	<b>1,705</b>	<b>1,678</b>	<b>1,695</b>	<b>1,630</b>	<b>1,520</b>	
<b>Mean</b>	<b>1,661</b>	<b>1,624</b>	<b>1,632</b>	<b>1,561</b>	<b>1,504</b>	
<b>Small</b>						
Whitsunday	1,934	1,903	2,012	1,920	1,915	-0.3
Southern Downs	1,795	1,702	1,630	1,710	1,693	-1.0
Bathurst	1,370	1,259	1,322	1,315	1,298	-1.3
Kempsey	1,997	2,178	2,273	2,151	2,116	-1.6
Western Downs	1,657	1,620	1,613	1,511	1,486	-1.7
Goulburn Mulwaree	1,558	1,554	1,523	1,471	1,441	-2.0
Ballina	1,823	1,787	1,819	1,755	1,717	-2.2
Mount Barker				1,044	1,018	-2.5
Armidale	1,487	1,200	1,455	1,478	1,437	-2.8
Essential Energy	1,563	1,551	1,502	1,427	1,385	-2.9
Cassowary Coast	1,937	1,852	1,853	1,830	1,772	-3.2
Byron	2,074	2,106	2,240	2,209	2,133	-3.4
Bega Valley	2,097	2,209	2,182	2,085	2,010	-3.6
Westernport Water	1,354	1,296	1,319	1,269	1,223	-3.6
Gympie	1,381	1,418	1,453	1,393	1,336	-4.1
WC (Albany)	2,001	2,024	1,972	1,923	1,843	-4.2
Livingstone	1,867	1,957	1,960	1,992	1,897	-4.8
WC (Australind/Eaton)	2,141	2,187	2,123	2,065	1,965	-4.8
WC (Geraldton)	2,191	2,240	2,211	2,159	2,052	-5.0

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Lismore	2,082	2,002	1,974	1,950	1,837	-5.8
P&W (Alice Springs)	2,318	2,284	2,206	2,134	2,010	-5.8
Orange	1,355	1,353	1,355	1,316	1,231	-6.5
Central Highlands	2,210	2,239	2,377	2,226	2,032	-8.7
Snowy Monaro			1,748		1,703	
<b>Median</b>	<b>1,900</b>	<b>1,878</b>	<b>1,853</b>	<b>1,830</b>	<b>1,744</b>	
<b>Mean</b>	<b>1,827</b>	<b>1,815</b>	<b>1,831</b>	<b>1,754</b>	<b>1,690</b>	

Table A4 P7 – Annual bill based on 200 kL (\$), by utility size group, 2018–19 to 2022–23

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Central Coast	1,529	1,337	1,106	1,085	1,136	4.7
Sydney Water	1,271	1,303	1,178	1,151	1,135	-1.4
Hunter Water	1,403	1,437	1,354	1,317	1,298	-1.4
Barwon Water	1,269	1,263	1,253	1,197	1,165	-2.7
TasWater	1,397	1,379	1,357	1,344	1,300	-3.3
Urban Utilities	1,716	1,743	1,766	1,728	1,658	-4.1
WC (Perth)	1,729	1,749	1,713	1,660	1,591	-4.2
Gold Coast	1,998	1,997	1,989	1,952	1,861	-4.7
SA Water	1,498	1,492	1,232	1,193	1,137	-4.7
Greater Western Water				1,190	1,132	-4.9
Yarra Valley Water	1,438	1,428	1,402	1,298	1,223	-5.8
Unitywater	1,985	1,990	1,991	1,923	1,811	-5.8
Logan	2,064	2,060	2,057	1,996	1,879	-5.9
South East Water	1,319	1,345	1,272	1,239	1,158	-6.5
Icon Water	1,309	1,317	1,296	1,265	1,158	-8.5
<b>Median</b>	<b>1,468</b>	<b>1,432</b>	<b>1,356</b>	<b>1,298</b>	<b>1,223</b>	
<b>Mean</b>	<b>1,566</b>	<b>1,560</b>	<b>1,498</b>	<b>1,436</b>	<b>1,376</b>	
<b>Large</b>						
North East Water	1,031	1,028	1,025	984	961	-2.3
Toowoomba	1,907	1,950	1,979	1,937	1,877	-3.1
Redland City	1,850	1,891	1,946	1,935	1,875	-3.1
Cairns	1,482	1,495	1,487	1,495	1,442	-3.5
Coliban Water	1,572	1,545	1,519	1,437	1,386	-3.5
WC (Mandurah)	1,929	1,943	1,900	1,860	1,788	-3.9
Central Highlands Water (Vic)	1,547	1,517	1,489	1,401	1,346	-3.9
P&W (Darwin)	1,739	1,724	1,697	1,662	1,594	-4.1
Shoalhaven	1,480	1,487	1,463	1,434	1,374	-4.2
Townsville	1,795	1,806	1,821	1,787	1,705	-4.6
Gippsland Water	1,612	1,595	1,574	1,545	1,443	-6.6
Goulburn Valley Water	977	951	923	863	804	-6.8
<b>Median</b>	<b>1,592</b>	<b>1,570</b>	<b>1,546</b>	<b>1,520</b>	<b>1,442</b>	
<b>Mean</b>	<b>1,577</b>	<b>1,578</b>	<b>1,569</b>	<b>1,528</b>	<b>1,466</b>	
<b>Medium</b>						
Fitzroy River Water	1,342	1,353	1,370	1,357	1,396	2.9
Gladstone	1,813	1,824	1,862	1,834	1,854	1.1
South Gippsland Water	1,318	1,304	1,364	1,337	1,325	-0.9
Port Macquarie Hastings	1,879	1,925	1,952	1,943	1,900	-2.2



Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Wingecarribee	1,561	1,570	1,584	1,549	1,511	-2.5
East Gippsland Water	1,496	1,481	1,469	1,414	1,377	-2.6
GWMWater	1,507	1,486	1,462	1,372	1,333	-2.8
Lower Murray Water	901	893	884	842	818	-2.9
Fraser Coast	1,796	1,836	1,818	1,800	1,746	-3.0
Queanbeyan	2,094	2,640	2,214	2,159	2,087	-3.3
Coffs Harbour	1,806	1,907	1,908	1,884	1,815	-3.7
MidCoast Council	2,352	2,321	2,324	2,232	2,149	-3.7
Eurobodalla	2,291	2,306	2,325	2,269	2,180	-3.9
Bundaberg	1,645	1,645	1,640	1,614	1,550	-4.0
Tweed	2,794		3,394	3,302	3,165	-4.1
Dubbo	1,639	1,661	1,676	1,644	1,573	-4.3
Wannon Water	1,423	1,387	1,356	1,288	1,221	-5.2
Clarence Valley	1,997	2,002	2,000	1,994	1,884	-5.5
Tamworth	1,608	1,630	1,645	1,608	1,514	-5.8
Albury	1,305	1,288	1,268	1,214	1,138	-6.3
Mackay	1,703	1,714	1,713	1,681	1,571	-6.5
<b>Median</b>	<b>1,645</b>	<b>1,653</b>	<b>1,676</b>	<b>1,644</b>	<b>1,571</b>	
<b>Mean</b>	<b>1,727</b>	<b>1,709</b>	<b>1,773</b>	<b>1,730</b>	<b>1,672</b>	
<b>Small</b>						
Central Highlands	1,709	1,758	1,764	1,782	1,799	1.0
Western Downs	1,556	1,589	1,604	1,539	1,541	0.1
Goulburn Mulwaree	1,718	1,705	1,729	1,656	1,637	-1.1
Essential Energy	1,408	1,392	1,400	1,354	1,331	-1.7
Southern Downs	1,897	1,939	1,941	1,949	1,912	-1.9
Mount Barker				1,044	1,018	-2.5
Kempsey	2,150	2,339	2,349	2,387	2,327	-2.5
Whitsunday	1,781	1,804	1,839	1,830	1,784	-2.5
Gympie	1,439	1,446	1,478	1,451	1,414	-2.5
Westernport Water	1,610	1,589	1,575	1,504	1,463	-2.7
Bathurst	1,387	1,401	1,438	1,428	1,389	-2.7
Cassowary Coast	1,926	1,832	1,829	1,792	1,738	-3.0
Bega Valley	2,283	2,338	2,361	2,305	2,234	-3.1
Byron	2,183	2,217	2,244	2,212	2,139	-3.3
Lismore	2,316	2,336	2,326	2,300	2,224	-3.3
WC (Geraldton)	1,974	2,002	1,966	1,925	1,859	-3.4
Snowy Monaro			2,030	1,982	1,905	-3.9
Orange	1,449	1,455	1,465	1,431	1,375	-3.9
WC (Australind/Eaton)	1,914	1,940	1,900	1,850	1,775	-4.1

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
P&W (Alice Springs)	1,739	1,724	1,697	1,662	1,594	-4.1
WC (Albany)	2,085	2,109	2,070	2,022	1,937	-4.2
Armidale	1,416	1,448	1,749	1,766	1,675	-5.2
Ballina	1,871	1,860	1,907	1,861	1,765	-5.2
Livingstone	1,867	1,882	1,852	1,964	1,743	-11.3
<b>Median</b>	<b>1,824</b>	<b>1,818</b>	<b>1,839</b>	<b>1,811</b>	<b>1,754</b>	
<b>Mean</b>	<b>1,804</b>	<b>1,823</b>	<b>1,848</b>	<b>1,792</b>	<b>1,732</b>	

Table A5 F16 – Total capital expenditure: water and wastewater (\$'000s), by utility size group, 2018–19 to 2022–23

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Barwon Water	93,272	87,967	73,606	56,911	109,577	92.5
Central Coast	31,091	4,250	0	39,303	66,402	68.9
Unitywater	113,043	146,655	152,122	173,731	248,265	42.9
Sydney Water	999,994	1,020,103	1,030,743	1,301,914	1,675,146	28.7
Urban Utilities	309,073	350,423	369,303	302,957	362,391	19.6
Hunter Water	118,466	169,542	164,491	143,867	170,527	18.5
Greater Western Water				267,747	314,343	17.4
SA Water	634,491	641,695	535,918	496,000	565,223	14.0
South East Water	238,798	295,525	266,727	196,254	223,133	13.7
WC (Perth)	530,909	452,946	415,136	369,808	400,776	8.4
Yarra Valley Water	360,046	380,855	372,089	301,815	307,998	2.0
Icon Water	101,460	116,054	97,513	71,595	72,405	1.1
Logan	116,632	152,258	96,763	115,583	115,563	0.0
TasWater	126,432	145,687	183,999	235,145	173,512	-26.2
Gold Coast	88,241	127,171	155,864	173,196	113,844	-34.3
<b>Median</b>	<b>122,449</b>	<b>160,900</b>	<b>174,245</b>	<b>196,254</b>	<b>223,133</b>	
<b>Mean</b>	<b>275,853</b>	<b>292,224</b>	<b>279,591</b>	<b>283,055</b>	<b>327,940</b>	
<b>Large</b>						
WC (Mandurah)	18,392	18,554	18,956	13,326	25,121	88.5
Redland City	2,652	4,188	10,929	3,716	6,689	80.0
Townsville	61,926	67,716	56,739	93,801	128,276	36.8
P&W (Darwin)	38,543	23,253	22,992	26,813	36,527	36.2
Toowoomba	38,143	30,660	55,430	43,264	58,042	34.2
Central Highlands Water (Vic)	26,190	21,184	23,145	21,992	28,554	29.8
Coliban Water	23,368	30,898	34,765	47,092	53,144	12.9
Gippsland Water	45,467	51,431	63,035	40,927	44,100	7.8
Cairns	55,116	52,024	49,232	42,850	46,096	7.6
North East Water	16,443	27,235	28,488	33,787	28,237	-16.4
Goulburn Valley Water	37,204	43,177	42,589	40,776	27,415	-32.8
Shoalhaven	46,468	27,510	27,884	28,563		
<b>Median</b>	<b>37,674</b>	<b>29,085</b>	<b>31,626</b>	<b>37,282</b>	<b>36,527</b>	
<b>Mean</b>	<b>34,159</b>	<b>33,152</b>	<b>36,182</b>	<b>36,409</b>	<b>43,836</b>	
<b>Medium</b>						
Wannon Water	24,242	32,304	20,400	13,924	35,962	158.3
Eurobodalla	17,468	15,660	25,909	27,947	61,769	121.0
Fitzroy River Water	17,553	12,299	14,171	21,694	45,390	109.2
East Gippsland Water	12,739	19,533	12,855	9,472	16,389	73.0

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Tamworth	9,002	24,757	23,571	10,857	18,667	71.9
GWMWater	22,564	15,915	13,198	13,039	17,727	36.0
Tweed	11,083	13,913	17,508	14,002	16,780	19.8
South Gippsland Water	19,296	24,421	23,070	16,617	19,508	17.4
Mackay	23,558	28,228	19,571	23,746	27,068	14.0
Coffs Harbour	11,089	7,024	3,475	3,263	3,563	9.2
Bundaberg	11,048	19,439	25,643	14,688	15,340	4.4
Albury	11,709	8,655	7,601	4,585	3,752	-18.2
Fraser Coast	25,704	23,912	33,923	21,382	16,169	-24.4
Gladstone	17,598	15,486	21,435	16,347	11,426	-30.1
Port Macquarie Hastings	35,948	4,480	20,525	45,817	28,808	-37.1
Lower Murray Water	15,117	10,886	16,376	27,509	16,918	-38.5
Wingecarribee	19,057	18,504	20,978	21,185	9,984	-52.9
Clarence Valley	9,162	7,743			17,261	
Dubbo	277	0	78	3,424		
MidCoast Council	12,672	5,897	18,214	28,274		
Queanbeyan	11,616	14,932	4,944	490		
<b>Median</b>	<b>15,117</b>	<b>15,486</b>	<b>18,892</b>	<b>15,518</b>	<b>17,090</b>	
<b>Mean</b>	<b>16,119</b>	<b>15,428</b>	<b>17,172</b>	<b>16,913</b>	<b>21,249</b>	
<b>Small</b>						
Armidale	2,655	0	4,130	2,294	12,392	440.20
Bathurst	10,665	12,898	8,928	6,166	13,126	112.90
Western Downs	4,890	29,182	6,274	4,838	9,904	104.70
Mount Barker				6,992	14,084	101.4
Southern Downs	9,248	8,983	10,762	8,176	13,523	65.40
Livingstone	16,074	6,015	3,957	8,430	10,205	21.10
Cassowary Coast	9,908	16,852	8,031	9,790	11,054	12.90
Central Highlands	12,169	4,773	10,922	13,172	13,756	4.40
WC (Geraldton)	14,378	21,422	16,039	7,709	7,730	0.30
Gympie	5,231	5,810	5,246	5,315	4,994	-6.00
P&W (Alice Springs)	7,303	9,886	9,002	9,531	8,484	-11.00
Whitsunday	6,350	29,182	13,323	7,689	4,157	-45.90
WC (Australind/Eaton)	6,354	5,539	9,497	6,961	3,748	-46.20
Westernport Water	5,390	7,583	10,558	9,063	4,477	-50.60
WC (Albany)	7,572	10,427	13,623	11,443	5,582	-51.20
Ballina	20,816	9,134	9,094	9,995	2,332	-76.70
Bega Valley	13,529	2,574	9,020		17,580	
Byron	6,075	3,389	5,495	0		
Essential Energy		9,012	10,801			

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Goulburn Mulwaree	9,079	8,163	12,743	10,924		
Kempsey	6,449	4,311	8,897	4,446		
Lismore	12,987	9,197	8,649			
Orange	2,141	0	720	1,358		
Snowy Monaro			0	18,861		
<b>Median</b>	<b>7,572</b>	<b>8,573</b>	<b>9,002</b>	<b>7,709</b>	<b>9,904</b>	
<b>Mean</b>	<b>9,013</b>	<b>9,742</b>	<b>8,509</b>	<b>7,769</b>	<b>9,243</b>	

Table A6 F28 – Capital expenditure: water (\$/property), by utility size group, 2018–19 to 2022–23

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Barwon Water	280	280	227	166	304	83.1
Central Coast	102	9	0	92	141	53.2
Icon Water	201	285	223	85	127	49.8
Unitywater	88	152	135	167	245	47.0
Greater Western Water				277	339	22.4
South East Water	75	87	89	84	97	15.7
Sydney Water	112	161	187	221	239	8.3
WC (Perth)	365	306	269	228	233	2.1
Hunter Water	303	224	125	246	250	2.0
Yarra Valley Water	176	182	172	139	141	1.3
Urban Utilities	178	202	193	154	154	0.5
SA Water	491	591	521	420	420	-0.1
Logan	268	200	179	187	152	-18.4
Gold Coast	61	89	86	139	91	-34.5
TasWater	387	387	546	858	485	-43.5
<b>Median</b>	<b>189</b>	<b>201</b>	<b>183</b>	<b>167</b>	<b>233</b>	
<b>Mean</b>	<b>221</b>	<b>225</b>	<b>211</b>	<b>231</b>	<b>228</b>	
<b>Large</b>						
Redland City	11	11	18	15	51	247.9
Central Highlands Water (Vic)	212	137	110	64	165	157.8
Toowoomba	411	298	655	485	725	49.4
Townsville	198	340	429	751	1,053	40.3
P&W (Darwin)	300	279	220	332	457	37.6
Gippsland Water	246	288	188	244	327	33.9
Cairns	396	321	330	275	340	23.7
Coliban Water	158	228	223	419	482	15.1
WC (Mandurah)	252	275	158	150	147	-2.0
North East Water	164	249	315	238	207	-12.7
Goulburn Valley Water	343	364	364	343	185	-45.9
Shoalhaven	794	190	241	185		
<b>Median</b>	<b>249</b>	<b>277</b>	<b>232</b>	<b>260</b>	<b>327</b>	
<b>Mean</b>	<b>290</b>	<b>248</b>	<b>271</b>	<b>292</b>	<b>376</b>	
<b>Medium</b>						
Eurobodalla	291	216	419	320	2,278	611.2
Tamworth	224	754	933	262	626	138.7
Wannon Water	163	192	205	237	330	39.1
Fitzroy River Water	296	239	222	334	459	37.3



Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
GWMWater	543	405	241	281	377	34.5
Mackay	249	159	189	346	380	9.8
Fraser Coast	349	396	356	200	217	8.4
East Gippsland Water	312	605	431	183	188	2.8
Tweed	196	250	315	227	232	2.2
Albury	269	195	167	133	112	-15.5
South Gippsland Water	544	595	619	407	325	-20.1
Coffs Harbour	122	110	44	45	34	-24.4
Bundaberg	135	471	669	305	175	-42.6
Port Macquarie Hastings	479	62	358	789	399	-49.5
Lower Murray Water	236	175	259	600	299	-50.2
Gladstone	194	117	269	258	77	-69.9
Wingecarribee	418	457	393	573	141	-75.4
Clarence Valley	182	201			615	
Dubbo	9	0	0	81		
MidCoast Council	173	51	217	429		
Queanbeyan	87	86	207	11		
<b>Median</b>	<b>236</b>	<b>201</b>	<b>264</b>	<b>271</b>	<b>312</b>	
<b>Mean</b>	<b>261</b>	<b>273</b>	<b>326</b>	<b>301</b>	<b>404</b>	
<b>Small</b>						
Armidale	135	0	0	194	1,125	481.2
Livingstone	155	121	104	171	499	190.9
Bathurst	314	605	418	271	678	150.4
Western Downs	280	827	276	253	613	142.5
Southern Downs	733	532	497	352	684	94.7
WC (Australind/Eaton)	275	193	539	164	207	26.1
Central Highlands	123	248	663	737	930	26.1
Bega Valley		60	393	704	881	25.2
Cassowary Coast	581	857	385	456	547	20.1
WC (Geraldton)	628	601	744	308	313	1.6
Westernport Water	151	226	312	210	156	-25.4
P&W (Alice Springs)	465	644	547	619	391	-36.8
Gympie	212	213	279	159	78	-51.2
WC (Albany)	146	251	589	458	222	-51.7
Ballina	244	219	139	173	58	-66.5
Whitsunday	368	827	732	510	79	-84.5
Byron	244	159	124	0		
Essential Energy		751	853			
Goulburn Mulwaree	309	350	491	294		

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Kempsey	318	170	266	204		
Lismore	224	334	297			
Mount Barker					1,403	
Orange	79	0	39	34		
Snowy Monaro			0	222		
<b>Median</b>	<b>260</b>	<b>249</b>	<b>385</b>	<b>253</b>	<b>499</b>	
<b>Mean</b>	<b>299</b>	<b>372</b>	<b>378</b>	<b>309</b>	<b>521</b>	

Table A7 F29 – Capital expenditure: wastewater (\$/property), by utility size group, 2018–19 to 2022–23

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Barwon Water	328	276	225	176	340	93.3
Central Coast	131	24	0	202	348	72.0
SA Water	399	268	167	234	332	41.9
Unitywater	286	315	344	372	514	38.5
Sydney Water	392	345	316	407	561	37.7
TasWater	247	343	354	251	343	36.8
Hunter Water	171	452	526	307	400	30.1
Urban Utilities	331	363	389	316	410	29.5
WC (Perth)	270	229	215	199	227	13.8
South East Water	240	295	251	162	179	10.2
Yarra Valley Water	281	291	281	223	224	0.4
Logan	779	1,139	638	768	770	0.2
Greater Western Water				174	174	0.2
Icon Water	378	341	286	280	237	-15.6
Gold Coast	287	408	516	522	339	-35.2
<b>Median</b>	<b>286</b>	<b>328</b>	<b>301</b>	<b>251</b>	<b>340</b>	
<b>Mean</b>	<b>323</b>	<b>363</b>	<b>322</b>	<b>306</b>	<b>360</b>	
<b>Large</b>						
WC (Mandurah)	141	113	252	126	388	208.0
P&W (Darwin)	349	108	164	115	149	30.2
Townsville	602	511	253	363	454	24.9
Redland City	34	62	180	51	61	20.7
Coliban Water	163	186	237	185	191	3.4
Cairns	358	379	332	297	270	-9.4
Central Highlands Water (Vic)	182	181	233	258	230	-11.1
Toowoomba	235	220	217	215	189	-12.2
Gippsland Water	441	476	744	337	285	-15.5
Goulburn Valley Water	320	399	375	353	281	-20.3
North East Water	168	295	235	417	331	-20.6
Shoalhaven	174	426	367	402		
<b>Median</b>	<b>209</b>	<b>257</b>	<b>244</b>	<b>278</b>	<b>270</b>	
<b>Mean</b>	<b>264</b>	<b>280</b>	<b>299</b>	<b>260</b>	<b>257</b>	
<b>Medium</b>						
Wannon Water	464	641	301	89	550	517.7
Fitzroy River Water	262	149	226	348	983	182.1
East Gippsland Water	260	235	104	232	547	136.0
Bundaberg	250	149	130	179	377	110.6

