2013 Water, Sewerage and Irrigation Performance Report

May 2014

Economic Regulation Authority
WESTERN AUSTRALIA

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Overview

This report continues the Authority's oversight of the performance of water, sewerage and irrigation service providers. The water and sewerage performance information covers the four water and sewerage utilities that operate supply schemes with more than 1,000 connected properties, and the irrigation performance information covers the State's two largest irrigators. The Authority has decided that it is more appropriate to present the performance of the other, smaller, service providers in a set of data tables that are separately published on the Authority's website.[1]

Drinking Water Supply

In 2013, the number of potable (drinking) water supply schemes in the State with more than 1,000 connected properties (32) was unchanged from the previous year.

Between 2012 and 2013, the state-wide total volume of water sourced for drinking increased by 9.0% (from 351,398ML to 383,171ML); water sourced in Perth increased by 11.0% (from 262,134ML to 291,473),[2] and water sourced for regional towns increased by 2.7% (from 89,264ML to 91,698ML).[3]

Groundwater continues to be the dominant source of drinking water in the State; in 2013, groundwater accounted for 50.4% of total sourced water, followed by desalination (25.0%) and surface water (13.8%).[4] In 2013, groundwater provided 47.9% of water sourced in Perth and 58.4% of water sourced in regional towns, a six year high.

2013 is the first time that desalination has replaced surface water as the second source of drinking water. The replacement of surface water with desalination as the second source of drinking water is the result of a 90% increase in water sourced from desalination (from 50,458ML to 95,770ML) and a 38.3% reduction in water sourced from surface water (from 85,749ML to 52,885ML) between 2012 and 2013.

The increase in water sourced from desalination is the result of the Water Corporation's Binningup desalination plant going into full production. The output from the Binningup plant supplements that of the Kwinana plant, giving an aggregate capacity of 150GL per annum, equivalent to 40% of total sourced water in 2013. Both desalination plants exclusively supply water to Perth, where desalination provided 32.9% of total sourced water in 2013. The shift away from surface water towards desalination as a source of drinking water is the result of the government's water security strategy designed to tackle the effects of a drying climate.

Recycling is another important climate independent source of water, particularly in regional towns. In 2013, recycling accounted for 5.2% (or 4.8GL) of supplied water. In Perth, recycling accounted for 2.5% of supplied water in 2013, but this is expected to increase as the Water Corporation brings its new groundwater replenishment plant (which pumps

[1] http://www.erawa.com.au/licensing/water-licensing/licence-statistics

[2] Water Corporation informed the ERA that the 2013 sourced water includes 27.7GL of bulk water exported to the Goldfields and Agricultural Water Scheme.

[3] Water sourced is the sum of urban water supplied (337,255ML in 2013) and water that is stored in dams and other water storages for future consumption (45,916ML in 2013).

[4] Water Corporation informed the ERA that, in relation to the towns that they supply, the use of groundwater, desalinated water and surface water has not changed, but how it is accounted for has changed.

recycled water into underground aquifers) into service in 2016. The initial capacity of the plant is 7GL per annum, with potential to increase to 28GL per annum in the future.

In regional towns, bulk water supplies[5] replaced surface water as the second source of drinking water. Between 2012 and 2013, surface water's share of the total supply fell from 21.9% to 6.7%, while bulk water increased from 17.2% to 29.7%.

Between 2012 and 2013, the total volume of urban water supplied in Perth increased by 0.3% (from 248,021ML to 248,818ML), and in regional towns by 1.3% (from 87,277ML to 88,437ML). Over the same period, the average annual water consumption per property in Perth fell by 0.4% (from 250kL to 249kL), while average consumption per property in regional towns fell by 1.0% (from 313kL to 310kL). Average water consumption per property across the State continued to vary in accordance with the prevailing climate; the highest consumption in 2011/12 was in Newman (565kL/annum), while the lowest consumption was in Denmark (147kL/annum).

The size of water supply networks, measured by the total length of water mains continued to grow. The length of water main data for 2013 was distorted by adjustments resulting from Water Corporation's reclassification of their existing mains. The effect of the adjustment was particularly evident in regional towns, some of which had large reductions to total length of mains, with an aggregate reduction of 6.2% in 2013. Between 2012 and 2013, the state-wide total length of water mains increased by a modest 0.1% (from 19,109km to 19,130km).

Between 2012 and 2013, mains breaks in Perth increased by 6.4%, but still remained close to the six year average of 13.5 per 100km of main, while mains breaks in regional towns fell by 3.0%, despite a 6.2% reduction in the total length of mains. The latter result implies that the underlying mains breaks performance in regional towns was better than the data indicates.

The state-wide total number of connected properties increased by 2.0% during 2013; connections in Perth grew by 1.9% (from 750,000 to 764,000 connections) and connections in regional towns grew by 2.5% (from 197,000 to 202,000 connections). The 2.0% growth in 2013 was significantly above the long term average growth of 0.6% per annum.

Between 2012 and 2013, the state-wide total number of water quality complaints fell by 76.9%, and the number of water service complaints fell by 38.5%. In the 30 towns (including Perth) supplied by Water Corporation, water quality complaints fell by 97.3%, and water service complaints fell by 44.8%. In 2013, most of the Water Corporation towns that participate in the Urban Framework recorded complaint levels that are substantially below the median of their peers in other jurisdictions whereas, in previous years complaint levels were above the median values.

Water Corporation's explanation is that in previous years they recorded all customer contacts on particular subjects as a complaint, while their new process requires staff to assess the subject matter and context of each customer contact, and apply the definitional guidance in the Urban Framework, to determine whether the contact should be classified as a complaint.[6]

After considering the explanation provided by Water Corporation, the ERA remains unclear about how the process changes have resulted in such large reductions in recorded complaints for their water and sewerage service. The ERA will conduct a detailed

[5] The water utility purchases large volumes of water from another entity.

[6] See page 14 for the explanation provided by Water Corporation.

examination of Water Corporation's complaints handling processes in the next operational audit of their licence, scheduled for 2015.

Between 2012 and 2013, unplanned water interruptions in Perth increased in frequency and duration; the average frequency of interruptions increased by 16.3%, and the average duration of an interruption increased by 9.9%. Averaging the interruptions in regional towns results in a 13.3% decrease in the frequency of interruptions and a 15.2% decrease in the average duration of an interruption.

Sewerage Services

In 2013, the number of sewerage schemes in the State with more than 1,000 connected properties (22) was unchanged from the previous year.

Between 2012 and 2013, the state-wide total volume of sewage collected increased by 0.7% (from 155,150ML to 156,204ML). Total volume of sewage collected in Perth rose by 0.9% (from 129,586ML to 130,738ML), while the volume collected in regional towns fell by 0.4% (from 25,563ML to 25,466ML).

Compared to 2012, the volume of sewage collected per property fell in Perth and the average regional town both fell, by 1.1% and 4.1% respectively. In 2013, the average volume collected in Perth was 177kL, while the volume collected in the average regional town was 185kL.

Between 2012 and 2013, the percentage of treated effluent that was supplied as recycled water in Perth remained relatively unchanged, but the average volume of recycled water produced in regional towns increased to reach a six year high of 54.1%. A major contributor to the increase in the regional town average was the 467% increase in recycled water supplied in Broome. If the Broome data is excluded then the regional town average falls to 51.6%.

During 2013, the total length of sewerage mains and channels in Perth increased by 1.5%, while in regional towns the length of mains and channels fell by 0.7%. The fall in regional towns is largely attributable to the reclassification of mains, and a review of town boundaries, for the 21 supply schemes operated by Water Corporation.

In 2013, the level of breaks and chokes in Perth and the average regional town both reached four year lows of 16.1 per 100km of main and 24.6 per 100km or main respectively. The result for Perth continues a three year downward trend in breaks and chokes.

The state-wide total number of connected properties increased by 1.8% during 2013; connections in Perth grew by 1.9% (from 685,000 to 698,000 connections) and connections in regional towns grew by 2.5% (from 147,000 to 149,000 connections). Over the six years to 2013, the average annual growth in Perth's connections was 2.3%, and in regional towns annual growth was 2.9%.

Between 2012 and 2013, the number of sewerage service complaints (per 1,000 connected properties) in Perth and the average regional town both fell by 50.0% (from 2.3 in 2010/11 to 1.2 in 2011/12). This is the fourth consecutive year that which the number of complaints has fallen across the State. Since 2009, the level of complaints in Perth has fallen by nearly 97%, and in the average regional town by 91.3%. All except one of the 22 sewerage schemes are operated by Water Corporation. In 2013, the level of complaints for the Water Corporation towns reporting under the Urban Framework is much lower than their peers in other jurisdictions. Water Corporation attributes the reduction in complaints to its new

complaints handling process, which was discussed under water complaints in the previous section.

Irrigation Services

Between 2012 and 2013, the volume of irrigation water supplied by both Harvey Water and Ord Irrigation decreased, by 9.3% and 15.3% respectively.

2013 is the third consecutive year of decline for Harvey Water; since 2010, the annual volume of water supplied fallen by 38.6%. The decline is attributed to continuing dry conditions in the supply area leading to reduced water allocations, as well as contraction in the local dairy industry.

Since 2009, the annual volume of water supplied by Ord Irrigation has fallen by 30%. The decline in the volume of water supplied may be due to the reduced water demand from silviculture customers, as their plantations mature.

The number of customer service points on the Harvey Water and Ord Irrigation supply networks were relatively unchanged during 2013, as were the length of their supply network channels and pipes.

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Purpose of the Report

The Economic Regulation Authority (**ERA**) is the independent economic regulator for Western Australia.

