

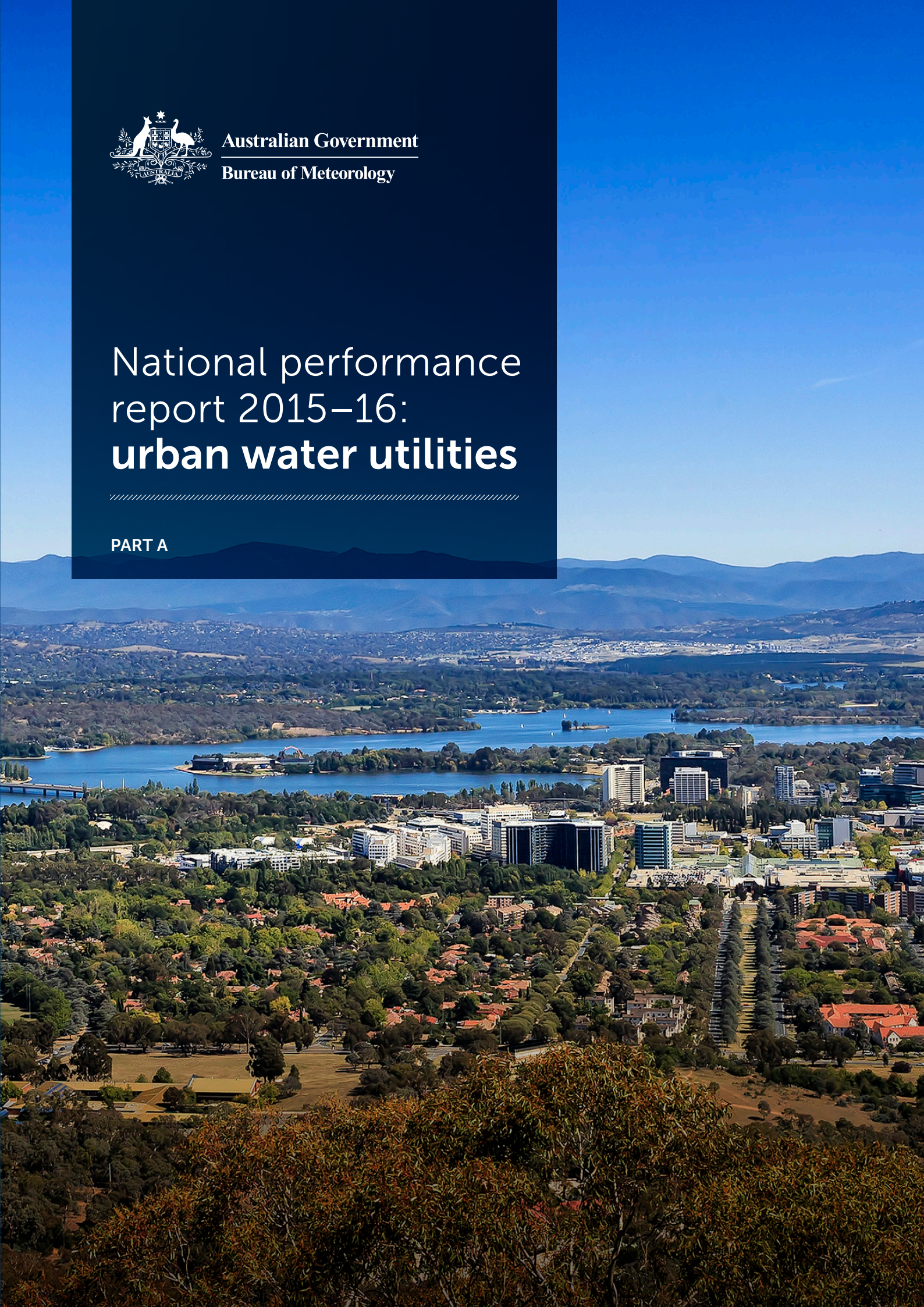


Australian Government
Bureau of Meteorology

National performance report 2015–16: **urban water utilities**

////////////////////////////////////

PART A



Publication details

National performance report 2015–16: urban water utilities, part A
March 2017

ISBN: 978-0-642-70687-4

ISSN: 1837-7572

Published by the Bureau of Meteorology
GPO Box 1289
Melbourne VIC 3001
(03) 9669 4000