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
South Gippsland Water	440	646	523	402	628	56.3
Coffs Harbour	326	164	89	81	124	52.4
Mackay	284	494	248	191	263	37.7
GWMWater	205	112	204	151	208	37.4
Tweed	151	182	221	200	256	27.9
Lower Murray Water	239	164	243	209	207	-0.9
Gladstone	465	520	603	396	387	-2.3
Albury	205	159	144	50	43	-13.9
Port Macquarie Hastings	744	85	290	660	520	-21.2
Wingecarribee	653	554	767	544	417	-23.3
Eurobodalla	639	620	945	1,179	802	-32.0
Tamworth	197	365	92	230	145	-37.0
Fraser Coast	382	254	575	378	200	-47.2
Clarence Valley	370	145			173	
Dubbo		0	4	88		
MidCoast Council	176	115	262	288		
Queanbeyan	449	500	10	10		
<b>Median</b>	<b>305</b>	<b>182</b>	<b>235</b>	<b>219</b>	<b>320</b>	
<b>Mean</b>	<b>358</b>	<b>298</b>	<b>299</b>	<b>295</b>	<b>379</b>	
<b>Small</b>						
Whitsunday	82	1,472	229	23	240	947.5
P&W (Alice Springs)	133	164	193	145	309	112.5
Mount Barker				498	965	93.8
Armidale	138	0	0	22	35	60.0
Western Downs	191	1,472	354	225	332	47.7
Southern Downs	52	287	559	448	602	34.5
Gympie	203	226	99	237	302	27.3
Cassowary Coast	373	898	403	590	585	-0.8
WC (Geraldton)	175	793	116	128	120	-6.2
Bathurst	330	153	102	86	60	-29.9
Bega Valley	690	149	301	600	416	-30.6
Central Highlands	1,081	163	287	420	235	-43.9
Livingstone	1,347	415	239	563	302	-46.3
WC (Albany)	407	483	270	269	131	-51.5
Westernport Water	183	233	311	314	95	-69.7
WC (Australind/Eaton)	277	297	228	462	80	-82.7
Ballina	1,211	402	483	494	69	-86.0
Byron	370	172	405	0		
Essential Energy		125	203			

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Goulburn Mulwaree	510	357	600	642		
Kempsey	265	217	559	167		
Lismore	846	346	342			
Orange	44	0	0	43		
Snowy Monaro			0	1,998		
<b>Median</b>	<b>277</b>	<b>260</b>	<b>270</b>	<b>292</b>	<b>240</b>	
<b>Mean</b>	<b>424</b>	<b>401</b>	<b>273</b>	<b>381</b>	<b>287</b>	

**Table A8 F13 – Combined operating cost: water and wastewater (\$/property), by utility size group, 2018–19 to 2022–23**

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Central Coast	762	851	806	637	706	10.9
Gold Coast	1,374	1,396	1,404	1,341	1,448	8.0
Barwon Water	799	801	708	745	770	3.4
Urban Utilities	1,421	1,446	1,339	1,291	1,320	2.3
TasWater	1,125	1,139	1,085	1,047	1,053	0.6
WC (Perth)	630	706	675	723	725	0.3
Hunter Water	754	777	722	696	692	-0.5
Sydney Water	828	830	757	736	730	-0.9
Unitywater	1,206	1,175	1,145	1,117	1,070	-4.2
SA Water	804	729	752	771	734	-4.8
Icon Water	1,134	1,079	976	953	906	-4.9
Logan	1,337	1,374	1,305	1,190	1,115	-6.3
South East Water	996	1,000	963	914	852	-6.9
Yarra Valley Water	996	985	950	870	810	-7.0
Greater Western Water				1,102	1,022	-7.3
<b>Median</b>	<b>996</b>	<b>993</b>	<b>957</b>	<b>914</b>	<b>852</b>	
<b>Mean</b>	<b>1,012</b>	<b>1,021</b>	<b>971</b>	<b>942</b>	<b>930</b>	
<b>Large</b>						
Coliban Water	1,021	1,028	998	1,011	1,158	14.6
WC (Mandurah)	667	722	669	705	762	8.1
Central Highlands Water (Vic)	1,182	1,150	1,094	1,040	1,093	5.1
Redland City	1,189	1,104	1,260	1,207	1,221	1.1
North East Water	988	1,051	992	1,191	1,182	-0.8
Cairns	809	798	796	761	743	-2.4
Gippsland Water	1,438	1,432	1,352	1,302	1,247	-4.2
Toowoomba	922	1,107	1,026	971	923	-4.9
P&W (Darwin)	1,020	1,358	1,282	1,010	930	-7.9
Townsville	1,251	1,566	1,431	1,629	1,410	-13.5
Goulburn Valley Water	1,028	1,120	1,071	1,159	994	-14.2
Shoalhaven	1,032	1,116	1,113	1,017		
<b>Median</b>	<b>1,024</b>	<b>1,111</b>	<b>1,082</b>	<b>1,028</b>	<b>1,093</b>	
<b>Mean</b>	<b>1,046</b>	<b>1,129</b>	<b>1,090</b>	<b>1,083</b>	<b>1,060</b>	
<b>Medium</b>						
Gladstone	1,466	1,477	2,233	1,546	2,071	34.0
Albury	879	963	819	841	974	15.8
Fitzroy River Water	775	755	761	936	1,084	15.7

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Lower Murray Water	846	812	863	888	1,026	15.5
East Gippsland Water	1,040	962	1,164	940	1,073	14.1
Port Macquarie Hastings	1,046	1,146	1,104	1,071	1,195	11.5
Wingecarribee	1,047	1,093	1,084	1,049	1,152	9.8
Fraser Coast	1,038	916	877	900	988	9.7
Tamworth	1,179	1,193	1,381	1,375	1,434	4.3
GWMWater	1,110	901	817	825	838	1.6
Tweed	1,190	1,237	1,212	1,132	1,128	-0.3
Bundaberg	951	943	953	901	867	-3.7
Dubbo	1,144	1,106	1,167	1,068	1,013	-5.2
South Gippsland Water	1,270	1,152	1,231	1,108	1,030	-7.0
Coffs Harbour	1,150	1,012	1,071	1,011	925	-8.5
Wannon Water	1,106	1,088	1,080	1,205	1,101	-8.6
Eurobodalla	1,245	1,314	1,374	1,304	1,177	-9.7
Mackay	1,353	1,289	1,141	1,322	887	-32.9
Clarence Valley	917	814			754	
MidCoast Council	1,392	1,175	1,150			
Queanbeyan	1,435	1,406	1,516	1,536		
<b>Median</b>	<b>1,110</b>	<b>1,093</b>	<b>1,122</b>	<b>1,068</b>	<b>1,030</b>	
<b>Mean</b>	<b>1,123</b>	<b>1,084</b>	<b>1,150</b>	<b>1,103</b>	<b>1,090</b>	
<b>Small</b>						
Western Downs	1,095	1,106	1,130	1,046	1,293	23.6
Essential Energy		4,547	2,035	1,541	1,893	22.8
Central Highlands	878	831	1,143	1,273	1,386	8.8
Bathurst	1,330	1,506	1,440	1,548	1,566	1.2
WC (Geraldton)	724	736	775	775	768	-0.8
P&W (Alice Springs)	1,363	1,767	1,531	1,174	1,148	-2.2
Southern Downs	1,352	1,632	1,864	1,178	1,148	-2.5
Ballina	1,519	1,586	1,543	1,516	1,471	-3.0
Gympie	310	629	812	803	778	-3.2
Byron	1,987	2,031	2,072	2,050	1,974	-3.7
Cassowary Coast	1,172	766	825	730	701	-4.0
WC (Australind/Eaton)	771	791	740	903	860	-4.7
Armidale	1,371	1,639	1,244	1,133	1,079	-4.8
Livingstone	1,377	1,447	1,290	1,257	1,195	-4.9
Whitsunday	1,929	1,903	1,789	1,553	1,379	-11.2
Westernport Water	1,148	1,166	1,098	1,197	1,059	-11.5
Bega Valley	1,614	1,724	1,723	1,635	1,442	-11.8
WC (Albany)	770	792	797	890	725	-18.6



Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Goulburn Mulwaree	870	1,209	939	1,103		
Kempsey	1,431	1,359	1,267	1,366		
Lismore	1,358	1,376	1,431			
Mount Barker					543	
Orange	1,003	954	936	892		
Snowy Monaro			0	1,544		
<b>Median</b>	<b>1,330</b>	<b>1,367</b>	<b>1,244</b>	<b>1,187</b>	<b>1,148</b>	
<b>Mean</b>	<b>1,208</b>	<b>1,432</b>	<b>1,236</b>	<b>1,232</b>	<b>1,179</b>	

Table A9 F8 – Revenue from community service obligations (%), by utility size group, 2018–19 to 2022–23

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Barwon Water	0.0448	0.0435	0.0455	0.0425	0.0446	4.9
South East Water	0.0410	0.0439	0.0488	0.0479	0.0488	1.9
Unitywater	0.0080	0.0080	0.0080	0.0077	0.0078	1.3
Hunter Water	0.0440	0.0522	0.0499	0.0473	0.0467	-1.3
SA Water	0.0929	0.1190	0.1103	0.1104	0.1070	-3.1
TasWater	0.0231	0.0578	0.0245	0.0229	0.0221	-3.5
Sydney Water	0.0498	0.0511	0.0481	0.0487	0.0465	-4.5
Yarra Valley Water	0.0464	0.0487	0.0539	0.0536	0.0504	-6.0
WC (Perth)	0.0663	0.0590	0.0630	0.0677	0.0623	-8.0
Gold Coast	0	0	0.0040	0.0043	0.0035	-18.6
Icon Water	0.0157	0.0176	0.0251	0.0205	0.0162	-21.0
Greater Western Water				0.0346	0.0242	-30.1
Central Coast	0.0130	0.0132		0.0150	0.0100	-33.3
Logan	0	0	0	0	0	
Urban Utilities	0	0	0	0	0	
<b>Median</b>	<b>0.0321</b>	<b>0.0437</b>	<b>0.0455</b>	<b>0.0346</b>	<b>0.0242</b>	
<b>Mean</b>	<b>0.0318</b>	<b>0.0367</b>	<b>0.0370</b>	<b>0.0349</b>	<b>0.0327</b>	
<b>Large</b>						
Toowoomba	0	0.0120	0.0080	0.0086	0.0111	29.1
Redland City	0.0036	0.0040	0.0030	0.0036	0.0036	0.0
Gippsland Water	0.0415	0.0475	0.0427	0.0446	0.0440	-1.3
Townsville	0.0145	0.0150	0.0160	0.0151	0.0148	-2.0
Central Highlands Water (Vic)	0.0500	0.0513	0.0536	0.0473	0.0463	-2.1
Coliban Water	0.0407	0.0413	0.0456	0.0449	0.0426	-5.1
P&W (Darwin)	0.0230	0.0206	0.0346	0.0206	0.0189	-8.3
North East Water	0.0610	0.0630	0.0626	0.0639	0.0578	-9.5
Goulburn Valley Water	0.0533	0.0540	0.0601	0.0597	0.0528	-11.6
WC (Mandurah)	-0.1263	-0.2344	-0.1405	-0.1341	-0.0787	-41.3
Cairns	0.0258	0.0250	0.0220	0.0174	0.0062	-64.4
Shoalhaven	0.0126	0.0120	0.0110	0.0110		
<b>Median</b>	<b>0.0244</b>	<b>0.0228</b>	<b>0.0283</b>	<b>0.0190</b>	<b>0.0189</b>	
<b>Mean</b>	<b>0.0166</b>	<b>0.0093</b>	<b>0.0182</b>	<b>0.0169</b>	<b>0.0199</b>	
<b>Medium</b>						
Albury	0.0071	0.0080		0.0088	0.0184	109.1
Coffs Harbour	0.0081	0.0040	0.0040	0.0040	0.0074	85.0
Fraser Coast	0.0094	0.0070	0.0070	0.0071	0.0113	59.2
Fitzroy River Water	0.0101	0.0110	0.0110	0.0080	0.0116	45.0

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Wingecarribee	0.0075	0.0080	0.0080	0.0080	0.0110	37.5
Tweed	0.0110	0.0110	0.0100	0.0100	0.0104	4.0
Wannon Water	0.0516	0.0474	0.0522	0.0508	0.0528	3.9
East Gippsland Water	0.0647	0.0630	0.0639	0.0666	0.0679	2.0
GWMWater	0.0650	0.0678	0.0721	0.0673	0.0681	1.2
Mackay	0.0021	0.0020	0.0020	0.0020	0.0020	0.0
Port Macquarie Hastings	0.0097	0.0110	0.0100	0.0084	0.0083	-1.2
South Gippsland Water	0.0567	0.0575	0.0514	0.0534	0.0523	-2.1
Lower Murray Water	0.0534	0.0591	0.0481	0.0490	0.0451	-8.0
Tamworth	0.0082	0.0090	0.0080	0.0070	0.0058	-17.1
Eurobodalla	0.0089	0.0090	0.0090	0.0094	0.0074	-21.3
Gladstone	0	0.0090	0.0100	0.0088	0.0069	-21.6
Bundaberg	0.0256	0.0310	0.0370	0.0177	0.0087	-50.8
Clarence Valley	0.0117	0.0100			0.0080	
Dubbo	0.0110	0.0050	0.0050		0.0050	
MidCoast Council	0.0100	0.0110	0.0110	0.0101		
Queanbeyan	0.0041	0.0040	0.0040	0.0026		
<b>Median</b>	<b>0.0100</b>	<b>0.0100</b>	<b>0.0100</b>	<b>0.0088</b>	<b>0.0104</b>	
<b>Mean</b>	<b>0.0208</b>	<b>0.0212</b>	<b>0.0223</b>	<b>0.0210</b>	<b>0.0215</b>	
<b>Small</b>						
WC (Geraldton)	-1.3687	-0.9320	-1.0678	-0.4408	-0.8339	89.2
Byron	0.0055	0.0060	0.0050	0.0053	0.0071	34.0
P&W (Alice Springs)	0.1388	0.1309	0.1581	0.1413	0.1401	-0.8
Westernport Water	0.0366	0.0337	0.0357	0.0388	0.0382	-1.5
Ballina	0.0081	0.0090	0.0070	0.0080	0.0077	-3.7
Bathurst	0.0064	0.0070	0.0070	0.0070	0.0067	-4.3
Western Downs	0	0.0930	0.0530	0.0684	0.0648	-5.3
Bega Valley	0.0090	0.0080	0.0080	0.0090	0.0080	-11.1
Essential Energy		0.0090	0.0170	0.0170	0.0150	-11.8
Gympie	0.0220	0.0070	0.0240	0.0153	0.0111	-27.5
Whitsunday	0.1096	0.0930	0.0890	0.0498	0.0000	-100.0
WC (Australind/Eaton)	0.0199	-0.0315	-0.0059	-0.0388	0.0668	-272.2
WC (Albany)	-0.1791	-0.0842	-0.0533	0.0718	-0.1269	-276.7
Armidale	0.0080	0.0098	0.0070	0.0063		
Cassowary Coast	0	0.0180	0	0	0	
Central Highlands	0	0	0	0	0	
Goulburn Mulwaree	0.0066	0.0070	0.0060	0.0071		
Kempsey	0.0104	0.0090	0.0090	0.0077		
Lismore	0.0102	0.0070	0.0080	0.0106		

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Livingstone	0	0	0	0	0	
Mount Barker				0	0	
Orange	0.0086	0.0090	0.0080	0.0080		
Snowy Monaro				0		
Southern Downs	0	0	0	0	0	
<b>Median</b>	<b>0.0080</b>	<b>0.0075</b>	<b>0.0070</b>	<b>0.0074</b>	<b>0.0069</b>	
<b>Mean</b>	<b>-0.0547</b>	<b>-0.0269</b>	<b>-0.0311</b>	<b>-0.0003</b>	<b>-0.0331</b>	

**Table A10 C15 – Average duration of an unplanned interruption: water (minutes), by utility size group, 2018–19 to 2022–23**

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Sydney Water	143.0	187.0	200.0	192.0	231.0	20.3
Greater Western Water				116.6	138.9	19.1
WC (Perth)	102.9	111.0	140.0	141.0	162.0	14.9
Unitywater	119.7	109.7	120.3	116.5	129.3	11.0
Central Coast	265.0	197.0	208.0	203.0	210.0	3.4
South East Water	83.8	88.2	89.5	87.7	90.1	2.7
Logan	90.7		183.6	143.3	143.9	0.4
Yarra Valley Water	95.0	105.9	97.5	105.4	105.7	0.3
Barwon Water	126.7	127.8	112.7	98.8	98.0	-0.8
Icon Water	135.0	136.0	147.0	136.0	131.5	-3.3
Hunter Water	161.0	150.5	155.0	138.0	129.0	-6.5
SA Water	240.4	203.0	194.0	181.0	167.0	-7.7
Urban Utilities	135.0	119.0	94.0	130.0	114.0	-12.3
Gold Coast	126.0	140.7	151.7	158.5	126.3	-20.3
<b>Median</b>	<b>126.7</b>	<b>131.9</b>	<b>147.0</b>	<b>137.0</b>	<b>130.4</b>	
<b>Mean</b>	<b>140.3</b>	<b>139.7</b>	<b>145.6</b>	<b>139.1</b>	<b>141.2</b>	
<b>Large</b>						
Coliban Water	142.1	112.5	141.5	105.0	195.0	85.7
WC (Mandurah)	71.0	64.0	62.0	64.0	114.0	78.1
Redland City	113.8	110.0	135.1	160.0	273.0	70.6
Cairns	44.5	76.9	45.0	36.7	61.3	67.0
North East Water	96.0	91.2	81.0	71.0	96.0	35.2
Central Highlands Water (Vic)	155.1	121.4	114.0	137.0	117.0	-14.6
Gippsland Water	93.4	90.8	69.3	108.9	84.9	-22.0
P&W (Darwin)			139.0	102.1	77.0	-24.6
Goulburn Valley Water	98.6	106.3	93.7	117.5	84.2	-28.3
Shoalhaven	94.0	153.0	74.0	113.0	80.0	-29.2
Townsville	84.2	103.1	98.8	800.1	134.5	-83.2
<b>Median</b>	<b>95.0</b>	<b>104.7</b>	<b>93.7</b>	<b>108.9</b>	<b>96.0</b>	
<b>Mean</b>	<b>99.3</b>	<b>102.9</b>	<b>95.8</b>	<b>165.0</b>	<b>119.7</b>	
<b>Medium</b>						
Gladstone	69.8	50.0	39.0	35.0	51.5	47.1
Bundaberg	58.0	84.0	70.0	88.0	126.0	43.2
GWMWater	115.1	102.9	83.9	80.0	102.6	28.2
Fraser Coast	104.8	56.6	125.0	128.4	159.0	23.8
East Gippsland Water	72.0	169.0	74.0	88.8	103.8	16.9

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Wannon Water	90.3	158.0	138.5	150.0	172.0	14.7
Riverina Water (W)	233.0	125.0	164.0	142.0	162.0	14.1
South Gippsland Water	121.0	90.0	80.0	78.7	89.1	13.2
Lower Murray Water	62.0	66.6	59.0	52.4	58.8	12.2
Fitzroy River Water	32.6	55.3	33.8	33.9	35.8	5.6
Coffs Harbour	207.0	177.0	189.0	167.0	175.0	4.8
Clarence Valley		180.0	180.0	95.0	96.0	1.1
Port Macquarie Hastings	90.0	90.0	90.0	90.0	90.0	0.0
Dubbo	142.0	123.0	125.0	125.0	120.0	-4.0
Queanbeyan		38.0	220.0	76.0	56.6	-25.5
Albury	254.0	95.0	87.0	213.0	148.0	-30.5
Wingecarribee	341.0	245.0	185.0	204.0	141.0	-30.9
Mackay	19.1	19.6	23.3	11.9	7.4	-37.8
Tweed	159.0	139.0	161.0	275.0	137.0	-50.2
Eurobodalla	178.0	135.0	170.0	214.0	73.0	-65.9
Tamworth	420.0	86.0	210.0	2,289.0	422.0	-81.6
<b>Median</b>	<b>115.1</b>	<b>95.0</b>	<b>125.0</b>	<b>95.0</b>	<b>103.8</b>	
<b>Mean</b>	<b>145.7</b>	<b>108.8</b>	<b>119.4</b>	<b>220.8</b>	<b>120.3</b>	
<b>Small</b>						
Goldenfields Water (W)	235.0		152.0	55.0	180.0	227.3
Armidale	127.0	98.0	131.0	89.0	166.0	86.5
WC (Kal–Boulder) (W)	74.2	36.0	31.0	56.0	96.0	71.4
Whitsunday	120.0	278.3	235.0	231.0	352.5	52.6
Busselton (W)	66.3	147.5	130.0	37.9	50.8	34.0
Aqwest-Bunbury (W)	45.0	39.0	38.0	35.0	43.0	22.9
Westernport Water	85.9	58.4	71.8	83.9	93.7	11.7
Kempsey	96.0	238.0	195.0	104.0	112.0	7.7
Gympie	129.0	201.0	157.6	105.8	108.8	2.8
Central Highlands	30.0	30.0	30.0	30.0	30.0	0.0
Lismore	90.0	90.0	120.0	162.0	162.0	0.0
Orange	141.0	240.0	240.0	123.0	123.0	0.0
Snowy Monaro			120.0	120.0	120.0	0.0
Western Downs	90.0	23.0	37.0	39.0	39.0	0.0
WC (Australind/Eaton)	58.2	85.0	100.0	115.0	109.0	-5.2
Livingstone	16.3	18.3	28.6	19.9	18.8	-5.5
WC (Geraldton)	162.8	89.0	102.0	109.0	99.0	-9.2
WC (Albany)	123.6	173.0	145.0	120.0	108.0	-10.0
Bega Valley	165.0	163.0	251.0	510.0	456.0	-10.6
Cassowary Coast	254.0	184.0	156.0	191.0	57.0	-70.2