The ERA assesses the terms and conditions, including prices, offered by owners of monopoly infrastructure to third parties in the gas, electricity and rail industries. It also licenses providers of gas, electricity and water services and monitors compliance with licensing conditions and other related regulatory obligations. The ERA also has a range of responsibilities in gas retailing and surveillance of the State's wholesale electricity market.

This is the latest in a series of annual reports that examine the performance of water, sewerage and irrigation service providers in Western Australia that has been published by the ERA.[7]

The purpose of this report is to bring transparency and accountability to the performance of the providers of water, sewerage and irrigation services in Western Australia.

The objectives of this report are to:

- report on the performance of water, sewerage and irrigation supply schemes operated by Western Australian water service providers that are licensed by the ERA;
- highlight comparative performance outcomes for the different towns covered by the report; and
- examine service performance over time.

This report focuses on water service supply schemes (towns) with greater than 1,000 connected properties, see Parts A and B for details of these schemes. Data for water service providers and supply schemes with less than 1,000 connected properties can be found on the Authority's website.[8]

Throughout the report, the term 'all towns' refers to all of the towns that are captured by the indicator in question, including Perth. The term 'regional towns' means all of the towns that are captured by the indicator in question, excluding Perth.

Reference to a year in the report should be read as the 12-month period ending 30 June in that year.

Background

Water Services Licences

Prior to 17 November 2013, the *Water Services Licensing Act 1995* (**1995 Act**) was the legislation for the licensing of water services. From 18 November 2013, the *Water Services Act 2012* (**2012 Act**) repealed and replaced the licensing provisions in the 1995 Act. The data presented in this report was collected when the 1995 Act was still in force. In future

[7] The ERA commenced publishing reports in their current form in 2007. Prior to that the ERA published a report in 2005, but the content and format was significantly different from the later reports.

[8] http://www.erawa.com.au/licensing/water-licensing/licence-statistics

years, the data presented in this report will be based on the performance reporting obligations contained in licenses granted under the 2012 Act.

Part 2 of the 2012 Act deals with the licensing of water service providers. There are four classes of water service that require a licence:

- water supply services (covers both potable and non-potable services);
- sewerage services;
- irrigation services; and
- drainage services.

A licence may be granted for more than one class of service, e.g. a sewerage and water supply licence may be granted to a sewerage service provider to enable them the supply recycled effluent. The licence specifies the area(s) of the State in which the service is to be provided. Where a licence covers more than one service it is possible for the operating area for each service to be different.

The remainder of Part 2 of the 2012 Act requires service providers to obtain a licence to provide a water service, as well as dealing with the granting of licences, and the duties of licensees. The latter includes the obligation to provide services in accordance with the licence and the requirement for regular independent audits of the licensee's compliance with the licence and the effectiveness of the system used to manage the assets covered by the licence.

Section 12(s) of the 2012 Act makes provision for licences to include conditions requiring licensees to give information to the ERA relevant to the ERA's functions under the Act. Water supply, sewerage, irrigation and drainage licences include conditions requiring the licensee to provide to the ERA non-financial performance data on an annual basis. The data to be provided by licensees was previously specified in the ERA's *Water Compliance Reporting Manual* (**Reporting Manual**). From April 2014, the specification of non-financial performance reporting data will be in the *Water, Sewerage and Irrigation Performance Reporting Handbook* (**Reporting Handbook**).

Current Structure of Water Services Industry in WA

There are a total of 31 water service providers licensed to operate in Western Australia:

- Aquasol Pty Ltd: water supply and sewerage services;
- Bunbury Water Corporation (trading as Aqwest): water supply services;
- Busselton Water Corporation (trading as Busselton Water): water supply services;
- Hamersley Iron: water supply and sewerage services;
- Moama Lifestyle Villages Pty Ltd: non-potable water supply and sewerage services;
- Peel Water: potable and non-potable water supply services;
- Rottnest Island Authority (RIA): water supply, sewerage and drainage services;
- Shire of Denmark: non-potable water supply services;
- Water Corporation: water supply, sewerage, irrigation and drainage services;

- 19 local government authorities: non-potable water supply and sewerage services; and
- Gascoyne Water Cooperative (Gascoyne Water), South West Irrigation Management Cooperative (Harvey Water), Ord Irrigation Cooperative (Ord Irrigation) and Preston Valley Irrigation Cooperative (Preston Valley): non-potable water supply and irrigation services.

The four largest water services providers in the State are Aqwest, Busselton Water, City of Kalgoorlie-Boulder and Water Corporation.

Water Corporation is a trading enterprise owned by the Western Australian Government that was established by the Water Corporation Act 1995. They are Western Australia's largest water service provider, servicing just over 1 million connected properties and managing more than $15.4 billion of water supply, sewerage, drainage and bulk water (for irrigation) assets.[9]

Until November 2013, Aqwest and Busselton Water were government statutory authorities operating under the *Water Boards Act 1904*. Following amendments to the Water Corporations Act 1995, both Aqwest and Busselton Water became corporations, although they continue to trade under the same names. Aqwest and Busselton Water service approximately 16,500 and 11,600 connected properties, and manage infrastructure of approximately $89 million and $64 million, respectively.[10]

The City of Kalgoorlie-Boulder provides sewerage services to the town of Kalgoorlie-Boulder. The City of Kalgoorlie-Boulder services approximately 14,000 connected properties and manages approximately $24 million in sewerage and water infrastructure.[11]

Performance Reporting Obligations

National Water Initiative Agreement

In April 2006, Western Australia became a signatory of the National Water Initiative Agreement (NWI Agreement), joining the Commonwealth and the other States and Territories. The Commonwealth is represented by the National Water Commission (**NWC**) and the States and Territories are represented by the agencies that are responsible for regulating water supply services in that jurisdiction. The ERA performs the roles of both the Data Coordinator and Audit Coordinator for Western Australia.

Under the NWI Agreement, the signatories agreed to report independently, publicly and on an annual basis, benchmarking data on the pricing and service quality of urban and rural water delivery agencies. The signatories to the NWI Agreement have developed performance reporting frameworks for urban utilities (**Urban Framework**) and for rural water delivery agencies (**Rural Framework**). The Urban and Rural Frameworks each comprise a handbook with performance indicators and definitions, which are revised and published annually. Further information on the NWI Agreement and the performance reporting frameworks can be found on the NWC's website.[12]

[9] Water Corporation Annual Report 2013, accessed on 11 April 2014.

[10] Aqwest Annual Report 2013 and Busselton Water Annual Report 2012-13, both accessed on 11 April 2014.

[11] National Performance Report 2012-13: Urban Water Utilities – written down replacement cost of water and sewerage assets, accessed on 14 March 2014.

[12] http://nwc.gov.au/

The Urban Framework captures all urban utilities that service 10,000 or more connected properties. In Western Australia there are four licensees that are captured by the Urban Framework: Aqwest (water only), Busselton Water (water only), City of Kalgoorlie-Boulder (sewerage only) and the Water Corporation (water and sewerage).[13]

The Rural Framework captures all rural water service delivery agencies that provide more than 4GL of water for irrigation services. In Western Australia there are two licensees that are captured by the Rural Framework: Harvey Water and Ord Irrigation.[14]

The licences of the service providers that are captured by the NWI Urban and Rural Frameworks include a condition requiring these licensees to provide the ERA with annual performance data in accordance with the relevant framework.

Water Performance Reporting Handbook

The current Reporting Handbook was published by the ERA in June 2013. The Reporting Handbook sets out standard performance reporting obligations for each type of supply service: potable water, non-potable water, sewerage and irrigation.[15] In the case of service providers, who are captured by the NWI Agreement, the reporting requirements are aligned with the Urban Framework and Rural Framework. The ERA has also published MS Excel workbooks to collect data from the service providers.

[13] The Water Corporation services eight towns that are captured by the Urban Framework: Albany, Australind/Eaton (water only), Bunbury (sewerage only), Busselton (sewerage only) Geraldton, Kalgoorlie-Boulder (water only), Mandurah and Perth.

[14] Irrigators for whom the additional recurrent expenditure on collecting and supplying performance data exceeds more than 1% of total revenue are not required to report. For this reason, Gascoyne Water is not subject to the Rural Framework.

[15] Drainage licences include service and performance standards in relation to drainage services, however, licensees are not required to include these in their annual licence performance report.

PART A: WATER PERFORMANCE INFORMATION

Covered Water Supply Schemes

Water supply schemes with greater than 1,000 connected properties in Western Australia are:

Albany Scheme	**Denmark**	**Kalgoorlie-Boulder**	**Narrogin**
Australind-Eaton	**Derby**	**Karratha**	**Newman**
Bridgetown-Hester	**Dongara -Denison**	**Katanning**	**Northam**
Broome	**Dunsborough**	**Kununurra**	**Perth**
Bunbury	**Esperance**	**Mandurah Scheme**	**Pinjarra**
Busselton	**Geraldton**	**Manjimup**	**Port Hedland**
Carnarvon	**Harvey-Wokalup**	**Margaret River Scheme**	**South Hedland**
Collie	**Jurien**	**Merredin**	**York**

With the exception of Bunbury and Busselton, which are supplied by Aqwest and Busselton Water respectively, the town water supply schemes are supplied by the Water Corporation.