waterinfo@bom.gov.au

www.bom.gov.au/water/npr



With the exception of logos and photography, this publication is licensed under a Creative Commons Attribution 3.0 Australia License. The terms and conditions of the licence are available at <http://creativecommons.org/licenses/by/3.0/au/>

© Commonwealth of Australia (Bureau of Meteorology) 2017

Cover image: Panorama shot of Canberra from Mount Ainslie, Australian Capital Territory

An appropriate citation for this publication is:

Bureau of Meteorology 2017, *National performance report 2015–16: urban water utilities, part A*, Bureau of Meteorology, Melbourne

Acknowledgements

Data for this report were supplied by Australian urban water utilities.

Data coordination was undertaken by the Bureau of Meteorology, the Independent Pricing and Regulatory Tribunal of New South Wales (for Sydney Water, Hunter Water, and Water NSW); the NSW Department of Primary Industries Water (for all other New South Wales utilities); the Essential Services Commission (for Victorian utilities); the Department of Energy and Water Supply (for Queensland utilities); the Economic Regulation Authority (for Western Australian utilities); the Essential Services Commission of South Australia (for South Australian utilities); the Environment, Planning and Sustainable Development Directorate (for Icon Water); the Department of Treasury and Finance (for Power and Water); and the Tasmanian Economic Regulator (for Tasmanian utilities).

Tables, graphs, and performance narratives are produced by the Bureau of Meteorology.

The Bureau and the Roundtable Group of States and Territories for urban water reporting would like to acknowledge the passing of Sam Samra of the Department of Primary Industries (NSW) in August 2016. Sam was an original member of the Roundtable Group of States and Territories and was instrumental in developing the National Framework for Reporting on Performance of Urban Water Utilities. He was well known and widely respected for his expertise and enthusiasm in water and wastewater services and made a substantial contribution to the water industry through his distinguished career of more than 50 years. He leaves behind a professional legacy of sound management and performance reporting of water and wastewater systems that will continue to contribute to better health and improved quality of life for residents of urban and regional New South Wales. His contribution at both State and national levels and his advice and expertise was invaluable. Sam will be greatly missed.

Disclaimer

This report has been produced by the Bureau of Meteorology; 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 2015–16: urban water utilities

PART A



Environment,
Land, Water
and Planning



Department of
Primary Industries
Water



Explanatory notes	1
Executive summary	5
1 Introduction	8
1.1 Context and overview	8
1.2 Reporting	8
1.3 Locations of utilities	9
1.4 Key drivers	10
1.4.1 Rainfall	10
1.4.2 Temperature	13
1.5 Utility size	14
1.6 Sources of water	15
2 Comparison of major urban centres	18
2.1 Background on major urban centres comparison data	18
2.2 Water Resources	18
2.2.1 W1, W2, W3.1, W4—Volume of water sources	18
2.2.2 W12—Average annual residential water supplied	19
2.2.3 W26—Total recycled water supplied	20
2.3 Pricing	20
2.3.1 P8—Typical residential bill	20
2.4 Environment	21
2.4.1 E12—Total net greenhouse gas emissions	21
2.5 Finance	22
2.5.1 F13—Combined operating cost of water and sewerage	22
2.5.2 F16—Total capital expenditure for water and sewerage	22
2.6 Customer	23
2.6.1 C13—Total water and sewerage complaints	23
2.6.2 C15—Average duration of an unplanned interruption to water supply	23
3 Water resources	24
3.1 W12—Average annual residential water supplied (kL/property)	24
3.1.1 Introduction	24
3.1.2 Key findings	24
3.1.3 Results and analysis—100,000+ size group	25
3.2 W26—Total recycled water supplied (ML)	25
3.2.1 Introduction	25
3.2.2 Key findings	27
3.2.3 Results and analysis—100,000+ size group	27