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Southern Downs		90.0	246.5	247.5	36.8	-85.1
Byron	120.0					
P&W (Alice Springs)					78.0	
<b>Median</b>	<b>108.0</b>	<b>90.0</b>	<b>130.0</b>	<b>105.8</b>	<b>103.5</b>	
<b>Mean</b>	<b>111.5</b>	<b>120.1</b>	<b>129.4</b>	<b>123.0</b>	<b>120.0</b>	



**Table A11 C13 – Total complaints: water and sewerage (per 1,000 properties), by utility size group, 2018–19 to 2022–23**

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
WC (Perth)	0.83	0.78	0.59	0.35	0.55	57.1
Unitywater	1.40	1.40	2.20	2.38	2.79	17.2
South East Water	3.20	4.24	5.83	5.68	6.45	13.6
Urban Utilities	6.69	6.40	5.00	3.70	3.94	6.5
Greater Western Water				2.40	2.54	5.8
Hunter Water	3.80	3.47	2.08	1.79	1.84	2.8
Barwon Water	4.54	4.14	6.71	7.54	7.55	0.1
TasWater	12.64	8.75	10.56	11.62	11.09	-4.6
Central Coast	9.30	16.00	11.00	15.00	13.00	-13.3
Icon Water	2.84	3.39	2.18	20.29	16.12	-20.6
Logan	14.28	17.90	23.10	19.49	15.16	-22.2
Sydney Water	2.45	2.08	1.96	2.38	1.82	-23.5
Gold Coast	3.48	4.90	3.90	4.33	3.29	-24.0
Yarra Valley Water	12.36	11.00	11.47	9.37	6.64	-29.1
SA Water	1.98	1.99	1.88	2.16	1.01	-53.2
<b>Median</b>	<b>3.64</b>	<b>4.19</b>	<b>4.45</b>	<b>4.33</b>	<b>3.94</b>	
<b>Mean</b>	<b>5.70</b>	<b>6.17</b>	<b>6.32</b>	<b>7.23</b>	<b>6.25</b>	
<b>Large</b>						
WC (Mandurah)	0.48	0.58	0.45	0.21	0.59	181.0
Goulburn Valley Water	4.52	5.86	5.92	4.43	9.05	104.3
Toowoomba	3.24	2.00	2.00	5.40	8.22	52.2
Shoalhaven	0.90	1.00	0.06	1.00	1.38	38.0
Gippsland Water	14.22	9.17	6.91	6.07	7.35	21.1
Coliban Water	6.45	6.36	15.47	7.08	8.05	13.7
North East Water	3.77	5.81	5.37	5.32	5.92	11.3
Cairns	2.13	3.00	2.60	2.49	2.36	-5.2
Central Highlands Water (Vic)	8.59	5.12	4.06	4.26	3.67	-13.8
Redland City	3.04	2.40	4.00	4.45	2.28	-48.8
Townsville	0.51	0.60	0.80	0.68	0.29	-57.4
P&W (Darwin)	60.40	50.89	59.16	49.00	1.98	-96.0
<b>Median</b>	<b>3.50</b>	<b>4.06</b>	<b>4.03</b>	<b>4.44</b>	<b>3.01</b>	
<b>Mean</b>	<b>9.02</b>	<b>7.73</b>	<b>8.90</b>	<b>7.53</b>	<b>4.26</b>	
<b>Medium</b>						
Coffs Harbour	0.20	0.10	0.40	0.00	1.48	
Albury	1.20	2.00	1.00	1.00	10.89	989.0
Lower Murray Water	3.17	0.06	1.78	1.25	2.61	108.8

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Dubbo	15.20	21.00	17.00	19.00	29.00	52.6
Tweed	1.00	1.00	1.00	2.00	2.47	23.5
Wannon Water	4.04	3.42	6.49	4.95	5.64	13.9
Mackay	60.86	70.80	68.90	64.81	72.53	11.9
East Gippsland Water	3.61	3.56	2.82	2.81	3.13	11.4
Fitzroy River Water	45.95	48.40	46.00	41.61	41.74	0.3
MidCoast Council	3.40	2.00	2.00	3.00	3.00	0.0
GWMWater	0.38	8.74	5.05	7.83	7.78	-0.6
Wingecarribee	119.00	110.00	88.00	83.00	74.00	-10.8
Queanbeyan	88.40	76.00	103.00	87.00	73.00	-16.1
Tamworth	68.80	51.00	71.00	45.00	36.86	-18.1
Clarence Valley	42.70	115.00	88.00	118.00	90.00	-23.7
Bundaberg	52.56	28.20	15.90	12.00	8.36	-30.3
Eurobodalla	11.90	22.00	26.00	63.00	42.00	-33.3
Fraser Coast	10.08	14.40	17.20	23.21	13.61	-41.4
South Gippsland Water	5.65	4.10	7.46	6.74	3.94	-41.5
Port Macquarie Hastings	28.50	12.00	21.00	18.00	9.00	-50.0
Gladstone	0.00	0.00	0.50	0.84	0.19	-77.4
<b>Median</b>	<b>10.08</b>	<b>12.00</b>	<b>15.90</b>	<b>12.00</b>	<b>9.00</b>	
<b>Mean</b>	<b>26.98</b>	<b>28.28</b>	<b>28.12</b>	<b>28.81</b>	<b>25.30</b>	
<b>Small</b>						
Essential Energy	12.50	2.00	2.00	2.00	15.36	668.0
WC (Australind/Eaton)	0.92	0.91	0.67	0.22	1.08	390.9
WC (Albany)	0.48	0.64	0.40	0.06	0.29	383.3
WC (Geraldton)	2.01	0.78	1.33	0.25	0.50	100.0
Cassowary Coast	14.40	13.10	12.80	14.63	21.25	45.2
Bathurst	52.90	47.00	47.00	41.00	55.00	34.1
Ballina	5.70	12.00	13.00	18.00	22.00	22.2
Goulburn Mulwaree	80.20	76.00	72.00	84.00	97.00	15.5
Orange	112.40	97.00	76.00	70.00	73.00	4.3
Bega Valley	6.90	8.00	4.00	11.00	11.00	0.0
Whitsunday	7.82	4.30	24.70	10.40	9.99	-3.9
Southern Downs	6.95	4.90	1.80	1.98	1.80	-9.1
Central Highlands	25.54	28.60	31.40	23.21	20.73	-10.7
Western Downs	0.18	0.30	1.90	1.22	1.05	-13.9
Kempsey	6.30	9.00	5.00	5.00	4.00	-20.0
Livingstone	3.33	4.00	2.90	3.49	2.77	-20.6
Byron	14.80	16.00	34.00	34.00	25.00	-26.5
Westernport Water	3.72	1.27	1.02	2.94	1.53	-48.0

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Gympie	0.53	1.10	1.20	0.34	0.13	-61.8
Lismore	5.40	3.00	3.00	8.00	2.00	-75.0
Snowy Monaro				171.00	32.97	-80.7
Armidale	22.10	20.00	36.00	55.00	8.00	-85.5
P&W (Alice Springs)	121.90	103.10	97.83	76.13	1.08	-98.6
<b>Mount Barker</b>					<b>1.06</b>	
<b>Median</b>	<b>6.93</b>	<b>6.45</b>	<b>4.50</b>	<b>10.40</b>	<b>6.00</b>	
<b>Mean</b>	<b>23.04</b>	<b>20.59</b>	<b>21.36</b>	<b>27.56</b>	<b>17.02</b>	

**Table A12 C14 – Percentage of calls answered by an operator within 30 seconds, by utility size group, 2018–19 to 2022–23**

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Central Coast	46.0	71.0	64.0	78.0	93.0	19.2
TasWater	87.1	83.0	92.1	84.5	90.5	7.1
Gold Coast	54.1	62.1	39.5	23.7	23.7	0.0
Sydney Water	69.0	72.0	88.0	41.0	41.0	0.0
Unitywater	83.0	80.0	78.0	75.0	71.0	-5.3
SA Water	85.9	86.2	91.3	85.2	78.0	-8.5
Icon Water	73.5	77.9	66.6	72.8	64.5	-11.4
Greater Western Water				56.0	47.7	-14.9
South East Water	58.2	72.4	60.7	41.5	35.0	-15.8
Barwon Water	67.0	76.5	83.4	74.5	62.2	-16.5
Yarra Valley Water	90.2	88.5	87.9	65.3	53.3	-18.3
Hunter Water	58.0	56.0	60.0	64.0	51.0	-20.3
WC (Perth)	56.1	52.7	41.0	34.6	16.1	-53.5
Logan					94.4	
<b>Median</b>	<b>68.0</b>	<b>74.4</b>	<b>72.3</b>	<b>65.3</b>	<b>57.8</b>	
<b>Mean</b>	<b>69.0</b>	<b>73.2</b>	<b>71.0</b>	<b>61.2</b>	<b>58.7</b>	
<b>Large</b>						
Townsville	47.7	47.7	49.1	43.3	97.3	124.7
Central Highlands Water (Vic)	70.7	62.0	46.2	77.1	81.9	6.1
Shoalhaven	98.0	98.0	98.0	58.0	59.0	1.7
Goulburn Valley Water	96.7	95.3	94.3	94.0	94.0	0.0
Toowoomba	81.0	83.0	79.0	78.0	78.0	0.0
Coliban Water	83.0	81.2	54.1	69.0	68.2	-1.2
Gippsland Water	67.8	62.2	75.8	77.6	74.2	-4.4
Redland City	81.0	82.0	80.0	83.4	70.8	-15.1
North East Water	98.4	98.6	98.8	96.5	68.3	-29.2
<b>Median</b>	<b>81.0</b>	<b>82.0</b>	<b>79.0</b>	<b>77.6</b>	<b>74.2</b>	
<b>Mean</b>	<b>80.5</b>	<b>78.9</b>	<b>75.0</b>	<b>75.2</b>	<b>76.8</b>	
<b>Medium</b>						
Gladstone	79.7	78.3	78.0	0	53.0	
Wingecarribee	99.0		71.0	43.0	54.0	25.6
Albury	60.0	60.0	72.0	78.0	85.0	9.0
Port Macquarie Hastings	75.0	78.0	89.0	75.0	81.0	8.0
Eurobodalla	66.0	65.0	62.0	62.0	63.0	1.6
East Gippsland Water	99.0	99.0	99.0	99.4	99.7	0.2
Wannon Water	98.6	98.2	98.4	98.4	98.0	-0.4

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
South Gippsland Water	98.6	98.4	96.8	96.0	95.0	-1.0
GWMWater	90.9	92.9	92.8	89.0	88.0	-1.1
Mackay	97.0	97.0	98.0	98.5	97.0	-1.5
Bundaberg	96.0	82.0	42.9	54.9	51.1	-6.9
Lower Murray Water	94.0	89.0	93.6	91.0	82.2	-9.7
Tweed	69.0	72.0	68.0	75.0	65.0	-13.3
Dubbo	69.0	93.0	95.0	89.0	75.0	-15.7
Coffs Harbour	76.0	73.0	75.0	73.0	57.0	-21.9
Fitzroy River Water	75.9				71.3	
Tamworth			0		0	
Wagga Wagga (S)	92.0					
<b>Median</b>	<b>90.9</b>	<b>85.5</b>	<b>83.5</b>	<b>78.0</b>	<b>75.0</b>	
<b>Mean</b>	<b>84.5</b>	<b>84.0</b>	<b>77.0</b>	<b>74.8</b>	<b>71.5</b>	
<b>Small</b>						
Goulburn Mulwaree				69.0	79.0	14.5
Orange	72.0	73.0	70.0	72.0	75.0	4.2
Busselton (W)				94.4	98.1	3.9
Gympie	78.0	71.0	73.5	69.8	70.8	1.4
Bega Valley	70.0	90.0	90.0	90.0	90.0	0.0
Cassowary Coast	50.0	65.0	65.0	65.0	65.0	0.0
Kempsey		93.0	93.0	80.0	80.0	0.0
Westernport Water	98.7	97.0	97.0	97.0	97.0	0.0
Lismore	70.0	70.0	72.0	78.0	75.0	-3.8
Whitsunday	86.6	85.1	81.2	79.0	73.8	-6.6
Ballina	90.0					
Bathurst	100.0					
Essential Energy	60.0	63.0			77.0	
Goldenfields Water (W)	100.0					
Snowy Monaro					94.0	
Western Downs	94.0	76.0	48.4		37.0	
<b>Median</b>	<b>82.3</b>	<b>74.5</b>	<b>73.5</b>	<b>78.5</b>	<b>77.0</b>	
<b>Mean</b>	<b>80.8</b>	<b>78.3</b>	<b>76.7</b>	<b>79.4</b>	<b>77.8</b>	

**Table A13 A8 – Water main breaks, bursts and leaks (mains breaks per 100 km), by utility size group, 2018–19 to 2022–23**

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Sydney Water	24.7	29.2	20.8	17.2	20.6	19.8
Central Coast	12.1	11.6	9.9	14.1	16.3	15.6
Yarra Valley Water	43.9	43.8	28.6	31.3	35.4	13.1
TasWater	40.7	32.6	51.9	43.1	47.2	9.5
Hunter Water	27.0	28.3	20.2	21.0	22.0	4.8
South East Water	36.9	31.8	25.2	27.6	28.4	2.9
WC (Perth)	11.6	11.5	10.9	10.2	10.2	0.0
Urban Utilities	30.0	31.1	25.4	18.6	17.8	-4.3
SA Water	15.0	13.5	13.3	13.3	12.7	-4.5
Barwon Water	32.3	25.1	23.2	25.1	23.6	-6.0
Greater Western Water				18.5	16.8	-9.2
Icon Water	14.7	13.6	12.0	10.0	8.4	-16.0
Unitywater	4.2	4.9	3.5	4.7	3.9	-17.0
Gold Coast	9.1	10.2	9.5	8.7	7.2	-17.2
Logan	5.8	6.7	6.0	5.2	3.7	-28.8
<b>Median</b>	<b>19.9</b>	<b>19.4</b>	<b>16.8</b>	<b>17.2</b>	<b>16.8</b>	
<b>Mean</b>	<b>22.0</b>	<b>21.0</b>	<b>18.6</b>	<b>17.9</b>	<b>18.3</b>	
<b>Large</b>						
Shoalhaven	6.1	11.2	6.5	5.8	19.2	231.0
WC (Mandurah)	4.8	2.3	2.7	2.0	2.9	45.0
Cairns	20.0	20.1	20.6	19.8	25.6	29.3
Toowoomba	12.4	9.1	9.1	12.3	14.4	17.1
P&W (Darwin)	9.8	12.7	14.0	14.1	16.5	17.0
Redland City	4.0	3.0	3.9	5.9	6.6	11.9
Coliban Water	25.8	26.4	21.5	23.7	23.1	-2.5
Townsville	21.7	27.6	21.8	19.1	17.7	-7.3
North East Water	11.9	13.7	11.2	12.0	11.1	-7.5
Central Highlands Water (Vic)	20.9	19.7	16.8	17.7	16.3	-7.9
Gippsland Water	26.9	20.5	19.7	18.6	16.5	-11.3
Goulburn Valley Water	17.0	13.2	13.9	13.7	10.2	-25.5
<b>Median</b>	<b>14.7</b>	<b>13.4</b>	<b>13.9</b>	<b>13.9</b>	<b>16.4</b>	
<b>Mean</b>	<b>15.1</b>	<b>15.0</b>	<b>13.5</b>	<b>13.7</b>	<b>15.0</b>	
<b>Medium</b>						
Port Macquarie Hastings	5.7	7.9	8.5	1.1	2.8	154.5
Riverina Water (W)	6.0	16.7	18.2	10.6	19.4	83.0
Wingecarribee	14.6	8.3	6.3	4.9	8.3	69.4

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Tamworth	10.1	3.7	4.7	2.9	3.9	34.5
GWMWater	57.1	45.2	41.7	39.9	46.2	15.8
Fraser Coast	7.0	7.9	5.3	6.6	7.3	10.6
East Gippsland Water	15.9	15.4	13.4	10.6	11.7	10.4
Lower Murray Water	33.4	26.4	19.6	20.5	21.1	2.9
Tweed	9.5	9.3	11.8	11.1	9.7	-12.6
Wannon Water	5.2	5.1	7.3	8.0	6.9	-13.7
Fitzroy River Water	11.2	10.8	10.3	7.3	6.1	-16.4
Dubbo	7.8	5.4	12.9	15.1	12.6	-16.6
Bundaberg	4.6	22.0	32.7	17.3	14.3	-17.3
Albury	4.5	3.5	4.3	2.8	2.3	-17.9
South Gippsland Water	32.7	24.0	22.2	36.6	29.4	-19.7
Queanbeyan	15.8	21.4	23.2	23.5	17.6	-25.1
MidCoast Council	8.3	13.7	15.1	15.2	10.2	-32.9
Coffs Harbour	8.2	11.0	9.1	8.2	5.0	-39.0
Mackay	7.3	7.2	6.2	6.4	3.8	-40.6
Eurobodalla	28.1	17.2	42.0	30.9	15.0	-51.5
Gladstone	98.5	63.7	10.8	87.1	40.2	-53.8
Clarence Valley	9.4	86.1	7.3	3.9	1.4	-64.1
<b>Median</b>	<b>9.4</b>	<b>12.3</b>	<b>11.3</b>	<b>10.6</b>	<b>9.9</b>	
<b>Mean</b>	<b>18.2</b>	<b>19.6</b>	<b>15.1</b>	<b>16.8</b>	<b>13.4</b>	
<b>Small</b>						
Bathurst	7.2	4.2	3.5	3.9	13.5	246.2
Orange	6.3	7.4	10.9	3.1	8.9	187.1
Bega Valley	5.7	4.7	11.6	3.0	8.1	170.0
WC (Geraldton)	28.6	22.6	14.9	12.0	25.2	110.0
Aqwest-Bunbury (W)	5.9	6.1	7.6	4.6	8.0	73.9
Western Downs	15.1	7.2	25.1	30.4	52.3	72.0
Southern Downs	7.2	7.2	8.1	11.4	17.5	53.5
Goldenfields Water (W)	16.7	18.5	15.1	8.6	11.2	30.2
Armidale	17.3	20.1	14.3	12.4	15.4	24.2
Busselton (W)	9.0	7.4	7.9	5.2	6.3	21.2
Essential Energy	15.2	22.3	9.9	4.5	5.2	15.6
Whitsunday	20.4	16.2	19.5	23.2	25.9	11.6
P&W (Alice Springs)	36.2	43.1	31.0	31.4	32.1	2.2
WC (Albany)	9.0	11.5	13.5	11.9	12.1	1.7
Lismore	43.2	52.7	20.9	12.3	11.4	-7.3
Byron	27.4	13.1	48.2	61.9	55.4	-10.5
Kempsey	10.6	5.5	5.9	19.5	17.4	-10.8



Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Gympie	9.8	9.8	10.6	16.0	14.0	-12.5
Livingstone	3.5	3.2	3.9	3.8	3.2	-15.8
Central Highlands	37.7	33.9	24.9	26.8	21.8	-18.7
Cassowary Coast	18.2	20.8	21.9	27.3	21.5	-21.2
WC (Kal–Boulder) (W)	19.3	21.2	9.8	12.9	9.5	-26.4
Goulburn Mulwaree	8.2	14.4	4.7	2.8	2.0	-28.6
Westernport Water	21.2	11.0	10.5	19.8	13.3	-32.8
WC (Australind/Eaton)	6.5	6.5	4.4	5.2	3.2	-38.5
Mount Barker				50.0	0	-100.0
Ballina					5.5	
Snowy Monaro			8.9		16.1	
<b>Median</b>	<b>15.1</b>	<b>11.5</b>	<b>10.8</b>	<b>12.2</b>	<b>12.7</b>	
<b>Mean</b>	<b>16.2</b>	<b>15.6</b>	<b>14.1</b>	<b>16.3</b>	<b>15.6</b>	

**Table A14 A14 – Number of sewer mains breaks and chokes per 100 km of sewer main (breaks and chokes/ 100 km), by utility size group, 2018–19 to 2022–23**