Water is supplied from a number of different sources, which comprise the following:

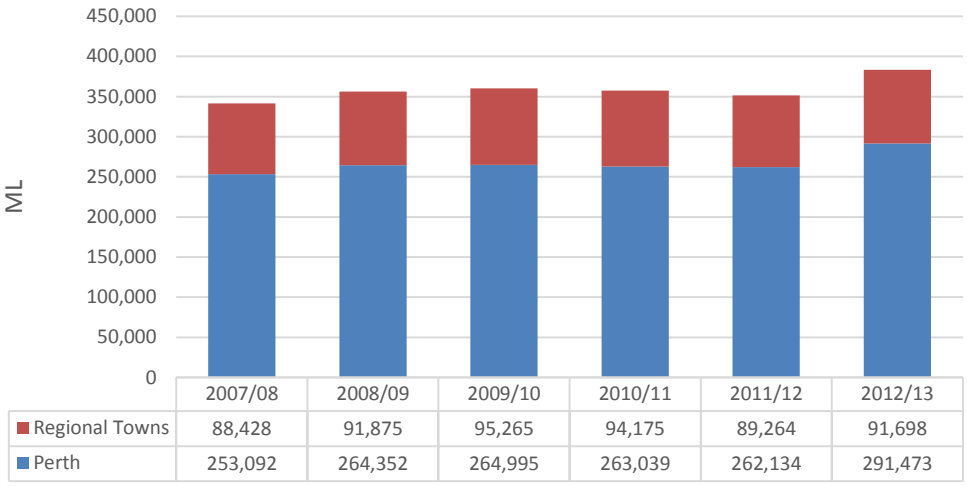
- Groundwater - potable and non-potable water abstracted from aquifers and other 'below ground' water sources. This excludes volumes sourced from groundwater supplies that have been artificially recharged using sources of water that have been counted elsewhere i.e., from rivers, desalination plants or sewage plants (recycling).
- Surface water - potable and non-potable water abstracted from surface water sources such as dams, rivers or irrigation channels.
- Desalination - potable and non-potable water sourced from desalination plants.
- Bulk supplier - potable and non-potable water purchased from another utility or entity outside a utility's geographic area of responsibility. The volume of water may include water which is subsequently exported (sold) to another utility.
- Recycling - treated effluent that is used by either the water utility itself, a business supplied by the water utility or supplied through a third party pipe system for urban reuse.

Sources of Water

Total sourced water includes water abstracted from water sources that include surface water, groundwater, desalination, recycled water and water received from a bulk supplier.

Figure 1 shows that, compared to 2012, total water sourced for all towns in 2013 increased by 9.0% (from 351,398 to 383,171ML). The 9.0% increase comprised an 11.2% rise in water sourced for Perth and a 2.7% rise in water sourced for other towns.[16]

Figure 1: Total volume of water sourced from all sources



	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Regional Towns	88,428	91,875	95,265	94,175	89,264	91,698
Perth	253,092	264,352	264,995	263,039	262,134	291,473

Figure 2 and Figure 3 detail the sources of water for all towns (Perth and the regional towns combined). Figure 2 shows that the volume of water sourced from surface water decreased by 38.3%, while the volume of water sourced from groundwater increased by 4.3%. The reduction in water sourced from groundwater was compensated by an 89.8% increase in water sourced from desalination.

Figure 3 shows that the proportion of the drinking water sourced from surface water fell from 24.4% in 2012 to 13.8% in 2013, continuing a long term downward trend in sourcing drinking water from dams. The proportion of water sourced from groundwater also fell slightly in 2013. Water sourced from desalination accounted for 25% of the total in 2013, up from 14.4% in 2012. The increase in water sourced from desalination is the result of the Water Corporation's Binningup desalination plant going into full production. The aggregate capacity of Water Corporation's desalination plants at Binningup and Kwinana is 150GL per annum, which is equivalent to 40% of total sourced water in 2013.

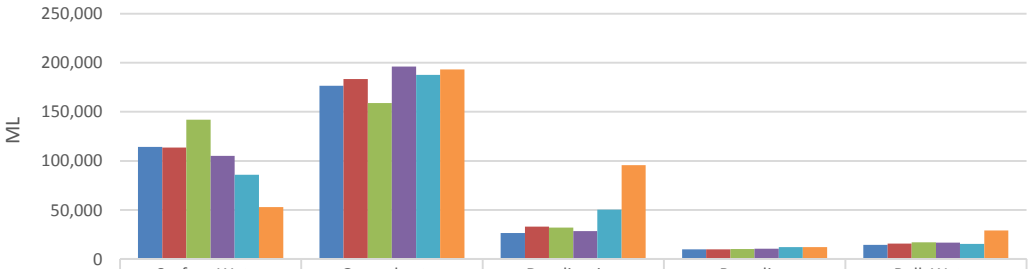
The volume of water sourced from bulk water suppliers almost doubled between 2012 and 2013 (up from 15.3GL in 2012 to 29.2GL in 2013). In 2013, 7.6% of drinking water was sourced from bulk suppliers.

An examination of Figure 3 shows that groundwater continues to be the dominant source of drinking water; over the past six years, groundwater has supplied an average of 51% of the total annual water sourced. However, 2013 is the first time that desalination has overtaken surface water as the second largest source of drinking water in the State. As will

[16] Water Corporation informed the ERA that the 2013 sourced water includes 27.7GL of bulk water exported to the Goldfields and Agricultural Water Scheme.

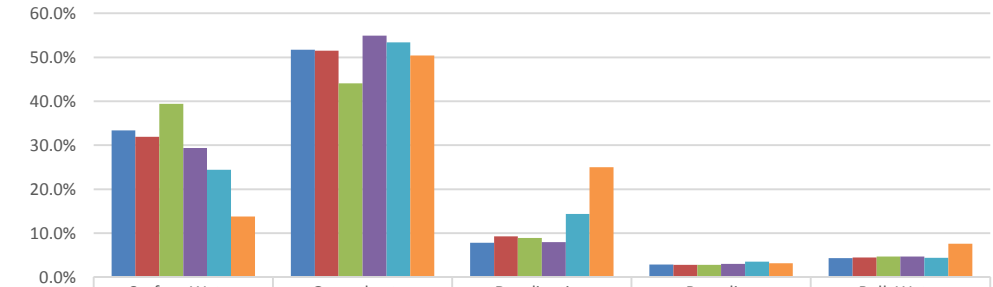
be seen later in this report, water sourced from desalination is exclusively used to supply Perth's drinking water.

Figure 2: Sources of water by volume (all towns)



	Surface Water	Groundwater	Desalination	Recycling	Bulk Water
2007/08	114,204	176,397	26,565	9,771	14,583
2008/09	113,634	183,510	33,160	10,005	15,918
2009/10	142,065	158,863	32,034	10,232	17,066
2010/11	105,090	196,208	28,541	10,608	16,767
2011/12	85,749	187,691	50,458	12,185	15,315
2012/13	52,885	193,191	95,770	12,119	29,206

Figure 3: Sources of water by percentage (all towns)



	Surface Water	Groundwater	Desalination	Recycling	Bulk Water
2007/08	33.4%	51.7%	7.8%	2.9%	4.3%
2008/09	31.9%	51.5%	9.3%	2.8%	4.5%
2009/10	39.4%	44.1%	8.9%	2.8%	4.7%
2010/11	29.4%	54.9%	8.0%	3.0%	4.7%
2011/12	24.4%	53.4%	14.4%	3.5%	4.4%
2012/13	13.8%	50.4%	25.0%	3.2%	7.6%

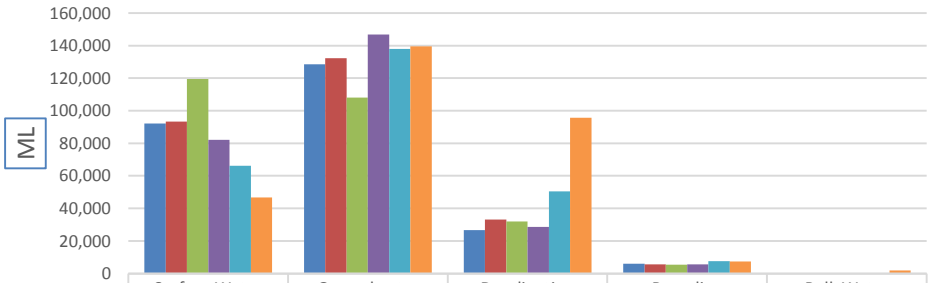
Figure 4 and Figure 5 detail the sources of drinking water for Perth. Groundwater continues to be the dominant source of water for Perth's drinking water supply, accounting for 50.4% of the total sourced water in 2013.[17] The volume of Perth's drinking water sourced from desalination increased by 90% in 2013, rising from just over 50GL to nearly 96GL as the output from the new Binningup desalination plant increased during the year. In 2013, water sourced from desalination has overtaken surface water as Perth's second largest source of drinking water. The shift away from surface water towards desalination as a source of

[17] Water Corporation informed the Authority that, in relation to the towns that they supply, there has not been a change in the use of groundwater, desalinated and surface water but a change in how it is measured. If groundwater or desalinated water was not sent directly to customers, it was "banked" or stored in the dams (surface water). The following year or when water was taken from the dams or when the water was used from the dams, it is reported as surface water, not groundwater or desalinated water. This led to an under reporting of the usage of both groundwater and desalinated water and an over reporting of surface water. The new methodology identifies the groundwater first, the desalinated water second and the surface water last.

drinking water is the result of the Government's water security strategy designed to tackle the effects of a drying climate.