4	Pricing	28
4.1	P8—Typical residential bill: water and sewerage (\$)	28
4.1.1	Introduction	28
4.1.2	Key findings	28
4.1.3	Results and analysis— 100,000+ size group	29
4.2	P7—Annual bill based on 200 kL: water and sewerage (\$)	31
4.2.1	Introduction	31
4.2.2	Key findings	31
4.2.3	Results and analysis— 100,000+ size group	33
5	Finance	34
5.1	F16—Total capital expenditure: water and sewerage (\$000s)	34
5.1.1	Introduction	34
5.1.2	Key findings	34
5.1.3	Results and analysis— 100,000+ size group	35
5.2	F28—Capital expenditure: water (\$/property) and F29—Capital expenditure: sewerage (\$/property)	35
5.2.1	Introduction	35
5.2.2	Key findings	36
5.2.3	Results and analysis— 100,000+ size group	37
5.3	F13—Combined operating cost: water and sewerage (\$/property)	37
5.3.1	Introduction	37
5.3.2	Key findings	37
5.3.3	Results and analysis— 100,000+ size group	39
5.4	F8—Revenue from community service obligations (%)	40
5.4.1	Introduction	40
5.4.2	Key findings	40
5.4.3	Results and analysis— 100,000+ size group	40
6	Customer	42
6.1	C15—Average duration of an unplanned interruption: water (minutes)	42
6.1.1	Introduction	42
6.1.2	Key findings	42
6.1.3	Results and analysis— 100,000+ size group	43
6.2	C13—Total complaints: water and sewerage (per 1,000 properties)	43
6.2.1	Introduction	43
6.2.2	Key findings	43
6.2.3	Results and analysis—100,000+ size group	45
6.3	C14—Percentage of calls answered by an operator within 30 seconds	45
6.3.1	Introduction	45
6.3.2	Key findings	45
6.3.3	Results and analysis— 100,000+ size group	47

7	Asset	49
7.1	A8—Water main breaks (no. per 100 km of water main)	49
7.1.1	Introduction	49
7.1.2	Key findings	49
7.1.3	Results and analysis—100,000+ size group	50
7.2	A14—Sewerage mains breaks and chokes (no. per 100 km of sewer main) and A15—Property connection sewer breaks and chokes (no. per 1,000 properties)	50
7.2.1	Introduction	50
7.2.2	Key findings	52
7.2.3	Results and analysis—100,000+ size group	53
7.3	A10—Real losses (L/service connection/day)	53
7.3.1	Introduction	53
7.3.2	Key findings	53
7.3.3	Results and analysis—100,000+ size group	56
8	Environment	58
8.1	E12—Total net greenhouse gas emissions (net tonnes CO ₂ equivalent per 1,000 properties)	58
8.1.1	Introduction	58
8.1.2	Key findings	58
8.1.3	Results and analysis—100,000+ size group	59
9	Health	60
9.1	H3—Percentage of population for which microbiological compliance was achieved (%)	60
9.1.1	Introduction	60
9.1.2	Key findings	60
9.1.3	Results and analysis—100,000+ size group	61
	References	62
	Appendix A Individual utility size group tables	63
	Appendix B Audit framework	103
	Appendix C Utilities reporting	104
	Appendix D Urban performance indicators	106
	Appendix E CPI indexation	111
	Appendix F Jurisdictional summaries	112

Explanatory notes

Utilities

Within the tables and charts of this report, utilities that form part of a city council, shire council, regional council, or similar local government entity are reported under only the town or city name (e.g. Dubbo Regional Council is referred to as 'Dubbo' in tables and charts throughout the report).