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
TasWater	36.6	41.2	56.6	42.8	48.1	12.4
Yarra Valley Water	38.4	42.4	32.3	27.6	28.8	4.3
WC (Perth)	17.0	18.4	17.5	14.1	13.4	-5.0
Barwon Water	51.2	53.8	55.8	53.9	49.8	-7.6
Greater Western Water				16.9	15.6	-7.7
South East Water	19.0	20.7	16.2	16.1	14.3	-11.2
SA Water	46.0	48.0	49.3	51.0	45.0	-11.8
Logan	9.0	9.8	8.1	6.6	5.8	-12.1
Central Coast	38.0	33.0	30.0	30.0	26.0	-13.3
Icon Water	72.1	83.8	52.3	34.7	29.0	-16.4
Hunter Water	44.9	42.8	33.6	27.3	22.5	-17.6
Unitywater	17.1	19.8	9.8	8.9	7.1	-20.2
Gold Coast	4.9	6.2	3.8	5.7	4.4	-22.8
Urban Utilities	18.4	21.1	24.0	19.0	14.3	-24.7
Sydney Water	74.0	66.0	49.0	42.0	28.0	-33.3
<b>Median</b>	<b>37.3</b>	<b>37.1</b>	<b>31.1</b>	<b>27.3</b>	<b>22.5</b>	
<b>Mean</b>	<b>34.8</b>	<b>36.2</b>	<b>31.3</b>	<b>26.4</b>	<b>23.5</b>	
<b>Large</b>						
P&W (Darwin)	9.9	12.7	8.6	6.9	17.0	146.4
Gippsland Water	7.8	6.9	1.5	3.4	4.2	23.5
North East Water	10.3	13.9	10.6	9.1	9.4	3.3
WC (Mandurah)	11.0	8.5	6.8	7.6	7.7	1.3
Central Highlands Water (Vic)	20.5	19.2	19.7	16.7	16.5	-1.2
Redland City	2.3	2.7	13.9	15.2	15.0	-1.3
Goulburn Valley Water	10.3	13.8	14.9	10.7	10.2	-4.7
Cairns	15.1	12.9	12.4	16.7	14.6	-12.6
Townsville	7.3	54.8	54.4	57.4	45.8	-20.2
Coliban Water	20.5	22.3	17.8	20.7	16.2	-21.7
Toowoomba	44.2	13.5	20.1	18.7	14.6	-21.9
Shoalhaven	3.0	3.0	3.0	17.0	13.0	-23.5
<b>Median</b>	<b>10.3</b>	<b>13.2</b>	<b>13.2</b>	<b>15.9</b>	<b>14.6</b>	
<b>Mean</b>	<b>13.5</b>	<b>15.4</b>	<b>15.3</b>	<b>16.7</b>	<b>15.3</b>	
<b>Medium</b>						
Mackay	3.5	3.1	4.6	1.3	1.9	46.2
Wannon Water	12.1	9.2	8.1	5.2	7.0	34.6
Wagga Wagga (S)			57.0	55.0	57.0	3.6

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Tweed	0	0	1.0	6.0	6.0	0.0
Fitzroy River Water	21.7	18.3	16.5	16.3	16.3	0.0
GWMWater	43.0	43.2	50.5	43.8	43.6	-0.5
Albury	44.0	52.0	81.0	83.0	75.0	-9.6
South Gippsland Water	36.6	13.3	12.5	8.9	7.8	-12.4
Lower Murray Water	19.0	16.0	10.4	17.0	13.9	-18.2
MidCoast Council	24.0	27.0	21.0	18.0	14.0	-22.2
Dubbo	40.0	63.0	50.0	62.0	46.0	-25.8
Queanbeyan	101.0	55.0	116.0	84.0	62.0	-26.2
Gladstone	7.9	8.4	2.0	9.4	6.9	-26.6
Fraser Coast	7.9	9.4	6.5	3.6	2.6	-27.8
Tamworth	7.0	12.0	11.0	20.0	14.0	-30.0
Bundaberg	13.1	20.3	30.1	29.9	20.6	-31.1
East Gippsland Water	6.9	8.1	7.1	5.4	3.6	-33.3
Wingecarribee	45.0	8.0	15.0	14.0	9.0	-35.7
Eurobodalla	37.0	29.0	13.0	27.0	13.0	-51.9
Clarence Valley	64.0	66.0	11.0	5.0	2.0	-60.0
Coffs Harbour	82.0	88.0	82.0	31.0	10.0	-67.7
Port Macquarie Hastings	9.0	6.0	15.0	30.0	6.0	-80.0
<b>Median</b>	<b>21.7</b>	<b>16.0</b>	<b>14.0</b>	<b>17.5</b>	<b>11.5</b>	
<b>Mean</b>	<b>29.7</b>	<b>26.4</b>	<b>28.2</b>	<b>26.2</b>	<b>19.9</b>	
<b>Small</b>						
Snowy Monaro			6.0	13.0	219.0	1,584.6
Cassowary Coast	3.9	3.0	6.9	3.5	8.2	134.3
Western Downs	4.4	4.7	4.0	3.6	7.5	108.3
Mount Barker				1.0	2.0	100.0
Goulburn Mulwaree	44.0	44.0	277.0	33.0	60.0	81.8
WC (Geraldton)	9.0	5.0	3.4	3.7	5.9	59.5
Whitsunday	17.6	7.6	32.2	11.7	15.8	35.0
Central Highlands	6.5	25.6	9.6	9.6	10.7	11.5
Kempsey	5.0	12.0	33.0	29.0	32.0	10.3
WC (Albany)	21.0	21.1	22.9	16.5	17.3	4.8
Bathurst	49.0	36.0	44.0	23.0	22.0	-4.3
Kal-Boulder (S)	33.0	34.0	24.3	13.7	11.8	-13.9
Livingstone	5.1	3.9	4.2	4.8	4.1	-14.6
WC (Bunbury) (S)	11.0	6.4	7.7	8.1	6.8	-16.0
Byron	8.0	13.0	42.0	49.0	41.0	-16.3
Gympie	5.9	14.2	15.6	19.0	15.5	-18.4
Armidale	51.0	58.0	47.0	41.0	29.0	-29.3

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Lismore	17.0	24.0	28.0	24.0	16.0	-33.3
WC (Australind/Eaton)	7.0	6.3	7.1	5.9	3.9	-33.9
Southern Downs	34.2	64.4	30.8	32.7	21.1	-35.5
Essential Energy	115.0	143.0	167.0	151.0	96.0	-36.4
P&W (Alice Springs)	3.2	6.6	5.9	11.3	6.0	-46.9
Westernport Water	6.0	3.6	5.4	7.6	4.0	-47.4
Orange	90.0	40.0	45.0	64.0	33.0	-48.4
Bega Valley	18.0	18.0	14.0	7.0	3.0	-57.1
WC (Busselton) (S)	3.0	13.2	5.6	2.5	0.9	-64.0
Ballina					5.0	
<b>Median</b>	<b>10.0</b>	<b>13.7</b>	<b>15.6</b>	<b>12.3</b>	<b>11.8</b>	
<b>Mean</b>	<b>23.7</b>	<b>25.3</b>	<b>35.5</b>	<b>22.7</b>	<b>25.8</b>	

**Table A15 A15 – Number of property connection sewer breaks and chokes (breaks and chokes/1,000 properties), by utility size group, 2018–19 to 2022–23**

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
TasWater	10.70	12.60	6.90	6.70	6.50	-3.0
Urban Utilities	2.90	2.90	3.10	2.30	2.20	-4.3
Barwon Water	9.40	9.30	10.00	9.60	8.80	-8.3
Yarra Valley Water	8.12	8.00	5.60	5.30	4.78	-9.8
Greater Western Water				2.84	2.52	-11.3
SA Water	28.00	29.00	28.00	35.00	31.00	-11.4
Hunter Water	10.30	9.80	8.20	6.60	5.60	-15.2
South East Water	5.20	4.90	3.90	4.04	3.38	-16.3
Logan	1.00	1.20	0.90	0.60	0.50	-16.7
Unitywater	1.20	1.40	1.30	1.10	0.90	-18.2
Central Coast	3.60	3.10	3.00	3.90	3.00	-23.1
Icon Water	13.80	15.70	10.50	7.30	4.90	-32.9
Gold Coast	1.80	2.20	1.70	1.50	1.00	-33.3
Sydney Water	0.30	0.30	0.20	0.20	0.10	-50.0
<b>Median</b>	<b>5.20</b>	<b>4.90</b>	<b>3.90</b>	<b>3.97</b>	<b>3.19</b>	
<b>Mean</b>	<b>7.41</b>	<b>7.72</b>	<b>6.41</b>	<b>6.21</b>	<b>5.37</b>	
<b>Large</b>						
Toowoomba	1.00	2.30	1.60	1.10	3.10	181.8
Shoalhaven	3.50	3.10	2.20	2.10	4.80	128.6
Townsville	5.50	5.40	7.20	4.60	6.20	34.8
P&W (Darwin)	1.40	1.00	1.20	0.99	1.00	1.0
Cairns	2.70	2.30	2.20	2.90	2.60	-10.3
North East Water	3.00	2.70	3.20	3.50	3.00	-14.3
Coliban Water	3.60	3.30	0.50	1.07	0.89	-16.8
Gippsland Water	1.30	1.40	1.40	1.10	0.90	-18.2
Central Highlands Water (Vic)	4.90	4.60	5.60	5.15	4.04	-21.6
Goulburn Valley Water	4.60	7.50	5.80	5.70	4.40	-22.8
Redland City	1.00	1.10	1.00	1.40	0.60	-57.1
<b>Median</b>	<b>3.00</b>	<b>2.70</b>	<b>2.20</b>	<b>2.10</b>	<b>3.00</b>	
<b>Mean</b>	<b>2.95</b>	<b>3.15</b>	<b>2.90</b>	<b>2.69</b>	<b>2.87</b>	
<b>Medium</b>						
Tamworth	5.40	2.90	6.30	2.40	4.70	95.8
Wingecarribee	8.40	16.70	15.00	7.90	15.00	89.9
Queanbeyan	0		2.20	1.90	3.20	68.4
Albury	4.10	2.70	2.30	2.10	3.40	61.9

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
South Gippsland Water	10.10	5.10	4.00	4.71	7.03	49.3
East Gippsland Water	1.60	1.30	1.70	0.67	0.90	34.3
Tweed	0.30	0.40	0.50	0.40	0.50	25.0
Coffs Harbour	2.00	3.00	3.10	11.20	13.70	22.3
Fraser Coast	2.30	1.50	3.40	3.80	4.00	5.3
Dubbo	7.00	8.60	8.90	9.80	10.00	2.0
GWMWater	34.90	33.10	35.50	23.73	21.07	-11.2
Wagga Wagga (S)	7.80	8.50	6.90	7.00	6.20	-11.4
Mackay	0.60	1.20	1.70	1.40	1.20	-14.3
Wannon Water	3.00	2.00	1.90	2.60	1.90	-26.9
Fitzroy River Water	11.60	12.80	12.30	11.60	8.40	-27.6
Lower Murray Water	8.00	9.00	7.00	9.55	6.20	-35.1
Clarence Valley	5.70	4.20	3.40	6.90	3.60	-47.8
Bundaberg	13.20	7.60	11.00	7.80	3.80	-51.3
Gladstone	1.00	1.50	0.10	0.70	0.30	-57.1
Eurobodalla	4.30	4.20	6.00	4.60	1.80	-60.9
Port Macquarie Hastings	0.20	0.20	0.03	0.40	0.10	-75.0
MidCoast Council	0					
<b>Median</b>	<b>4.20</b>	<b>3.60</b>	<b>3.40</b>	<b>4.60</b>	<b>3.80</b>	
<b>Mean</b>	<b>5.98</b>	<b>6.33</b>	<b>6.34</b>	<b>5.77</b>	<b>5.57</b>	
<b>Small</b>						
Bega Valley	2.20	0.80	1.90	0.50	1.30	160.0
Cassowary Coast	1.00	0.30	0.70	0.80	1.40	75.0
Armidale	32.90	34.10	23.90	14.50	16.10	11.0
Livingstone	2.20	2.20	3.40	2.00	2.20	10.0
Westernport Water	4.40	1.80	1.50	1.97	1.95	-1.0
Goulburn Mulwaree	14.70	12.60	10.40	9.10	8.40	-7.7
Central Highlands	10.30	8.60	10.90	13.20	11.50	-12.9
Kempsey	21.00	23.50	12.40	12.20	9.70	-20.5
Western Downs	0.80	4.60	8.10	6.90	5.10	-26.1
Gympie	0.60	1.90	2.30	1.10	0.80	-27.3
Lismore	9.50	8.90	9.70	8.90	6.30	-29.2
P&W (Alice Springs)	0.90	4.10	1.30	1.70	1.00	-41.2
Essential Energy	51.70	60.00	61.40	68.60	38.50	-43.9
Southern Downs	11.30	7.10	5.70	5.40	2.80	-48.1
Bathurst	4.90	3.00	4.90	2.60	1.30	-50.0
Orange	10.90	10.00	13.40	28.30	13.80	-51.2
Byron	14.90	16.80	10.90	20.00	8.00	-60.0

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Whitsunday	0.10	0.70	3.00	2.70	1.00	-63.0
Mount Barker				1.20	0	-100.0
Ballina					5.40	
Kal-Boulder (S)	0	0	0			
Snowy Monaro					1.90	
<b>Median</b>	<b>4.90</b>	<b>4.60</b>	<b>5.70</b>	<b>5.40</b>	<b>2.80</b>	
<b>Mean</b>	<b>10.23</b>	<b>10.58</b>	<b>9.78</b>	<b>10.61</b>	<b>6.59</b>	



**Table A16 A10 – Real losses: service connections (L/service connection/day), by utility size group, 2018–19 to 2022–23**

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Barwon Water	34.0	21.0	24.0	30.0	59.0	96.7
Icon Water	45.0	49.0	55.0	52.0	72.0	38.5
Greater Western Water				0.1	0.1	33.3
Unitywater	49.8	54.1	52.7	40.1	49.8	24.2
Hunter Water	79.0	69.0	64.0	67.0	83.0	23.9
Central Coast	37.0	58.0	68.0	59.0	73.0	23.7
Yarra Valley Water	49.0	42.0	37.0	40.0	49.0	22.5
Gold Coast	69.3	68.0	65.5	65.8	70.5	7.1
South East Water	66.0	53.0	47.0	65.0	68.0	4.6
Sydney Water	94.0	85.0	74.0	77.0	80.0	3.9
TasWater	313.0	361.0	272.0	308.0	319.0	3.6
Urban Utilities	74.0	70.0	61.0	67.0	67.0	0.0
SA Water	78.0	90.0	85.0	77.0	73.0	-5.2
WC (Perth)	85.0	84.7	71.7	95.0	87.0	-8.4
Logan	83.1	70.8	66.3	70.9	53.9	-24.0
<b>Median</b>	<b>71.7</b>	<b>68.5</b>	<b>64.8</b>	<b>65.8</b>	<b>70.5</b>	
<b>Mean</b>	<b>82.6</b>	<b>84.0</b>	<b>74.5</b>	<b>74.3</b>	<b>80.3</b>	
<b>Large</b>						
Townsville	342.9	333.7	152.9	86.8	190.8	119.8
North East Water	70.0	54.0	51.0	44.0	59.0	34.1
P&W (Darwin)	142.0	276.0	297.0	281.0	362.0	28.8
Coliban Water	72.0	86.0	70.0	40.0	50.0	25.0
Cairns	46.3	31.3	34.8	64.5	77.7	20.5
Goulburn Valley Water	100.0	80.0	107.0	78.0	93.0	19.2
Gippsland Water	90.0	71.0	70.0	72.0	84.0	16.7
Shoalhaven	71.0	74.0	52.0	90.0	74.0	-17.8
WC (Mandurah)	41.9	47.8	45.3	58.3	44.3	-24.0
Central Highlands Water (Vic)	50.0	42.0	50.0	50.0	32.0	-36.0
Redland City	11.6	25.6	18.4	28.5	16.2	-43.2
Toowoomba	66.9	73.4	96.3	98.6	42.7	-56.7
<b>Median</b>	<b>70.5</b>	<b>72.2</b>	<b>61.0</b>	<b>68.2</b>	<b>66.5</b>	
<b>Mean</b>	<b>92.0</b>	<b>99.6</b>	<b>87.1</b>	<b>82.6</b>	<b>93.8</b>	
<b>Medium</b>						
Bundaberg	133.7	163.6	135.4	59.2	133.3	125.2
Lower Murray Water	0.0	0.0	0.0	0.1	0.1	100.0
Clarence Valley	126.0	30.0	47.0	110.0	150.0	36.4

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
GWMWater	119.0	0.0	0.1	0.1	0.1	22.2
Tweed	137.0	96.0	109.0	146.0	174.0	19.2
Albury	44.0	19.0	23.0	17.0	20.0	17.6
East Gippsland Water	27.8	43.1	56.0	47.0	50.0	6.4
Coffs Harbour	42.0	44.0	38.0	45.0	45.0	0.0
Wannon Water	70.0	70.0	70.0	70.0	70.0	0.0
Riverina Water (W)	85.0	2.0	63.0	101.0	100.0	-1.0
Fitzroy River Water	176.0	194.1	170.0	224.0	220.8	-1.4
MidCoast Council	37.0	40.0	22.0	61.0	60.0	-1.6
Eurobodalla	51.0	50.0	50.0	54.0	51.0	-5.6
South Gippsland Water	122.8	102.6	118.9	119.5	111.0	-7.1
Mackay	186.0	111.0	228.1	116.4	99.1	-14.9
Fraser Coast	54.0	62.1	53.1	59.0	48.6	-17.6
Tamworth	55.0	87.0	82.0	61.0	48.0	-21.3
Wingecarribee	95.0	77.0	76.0	88.0	69.0	-21.6
Gladstone	50.8	96.0	60.3	90.3	67.2	-25.6
Queanbeyan	92.0	142.0	27.0	42.0	18.0	-57.1
Port Macquarie Hastings	77.0	87.0	64.0	70.0	13.0	-81.4
Dubbo	86.0	121.0	106.0	77.0		
<b>Median</b>	<b>81.0</b>	<b>73.5</b>	<b>61.6</b>	<b>65.5</b>	<b>60.0</b>	
<b>Mean</b>	<b>84.9</b>	<b>74.4</b>	<b>72.7</b>	<b>75.3</b>	<b>73.7</b>	
<b>Small</b>						
Byron	49.0	49.0	44.0	26.0	69.0	165.4
Kempsey	90.0	45.0	45.0	35.0	57.0	62.9
Lismore	96.0	78.0	75.0	108.0	161.0	49.1
Goldenfields Water (W)	54.0	89.0	167.0	146.0	214.0	46.6
Gympie	185.4	113.7	131.9	117.6	170.7	45.2
WC (Kal–Boulder) (W)	78.0	120.6	79.6	100.2	141.4	41.1
WC (Australind/Eaton)	142.3	87.4	168.4	104.9	137.4	31.0
Aqwest-Bunbury (W)	98.0	95.0	103.0	107.0	140.0	30.8
Orange	113.0	39.0	29.0	35.0	43.0	22.9
Cassowary Coast	461.8	472.4	372.5	358.4	415.7	16.0
Southern Downs	29.0	35.4	106.5	125.3	141.5	12.9
Livingstone	116.8	245.0	166.2	181.1	197.4	9.0
Bega Valley	50.0	54.0	41.0	46.0	49.0	6.5
Goulburn Mulwaree	119.0	40.0	12.0	38.0	40.0	5.3
WC (Geraldton)	161.6	162.6	234.4	226.8	212.9	-6.1
Ballina	100.0	116.0	117.0	112.0	104.0	-7.1
Western Downs	52.1	6.7	118.7	134.5	111.1	-17.4

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Busselton (W)	119.0	162.0	127.0	177.0	145.0	-18.1
Central Highlands	200.0	261.9		304.0	246.8	-18.8
P&W (Alice Springs)	92.0	246.0	208.0	100.0	79.0	-21.0
WC (Albany)	163.9	176.5	76.5	84.5	66.4	-21.4
Whitsunday	251.4	323.1	220.1	247.0	192.4	-22.1
Essential Energy	111.0	76.0	67.0	94.0	72.0	-23.4
Westernport Water	11.0	11.0	11.0	31.0	18.0	-41.9
Armidale	127.0	28.0	186.0	46.0		
Bathurst	58.0	47.0			144.0	
<b>Median</b>	<b>105.5</b>	<b>88.2</b>	<b>111.8</b>	<b>107.0</b>	<b>140.0</b>	
<b>Mean</b>	<b>120.4</b>	<b>122.3</b>	<b>121.1</b>	<b>123.4</b>	<b>134.7</b>	

**Table A17 E12 – Total net greenhouse gas emissions per 1,000 properties (t CO<sub>2</sub> equivalents/1,000 properties), by utility size group, 2018–19 to 2022–23**

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Central Coast	449	472	533	415	496	19.5
Icon Water	363	331	196	177	175	-1.5
Urban Utilities	182	178	180	166	160	-3.6
South East Water	49	42	45	35	34	-3.7
Sydney Water	180	175	169	168	158	-5.6
Hunter Water	357	344	309	294	271	-7.6
Yarra Valley Water	40	35	26	20	18	-10.0
Gold Coast	246	250	236	239	200	-16.1
Barwon Water	267	267	176	161	132	-18.3
Unitywater	212	228	245	252	205	-18.6
Greater Western Water				78	61	-22.1
SA Water	427	340	345	236	173	-26.9
WC (Perth)	510	701	695	567	379	-33.1
Logan	163	185	173	186	0	-100.0
TasWater	196					
<b>Median</b>	<b>229</b>	<b>250</b>	<b>196</b>	<b>181</b>	<b>166</b>	
<b>Mean</b>	<b>260</b>	<b>273</b>	<b>256</b>	<b>214</b>	<b>176</b>	
<b>Large</b>						
P&W (Darwin)	215	213	199	223	233	4.4
Townsville	368	433	165	482	483	0.2
Redland City	190	184	190	180	180	0.1
North East Water	653	619	599	578	560	-3.2
Cairns	254	228	247	224	214	-4.2
Gippsland Water	617	483	480	472	436	-7.5
Goulburn Valley Water	1,080	1,290	1,170	555	490	-11.7
Central Highlands Water (Vic)	236	200	175	196	172	-11.8
Shoalhaven	754	739	763	831	676	-18.7
Coliban Water	443	385	341	338	258	-23.5
Toowoomba	633	617	635	585	415	-29.0
WC (Mandurah)	257	377	387	323	193	-40.4
<b>Median</b>	<b>405</b>	<b>409</b>	<b>364</b>	<b>405</b>	<b>337</b>	
<b>Mean</b>	<b>475</b>	<b>481</b>	<b>446</b>	<b>416</b>	<b>359</b>	
<b>Medium</b>						
Queanbeyan	169	184	243	140	213	52.1
Eurobodalla	500	495	404	177	260	46.9