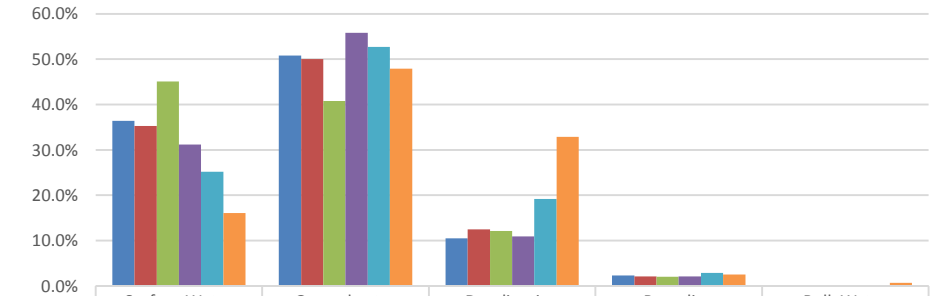
Recycling is another important climate independent water source of water. Examination of Figure 5 shows that the percentage of Perth's water sourced from recycling fell from 2.9% in 2012 to 2.5% in 2013. This is expected to increase in future years as the Water Corporation brings its new groundwater replenishment plant into service from 2016. Stage 1 of the project will be capable of recharging up to 7GL of water into underground aquifers, with the potential to increase output up to 28GL in future years.[18]

Figure 4: Sources of water by volume (Perth only)



	Surface Water	Groundwater	Desalination	Recycling	Bulk Water
2007/08	92,141	128,452	26,565	5,934	0
2008/09	93,266	132,298	33,160	5,628	0
2009/10	119,469	108,104	32,034	5,388	0
2010/11	82,117	146,745	28,541	5,636	0
2011/12	66,156	138,030	50,458	7,490	0
2012/13	46,786	139,622	95,770	7,356	1,939

Figure 5: Sources of water by percentage (Perth only)



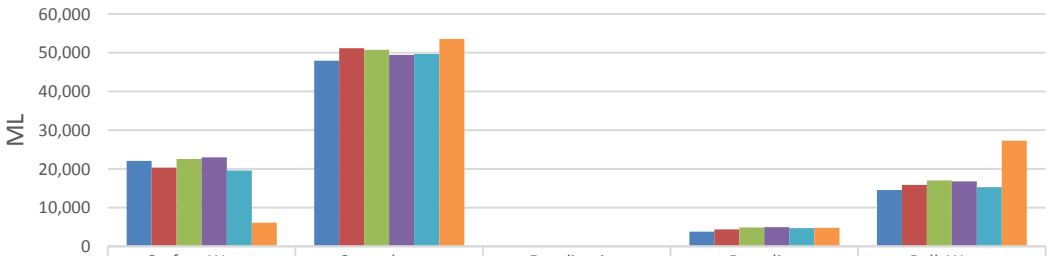
	Surface Water	Groundwater	Desalination	Recycling	Bulk Water
2007/08	36.4%	50.8%	10.5%	2.3%	0.0%
2008/09	35.3%	50.0%	12.5%	2.1%	0.0%
2009/10	45.1%	40.8%	12.1%	2.0%	0.0%
2010/11	31.2%	55.8%	10.9%	2.1%	0.0%
2011/12	25.2%	52.7%	19.2%	2.9%	0.0%
2012/13	16.1%	47.9%	32.9%	2.5%	0.7%

Figure 6 and Figure 7 detail the sources of drinking water for regional towns. As is the case in Perth, groundwater is the dominant source for drinking water in regional towns; in 2013, drinking water sourced from groundwater reached a six year high of 58.4%. It can be seen that the drying climate has also resulted in a shift away from surface water sources for regional town drinking water supplies. Water sourced from bulk water suppliers overtook

[18] Water Corporation website, Groundwater Replenishment Scheme – Stage 1, accessed on 14 April 2014.

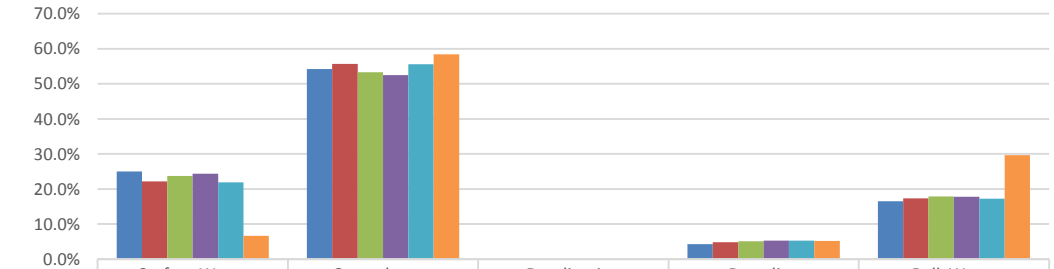
surface water as the second source of drinking water in regional towns. Between 2012 and 2013, surface water supplies fell be 69% (to a six year low of 6.1GL), while bulk water supplies increased by 78% (to a six year high of 27.3GL). Water sourced from recycling remained relatively unchanged at 5.2% of the total.

Figure 6: Sources of water by volume (Regional Towns)



	Surface Water	Groundwater	Desalination	Recycling	Bulk Water
2007/08	22,063	47,945	0	3,837	14,583
2008/09	20,368	51,212	0	4,377	15,918
2009/10	22,596	50,759	0	4,844	17,066
2010/11	22,973	49,463	0	4,972	16,767
2011/12	19,593	49,661	0	4,695	15,315
2012/13	6,099	53,569	0	4,763	27,267

Figure 7: Sources of water by percentage (Regional Towns)



	Surface Water	Groundwater	Desalination	Recycling	Bulk Water
2007/08	25.0%	54.2%	0.0%	4.3%	16.5%
2008/09	22.2%	55.7%	0.0%	4.8%	17.3%
2009/10	23.7%	53.3%	0.0%	5.1%	17.9%
2010/11	24.4%	52.5%	0.0%	5.3%	17.8%
2011/12	21.9%	55.6%	0.0%	5.3%	17.2%
2012/13	6.7%	58.4%	0.0%	5.2%	29.7%

Uses of Water Supplied

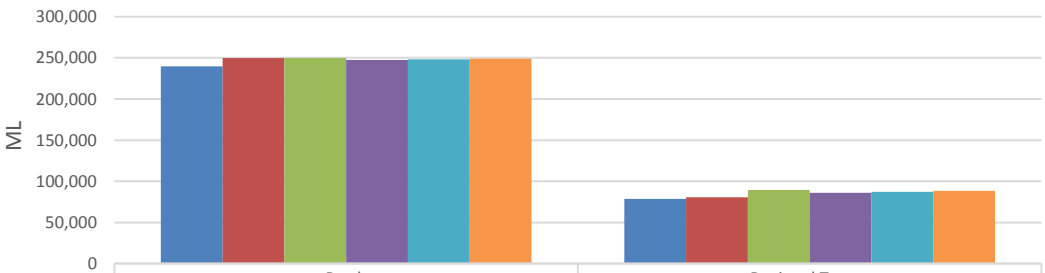
Total Urban Water Supplied

Total urban water supplied is defined as the total metered volume of water (potable or non-potable), supplied to customers over the reporting period, plus estimated non-metered water supplied. Total urban water comprises the sum of residential, commercial, municipal and industrial water supplied and estimated water supplied for other purposes.

Figure 8 shows the total urban water supplied in Perth and regional towns. Between 2012 and 2013, the volume of water supplied in Perth rose by 0.3%, and water supplied in

regional towns rose by 1.3%. Urban water supplied in Perth accounted for 73.7% of the state-wide total, a ratio that has been relatively constant over the past six years.

Figure 8: Total urban water supplied



	Perth	Regional Towns
2007/08	239,773	78,833
2008/09	249,756	80,575
2009/10	249,612	89,582
2010/11	247,303	85,980
2011/12	248,021	87,277
2012/13	248,818	88,437

Average Annual Residential Water Supplied

Table 1 details the average annual residential water supplied for the five years to 2013. Between 2013 and 2013, the average annual residential water supplied per property in Perth and regional towns both fell, by 0.4% and 1.0% respectively. This continues the long term trend of falling consumption, which correlates with the introduction of permanent water savings measures across the State, although the rate of reduction in the past two years has been lower than in previous years.

Table 1: Average annual water supplied per property (kL/property)

	2009	2010	2011	2012	2013	Percentage Change
Perth	277	276	264	250	249	-0.4%
Regional Town Average	348	360	327	313	310	-1.0%
All Town Average	346	357	325	311	308	-1.0%

In 2013, Newman recorded the highest average annual residential water consumption (565kL), up by 12% compared to 2012, while Denmark had the lowest consumption per property (147kL), almost unchanged from 2012. The difference in the water consumption patterns for these two towns correlates with the contrasting climatic conditions across the State; towns in the north of the State have higher annual average temperatures, and higher consumption levels, than towns in the South-West.

Asset Data

Water Mains

Between 2008 and 2013, the length of water mains in Perth increased by an average of 0.6% per annum. The 2.9% increase in 2013 was significantly greater than the long term trend growth. The underlying causes of the large increase in 2013 are not available from

the data, but it is possible that the growth is due to a combination of new mains and the reclassification of existing mains by Water Corporation (see below).

The length of mains in regional towns fell by 6.2% between 2012 and 2013. The decrease was due to the reclassification of pipe categories, and a review of town boundaries for each supply scheme. The largest downward adjustments in the length of mains occurred in Merredin (down by 58.4%) and Narrogin (down by 42.9%), while Bridgetown/Hester recorded an increase of 23.8%.

Table 2: Length of water mains (km)

	2008	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	12,737	12,861	12,997	13,198	13,292	13,673	2.9%
Regional Towns	5,433	5,543	5,621	5,732	5,817	5,457	-6.2%
Total	18,170	18,404	18,618	18,930	19,109	19,130	0.1%

Properties Connected per km of Water Main

The purpose of this indicator is to report on the spatial density of properties served by water mains.

Table 3 shows that, in 2013, the spatial density of properties served by water mains in Perth (56 per km of main) was 1.7 times higher than in the average regional town (33 per km of main). The spatial density in the average regional town increased by 10.0% in 2013 due to an increase in connected properties and the downward adjustment to the total length of mains in these towns that was discussed in the previous section.