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

- WC = Water Corporation
- Aqwest–Bunbury = Aqwest–Bunbury Water Corporation
- Busselton = Busselton Water Corporation
- Kal–Boulder = Kalgoorlie–Boulder
- P&W = Power and Water
- Queanbeyan = Queanbeyan–Palerang Regional Council

Utility types

Nine of the reporting utilities are 'single-service' utilities, five of which provide water services only and four of which provide sewerage services only. Utilities that provide water-only services are denoted by '(W)' after its name; those that provide sewerage-only services are denoted by '(S)'.

Note also that Goldenfields Water has two businesses: a bulk business, Goldenfields (B), and a water reticulation business, Goldenfields (R).

Bulk water agencies operate in a number of jurisdictions across Australia. These agencies are wholesalers of water and wastewater services and do not have a direct relationship with retail customers. For example, Melbourne Water supplies bulk water and wastewater services to the eight retail utilities within the Victorian region (City West Water, South East Water, Yarra Valley Water, Western Water, Gippsland Water, Barwon Water, South Gippsland Water, and Westernport Water).

Utility groups

For the purpose of this report, the 79 contributing utilities are grouped according to number of connected properties (the 7 bulk water suppliers are grouped separately). There are four size groups, as follows:

- 100,000+ connected-properties group (100,000+ size group)
- 50,000–100,000 connected-properties group (50,000–100,000 size group)
- 20,000–50,000 connected-properties group (20,000–50,000 size group)
- 10,000–20,000 connected-properties group (10,000–20,000 size group).

Reporting years

In the context of this report:

- The terms '2015–16' and 'reporting year' refer to the 2015–16 reporting year.
- References to years are according to reporting years (1 July – 30 June) and not by calendar year.

Tables

In the context of the tables in this report, certain data have the following meaning:

0 = result was 0

blank = result was not supplied, was not available, or results were not applicable

It should be noted that historical values for all financial indicators have been adjusted using consumer price index (CPI) data to facilitate comparison in real terms.

Other common abbreviations

NPR	=	national performance report
Urban NPR	=	National performance report: urban water utilities
2016 Urban NPR	=	2015–16 National performance report: urban water utilities
2015 Urban NPR	=	2014–15 National performance report: urban water utilities
Bureau	=	Bureau of Meteorology

Interpreting the ‘Overview of results’ tables

Figure EN1 demonstrates how to interpret the ‘Overview of results’ table provided for each indicator.

Size group	Range		Number of utilities with increase/decrease from previous year		Median		Change in median from previous year %
	High	Low	Increase	Decrease	Previous year	Current year	
100,000+ connected properties	249 WC (Perth)	140 Logan	10	1	158	162	3
50,000–100,000 connected properties	454 P&W (Darwin)	130 Toowoomba	9	1	164	181	10
20,000–50,000 connected properties	479 Lower Murray Water	143 MidCoast Water	17	1	175	201	15
10,000–20,000 connected properties	450 Multiple utilities	80 Ballina	19	5	174	179	3
All size groups	479 Lower Murray Water	80 Ballina	55	8	166	177	7

- 1 The range shows the utilities with the highest and lowest result in the current reporting year for each size group.
- 2 These columns show the number of utilities that reported an increase and those that reported a decrease from the previous year result for each size group. Where a utility did not report in both years it is not included in this column.
- 3 The median value is the middle number in the range of results. For example, if there were five utilities reporting for this indicator and their results were 190, 195, 206, 207, and 210, the median is 206 as it is the middle number. For indicators that are not represented as an ‘average’ for the utility (e.g. average duration of water interruptions) or have been divided by the number of properties (per property), the summary tables presents the sum (or total) of the results. Where a utility did not report in both years it is not included in this column.
- 4 This column shows the percentage change between the current and previous years and has been rounded to the nearest integer.
- 5 ‘Multiple utilities’ means that more than one utility recorded this value.

Figure EN1 Example and explanation of an ‘Overview of results’ table

Interpreting the box-and-whisker plots

In order to show trends in the annual distribution of key indicators the report utilises box-and-whisker plots. Figure EN2 demonstrates how to interpret these figures.