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Bundaberg	251	677	338	200	290	45.3
Albury	383	367	271	339	374	10.2
Port Macquarie Hastings	482	527	489	489	539	10.2
Tamworth	376	391	370	212	216	1.9
Tweed	420	413	391	380	377	-0.8
MidCoast Council	453	416	454	844	803	-4.9
South Gippsland Water	446	424	391	348	329	-5.4
East Gippsland Water	368	341	307	310	291	-5.9
Fitzroy River Water	445	562	559	535	500	-6.6
Wannon Water	704	611	528	578	502	-13.2
GWMWater	566	473	436	492	377	-23.4
Lower Murray Water	624	578	540	523	399	-23.7
Coffs Harbour	386	428	419	427	323	-24.4
Wingecarribee	416	733	913	1,064	643	-39.6
Clarence Valley	181	169	233	208	85	-59.1
Dubbo	563	468	427	740	273	-63.1
Mackay	0.1	0.1	0.1		0.1	
<b>Median</b>	<b>420</b>	<b>428</b>	<b>404</b>	<b>404</b>	<b>329</b>	
<b>Mean</b>	<b>407</b>	<b>435</b>	<b>406</b>	<b>445</b>	<b>358</b>	
<b>Small</b>						
Armidale	423	326	719	124	491	296.0
Bega Valley	413	284	476	435	695	59.8
Cassowary Coast	412	290	319	257	329	28.3
Westernport Water	394	384	367	329	364	10.5
Essential Energy	835	368	354	338	370	9.5
Bathurst	434	388	395	426	430	0.9
Gympie	434	405	362	267	253	-5.2
P&W (Alice Springs)	859	878	882	757	712	-5.9
Western Downs	472	475	509	600	562	-6.4
Kempsey	460	682	821	822	749	-8.9
Byron	383	386	417	416	379	-8.9
Goulburn Mulwaree	744	687	855	948	858	-9.5
Livingstone		391	370	439	393	-10.4
Southern Downs		168	599	646	571	-11.6
Lismore	223	185	255	375	322	-14.1
WC (Geraldton)	332	343	322	325	279	-14.3
WC (Albany)	356	364	362	372	292	-21.6
WC (Australind/Eaton)	316	321	310	287	223	-22.3

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Ballina	456	459	772	849	657	-22.6
Whitsunday	408	475	497	492	372	-24.4
Snowy Monaro				1096	734	-33.0
Orange	482	668	672	672	229	-65.9
Central Highlands		291	296	199		
<b>Median</b>	<b>423</b>	<b>385</b>	<b>406</b>	<b>426</b>	<b>386</b>	
<b>Mean</b>	<b>465</b>	<b>419</b>	<b>497</b>	<b>499</b>	<b>467</b>	

**Table A18 H3 – Percentage of population where microbiological compliance was achieved, by utility size group, 2018–19 to 2022–23**

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
<b>Major</b>						
Barwon Water	100.0	100.0	100.0	100.0	100.0	0.0
Central Coast	100.0	100.0	100.0	100.0	100.0	0.0
Gold Coast	100.0	100.0	100.0	100.0	100.0	0.0
Greater Western Water				100.0	100.0	0.0
Hunter Water	100.0	100.0	100.0	100.0	100.0	0.0
Icon Water	100.0	100.0	100.0	100.0	100.0	0.0
Logan	100.0	100.0	100.0	100.0	100.0	0.0
SA Water	100.0	100.0	100.0	100.0	100.0	0.0
Sydney Water	100.0	100.0	100.0	100.0	100.0	0.0
Unitywater	100.0	100.0	100.0	100.0	100.0	0.0
Urban Utilities	100.0	100.0	100.0	100.0	100.0	0.0
WC (Perth)	100.0	100.0	100.0	100.0	100.0	0.0
Yarra Valley Water	100.0	100.0	100.0	100.0	100.0	0.0
South East Water	100.0	100.0	99.9	100.0	99.9	-0.1
<b>Median</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	
<b>Mean</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	
<b>Large</b>						
Cairns	100.0	100.0	100.0	100.0	100.0	0.0
Gippsland Water	100.0	100.0	99.0	100.0	100.0	0.0
Central Highlands Water (Vic)	100.0	100.0	99.8	100.0	100.0	0.0
Goulburn Valley Water	100.0	100.0	99.5	100.0	100.0	0.0
P&W (Darwin)	100.0	100.0	100.0	100.0	100.0	0.0
Redland City	100.0	100.0	100.0	100.0	100.0	0.0
Shoalhaven	100.0	100.0	100.0	100.0	100.0	0.0
Toowoomba	100.0	100.0	100.0	100.0	100.0	0.0
Townsville	100.0	100.0	100.0	100.0	100.0	0.0
WC (Mandurah)	100.0	100.0	100.0	100.0	100.0	0.0
North East Water	100.0	100.0	100.0	100.0	99.9	-0.1
Coliban Water	100.0	94.3	100.0	100.0	95.0	-5.0
<b>Median</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	
<b>Mean</b>	<b>100.0</b>	<b>99.5</b>	<b>99.9</b>	<b>100.0</b>	<b>99.6</b>	
<b>Medium</b>						
GWMWater	100.0	100.0	100.0	97.0	100.0	3.1
Lower Murray Water	100.0	100.0	100.0	100.0	100.0	0.0
Mackay	100.0	100.0	100.0	100.0	100.0	0.0
Wannon Water	100.0	100.0	100.0	100.0	100.0	0.0

Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Tweed	100.0	100.0	100.0	100.0	100.0	0.0
South Gippsland Water	99.0	100.0	100.0	100.0	100.0	0.0
Fitzroy River Water	100.0	100.0	100.0	100.0	100.0	0.0
Riverina Water (W)	100.0	100.0	100.0	100.0	100.0	0.0
Queanbeyan	100.0	100.0	100.0	100.0	100.0	0.0
MidCoast Council	100.0	100.0	100.0	100.0	100.0	0.0
Albury	100.0	100.0	100.0	100.0	100.0	0.0
Gladstone	100.0	100.0	100.0	100.0	100.0	0.0
Fraser Coast	100.0	100.0	100.0	100.0	100.0	0.0
Eurobodalla	100.0	100.0	100.0	100.0	100.0	0.0
East Gippsland Water	100.0	100.0	100.0	100.0	100.0	0.0
Dubbo	100.0	100.0	100.0	100.0	100.0	0.0
Coffs Harbour	100.0	100.0	100.0	100.0	100.0	0.0
Clarence Valley	100.0	100.0	100.0	100.0	100.0	0.0
Wingecarribee	100.0	100.0	100.0	100.0	100.0	0.0
Bundaberg	100.0	100.0	100.0	100.0	99.9	-0.1
Port Macquarie Hastings	100.0	100.0	100.0	100.0		
Tamworth	100.0	100.0	100.0	100.0		
<b>Median</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	
<b>Mean</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>99.9</b>	<b>100.0</b>	
<b>Small</b>						
Aqwest-Bunbury (W)	100.0	100.0	100.0	100.0	100.0	0.0
Lismore	100.0	100.0	100.0	100.0	100.0	0.0
Westernport Water	100.0	100.0	100.0	100.0	100.0	0.0
Western Downs	100.0	100.0	100.0	100.0	100.0	0.0
WC (Kal–Boulder) (W)	100.0	100.0	100.0	100.0	100.0	0.0
WC (Geraldton)	100.0	100.0	100.0	100.0	100.0	0.0
WC (Australind/Eaton)	100.0	100.0	100.0	100.0	100.0	0.0
WC (Albany)	100.0	100.0	100.0	100.0	100.0	0.0
Southern Downs	100.0	99.5	100.0	100.0	100.0	0.0
Snowy Monaro			100.0	100.0	100.0	0.0
P&W (Alice Springs)	100.0	100.0	100.0	100.0	100.0	0.0
Orange	100.0	100.0	100.0	100.0	100.0	0.0
Livingstone	100.0	100.0	100.0	100.0	100.0	0.0
Kempsey	100.0	100.0	100.0	100.0	100.0	0.0
Armidale	100.0	100.0	100.0	100.0	100.0	0.0
Gympie	100.0	98.6	100.0	100.0	100.0	0.0
Goulburn Mulwaree	100.0	100.0	100.0	100.0	100.0	0.0
Goldenfields Water (W)	100.0	100.0	100.0	100.0	100.0	0.0



Utility	2018–19	2019–20	2020–21	2021–22	2022–23	Change from 2021–22 (%)
Essential Energy	100.0	100.0	100.0	100.0	100.0	0.0
Central Highlands	100.0	100.0	100.0	100.0	100.0	0.0
Cassowary Coast	98.9	97.5	100.0	100.0	100.0	0.0
Byron	100.0	100.0	100.0	100.0	100.0	0.0
Busselton (W)	100.0	100.0	100.0	100.0	100.0	0.0
Bega Valley	100.0	100.0	100.0	100.0	100.0	0.0
Bathurst	100.0	100.0	100.0	100.0	100.0	0.0
Ballina	100.0	100.0	100.0	100.0	100.0	0.0
Whitsunday	100.0	100.0	100.0	100.0	100.0	0.0
<b>Median</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	
<b>Mean</b>	<b>100.0</b>	<b>99.8</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	

# Appendix B Audit framework

Auditing is intended to provide enhanced confidence in the accuracy, completeness and reliability of reported information. Auditing promotes transparency and consistency in the process of collecting and reporting data, across all urban water utilities, in order to report performance results that are relevant and useful, and enable meaningful comparisons between utilities over time.

The National Water Commission, the Water Services Association of Australia and representative National Water Initiative (NWI) parties established the National Framework for Reporting on Performance of Urban Water Utilities Deed, which sets out how the parties will report on the performance of urban water utilities in accordance with the NWI. The deed requires parties to use all reasonable endeavours to ensure that a comprehensive audit of the data collected by each urban water utility under the National Performance Framework is undertaken at least once every 3 years.

The National Performance Framework 2013–14 auditing requirements and audit report template provide further detail about the requirements that a water utility must meet in order to report its results in the 2023 Urban NPR.

- Audits are to be conducted at a minimum of 3-year intervals.
- Indicators that have failed an audit will not be published (they need to be re-audited before they are published).
- Audits must be carried out by suitably qualified and independent auditors.
- The level of assurance to be provided is generally ‘reasonable’ assurance (although there are some instances in which ‘limited’ assurance is appropriate).
- Audits must be conducted under Australian Standard ASAE 3000: Assurance Engagements Other than Audits or Reviews of Historical Financial Information.
- Auditable indicators are those with the indicator codes W7, W8, W11, W11.3, W12, W14, W18, W18.5, W19, W26, W27, A2, A3, A5, A6, A8 to A11, A14, A15, E1 to E3, E8, E12, E12.1, C2, C4, C8, C13 to C15, C17 to C19, H3, H4, F1 to F8, F11 to F16, F20 to F30, P7 and P8.

## B1 2021–22 Indicator audit status summary

**Table B1 Status of indicator audits undertaken within each jurisdiction**

Jurisdiction	Audit activities
Australian Capital Territory	The most recent audit conducted on the NPR data was for 2020–21, as it was an auditing year. Auditing is usually conducted every 3 years and Icon Water will conduct audits in accordance with this timeframe.
New South Wales	In the New South Wales metropolitan area, the most recent audit conducted on the NPR data was in late 2023. The next audit will be conducted in late 2024.  In the New South Wales country area, all the reported utilities have had their 2021–22 reported data audited as per the requirements. All water utilities in regional NSW reporting to the NPR will be required to conduct their next audit in the 2024–25 reporting year.
Northern Territory	The Department of Treasury and Finance has not required the utilities providers, Power and Water – Alice Springs and Power and Water – Darwin, to audit their National Performance Reporting data. Some NPR indicators are audited at an aggregate level.
Queensland	The Department of Regional Development, Manufacturing and Water has not required service providers to audit their National Performance Reporting data.

Jurisdiction	Audit activities
South Australia	The most recent audit conducted on the NPR data was in October 2021 for 2020–21 data as it was an auditing year. Auditing is usually conducted every 3 years on the full set of indicators. The next audit will depend on auditing requirements following the NPR review.
Tasmania	TasWater’s performance indicators are audited in 3 tranches over a 3-year period. In 2022–23, selected TasWater performance indicators were audited. This audit concluded in September 2023. An audit of the next tranche of indicators will commence in July 2024 and will be in relation to 2023–24 financial year data.
Victoria	Most Victorian National Performance Reporting data is audited under the Essential Service Commission’s annual audit framework (refer section F7.5). The Essential Service Commission conducted their last regular annual audit of 2022–23 data in late 2023.
Western Australia	Urban NPR data audits were undertaken in 2021–22 in Western Australia. Auditing is conducted every 3 years. The next round of audits is scheduled for 2024–25.

# Appendix C Utilities reporting

Utility name	Display name in tables and graphs	Jurisdiction	Utility size group
Albury City Council	Albury	New South Wales	Medium
Aqwest–Bunbury Water Corporation (W)	Aqwest–Bunbury (W)	Western Australia	Small
Armidale Regional Council	Armidale	New South Wales	Small
Ballina Shire Council	Ballina	New South Wales	Small
Barwon Water	Barwon Water	Victoria	Major
Bathurst Regional Council	Bathurst	New South Wales	Small
Bega Valley Shire Council	Bega Valley	New South Wales	Small
Bundaberg Regional Council	Bundaberg	Queensland	Medium
Busselton Water (W)	Busselton (W)	Western Australia	Small
Byron Shire Council	Byron	New South Wales	Small
Cairns Regional Council	Cairns	Queensland	Large
Cassowary Coast Regional Council	Cassowary Coast	Queensland	Small
Central Coast Council	Central Coast	New South Wales	Major
Central Gippsland Water	Gippsland Water	Victoria	Large
Central Highlands Regional Council	Central Highlands	Queensland	Small
Central Highlands Water	Central Highlands Water (Vic)	Victoria	Large
City of Gold Coast	Gold Coast	Queensland	Major
City of Kalgoorlie–Boulder (S)	Kal–Boulder (S)	Western Australia	Small
Clarence Valley Council	Clarence Valley	New South Wales	Medium
Coffs Harbour City Council	Coffs Harbour	New South Wales	Medium
Coliban Water	Coliban Water	Victoria	Large
Dubbo Regional Council	Dubbo	New South Wales	Medium
East Gippsland Water	East Gippsland Water	Victoria	Medium
Essential Energy	Essential Energy	New South Wales	Small
Eurobodalla Shire Council	Eurobodalla	New South Wales	Medium
Fraser Coast Regional Council	Fraser Coast	Queensland	Medium
Greater Western Water	Greater Western Water	Victoria	Major
Gladstone Area Water Board	GAWB	Queensland	Bulk water
Gladstone Regional Council	Gladstone	Queensland	Medium
Goldenfields Water County Council	Goldenfields Water (W)	New South Wales	Small
Goulburn Mulwaree Council	Goulburn Mulwaree	New South Wales	Small
Goulburn Valley Water	Goulburn Valley Water	Victoria	Large
GWMWater	GWMWater	Victoria	Medium
Gympie Regional Council	Gympie	Queensland	Small
Hunter Water Corporation	Hunter Water	New South Wales	Major
Icon Water Limited	Icon Water	Australian Capital Territory	Major

Utility name	Display name in tables and graphs	Jurisdiction	Utility size group
Kempsey Shire Council	Kempsey	New South Wales	Small
Lismore City Council	Lismore	New South Wales	Small
Livingstone Shire Council	Livingstone	Queensland	Small
Logan City Council	Logan	Queensland	Major
Lower Murray Water	Lower Murray Water	Victoria	Medium
Mackay Regional Council	Mackay	Queensland	Medium
Melbourne Water	Melbourne Water	Victoria	Bulk water
MidCoast Council	MidCoast Council	New South Wales	Medium
Mount Barker District Council	Mount Barker	South Australia	Small
North East Water	North East Water	Victoria	Large
Orange City Council	Orange	New South Wales	Small
Port Macquarie Hastings Council	Port Macquarie Hastings	New South Wales	Medium
Power and Water – Darwin	P&W (Darwin)	Northern Territory	Large
Power and Water – Alice Springs	P&W (Alice Springs)	Northern Territory	Small
Queanbeyan–Palerang Regional Council	Queanbeyan	New South Wales	Medium
Queensland Bulk Water Supply Authority	Seqwater	Queensland	Bulk water
Redland City Council	Redland City	Queensland	Large
Riverina Water County Council	Riverina Water (W)	New South Wales	Medium
Rockhampton Regional Council	Fitzroy River Water	Queensland	Medium
Rous Water	Rous Water	New South Wales	Bulk water
SA Water Corporation	SA Water	South Australia	Major
Shoalhaven City Council	Shoalhaven	New South Wales	Large
Snowy Monaro Regional Council	Snowy Monaro	New South Wales	Small
South East Water Corporation	South East Water	Victoria	Major
South Gippsland Water	South Gippsland Water	Victoria	Medium
Southern Downs Regional Council	Southern Downs	Queensland	Small
Sydney Water Corporation	Sydney Water	New South Wales	Major
Tamworth Regional Council	Tamworth	New South Wales	Medium
TasWater	TasWater	Tasmania	Major
Toowoomba Regional Council	Toowoomba	Queensland	Large
Townsville City Council	Townsville	Queensland	Large
Tweed Shire Council	Tweed	New South Wales	Medium
Unitywater	Unitywater	Queensland	Major
Urban Utilities	Urban Utilities	Queensland	Major
Wagga Wagga Council	Wagga Wagga (S)	New South Wales	Medium
Wannon Water	Wannon Water	Victoria	Medium
Water Corporation – Perth	WC (Perth)	Western Australia	Major
Water Corporation – Albany	WC (Albany)	Western Australia	Small
Water Corporation – Australind/Eaton	WC (Australind/Eaton)	Western Australia	Small
Water Corporation – Bunbury (S)	WC (Bunbury) (S)	Western Australia	Small

Utility name	Display name in tables and graphs	Jurisdiction	Utility size group
Water Corporation – Busselton (S)	WC (Busselton) (S)	Western Australia	Small
Water Corporation – Geraldton	WC (Geraldton)	Western Australia	Small
Water Corporation – Kalgoorlie–Boulder (W)	WC (Kal–Boulder) (W)	Western Australia	Small
Water Corporation – Mandurah	WC (Mandurah)	Western Australia	Large
WaterNSW	WaterNSW	New South Wales	Bulk water
Western Downs Regional Council	Western Downs	Queensland	Small
Westernport Water	Westernport Water	Victoria	Small
Whitsunday Regional Council	Whitsunday	Queensland	Small
Wingecarribee Shire Council	Wingecarribee	New South Wales	Medium
Yarra Valley Water Corporation	Yarra Valley Water	Victoria	Major

# Appendix D Urban performance indicators

Indicator category	Indicator subcategory	Indicator code	Indicator name
Assets	Water treatment plants	A1	Number of water treatment plants providing full treatment (plants)
Assets	Other water assets	A2	Length of water mains (km)
Assets	Other water assets	A3	Number of properties served per km of water main (properties/km)
Assets	Wastewater assets	A4	Number of wastewater treatment plants (plants)
Assets	Wastewater assets	A5	Length of sewer mains and channels (km)
Assets	Wastewater assets	A6	Number of properties served per km of sewer main (properties/km)
Assets	Water main breaks	A8	Number of water main breaks, bursts and leaks per 100 km of water mains (mains breaks/100 km)
Assets	Water losses	A9	Infrastructure leakage index (ILI)
Assets	Water losses	A10	Real losses: service connections (L/service connection/day)
Assets	Water losses	A11	Real losses: water mains (kL/km water main/day)
Assets	Wastewater breaks and chokes	A14	Number of sewer mains breaks and chokes per 100 km (breaks and chokes/100 km)
Assets	Wastewater breaks and chokes	A15	Number of property connection sewer breaks and chokes per 1,000 properties (breaks and chokes/1,000 properties)
Assets	Water main breaks	IA8	Number of water main breaks, bursts and leaks (mains breaks)
Customers	Connected properties and population	C1	Population receiving services: water supply (population 000s)
Customers	Connected properties and population	C2	Number of connected residential properties: water supply (properties 000s)
Customers	Connected properties and population	C3	Number of connected non-residential properties: water supply (properties 000s)
Customers	Connected properties and population	C4	Total number of connected properties: water supply (properties 000s)
Customers	Connected properties and population	C6	Number of connected residential properties: wastewater (properties 000s)
Customers	Connected properties and population	C7	Number of connected non-residential properties: wastewater (properties 000s)
Customers	Connected properties and population	C8	Total number of connected properties: wastewater (properties 000s)
Customers	Water quality complaints	C9	Number of water quality complaints per 1,000 properties: water supply (complaints/1,000 properties)
Customers	Water service complaints	C10	Number of water service complaints per 1,000 properties (complaints/1,000 properties)