Table 3: Properties served per km of water main

	2008	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	54	55	56	56	56	56	0.0%
Regional Town Average	30	31	31	32	30	33	10.0%
All Town Average	31	32	32	33	31	33	6.5%

In 2013, Perth had the highest density of properties served (56 per km of main), while Bridgetown/Hester had the lowest density of properties served (13 per km of main). Compared to 2012, Merredin recorded a 138% increase in property density (from 13 to 31 per 100 km of main), and Dongara Denison recorded a 24.9% fall in property density (from 28 to 21 per 100 km of main).

Water Main Breaks

The level of water main breaks is influenced by a number of factors, including the type of mains infrastructure (above ground and below ground), the age of the mains, the standard of maintenance carried out by the service provider and local geological conditions, particularly soil types.

Table 4 shows that, between 2012 and 2013, the level of mains breaks in Perth increased by 6.4%, but still remained close to the six year average of 13.5 per 100km of main. Over the same period, the level of mains breaks in regional towns fell by 3.0%, despite a 6.2% reduction in the total length of mains. This suggests that, in 2013, the underlying mains breaks performance in regional towns was better than the data indicates.

Table 4: Water main breaks (per 100km of water main)

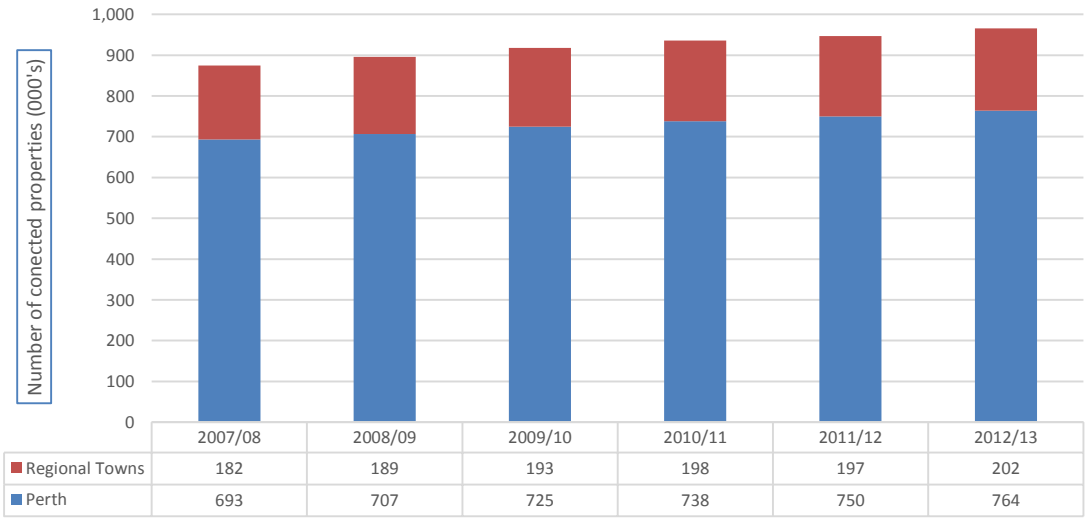
	2008	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	14.0	15.3	13.4	12.7	12.5	13.3	6.4%
Regional Town Average	17.6	18.7	18.7	18.8	20.2	19.6	-3.0%
All Town Average	17.5	18.6	18.5	18.6	20.0	19.4	-3.0%

Connected Properties – Water Supply

Figure 9 details the number of connected properties over the six years to 2013.

Between 2012 and 2013, the total number of connected properties in the State grew by 2.0%, to reach 966,000 properties; comprising growth of 1.9% and 2.5% in the number of connected properties in Perth and regional towns, respectively. Over the past six years, connected properties in both Perth and in regional towns have grown by an average of 0.6% per annum.

Figure 9: Total connected properties - water supply (000's)



Customer Service

Water Quality Complaints

Water quality complaints include any complaint regarding discolouration, taste, odour, stained washing, illness or cloudy water. The level of complaints is normalised to the number of connected properties, expressed in thousands.

Table 5 details the level of water quality complaints for the five years to 2013. Between 2012 and 2013, Water Corporation reported a 96.8% reduction in the number of water quality complaints received from customers in the 30 towns (including Perth) that they supply. Water quality complaints received in three of the four schemes that fall in the 10-20,000 connected properties category under the Urban Framework are substantially less than the median of the other 21 schemes.[19] It is also notable that, in the seven years to 2012, Perth consistently recorded the highest level of water quality complaints in the major capital cities category of the Urban Framework. In 2013, Perth received the lowest level of complaints in the category.[20] Because the majority of regional towns that are not captured by the Urban Framework are supplied by Water Corporation, the new complaints process has also led to a significant reduction in the average water quality complaints in regional towns; there were zero complaints reported for 24 of the 30 towns supplied by Water Corporation.

In 2013, Busselton Water had the highest number of water quality complaints (17.8 per 1000 properties), followed by Aqwest at 8.1 complaints per 1,000 properties.

Table 5: Water quality complaints (per 1,000 customers)

	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	6.5	7.9	6.7	6.9	0.1	-98.6%
Regional Town Average	3.6	3.7	3.9	3.8	0.9	-76.3%
All Town Average	3.7	3.9	3.9	3.9	0.9	-76.9%

The ERA asked Water Corporation to provide an explanation for the large reduction in water and sewerage complaints, which is replicated below.[21]

> Historically the Corporation always reported a much higher number of complaints than other water utilities. This was as an outcome of the Corporation using an internal definition of a complaint which resulted in the over reporting of the number of complaints received.
>
> The main areas of difference in reporting centred on water and sewerage service complaints. The Corporation was unique in that it automatically recorded all contacts/call on these subjects as a complaint, unless there was evidence to the contrary. […]
>
> Based on: conversations with the customer; an assessment of the actual situation; and a series of relevant questions the Corporation's Customer Services Representatives (CSRs) now decide if a call is a 'complaint' or an 'enquiry'.
>
> Amongst others, some of the indicators the CSRs are trained to identify are:
>
> - Dissatisfaction expressed by the customer;
> - Customer clearly aggrieved by an issue and/or the explanation given;
> - Costs or damages incurred by a customer as a result of an issue; and

[19] The median of the 21 inter-state schemes plus Aqwest and Busselton Water is 1.2 complaints per 1,000 connections. The data for the four Water Corporation schemes is: Albany (0.1), Australind/Eaton (1.8), Geraldton (0.1) and Kalgoorlie-Boulder (0.0).

[20] Perth recorded 0.1 complaints per 1,000 connections, compared to a median of 2.1 complaints for the 11 other service providers in the major utility category of the Urban Framework.

[21] Examination of Table 6 and Table 15 shows that there has been similar reductions in the number of water service complaints and sewerage service complaints.

- The contact is a repeat/multiple calls for the same event/issue that were not completed satisfactorily.

Responding to faults as a result of assets malfunctioning or breaking from time to time is another service the Corporation provides. Previously these calls were also automatically treated as complaints.

When following up and talking with these customers it is apparent that most people are not actually complaining but simply querying why it is happening. When given an explanation and a completion time or a expectation of on how long it will take to rectify, most customers are satisfied.

Ongoing training and monitoring combined with the experience gained since the implementation of the NPF (Australian Standards) Complaints Definition in July 2012, means that the Corporation's CSRs are competent in determining the difference between a complaint and an enquiry.

Notwithstanding the explanation provided by Water Corporation, the ERA remains unclear about how the process changes described above have resulted in such large reductions in recorded complaints for their water and sewerage services. The ERA will conduct a detailed examination of Water Corporation's complaints handling processes in the next operational audit of their licence, scheduled for 2015.

Water Service Complaints

Water service complaints include all complaints related to bursts, leaks, service interruptions, adequacy of service, water pressure and water reliability. The level of complaints is normalised to the number of connected properties, expressed in thousands.

Table 6 details the level of water service complaints for the five years to 2013. Comparing 2012 and 2013, it can be seen that the level of complaints in 2013 is much lower than in 2012. The reduction in the all town average is due to reductions in the level of complaints reported for the majority of Water Corporation schemes, including Perth, following the introduction of the new processes that are discussed under water quality complaints above.

Table 6: Water service complaints (per 1,000 customers)

	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	24.4	5.8	2.7	0.9	0.3	-66.7%
Regional Town Average	17.6	4.9	2.4	1.3	0.8	-38.5%
All Town Average	17.8	5.0	2.4	1.3	0.8	-38.5%

In 2013, Aqwest had the highest number of water service complaints (5.5 per 1000 properties), followed by Port Hedland at 4.6 complaints per 1,000 properties. There were zero complaints reported for 13 of the 30 towns supplied by Water Corporation.

Average Duration of an Unplanned Water Supply Interruption

An unplanned water supply interruption is defined as an interruption where the customer has not received at least 24 hours notification of the interruption to supply. The average duration that a customer is without a drinking water supply is a partial indicator of: service quality, the condition of the water network and the standard of network management.

Table 8 details the average duration of unplanned interruptions for the five years to 2013.

Table 7: Average duration of an unplanned supply interruption (minutes)

	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	141.0	125.4	114.0	118.0	129.7	9.9%
Regional Town Average	86.6	78.0	85.4	99.0	84.0	-15.2%
All Town Average	88.3	79.5	86.3	99.6	85.4	-14.3%

Examination of Table 8 shows that the average duration of supply interruptions was quite close to the five year averages; over the past five years, the average duration of supply interruptions in Perth was 125.6 minutes, while for regional towns the average was 86.9 minutes.

In 2013, the longest average unplanned water supply interruption was in York (162 minutes), followed by Katanning (160 minutes). The shortest average supply interruption was reported by Busselton Water (2.8 minutes).