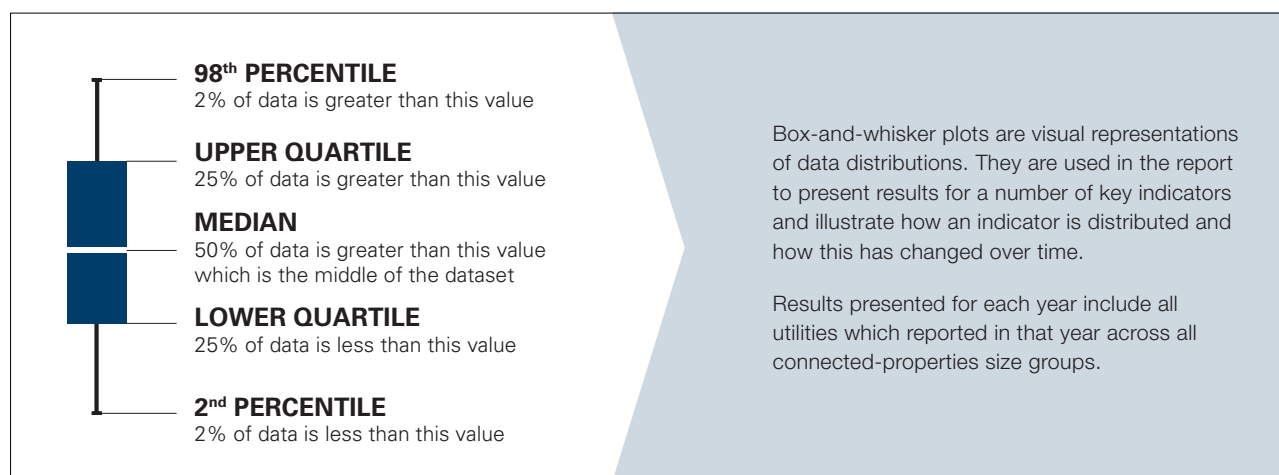


Figure EN2 Example and explanation of a box-and-whisker plot

Notes on commentary

When interpreting the data and commentary in this report, the following matters should be considered:

- The indicator codes in the titles of each section, chart, and table are specific to each indicator and can be cross-referenced with the *National Performance Framework: 2015–16 urban water performance report indicators and definitions handbook*.
- The 2016 Urban NPR presents analysis based on median values. The median is the preferred metric for the Urban NPR dataset because in many cases there are outlying results that can affect the average. Using the average in these cases can skew results towards the outliers. With the median, 50 per cent of utilities fall above and 50 per cent fall below the median value. In cases where average results are presented in addition to the median, they should be interpreted in conjunction with the data itself.
- Individual performance indicators in this report should not be interpreted in isolation. A low ranking for a particular indicator does not necessarily mean that the utility is performing well or badly because a number of factors can influence performance. 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’ has often been omitted to improve the flow of the commentary. 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’. It is important to remember that it is not the absolute number of water main breaks that is being referenced, but rather the number of breaks per 100 km of water main.
- Single-service utilities are included in the ‘Overview of results’ tables only where comparisons can still be made on a like-for-like basis with utilities that provide both water and sewerage services. Otherwise, they have been excluded from calculations of the median values and high/low results. 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.
- Charts and tables are presented in order of reported results, that is, from the utility with the highest result for the indicator to the utility with the lowest.

- Financial time-series information is given in real 2015–16 dollars; that is, the impact of inflation has been removed to ensure that years can be compared on a like-for-like basis. CPI figures can be found at Appendix E (CPI Indexation).
- The ‘% change’ column (the last column in most tables) is calculated from 2014–15 and 2015–16 and figures have been rounded (usually) to the nearest integer.
- For indicators P3 and P6 (‘Typical residential bill’), the adjective ‘typical’ is used in this report rather than ‘average’ because the average is affected by vacant lots that pay no usage charges and by pensioners, who generally receive a pensioner concession.
- The 2016 Urban NPR provides summary tables covering all utility groups. Commentary is limited to a discussion of the 100,000+ utility size group only.