Indicator category	Indicator subcategory	Indicator code	Indicator name
Customers	Wastewater service complaints	C11	Number of sewerage service complaints per 1,000 properties (complaints /1,000 properties)
Customers	Billing and account complaints	C12	Number of billing and account complaints per 1,000 properties: water supply and sewerage (complaints/1,000 properties)
Customers	Total water and wastewater complaints	C13	Number of water and sewerage complaints per 1,000 properties (complaints/1,000 properties)
Customers	Connect time to a telephone operator	C14	Percentage of calls answered by an operator within 30 seconds (%)
Customers	Average duration of unplanned water supply interruptions	C15	Average duration of an unplanned interruption: water supply (minutes)
Customers	Water interruption frequency	C17	Number of unplanned interruptions per 1,000 properties: water supply (interruptions/1,000 properties)
Customers	Restrictions or legal action for non-payment of water bill	C18	Number of restrictions for non-payment of water bills per 1,000 properties (restrictions/1,000 properties)
Customers	Restrictions or legal action for non-payment of water bill	C19	Number of legal actions taken for non-payment of water bills per 1,000 properties (legal actions/1,000 properties)
Customers	Water quality complaints	IC9	Number of water quality complaints: water supply (complaints)
Customers	Water service complaints	IC10	Number of water service complaints (complaints)
Customers	Wastewater service complaints	IC11	Number of sewerage service complaints (complaints)
Customers	Billing and account complaints	IC12	Number of billing and account complaints: water supply and sewerage (complaints)
Customers	Total water and wastewater complaints	IC13	Number of water and sewerage complaints (complaints)
Customers	Water interruption frequency	IC17	Number of unplanned interruptions: water supply (interruptions)
Customers	Restrictions or legal action for non-payment of water bill	IC18	Number of restrictions for non-payment of water bills (restrictions)
Customers	Restrictions or legal action for non-payment of water bill	IC19	Number of legal actions taken for non-payment of water bills (legal actions)
Environment	Comparative wastewater treatment levels	E1	Percentage of wastewater only treated to a primary level (%)
Environment	Comparative wastewater treatment levels	E2	Percentage of wastewater only treated to a secondary level (%)
Environment	Comparative wastewater treatment levels	E3	Percentage of wastewater treated to a tertiary level (%)
Environment	Net greenhouse gas emissions	E8	Percentage of biosolids reused (%)
Environment	Net greenhouse gas emissions	E9	Net greenhouse gas emissions per 1,000 properties: water supply (t CO2 equivalents/1,000 properties)



Indicator category	Indicator subcategory	Indicator code	Indicator name
Environment	Net greenhouse gas emissions	E9.1	Net greenhouse gas emissions per ML: water supply – bulk utility (t CO2 equivalents/ML)
Environment	Net greenhouse gas emissions	E10	Net greenhouse gas emissions per 1,000 properties: wastewater (t CO2 equivalents/1,000 properties)
Environment	Comparative wastewater treatment levels	E10.1	Net greenhouse gas emissions per ML: wastewater – bulk utility (t CO2 equivalents/ML)
Environment	Net greenhouse gas emissions	E11	Net greenhouse gas emissions per 1,000 properties: other (t CO2 equivalents/1,000 properties)
Environment	Net greenhouse gas emissions	E11.1	Net greenhouse gas emissions per ML: other – bulk utility (t CO2 equivalents/ML)
Environment	Net greenhouse gas emissions	E12	Total net greenhouse gas emissions per 1,000 properties (t CO2 equivalents/1,000 properties)
Environment	Net greenhouse gas emissions	E12.1	Total net greenhouse gas emissions per ML: bulk utility (t CO2 equivalents/ML)
Environment	Comparative wastewater treatment levels	IE1	Volume of wastewater only treated to a primary level (ML)
Environment	Comparative wastewater treatment levels	IE2	Volume of wastewater only treated to a secondary level (ML)
Environment	Comparative wastewater treatment levels	IE3	Volume of wastewater treated to a tertiary level (ML)
Environment	Net greenhouse gas emissions	IE9	Net greenhouse gas emissions: water supply (t CO2 equivalents)
Environment	Net greenhouse gas emissions	IE10	Net greenhouse gas emissions: wastewater (t CO2 equivalents)
Environment	Net greenhouse gas emissions	IE11	Net greenhouse gas emissions: other (t CO2 equivalents)
Environment	Net greenhouse gas emissions	IE12	Total net greenhouse gas emissions (t CO2 equivalents)
Finance	Revenue	F1	Total revenue: water supply (\$000s)
Finance	Revenue	F2	Total revenue: wastewater (\$000s)
Finance	Revenue	F3	Total income for the utility (\$000s)
Finance	Revenue	F4	Percentage of residential revenue from usage charges: water supply (%)
Finance	Revenue	F5	Revenue per property: water supply (\$/property)
Finance	Revenue	F5.1	Revenue per ML: water supply – bulk utility (\$/ML)
Finance	Revenue	F6	Revenue per property: wastewater (\$/property)
Finance	Revenue	F6.1	Revenue per ML: wastewater – bulk utility (\$/ML)
Finance	Revenue	F7	Total income per property (\$/property)
Finance	Revenue	F7.1	Total income per ML: bulk utility (\$/ML)
Finance	Revenue from community service obligations (CSOs)	F8	Community service obligations ratio
Finance	Costs	F9	Written-down replacement cost of fixed water supply assets (\$000s)
Finance	Costs	F10	Written-down replacement cost of fixed wastewater assets (\$000s)

Indicator category	Indicator subcategory	Indicator code	Indicator name
Finance	Costs	F11	Operating cost per property: water supply (\$/property)
Finance	Costs	F11.1	Operating cost per ML: water supply – bulk utility (\$/ML)
Finance	Costs	F12	Operating cost per property: wastewater (\$/property)
Finance	Costs	F12.1	Operating cost per ML: wastewater – bulk utility (\$/ML)
Finance	Costs	F13	Combined operating cost per property: water supply and wastewater (\$/property)
Finance	Costs	F13.1	Combined operating cost per ML: water supply and wastewater – bulk utility (\$/ML)
Finance	Capital expenditure	F14	Capital expenditure: water supply (\$000s)
Finance	Capital expenditure	F15	Capital expenditure: wastewater (\$000s)
Finance	Capital expenditure	F16	Total capital expenditure: water supply and wastewater (\$000s)
Finance	Economic real rate of return	F17	Economic real rate of return: water supply
Finance	Economic real rate of return	F18	Economic real rate of return: wastewater
Finance	Economic real rate of return	F19	Economic real rate of return: water supply and wastewater
Finance	Dividends	F20	Dividend (\$000s)
Finance	Dividends	F21	Dividend payout ratio
Finance	Net debt to equity	F22	Net debt to equity ratio
Finance	Interest cover	F23	Interest cover ratio
Finance	Dividends	F24	Net profit after tax (NPAT) (\$000s)
Finance	Community service obligations (CSOs)	F25	Community service obligation (\$000s)
Finance	Capital works grants	F26	Capital works grants: water supply (\$000s)
Finance	Capital works grants	F27	Capital works grants: wastewater (\$000s)
Finance	Capital expenditure	F28	Capital expenditure per property: water supply (\$/property)
Finance	Capital expenditure	F28.1	Capital expenditure per ML: water supply – bulk utility (\$/ML)
Finance	Capital expenditure	F29	Capital expenditure per property: wastewater (\$/property)
Finance	Capital expenditure	F29.1	Capital expenditure per ML: wastewater – bulk utility (\$/ML)
Finance	Capital works grants	F30	Net profit after tax (NPAT) ratio
Finance	Costs	IF11	Operating cost: water supply (\$000s)
Finance	Costs	IF12	Operating cost: wastewater (\$000s)
Public Health	Water quality compliance	H1	Water quality guidelines (provided as text)
Public Health	Water quality compliance	H3	Percentage of population where microbiological compliance was achieved (%)
Public Health	Water quality compliance	H4	Number of zones where chemical compliance was achieved (zones)
Public Health	Water quality compliance	H4a	Total number of zones (zones)

Indicator category	Indicator subcategory	Indicator code	Indicator name
Public Health	Water quality compliance	H5	Risk-based drinking water management plan externally assessed (yes/no)
Pricing	Residential tariff structure	P1	Tariff structure: water supply (provided as text)
Pricing	Residential tariff structure	P1.2	Fixed charge: water supply (\$)
Pricing	Residential tariff structure	P1.3	Usage charge: step 1 (\$/kL)
Pricing	Residential tariff structure	P1.4	Usage charge: step 2 (\$/kL)
Pricing	Residential tariff structure	P1.5	Usage charge: step 3 (\$/kL)
Pricing	Residential tariff structure	P1.6	Usage charge: step 4 (\$/kL)
Pricing	Residential tariff structure	P1.7	Usage charge: step 5 (\$/kL)
Pricing	Residential tariff structure	P1.12	Special levies: water supply (\$)
Pricing	Residential tariff structure	P1.13	Income from special levies retained by the utility: water supply (yes/no)
Pricing	Residential tariff structure	P1.3a	Upper bound of usage: step 1 (kL)
Pricing	Residential tariff structure	P1.4a	Upper bound of usage: step 2 (kL)
Pricing	Residential tariff structure	P1.5a	Upper bound of usage: step 3 (kL)
Pricing	Residential tariff structure	P1.6a	Upper bound of usage: step 4 (kL)
Pricing	Residential tariff structure	P1.7a	Upper bound of usage: step 5 (kL)
Pricing	Annual bill	P2	Annual residential bill based on 200 kL per annum: water supply (\$)
Pricing	Annual bill	P3	Typical residential bill: water supply (\$)
Pricing	Residential tariff structure	P4	Tariff structure: wastewater (provided as text)
Pricing	Residential tariff structure	P4.1	Fixed charge: wastewater (\$)
Pricing	Residential tariff structure	P4.2	Usage charge: wastewater (\$/kL)
Pricing	Residential tariff structure	P4.3	Special levies: wastewater (\$)
Pricing	Residential tariff structure	P4.4	Income from special levies retained by the utility: wastewater (yes/no)
Pricing	Annual bill	P5	Annual residential bill based on 200 kL per annum: wastewater (\$)
Pricing	Annual bill	P6	Typical residential bill: wastewater (\$)
Pricing	Annual bill	P7	Total annual residential bill based on 200 kL per annum: water supply and wastewater (\$)
Pricing	Annual bill	P8	Total typical residential bill: water supply and wastewater (\$)
Water Resources	Sources	W1	Volume of water sourced from surface water (ML)
Water Resources	Sources	W2	Volume of water sourced from groundwater (ML)
Water Resources	Sources	W3.1	Volume of water sourced from desalinated marine water (ML)
Water Resources	Transfers	W5	Total volume of water received from other service providers or operational areas within the urban water system (ML)

Indicator category	Indicator subcategory	Indicator code	Indicator name
Water Resources	Transfers	W5.3	Volume of water, excluding recycled water, received from other service providers or operational areas within the urban water supply system (ML)
Water Resources	Transfers	W6	Volume of recycled water received from other service providers or operational areas within the urban water supply system (ML)
Water Resources	Sources	W7	Total volume of water sourced (ML)
Water Resources	Use	W8	Total volume of water supplied to residential customers (ML)
Water Resources	Use	W8.3	Volume of water supplied to residential customers (ML)
Water Resources	Use	W9	Total volume of water supplied to non-residential customers (ML)
Water Resources	Use	W9.3	Volume of water supplied to non-residential customers (ML)
Water Resources	Use	W10.1	Volume of non-revenue water (ML)
Water Resources	Production	W11	Total volume of urban water supplied (ML)
Water Resources	Production	W11.3	Volume of potable water produced for supply into the urban water supply system (ML)
Water Resources	Use	W12	Average volume of residential water supplied per property (kL/property)
Water Resources	Use	W13	Volume of water returned as environmental flows from outside of the urban water supply system (ML)
Water Resources	Transfers	W14	Total volume of water exported to other service providers or operational areas within the urban water supply system (ML)
Water Resources	Transfers	W14.3	Volume of water, excluding recycled water, exported to other service providers or operational areas within the urban water supply system (ML)
Water Resources	Transfers	W15	Volume of recycled water exported to other service providers or operational areas within the urban water supply system (ML)
Water Resources	Wastewater collected	W16	Volume of wastewater, excluding trade waste, collected (ML)
Water Resources	Wastewater collected	W17	Volume of trade waste collected (ML)
Water Resources	Wastewater collected	W18	Total volume of wastewater collected (ML)
Water Resources	Transfers	W18.1	Volume of wastewater exported to other service providers or operational areas within the urban wastewater system (ML)
Water Resources	Transfers	W18.2	Volume of wastewater received from other service providers or operational areas within the urban wastewater system (ML)

Indicator category	Indicator subcategory	Indicator code	Indicator name
Water Resources	Extraction for sewer mining	W18.3	Volume of wastewater taken through sewer mining (ML)
Water Resources	Inflow to plant	W18.4	Volume of wastewater inflow to wastewater treatment plants (ML)
Water Resources	Outflow from plant	W18.5	Volume of treated effluent outflow from wastewater treatment plants (ML)
Water Resources	Wastewater collected	W19	Average volume of wastewater collected per property (kL/property)
Water Resources	Use	W21	Volume of recycled water supplied to non-residential customers (ML)
Water Resources	Use	W23	Volume of recycled water supplied as environmental flows (ML)
Water Resources	Use	W25.1	Volume of recycled water supplied to managed aquifer recharge (ML)
Water Resources	Use	W26	Total volume of recycled water supplied (ML)
Water Resources	Use	W27	Recycled water as a percentage of total wastewater collected
Water Resources	Use	W28.4	Volume of urban stormwater supplied to residential customers (ML)
Water Resources	Use	W28.5	Volume of urban stormwater supplied to non-residential customers (ML)
Water Resources	Use	W29	Volume of treated wastewater disposals (ML)
Water Resources	Outflow from plant	W30	Volume of wastewater losses and discharges (ML)
Water Resources	Use	W31	Volume of water returned to surface water or groundwater from the urban water supply system (ML)
Water Resources	Use	W20	Volume of recycled water supplied to residential customers (ML)

# Appendix E CPI indexation

Period	CPI-weighted average	Change from previous period	Change applied to values
2022–23	131.4	7.0	No change
2021–22	122.8	4.4	1.070
2020–21	117.5	1.6	1.118
2019–20	115.7	1.3	1.136
2018–19	114.1	1.6	1.152
2017–18	112.3	1.9	1.170
2016–17	110.2	1.8	1.192
2015–16	108.3	1.4	1.213
2014–15	106.8	1.7	1.230
2013–14	105.0	2.6	1.251
2012–13	102.3	2.3	1.284
2011–12	100.0	2.4	1.314
2010–11	97.7	3.1	1.345
2009–10	94.8	2.4	1.386
2008–09	92.6	3.1	1.419
2007–08	89.8	3.3	1.463
2006–07	86.9	3.0	1.512
2005–06	84.4	3.2	1.557
2004–05	81.8	2.4	1.606
2003–04	79.9	2.4	1.645



# Appendix F Jurisdictional summaries

Jurisdictional summaries are provided to document the institutional arrangements within each state and territory for the planning and management of water supply and wastewater services. These summaries are written by the states and territories and updated annually.

## F1 Australian Capital Territory

### F1.1 Introduction

The ACT Government has several water management roles and responsibilities including monitoring, reporting, regulation and policy development. In 2022, the ACT Government established the Office of Water within the Environment, Planning and Sustainable Development Directorate to provide a single point of contact within government on water management issues. The Office of Water leads in water policy and planning functions, along with the implementation of a suite of governance reforms to improve coordination, accountabilities and capability of the ACT water sector. The Office of Water has worked closely with the Commonwealth Government on key water reform initiatives through the National Water Reform Committee and under the Murray-Darling Basin Plan.

Reporting and compliance obligations for the ACT water sector exist under the following national and Territory legislation: *Water Act 2007*, *Corporations Act 2001*, and *Privacy Act 1988*, the *Independent Competition and Regulatory Commission Act 1997*, *Territory-Owned Corporations Act 1990*, *Work Safety Act 2008*, *Utilities Act 2000*, *Water Resources Act 2007*, *Environment Protection Act 1997*, *Water and Sewerage Act 2000* (for plumbing and sanitation services), and *Public Health Act 1997*.

### F1.2 Water utilities in the ACT

Icon Water is the only water and wastewater utility in the ACT and is owned by the ACT Government. It manages the region's network of dams, water treatment plants, sewage treatment plants, reservoirs, water and sewage pumping stations, pipes and other related infrastructure – an asset base valued at around \$3.4 billion. Icon Water also manages an investment, valued at around \$1.0 billion, in the ACTewAGL joint venture operating in the energy sector. This investment is managed through two subsidiary companies, Icon Retail Investments Limited and Icon Distribution Investments Limited.

Icon Water provides water and wastewater services to approximately 200,000 connected properties, with over 3,400 km of water mains. Icon Water also provided water services to Queanbeyan-Palerang Regional Council under the Queanbeyan Water Supply Agreement 2008.

### F1.3 Operation and regulation of water utilities

The ACT Health Directorate regulates water quality under the Territory's *Public Health Act 1997*. Water quality testing is undertaken in accordance with the Australian Drinking Water Guidelines 2011. Icon Water achieved 100% compliance with the Public Health (Drinking Water) Code of Practice (2007) in 2022–23.<sup>9</sup>

Icon Water also published its *Annual drinking water quality report 2022–23* in accordance with the code in 2023.

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<sup>9</sup> Icon Water Limited 2023, *2022–23 Annual report to the ACT Government*, Canberra

The *Utilities Act 2000* provides for the Independent Competition and Regulatory Commission (ICRC) to issue licences and determine industry codes. The ICRC determines price directions for water utilities and regulates access agreements. A new price direction was issued in May 2023 for the next price path period up to 30 June 2028.<sup>10</sup> An annual fee adjustment is made for water and sewerage services, taking into account the forecast rate of inflation and the significant increase in Icon Water's capital expenditure program (particularly for sewerage services). Prices are updated annually for actual inflation, the cost of debt and any approved pass-through costs.

Icon Water's activity is also regulated by the Utilities Technical Regulator (UTR) under the *Utilities (Technical Regulation) Act 2014*, and the Environment Protection Authority under the *Water Resources Act 2007* and the *Environment Protection Act 1997*.

## F1.4 Performance reporting

The 2023–24 to 2026–27 Business Strategy sets out Icon Water's strategic objectives, priorities and performance indicators. The statement was approved by the voting Shareholder in May 2023. Quarterly reports of progress on the priorities and performance indicators are provided to the voting Shareholders throughout the year.

The *Icon Water annual report to the ACT Government 2022–23* was provided to the ACT Government in October 2023. The report provides information on the strategic priorities, performance indicators and financial performance.

Annual performance and compliance reports are also provided to ICRC and UTR.

## F2 New South Wales

### F2.1 Introduction

In New South Wales, urban water supply and sewerage services are provided by 3 state-owned water utilities, 93 local water utilities (LWUs)<sup>11</sup> and a number of privately owned utilities.

Various regulatory agencies have responsibility for the establishment and operation of the water utilities. The Independent Pricing and Regulatory Tribunal (IPART) is the licence-compliance and price regulator for the 3 major state-owned water utilities in New South Wales: Hunter Water Corporation, Sydney Water Corporation, and WaterNSW (bulk water services in metropolitan and regional New South Wales). IPART is also the licence-compliance regulator for private water utilities in NSW and the price regulator that determines the maximum prices that 2 regional LWUs – Central Coast Council and Essential Energy (Broken Hill) – and one private water utility (the Sydney Desalination Plant) can charge their customers for the provision of water services.

The NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) oversees and monitors water utility performance and is the primary policy maker for all water utilities and regulator for the 93<sup>12</sup> regional LWUs, which serve a total urban population of 2.04 million (with coverage of 98% for water supply and 96% for sewerage). The infrastructure current replacement cost for regional LWUs is \$27.5 billion and annual revenue is \$1.5 billion as reported last financial year.

A number of other agencies, including NSW Health, the NSW Environment Protection Authority (EPA), the Office of Local Government, SafeWork NSW, the Natural Resource Access Regulator and Dam Safety NSW, are each responsible for aspects of the regulation of New South Wales water utilities.

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<sup>10</sup> ICRC 2023, *Regulated water and sewerage services 2023–28*, Final Report, Canberra

<sup>11</sup> In addition to 92 LWUs in regional New South Wales, Hawkesbury City Council provides sewerage services only within Sydney Water's area of operation.

<sup>12</sup> The NSW *Local Government Act 1993* has been amended as a consequence of amendments to the NSW *Water Industry Competition Amendment Act 2021*, enabling NSW DCCEEW to be the primary regulator for Hawkesbury City Council's sewerage business. The amended provisions are expected to take effect once the Act has commenced, which is expected by mid-2024.



The state's water utilities have obligations under Australian and New South Wales legislation, including the Australian Government's *Corporations Act 2001*, *Privacy Act 1988*, and *Water Act 2007*, and the following New South Wales legislation: *Water Management Act 2000*, *Water Act 1912*, *Protection of the Environment Operations Act 1997*, *Independent Pricing and Regulatory Tribunal Act 1992*, *Environmental Planning and Assessment Act 1979*, *State Owned Corporations Act 1989*, *Dams Safety Act 2015*, *Local Government Act 1993*, *Fisheries Management Act 1994*, *Public Health Act 2010*, *Fluoridation of Public Water Supplies Act 1957*, *Work Health and Safety Act 2011*, *Public Finance and Audit Act 1983*, *Water Industry Competition Act 2006*, *Hunter Water Act 1991*, *Sydney Water Act 1994*, and the *Water NSW Act 2014*.

## F2.2 Establishment of water utilities

The 3 New South Wales state-owned utilities, (Sydney Water Corporation, WaterNSW, and Hunter Water Corporation), are created by and derive their responsibilities and areas of operations from their respective Acts (the Sydney Water Act, the Water NSW Act, and the Hunter Water Act) and operate as major utilities under the Water Management Act.

The 90 LWUs derive their responsibilities from and operate mainly under the Local Government Act. Four LWUs (Central Coast Council, Essential Energy, WaterNSW [but only in relation to the Fish River water supply scheme] and Cobar Water Board) operate as water supply authorities under the Water Management Act.

## F2.3 Operation of water utilities

The regulatory oversight of water utilities in New South Wales is shared between different agencies. IPART regulates operating licences that have been issued to Sydney Water Corporation (under Part 5 of the Sydney Water Act), Hunter Water Corporation (under Part 5 of the Hunter Water Act), and WaterNSW (under Part 2 of the Water NSW Act). The operating licences include obligations relating to water quality, water conservation, system performance standards, environmental/catchment management, asset management, customer relations, compliance, and performance reporting. IPART also determines the maximum prices these utilities can charge their customers for water services.

IPART conducts operational audits each year. These identify any areas of non-compliance and make recommendations to improve performance. It also undertakes end-of-term reviews of operating licences and makes recommendations to the relevant minister on the terms for renewal of the licences.