Average Frequency of Unplanned Interruptions

The average frequency of unplanned interruptions measures the average number of times the water supply to a customer is interrupted without at least 24 hours notice, which is a partial indicator of service quality, reliability and customer satisfaction.

Table 9 shows that, in 2013, the average frequency of unplanned interruptions per 1000 properties in Perth reached a six year high. The average frequency of interruptions in regional towns fell in 2013, coming off a six year peak in 2012.

Table 8: Average frequency of unplanned supply interruptions

	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	67.5	65.6	94.3	104.6	121.7	16.3%
Regional Town Average	168.4	124.1	169.8	187.0	162.1	-13.3%
All Town Average	165.2	122.3	167.5	184.5	160.8	-12.8%

In 2013, Geraldton recorded the highest frequency of unplanned interruptions (604 per 1000 properties), while Kalgoorlie-Boulder recorded the lowest frequency (21.9 per 1000 properties).

Health

Water Quality Compliance

A water supply zone is defined by each water service provider based on a range of criteria based on the structure of the supply network.[22]

[22] A discussion on the criteria used to define a zone can be found on page 89 of the *2012-13 National Performance Framework: urban performance reporting indicators and definitions handbook*, which is available on the National Water Commission website – www.nwc.gov.au

Table 9 details the number of zones, and the percentage of the population resident in those zones, where the water supply complied with the microbiological and chemical health standards during 2013. All of the 61 zones across the State that were monitored during 2013 achieved 100% compliance with the standards, the seventh consecutive year that 100% compliance has been achieved.

Table 9: Zones and percentage population where microbiological compliance was achieved in 2013

	Number of zones where microbiological compliance was achieved	Percentage of population where microbiological compliance was achieved
Perth	24	100
Regional Towns	37	100
All Towns	61	100

Part B: Sewerage Performance Information

Covered Sewerage Schemes

The report captures sewerage supply schemes with more than 1,000 connected properties, which includes the following 22 towns:

Albany	**Collie**	**Kalgoorlie-Boulder**	**Manjimup**	**Perth**
Australind-Eaton	**Dunsborough**	**Karratha**	**Merredin**	**South Hedland**
Broome	**Esperance**	**Katanning**	**Narrogin**	
Bunbury	**Geraldton**	**Kununurra**	**Newman**	
Busselton	**Jurien**	**Mandurah**	**Northam**	

All of the sewerage schemes are operated by the Water Corporation, with the exception of Kalgoorlie-Boulder, which is operated by the City of Kalgoorlie-Boulder.

For a number of sewerage indicators, data is not available for Newman and occasionally other towns.[23] Where this is the case, average values for the indicators have been calculated by excluding those towns.

Sewage Collected per Property

Sewage collected is defined as the total volume of sewage collected by the utility, measured as treatment plant inflow, plus sewage treated by another business on behalf of the water utility, e.g. a wholesaler.

Between 2012 and 2013, the state-wide total volume of sewage collected increased by 0.7% (from 155,150ML to 156,204ML). Total volume of sewage collected in Perth rose by 0.9% (from 129,586ML to 130,738ML), while the volume collected in regional towns fell by 0.4% (from 25,563ML to 25,466ML).

Table 10 details the annual volume of sewage collected per property for the five years to 2013. Compared to 2012, the average volume of sewage collected per property in Perth and regional towns during 2013 fell, by 1.1% and 4.1% respectively. In 2013, the average volume of sewage collected per property in Perth was 177kL, while the volume collected in the average regional town was 185kL.

Table 10: Sewage collected per property (kL)

	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	191	189	182	189	187	-1.1%
Regional Town Average	183	176	168	184	176	-4.3%
All Town Average	183	177	169	184	177	-3.8%

The relative volume of sewage collected in the regional towns correlates with the level of residential water supplied. The towns in the warmer northern areas of the State consume more water, and produce higher volumes of sewage, while the reverse applies in towns in the cooler southern areas of the State.

[23] The Newman sewerage reticulation network is operated by Water Corporation, but the sewage treatment plant is operated by the Shire of East Pilbara.

Recycled Water (% of Effluent Recycled)

This indicator measures the percentage of treated sewage (effluent) that is used to produce recycled water. Table 12 details the percentage of sewage effluent that was used to produce recycled water for the five years to 2013.

Between 2012 and 2013, the percentage of treated effluent that was supplied as recycled water in Perth remained relatively unchanged, but the average volume of recycled water produced in regional towns increased to reach a six year high of 54.1%. The underlying data shows that the majority of the increase in the regional town average percentage was due to the 467% increase in recycled water supplied in Broome. If the Broome data is excluded then the regional town average falls to 51.6%.

Table 11: Recycled water - percentage of effluent recycled

	2009	2010	2011	2012	2013
Perth	6.2	6.1	7.4	8.0	7.9
Regional Town Average	47.6	48.6	48.7	48.4	54.1
All Town Average	45.6	46.6	46.7	46.5	51.9

In 2013, six towns (Albany, Australind/Eaton, Broome, Dunsborough, Kununurra and Merredin) recycled 100% of their treated effluent and two towns (Collie and Jurien) did not recycle any treated effluent.

Asset Data

Length of Sewerage Mains and Channels (km)

Sewer mains include all trunk, pressure and reticulation mains. Table 13 details the length of the sewer main and channel network for the seven years to 2011/12.

Between 2012 and 2013, the total length of sewerage mains and channels in Perth increased by 1.5%, while in regional towns the length of mains and channels fell by 0.7%. The fall in regional towns can be attributed to the reclassification of mains, and a review of town boundaries for the 21 supply schemes operated by Water Corporation. Since 2008, the average annual growth in the length of sewer mains in Perth and regional towns is 1.3% and 1.6% respectively.

Table 12: Length of sewer mains and channels (km)

	2008	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	10,716	10,886	11,007	11,198	11,271	11,443	1.5%
Regional Town Average	3,077	3,176	3,204	3,265	3,359	3,336	-0.7%
All Town Average	13,793	14,062	14,211	14,463	14,630	14,779	1.0%

Properties served per km of Sewer Main

The purpose of this indicator is to report on the spatial density of properties served by sewerage mains. Table 14 details the properties served per km of sewer main for the five years to 2013.

During 2013, the number of properties served per km of sewer main in Perth remained unchanged, while regional towns experienced a 4.9% increase. It is possible that some of the regional town increase is due to the decrease in the total length of sewer mains in regional towns, which was discussed in the previous section.

Table 13: Properties served per km of sewer main

	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	59	60	60	61	61	0.0%
Regional Town Average	43	44	45	41	43	4.9%
All Town Average	43	45	46	42	43	2.4%

In 2013, Kalgoorlie-Boulder recorded the highest density of properties served by sewer mains (67 per km of main), while Jurien reported the lowest density (20 properties per km of main).

Sewer Main Breaks and Chokes

The purpose of this indicator is to report on the number of sewer main breaks and chokes in the sewerage system operated by the utility. It is a partial indicator of customer service and the condition of the sewerage network. A choke is defined as a confirmed partial or total blockage that may or may not result in a spill from the sewer system to the external environment. Table 14 details the level of sewer main breaks and chokes over the four years to 2013.

Table 14: Sewer main breaks and chokes (per 100km of main)

	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	22.2	19.3	18.6	16.1	-13.4%
Regional Town Average	25.5	27.4	24.9	24.6	-1.2%
All Town Average	25.4	27.0	24.6	24.2	-1.6%

In 2013, the level of breaks and chokes in Perth reached a four year low, as did the average breaks and chokes in regional towns. The result for Perth continues a three year downward trend in breaks and chokes.

In 2013, Narrogin recorded the highest level of breaks and chokes (62.2 per 100km of main), while Broome recorded the lowest level (1.6 per 100km of main).

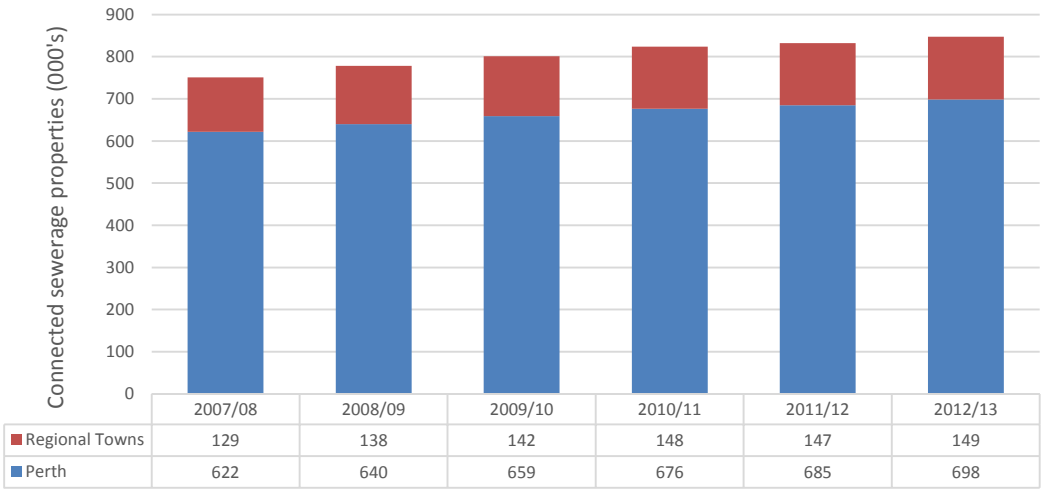
Customers

Total Connected Properties – Sewerage

Figure 10 details the number of sewerage connected properties for the six years to 2013.

Between 2012 and 2013, the number of connected properties in Perth increased by 1.9%, and in regional towns by 1.4%. Over the six years to 2013, the average annual growth in Perth's connections was 2.3%, and in regional towns annual growth was 2.9%.

Figure 10: Total connected properties - sewerage (000's)



	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Regional Towns	129	138	142	148	147	149
Perth	622	640	659	676	685	698

The growth in regional towns during 2013 mainly occurred in the larger towns, including Geraldton (up 6.7%), Busselton (up 6.0%) and Australind/Eaton (up 3.8%). Kalgoorlie-Boulder recorded a 6.5% reduction in connected properties.

Sewerage Service Complaints

The purpose of this indicator is to report customer satisfaction with sewerage services and provide a partial indicator of service quality and reliability. Sewerage service complaints include all complaints concerning sewer blockages and spills, trade waste services, sewerage system reliability, sewage odours and all other sewerage issues. The level of complaints is normalised to the number of connected properties, expressed in thousands.

Table 15 details the level of sewerage service complaints for the five years to 2013. Compared to 2012, the level of sewerage service complaints in Perth and the average regional town decreased by 50%. This is the fourth consecutive year that the level of complaints has fallen across the State. Since 2009, the level of complaints in Perth has fallen by nearly 97%, and in the average regional town by 91.3%.

All except one of the 22 sewerage schemes are operated by Water Corporation. The level of sewerage service complaints for the Water Corporation towns reporting under the Urban Framework in 2013 is much lower than their peers in other jurisdictions.[24] Water

[24] The median of the 24 inter-state schemes in the 10-20,000 connected properties group plus City of Kalgoorlie-Boulder is 2.3 complaints per 1,000 connections. The data for the five Water Corporation schemes is: Albany (0.3), Australind-Eaton (0.1), Bunbury (0.2), Busselton (0.3) and Geraldton (0.2). Perth recorded 0.1 complaints per 1,000 connected properties, compared to 0.4 complaints for the other nine major capital city supply schemes.

Corporation attributes the reduction in complaints to its new complaints process, which is discussed under water quality complaints on page 14.

Table 15: Sewerage service complaints (per 1,000 properties)

	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	6.2	2.1	1.4	0.4	0.2	-50.0%
Regional Town Average	7.5	2.7	2.4	1.2	0.6	-50.0%
All Town Average	7.4	2.7	2.3	1.2	0.5	-58.3%

In 2013, Kalgoorlie-Boulder recorded the highest number of sewerage service complaints (4.1 per 1000 properties), while Broome, Collie, Dunsborough, Esperance, Jurien, Katanning, Newman, Northam and South Hedland all recorded zero sewerage service complaints.

Environment

Percent of Sewage Treated Volume Compliant

The purpose of this indicator is to demonstrate the water utility's ongoing compliance with environmental standards in relation to the environment into which the treated effluent from a treatment plant is discharged. The sewage treatment plant compliance percentage is calculated from the number of scheduled samples that complied with the applicable environmental standards divided by the total number of scheduled samples in the reporting period.

In 2013, the following 16 towns achieved 100% compliance:

Albany	**Geraldton**	**Merredin**
Broome	**Jurien**	**Narrogin**
Bunbury/Dalyellup	**Katanning**	**Perth**
Collie	**Kununurra**	**South Hedland**
Dunsborough/Yallingup	**Mandurah**	
Esperance	**Manjimup**	

The five towns that did not achieve 100% compliance were: Australind/Eaton (75%), Busselton (83.3%), Kalgoorlie-Boulder (25%), Karratha (41%) and Northam (67%).

Number of Sewage Treatment Plants Compliant at All Times

The purpose of this indicator is to report on the number of sewage treatment plants that were compliant with the environmental licence conditions related to sewage treatment plant effluent discharge at all times during the reporting period. This gives an indication of the overall performance of the utility's sewage treatment and, if problems exist, whether they are localised or more widespread.

In 2013, 31 of the 38 monitored sewerage treatment plants were reported compliant at all times. The exceptions were: Australind/Eaton, Busselton, Kalgoorlie-Boulder, Perth (1 of 10 plants were non-compliant), Collie, Jurien, Karratha (2 of 3 plants were non-compliant) and Northam.

Comparative Sewage Treatment Levels

The purpose of these indicators is to report on the degree to which sewage requires treatment. This is an important cost driver for a water utility with respect to both capital costs and operating costs, as higher order treatment processes are more expensive than lower order processes. Definitions of the different levels of sewage treatment can be found on the National Water Commission website.[25]

Table 16 provides a breakdown of the average of percentage of sewage that was treated to a primary, secondary or tertiary level in 2013. The proportion of sewage treated to a tertiary level (the highest order treatment) in Perth and the average regional town was 95% and 55% respectively.

Table 16: Percentage of sewage treated by treatment level

	2010	2011	2012	2013
Primary Treatment	4.0%	4.2%	4.2%	4.3%
Secondary Treatment	7.1%	7.3%	7.4%	7.3%
Tertiary Treatment	88.9%	88.5%	88.4%	88.5%

Sewer Overflows Reported to the Environmental Regulator

The purpose of this indicator is to report sewer overflows that may adversely impact on water quality, human health and ecosystem stability (where they occur in sensitive areas). The number of overflows may be used as an indicator of the condition of the sewerage network and an indication of how effectively the network is being managed.

Table 17 details the number of sewer overflows that have been reported to the environmental regulator during the five years to 2013. It can be seen that the data varies quite widely each year, which suggests that the causes of the overflows are more likely to be influenced by adverse weather events (such as storms or flooding) than sewer infrastructure maintenance issues.

[25] Page 56 of the 2012-13 *National Performance Framework: urban performance reporting indicators and definitions handbook*, which is available on the National Water Commission website – www.nwc.gov.au

Table 17: Sewer overflows reported to the environmental regulator (per 100km of sewer main)

	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	0.2	1.1	0.2	0.1	0.2	100.0%
Regional Town Average	10.4	25.3	11.3	16.2	0.4	-97.5%
All Town Average	11.5	25.5	11.4	16.4	0.4	-97.6%

PART C: COMBINED WATER AND WASTE WATER PERFORMANCE INFORMATION

Performance Data Format

The performance data for all the towns/schemes in this section has been provided in a format consistent with the Urban Framework for water delivery and sewerage providers. This part of the report provides performance data for schemes where the data is applicable to both water and sewerage services, and measures the performance of the combined water and sewerage service.

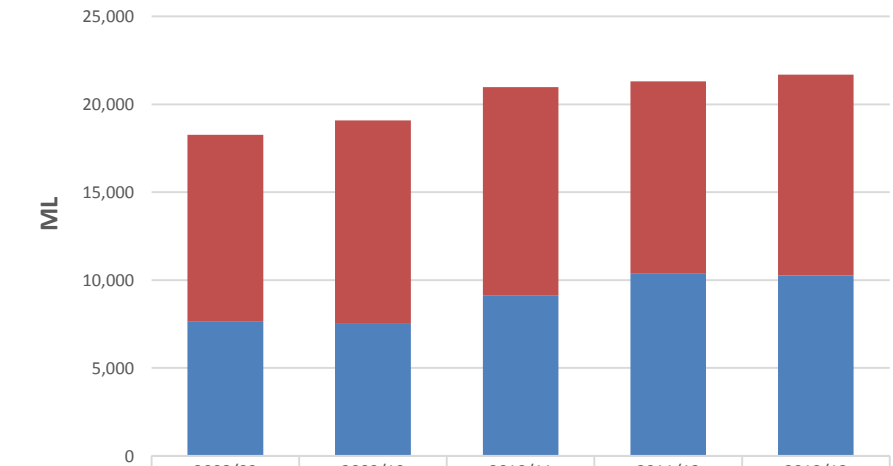
Total Recycled Water Supplied

Total recycled water supplied is the sum of all treated effluent that is used by either the water utility itself, a business supplied by the water utility, or supplied through a third pipe system for urban reuse. The volume of recycled water supplied is an indirect measure of the volume of potable or non-potable scheme water that might have been consumed had recycled water not been available.

The data presented here is for 35 water and sewerage schemes that supply recycled water in the State; in some towns the water and sewerage services are provided by separate utilities.

Figure 11 details the volume of recycled water supplied in Perth and the average regional town over the five years to 2013. In 2013, the total volume of recycled water supplied across the State increased by 1.5%, to 21,297ML. The growth in recycled water during 2013 was the result of a 4.4% increase in water supplied in regional towns; recycled water supplied in Perth fell by 0.9%.

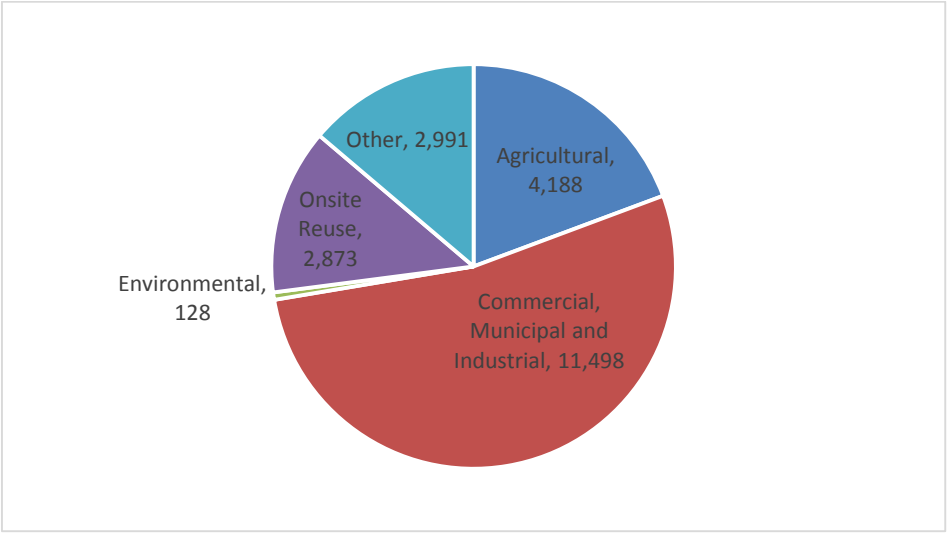
Figure 11: Total recycled water supplied



	2008/09	2009/10	2010/11	2011/12	2012/13
Regional Towns	10,628	11,525	11,844	10,927	11,405
Perth	7,635	7,551	9,134	10,370	10,273

Figure 12 provides a breakdown of the uses to which recycled water was put during 2013. The largest use for recycled water was the commercial, municipal and industrial category (53.0%) followed by agricultural uses (19.3%).