The NSW DCCEEW is the primary regulator of LWUs, under sections 56ff and 409(6) of the Local Government Act and administers the New South Wales Government's comprehensive Regulatory and Assurance Framework for Local Water Utilities. The legislation and the framework are the key policy and regulatory framework for strategic service planning, pricing, performance reporting and continuing performance improvement of the LWUs. A LWU paying a dividend to council's general fund needs to comply with section 4 of the Framework.

Under section 5 of the Regulatory and Assurance Framework for LWUs the department establishes expectations on, and provides assurance of, the effectiveness of LWU strategic planning.

Proposed construction or modification of water or sewage treatment works or for the development of a water-recycling system by LWUs in New South Wales requires ministerial [approval under section 60 of the Local Government Act](#). The approval ensures that the proposed infrastructure is fit for purpose and can manage relevant risks. Under section 61 of the Local Government Act, the department conducts regular inspections of LWU treatment works and provides feedback and mentoring to the LWU operators.

The department conducts operator-training courses for LWU water and sewage treatment works operators.

The annual performance of each of the LWUs activities and outcomes is publicly reported via the interactive [performance monitoring data dashboard](#) and the NSW Water supply and sewerage benchmarking reports.

NSW Health regulates water quality in New South Wales and administers functions relating to water suppliers (Sydney Water Corporation, Hunter Water Corporation, and the regional LWUs) under the Public Health Act. NSW Health also enters into memorandums of understanding with the metropolitan water utilities (including WaterNSW) to facilitate interaction between the agencies and to establish the scope of drinking water management plans and procedures for communicating the results of water quality programs. NSW Health also conducts the NSW Drinking Water Quality Program, which tests and monitors the water quality of samples collected by the LWUs in accordance with the Australian Drinking Water Guidelines 2011.

Under the Public Health Act, each water supplier needs to prepare and implement a risk-based drinking water management system in accordance with the Australian Drinking Water Guidelines 2011. The water quality management system is regulated by NSW Health.

## F2.4 Water utilities in New South Wales

Sydney Water Corporation, a statutory corporation wholly owned by the New South Wales Government, is Australia's largest water utility, with an area of operations covering almost 13,000 km<sup>2</sup>. It provides drinking water, recycled water, wastewater services, and some stormwater services to more than 5 million people in Sydney, the Illawarra, and the Blue Mountains. Drinking water is sourced from a network of dams managed by WaterNSW, from the Hawkesbury River, and from the desalination plant at Kurnell before it is treated and delivered to customers.

WaterNSW is a state-owned corporation established in 2015 by the Water NSW Act through the merging of the Sydney Catchment Authority and State Water Corporation. WaterNSW supplies raw water in bulk. The urban component of WaterNSW reporting is based on the former Sydney Catchment Authority area of operations as defined in its operating licence and includes catchments in the Blue Mountains, Shoalhaven, Warragamba, upper Nepean, and Woronora areas. WaterNSW also provides bulk water services in regional New South Wales and operates the Fish River water supply scheme.

Hunter Water Corporation is a wholly state-owned corporation providing drinking water, recycled water, wastewater, and some stormwater services to more than 600,000 people in the lower Hunter region. The Hunter Water area of operations covers the local government areas of Cessnock, Lake Macquarie, Maitland, Newcastle, Port Stephens and Dungog and parts of Singleton.

Regional New South Wales currently has 93 LWUs. Ninety of these LWUs are either general purpose local government councils or county councils, which are separate local government entities for the specific purpose of providing urban water services. Other LWUs operate as water supply authorities under the Water Management Act, including the Cobar Water Board, Essential Energy and WaterNSW for the Fish River Water Supply.<sup>13</sup> The 93 regional LWUs in New South Wales range in area from 285 km<sup>2</sup> (Orange City Council) to over 50,000 km<sup>2</sup> (Central Darling Shire Council), while the population served ranges from 1,000 (Central Darling Shire Council) to over 340,000 (Central Coast Council). There are 28 LWUs that serve 10,000 or more connected properties.

Performance monitoring and reporting are considered important for public accountability and have been strongly endorsed by the New South Wales Government, IPART and the Productivity Commission.<sup>14</sup>

The state-owned water utilities are required to report on the performance indicators in their operating licences and this reporting is audited through the operating licence audit. The operational audit report is presented to the responsible minister. These utilities also report the National Water Initiative (NWI) performance indicators required for the Urban NPR.

With the exception of the pricing and financial indicators, IPART audits one-third of the auditable NWI indicators each year. The audit is conducted concurrently with the annual operating licence audits. The Audit Office of NSW, or other qualified auditors, audits the pricing and financial NWI indicators once every 3 years.

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<sup>13</sup> Councils exercising water supply and/or sewerage functions do so under the Local Government Act, including under a division generally administered by the minister responsible for water. Central Coast Council exercises its functions under both the Local Government Act and as a water supply authority under the Water Management Act. The Cobar Water Board, Essential Energy and WaterNSW (for the Fish River Water Supply) carry out their functions under the Water Management Act.

<sup>14</sup> Productivity Commission 2011, *Australia's urban water sector*, Report No. 55, Final Inquiry Report, Canberra.

LWUs are required to annually report the fair value and the current replacement cost depreciation of their water supply and sewerage assets in their audited annual financial statements.

NSW DCCEEW annually reports the performance of all the New South Wales utilities by way of its NSW Performance Monitoring and Reporting System.

- The audit of the 30 NWI financial performance indicators is affected by the annual independent audit of the financial statements of each of the 93 regional LWUs.
- All the auditable non-financial performance indicators are independently audited every 3 years for each of the 28 regional NSW utilities that are required to report nationally.

The remainder of the information reported in the NSW Performance Monitoring and Reporting System is not independently audited. However, to assure data accuracy and reliability, the data are subject to a comprehensive quality assurance process.

The NSW Performance Monitoring and Reporting System functions as a 'one stop shop' to minimise red tape and to avoid duplication in reporting. The NSW Performance Monitoring and Reporting System provides LWU performance data to the Bureau of Meteorology annually (for the Urban NPR) and the Australian Bureau of Statistics, as well as for the NSW State of the Environment Report.

## Private water utilities

In New South Wales, private utilities can also provide water and sewerage services if licensed under the Water Industry Competition Act (WIC Act). The WIC Act is designed to encourage competition in the supply of water and wastewater services and facilitate private sector delivery of recycled water infrastructure. The Act sets out a licensing and compliance framework and establishes strict rules to ensure drinking water meets Australian standards, recycled water is 'fit for purpose', and all services are delivered safely, reliably and with minimal environmental impacts.

The Minister for Water administers the WIC Act and is advised by the NSW DCCEEW. IPART administers the licensing system, which includes assessing licence applications and making recommendations to the Minister on whether to grant a licence, as well as auditing and enforcing licences.

The WIC Act commenced operation on 8 August 2008. There are 19 private water schemes licensed to operate in NSW. As of June 2023, these schemes were providing services to 8,026 drinking water customers, 9,878 recycled water customers and 10,006 sewage customers. Comprehensive reforms of the licensing framework were enacted in 2021, including:

- narrowing the focus of regulation on higher-risk utility-like schemes such as large-scale drinking water production, recycling and sewerage schemes or those servicing 30 or more residential or small business customers
- separating the licensing of operators and retailers from the approval of individual schemes so operators don't need to apply for a new licence for each scheme they operate
- requiring more rigorous assessment of the financial viability of proposed schemes to check their longevity and affordability and minimise the risk of last-resort events
- strengthening customer protection by introducing a deemed standard customer contract and new operator of last-resort arrangements to protect customers if an operator should fail financially.

The reforms are expected to come into effect in the first half of 2024 once the supporting regulations have been revised in line with the amendments to the Act.

## F3 Northern Territory

### F3.1 Introduction

The Northern Territory's *Water Supply and Sewerage Services Act 2000* provides the regulatory framework for the territory's water and sewerage industry. The NT Department of Treasury and Finance and the Northern Territory Treasurer are responsible for administering this Act insofar as it relates to economic regulation; the Northern Territory Minister for Essential Services in terms of its relationship to licensed supply and service; and the Department of Health (NT) in terms of its relationship to water quality standards.

The objectives of the Water Supply and Sewerage Services Act are:

- to promote the safe and efficient provision of water supply and sewerage services
- to establish and enforce standards of service in water supply and sewerage services
- to facilitate the provision of financially viable water supply and sewerage services
- to protect the interests of customers.

Among other things, this Act provides for the following:

- that the supply of water and sewerage services be licensed, and that licences issued by the Utilities Commission are for defined, gazetted, geographical areas
- that the Minister be responsible for the declaration of water supply and sewerage service licence areas (by notice in a government gazette).

Power and Water Corporation (the licensed utility) is subject to water quality monitoring programs and emergency directions issued by the Chief Health Officer (Department of Health).

The Northern Territory Utilities Commission is the independent industry regulator. It has responsibility for the licensing functions conferred by the Water Supply and Sewerage Services Act.

Statutory conditions of water and sewerage licences issued under this Act include:

- that the licensee monitors and reports to the Utilities Commission on compliance with the licence
- that the licensee procures an audit, if required by the Utilities Commission, of its compliance with the terms of the licence.

The *NT Water Act 1992* is another major piece of legislation pertaining to the regulation of water in the territory. This Act provides for the investigation, allocation, use, control, protection, management and administration of water resources, and for related purposes. The Water Act also allows for the issue of waste discharge licences and water extraction licences by the Controller of Water Resources (Department of Environment, Parks and Water Security [NT]).

### F3.2 Operation of water utilities

Power and Water Corporation is responsible for monitoring the quality of drinking water in line with its Drinking Water Operational and Verification Monitoring Program and reports the results to the Chief Health Officer. The program is based on the *Australian Drinking Water Guidelines 2011*.

While Power and Water Corporation has primary responsibility for providing safe drinking water, several government agencies are also involved. The Department of Health applies the guidelines and monitors compliance with them in the interest of public health, and the Department of Environment, Parks and Water Security and the Northern Territory Environment Protection Authority (NT EPA) also have roles in protecting water quality, including the regulation and management of water resources and the regulation of pollution control.



The NT Department of Infrastructure, Planning and Logistics has a major role in protecting water quality through land-use planning in the territory. In addition, NT legislation such as the Water Act and the *Land Acquisition Act 1978* contain provisions for infrastructure and land use relating to water supply.

A condition of the waste discharge licences issued to Power and Water Corporation is the submission to the NT EPA of annual audit and compliance reports related to environmental impacts that discharged water may cause, and the assessment of water-recycling schemes. The corporation also investigates and reports to the NT EPA on pollution incidents under the NT *Waste Management and Pollution Control Act 1998*.

Water and sewerage tariffs and charges for the Power and Water Corporation are regulated by the NT Government via a Water and Sewerage Pricing Order issued by the Treasurer as Regulatory Minister. The Utilities Commission monitors compliance with the Pricing Order and enforces it under section 23 of the NT *Utilities Commission Act 2000*. The Commission is also required to investigate any complaints made by customers about non-compliance with the prices outlined in the order.

### F3.3 Water utilities in the Northern Territory

In the Northern Territory, Power and Water Corporation's water and sewerage business is licensed and is responsible for the supply of water and sewerage services to the territory's 5 major centres (Darwin, Katherine, Tennant Creek, Alice Springs and Yulara) and 13 minor centres.

No significant distinction between urban and rural areas is made under the legislation or the licensing framework under which Power and Water Corporation operates. Geographical coordinates (latitude and longitude) define the declared water supply and sewerage service licence.

### F3.4 Performance reporting

Urban NPR data is gathered within the Power and Water Corporation by a central coordinator, who collates the report with information supplied by other areas in the organisation. Some key NPR indicators are provided to Power and Water Corporation's executive management, board and shareholders on a regular basis. Performance data that is publicly available are reviewed and/or signed off at the senior management level. NPR data are signed off at the senior management level. Some NPR indicators are audited at an aggregate level.

## F4 South Australia

### F4.1 Introduction

The South Australia [Water Industry Act 2012](#) and [Water Industry Regulations 2012](#) establish the regulatory framework for the water and sewerage industry, covering licencing of retail services, economic regulation, technical regulation, water planning, and customer complaint handling. The Act commenced on 1 July 2012 and governs all water industry entities providing 'retail services' to SA customers.

[The Essential Services Commission](#) (the Commission) is the independent economic regulator of water and sewerage retail services in the state. The Commission's primary objective is to protect the long-term interests of SA consumers with respect to the price, quality and reliability of those services. The Commission's role includes industry licensing, consumer protection, retail pricing regulation and performance monitoring.

The [Department for Environment and Water \(DEW\)](#) is responsible for the management of the state's water resources through administering the *Landscape South Australia Act 2019*; it also has a role in policy development relevant to the *Water Industry Act 2012*. Regional landscape boards are responsible for developing water allocation plans for prescribed water resource areas as required by the *Landscape South Australia Act 2019*.

The [Office of the Technical Regulator \(OTR\)](#) and DEW share the role of jurisdictional coordinator for National Performance Reporting, with DEW taking the lead on policy and OTR responsible for all other operational matters.

The OTR, which sits within the Department for Energy and Mining, has the following main functions under the *Water Industry Act 2012*:

- development of technical standards in connection with the water industry
- monitoring and regulating technical standards with respect to water and sewerage infrastructure and associated equipment, products and materials (including on the customer's side of any connection point) and plumbing
- providing advice in relation to safety or technical standards in the water industry to the Commission at its request, and in the plumbing industry
- fulfilling any further function assigned to the Technical Regulator under the Act.

[SA Health ensures that drinking water](#) is delivered to consumers according to the requirements of the [Safe Drinking Water Act 2011](#) and the [Safe Drinking Water Regulations 2012](#). Under the *Safe Drinking Water Act 2011*, all drinking water providers must:

- register as a drinking water provider
- implement a risk management plan
- report water quality incidents to SA Health
- provide water quality results to consumers
- undertake commission audits and inspections.

Under the [SA Public Health Act 2011](#) and [SA Public Health \(Wastewater\) Regulations 2013](#), [SA Health](#) protects public health through the development and administration of prescribed codes, protocols, guidelines and public health policy for wastewater management, treatment, disposal, and recycled water use. The [Australian Guidelines for Water Recycling](#) are also applied to South Australian recycled water schemes.

SA Health assess and approve the design, installation and ongoing operation of:

- community wastewater management systems (CWMS)
- CWMS wastewater treatment plants
- recycled water supply and use from CWMS and SA Water networks
- on-site wastewater systems >40 equivalent persons.

Under the [Environment Protection Act 1993](#), the [SA Environment Protection Authority](#) licences the following activity:

- Schedule 1(3)(4): Resource recovery, waste disposal and related activities – Wastewater treatment.

The conduct of wastewater treatment works, being sewage treatment works, a CWMS, winery wastewater treatment works or any other wastewater treatment works with the capacity to treat, during a 12 month period –

- a. in the case of works located wholly or partly within a water protection area – more than 5 megalitres of wastewater; or
- b. in the case of works located wholly outside of a water protection area – more than 50 megalitres of wastewater.

## F4.2 Water utilities in South Australia

Any person or entity providing 'water retail services' to SA customers is required to be licensed by the Commission. The Commission has determined separate regulatory obligations for major retailers (those providing retail services to 50,000 or more connections) and small-scale networks (also known as minor and intermediate water retailers, with less than 50,000 connections). SA Water Corporation is the only major retailer in SA, and there are currently 68 other retailers (mainly council-run operations and some private

businesses). SA Water Corporation is a government entity and, as the state's main supplier of urban water, is required to deliver, monitor and report on its primary functions concerning:

- supply of water by reticulated systems
- storage, treatment and supply of bulk water
- removal and treatment of wastewater.

SA Water Corporation provides drinking water to approximately 830,670 connections, servicing around 99% of the state's drinking water customers. SA Water Corporation also provides sewerage services to approximately 653,720 connections, servicing around 87% of the state's sewerage customers.

Mount Barker District Council operates the largest Council wastewater treatment plant and recycled water scheme in SA. As an intermediate retailer Mount Barker District Council provides a retail service to over 14,200 connections across 7 townships in the Adelaide Hills Region.

### F4.3 Operation of water utilities

Section 35 of the *Water Industry Act 2012* empowers the Commission to make a determination under the *SA Essential Services Commission Act 2002*, regulating prices, conditions relating to prices and price-fixing factors for water retail services.

The Commission made its final revenue determination for the *South Australian Water Corporation Act 1994* in June 2020, setting maximum allowed revenues for drinking water and sewerage retail services for the 4-year period from 1 July 2020 to 30 June 2024. SA Water Corporation and the South Australian Government are responsible for setting specific prices (such as supply and usage charges for residential and non-residential customers); however, those prices must comply with the Commission's allowed revenues.

A different, proportional approach to price regulation has been applied to other water retailers through a combination of pricing principles and a price-monitoring framework.

Pursuant to Part 4 of the *Essential Services Commission Act 2002*, the Commission is empowered to make industry codes and rules regulating the conduct or operations of a regulated industry or regulated entities. The Commission has devised a Water Retail Code for major retailers that sets out the minimum requirements to be complied with by SA Water Corporation when dealing with its customers, and it includes obligations relating to customer connections and the quality, safety and reliability of water and sewerage supply. SA Water Corporation is required to meet several operational service standards relating to customer service, service interruptions and new connections.

A water retail code for minor and intermediate retailers has been devised which sets out the behavioural standards and minimum requirements to be complied with by small scale networks when engaging with their customers.

### F4.4 Performance reporting

Under the Commission's Monitoring and Evaluating Performance Framework, the [SA Water Corporation is required to publicly report quarterly](#) on its performance in meeting the annual service standards and provide annual performance self-assessments, supported by a system of verified trust and accountability around that reporting. The SA Water Corporation also includes the following measures in its public reports:

- compliance with the Australian Drinking Water Guidelines 2011
- the Water Quality Management Index
- compliance with water and sewerage services targets
- the Incident Response Index.

To supplement SA Water's reporting, the [Commission publishes](#) an annual report identifying longer-term trends and systemic issues, as well as reporting on specific events where material or major issues arise.



The Commission also publishes annually on the performance of small-scale water networks. The focus of reporting is on residential retail services, and it informs customers about the quality and reliability of the services they receive at an aggregate level. The Commission places a strong emphasis on licensees constantly monitoring performance, outcomes and trends. Small-scale water networks are expected to regularly examine, identify, report on and explain performance outcomes, to provide greater transparency to consumers and stakeholders.

## F5 Tasmania

### F5.1 Introduction

The key piece of legislation governing the water and sewerage industry is the Tasmanian *Water and Sewerage Industry Act 2008* (the Industry Act). The Industry Act requires any persons or entities owning and/or operating water and/or sewerage infrastructure, or supplying water and/or sewerage services to others, to be licensed, unless exempted.

The Tasmanian Water and Sewerage Corporation Pty Ltd (TasWater) is the only licensed water utility in the state.

Industry regulators for the sector are the: Tasmanian Economic Regulator (TER), responsible for licensing, price regulation and service standards; Director, Environment Protection Authority (EPA) Tasmania, responsible for regulating wastewater treatment plants; Director of Public Health, responsible for regulating water quality and fluoridation; and the Secretary of the Tasmanian Department of Natural Resources and Environment Tasmania<sup>15</sup>, responsible for water licence allocations and regulating dam safety.

In addition to the Industry Act, regulatory requirements are imposed by Tasmanian legislation including the *Environmental Management and Pollution Control Act 1994*, the *Public Health Act 1997* and the *Water Management (Safety of Dams) Regulations 2015*.

### F5.2 Water utilities in Tasmania

Since 1 July 2013, TasWater has owned, controlled and operated water supply and sewerage systems in Tasmania. As the only licensed water utility in the state, TasWater manages all aspects of the water supply chain, from dams and reservoirs to customer property connections, and from customer sewer connections to wastewater treatment and disposal.

The licensing requirements place several regulatory obligations on TasWater through reference to various regulatory instruments such as codes and guidelines, as well as requiring the preparation of management plans in relation to matters such as asset and emergency management and compliance.

TasWater's objectives, as prescribed by the *Water and Sewerage Corporation Act 2012*, are to:

- efficiently provide water and sewerage functions in Tasmania
- encourage water conservation, the demand management of water and the reuse of water on an economic and commercial basis
- be a successful business and, to this end:
  - operate its activities in accordance with good commercial practice
  - deliver sustainable returns to its members
  - deliver water and sewerage services to customers in the most cost-efficient manner.

TasWater is owned by Tasmania's 29 councils, with the Tasmanian Government also becoming a shareholder in early 2019.

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<sup>15</sup> On 1 December 2021, the then Tasmanian Department of Primary Industries, Parks, Water and Environment became the Department of Natural Resources and Environment Tasmania.



## F5.3 Operation of water utilities

TasWater is subject to various economic, environmental, public health and customer service regulatory requirements.

The economic regulatory framework, established under the Industry Act, is focused on ensuring competitive market outcomes from the sector in relation to both price and service, ensuring the financial sustainability of the water and sewerage industry, and providing sufficient funding for capital expenditure to improve compliance with regulatory obligations and ensure operational efficiencies.

EPA Tasmania administers and enforces the provisions of the Environmental Management and Pollution Control Act, which is principally concerned with the prevention, reduction and remediation of environmental harm. The Director of Public Health is responsible for drinking water quality and safety through the application of drinking water quality guidelines and for the fluoridation of drinking water through the application of a code of practice. The Dam Safety Regulator monitors TasWater's performance against its dam safety regulatory obligations and guideline requirements to ensure that the dams TasWater is responsible for do not pose an unacceptable level of risk to the public.

Independent regulation of water and sewerage prices in Tasmania commenced on 1 July 2012.

Price reform of the industry is designed to transition customers to a single set of tariffs across the whole state by the statutory due date of 1 July 2020 (that is, customers are required to be paying the same price for the same service by this date). As previously reported, at the end of 2021–22 a small number of customers were still to be transitioned to consistent pricing. All of these remaining customers were transitioned during 2022–23. Price reform has also introduced two-part pricing for water (a fixed charge based on the size of the connection and a variable charge reflecting metered water consumption) and sewerage charges based on the assessed equivalent tenements (that is, the estimated demand placed on the system) of each property.

## F5.4 Performance reporting

One of the TER's functions is to monitor and report on the state of the Tasmanian water and sewerage industry.<sup>16</sup> The performance indicators reported on are based on the National Performance Reporting (NPR) Framework with some additional Tasmanian based measures, as set out in the TER's *Tasmanian Water and Sewerage Industry Performance and Information Reporting Guideline, Version 1.7*.

TasWater is required to carry out regular independent audits (performance appraisals) to assess:

- its compliance with, and the adequacy of, its management and compliance plans; and
- the quality and accuracy of its regulatory information, including the procedure for reporting performance information.

The NPR Audit Handbook requires independent audits of TasWater's performance indicators to be conducted at least once every 3 years. As a result, TasWater's performance indicators are audited in 3 tranches over a 3-year period. The tranche one audit of TasWater's performance indicator results for 2021–22 was completed in September 2022. The tranche 2 audit for 2022–23 was completed in September 2023.

The TER's approach to regulatory reporting is set out in its *Regulatory Reporting Guideline Version 5*. Its approach to managing non compliance is outlined in its *Compliance Enforcement Policy Version 3*.

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<sup>16</sup> The TER's annual water and sewerage state of the industry reports are available from [www.economicregulator.tas.gov.au](http://www.economicregulator.tas.gov.au).

## F6 Queensland

### F6.1 Introduction

Regulation of the urban water sector is undertaken by a number of Queensland Government departments with the aim of providing communities with access to safe and reliable water and sewerage services and ensuring efficient business operations, efficient water use, water security, protection of the environment, competition and the prevention of monopoly pricing.

### F6.2 Water utilities in Queensland

There are 211 registered service providers in Queensland. Most are private entities and water boards that supply non-potable water for irrigation, commercial or stock and domestic purposes.

Drinking water services are provided to communities by:

- 4 bulk water entities (Seqwater, SunWater, Gladstone and Mount Isa Water Board)
- 2 distributor-retailers in South East Queensland (SEQ) (Urban Utilities, Unitywater)
- 3 local governments in SEQ (Gold Coast, Logan and Redland City Council)
- 66 local governments outside SEQ
- 8 private providers.

Despite the large number of drinking water service providers, 95% of connected properties receive water and sewerage services from the 22 service providers that report for the National Performance Reporting Framework. The remaining 5% of connected properties mostly receive services from 53 small and very small service providers. In general, the communities these providers supply services to are very small and often geographically isolated.

This variation in scale means that there are significant differences in capacity and capability across the urban water sector in Queensland.

In addition to drinking water and sewerage service provision, there are 174 registered recycled water schemes in Queensland. Most of these schemes are managed by a local government (although a small number of recycled water schemes are run by a private entity).

### F6.3 Operation of water utilities

Water and sewerage service provision is regulated by the *Water Supply (Safety and Reliability) Act 2008* (Water Supply Act). The purpose of the Water Supply Act is to provide for the safety and reliability of water supply across Queensland. The Department of Regional Development, Manufacturing and Water (RDMW) is the water supply regulator under the Water Supply Act.


The powers and obligations for service provision, performance reporting, drinking water management, and recycled water management apply to registered service providers according to the services provided.

To protect public health, RDMW closely monitors and regulates drinking water in Queensland.

Drinking water service providers are required to have an approved drinking water quality management plan and must comply with the plan and any conditions placed upon the plan. Water quality monitoring and reporting are integral components of the plan. Drinking water service providers are responsible for ensuring the safe supply of drinking water to the community and managing incidents that compromise drinking water quality.

The *Public Health Act 2005* and the Public Health Regulation 2018 include provisions relating to drinking water quality. As the administrator of the Public Health Act and the Public Health Regulation, Queensland Health has:

- set specific standards for drinking water quality in the Public Health Regulation
- the power to respond when drinking water supplied by a provider may present a risk to public health or be considered unsafe.



In addition to these provisions, Queensland Bulk Water Supply Authority (Seqwater) also has specific powers and obligations under the *Water Act 2000*, and SEQ services providers (Urban Utilities, Unitywater, City of Gold Coast, Logan City Council and Redland City Council) have powers and obligations under the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*.

Other Acts that regulate one or more aspects of service provision include the:

- *Water Act 2000* (managed by RDMW)
- *Public Health Act 2005* (managed by Queensland Health)
- *Water Fluoridation Act 2008* (managed by Queensland Health)
- *Environmental Protection Act 1994* (managed by the Department of Environment, Science and Innovation)
- *Local Government Act 2009* (managed by the Department of Housing, Local Government, Planning and Public Works)
- *Planning Act 2016* (managed by the Department of Housing, Local Government, Planning and Public Works)
- *Plumbing and Drainage Act 2018* (managed by the Department of Housing, Local Government, Planning and Public Works)
- *Queensland Competition Authority Act 1997* (managed by Queensland Treasury).

## F6.4 Performance reporting

Urban water service providers are required to report on their performance under the Queensland Government Key Performance Indicator (KPI) Framework in the Water Supply Act. The KPI Framework captures almost all drinking water and sewerage service providers in Queensland and requires them to monitor and report on key performance indicators and publish an annual performance report. Larger providers (those with over 10,000 connections) are also required to report for the National Performance Reporting framework.

## F7 Victoria

### F7.1 Introduction

The Victorian Department of Energy, Environment and Climate Action (DEECA) has overall governance oversight, on behalf of the Victorian Minister for Water, for the establishment of water utilities and their performance in this state. This responsibility pertains to certain aspects of water utility performance and is also shared with the Victorian departments of Treasury and Finance (DTF, regarding business financial risks), Department of Health (DoH, regarding water quality), the Victorian Environment Protection Authority (EPA, regarding environmental performance), and the Essential Services Commission (ESC, regarding price regulation and service standards).

Reporting and compliance obligations are imposed by Victorian legislation including the *Water Act 1989*, the *Water Industry Act 1994*, the *Financial Management Act 1994*, the *Safe Drinking Water Act 2003*, and the *Environment Protection Act 1970*. In addition, regulatory instruments such as the Statement of Obligations (2015), the Water Industry Regulatory Order 2014, and the State Environment Protection Policy (SEPP) (Waters of Victoria) also impose some compliance and reporting obligations.

### F7.2 Establishment of water utilities

The Victorian water sector is made up of 18 water utilities constituted under the Victorian Water Act. The key aspects of the frameworks governing drinking water quality, environmental protection, price regulation and consumer protection are the same across all 18 water utilities.

Under section 41 of the Water Industry Act, water utilities are subject to statements of obligations, issued by the Minister for Water following consultation with the Treasurer and the ESC, that impose obligations in relation to the performance of their functions and the exercise of their powers.

## F7.3 Operation of water utilities

Apart from DEECA, 4 other agencies jointly oversee the regulation of water utility operation in Victoria.

The DTF oversees governance of the water utilities' proposed strategic directions and business management activities in terms of their potential for financial risk to the utility and its implications for the Victorian Government, focusing on the state's budget, net debt position and credit rating.

The DoH oversees governance of water quality under the Safe Drinking Water Act and the Safe Drinking Water Regulations 2005. This provides a framework for drinking water quality that includes risk management obligations, a set of standards for key water quality parameters, and information disclosure requirements for water utilities. The Regulations establish an auditing framework.<sup>17</sup> Under the legislation, the DoH is required to publish an annual water quality report that is tabled in parliament by the Victorian Minister for Health.

The EPA regulates the environmental performance of the water utilities, particularly as it relates to treated wastewater quality, through a corporate licence (previously, each wastewater treatment plant was licensed). The level of wastewater treatment required usually depends on the type of waterway into which the treated wastewater is discharged. Under the licence provisions, water utilities must regularly sample and monitor wastewater quality and advise the EPA if there are specific incidents of non-compliance. A corporate licence also includes a requirement to submit an annual performance statement to the EPA.

Most wastewater treatment plants operated by the water utilities are subject to the SEPP (Waters of Victoria) schedules, which are developed and administered by the EPA. The schedules require wastewater treatment plant operators to ensure that the sustainable reuse of treated effluent and biosolids is maximised wherever possible.

Water utilities are also subject to EPA works approval permits before construction of new treatment plants or major alterations can begin.

The ESC is responsible for price regulation and setting service standards for water services in Victoria under Part 1A of the Water Industry Act, the *Essential Services Commission Act 2001* and the Water Industry Regulatory Order. The legislative framework provides the ESC with powers and functions to:

- make price determinations
- regulate standards and conditions of service and supply
- require regulated businesses to provide information.

## F7.4 Water utilities in Victoria


The Victorian Government owns all 18 water utilities in the state. There are 4 water utilities in metropolitan Melbourne: Melbourne Water, Greater Western Water, South East Water Ltd and Yarra Valley Water Corporation. The 3 retailers (Greater Western Water, South East Water Ltd and Yarra Valley Water Corporation) deliver retail water supply and sewerage services to customers in the Melbourne metropolitan area. The 3 retailers also provide some localised sewerage services to their customers not connected to the Melbourne sewerage network.

Melbourne Water provides bulk water and bulk sewerage services in the Melbourne metropolitan area and manages rivers, creeks and major drainage systems in the Port Phillip and Westernport regions. Melbourne Water also controls the catchment for most of its supply.

Outside Melbourne, 12 regional urban water utilities provide water and sewerage services (Barwon Water, Central Gippsland Water, Central Highlands Water, Coliban Water, East Gippsland Water, Goulburn Valley Water, GWMWater (Grampians Wimmera Mallee Water), Lower Murray Water, North East Water, South Gippsland Water, Wannon Water and Westernport Water).

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<sup>17</sup> Details of the drinking water regulatory framework, the audit arrangements and the annual drinking water quality report are available at <https://www.health.vic.gov.au/water/drinking-water-quality-annual-reports>.



Additionally, 2 rural water utilities (Goulburn–Murray Water and Southern Rural Water) provide irrigation and Lower Murray Water also provides rural water services such as irrigation and stock and domestic supplies. GWMWater and Coliban Water also provide a piped rural water service for stock and domestic use rural water services.

Most water utilities in regional Victoria have their own bulk water supplies. Goulburn–Murray Water, Southern Rural Water and GWMWater also provide both bulk and retail services.

Although owned by the Victorian Government, all 18 water utilities act as stand-alone entities and are responsible for their own management and performance. Each water utility has a chairperson and a board of directors appointed by the Minister for Water. The board has a range of responsibilities, including:

- setting the entity's strategic direction and steering the entity
- setting objectives and performance targets
- ensuring compliance with legislation and government policy.

Public sector directors must comply with the statutory directors' duties in the Victorian *Public Administration Act 2004*, the Directors' Code of Conduct, and common law directors' duties. In addition, directors of water utilities must also comply with requirements as set out in the Water Act.

Each water utility's board appoints a managing director who is responsible for the day-to-day management of the water utility under delegation from the board.

Each managing director sits on the board and is the primary link between the board and the water utility's management and staff. The managing directors are responsible for communicating board priorities and policies to management and staff and for presenting reports, submissions and budgets to the board. The board of each water utility reports to the Minister for Water via DEECA. In turn, the Minister for Water is responsible for reporting to parliament on the performance of each water utility. To assist with the management of the water industry, the Minister for Water is supported by the Water and Catchments Group within DEECA.

The Financial Management Act is the principal legislation governing financial reporting by water utilities. The Victorian Minister for Finance (through DTF) issues financial reporting directions under the Financial Management Act for the preparation of annual reports. The Minister for Water issues ministerial reporting directions to water utilities for performance reporting and other specific reporting requirements as part of their annual reports. DEECA is responsible for reviewing the annual reports of the water utilities and advising the Minister for Water on tabling the reports in parliament.

The Victorian Auditor-General's Office is responsible for auditing the annual financial statements and performance reports of water utilities. Some data reported in the NPR for Victorian water utilities are either taken directly from the published annual reports or derived from the annual reports.

In accordance with the Water Act, each water utility must submit an annual corporate plan that provides a statement of corporate intent, lists expected activities, and provides a financial forecast for the following 5 years. The Minister for Water (through DEECA) issues guidelines to the water utilities for the preparation of the corporate plans. DEECA and DTF are responsible for reviewing the corporate plans (and business cases for major capital projects above a threshold value) and for advising the Minister for Water and the Treasurer, respectively.

Each water utility will also make periodic price submissions to the ESC. The regulatory period of a price determination typically covers a period of between 3–5 years but can cover a longer regulatory period.<sup>18</sup> Price submissions include details about proposed revenue requirements and tariffs and pricing structures and are assessed by the Essential Services Commission. The process requires extensive customer engagement by the water utilities and the ESC.

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<sup>18</sup> North East Water's 8-year price determination will be in place until 30 June 2026.

## F7.5 Performance reporting

One of the ESC's regulatory functions is to monitor and report publicly on the performance of the Victorian water utilities. The ESC's annual water performance reports are available on its website ([www.esc.vic.gov.au/Water/Performance-reports/](http://www.esc.vic.gov.au/Water/Performance-reports/)).

Under the Water Industry Regulatory Order, the ESC has the function of auditing:

- the compliance of a regulated water utility with the standards and conditions of service and supply specified by the ESC in any code or set out in the utility's price determination, and the systems and processes established by the water utility to ensure such compliance
- the reliability and quality of information reported by a water utility to the ESC, and the conformity of that information with any specification issued by the ESC
- the compliance of a water utility with asset management obligations imposed in any statement of obligations issued to it.

The annual audits are an important element of the regulatory framework. They verify that the information collected and reported by water utilities is accurate and reliable and provide evidence to customers and other stakeholders that regulatory obligations are being complied with. Most Victorian data reported in the NPRs are audited under those arrangements.

The audit approach is set out in the ESC's guideline for approving, conducting and reporting audits, which is available from the ESC's website ([www.esc.vic.gov.au/Water/Codes-and-Guidelines](http://www.esc.vic.gov.au/Water/Codes-and-Guidelines)).

## F8 Western Australia

### F8.1 Introduction

The WA Department of Water and Environmental Regulation has prime responsibility for water resource policy, planning, management and regulation, as well as the administration of water entitlements and water rights within the state. The reporting of water utility performance is the responsibility of the Economic Regulation Authority (ERA); however, the WA Department of Health and the Western Australian Environmental Protection Authority also have some reporting responsibilities.

Reporting and compliance obligations are imposed by Australian Government legislation including the *Corporations Act 2001* and the *Privacy Act 1988*, and by Western Australian legislation including the *Water Services Act 2012*, the *Metropolitan Water Supply, Sewerage and Drainage Act 1909*, the *Health (Miscellaneous Provisions) Act 1911* (which is being replaced by the new *Public Health Act 2016* over the next 3 to 5 years), the *Environmental Protection Act 1986* and the *Planning and Development Act 2005*.


### F8.2 Establishment of utilities

In Western Australia's legislative framework, water utilities are referred to as 'water service providers'.

Under the Water Services Act, the ERA is the independent regulator responsible for administering the licensing scheme for water services and for reporting on industry performance. To obtain a licence, a water service provider has to demonstrate that it has the financial and technical capacity to provide the service or services that are to be covered by a licence and that the grant of the licence is not contrary to the public interest.

### F8.3 Operation of water utilities

The ERA and other agencies jointly oversee the operation of water service providers in Western Australia.



The Department of Health sets standards for drinking water quality and regulates the public health aspects of water supply (both potable and non-potable), pursuant to the Health (Miscellaneous Provisions) Act. The department also supports the Advisory Committee for the Purity of Water, which advises the WA ministers for Health and Water on issues associated with protecting public drinking water. The department has recently introduced new standards that regulate the public health aspects of sewerage services pursuant to the Health (Miscellaneous Provisions) Act.

The licence terms and conditions for service providers that supply drinking water require them to enter into a memorandum of understanding with the Department of Health for compliance with the health-related criteria in the Australian Drinking Water Guidelines.

The licence terms and conditions for service providers that provide sewerage services to more than 400 connections require them to enter into a memorandum of understanding with the Department of Health for compliance with the required public health standards.

Each memorandum of understanding is reviewed every 3 years, unless agreed otherwise.

The Department of Water and Environmental Regulation's responsibilities include the collection and analysis of water resources information, the protection of water quality and water resources, and water industry planning and policy, management, and regulation. The department also regulates the environmental impacts of water service providers through the Environmental Protection Act. The Act prescribes an environmental registration and licensing scheme, which sets limits on the type and volume of waste that can be discharged from a site. In some circumstances, the water service providers may be required to arrange for audits of their compliance with the conditions attached to their registration and provide a copy of the audit report to the department. The water service providers must notify the department if there is an unauthorised discharge of waste from registered premises.

The Environmental Protection Authority is an independent adviser to the WA Government on a broad range of environmental matters. The functions of the authority include conducting environmental impact assessments, preparing statutory policies for environmental protection, publishing guidelines for managing environmental impacts, and providing strategic advice to the WA Minister for Environment.

The Western Australian Planning Commission, a statutory authority that operates with the support of the Department of Planning, Lands and Heritage, oversees the land-use planning implications of the operations of the water service providers, according to requirements of the Planning and Development Act.

Prices for drinking water and sewerage services provided by the Water Corporation, Bunbury Water Corporation (trading as Aqwest), and Busselton Water Corporation (trading as Busselton Water) are set by the Minister for Water. The WA Government may request the ERA to undertake an independent review of pricing for the water corporations to provide advice to the government (the ERA has carried out 14 inquiries related to water pricing to date). Charges for sewerage services provided by local government authorities are set for each local government area and applied using a formula that depends on the type of property. Prices charged by private water and sewerage service providers are unregulated.

The Water Services Act requires licensees to arrange for an operational audit and a review of asset management system effectiveness at least once every 2 years (or longer, at the ERA's discretion). Independent auditors appointed by the ERA conduct the audit and review. The ERA approves the final audit and review reports, arranges for their publication on its website, and provides a copy of each report to the WA Minister for Water.

The Water Services Code of Conduct (Customer Service Standards) 2018 prescribes the customer service standards applicable to water and sewerage licensees. The Code is administered by the ERA in consultation with the Water Code Consultative Committee comprising representatives from industry, consumer representative organisations and government.



## F8.4 Water utilities in Western Australia

Several water service providers are involved in delivering water supply and sewerage services in Western Australia. This report covers the larger service providers (the Water Corporation, Aqwest, Busselton Water and the City of Kalgoorlie–Boulder). There are other water supply and sewerage services that are delivered by privately owned operators and local government authorities.

The Water Corporation is a government trading enterprise operating under the WA *Water Corporations Act 1995* that provides potable and non-potable water, bulk water, sewerage services, and drainage services to most areas of Western Australia. It also undertakes catchment management activities under delegation from the Department of Water and Environmental Regulation according to an operational agreement for catchment management between the 2 organisations. The Water Corporation is the principal supplier of water, sewerage and drainage services to hundreds of thousands of homes, businesses and farms, and provides bulk water to farms and growers' cooperatives for irrigation. Its services, projects and activities span more than 2.5 million km<sup>2</sup>. It has regional offices in Perth, Bunbury, Albany, Karratha, Geraldton, Northam and Kalgoorlie.

Aqwest and Busselton Water are government trading enterprises operating under the WA *Water Corporations Act*.

The Aqwest licence permits the supply of potable water to the regional centre of Bunbury, 160 km south of Perth.

The Busselton Water licence permits the supply of potable water to the regional centre of Busselton, approximately 200 km south of Perth, and the Busselton–Capel and Blackwater groundwater areas. Busselton Water also supplies bulk water to the Water Corporation in Dunsborough.

The state-owned corporations (Aqwest, Busselton Water and the Water Corporation) are subject to performance reporting requirements under the WA *Financial Management Act 2006*. The annual reports prepared by Aqwest, Busselton Water and the Water Corporation include non-financial performance indicators that are independently audited by the WA Office of the Auditor General.

The City of Kalgoorlie–Boulder provides sewerage and non-potable water services to Kalgoorlie–Boulder, located 550 km east of Perth in the Goldfields district. The non-potable water supplied to customers is sourced from recycled effluent.

There are also several small licensed or exempted water service providers in the state. The licensed service providers include Aquasol, Aqua Ferre (Muchea) (trading as Muchea Water), Athena Water Solutions, BHP Nickel West, BHP Iron Ore, Country Heights, Hamersley Iron, Lancelin South, Moore River Water Services, the Rottnest Island Authority, Robe River Mining Company, Peel Water, TMC Witchcliffe, WA Sewage, Water West North Dandalup, and 1 small regional local government.<sup>19</sup>

## F8.5 Performance reporting

Licensees are required to provide the Economic Regulation Authority with data for performance monitoring purposes, as set out in the licence and the ERA's *Water, sewerage and irrigation licence performance reporting handbook*. Licensees are required to submit completed performance reports to the ERA for each year ending 30 June. Where possible, the performance indicators for licensees who are not required to report under the National Water Initiative Agreement have been aligned with the NPR indicator set for consistency.

The ERA's *Water compliance reporting manual* requires licensees to report to the ERA on their compliance with the terms and conditions of their licence for each year ending 30 June. The ERA uses the compliance reports to monitor the overall level of compliance by licensees. The content of each report is confidential to the licensee and the ERA.

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<sup>19</sup> Since 2022, the WA Minister for Water has exempted 20 small regional local government sewerage and/or non-potable water suppliers from being licensed. The exemption is for a period of 5 years.





The ERA publishes performance data provided by licensed urban service providers that do not report under the Urban NPR and 3 of WA's largest rural water service providers.<sup>20</sup> Most of the urban performance indicators are consistent with those of the NPR. Except for the licensees that report under the Urban NPR, licensees are not subject to the data audit requirements of the NPRs. For those licensees not reporting under the NPR, confirmation of the accuracy of the performance data they report to the ERA is assessed in the operational audits.

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<sup>20</sup> The data are available from the ERA, <https://www.erawa.com.au/water/water-licensing/water-sewerage-and-irrigation-performance-data-2019-onwards>

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