Figure 12: Uses of recycled water in 2013



Total Water and Sewerage Complaints

The purpose of this indicator is to report customer satisfaction with water and sewerage services and provide an indicator of service quality and reliability. The level of complaints is normalised to the number of connected properties, expressed in thousands.

The data presented here is for 19 towns that have their water and sewerage service provided by the same utility.

Table 18 details total water and sewerage complaints for the five years to 2013. Compared to 2012, the number of complaints in Perth and the average regional town both decreased significantly. The underlying reason for the decrease was discussed earlier in this report in relation to Water Corporation's changed processes for recording water quality complaints.

Table 18: Total water and sewerage complaints (per 1,000 connected properties)

	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	38.0	16.8	12.1	9.5	0.6	-93.7%
Regional Town Average	25.2	11.9	8.1	6.3	1.0	-84.1%
All Town Average	25.9	12.2	8.3	6.5	1.0	-84.6%

The highest number of total complaints was recorded in Merredin (3.7 complaints per 1000 properties), while Jurien recorded the lowest number of total complaints (0.0 complaints per 1000 properties). Between 2012 and 2013, total complaints received in Perth fell by 93.7% (from 9.5 to 0.6 per 1,000 connected properties).

Billing and Account Complaints – Water and Sewerage Complaints

The purpose of this indicator is to report on the level of billing and account complaints received for the utility's water supply and sewerage services. A billing and account complaint includes all complaints relating to account payment, financial loss or overcharging, billing errors and affordability. Complaints regarding government pricing policy, tariff structures or when a correctly calculated bill is queried are excluded. The level of complaints is normalised to the number of connected properties, expressed in thousands.

The data presented here is for a total of 35 water and sewerage schemes, in some towns the water and sewerage services are provided by separate utilities.

Table 19 details the number of billing and account complaints for the five years to 2013. Compared to 2012, the number of billing and account complaints in Perth and the average regional town both decreased significantly. The underlying reason for the decrease was discussed earlier in this report in relation to Water Corporation's changed processes for recording water quality complaints.

Table 19: Billing and account complaints - water and sewerage (per 1,000 connected properties)

	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Perth	1.2	1.2	1.4	1.4	0.2	-85.7%
Regional Town Average	1.0	1.3	1.4	1.0	0.2	-80.0%
All Town Average	1.0	1.3	1.4	1.1	0.2	-81.8%

The highest number of billing and account complaints was recorded in Dongara/Denison (1.8 complaints per 1000 properties). There were 13 towns that recorded zero billing and account complaints.

Connect Time to a Telephone Operator

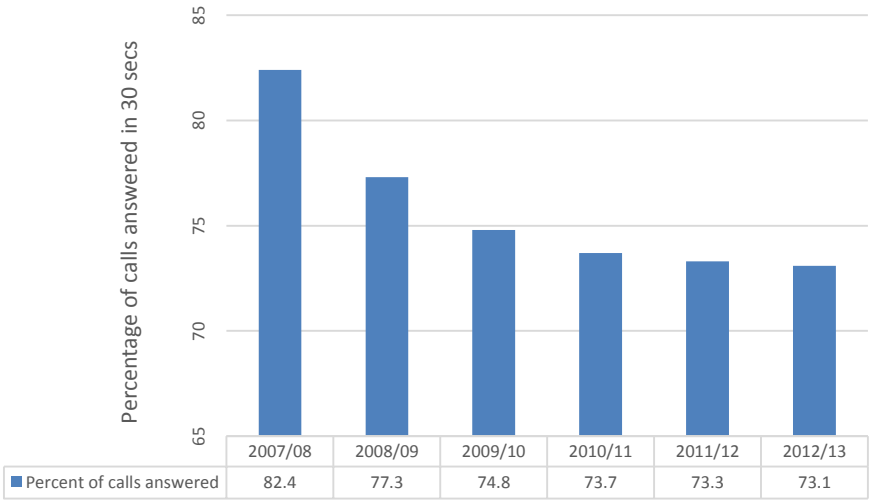
The purpose of this indicator is to report on the proportion of calls that are answered by an operator within 30 seconds, where the customer has selected an option indicating they wish to speak with an operator.

Utilities that operate a call centre capable of automatically recording operator responsiveness must report on this indicator. Utilities that have other telephone systems to handle customer calls may report this indicator on a voluntary basis.

The Water Corporation is the only water service provider that operates a state-wide customer call centre, covering both water and sewerage enquiries.

Figure 13 details proportion of customer calls that were answered within 30 seconds for the six years to 2013. In 2013, 73.1% of telephone calls to a Water Corporation operator were answered within 30 seconds, down from 73.3% in the previous year. The percentage of calls answered within 30 seconds has declined for each of the past five years, but has remained in the range 73 – 74% for the past three years.

Figure 13: Percentage of Water Corporation calls answered within 30 seconds



PART D: IRRIGATION PERFORMANCE INFORMATION

Irrigator performance data included in this report

This report continues the ERA's coverage of the performance of Western Australian irrigators. The two irrigators covered by this report are:

- Ord Irrigation Cooperative Ltd (Ord Irrigation); and
- South West Irrigation Management Cooperative (Harvey Water).

There are another two irrigators licensed by the ERA (Gascoyne Water Cooperative and Preston Valley Irrigation Cooperative) who are excluded from the report. These irrigators are excluded from the report because they are only required to provide to the ERA a limited subset of the performance information that Ord Irrigation and Harvey Water are required to provide, which makes it difficult to meaningfully compare the performance of the two pairs of irrigators.

The data presented in this report for Ord Irrigation and Harvey Water is derived from the annual performance reports provided to the ERA under the Rural Framework.

Volume of Water Supplied

Table 21 details the total volume of water supplied for irrigation over the five years to 2013. Compared to 2012, the total volume of water supplied by both irrigators decreased.

2013 is the third consecutive year that irrigation water supplied by Harvey Water has fallen; since 2010, irrigation water supplied by Harvey Water has fallen by 38.6%. Harvey Water attributes the reductions to continuing dry conditions, leading to reduced allocations, as well as contraction in the local dairy industry.[26]

The volume of water supplied by Ord Irrigation also fell in 2013, the annual volume of water supplied has fallen by 30% since 2009. The decline in water supplied may be due to the water needs of silviculture customers falling as their plantations mature.

	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Harvey Water	68,122	69,038	59,876	46,096	41,807	-9.3%
Ord Irrigation Cooperative	144,649	114,049	117,369	118,816	100,637	-15.3%
Total	212,771	183,087	177,245	164,912	142,444	-13.6%

Customer service points

The method of measuring customer connections on irrigation networks under the Rural Framework was completely redefined for the 2011 report onwards. Up until 2011, irrigators reported the separate values for the number of irrigation connections and non-potable water connections on their supply networks. This has now been replaced by a single indicator measuring the number of customer service points on the network.

[26] *National Performance Report 2012-13: rural water service providers*, page 158, which is available on the National Water Commission website – www.nwc.gov.au

As a result of these changes to the reporting of customer service points, the historical data for 2009 and 2010 has been restated to comply with the revised definition of customer service point. Table 22 presents customer service point data for the five years to 2013. Between 2012 and 2013, the number of customer service points on the Harvey Water and Ord Irrigation networks remained relatively unchanged.

Table 20: Number of customer service points on irrigation networks

	2009	2010	2011	2012	2013	Percentage Change 2012 - 2013
Harvey Water	1,684	1,698	1,744	1,760	1,751	-0.5%
Ord Irrigation Cooperative	268	286	283	270	271	0.4%
Total	1,952	1,984	2,027	2,030	2,022	-0.4%

Carrier Length (Gravity Irrigation)

Table 21 details the length of the pipes and channels in the gravity irrigation networks operated by Harvey Water and Ord Irrigation in 2013. The Ord Irrigation network is entirely made up from unlined channel, whereas the Harvey Water network has a mix of lined and unlined channels and pipe.

The network channel length on both the Harvey Water and Ord Irrigation networks is unchanged from 2012.

Table 21: Carrier length - gravity irrigation networks in 2013 (km)

	Unlined Channel	Lined Channel	Pipe	Total Carrier Length
Harvey Water	171	85	489	**745**
Ord Irrigation Cooperative	125	0	0	**125**
Total	296	85	489	**870**

Complaints

Figure 15 details the complaints received by Ord Irrigation and Harvey Water during the five years to 2013. Over the past five years, the number of complaints received by both irrigators has been quite small. All of the complaints relate to customer service rather than billing and account issues.

In 2013, Ord Irrigation received three complaints from customers, while Harvey Water did not receive any complaints, for the third consecutive year.

Table 22: Customer service delivery complaints

	2009	2010	2011	2012	2013
Harvey Water	4	3	0	0	0
Ord Irrigation Cooperative	5	4	2	0	3